

AUTHORITY TO
DRILL A WELL



Office national
de l'énergie

Exploratory ☒
Development ☐

Delineation ☐
Service ☐

APPROVAL TO DRILL A WELL

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

Well Name: AEC (West) Renaissance Carcajou P-16
Operator: AEC OIL & GAS
Contractor: Akita Drilling Ltd.
Drilling Rig or Unit: Rig #14
Location-Unit: P Section: 16
Coordinates: Lat.: 65 35' 56".97278
Area: Carcajou (Ft. Good Hope/ Norman Wells)
Elevation-KB/RT: 89.41m (est.) (ASL)
Approx. Spud Date: February 12.,2000
Anticipated Total Depth: 675m

Drilling Program No.:
Interest Identifier:
Estimated Well Cost: \$1,200,000
Grid Area: 65 40', 128 15'
Long.: 128 17' 18".155227
Field / Pool: Exploratory
GL / Seafloor: 85.41m
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 core in the Kee Scarp

Logs and Tests DLTE/MSFL/LDTD/CNTH/SGTL/BHC/GR; 580m to TD, 1-DST in the 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	135m	Arctic Set
177.8	34.2	J-55	505m	RFC + add.
114.3	14.14	J-55	675m	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

Title: Senior Vice President
South West Business Unit

Name: Ken Woldum

Company: AEC Oil & Gas

Date: 2000/01/07

Phone: (403) 213-2629

APPROVAL

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

Date:

Feb 11/2000

Signed:

Chief Conservation Officer

File: 9211-A061-2-2

WID: 1889

UWI: 300P166540128150

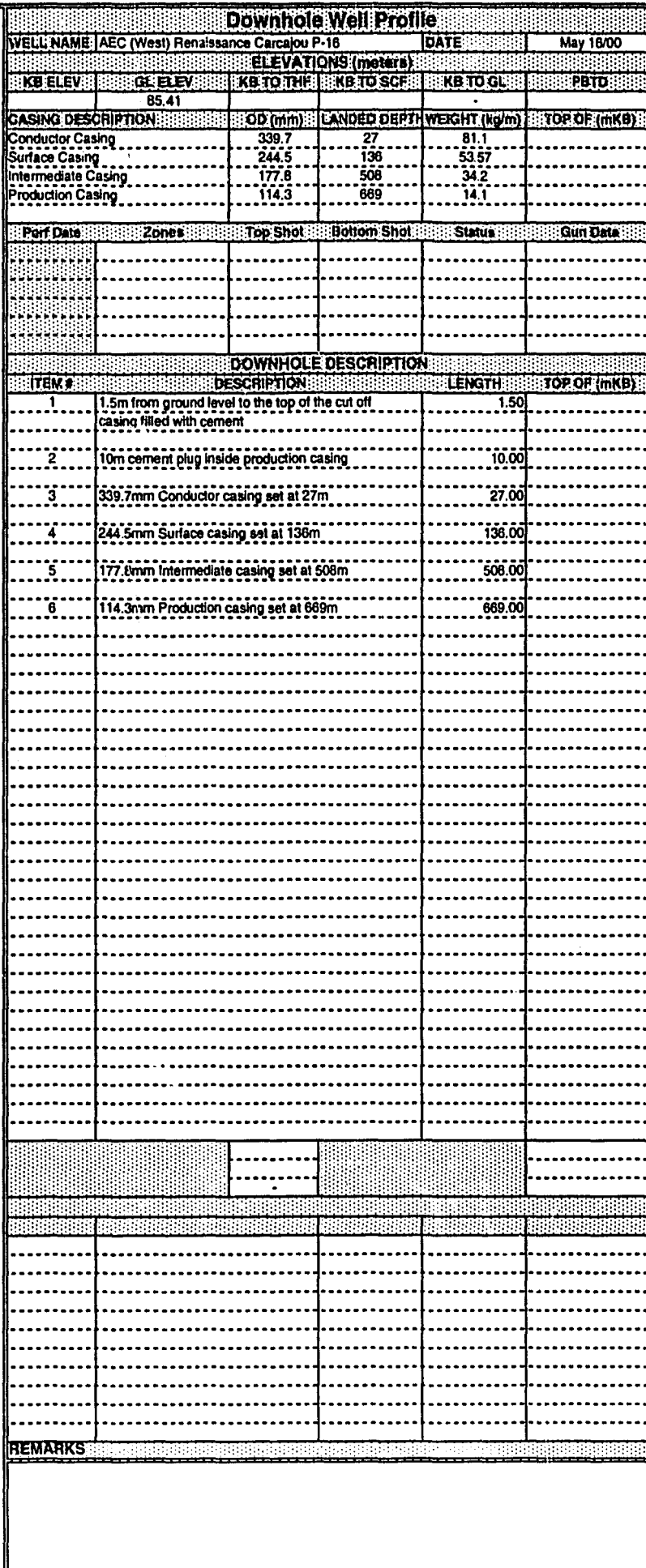
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01/07/99
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**WELL
TERMINATION
RECORD**



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 P-16

Area: Carcajou (Ft. Good Hope)

Grid Area: 65 40', 128 15'

Field / Pool: Exploratory

Interest Identifier:

Final Coordinates:

Lat: 65 35' 56".97278"

Long: 128° 17' 18".155227

Drilling Unit: Rig #14

Elevations-KB/RT: 89.41

(ASL)

GL/Seafloor: 85.41

Spud Date: Feb 25/00

R.R.: March 5/00

Total Depth: 669m

O.D. (mm)	Weight (kg/m)	Grade	Depth Set (m KB)	Cement (m³)
339.7	81.1	J-55	27	3.6
244.5	53.57	J-55	136	8
177.8	34.2	J-55	508	11
114.3	14.1	J-55	669	9.2

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: One

Type: Full hole, 9m

Intervals: 527m - 536m

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:

Title: Operations Engineer

Name: Stephen J. Holyoake

Date: April 6, 2000

Company: AEC West

Well Status

Suspended ☐

Completed ☐

Abandoned ☒

Acknowledged by:

Chief Conservation Officer

Date:

June 27/00

File: 9211-A61-2-2

UWI: 300P166540128150

WID: 1889

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01/07/99
M leenergy/wtrfrm wpd

FINAL
WELL
REPORT

N.E.B. COPY

FINAL WELL REPORT

AEC OIL & GAS

AEC (WEST) Renaissance Carcajou P-16

Grid #.65 40', 128 15'

DATE: 04/03/00

COMPANY REPRESENTATIVE: Stephen Holyoake

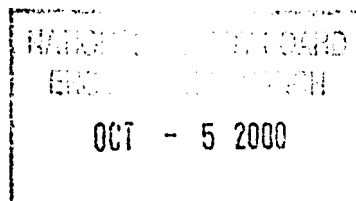


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Appendices may be used to give details on the subjects below, if not given elsewhere in the report.

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 669 metre exploratory well spudded on Feb 23/00 and finishing on March 3/00 to evaluate oil potential in the Kee Scarp formation at a depth of 513mKB.

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 m³ mud system and was equipped with two boilers.

The well was drilled on Exploration License No 1889 in AEC West has a 100 % working interest.

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

Latitude: 65 35' 56".97278
Longitude: 128 17' 18.155227"

The rig was moved onto the location Feb 22/00 and the well spudded on Feb 13/00 at 17:00 hours to drill the 444.5 mm conductor hole to a depth of 27 m. The 339.7 mm X 81.1 kg/m X J-55 ST&C conductor pipe was set with the shoe depth being at 27 m. The conductor pipe was cemented with good mud returns throughout. The cement was tagged with 1" pipe 8m down from surface. We then pumped 3.5 tonne of Arctic set cement from the top with good cement returns to surface. The diverter was nipped up and functioned tested with the HCR.

The conductor shoe was then drilled out and the 311 mm surface hole was drilled ahead to 136 m.

The 2445 mm X 53.57 kg/m X J-55 LT&C casing was run with no problems and cemented with 11 tonnes of Arctic set Cement + 12 % BW. There was good mud returns reported throughout the cement job with 1.25 m³ cement returns. The plug was bumped with 3,500 kPa and the pressure held. The plug was down at 21:23 hours on Feb 25/00. The surface casing was set at 136 m.

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 Feb 26/00. A formation leak off test was done and the gradient was taken to 18.3 kPa/m without breaking down the formation. The 222 mm intermediate hole was drilled ahead to 508 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 Feb 29/00. A full hole 9m core was cut in the Kea Scarp formation from 527m to 536m. The 156mm hole was drilled to a depth of 669m 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 12:00 hours on March 9, 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) Carcajou P-16

Authority to Drill a Well No: 1889

Exploration Agreement Number: 9211-A061-2-2

Location Unit: P

Section: 16

Grid Area: 65 40', 128 15'

Classification: Exploratory

2. Well Location: Carcajou (FT. Good Hope/Norman Wells)
Coordinates: Latitude: 65 35' 56.97278"
Longitude: 128 17' 18.155227"

3. Unique Well Identifier: 300P166540128150
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: \$1,020,384 (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: 85.41(m above sea level)
KB: 89.41 (m above sea level)
KB To Casing Flange: 4m (KB to CF)
2. Total Depth:
FTD: 669mKB
TVD: 669mKB
3. Date and Hour Spudded: 02/25/00 @ 03:15
4. Date Drilling Completed: 03/03/00 @ 6:00
5. Date of Rig Release: 03/05/00 @ 07:00
6. Well status: Dry and Abandoned

7. Hole Sizes and Depths:
- | | |
|--------------------|-------------------|
| Conductor Hole: | 444 mm to 27 mKB |
| Surface Hole: | 311 mm to 136 mKB |
| Intermediate Hole: | 222 mm to 508 mKB |
| Main Hole: | 156mm to 669 mKB |

8. Casing and Cementing Record:

Conductor Hole:

Casing Size:	339.7 mm
Casing Weight:	81.1 kg/m
Casing Grade:	K-55
Casing Make:	Ipsco
Number of Joints:	3
Thread:	LT&C
Depth Set:	27 m (KB)
Cut Height:	At Surface KB
Cut off Depth:	After abandonment
Date Set:	February 24, 2000
Cement Volume:	4.8 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:	11
Thread:	ST&C
Depth Set:	136 m (KB)
Cut Height:	At Surface (KB)
Date Set:	Feb 25, 2000
Cement Volume:	11 Tonnes
Float Shoe Depth:	135.51 m
Float Collar Depth:	121.95 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: 41
Thread: ST&C
Depth Set: 508 m (KB)
Cut Height: At Surface (KB)
Date Set: Feb 29, 2000
Cement Volume: 11.5 Tonnes
Float Shoe Depth: 507.51 m
Float Collar Depth: 496.65 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: 56
Thread: ST&C
Depth Set: 669 m (KB)
Cut Height: At Surface (KB)
Date Set: March 4, 2000
Cement Volume: 10 Tonnes
Float Shoe Depth: 668.8 m
Float Collar Depth: 655.67 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

9. Sidetracked Hole: Not Applicable

10. Drilling Fluid:

Conductor Hole: Gel - Chemical
Properties: Viscosity: 70 sec/L
Weight: 1180 kg/m³
PH: 9.0

Surface Hole: Gel - Chemical
Properties: Viscosity: 58 sec/L
Weight: 1120 kg/m³
PH: 9.0

Intermediate: Water
Properties: Viscosity: 29 sec/L
Weight: 1010 kg/m³
PH: 9.0

Main: Gel - Chemical
Properties: Viscosity: 45 sec/L
Weight: 1080 kg/m³
PH: 9.0
Water loss: 9.0 cc
Filter Cake: 2

11. Fishing Operations: n/a

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

13. Formation Leak Off Tests:

Depth: 143 m
Fluid Density: 1000 kg/m³
Applied Pressure: 2588 kPa
Hydrostatic Press. 1402 kPa
Mud Weight Equi. 1845 kg/m³
Casing Setting Depth: 136 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
2/22/00	08:00:00	19:00:00	Rig Move	11	MOVE IN AND RIG UP
2/22/00	19:00:00	23:59:00	Rig up	4.98	RIG UP W/ CREWS
2/23/00	00:00:00	10:15:00	Rig up	10.25	RIG UP W/CREW
2/23/00	10:15:00	17:00:00	Drill rathole	6.75	DRLG RATHOLE
2/23/00	17:00:00	23:59:00	Drilling	6.98	MAKE UP BIT AND DRLG 444MM COND HOLE
2/24/00	00:00:00	00:15:00	Rig Service	0.25	RIG SERVICE
2/24/00	00:15:00	05:15:00	Drilling	5	DRLG 444MM COND HOLE
2/24/00	05:15:00	05:30:00	Wiper trip	0.25	WIPER TRIP
2/24/00	05:30:00	05:45:00	Circulate	0.25	CIRC AND CLN HOLE
2/24/00	05:45:00	06:00:00	Tripping	0.25	TOH TO RUN COND BBL
2/24/00	06:00:00	08:00:00	Run casing	2	RUN 340 MM COND BBL
2/24/00	08:00:00	09:15:00	Cement casing	1.25	CIRC COND BBL
2/24/00	09:15:00	10:30:00	Cement casing	1.25	RIG TO AND CEMENT COND BBL
2/24/00	10:30:00	14:30:00	W.O.C.	4	WOC, CLN CELLAR
2/24/00	14:30:00	21:30:00	Nipple up BOP's	9.25	CUT COND,RIG IN DIVERTER
2/24/00	23:45:00	23:59:00	RIH	0.23	MAKE UP AND RIH W/ 311MM BIT.
2/25/00	00:00:00	00:30:00	Pressure Test	0.5	FUNCTION AND PRESS TEST DIVERTER
2/25/00	00:30:00	00:45:00	Rig Service	0.25	RIG SERV AND PRESPUD MEETING
2/25/00	00:45:00	03:15:00	Drill out cement	2.5	DRLG OUT WOODEN PLUG AND 4 M CEMENT INSIDE OF COND BBL
2/25/00	03:15:00	12:00:00	Drilling	8.75	SPUD WELL AND DRLG 311 MM SURFACE HOLE
2/25/00	12:00:00	13:00:00	Accumulated surveys	1	CUMM SURVEY TIME
2/25/00	13:00:00	13:30:00	Circulate	0.5	CIRC AND COND HOLE
2/25/00	13:30:00	14:45:00	Wiper trip	1.25	WIPER TRIP TO CHECK HOLE AND TALLY
2/25/00	14:45:00	15:15:00	Drilling	0.5	DRLG 311 MM HOLE TO 136 M, CSG DEPTH
2/25/00	15:15:00	15:45:00	Circulate	0.5	CIRC AND COND HOLE
2/25/00	15:45:00	16:45:00	Tripping	1	SURVEY AND TOH TO RUN CSG
2/25/00	16:45:00	17:00:00	Rig Service	0.25	RIG SERVICE
2/25/00	17:00:00	19:45:00	Run casing	2.75	RIG TO AND RUN 244 MM CSG
2/25/00	19:45:00	20:30:00	Circulate casing	0.75	CIRC CSG ON BTM
2/25/00	20:30:00	21:15:00	Cement casing	0.75	RIG TO AND CEMENT CSG
2/25/00	21:15:00	23:59:00	W.O.C.	2.73	WOC AND CLN CELLAR.
2/26/00	00:00:00	01:15:00	W.O.C.	1.25	WOC
2/26/00	01:15:00	11:30:00	Nipple up BOP's	10.25	TEAR OUT DIVERTER,CUT COND BBL,SCREW BOWL ON ,HEAD UP BOPS
2/26/00	11:30:00	15:00:00	Pressure Test	3.5	PRESS TEST BLIND RAMS AND COMPELTE MANIFOLD SYSTEML
2/26/00	15:00:00	16:00:00	RIH	1	MAKE UP BHA AND RIH TO 130 M
2/26/00	16:00:00	18:00:00	Pressure test BOP	2	PRESS TEST BOPS, VALVES AND RUN ACCUM TEST.
2/26/00	18:00:00	18:15:00	B.O.P. drill	0.25	BOP DRILL W/ CREW

2/26/00	18:15:00	19:30:00	Drill out cement	1.25	DRLG OUT CEMENT AND SHOE
2/26/00	19:30:00	20:00:00	Drilling	0.5	DRLG F/136 - 143 M
2/26/00	20:00:00	20:30:00	Pressure Test	0.5	RUN FORMATION INTEGRITY TEST TO 1150 KPA SURFACE PRESS.
2/26/00	20:30:00	23:59:00	Drilling	3.48	DRLG AHEAD F/ 142-191 M
2/27/00	00:00:00	00:15:00	Rig Service	0.25	RS AND FUNCTION CROWN SAVOR
2/27/00	00:15:00	02:30:00	Drilling	2.25	DRLG 22MM HOLE F/191-229M
2/27/00	02:30:00	03:00:00	Survey	0.5	WIRELINE SURVEY
2/27/00	03:00:00	08:00:00	Drilling	5	DRLG F/ 229-297M
2/27/00	08:00:00	08:15:00	B.O.P. drill	0.25	BOP DRILL W/ CREW 75 SEC.
2/27/00	08:15:00	10:15:00	Drilling	2	DRLG F/297-362 M
2/27/00	10:15:00	10:30:00	Survey	0.25	WIRELINE SURVEY
2/27/00	10:30:00	15:30:00	Drilling	5	DRLG F/326 - 375
2/27/00	15:30:00	15:45:00	Survey	0.25	WIRELINE SURVEY
2/27/00	15:45:00	16:00:00	Rig Service	0.25	RS
2/27/00	16:00:00	22:00:00	Drilling	6	DRLG F/375 - 423 M
2/27/00	22:00:00	22:15:00	Rig Service	0.25	RS
2/27/00	22:15:00	22:30:00	Survey	0.25	WIRELINE SURVEY
2/27/00	22:30:00	23:59:00	Drilling	1.48	DRLG F/ 423 - 442 M
2/28/00	00:00:00	00:15:00	Rig Service	0.25	
2/28/00	00:15:00	03:15:00	Drilling	3	DRLG F/ 442 - 472 M
2/28/00	03:15:00	03:30:00	Survey	0.25	WIRELINE SURVEY
2/28/00	03:30:00	04:30:00	Drilling	1	DRLG F/ 472 - 481 M
2/28/00	04:30:00	04:45:00	Circulate	0.25	CIRC AND COND HOLE
2/28/00	04:45:00	08:45:00	Wiper trip	4	WIPER TRIP AND STRAP PIPE
2/28/00	08:45:00	12:30:00	Drilling	3.75	DRLG FROM 481 - 508 M
2/28/00	12:30:00	14:00:00	Circulate sample	1.5	CUMM TIME CIRC SAMPLES
2/28/00	14:00:00	16:15:00	Wiper trip	2.25	WIPER TRIP
2/28/00	16:15:00	16:45:00	Circulate	0.5	CIRC AND COND HOLE FOR CSG
2/28/00	16:45:00	17:00:00	Survey	0.25	WIRELINE SURVEY
2/28/00	17:00:00	19:30:00	Tripping	2.5	TOH AND LD 159 MM DCS.
2/28/00	19:30:00	23:59:00	Run casing	4.48	SAFETY MEETING, RIG TO AND RUN 177.8 MM CSG.
2/29/00	00:00:00	00:30:00	Run casing	0.5	RUN 177.8 MM CSG
2/29/00	00:30:00	01:45:00	Circulate	1.25	CIRC AND COND MUD
2/29/00	01:45:00	02:45:00	Cement casing	1	SAFETY MEETING, RIG TO AND CEMENT CSG
2/29/00	02:45:00	06:45:00	W.O.C.	4	WOC
2/29/00	06:45:00	13:00:00	Weld on Bowl	6.25	REC 244 MM CSG BOWL, FIT AND WELD ON 177.8MM BOWL, PRESS TEST WELDS.
2/29/00	13:00:00	16:00:00	Nipple up BOP's	3	NIPPLE UP BOPS
2/29/00	16:00:00	18:00:00	Pressure Test	2	PRESS TEST CSG FLGE,BLIND RAMS AND MANIFOLD LINE
2/29/00	18:00:00	20:00:00	Tripping	2	MAKE UP 159 MM BIT AND RIH TO 490M
2/29/00	20:00:00	22:00:00	Pressure test BOP	2	PRESS TEST HYDRIL AND PIPE RAMS
2/29/00	22:00:00	22:15:00	B.O.P. drill	0.25	BOP DRILL W/ CREW
2/29/00	22:15:00	23:00:00	Drill out cement	0.75	DRLG OUT FLOAT AND SHOE
2/29/00	23:00:00	23:59:00	Circulate	0.98	CIRC, DISPLACE HOLE TO MUD.

3/1/00	00:00:00	00:15:00	Rig Service	0.25	RS
3/1/00	00:15:00	01:15:00	Circulate	1	CIRC AND COND MUD
3/1/00	01:15:00	06:00:00	Drilling	4.75	DRLG F/ 508 - 527 M
3/1/00	06:00:00	07:30:00	Circulate sample	1.5	CIRC SAMPLES FOR GEOLOGIST
3/1/00	07:30:00	09:00:00	Tripping	1.5	TRIP FOT CORE BBLS
3/1/00	09:00:00	09:45:00	Handle tools	0.75	PICK UP AND MAKE UP CORE BBLS
3/1/00	09:45:00	10:30:00	RIH	0.75	RIH W/ CORE BBLS
3/1/00	10:30:00	11:15:00	Circulate	0.75	CIRC BTMS UP
3/1/00	11:15:00	13:30:00	Coring	2.25	CUT CORE # 1
3/1/00	13:30:00	14:00:00	Circulate	0.5	CIRC BTMS UP
3/1/00	14:00:00	15:15:00	Tripping	1.25	TOH W/ CORE #1
3/1/00	15:15:00	17:00:00	Coring	1.75	REC CORE AND WAIT ON GEOLOGIST ORDERS
3/1/00	17:00:00	18:00:00	RIH	1	RIH W/ BIT TO DRLG AHEAD
3/1/00	18:00:00	18:15:00	Reaming	0.25	BREAK CIRC AND REAM 527-536M
3/1/00	18:15:00	23:59:00	Drilling	5.73	DRLG F/ 536 - 552M
3/2/00	00:00:00	00:15:00	Rig Service	0.25	RS AND FUNCTION BOPS
3/2/00	00:15:00	05:30:00	Drilling	5.25	DRLG 156 MM HOLE F/ 552-572M
3/2/00	05:30:00	05:45:00	Survey	0.25	WIRELINE SURVEY
3/2/00	05:45:00	08:00:00	Drilling	2.25	DRLG F/ 572 - 581 M
3/2/00	08:00:00	08:15:00	Rig Service	0.25	RS AND FUNCTION HYDRIL
3/2/00	08:15:00	16:00:00	Drilling	7.75	DRLG F/ 581 - 610 M
3/2/00	16:00:00	16:15:00	Rig Service	0.25	RS
3/2/00	16:15:00	23:59:00	Drilling	7.73	DRLG F/ 610 - 648 M
3/3/00	00:00:00	00:15:00	Rig Service	0.25	RS AND FUNCTION HYDRIL
3/3/00	00:15:00	05:45:00	Drilling	5.5	DRLG F/ 648 - 669 M.
3/3/00	05:45:00	06:15:00	Circulate sample	0.5	CIRC SAMPLE FOR GEOLOGIST
3/3/00	06:15:00	07:00:00	Wiper trip	0.75	WIPER TRIP TO CSG SHOE , RIH
3/3/00	07:00:00	07:45:00	Circulate	0.75	CIRC AND COND HOLE
3/3/00	07:45:00	08:00:00	Survey	0.25	WIRELINE SURVEY
3/3/00	08:00:00	10:00:00	Tripping	2	TOH TO LOG
3/3/00	10:00:00	17:30:00	Logging	7.5	RIG TO AND LOG WELL
3/3/00	17:30:00	18:30:00	Lay dwn drill string	1	LAYDOWN DRLG STRING
3/3/00	18:30:00	21:15:00	Run casing	2.75	SAFETY MEETING, RIG TO AND RUN PROD CSG
3/3/00	21:15:00	23:30:00	Circulate casing	2.25	CIRC CSG AND WAIT ON CEMENTERS
3/3/00	23:30:00	23:59:00	Cement casing	0.48	SAFETY MEETING, RIG TO AND CEMENT CSG

Time Break Down

<u>Activity</u>	<u>Hours</u>
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:

Survey No.	Depth (meters)	Deviation (degrees)	Interval (meters)
1	47	0.130	47
2	75	0.250	28
3	102	0.500	27
4	130	0.500	28
5	227	1.000	97
6	324	2.000	97
7	373	2.500	49
8	421	2.500	48
9	469	3.000	48
10	500	2.000	31
11	570	2.000	70
12	657	2.500	87

16. Abandonment Plugs:

	Plug 1
Date	00-03-23
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 ₂ O 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:N/A
 Finish Date:NA
 Contractor:N/A

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

Geological Summary

Tops:

K.B. 90.7 meters

Formation	Prognosis		Samples		Logs	
	Depth (m)	Subsea (m)	MD (m)	Subsea (m)	MD (m)	Subsea (m)
<u>Cretaceous</u>	24.7	66.0	np	np	np	np
<u>Devonian</u>						
Imperial	303.7	-213.0	308.0	-217.3	308.0	-217.3
Canol	502.7	-412.0	504.0	-413.3	508.0	-417.3
Kee Scarp	507.7	-417.0	508.0	-417.3	513.0	-422.3
Hare Indian	624.7	-534.0	637.0	-546.3	637.5	-546.8
Total Depth	675.7	-585.0	669.0	-578.3	668.9	-578.2

SAMPLE DESCRIPTIONS:

- 136 - 145 m Interbedded Siltstone & Shale.
SILTSTONE - dark grey brown, blocky, argillaceous to highly argillaceous, micromicaceous.
SHALE - dark grey to black, subfissile to subblocky, silty, micromicaceous to micaceous.
 Abundant cement cavings.
- 145 - 161 m Shale with Siltstone interbeds.
SHALE - dark grey to black, subfissile to subblocky, silty to sandy, micromicaceous.
SILTSTONE - medium to dark grey to grey brown, blocky, argillaceous to highly argillaceous, micromicaceous.
 Trace Siderite.
- 161 - 180 m SANDSTONE - light to medium grey, quartz, silt to very fine grained, subround to subangular, well sorted, well cemented, dolomitic cement, carbonaceous, argillaceous, trace glauconite, tight to trace poor porosity, no shows.
- 180 - 200 m SHALE - dark grey to black, fissile to subfissile, silty, micaceous, trace disseminated pyrite.
- 200 - 211 m SHALE - dark grey, blocky to subblocky, micromicaceous;
 Minor Siderite stringers.

- 211 - 229 m Shale with Siltstone interbeds & stringers.
SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
Siltstone in part, micromicaceous, trace carbonaceous.
SILTSTONE - dark grey to grey brown, blocky, argillaceous, micromicaceous.
- 229 - 240 m Shale with Siltstone stringers.
SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
Siltstone in part, micromicaceous, trace carbonaceous.
Minor Siderite.
- 240 - 250 m SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
Siltstone in part, micromicaceous, trace carbonaceous.
- 250 - 260 m SHALE - dark grey, subfissile to blocky, silty, micromicaceous, trace pyrite,
carbonaceous in part.
Trace Siderite stringers.
- 260 - 280 m Shale with Siltstone interbeds.
SHALE - dark grey to black, subfissile, blocky, silty, micromicaceous, common
disseminated pyrite.
SILTSTONE - dark grey to grey brown, argillaceous, sandy grading to very fine
Sandstone in part, rare glauconite, micromicaceous.
Abundant cement cavings?.
- 280 - 304 m SHALE - dark grey, fissile to subfissile, silty grading to argillaceous Siltstone
in part, micromicaceous, minor disseminated pyrite.
- 304 - 308 m SANDSTONE - light grey to off white, quartz, very fine to minor medium
grains, angular to subangular, well sorted, poorly cemented to loose, dolomitic
cement, tight to trace poor porosity, no shows.
- 308 - 326 m Siltstone with Shale interbeds & laminae.
(Imperial) SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine
Sandstone in part, argillaceous.
SHALE - dark grey, fissile, silty, micromicaceous, trace carbonaceous.
- 325 - 337 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.
- 337 - 365 m Shale with Siltstone stringers.
SHALE - dark grey, fissile to subfissile, platy in part, silty to highly silty, minor
carbonaceous material, rare trace glauconite, micromicaceous.
SILTSTONE - grey to grey brown, siliceous, sandy, argillaceous.

Minor Siderite stringers.

- 365 - 385 m Shale with minor Siltstone stringers.
SHALE - dark grey, fissile to subfissile, platy, firm, silty to sandy, trace glauconite, minor disseminated pyrite, micromicaceous.
- 385 - 400 m SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, trace disseminated pyrite, micromicaceous.
- 400 - 425 m SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, trace disseminated pyrite, micromicaceous.
- 425 - 445 m Shale with minor Siltstone stringers.
SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, rare glauconite, trace disseminated pyrite, micromicaceous.
Trace Siderite.
- 445 - 465 m SHALE - dark grey, fissile to subfissile, firm, silty to sandy, trace disseminated pyrite, micromicaceous.
- 465 - 485 m SHALE - dark grey to black, fissile, platy, firm, silty to highly silty, minor disseminated pyrite, micromicaceous.
Minor Siderite & Siltstone stringers.
- 485 - 504 m SHALE - dark grey to black, fissile, platy, firm, silty, minor disseminated pyrite, micromicaceous.
Minor Siderite & Siltstone stringers.
- 504 - 507 m SHALE - dark grey to black, subblocky to blocky, minor disseminated pyrite, slightly silty, calcareous, slightly bituminous.
(Canol)
- 507 - 513 m SHALE - dark grey to black to deep brown, fissile to subfissile, blocky, carbonaceous, bituminous, calcareous in part.
- 513 - 524 m LIMESTONE - white to dark brown, fine to coarse calcirudite, stromatoporoid biomicrite, floatstone to rudstone, micrite to coral biomicrite matrix, slightly argillaceous, spotty to even oil staining, slow white cut, tight to trace poor chalky porosity.
(Kee Scarp)
- 524 - 527.6 m LIMESTONE - as above, even oil staining, slow white cut, poor to fair (3-10%) chalky porosity, micrite to dismicrite.
- 527.6 - 536.6 m See detailed core description at end of striplog.
- 536.6 - 548 m LIMESTONE - light tan to medium brown, calcilutite to calcirudite, stromatoporoid biomicrite, floatstone to rudstone, micrite matrix, tight,

- spotty to even oil shows, slow streaming white cut, tight to fair chalky porosity(5-8%)
- 548 - 568 m LIMESTONE - light tan to medium brown, calcirudite, stromatoporoid biomicrite, rudstone, micrite to biomicrite matrix, tight to poor chalky porosity (>5%), spotty oil shows, weak white streaming cut.
- 568 - 577 m LIMESTONE - medium brown, to brownish grey, calcilutite to medium calcarenite, biopelmicrite, packstone to floatstone, argillaceous, tight to poor porosity, (>5%), spotty to even yellow florescence, moderate streaming white cut.
- 577 - 595 m LIMESTONE - light brown tan to brownish grey, calcilutite to calcirudite, biopelmicrite to biopelsparite?, packstone to floatstone, fossil debris, strom frags, argillaceous in part, trace poor chalky & intraparticle porosity, trace fractures, no shows.
- 595 - 609 m LIMESTONE - light brown tan, calcilutite to medium calcarenite, biopelmicrite, packstone to wackestone, fossil debris, argillaceous, tight to trace poor chalky porosity, spotty oil stain, ? florescence, weak white cut.
- 609 - 619 m LIMESTONE - medium to dark brown, calcilutite to fine calcarenite, biopelmicrite, wackestone to packstone, argillaceous to highly argillaceous, silty, tight, no shows.
- 619 - 621 m SHALE - dark grey, brownish, fissile, platy, slightly bituminous, slightly calcareous.
- 621-630 m LIMESTONE - medium to dark brown to grey brown, calcilutite to very fine calcarenite, micrite to biopelmicrite, mudstone to wackestone, argillaceous, tight, weak white cut, ? show.
- 630 - 637 m LIMESTONE - light brown tan, calcarenite to calcirudite, biosparite, grainstone, trace calcite fracture fill, siliceous, silty, tight, spotty florescence, slow white cut.
- 637 - 648 m Siltstone with Shale laminae & Limestone stringers:
(Hare Indian) SILTSTONE - medium to dark brown, silt to very fine Sandstone, well cemented, highly calcareous, trace carbonaceous, micaceous, argillaceous grading to silty Shale.
- 648 - 669 m Limestone with Siltstone stringers.
LIMESTONE - light to medium brown to grey brown, calcilutite to fine calcarenite, micrite to biomicrite, mudstone to wackestone, fossil debris, pellets, silty to highly silty, argillaceous in part, trace vug/fracture filling

anhedral quartz crystals, tight to trace fracture porosity, no shows.

Total Depth: Driller – 669.0 meters
Logger – 668.9 meters

CORING RECORD:

Core #1

Company: Baker Inteq

Coring Supervisor: R. Rooney

Formation: Kee Scarp

Interval: 527.6m to 536.6m

Cut: 9.0 meters

Recovered: 9.0 meters

Core Times

From	To	Time	From	To	Time
527.6	527.8	5.0	532.6	532.8	2.0
527.8	528.0	5.0	532.8	533.0	1.5
528.0	528.2	3.0	533.0	533.2	2.0
528.2	528.4	4.0	533.2	533.4	1.5
528.4	528.6	8.5	533.4	533.6	1.5
528.6	528.8	2.5	533.6	533.8	2.0
528.8	529.0	1.5	533.8	534.0	2.0
529.0	529.2	1.5	534.0	534.2	2.0
529.2	529.4	2.0	534.2	534.4	2.0
529.4	529.6	2.0	534.4	534.6	1.5
529.6	529.8	1.5	534.6	534.8	2.0
529.8	530.0	1.5	534.8	535.0	2.0
530.0	530.2	1.5	535.0	535.2	1.5
530.2	530.4	1.5	535.2	535.4	1.5
530.4	530.6	1.5	535.4	535.6	1.5
530.6	530.8	1.5	535.6	535.8	1.5
530.8	531.0	1.5	535.8	536.0	1.5
531.0	531.2	2.0	536.0	536.2	2.0
531.2	531.4	2.0	536.2	536.4	2.0
531.4	531.6	1.5	536.4	536.6	1.5
531.6	531.8	1.5			
531.8	532.0	1.5			
532.0	532.2	1.5			
532.2	532.4	2.0			
532.4	532.6	1.5			

Core Description

Formation: Kee Scarp

Interval: 527.6m-536.6m

- 527.6 - 531.4 m LIMESTONE - medium to dark brown, calcilutite rare calcarenite, micrite to dismicrite, mudstone to wackestone, burrows & minor fractures infilled with sparry calcite, argillaceous, oil stained in part, spotty fluorescence, white cut in part, trace poor porosity?
Minor stylolites.
- 531.4 - 532.6 m LIMESTONE - dark brown, calcilutite, micrite, mudstone, argillaceous, bioturbated, minor fractures infilled with sparry calcite, tight, no shows.
- 532.6 - 536.6 m LIMESTONE - medium to dark brown, calcilutite to calcirudite, micrite to biomicrite with interbeds of biomicrudite, mudstone to wackestone, rudstone, argillaceous in part, bioturbated in part with sparry calcite infill, tight to trace poor porosity, trace spotty shows, white cut.

End of Core #1

GAS DETECTION REPORT

depth m	rop min/m	tgu	depth m	rop min/m	tgu	depth m	rop min/m	tgu
135.5	0.1	-999.25	314.5	3.3	195	492.5	5.8	152
136.5	6.9	24	315.5	3.6	203	493.5	6.6	158
137.5	4.3	33	316.5	3.5	204	494.5	6.3	160
138.5	3.8	35	317.5	4.6	187	495.5	6.3	167
139.5	4	38	318.5	3.1	175	496.5	6.2	160
140.5	6.2	38	319.5	3.3	223	497.5	6.1	145
141.5	6.2	31	320.5	3.3	227	498.5	6.3	149
142.5	6.1	29	321.5	3.4	205	499.5	6.5	148
143.5	5	29	322.5	3.2	218	500.5	8.2	136
144.5	5.2	43	323.5	3	227	501.5	10.3	134
145.5	4.3	57	324.5	3.1	230	502.5	8.5	125
146.5	4.3	61	325.5	2.9	227	503.5	9.3	90
147.5	4.9	64	326.5	3.9	220	504.5	8	97
148.5	4.8	60	327.5	3.9	190	505.5	7.3	105
149.5	5.2	54	328.5	4.1	200	506.5	7.3	137
150.5	5.1	54	329.5	4.4	216	507.5	11.7	173
151.5	5	52	330.5	4.3	207	508.5	12	168
152.5	7	51	331.5	4	191	509.5	11.5	139
153.5	3.6	50	332.5	4.3	194	510.5	10.5	139
154.5	2.7	65	333.5	3.8	197	511.5	7.2	204
155.5	1.9	84	334.5	3.7	219	512.5	7	267
156.5	1.5	104	335.5	5.1	218	513.5	13.5	322
157.5	1.9	112	336.5	5.2	212	514.5	15	309
158.5	1.7	120	337.5	3.8	186	515.5	17.8	230
159.5	1.9	120	338.5	4.3	198	516.5	20.1	189
160.5	2.3	117	339.5	4.8	216	517.5	18.3	112
161.5	2.9	111	340.5	4.6	196	518.5	17	87
162.5	3.2	48	341.5	3.8	186	519.5	17.8	71
163.5	2.3	57	342.5	3.4	189	520.5	15.1	65
164.5	4	91	343.5	3	199	521.5	14.8	64
165.5	3.8	97	344.5	3.5	201	522.5	17.6	59
166.5	4.8	72	345.5	4.1	216	523.5	15.7	59
167.5	3.9	69	346.5	4.5	143	524.5	10.4	77
168.5	3.3	61	347.5	3.9	182	525.5	11.3	83
169.5	2.9	65	348.5	3.4	200	526.5	14.9	96
170.5	3	70	349.5	3.3	194	527.5	21	90
171.5	3.6	71	350.5	3.3	191	528.5	22	48
172.5	3.3	48	351.5	3.1	175	529.5	8.3	59
173.5	3.2	57	352.5	3.3	176	530.5	7.8	76
174.5	3.3	64	353.5	3.2	184	531.5	8.9	75

175.5	3	63	354.5	2.6	143	532.5	8.6	56
176.5	2.8	65	355.5	3.3	145	533.5	8.8	55
177.5	2.8	66	356.5	3	140	534.5	8.9	59
178.5	2.8	64	357.5	2.3	156	535.5	7.8	65
179.5	3	65	358.5	3	209	536.5	19	86
180.5	1.2	63	359.5	3.1	209	537.5	18.1	65
181.5	1.3	61	360.5	3.3	205	538.5	14.5	72
182.5	2	64	361.5	3.5	211	539.5	12.9	103
183.5	2.3	78	362.5	3.5	210	540.5	18.9	124
184.5	1.9	87	363.5	3.4	207	541.5	19.9	125
185.5	1.6	98	364.5	3.8	207	542.5	23.3	136
186.5	1.9	114	365.5	5.4	214	543.5	23.3	136
187.5	1.8	115	366.5	4.6	215	544.5	20.9	128
188.5	1.9	118	367.5	4.8	152	545.5	18.3	139
189.5	1.4	134	368.5	5.1	156	546.5	14.1	178
190.5	1.8	142	369.5	4.8	156	547.5	14.2	220
191.5	2.5	102	370.5	5.4	171	548.5	24.4	227
192.5	1.8	114	371.5	5.3	177	549.5	22.8	197
193.5	2.3	181	372.5	5.6	180	550.5	20.5	166
194.5	2.1	185	373.5	5.5	180	551.5	23.4	165
195.5	2.2	174	374.5	5.9	178	552.5	19.8	160
196.5	2	174	375.5	5.1	178	553.5	14.3	141
197.5	2	187	376.5	4.2	188	554.5	18.2	146
198.5	1.8	197	377.5	5	221	555.5	17.7	152
199.5	1.9	205	378.5	5.2	223	556.5	18.9	166
200.5	2.2	204	379.5	5.8	216	557.5	12.6	184
201.5	1.6	149	380.5	5.7	209	558.5	15.1	265
202.5	3.3	89	381.5	5	211	559.5	20	226
203.5	3.3	87	382.5	6	216	560.5	16.1	207
204.5	1.8	66	383.5	4.9	223	561.5	14.8	211
205.5	3.8	58	384.5	6.9	217	562.5	14.2	213
206.5	3.4	50	385.5	4.8	221	563.5	16.2	209
207.5	3.8	70	386.5	4.7	189	564.5	18.8	74
208.5	3.3	72	387.5	4.8	208	565.5	15	87
209.5	4.2	66	388.5	5	200	566.5	14.1	115
210.5	4.1	58	389.5	5.1	190	567.5	13.2	102
211.5	1.6	126	390.5	5.1	206	568.5	13.7	113
212.5	1.8	184	391.5	5.1	226	569.5	14.4	136
213.5	1.8	187	392.5	5.2	227	570.5	13.3	166
214.5	1.8	187	393.5	5.4	228	571.5	14.8	179
215.5	1.6	173	394.5	5.9	223	572.5	15.8	163
216.5	1.6	158	395.5	4.6	181	573.5	14	175
217.5	1.7	163	396.5	5.4	213	574.5	18.2	161
218.5	2.1	159	397.5	5.2	225	575.5	15.6	162
219.5	2.5	66	398.5	5	217	576.5	15.8	172

220.5	2.2	96	399.5	5	213	577.5	14.5	197
221.5	3.6	96	400.5	5.3	215	578.5	14.9	203
222.5	2.4	79	401.5	5.3	219	579.5	13.2	237
223.5	2.1	98	402.5	5.4	221	580.5	14.3	263
224.5	2	106	403.5	5.2	217	581.5	15.6	259
225.5	2.1	107	404.5	5.6	205	582.5	15.1	258
226.5	2.1	107	405.5	4.8	211	583.5	13.8	249
227.5	2	110	406.5	5.3	220	584.5	15	248
228.5	2.2	110	407.5	3.8	222	585.5	15.6	251
229.5	3.8	107	408.5	3.9	223	586.5	15.9	254
230.5	3.2	94	409.5	4.3	234	587.5	14.3	250
231.5	2.5	99	410.5	5.2	237	588.5	14.6	241
232.5	2.7	105	411.5	4.8	237	589.5	14.7	225
233.5	2.3	105	412.5	7	217	590.5	15.6	225
234.5	1.9	80	413.5	6.1	219	591.5	15.8	215
235.5	1.9	81	414.5	9	173	592.5	15.5	200
236.5	2.1	106	415.5	7.3	154	593.5	16	197
237.5	2.3	108	416.5	4.6	205	594.5	15.1	186
238.5	2	98	417.5	3.6	207	595.5	15.2	126
239.5	2.4	101	418.5	3.6	245	596.5	15.5	88
240.5	2.6	117	419.5	3.8	255	597.5	15.8	86
241.5	2.1	111	420.5	4.4	255	598.5	15.8	75
242.5	2.2	129	421.5	4.3	254	599.5	14.9	92
243.5	2.2	129	422.5	4.8	233	600.5	14	114
244.5	2.1	125	423.5	5.5	234	601.5	12.8	127
245.5	1.8	125	424.5	6.9	209	602.5	13.3	127
246.5	1.8	139	425.5	5.7	165	603.5	13.7	131
247.5	2	151	426.5	4.5	173	604.5	13.4	128
248.5	2.3	140	427.5	4.3	192	605.5	13.4	137
249.5	2.2	109	428.5	4.2	206	606.5	13.1	142
250.5	1.2	116	429.5	3.9	214	607.5	12.4	139
251.5	1.5	167	430.5	3.9	221	608.5	12.3	152
252.5	1.4	196	431.5	3.7	226	609.5	13.1	154
253.5	1.5	196	432.5	3.6	218	610.5	14.4	152
254.5	1.4	161	433.5	6	193	611.5	16	148
255.5	1.7	131	434.5	4.8	226	612.5	12.6	158
256.5	1.6	76	435.5	4.5	221	613.5	13.8	153
257.5	1.6	85	436.5	4.3	245	614.5	13.4	178
258.5	1.8	34	437.5	4.2	250	615.5	13.8	173
259.5	2.6	46	438.5	4.3	258	616.5	11.4	189
260.5	1.3	125	439.5	4.5	258	617.5	11.7	188
261.5	1.7	135	440.5	4.6	241	618.5	11.2	170
262.5	1.7	132	441.5	4.3	237	619.5	12.9	179
263.5	2.4	90	442.5	5.4	223	620.5	13.3	164
264.5	3.4	66	443.5	3.9	241	621.5	11.9	165

265.5	3	150	444.5	4.8	230	622.5	11.7	158
266.5	2.4	179	445.5	4.9	242	623.5	12	154
267.5	2.3	246	446.5	4.1	238	624.5	12.1	188
268.5	5	260	447.5	4.3	243	625.5	13.8	273
269.5	8.2	244	448.5	4.4	251	626.5	10.3	203
270.5	6.4	214	449.5	4.6	258	627.5	10.1	202
271.5	9	216	450.5	4.4	258	628.5	11.8	202
272.5	6.3	197	451.5	5.1	249	629.5	10.9	192
273.5	3.8	194	452.5	5.3	226	630.5	17.1	193
274.5	3.1	246	453.5	5.1	245	631.5	15.8	228
275.5	1.8	267	454.5	5.1	214	632.5	16.6	174
276.5	1.7	352	455.5	4.3	251	633.5	14.9	152
277.5	1.9	389	456.5	5.5	252	634.5	13	165
278.5	3	405	457.5	5.5	259	635.5	15.5	163
279.5	2	390	458.5	5.3	234	636.5	14.9	125
280.5	2.3	312	459.5	5.1	239	637.5	19.1	104
281.5	2	319	460.5	5.1	241	638.5	16.6	132
282.5	1.9	325	461.5	5.3	242	639.5	14.8	112
283.5	1.7	331	462.5	6	242	640.5	13.3	114
284.5	1.9	378	463.5	4.3	234	641.5	12.2	124
285.5	1.9	393	464.5	4.4	224	642.5	11.9	80
286.5	1.8	385	465.5	4.6	250	643.5	15.8	77
287.5	1.9	307	466.5	4.6	246	644.5	14.2	83
288.5	4	300	467.5	4.5	244	645.5	13.5	93
289.5	2.6	300	468.5	4.3	244	646.5	13.6	106
290.5	1.8	306	469.5	3.9	257	647.5	14	117
291.5	1.9	344	470.5	4.1	258	648.5	22.1	99
292.5	1.9	360	471.5	5	254	649.5	18.6	90
293.5	2.1	356	472.5	4.7	251	650.5	17.1	102
294.5	2.7	353	473.5	4.8	250	651.5	20.3	112
295.5	2.8	337	474.5	4.9	231	652.5	16	79
296.5	2.3	318	475.5	4.7	229	653.5	14.5	97
297.5	4.5	318	476.5	4.8	200	654.5	14.3	114
298.5	2.1	316	477.5	4.4	200	655.5	14.3	102
299.5	2.4	236	478.5	4.5	202	656.5	16	103
300.5	2.8	287	479.5	4.8	213	657.5	16.2	100
301.5	2.8	274	480.5	5.4	221	658.5	16.2	94
302.5	2.8	262	481.5	5.3	217	659.5	16.1	92
303.5	2.7	291	482.5	3.9	210	660.5	14.3	74
304.5	4.7	287	483.5	4.7	163	661.5	13.3	54
305.5	4.4	302	484.5	5.2	194	662.5	13.5	50
306.5	6.8	292	485.5	5.2	198	663.5	14.9	50
307.5	6	255	486.5	5.3	157	664.5	15.6	46
308.5	4.2	207	487.5	5.2	150	665.5	19.5	45
309.5	3.7	161	488.5	5.3	161	666.5	12.3	47

310.5	3.4	174	489.5	5.3	167	667.5	14.3	46
311.5	3.5	179	490.5	5.8	162	668.5	16.3	69
312.5	3.5	186	491.5	5.5	148	669.5	0.1	60
313.5	3.8	187						

TOTAL GAS RESPONSE SUMMARY

<u>Depth</u>	<u>TGU</u>
508-513	322
513-517	300-112
517-524	60-80
524-527	83-125
565-577	140-150
577-595	200-270
595-640	100-200
640-669	70-120

SIGNIFICANT TOTAL GAS RESPONSE SUMMARY

<u>Depth</u>	<u>TGU</u>	<u>Avg background</u>	<u>Interpr. Lithology</u>
525-527	127	60	limestone
548-550	227	130	limestone
557-563	265	130	limestone

DRILL STEM TESTS

None run

WELL EVALUATION

RUN 1

Logging Company: Schlumberger **Engineer:** Sean McConkey
District: Norman Wells **Truck No.:** 8416
Circulation Ended: 0750 Hrs. 00/03/03 **Finish Trip:** 1000 Hrs. 00/03/03
On Location: 2230 Hrs. 00/03/03 **Off Location:** 1830 Hrs. 00/03/03
Rig Up: 1000 Hrs. 00/03/03 **Rig Down:** 1645 Hrs. 00/03/03
Mud Properties: **Mud Type:** Gel Chem **BHT:** 35.0°C
 Density: 1110 **Rmf:** 1.32 @ 18.0 °C
 Viscosity: 70
 WL: 9.0
 pH: 9.0

Services:

<i>Log</i>	<i>Interval Logged</i>	<i>Meters Logged</i>	<i>Comments</i>
CNL-LDT-DLL	669.0 to 508.0	161.0	1:240 & 1:600
BHCS-GR	669.0 to 508.0	161.0	1:240 & 1:600

Times:

<i>Tool Combo</i>	<i>Date</i>	<i>Start In</i>	<i>First on Bottom</i>	<i>Last on Bottom</i>	<i>Clear Hole</i>	<i>Total Hours</i>
CNL-LDT-DLL	00/03/03	1130	na	1200	1330	2.00
BHCS-GR	00/03/03	1400	na	1550	1645	2.75

Logging Time: 4.75 Hours **Rig Up/Down:** 2.75 Hours
Time Losses: 0 Hours **Total Logging Time:** 7.50 Hours

Remarks: Compensated Neutron logged to surface. Poor Satellite communications prevented lognets from being sent from location. Good job. Fast, friendly & proficient service.

MUD REPORT

Mud up @ 481 meters

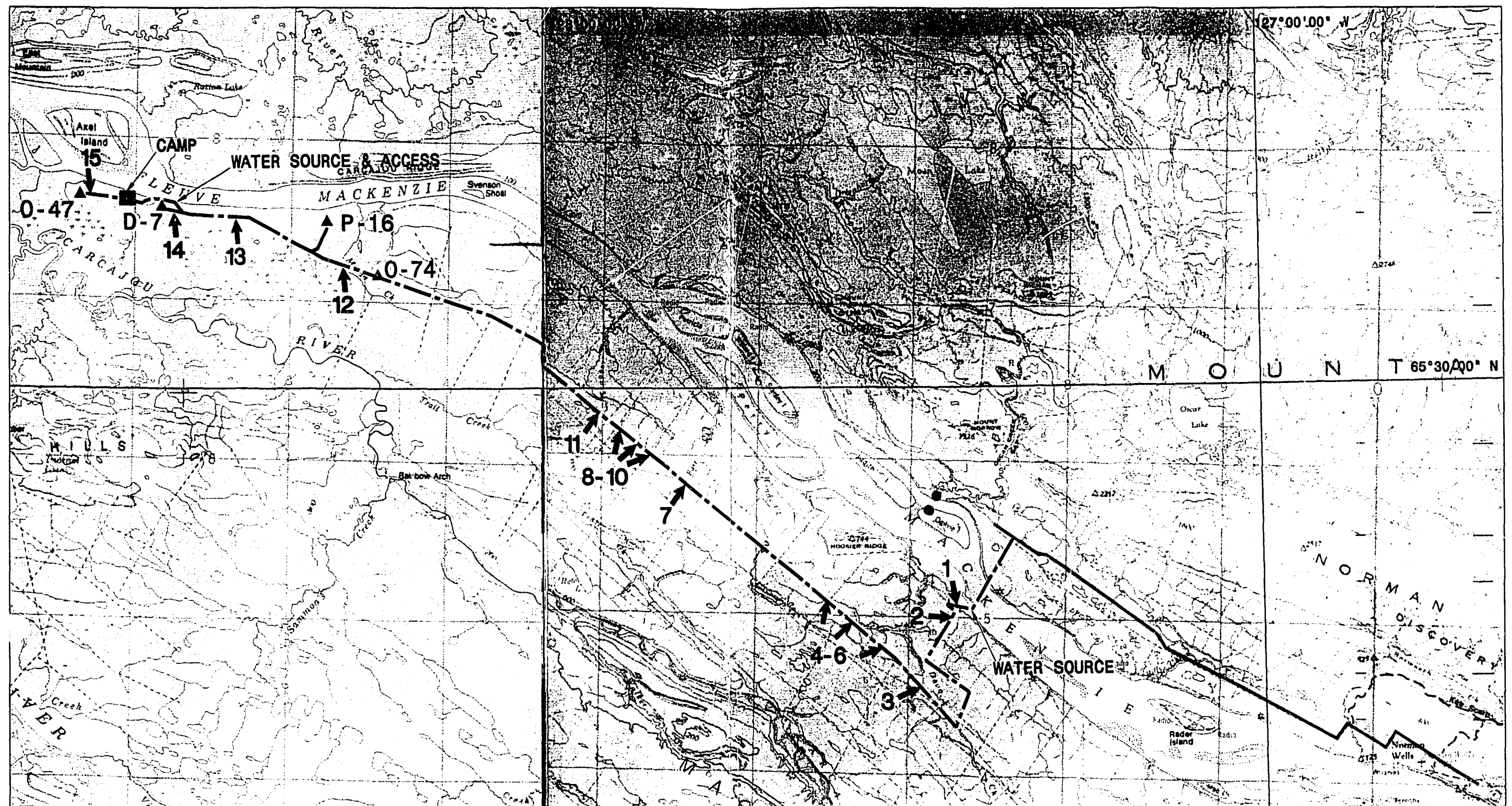
Date	Depth (m)	Density (kg/m ³)	Viscosity (s/l)	pH	Water Loss
2/29/00	527	1120	44	9.0	14.0
3/1/00	573	1080	45	9.0	9.0
3/2/00	650	1090	60	9.0	9.0
3/3/00	669	1100	45	9.0	9.0

E. ENVIRONMENTAL WELL ANALYSIS

F. APPENDICES TO WELL HISTORY

(See Table of Contents)

**Topographical
Map of
Proposed Well
Site**



LEGEND:

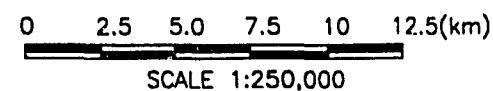
- ▲ PROPOSED WELL LOCATIONS
- KNOWN HERITAGE SITE
- TEMPORARY ACCESS
- EXISTING WINTER ROAD
- ➔ SURVEYED/OBSERVED STREAM CROSSINGS

NOTES:

CO-ORDINATES, LATITUDES AND LONGITUDES ARE IN NAD 27 DATUM.

REFERENCE

DRAWING PROVIDED BY SESL GEOMATICS
JOB NO.: 99N012; FIGURE 2 99-11-01



**PROPOSED AEC (WEST) CARCAJOU
EXPLORATORY DRILLING PROGRAM**

DRAWN: RFM	APPROVED:	DATE: 18 NOV. 1999
PROJECT: 992-2233	FIGURE: 2	

SURVEY PLAN

OVERSIZED

DOCUMENT

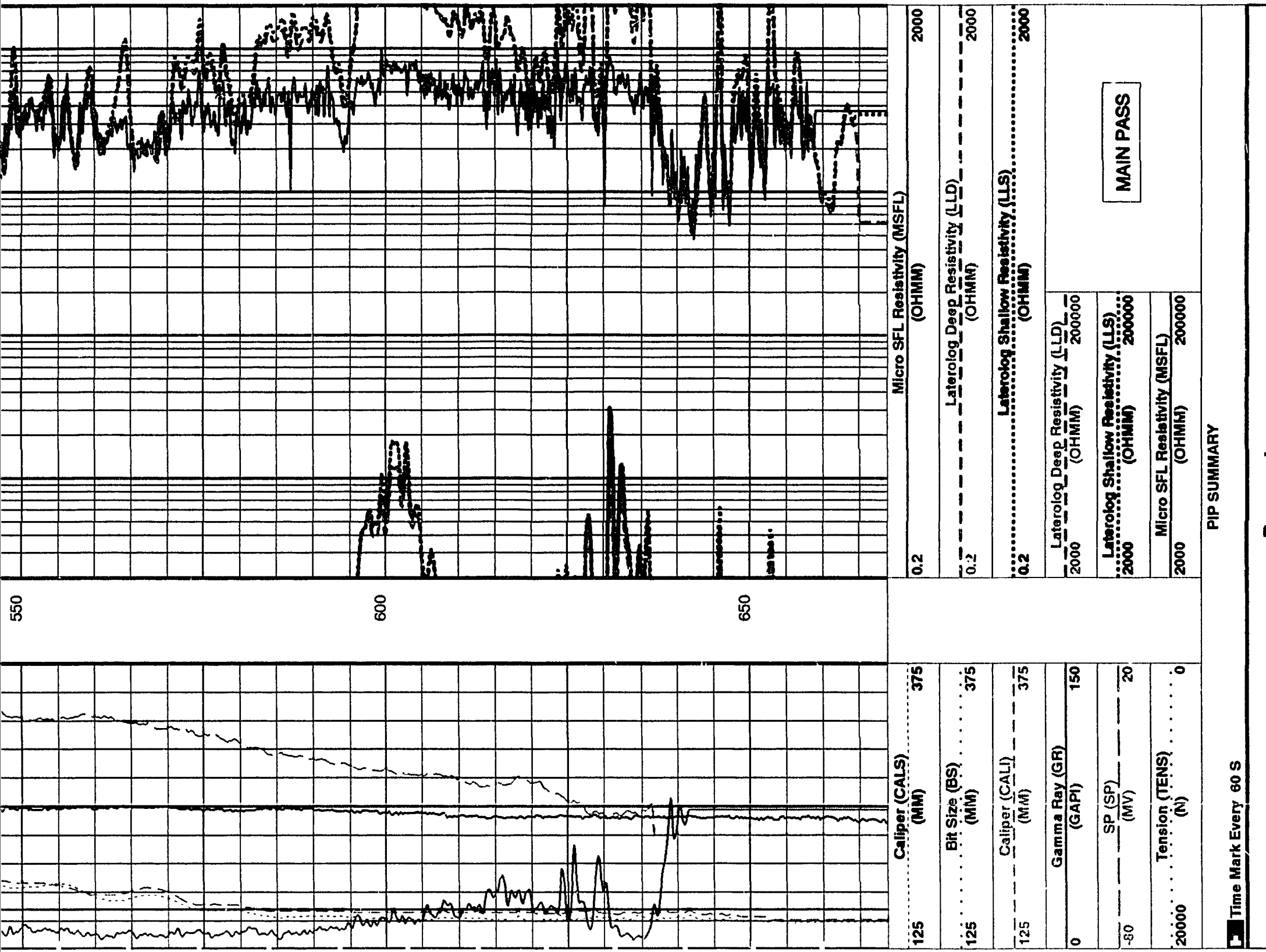
FILMED

ON

35mm

RESISTIVITY/

CONDUCTIVITY



125	Caliper (CAL)	(MM)	375
125	Bit Size (BS)	(MM)	375
125	Caliper (CAL)	(MM)	375
0	Gamma Ray (GR)	(GAPI)	150
-30	SP (SP)	(MV)	20
20000	Tension (TENS)	(N)	0

2000	Laterolog Deep Resistivity (LDD)	(OHMM)	200000
2000	Laterolog Shallow Resistivity (LLS)	(OHMM)	200000
2000	Micro SFL Resistivity (MSFL)	(OHMM)	200000

159.000	MM
0.4	M
0.4	NW
550	SND
OFF	CONS
OFF	DEPT
NORMAL	REF
1	OHMM
0	MV
550	NW
SLIM	

BS	Bit Size
DORI	Depth Offset
DPF	Depth Offset Repeat Analysis
KFAC	DEEP REFERENCE POWER
LLOO	LATEROLOG LOOP
OMIR	Origin of Mud Resistivity
PP	Playback Processing
RMUD	Relativity of Mud Sample
SPNV	SP Next Value
SPT	SHALLOW REFERENCE POWER
SRT	SRT Pad Type

Format: DLT_MSFL_600	Vertical Scale: 1:800
----------------------	-----------------------

Time Mark Every 60 S

OP System Version: 9C0-413

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

DEFAULT	DLTE_012	FN:11 PRODUCER	03-Mar-2000 14:27	689.0 M	495.5 M
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DEFAULT	DLTE_032	FN:31 PRODUCER	03-Mar-2000 23:34	689.0 M	495.5 M
---------	----------	----------------	-------------------	---------	---------

Input DLTIS Files

Output DLTIS Files

OP System Version: 9C0-413

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

DEFAULT	DLTE_012	FN:11 PRODUCER	03-Mar-2000 14:27	689.0 M	495.5 M
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Output DLTIS Files

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

DEFAULT	DLTE_012	FN:11 PRODUCER	03-Mar-2000 14:27	689.0 M	495.5 M
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DEFAULT	DLTE_032	FN:31 PRODUCER	03-Mar-2000 23:34	689.0 M	495.5 M
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Input DLTIS Files

Output DLTIS Files

OP System Version: 9C0-413

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

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Input DLTIS Files

Output DLTIS Files

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TCC-B	9C0-413	BSP	9C0-413

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Output DLTIS Files

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PCD-B	9C0-413	SGT-L	9C0-413
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Output DLTIS Files

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PCD-B	9C0-413	SGT-L	9C0-413
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Input DLTIS Files

Output DLTIS Files

OP System Version: 9C0-413

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LDT-D	9C0-413	CNT-H	SRT-C
PCD-B	9C0-413	SGT-L	9C0-413
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Output DLTIS Files

OP System Version: 9C0-413

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Output DLTIS Files

OP System Version: 9C0-413

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PCD-B	9C0-413	SGT-L	9C0-413
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Output DLTIS Files

OP System Version: 9C0-413

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

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Input DLTIS Files

Output DLTIS Files

OP System Version: 9C0-413

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

DEFAULT	DLTE_012	FN:11 PRODUCER	03-Mar-2000 14:27	689.0 M	495.5 M
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**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**

SONIC

Parameters			
DLIS Name	Description	Value	
BS	Bit Size	159.000	MM
DO	Depth Offset	0.2	M
DORL	Depth Offset Repeat Analysis	0.2	M
DTCM	Delta-T Computation Mode	FULL	
MODE	Firing Mode	BHC	
PP	Playback Processing	NORMAL	
Format: SONI-240-300_REP		Vertical Scale: 1:240	
Graphics File Created: 03-Mar-2000 16:34			
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 .024	FN:23 PRODUCER	03-Mar-2000 15:56
			669.6 M
			577.4 M
Output DLIS Files			
DEFAULT	SDTC .027	FN:26 PRODUCER	03-Mar-2000 16:33

Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
Powered Caliper Device - B Wellsite Calibration - Large Arm Calibration							
Before: Calibration out of date 16-JAN-2000 19:56							
Large Arm Small Ring	203.2	N/A	176.7	N/A	N/A	N/A	MM
Large Arm Large Ring	304.8	N/A	310.2	N/A	N/A	N/A	MM
Powered Caliper Device - B Wellsite Calibration - Small Arm Calibration							
Before: Calibration not done							
Small Arm Small Gauge	25.40	N/A	N/A	N/A	N/A	N/A	MM
Small Arm Large Gauge	127.0	N/A	N/A	N/A	N/A	N/A	MM
Powered Caliper Device - B Wellsite Calibration - Micro Inverse Calibration							
Before: Calibration out of date 16-JAN-2000 19:59							
Micro Inverse Zero	0	N/A	4.420	N/A	N/A	0.1000	OHMM
Micro Inverse Plus	5.000	N/A	4.420	N/A	N/A	0.2000	OHMM
Powered Caliper Device - B Wellsite Calibration - Micro Normal Calibration							
Before: Calibration out of date 16-JAN-2000 19:59							
Micro Normal Zero	0	N/A	4.420	N/A	N/A	0.1000	OHMM
Micro Normal Plus	5.000	N/A	4.420	N/A	N/A	0.2000	OHMM
Scintillation Gamma-Ray - L Wellsite Calibration - Detector Calibration							
Before: 28-FEB-2000 15:00							
Gamma Ray Background	30.00	N/A	61.83	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	157.8	N/A	157.8	N/A	N/A	14.34	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

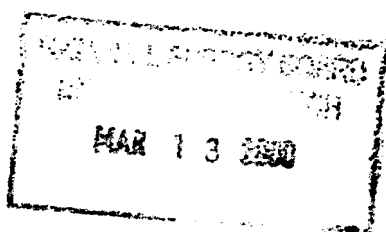
Powered Caliper Device - B / Equipment Identification			
Primary Equipment:			
Powered Caliper Mechanical (sonde) - A		PCM - A	
Powered Caliper Cartridge - H		PCC - H	
Auxiliary Equipment:			
Powered Caliper Housing - A		PCH - A	1371

Powered Caliper Device - B Wellsite Calibration					
Micro Inverse Calibration					
Phase	Micro Inverse Zero OHMM	Value	Phase	Micro Inverse Plus OHMM	Value
Before		EXCEEDS LIMIT	Before		4.420
	-1.000	0		4.250	5.000
	(Minimum)	(Nominal)		(Minimum)	(Nominal)
		1.000			5.750
		(Maximum)			(Maximum)
Before: Calibration out of date 16-JAN-2000 19:59					

Powered Caliper Device - B Wellsite Calibration					
Micro Normal Calibration					
Phase	Micro Normal Zero OHMM	Value	Phase	Micro Normal Plus OHMM	Value
Before		EXCEEDS LIMIT	Before		4.420
	-1.000	0		4.250	5.000
	(Minimum)	(Nominal)		(Minimum)	(Nominal)
		1.000			5.750
		(Maximum)			(Maximum)
Before: Calibration out of date 16-JAN-2000 19:59					

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	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI
Before		61.83	Before		157.8	Before	
	0	30.00		143.4	157.8		150.0
	(Minimum)	(Nominal)		(Minimum)	(Nominal)		(Minimum)
		120.0			172.1		165.0
		(Maximum)			(Maximum)		(Nominal)
							180.0
							(Maximum)
Before: 28-FEB-2000 15:00							

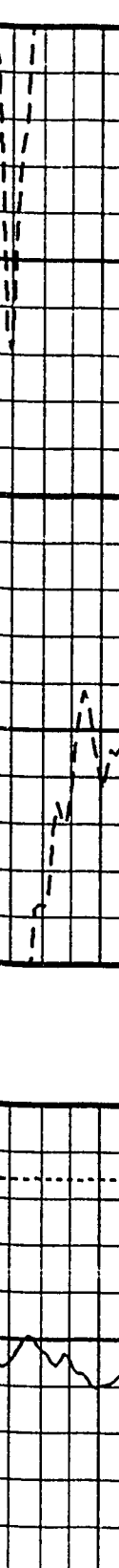
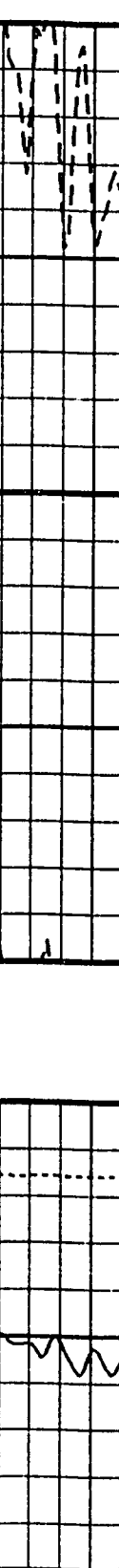
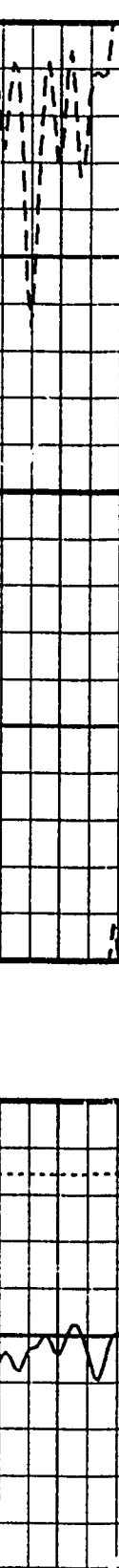
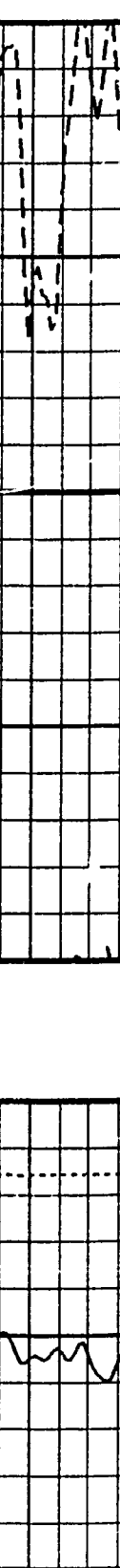
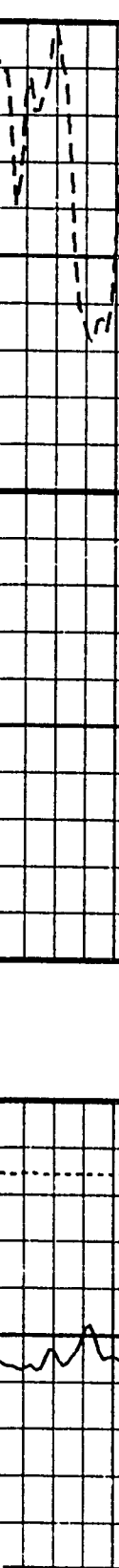
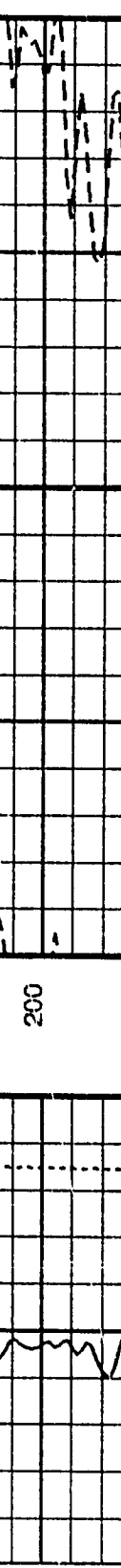
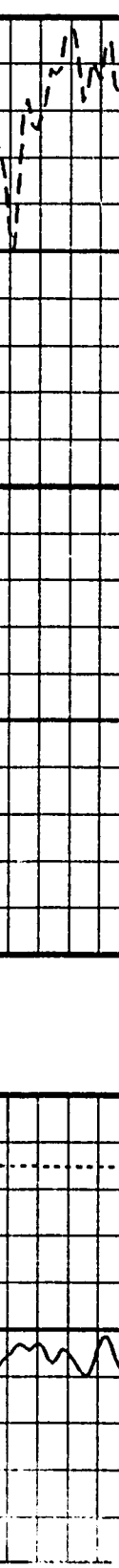
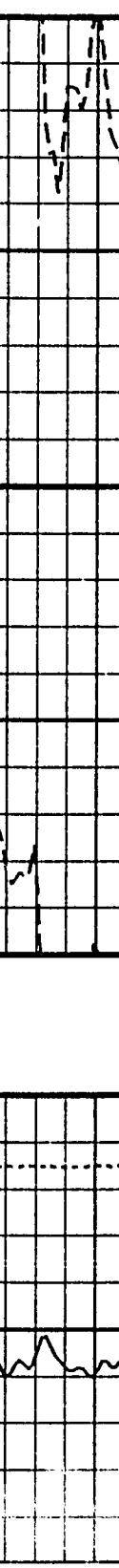
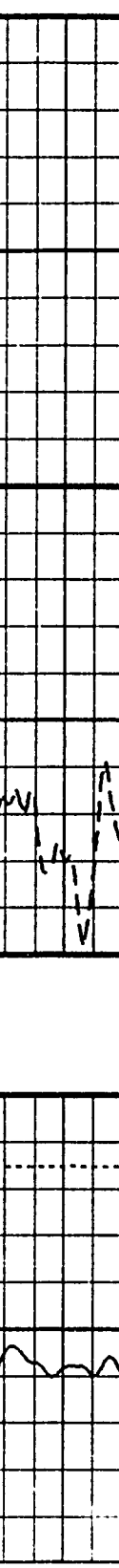
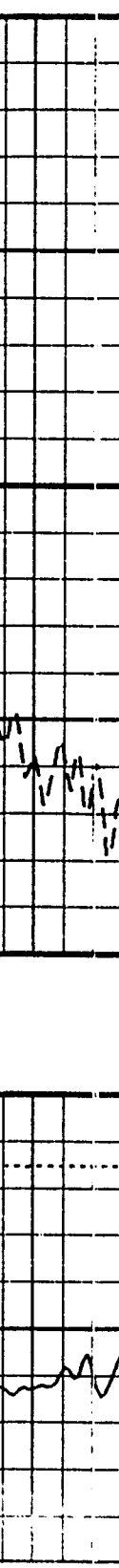
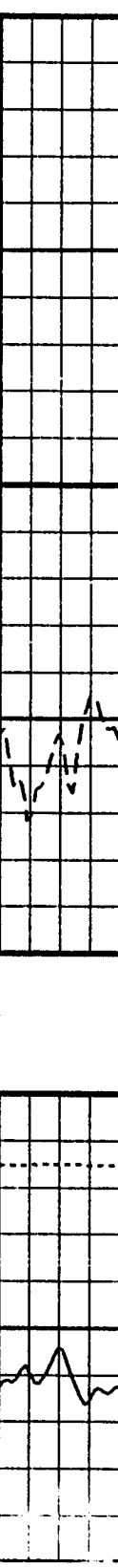
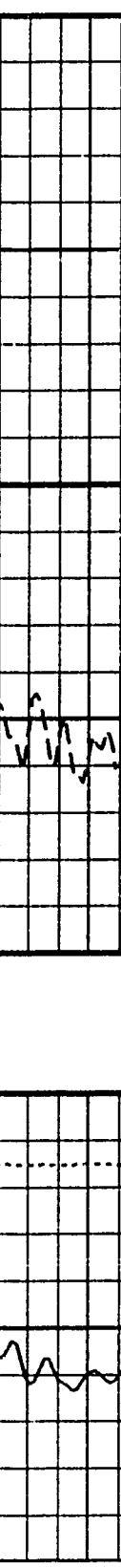
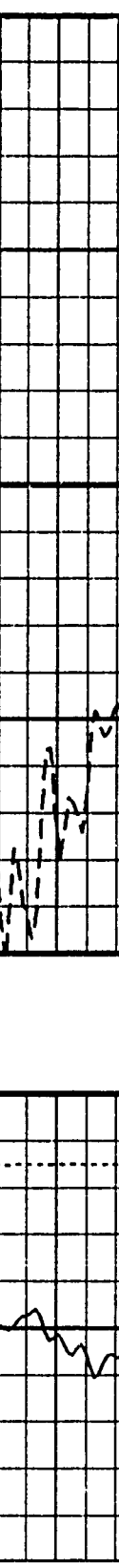
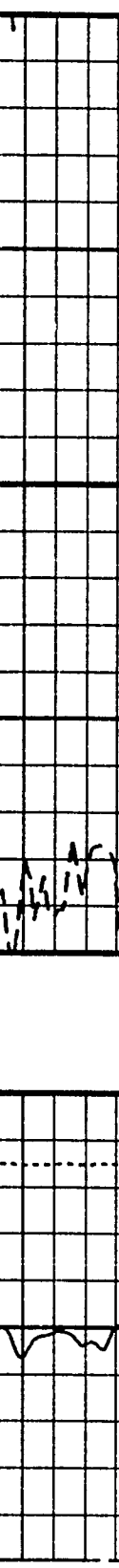
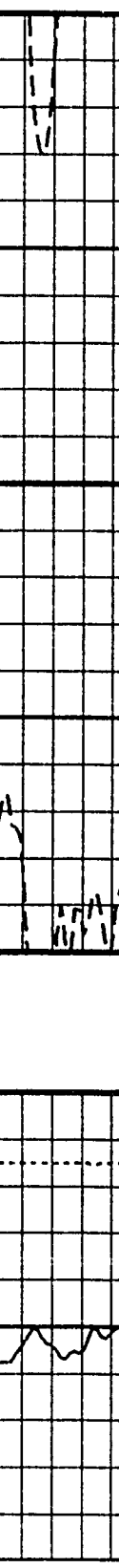
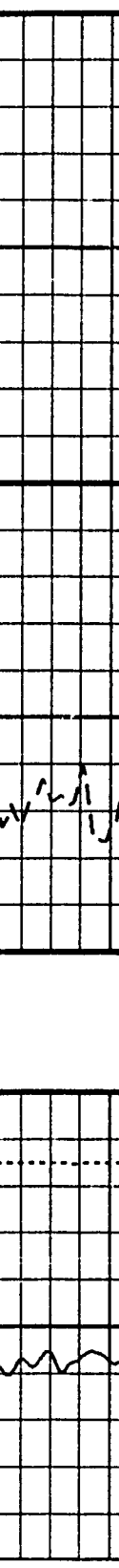
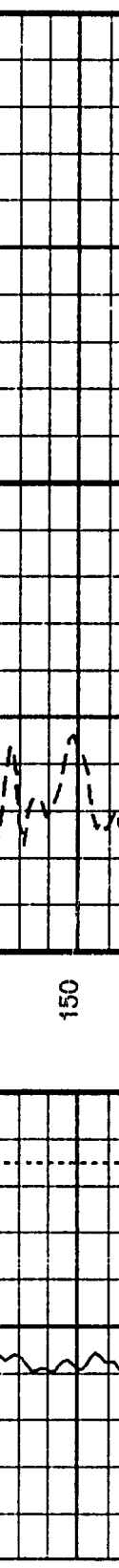
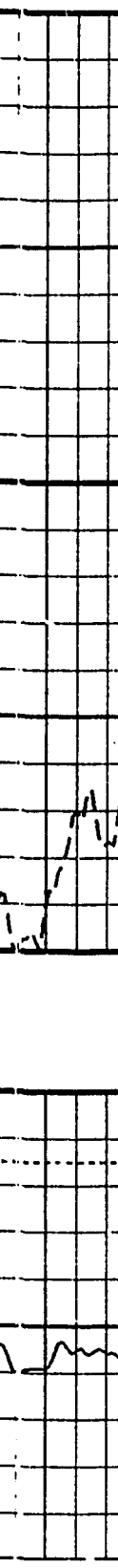
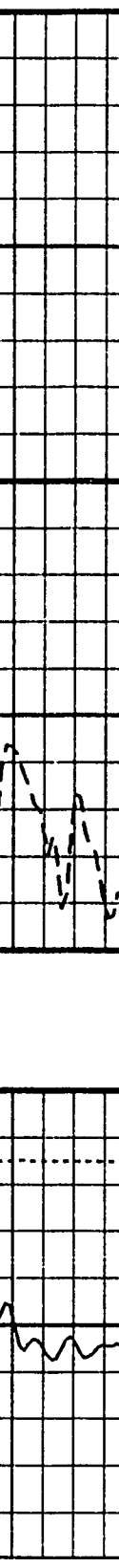
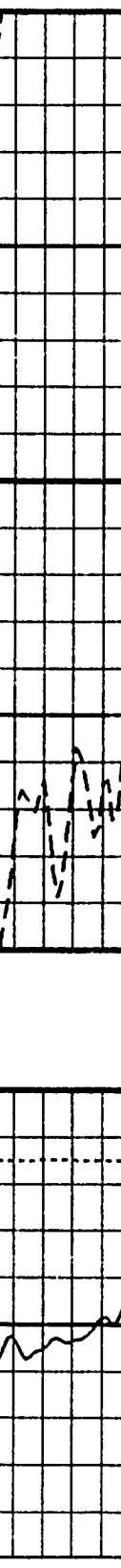
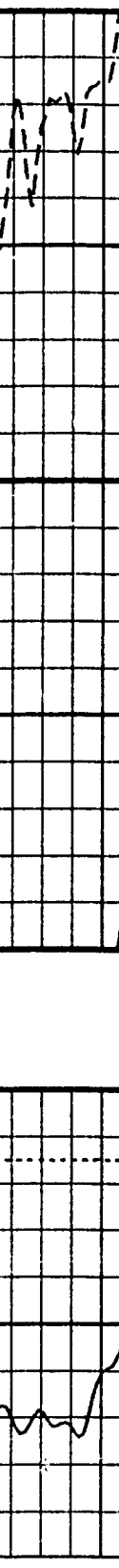
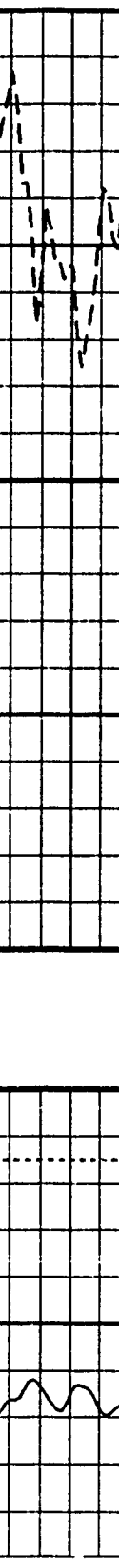
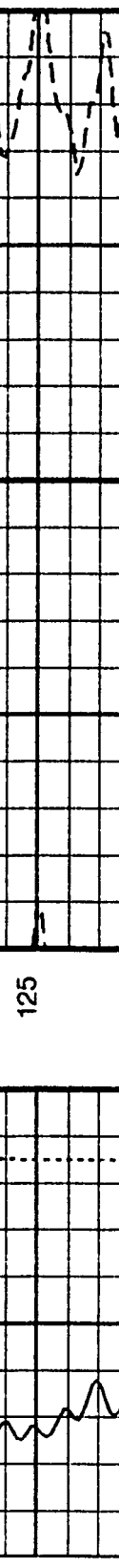
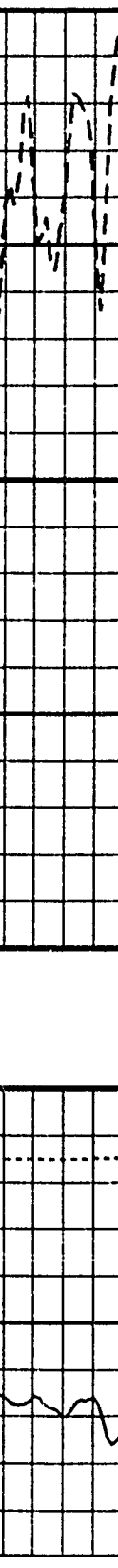
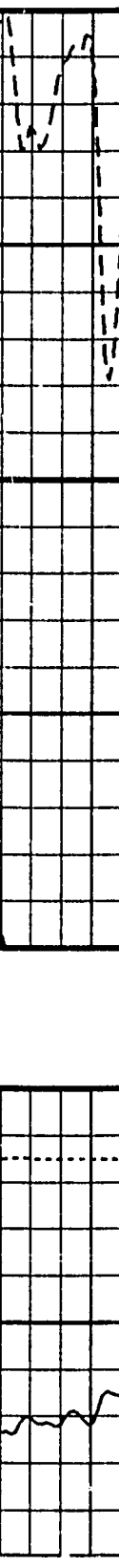
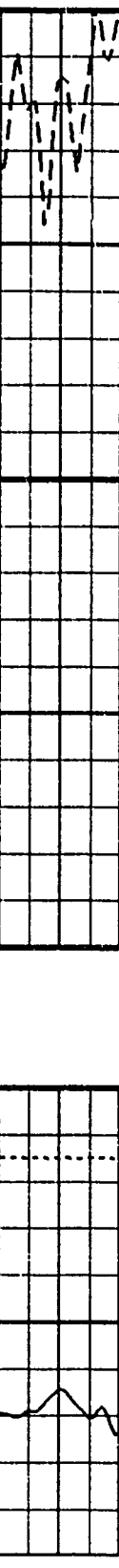
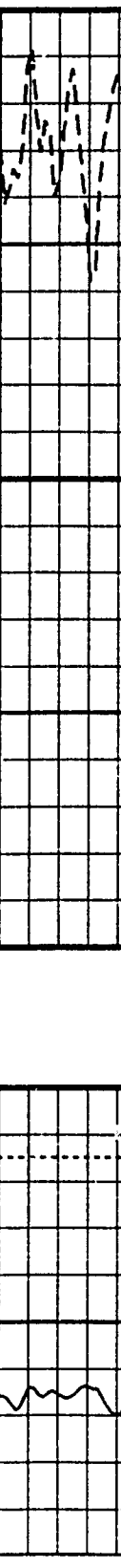
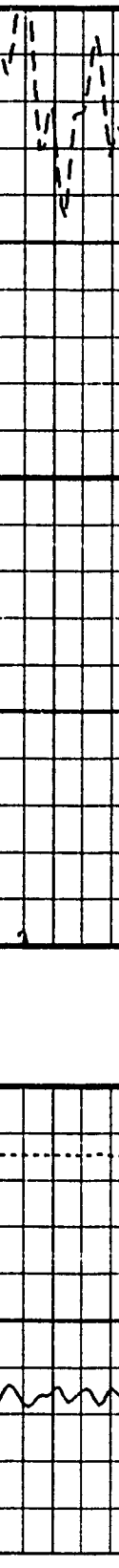
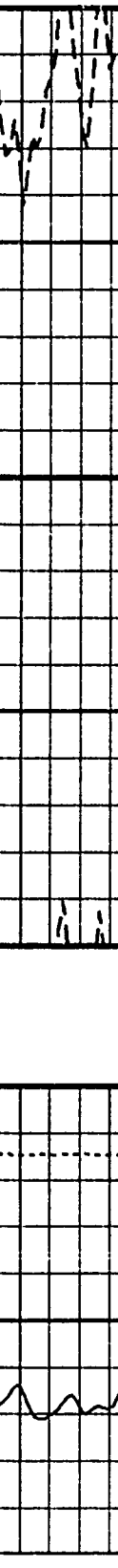
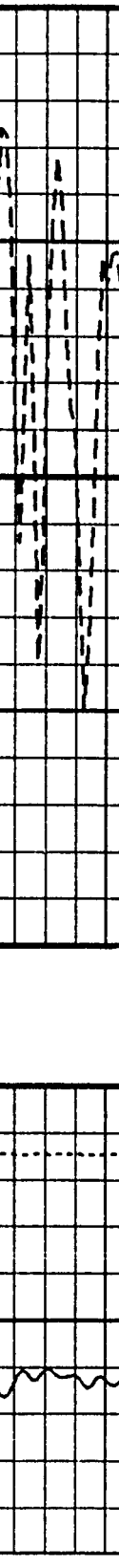
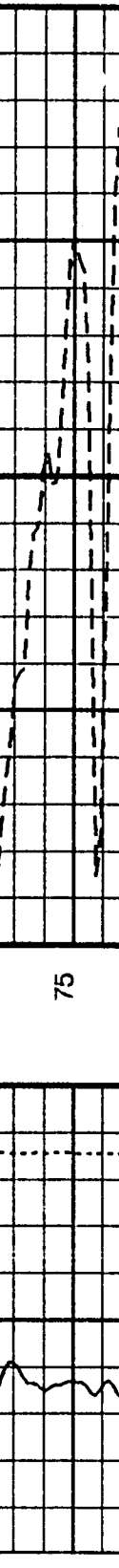
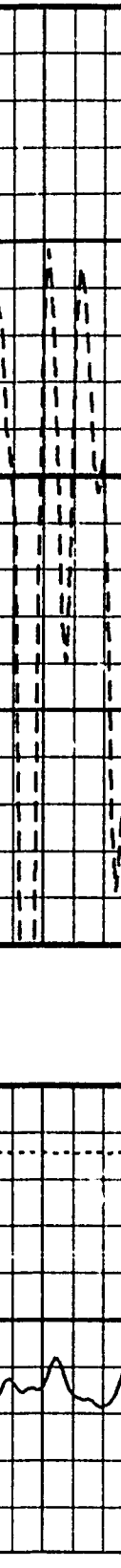
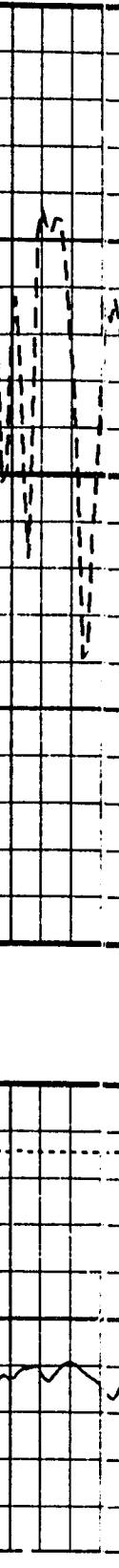
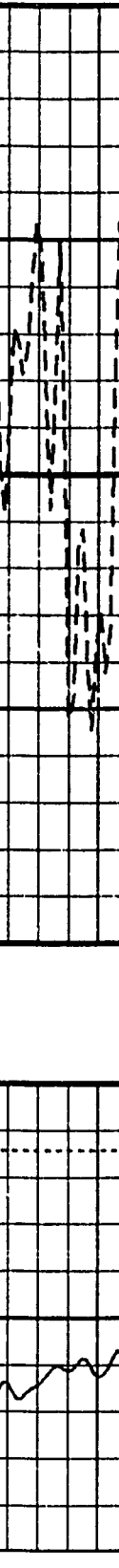
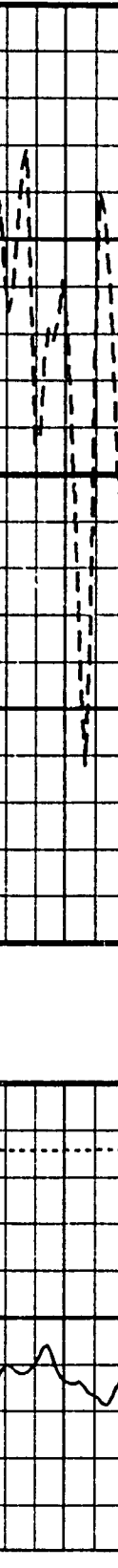
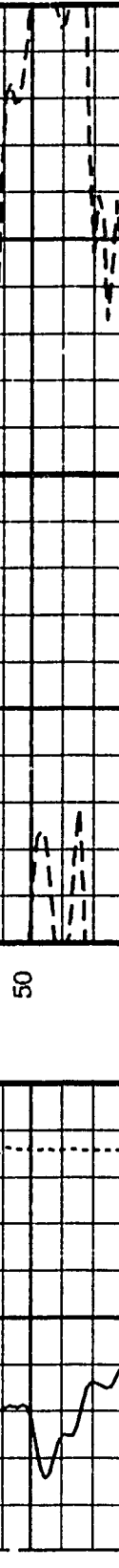
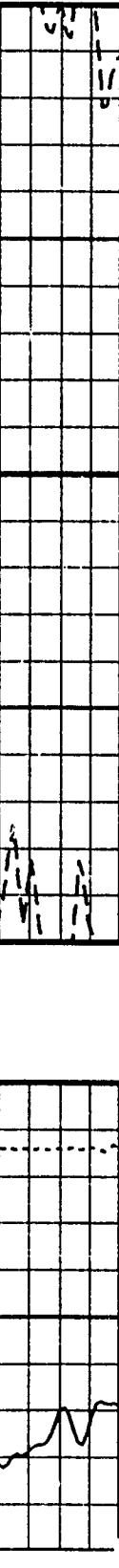
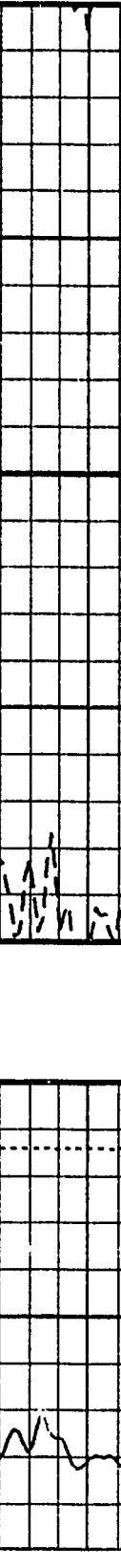
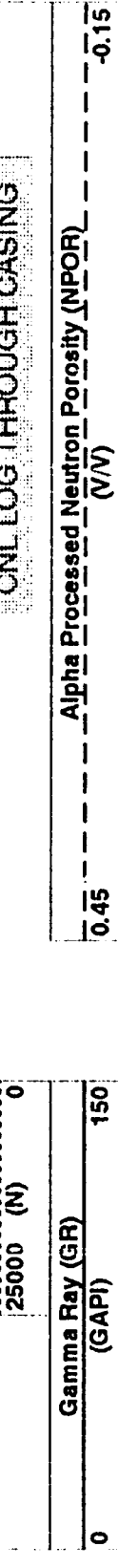
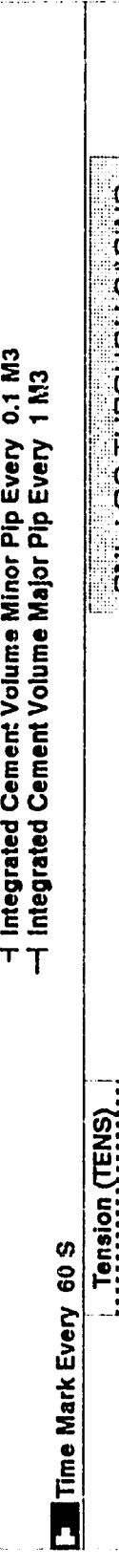
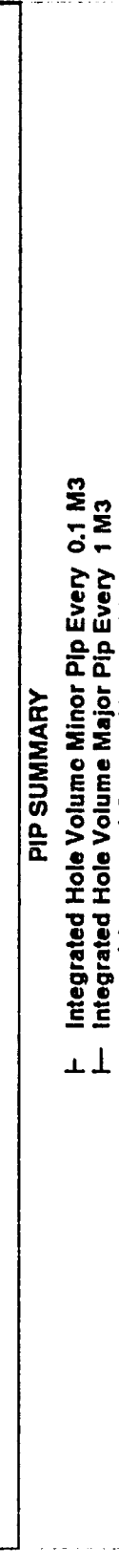
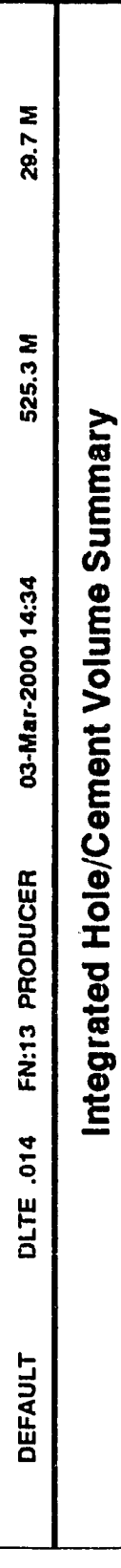
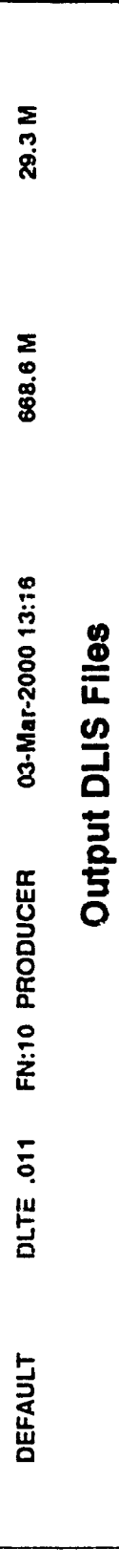
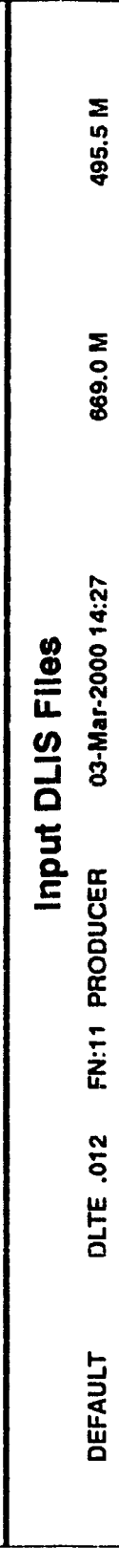
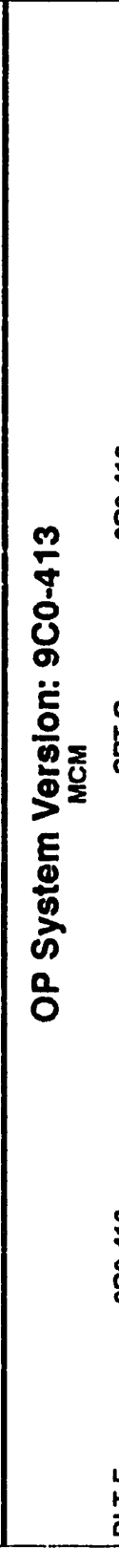
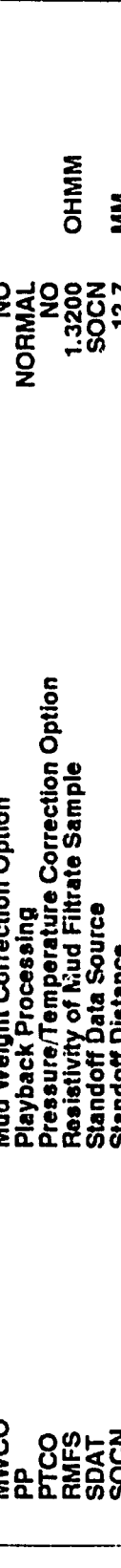
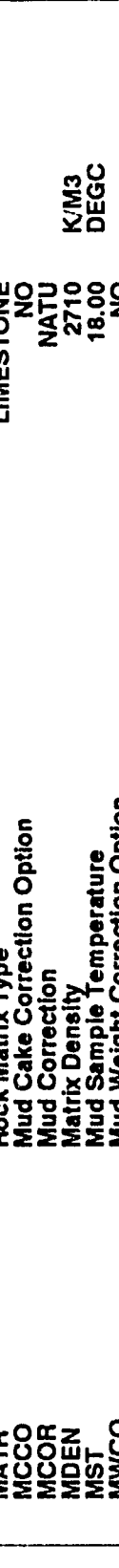
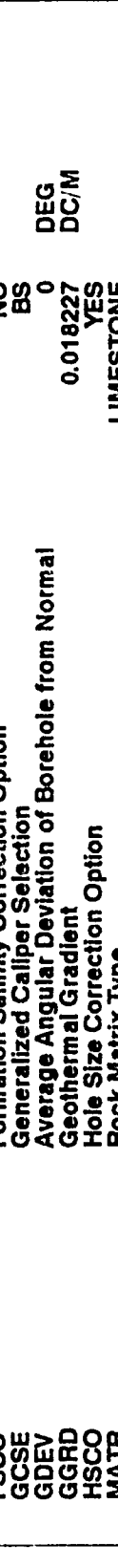
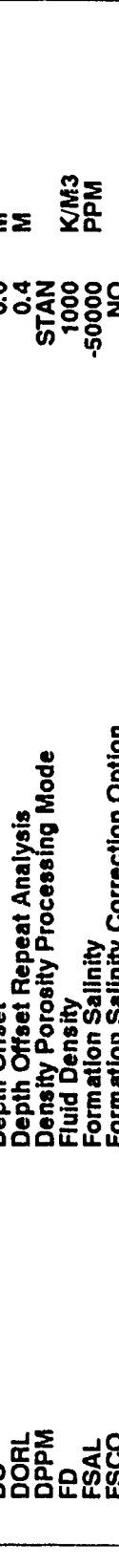
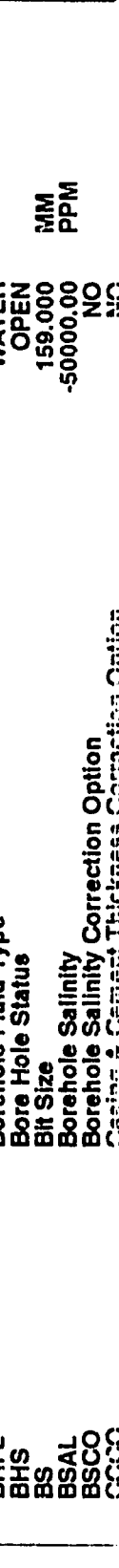
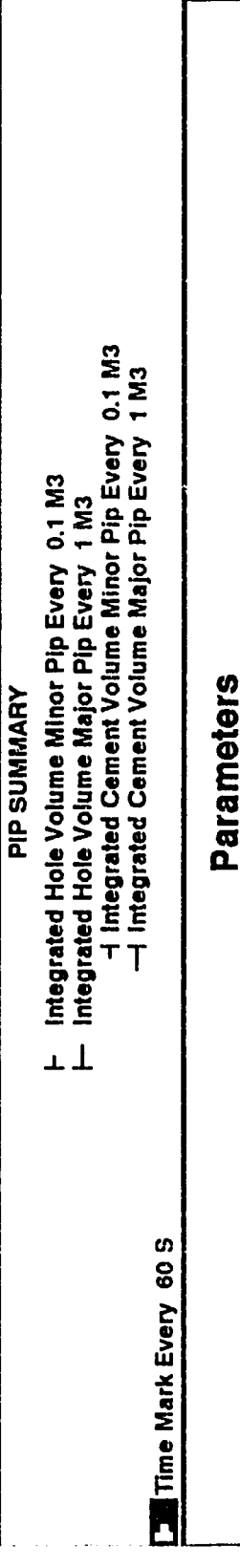
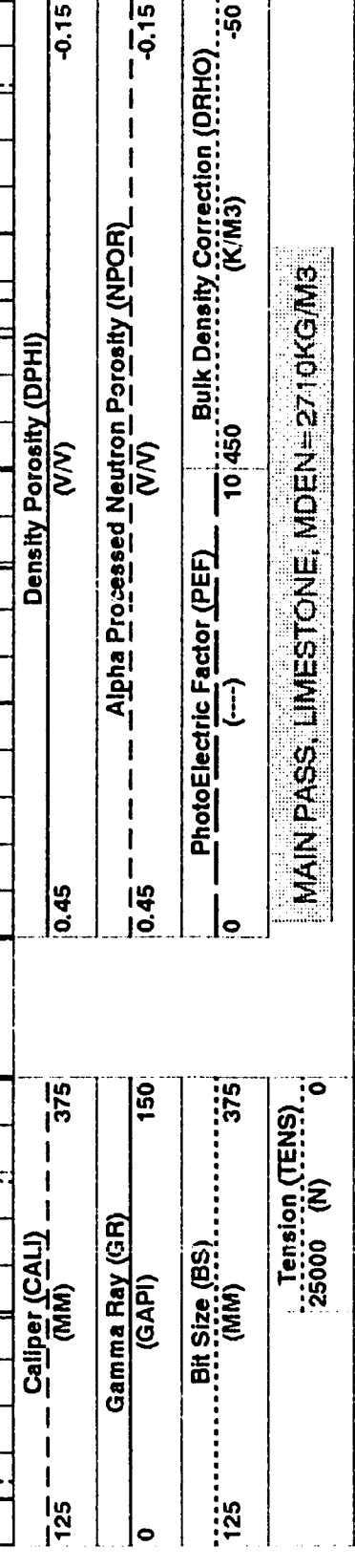
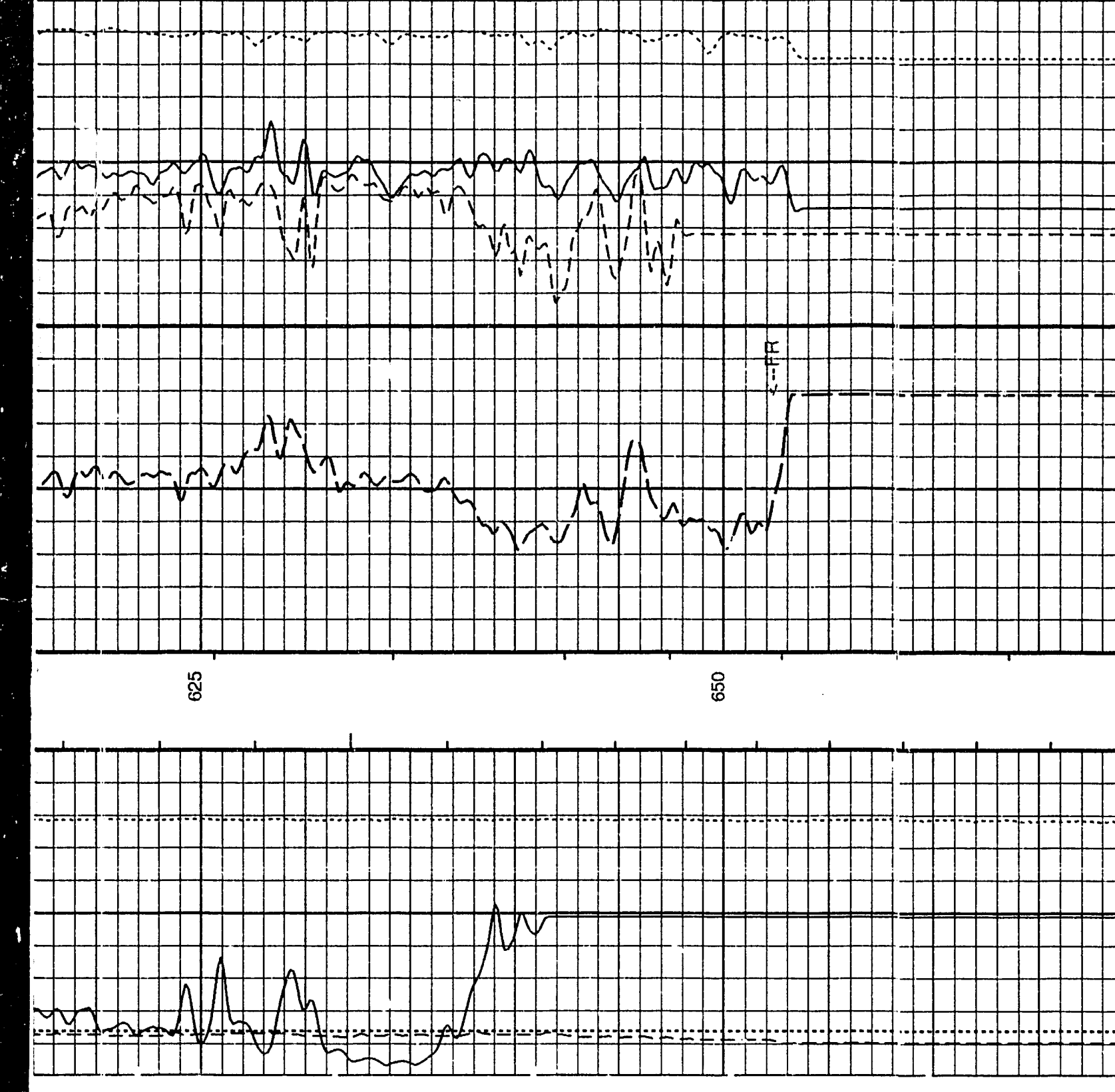


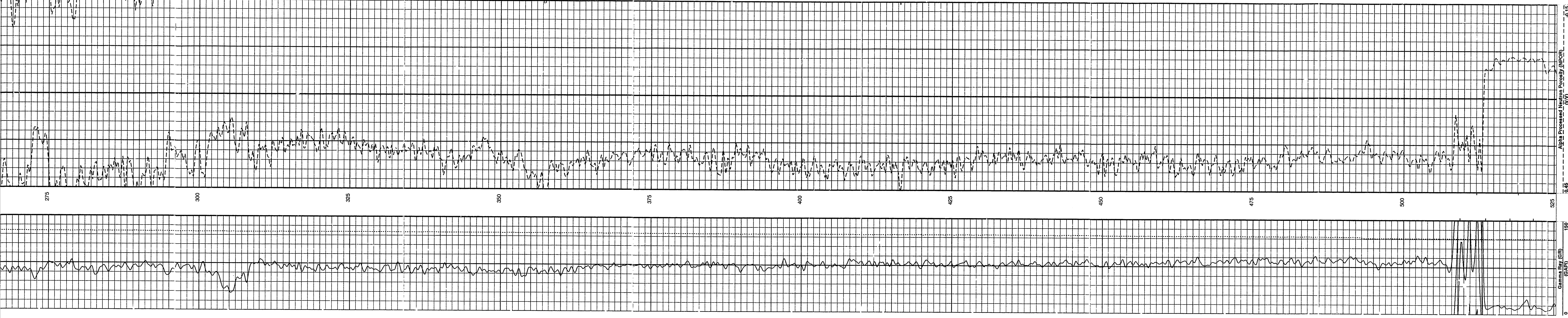
COMPANY: AEC OIL & GAS		BOTTOM LOG INTERVAL		666.4 m
WELL: AEC WEST RENAISSANCE CARCAJOU P-16		SCHLUMBERGER DEPTH:		668.9 m
FIELD: EXPLORATORY		DEPTH DRILLER		669 m
PROVINCE: NWT		KELLY BUSHING		90.7 m
		DRILL FLOOR		
		GROUND LEVEL		95.4 m

BOREHOLE COMPENSATED
SONIC LOG

Schlumberger

DENSITY





Tension (TENS). 0	CNL LOG THROUGH CASING
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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

Time Mark Every 60 S — Integrated Cement Volume Major Pip Every 1 M3

DLIS Name	Description	Value
BHFL	Borehole Fluid Type	WATER
BHS	Bore Hole Status	OPEN

BS	Bit Size	159,000	MM
BSAL	Borehole Salinity	-50000.00	PPM
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
CSIZ	Current Casing Size	177.800	MM

CWEI	
DFD	
DO	
FSAL	
FSC	
Formation Salinity	NO
Formation Salinity Correction Option	
Depth Offset	0.4
Drilling Fluid Density	1110.00
Casing Weight	34.20
	KG/M
	K/M3
	M
	PPM
	NO

GCSE	Generalized Calliper Selection	BS	0	DEG
GDEV	Average Angular Deviation of Borehole from Normal		0.018227	DC/M
GGRD	Geothermal Gradient			
HSCO	Hole Size Correction Option		YES	
MATR	Rock Matrix Type		1	IMESTONE

LIMITS FOR	
MCCO	NO
MCCR	NATU
MST	18.00
MWCO	DEGC
PP	NO
	NORMAL
Mud Cake Correction Option	
Mud Correction	
Mud Sample Temperature	
Mud Weight Correction Option	
Playback Processing	

Parameter	Unit	Value
PTCO	NO	1.3200
RMF5	CHMM	12.7
SDAT	mm	12.7
SOEN	NO	12.7
SOCN	NO	12.7
SOCO	NO	12.7
Pressure/Temperature Correction Option	NO	1.3200
Realistivity of Mud Filtrate Sample	CHMM	12.7
Standoff Data Source	mm	12.7
Standoff Distance	mm	12.7
Standoff Correction Option	NO	12.7

TDL	Total Depth - Logger	688.90	M
Format: CNL_240		Vertical Scale: 1:240	Graphics File Created: 03-Mar-2000 14:34
OP System Version: 9C0-413			

DLT-E	9C0-413	SRT-C	9C0-413
DLT-D	9C0-413	CNT-H	SFPCWX-1214
DLT-S	9C0-413		

Input D1/S Files	
TCC-B	9C0-413
PCU-B	9C0-413
BSP	9C0-413
SGI-L	9C0-413

DEFAULT	DLTE .011	FN:10	PRODUCER	03-Mar-2000 13:16	688.8 M	29.3 M
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DEFAULT	DLTE .014	FN:13 PRODUCER	03-Mar-2000 14:34
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Input DLIS Files			
DEFAULT	DLTE .012	FN:11 PRODUCER	03-Mar-2000 14:27
			669.0 M
			495.5 M

DEFAULT	DLTE .008	FN:7	PRODUCER	03-Mar-2000 12:55	670.0 M	577.7 M
Output DLIS Files						

DEFAULT	DLTE _032	FN:31 PRODUCER	03-Mar-2000 23:34	669.0 M	495.5 M
Integrated Hole/Cement Volume Summary Hole Volume = 2.05 M3					

Core Volume = 3.93 m³
Cement Volume = 2.29 M³ (assuming 114.30 MM casing O.D.)
Computed from 668.9 M³ : 508.1 M using data channel(e) CALI LA

CP System Version: 900-413
MCM

DLT-E	9C0-413	SRI-H	9C0-413
LDT-D	9C0-413	CNT-H	SRPCWX-1214
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C1-413

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

Time Mark Every 60 S **TENS REP Curve (TENS REP)** **DEBEAT ANALYSIS**

Tension (TENS)		PEF REP Curve (PEF REP)		DRHO REP Curve (DRHO REP)	
25000 (N)	0	0	10 450 (K/M3)	-50	

Gamma Ray (GR)	150
(GAPI)	
0	
PhotoElectric Factor (PEF)	
(----	10/450
Bulk Density Correction (DRHO).....	-50

Caliber (CAL) (in.)	NPOR REP Curve (NPOR REP) (%)	Alpha Processed Neutron Porosity (NPOR)
125	0.45	-0.15
375		
Bit Size (BS)		

125	(MM)	375	0.45	(VV)	-0.15
GR REP Curve (GR REP)					
0	(GAP)	150	0.45	(VV)	-0.15
DPI REP Curve (DPI REP)					

CALL REP Curve (CALL REP)	Density Porosity (DPH)
125	0.45
375	N/A
	-0.15

P-016 65-40 128-15

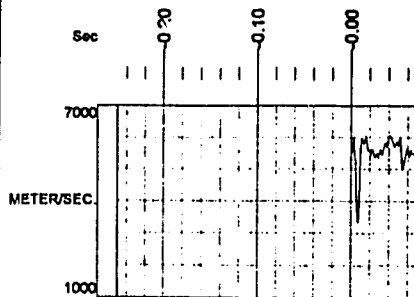
KB = 90.70M

Time Control Curve = SONIC
Time Datum = -400.03 m
Time Sample Interval = 1.00 ms

AGC Length = 0.00
Traces per inch = 12
Amplitude = 1.00
Multiples = None
Logs Used in RC Calc.:
SONIC
DENSITY

Time Scale = 19.050 cm/sec
Date = Aug-29-2000 13:25:01

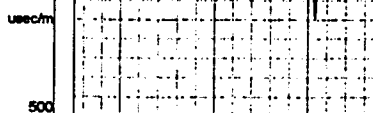
VELOCITY



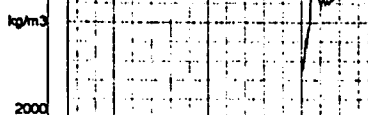
Depth



SONIC



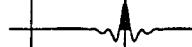
DENSITY



REFL. COEF.



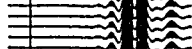
(2) Ormsby
10-15-60-80 Hz, 0 deg



(2) Normal
Ormsby 10-15-60-80 Hz, 0 deg



(2) Reverse
Ormsby 10-15-60-80 Hz, 0 deg



(1) Ormsby
10-15-50-60 Hz, 0 deg



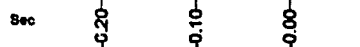
(1) Normal
Ormsby 10-15-50-60 Hz, 0 deg



(1) Reverse
Ormsby 10-15-50-60 Hz, 0 deg



Time



WAVELET #1 Ormsby
Frequency 1 = 10.0 Hz
Frequency 2 = 15.0 Hz
Frequency 3 = 50.0 Hz
Frequency 4 = 80.0 Hz
Phase = 0 deg

WAVELET #2 Ormsby
Frequency 1 = 10.0 Hz
Frequency 2 = 15.0 Hz
Frequency 3 = 50.0 Hz
Frequency 4 = 80.0 Hz
Phase = 0 deg

AEC Oil & Gas - Western New Ventures

5 year data

Release 5 March 2005

GEOLOGICAL PROGNOSIS

AEC(West) Renaissance Carcajou P-16

location: 65° 35'56.97278"N, 128° 17'18.15527"W

NAD1927

Line 99CAR99-01 shot point 809

Formation	Drill Depth(TVD)	Subsea depth	interval	Lithology
KB	0	+90m	0	
Surface GL	4m	+86m	4m	air
Pleistocene	4m	+86m	20m	Tundra, Gravel/ sands/silty-shale
Cretaceous	24m	+66m	279m	Shale/silt/sand//Basal sand thin
Devonian Imperial	303m	-213m	199m	Shale slightly silty dk. Grey
Mid Devonian Canol	502m	-412m	5m	Shale Black(source rock)
Kee Scarp *	507m	-417m	117m	Limestone(tight/porous) *objective
Hare Indian	624m	-534m	51m	Shale-silty dk. grey/green
Total Depth projected	675m	-585m		

Objective: Kee Scarp

Core 9m in Objective if porous



Office national
de l'énergie

Exploratory ☒
Development ☐

Delineation ☐
Service ☐

APPROVAL TO DRILL A WELL

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

Well Name: AEC (West) Renaissance Carcajou P-16

Operator: AEC OIL & GAS

Contractor: Akita Drilling Ltd.

Drilling Rig or Unit: Rig #14

Location-Unit: P

Section: 16

Coordinates: Lat.: 65 35' 56" 97278

Grid Area: 65 40' 128 15'

Long.: 128 17' 18" 155227

Area: Carcajou (Ft. Good Hope/ Norman Wells)

Field / Pool: Exploratory

Elevation-KB/RT: 89.41m (est.) (ASL)

GL / Seafloor: 85.41m

Approx. Spud Date: February 12, 2000

Est. Days on Location: 10

Anticipated Total Depth: 675m

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 core in the Kee Scarp

Logs and Tests DLTE/MSFL/LDTD/CNTH/SGTL/BHC/GR; 580m to TD, 1-DST in the 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	135m	Arctic Set
177.8	34.2	J-55	505m	RFC + add.
114.3	14.14	J-55	675m	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

Title: Senior Vice President
South West Business Unit

Name: Ken Woldum

Company: AEC Oil & Gas

Date: 2000/01/07

Phone: (403) 213-2629

APPROVAL

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

Date:

Feb 11/2000

Signed:

Chief Conservation Officer

File: 9211-A061-2-2

WID: 1889

UWI: 300P166540128150

Canada
444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S.-O.

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

01/07/99
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AEC (WEST) RENAISSANCE CARCAJOU P-16

DEVIATION RECORD

Survey No.	Depth (meters)	Deviation (degrees)	Interval (meters)
1	47	0.130	47
2	75	0.250	28
3	102	0.500	27
4	130	0.500	28
5	227	1.000	97
6	324	2.000	97
7	373	2.500	49
8	421	2.500	48
9	469	3.000	48
10	500	2.000	31
11	570	2.000	70
12	657	2.500	87

Summary of Drilling Costs

Alberta Energy Company Ltd.

Wellbore Name		AEC (WEST) REN CARCAJOU P-16					AFE Numbers		5000046					Supervisor		LYNN SANDQUIST				
Spud Date		Feb 25, 2000					Rig Release Date		Mar 05, 2000											
Major Code	Minor Code	Cost Description	02/22/00	02/23/00	02/24/00	02/25/00	02/26/00	02/27/00	02/28/00	02/29/00	03/01/00	03/02/00	03/03/00					Accum. Total	AFE Est.	Var.
9210	308	LOCATION PREP/ROAD			180,000													\$180,000	\$35,000	-145,000
9210	310	LEASE/ROAD MAINTENANCE/STANDBY CAT							20,000									\$20,000	\$0	-20,000
9210	312	CLEANUP/ABANDON		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000					\$10,000	\$25,000	15,000
9210	314	CONDUCTOR/RAT/MOUSEHOLE			25,000													\$25,000	\$30,000	5,000
9210	316	RIG/CAMP MOVE IN/OUT			283,000													\$283,000	\$250,000	-13,000
9210	324	DAYWORK	13,900	13,900	13,900	13,900	13,900	13,900	15,000	15,000	15,000	15,000	15,000					\$158,400	\$208,000	49,600
9210	328	STEAMER	600	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500					\$15,600	\$33,000	17,400
9210	330	TRAVL/SUBSTANCE/CAMP	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500					\$71,500	\$83,000	11,500
9210	334	MUD/FLUIDS/LUBRICATION				1			562		12							\$575	\$25,000	24,425
9210	336	BITS				10,000	10,000			10,000								\$30,000	\$29,000	-1,000
9210	340	EQUIPMENT RENTAL	1	1	1,000	751	470	470	520	520	520	485	1,150					\$5,888	\$39,000	33,112
9210	346	WATER ACCESS/HAULING	1,000	1,000	1,000	1,000	1,000	1,000	2,000	2,000	2,000	2,000	2,000					\$16,000	\$21,000	5,000
9210	348	TRANSPORT/TRUCKING	2,000	2,000	1				9,000					1				\$13,002	\$22,000	8,998
9210	354	CORING/ANALYSIS									8,594							\$8,594	\$35,000	26,406
9210	356	LOG/PERF/ANALYSIS											26,579					\$26,579	\$70,000	43,421
9210	370	SUPERVISION/VEHICLE/TELEPHONE	800	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600					\$16,800	\$22,000	5,200
9210	372	COMMUNICATION/TELEPHONE					100	100	100	100	100	100	100					\$700	\$4,000	3,300
9210	378	SAFETY/ENVIRONMENT	800	800	800	800	800	800	800	800	800	800	1,000					\$9,000	\$11,000	2,000
9210	391	SURFACE CASING				8,840												\$8,840	\$7,000	-1,840
9210	392	SURFACE CASE-CEMENT				25,900												\$25,900	\$27,000	1,100
9210	394	SURFACE CASE-ACC/WELD/TONGS				1,500												\$1,500	\$3,000	1,500
9210	395	INTERMEDIATE CASING							18,300									\$18,300	\$14,000	-4,300
9210	396	INTERMEDIATE CASING - CEMENTING							46,777									\$46,777	\$20,000	-26,777
9210	397	INTERMEDIATE CASE-ACC/WELD/TONGS								4,000								\$4,000	\$8,000	4,000
9210	400	PRODUCTION CASING											14,740					\$14,740	\$15,000	260
9210	402	PRODUCTION CASING-CEMENT											24,889					\$24,889	\$22,000	-2,889
9210	404	PRODUCTION CASING-ACC/WELD/TONGS											5,000					\$5,000	\$9,000	4,000
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	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

AEC (WEST) RENAISSANCE CARCAJOU P-16

WELL DATA SUMMARY

Company: AEC (West)

Well Name: AEC (West) Renaissance Carcajou P-16

Surface Location: 65°35'56.97278" N, 128°17'18.15527" W

Surface Co-ordinates: Northing: 7275226.705, Easting: 532805.104

Elevations:
Ground: 86.4 meters
Kelly Bushing: 90.7 meters
K.B. to Ground: 4.3 meters

Unique Well I.D.: 300P166540128150

Field: Exploratory

Classification: NPW

Objectives: *Primary* – Kee Scarp

Terminating Zone: Hare Indian

Security: Tight

AFE Number: 5000046

Licence Number: 1889

Spud Date: 0315 Hrs., February 25, 2000

Total Depth: 669 meters @ 0545 Hrs, March 3, 2000

AEC (WEST) RENAISSANCE CARCAJOU P-16

Sampled Interval: ***AEC/Ren:*** 136 to T.D. meters (5 & 2.5 meter intervals)
Gov't: 136 to T.D. meters (5 & 2.5 meter intervals)

Contractor: Akita Drilling # 14

Drilling Supervision: Lynn Sandquist

Geological Supervision: Glen MacIntosh

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

Surface Casing: ***Size:*** 244.5 mm
Type: 11 joints of 53.57 kg/m J-55
Landed @ 136.0 meters
Cement: 11.0 Tonnes Arctic Set + additives
Plug down @ 2123 Hrs February 26, 2000

Intermediate Casing: ***Size:*** 177.8 mm
Type: 41 joints of 34.2 kg/m J-55
Landed @ 508.0 meters
Cement: 11.5 Tonnes RFC + additives
Plug down @ 0240 Hrs February 29, 2000

Production Casing: ***Size:*** 114.3 mm
Type: 56 joints 14.1 kg/m J-55 ST-C
Landed @ 669 meters
Cement: 10.0 Tonnes RFC + additives
Plug down @ 0035 Hrs March 4, 2000

Open Hole Logs: Schlumberger

<i>Log</i>	<i>Interval Logged</i>	<i>Scale</i>
CNL-LDT-DLL	663 to 508 meters	1:240 & 1:600
BHCS-GR	666 to 508 meters	1:240 & 1:600

Final Status: Casing ran / abandoned

Rig Release: 0600 Hrs, March 4, 2000

AEC (WEST) RENAISSANCE CARCAJOU P-16

GEOLOGICAL MARKERS

K.B. 90.7 meters

Formation	Prognosis		Samples		Logs	
	Depth (m)	Subsea (m)	MD (m)	Subsea (m)	MD (m)	Subsea (m)
<u>Cretaceous</u>	24.7	66.0	np	np	np	np
<u>Devonian</u>						
Imperial	303.7	-213.0	308.0	-217.3	308.0	-217.3
Canol	502.7	-412.0	504.0	-413.3	508.0	-417.3
Kee Scarp	507.7	-417.0	508.0	-417.3	513.0	-422.3
Hare Indian	624.7	-534.0	637.0	-546.3	637.5	-546.8
Total Depth	675.7	-585.0	669.0	-578.3	668.9	-578.2

AEC (WEST) RENAISSANCE CARCAJOU P-16

DAILY PROGRESS SUMMARY

Date	Costs	Depth @ 2400 Hrs.	Progre ss (meters)	ROP	Formation	Operation	Operations Summary
2/24/00	\$549,203	27	27	2.3	Cretaceous	Run in hole	Drill 411mm conductor hole. Circulate. Pull out of hole. Run 340mm Conductor barrel. Circulate. Cement conductor. WOC. Rig in diverter. Make up & run in hole with 311mm bit.
2/25/00	\$629,495	136	109	11.5	Cretaceous	WOC	Pressure test. Drill out cement. Spud well @ 0315 Hrs. Drill ahead & survey. Wiper trip. Drill to 136m. Circulate. Pull out of hole. Rig to & run 244mm casing. Circulate. Rig to & cement casing. WOC.
2/26/00	\$660,420	191	55	15.7	Cretaceous	Drill	WOC. Nipple up & pressure test. Run in hole. Pressure test. Drill out cement @ 1930 Hrs. Drill 222mm hole.
2/27/00	\$687,921	442	251	11.5	Imperial	Drill	Drill ahead & survey.
2/28/00	\$811,599	508	66	5.9	Canol	Run casing	Drill ahead & survey to 481m. Wiper trip. Control drill ahead to 508m. Wiper trip. Circulate. Pull out of hole. Rig to & run 177.8mm casing.
2/29/00	\$855,150	508	0		Canol	Circulate	Run casing. Rig to & cement casing. WOC. Nipple up & pressure test. Drill out @ 2215 hrs. Circulate & displace hole to mud.
3/1/00	\$894,794	552	44	4.2	Kee Scarp	Drill	Circulate. Drill ahead. Circulate. Pull out of hole to core. Pick up & make up core barrel. Run in hole. Circulate. Cut 9.0 meters core. Pull out & recover core. Run in hole. Drill ahead.
3/2/00	\$925,044	648	96	4.2	Hare Indian	Drill	Drill ahead & survey.

AEC (WEST) RENAISSANCE CARCAJOU P-16

Date	Costs	Depth @ 2400 Hrs.	Progre ss (meters)	ROP	Formation	Operation	Operations Summary
3/3/00	\$1,025,904	669	21	3.8	Hare Indian	Cement	Drill to T.D. Circulate. Wiper trip. Circulate. Pull out of hole to log. Rig in & log with Schlumberger. Lay down drill string. Rig to & run production casing. Circulate. Rig in & cement casing.
3/4/00	1,025,904	669	0		Hare Indian	Rig release	Set casing slips. Cut off casing. Tear out rig. Release rig @ 0600 Hrs. Move rig to Carcajou O-74 location

AEC (WEST) RENAISSANCE CARCAJOU P-16

MUD RECORD

Mud up @ 481 meters

Date	Depth (m)	Density (kg/m3)	Viscosity (s/l)	pH	Water Loss
2/29/00	527	1120	44	9.0	14.0
3/1/00	573	1080	45	9.0	9.0
3/2/00	650	1090	60	9.0	9.0
3/3/00	669	1100	45	9.0	9.0

AEC (WEST) RENAISSANCE CARCAJOU P-16

BIT RECORD

Bit No.	Type	Size (mm)	Depth Out(m)	Interval Cut(m)	Hrs	FOB (daN)	RPM	Cond'n			ROP (m/hr)	Comments
								T	B	G		
1A	SDGH	444	27	27	12.0	4000	100	2	E	1	2.3	Conductor
2A	FDT	311	136	109	9.5	8000	200	2	E	1	11.5	Sur Casing
1	FDS+2	222	508	372	33.0	10000	120	3	E	1	11.3	Int Casing
2	XR20TY	156	527	19	4.8	8000	75	1	1	1	4.0	Trip for Core
2RR	XR20TY	156	669	142	34.0	8000	75	3	2	2	4.2	Trip for T.D.

AEC (WEST) RENAISSANCE CARCAJOU P-16

OPEN HOLE LOG SUMMARY

RUN 1

Logging Company: Schlumberger **Engineer:** Sean McConkey
District: Norman Wells **Truck No.:** 8416
Circulation Ended: 0750 Hrs. 00/03/03 **Finish Trip:** 1000 Hrs. 00/03/03
On Location: 2230 Hrs. 00/03/03 **Off Location:** 1830 Hrs. 00/03/03
Rig Up: 1000 Hrs. 00/03/03 **Rig Down:** 1645 Hrs. 00/03/03
Mud Properties: **Mud Type:** Gel Chem **BHT:** 35.0°C
 Density: 1110 **Rmf:** 1.32 @ 18.0 °C
 Viscosity: 70
 WL: 9.0
 pH: 9.0

Services:

<u>Log</u>	<u>Interval Logged</u>	<u>Meters Logged</u>	<u>Comments</u>
CNL-LDT-DLL	669.0 to 508.0	161.0	1:240 & 1:600
BHCS-GR	669.0 to 508.0	161.0	1:240 & 1:600

Times:

<u>Tool Combo</u>	<u>Date</u>	<u>Start In</u>	<u>First on Bottom</u>	<u>Last on Bottom</u>	<u>Clear Hole</u>	<u>Total Hours</u>
CNL-LDT-DLL	00/03/03	1130	na	1200	1330	2.00
BHCS-GR	00/03/03	1400	na	1550	1645	2.75

Logging Time: 4.75 Hours **Rig Up/Down:** 2.75 Hours
Time Losses: 0 Hours **Total Logging Time:** 7.50 Hours

Remarks: Compensated Neutron logged to surface. Poor Satellite communications prevented lognets from being sent from location. Good job. Fast, friendly & proficient service.

AEC (WEST) RENAISSANCE CARCAJOU P-16

CORE REPORT

Core #1

Company: Baker Inteq

Coring Supervisor: R. Rooney

Formation: Kee Scarp

Interval: 527.6m to 536.6m

Cut: 9.0 meters

Recovered: 9.0 meters

Core Times

From	To	Time	From	To	Time
527.6	527.8	5.0	532.6	532.8	2.0
527.8	528.0	5.0	532.8	533.0	1.5
528.0	528.2	3.0	533.0	533.2	2.0
528.2	528.4	4.0	533.2	533.4	1.5
528.4	528.6	8.5	533.4	533.6	1.5
528.6	528.8	2.5	533.6	533.8	2.0
528.8	529.0	1.5	533.8	534.0	2.0
529.0	529.2	1.5	534.0	534.2	2.0
529.2	529.4	2.0	534.2	534.4	2.0
529.4	529.6	2.0	534.4	534.6	1.5
529.6	529.8	1.5	534.6	534.8	2.0
529.8	530.0	1.5	534.8	535.0	2.0
530.0	530.2	1.5	535.0	535.2	1.5
530.2	530.4	1.5	535.2	535.4	1.5
530.4	530.6	1.5	535.4	535.6	1.5
530.6	530.8	1.5	535.6	535.8	1.5
530.8	531.0	1.5	535.8	536.0	1.5
531.0	531.2	2.0	536.0	536.2	2.0
531.2	531.4	2.0	536.2	536.4	2.0
531.4	531.6	1.5	536.4	536.6	1.5
531.6	531.8	1.5			
531.8	532.0	1.5			
532.0	532.2	1.5			
532.2	532.4	2.0			
532.4	532.6	1.5			

ADDITIONAL INFORMATION

compu-max

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

**COMPOSITE WELL HISTORY
DRILLING TIME
LITHOLOGY LOG**

COMPANY: AEC (West)
WELL: AEC (West) RENAISSANCE P-16 N.E.B. COPY
FIELD:
PROVINCE: NWT
LOCATION: LSD SEC TWP RGE W MERIDIAN

COORDINATES: 7275226.71 532805.10 E
ELEVATIONS: GD 86.4 m LOG MEASURED FROM KB
KB 90.7 m 4.3 m ABOVE GROUND
WELL TYPE: EXPLORATION TOTAL DEPTH:
SPUD DATE: 2000-02-25 T.D. DATE:
LICENCE No.: AFE No.: 5000046

CONTRACTOR: AKITA #14
MUD TYPE:
MUD UP @:
SAMPLES: 2.5 & 5 METER INTERVALS
AEC/REN: 136 to T.D.
NWTB: 136 to T.D.
DSTs:

CORES:

OPEN HOLE LOGS:

SUPERVISION

GEOLOGICAL: Glen MacIntosh

DRILLING: LYNN SANDQUIST

CASING DEPTH
SURFACE: 136.0 m
INTERMEDIATE: m
MAIN: m

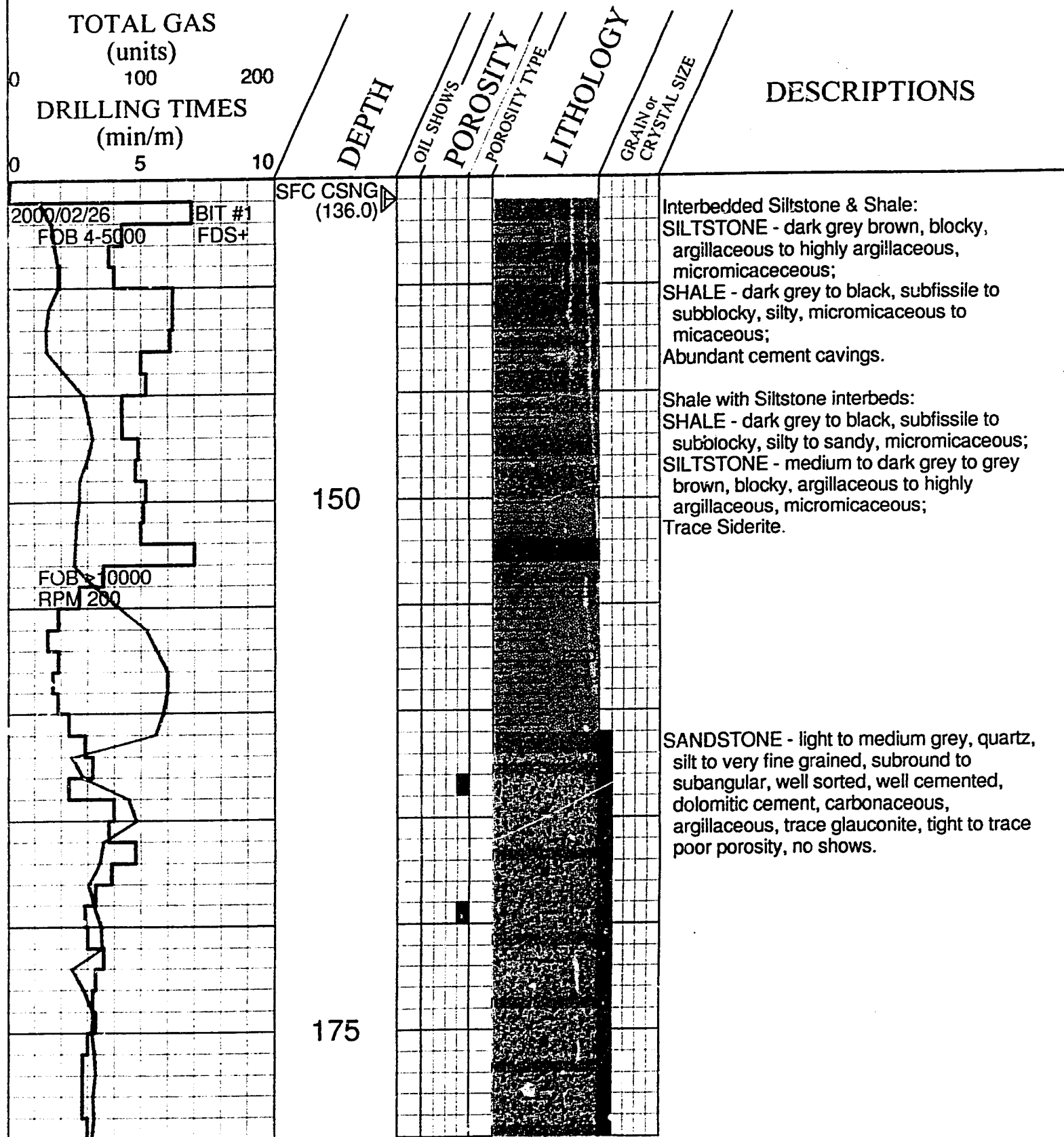
CASING SIZE
SURFACE: mm
INTERMEDIATE: mm
MAIN: mm

HOLE SIZE
SURFACE: 311.2 mm
INTERMEDIATE: 222 mm
MAIN: 159.4 mm

REMARKS:

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240



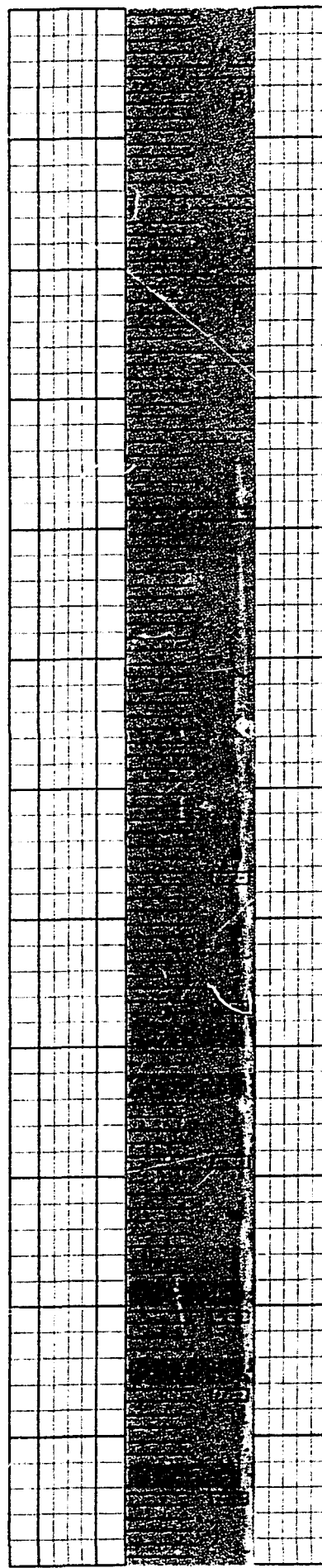
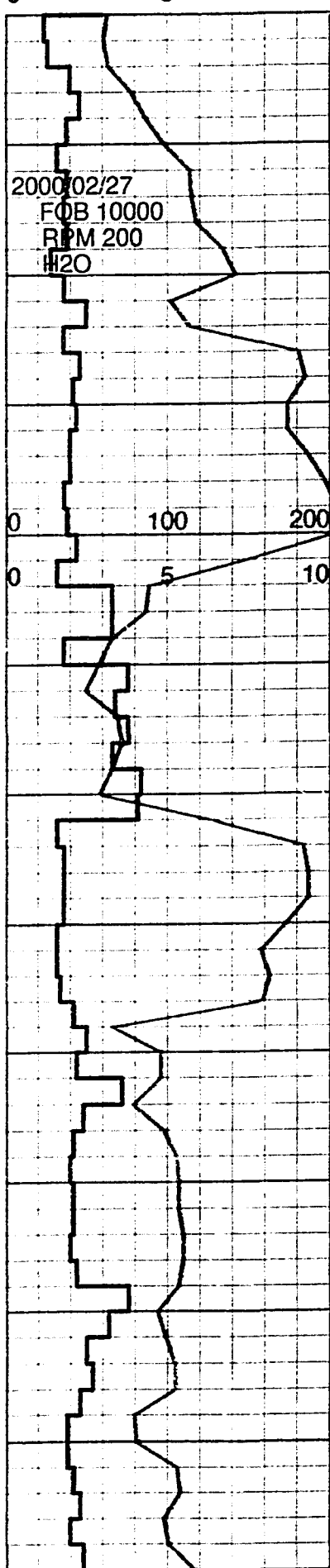
0 5 10

2000/02/27
 FOB 10000
 RPM 200
 H2O

0 100 200
 0 5 10

200

225
 S-1.0°

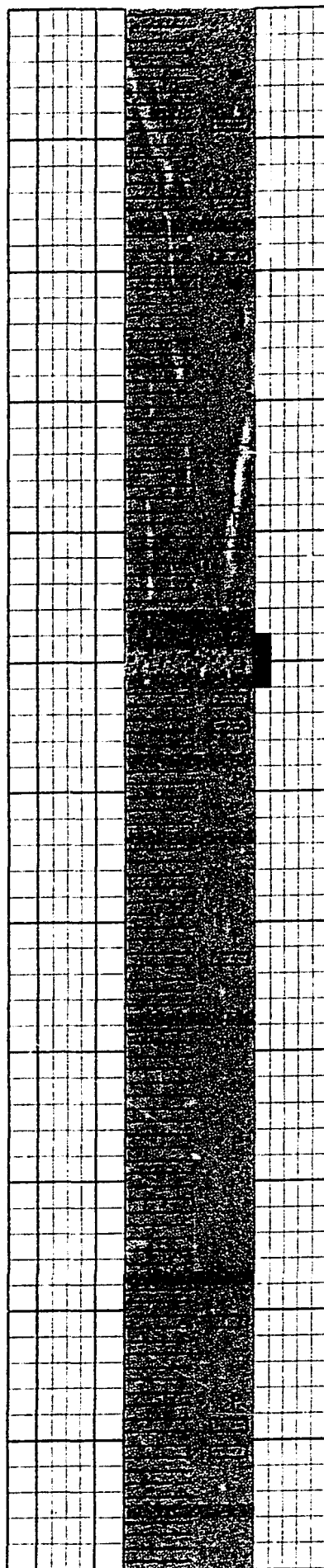
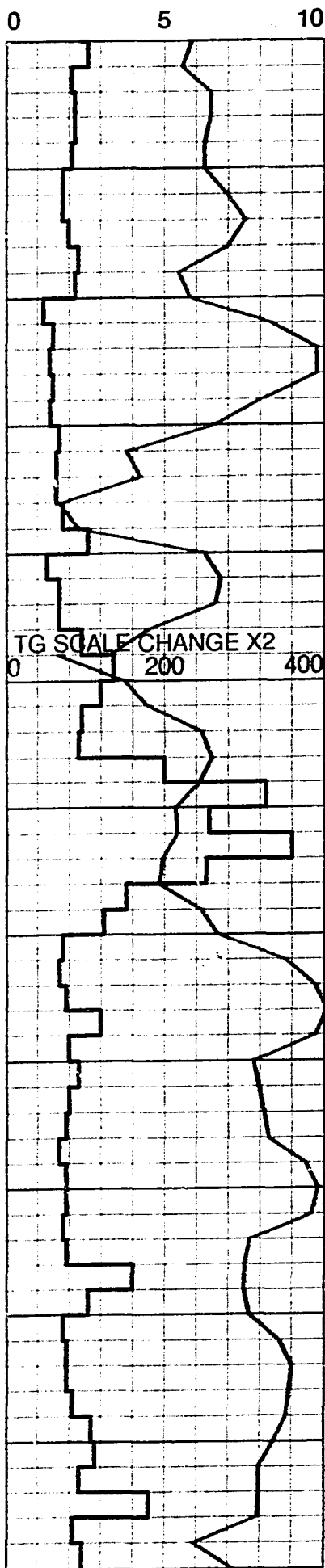


SHALE - dark grey to black, fissile to subfissile, silty, micaceous, trace disseminated pyrite.

SHALE - dark grey, blocky to subblocky, micromicaceous; Minor Siderite stringers.

Shale with Siltstone interbeds & stringers:
 SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
 Siltstone in part, micromicaceous, trace carbonaceous;
 SILTSTONE - dark grey to grey brown, blocky, argillaceous, micromicaceous.

Shale with Siltstone stringers:
 SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
 Siltstone in part, micromicaceous, trace carbonaceous;
 Minor Siderite.

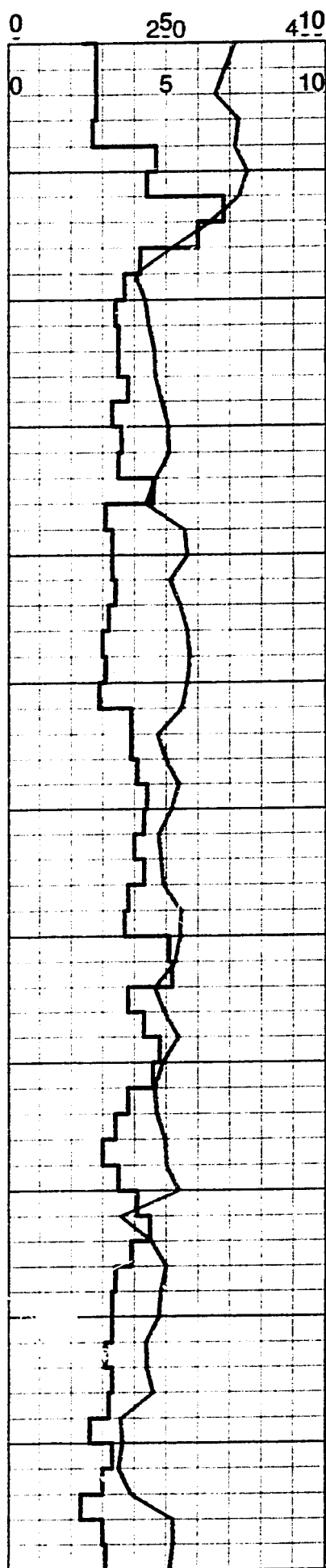


SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous Siltstone in part, micromicaceous, trace carbonaceous.

SHALE - dark grey, subfissile to blocky, silty, micromicaceous, trace pyrite, carbonaceous in part. Trace Siderite stringers.

Shale with Siltstone interbeds:
SHALE - dark grey to black, subfissile, blocky, silty, micromicaceous, common disseminated pyrite;
SILTSTONE - dark grey to grey brown, argillaceous, sandy grading to very fine Sandstone in part, rare glauconite, micromicaceous;
Abundant cement cavings?.

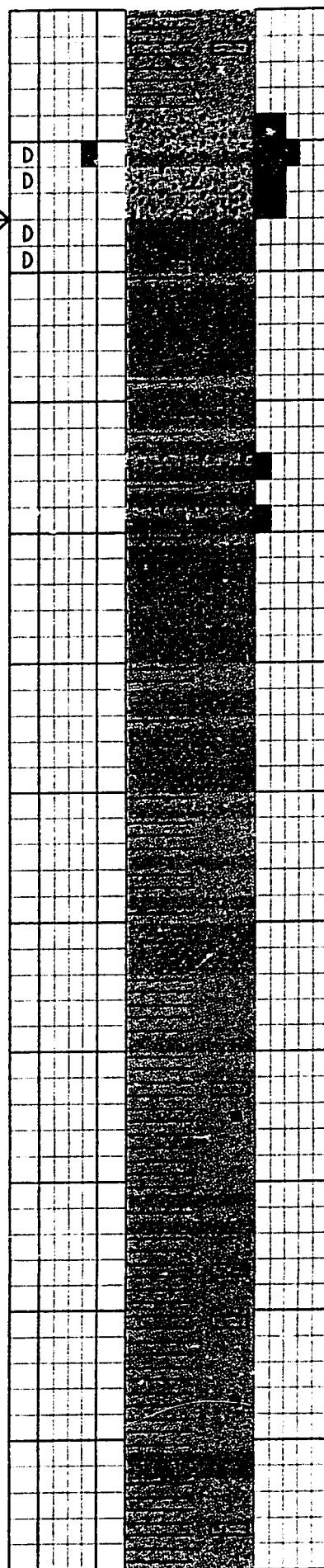
SHALE - dark grey, fissile to subfissile, silty grading to argillaceous Siltstone in part, micromicaceous, minor disseminated pyrite.



IMPERIAL
(308.0)

S-2.0°
325

350



SANDSTONE² - light grey to off white, quartz, very fine to minor medium grains, angular to subangular, well sorted, poorly cemented to loose, dolomitic cement, tight to trace poor porosity, no shows.

Siltstone with Shale interbeds & laminae:
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous;

SHALE - dark grey, fissile, silty, micromicaceous, trace carbonaceous.

Interbedded Siltstone & Shale:

SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous;

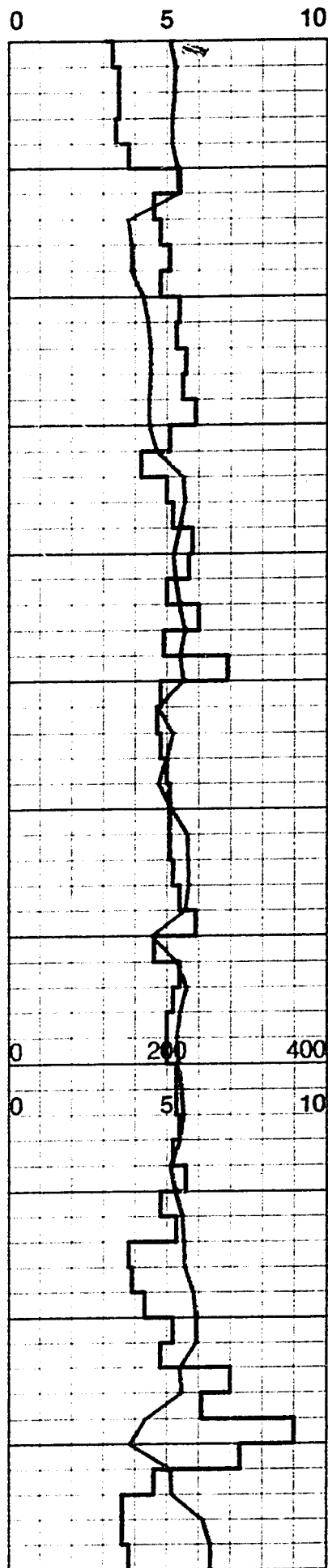
SHALE - dark grey, fissile, silty, micromicaceous, trace carbonaceous.

Shale with Siltstone stringers:

SHALE - dark grey, fissile to subfissile, platy in part, silty to highly silty, minor carbonaceous material, rare trace glauconite, micromicaceous;

SILTSTONE - grey to grey brown, siliceous, sandy, argillaceous;

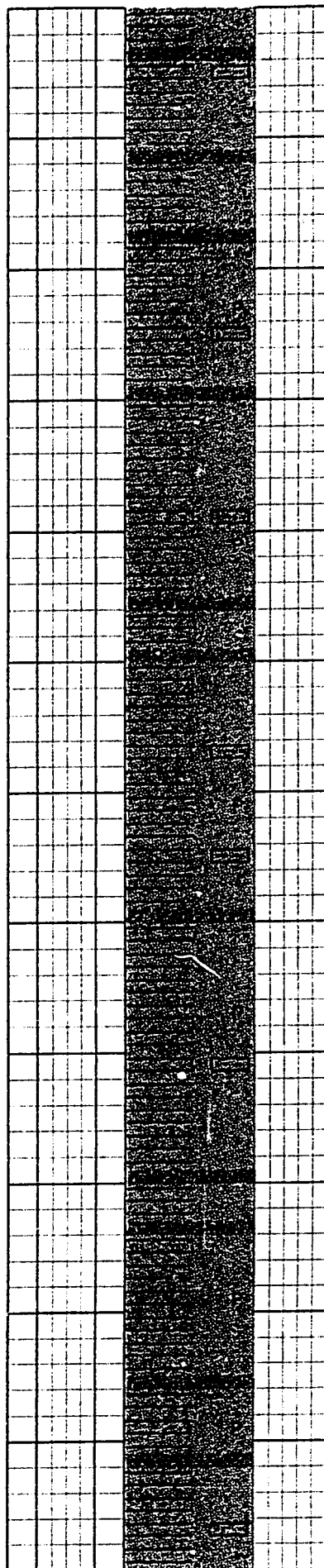
Minor Siderite stringers.



S-2.5°

375

400

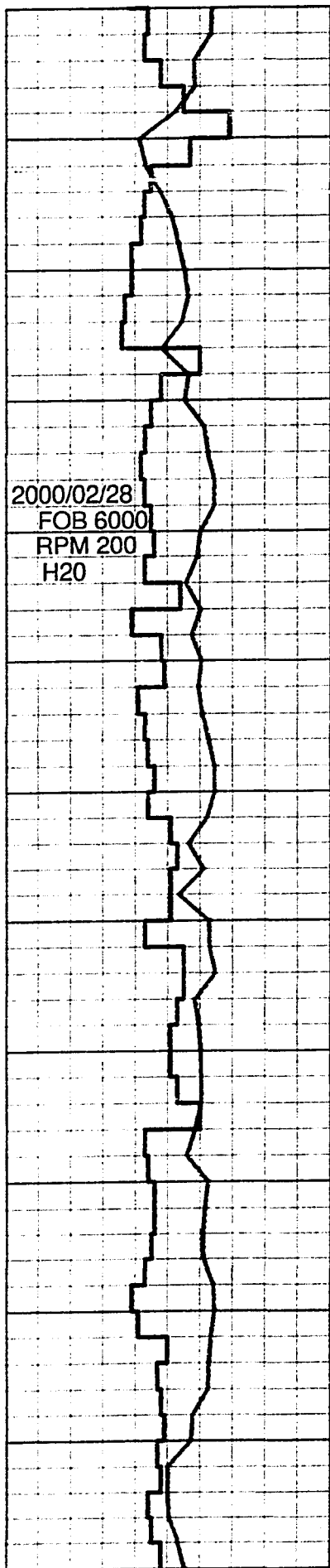


Shale with minor Siltstone stringers:
SHALE - dark grey, fissile to subfissile, platy, firm, silty to sandy, trace glauconite, minor disseminated pyrite, micromicaceous.

SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, trace disseminated pyrite, micromicaceous.

SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, trace disseminated pyrite, micromicaceous.

0 5 10



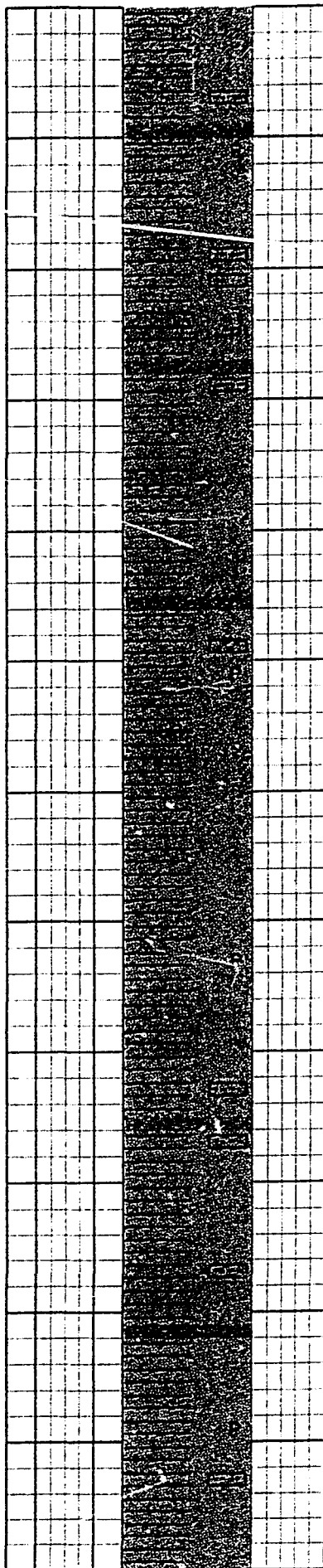
S-2.5°

425

450

S-3.0°

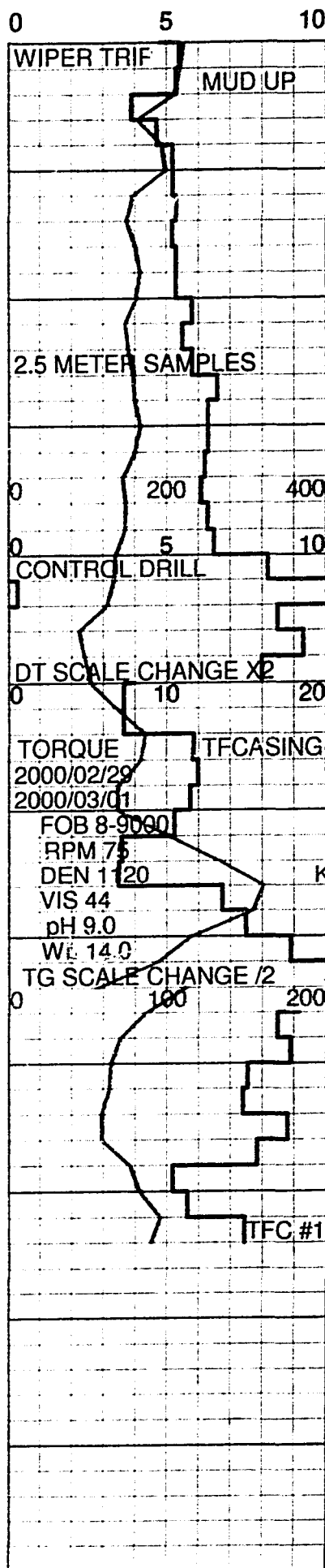
475



Shale with minor Siltstone stringers:
SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, rare glauconite, trace disseminated pyrite, micromicaceous;
Trace Siderite.

SHALE - dark grey, fissile to subfissile, firm, silty to sandy, trace disseminated pyrite, micromicaceous.

SHALE - dark grey to black, fissile, platy, firm, silty to highly silty, minor disseminated pyrite, micromicaceous;
Minor Siderite & Siltstone stringers.

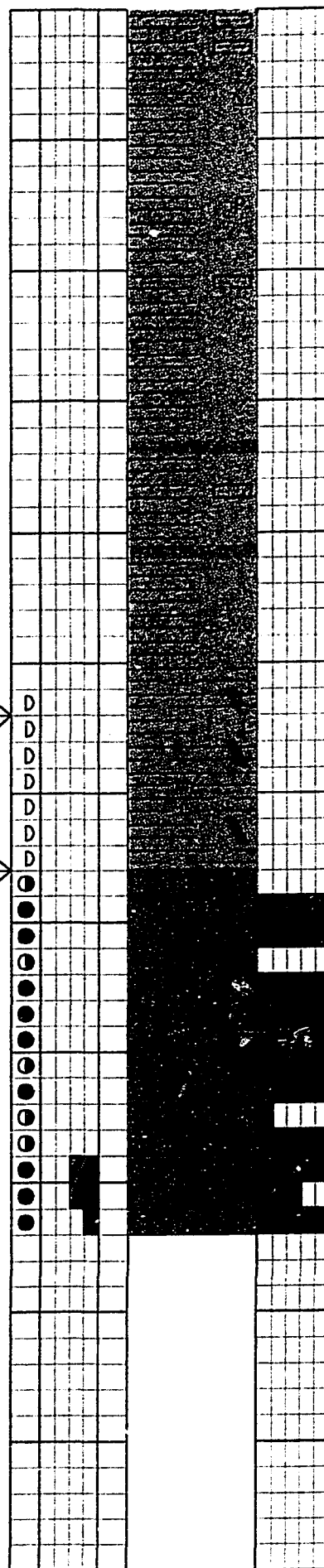


S-2.0°
500

CANOL
(507.0)

KEE SCARP
(513.0)

525

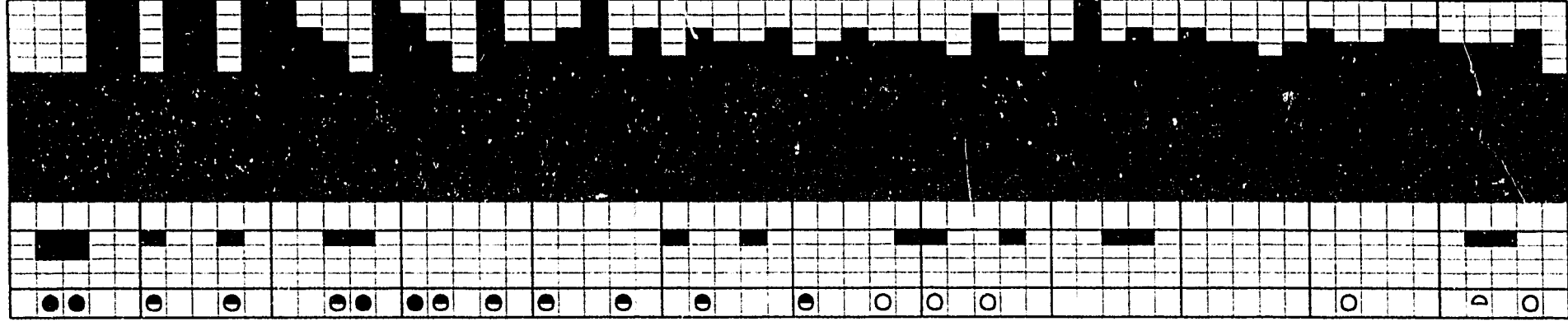
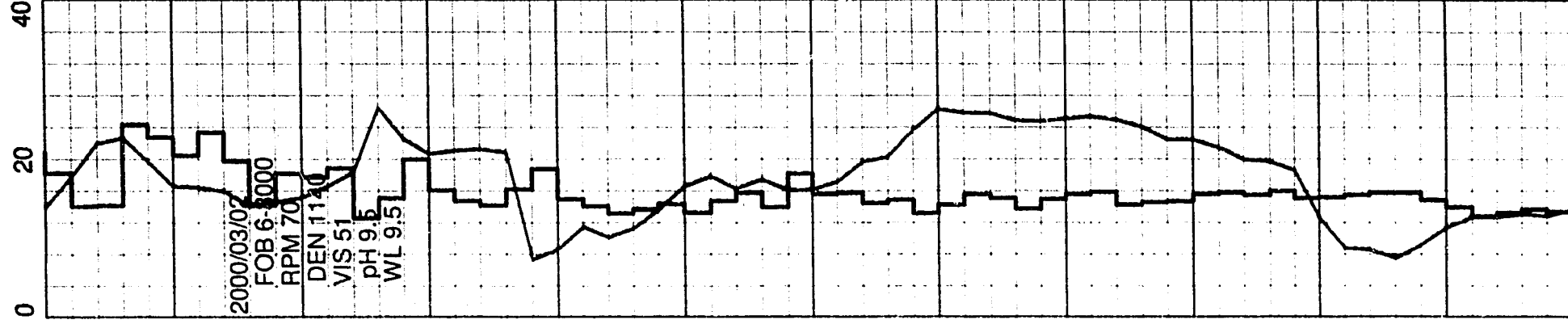


SHALE - dark grey to black, fissile, platy, firm, silty, minor disseminated pyrite, micromicaceous; Minor Siderite & Siltstone stringers.

SHALE - dark grey to black, subblocky to blocky, minor disseminated pyrite, slightly silty, calcareous, slightly bituminous.
SHALE - dark grey to black to deep brown, fissile to subfissile, blocky, carbonaceous, bituminous, calcareous in part.

LIMESTONE - white to dark brown, fine to coarse calcirudite, stromatoporoid biomicrite, floatstone to rudstone, coral biomicrite matrix, slightly argillaceous, spotty to even oil staining, slow white cut, tight to trace poor chalky porosity.

LIMESTONE - as above, even oil staining, slow white cut, poor to fair (3-10%) chalky porosity,



550

S-2.0°

575

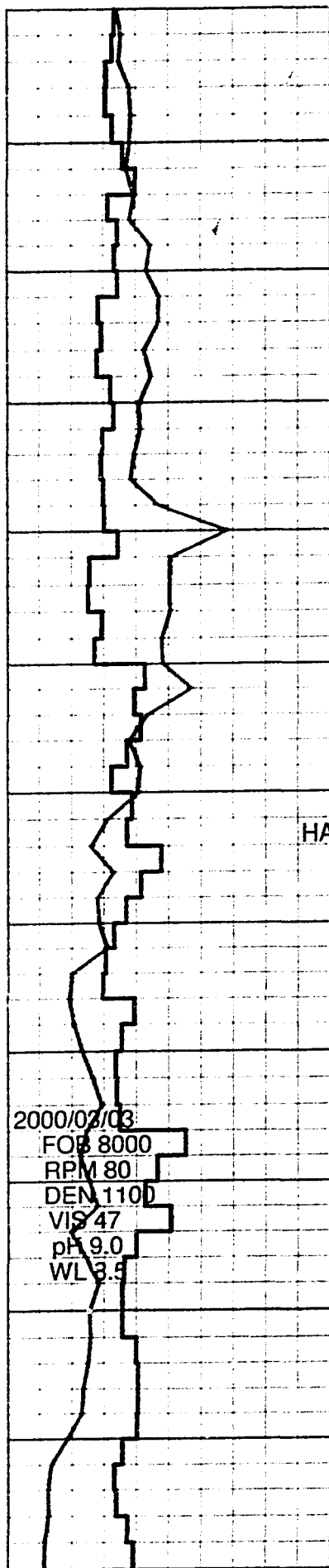
600

oil stain 5475 (molait) ✓
 QA ✓ 550 ✓

oil stain (in bubble)
 B1

SHALE - medium to dark grey, silty in part,
 bentonitic, very slightly calcareous, soft.

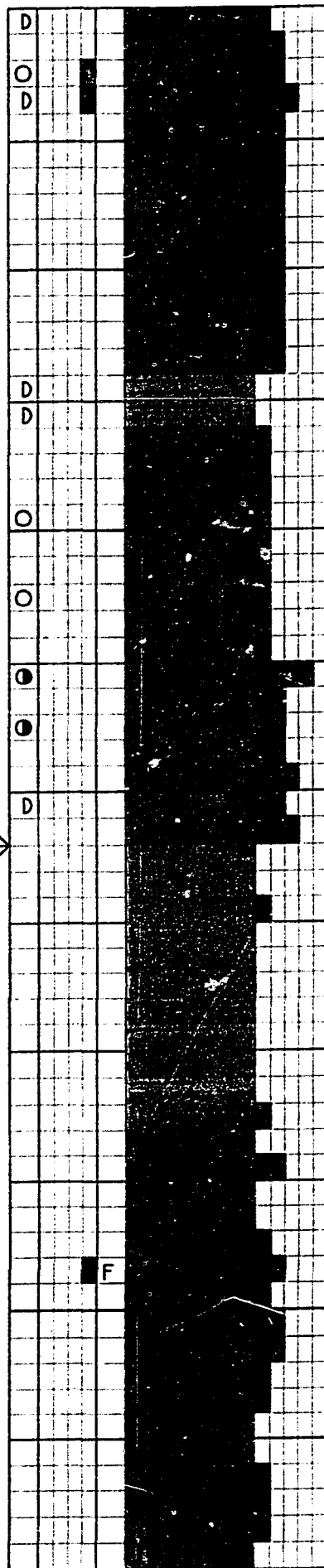
0 20 40



625

HARE INDIAN
(637.0)

650



Shale with Siltstone interbeds:
SHALE - medium to dark grey, soft, bentonitic;
SILTSTONE - medium to dark greyish brown, argillaceous, poorly cemented, rare fine to coarse sand grains.

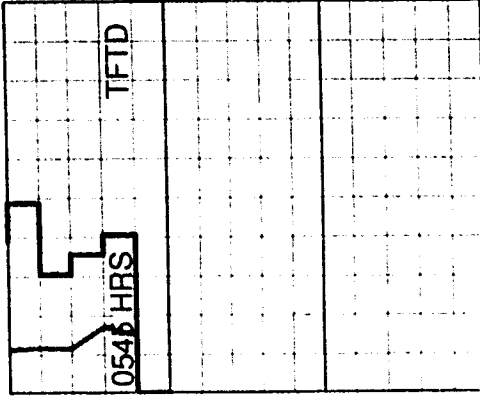
Shale

Siltstone with Shale interbeds:
Siltstone - medium to dark grey brown, silt grading to very fine Sandstone in part, poorly cemented, argillaceous;
SHALE - medium to dark grey, silty, soft, trace carbonaceous.

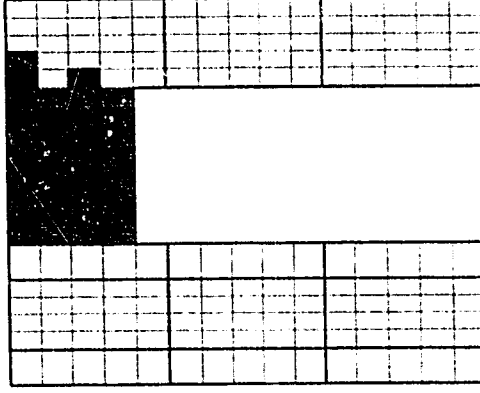
SANDSTONE - clear quartz to light brown, minor chert, very fine to fine grained, rare coarse frags, subround to angular, well sorted, unconsolidated, argillaceous, trace pyrite, poor(3%)porosity.

SANDSTONE - as above, silty grading to Siltstone, argillaceous, poor porosity; Shale laminae.

0 20 40



675



Predominantly cement cavings, poor returns
over shaker.

CORE STUDY No. 1

FORMATION: KEE SCARP

CORE: **START** **527.6** **m**
 CUT **9.0** **m**
 SIZE **156** **mm**

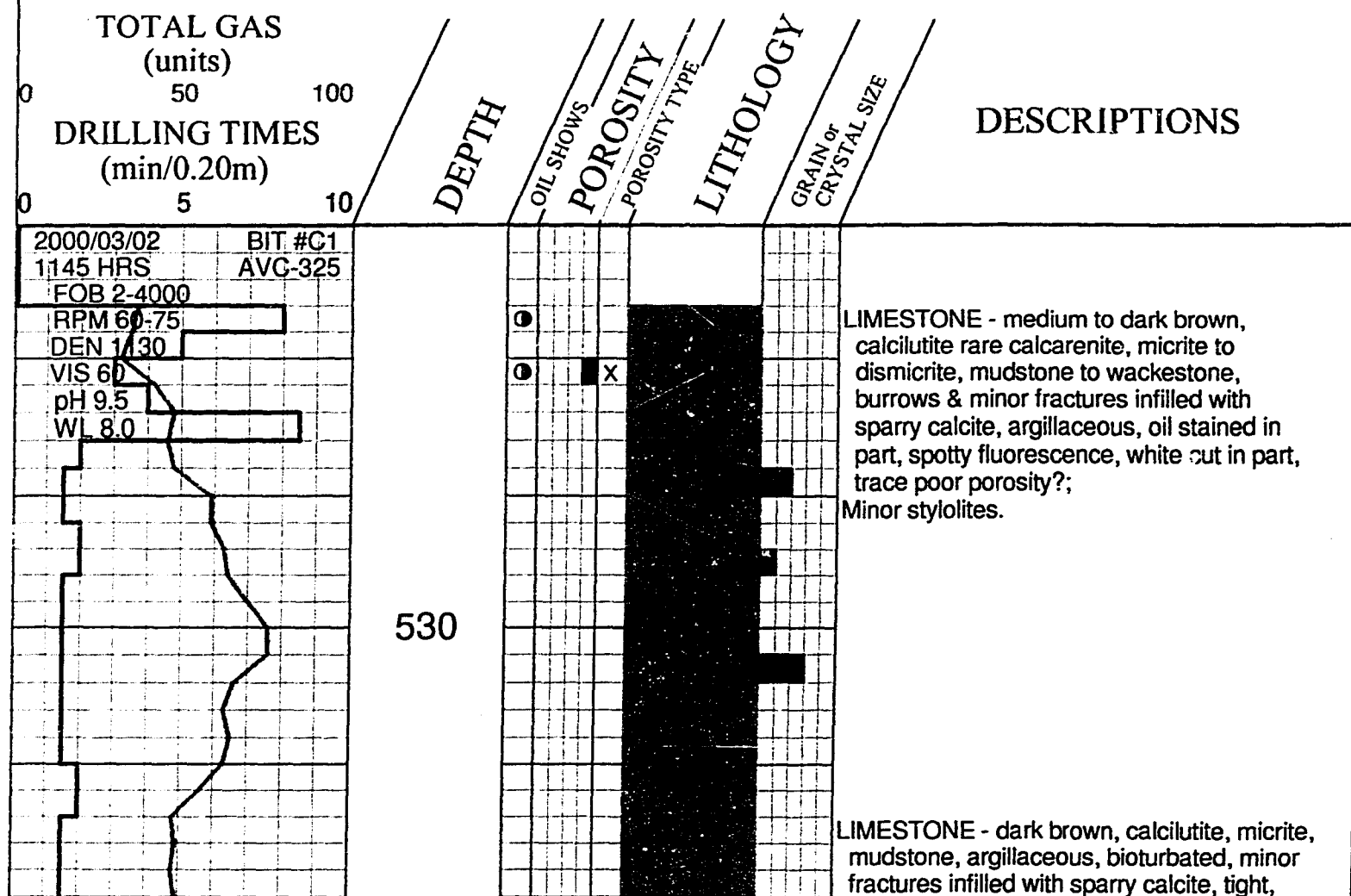
END 536.6 m
RECOVERED 9.0 m
CORING TIME 1.75

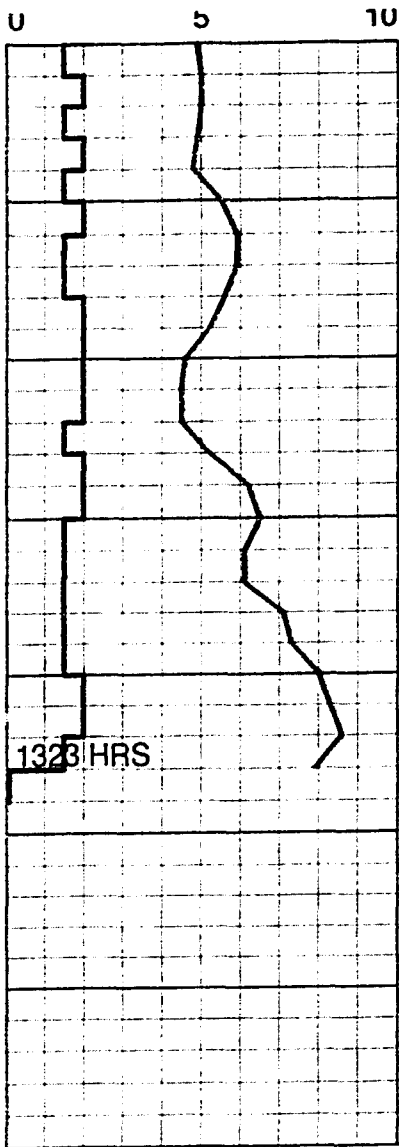
COMPANY: BAKER HUGHES

CORE HAND: RICHARD ROONEY

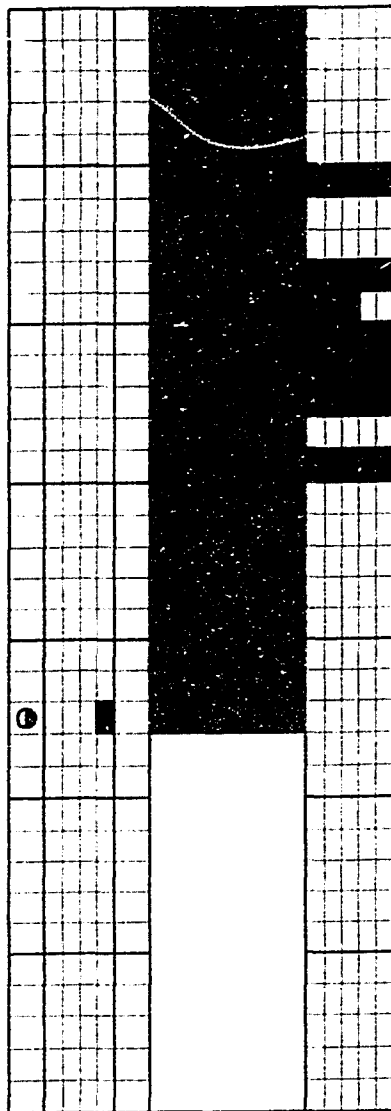
REMARKS: 7 BOXES OF CORE SENT TO CALGARY VIA AIR

SCALE 1:48





535

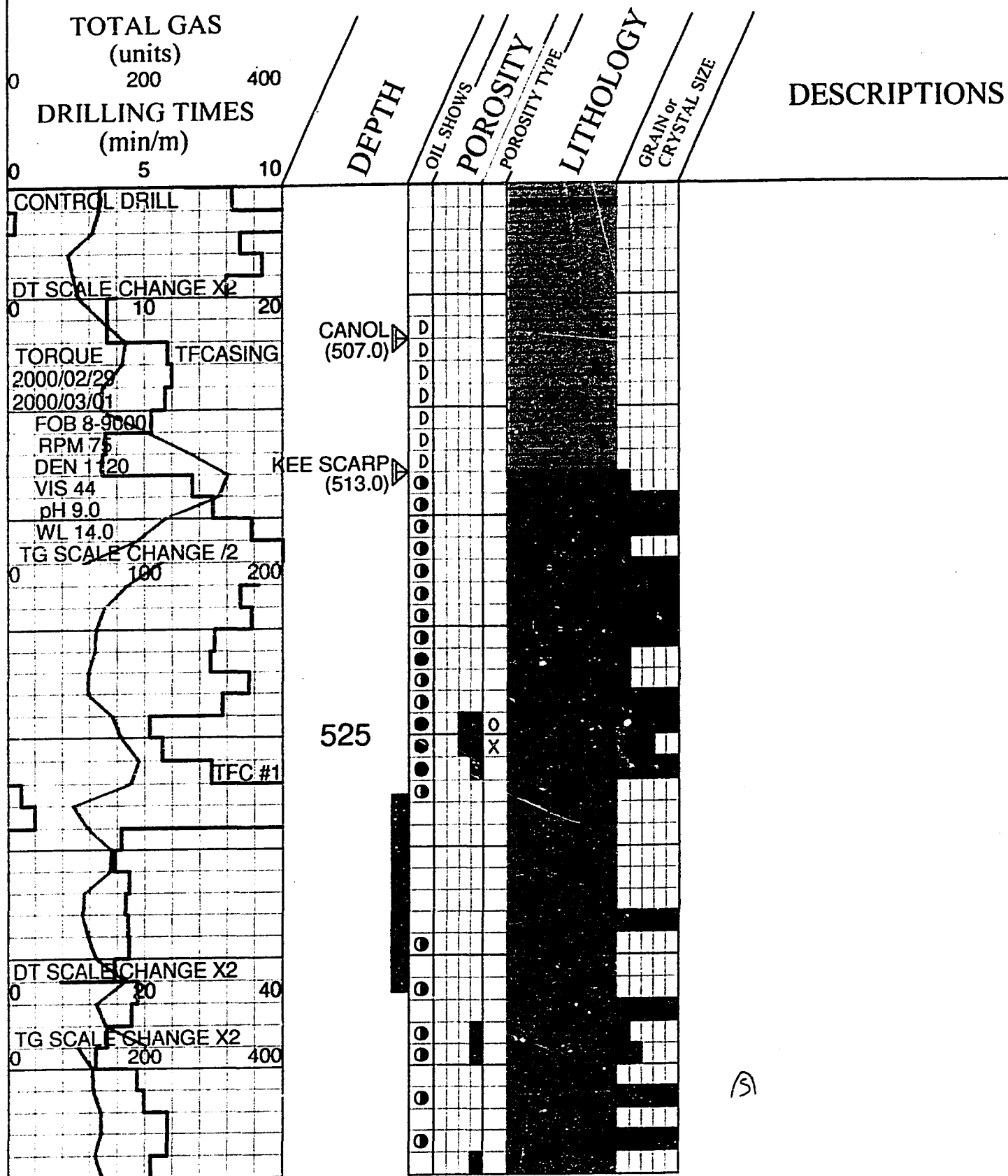


no shows.

LIMESTONE - medium to dark brown, calcilutite to calcirudite, micrite to biomicrite with interbeds of biomicrudite, mudstone to wackestone, rudstone, argillaceous in part, biturbated in part with sparry calcite infill, tight to trace poor porosity, trace spotty shows, white cut.

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240



ROCK TYPE

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

ACCESSORIES

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

OIL SHOWS

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

POROSITY TYPES

- X INTERCRYSTALLINE, INTERGRANULAR
- φ INTEROOLITIC, INTEPELLETOID,
- V VUGGY,
- P PINPOINT,
- ∩ MOLDIC
- o ORGANIC
- F FRACTURE
- e EARTHY
- FENESTRAL

DUNHAM CLASSES

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

NEP COPY

DIGITAL IMAGING

AEC WEST LTD.

AEC (West) Renaissance Carcajou P-16

White Light Photography

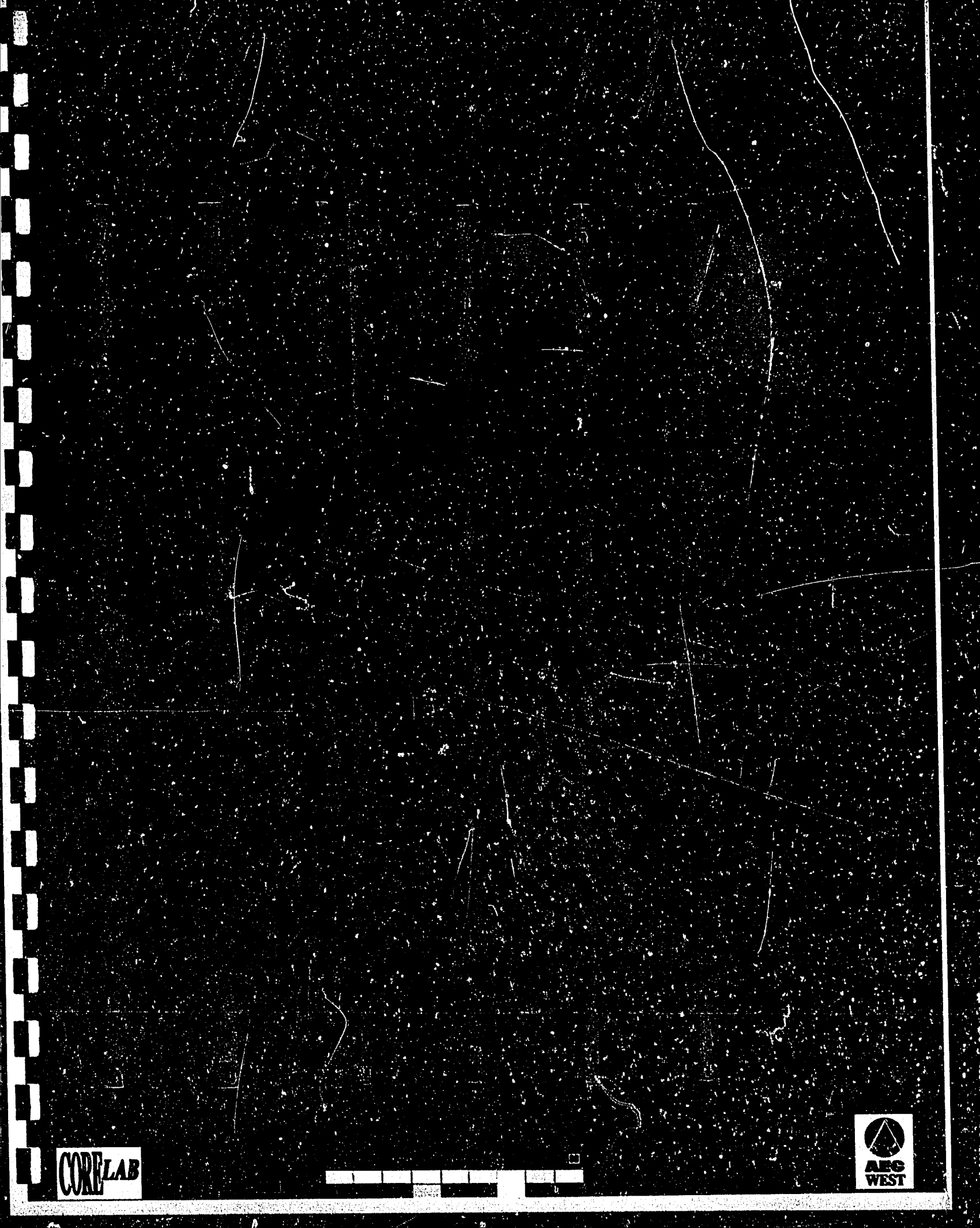
2000 04 12

52139-00-4289

Core Laboratories

CORELAB





CORE LAB



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CORE ANALYSIS REPORT
FOR
AEC WEST LTD.
AEC (WEST) RENAISSANCE CARCAJOU P-16
CARCAJOU, NORTHWEST TERRITORIES

NEP
COPY

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom; and for whose exclusive and confidential use; this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories (all errors and omissions excepted); but Core Laboratories and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or mineral well or formation in connection with which such report is used or relied upon.

CORE LABORATORIES

Company : AEC WEST LTD.
 Well : AEC (WEST) RENAISSANCE CARCAJOU P-16
 Location :
 Province : NORTHWEST TERRITORIES

Field : CARCAJOU
 Formation : KEE SCARP
 Coring Equip.: DIAMOND
 Coring Fluid : WATER BASE MUD

File No.: 52131-00-0142
 Date : 2000-03-05
 Analysts: DJB
 Core Dia: 66 mm

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH m	INTVL REP m	SAMPLE LENGTH m	PERMEABILITY			CAPACITY (MAXIMUM) Kair mD-m	POROSITY (HELIUM) fraction	CAPACITY (HELIUM) φ-m	BULK DENSITY kg/m3	GRAIN DENSITY kg/m3	SATURATION		DESCRIPTION
				(MAXIMUM) Kair mD	(90 DEG) Kair mD	(VERTICAL) Kair mD						(PORE VOLUME) OIL frac	WATER frac	
CORE NO. 1 527.60 - 536.60 m (CORE RECEIVED 8.95 m) (7 BOXES)														
SP 1	527.60- 27.81	0.21	-	0.05	-	-	0.010	0.030	0.006	-	2710.	TRACE	0.073	1s i
FD 2	527.81- 28.67	0.86	0.22	0.04	0.04	0.03	0.034	0.046	0.043	2570.	2690.	0.231	0.064	1s i
NA	528.67- 29.61	0.94												1s tight
FD 3	529.61- 30.20	0.59	0.20	0.07	0.06	0.02	0.041	0.042	0.024	2590.	2710.	TRACE	0.146	1s i sty lam
SP 4	530.20- 30.75	0.55	-	0.14	-	-	0.077	0.023	0.011	-	2710.	-	-	1s i lam
SP 5	530.75- 31.27	0.52	-	0.02	-	-	0.010	0.041	0.021	-	2700.	TRACE	0.573	1s i
AST 6	531.27- 32.61	1.34	-	1.04	-	-	1.394	0.009	0.013	-	2710.	TRACE	0.245	1s i sty
NA	532.61- 33.33	0.72												1s tight
SP 6	533.33- 34.36	1.03	-	1.04	-	-	1.071	0.009	0.010	-	2710.	TRACE	0.245	1s i sty
SP 7	534.36- 35.15	0.79	-	0.02	-	-	0.016	0.029	0.024	-	2700.	TRACE	0.143	1s i
AST 6	535.15- 35.41	0.26	-	1.04	-	-	0.270	0.009	0.003	-	2710.	TRACE	0.245	1s i sty
SP 8	535.41- 35.99	0.58	-	0.04	-	-	0.023	0.055	0.029	-	2710.	-	-	1s i
SP 9	535.99- 36.37	0.38	-	0.02	-	-	0.008	0.040	0.015	-	2710.	-	-	1s i sty
FD 10	536.37- 36.55	0.18	0.07	0.05	0.05	0.03	0.009	0.046	0.009	2560.	2690.	0.098	0.039	1 si sty
	536.55- 36.60	0.05												Lost core

CORELAB

CODE KEY - DESCRIPTIONS

A	= (Prefix A) Horizontal matrix permeability measured by pressure decay profile permeametry through a probe tip due to induced fractures	i	= Intercrystalline	SPH	= Humidity analysis of small plug sample at 60 degrees Celsius and 50 percent relative humidity
ACA	= Removed for advanced core analysis	incl	= Inclusions	SP	= Small plug (sample drilled from core in maximum horizontal direction and parallel to bedding plane where possible) permeability, porosity and grain density are measured
anhy	= Anhydrite	lam	= Laminar (laminated)	ss	= Sandstone
arg	= Argillaceous	ls	= Limestone	ssdy	= Slightly sandy (<20%)
AST	= Appears similar to	lv	= Large vug	sshy	= Slightly shaly (<20%)
bit	= Bitumen	m	= Medium	sty	= Stylolite (lc)
bk	= Break	mi	= Mud invaded	sulf	= Sulphur
c	= Coarse	mv	= Medium vug	sv	= Small vug
calc	= Calcite (calcareous)	NA	= Not analyzed by request	TEC	= Thermal Extraction Chromatography to determine oil richness
carb	= Carbonaceous	NP	= No permeability measurement possible due to poor sample quality	TS	= Thin section
cbl	= Cobble	NR	= Not received	uncons	= Unconsolidated
cem	= Cemented	ool	= Oolitic	vc	= Very coarse
cgl	= Conglomerate	OB	= Overburden sample (permeability and porosity measured at net overburden stress)	vfrac	= Vertical fracture
cht	= Chert	P	= Preserved for future studies	vf	= Very fine
coal	= Coal/coil inclusion	pbl	= Pebble	VIS	= Viscosity of oil measured
dol	= Dolomite	PFD	= Preliminary Full Diameter sample	VOB	= Vertical overburden sample (vertical permeability measured at net overburden stress)
f	= Fine	PSP	= Preliminary Small Plug sample	vshy	= Very shaly (>40%)
FD	= Full diameter analysis including three directional permeabilities, porosity and densities	PSA	= Particle size analysis	VSP	= Vertical small plug drilled from whole core to measure vertical permeability and occasionally porosity
foss	= Fossil (fossiliferous)	ppv	= Pinpoint vug	vug	= Vuggy (vuggy)
frac	= Fracture (undifferentiated)	pyr	= Pyrite (pyritic)	ws	= Water sand
fri	= Friable	pyrbk	= Pyrobitumen	XRD	= X-ray diffraction
glauc	= Glauconite (glauconitic)	ru	= Rubble	.	= Perm unavailable due to broken core
gmi	= Granule	SA	= Sieve analysis	10240	= Permeability >10 Darcies, (maximum routine permeability measurement)
gyp	= Gypsum	sdv	= Sandy		
hfrac	= Horizontal fracture	SEM	= Scanning electron microscope analysis		
hal	= Halite (salt)	sh	= Shale		
IFD	= Inner Full Diameter, (a Full diameter sample is drilled from the bulk portion of the core in the vertical direction for permeability and porosity measurements)	shy	= Moderately shaly (20% - 40%)		
		sid	= Siderite		
		skst	= Skistone		
		shy	= Silty		
		SPT	= Small Plug used for tracer analysis		

CORE LABORATORIES

Company : AEC WEST LTD.
Well : AEC (WEST) RENAISSANCE CARCAJOU P-16

Field : CARCAJOU
Formation : KEE SCARP

File No.: 52131-00-0142
Date : 2000-03-05

ANALYTICAL PROCEDURES AND QUALITY ASSURANCE

HANDLING & CLEANING

Core Transportation :
Solvent : Toluene
Extraction Equipment : Vapour Phase Extractor
Extraction Time : 6 Days
Drying Equipment : Gravity Oven
Drying Time : 2 Days
Drying Temperature : 115 Degrees Celsius

ANALYSIS

Grain volume measured by Boyle's Law in a modified U.S.B.M. porosimeter using He
Grain volume measured by Boyle's Law in a matrix cup using He
Bulk volume measured by calipering
Bulk volume by Archimedes Principle
Fluid saturations by retort
Permeabilities measured on 25.4 mm diameter drilled plugs
Core Gamma Composite

CORE LABORATORIES

Company : AEC WEST LTD.
Well : AEC (WEST) RENAISSANCE CARCAJOU P-16

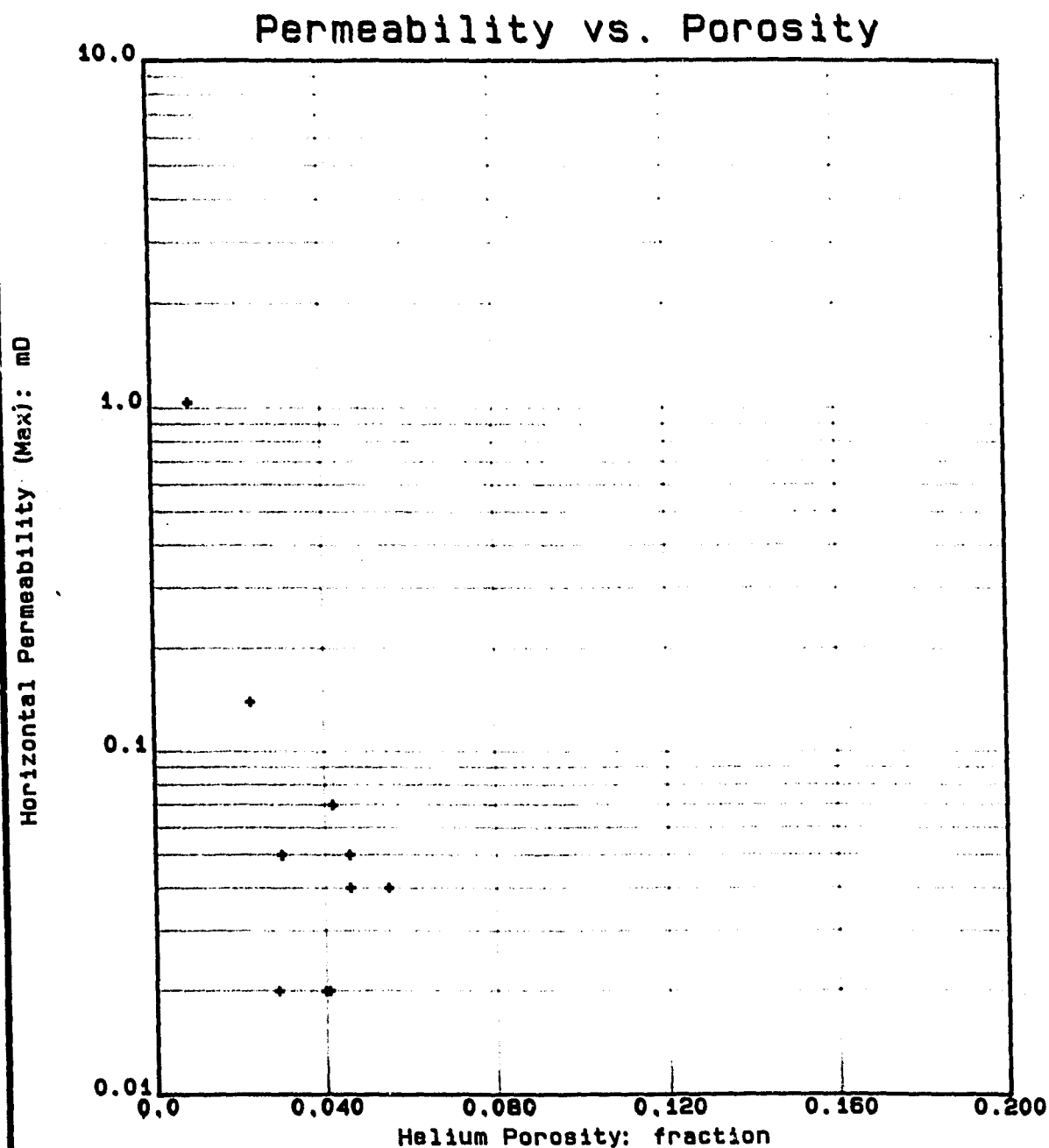
Field : CARCAJOU
Formation : KEE SCARP

File No.: 52131-00-0142
Date : 2000-03-05

TABLE I

SUMMARY OF CORE DATA

ZONE AND CUTOFF DATA		CHARACTERISTICS REMAINING AFTER CUTOFFS			
ZONE:		ZONE:		PERMEABILITY:	
Identification -----	KEE SCARP	Number of Samples -----	12	Flow Capacity -----	2.96 mD-m
Top Depth -----	527.60 m	Thickness Represented -	7.29 m	Arithmetic Average ----	0.41 mD
Bottom Depth -----	536.60 m			Geometric Average -----	0.13 mD
Number of Samples -----	12			Harmonic Average -----	0.05 mD
		POROSITY:		Minimum -----	0.02 mD
DATA TYPE:		Storage Capacity -----	0.207 ϕ -m	Maximum -----	1.04 mD
Porosity -----	(HELIUM)	Arithmetic Average ----	0.028 frac	Median -----	0.05 mD
Permeability -----	(MAXIMUM) Kair	Minimum -----	0.009 frac	Standard Dev. (Geom) --	$K \cdot 10^{\pm 0.698}$ mD
		Maximum -----	0.055 frac		
CUTOFFS:		Median -----	0.035 frac		
Porosity (Minimum) -----	0.000 frac	Standard Deviation ----	± 0.016 frac	HETEROGENEITY (Permeability):	
Porosity (Maximum) -----	1.000 frac			Dykstra-Parsons Var. --	0.468
Permeability (Minimum) ---	0.0000 mD	GRAIN DENSITY:		Lorenz Coefficient ----	0.842
Permeability (Maximum) ---	100000. mD	Arithmetic Average ----	2705. kg/m ³		
Water Saturation (Maximum)	1.000 frac	Minimum -----	2690. kg/m ³	AVERAGE SATURATIONS (Pore Volume):	
Oil Saturation (Minimum) -	0.000 frac	Maximum -----	2710. kg/m ³		
Grain Density (Minimum) --	2000. kg/m ³	Median -----	2710. kg/m ³	Oil -----	0.068 frac
Grain Density (Maximum) --	3000. kg/m ³	Standard Deviation ----	± 8 . kg/m ³	Water -----	0.192 frac
Lithology Excluded -----	NONE				



AEC WEST LTD. AEC (WEST) RENAISSANCE CARCAJOU P-16 CARCAJOU KEE SCARP (527.60 - 536.60 m) Core Laboratories Canada Ltd.	- LEGEND - KEE SCARP
--	------------------------------------

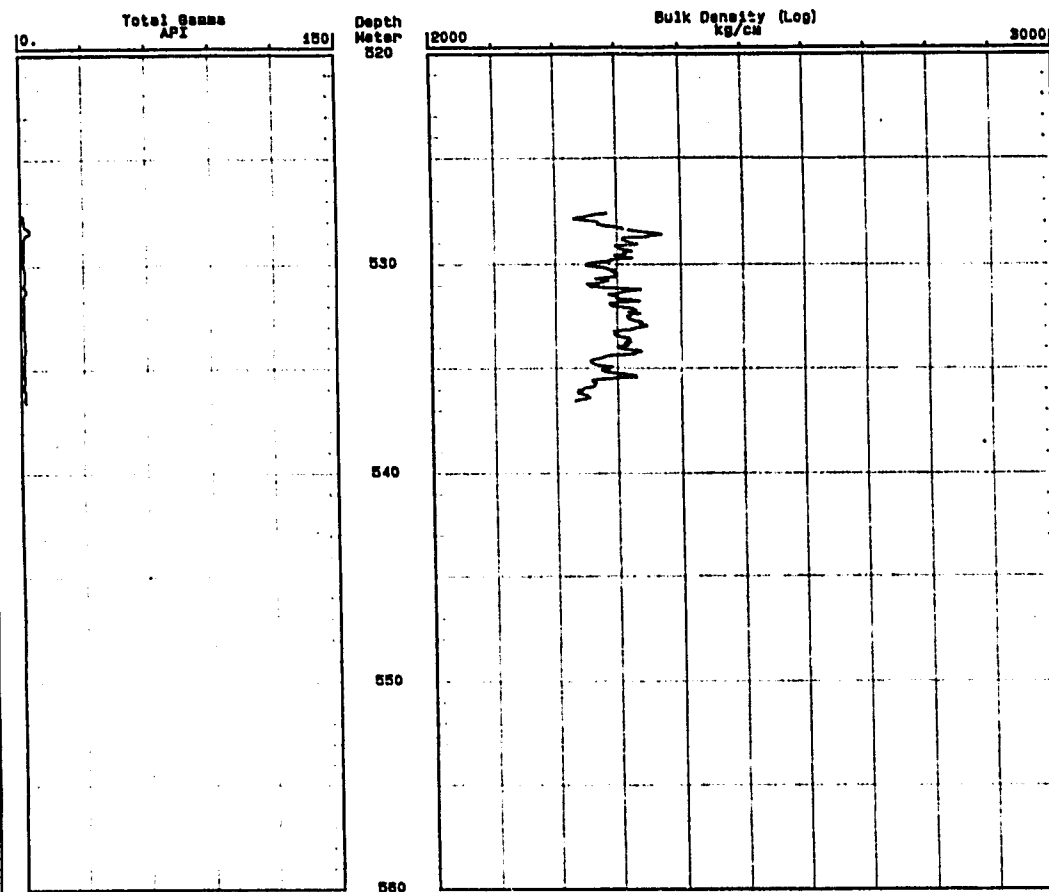
BULK DENSITY INDEX

AEC WEST LTD.
AEC (WEST) RENAISSANCE CARCAJOU P-18
CARCAJOU

KEE SCARP (527.60 - 536.60 m)

Core Laboratories Canada Ltd.

Vertical Scale
10.00 cm = 24.0 meter



CORRELATION COREGRAPH

AEC WEST LTD.

AEC (WEST) RENAISSANCE CARCAJOU P-18
CARCAJOU

KEE SCARP (527.80 - 538.60 m)

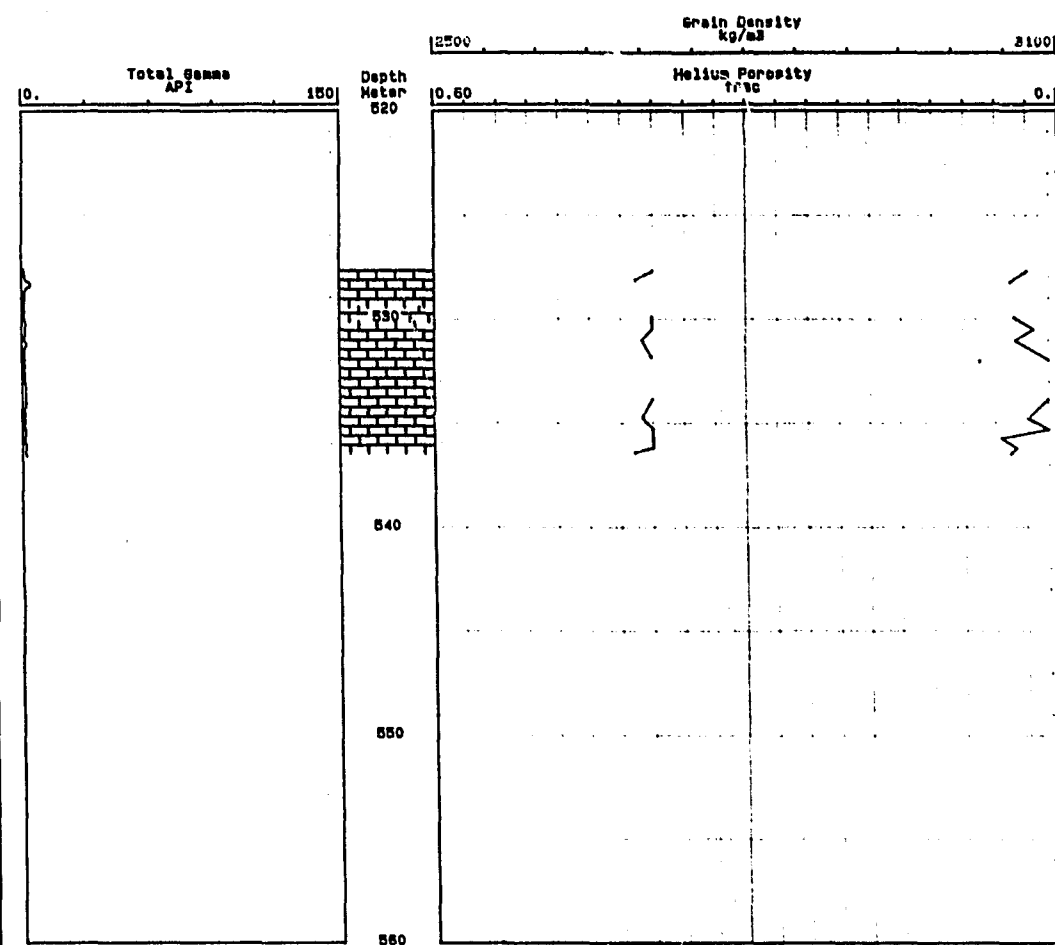
Core Laboratories Canada Ltd.

Vertical Scale
10.00 cm = 24.0 meter

- Lithology Legend -



Limestone



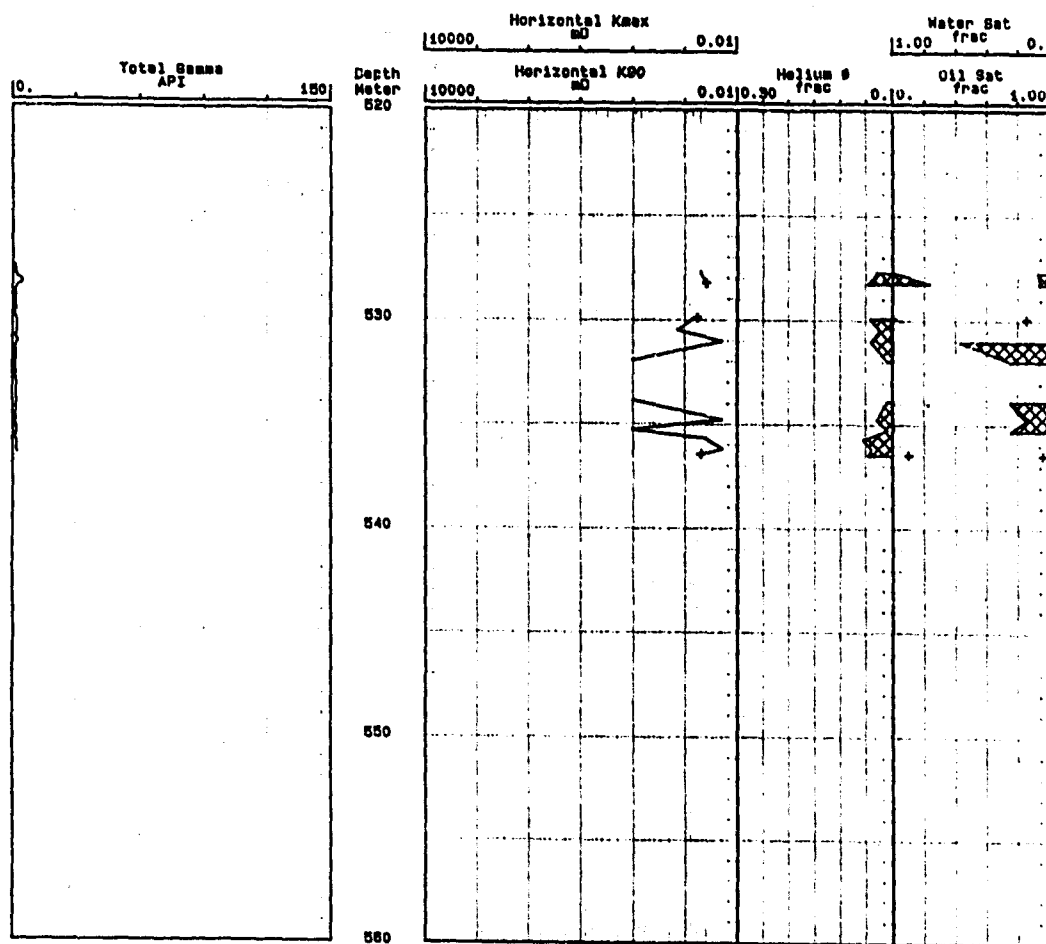
CORRELATION COREGRAPH

AEC WEST LTD.
AEC (WEST) RENAISSANCE CARCAJOU P-16
CARCAJOU

KEE SCARP (527.60 - 536.60 m)

Core Laboratories Canada Ltd.

Vertical Scale
10.00 cm = 24.0 meter



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AEC OIL & GAS LTD.

GEOLOGICAL REPORT

AEC(WEST) RENAISSANCE CARCAJOU P-16

p 16

Prepared by. Glen MacIntosh

**Cabra Consulting
1623 - 48th Avenue S.W.
Calgary, Alberta
T2T 2S9
(403) 243-5022**

Reported to. Mr. Glen Andrews

AEC (WEST) RENAISSANCE CARCAJOU P-16

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Daily Summary	Page 4
Mud Record	Page 6
Bit Record	Page 7
Deviation Summary	Page 8
Open Hole Logs	Page 9
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Sample Descriptions	Page 12
Lithology Log Pocket	Page 16

AEC (WEST) RENAISSANCE CARCAJOU P-16

WELL DATA SUMMARY

Company: AEC (West)

Well Name: AEC (West) Renaissance Carcajou P-16

Surface Location: 65°35'56.97278" N, 128°17'18.15527" W

Surface Co-ordinates: Northing: 7275226.705, Easting: 532805.104

Elevations: *Ground:* 86.4 meters
Kelly Bushing: 90.7 meters
K.B. to Ground: 4.3 meters

Unique Well I.D.: 300P166540128150

Field: Exploratory

Classification: NPW

Objectives: *Primary* – Kee Scarp

Terminating Zone: Hare Indian

Security: Tight

AFE Number: 5000046

Licence Number: 1889

Spud Date: 0315 Hrs., February 25, 2000

Total Depth: 669 meters @ 0545 Hrs, March 3, 2000

AEC (WEST) RENAISSANCE CARCAJOU P-16

Sampled Interval: **AEC/Ren:** 136 to T.D. meters (5 & 2.5 meter intervals)
Gov't: 136 to T.D. meters (5 & 2.5 meter intervals)

Contractor: Akita Drilling # 14

Drilling Supervision: Lynn Sandquist

Geological Supervision: Glen MacIntosh

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

Surface Casing: **Size:** 244.5 mm
 Type: 11 joints of 53.57 kg/m J-55
 Landed @ 136.0 meters
 Cement: 11.0 Tonnes Arctic Set + additives
 Plug down @ 2123 Hrs February 26, 2000

Intermediate Casing: **Size:** 177.8 mm
 Type: 41 joints of 34.2 kg/m J-55
 Landed @ 508.0 meters
 Cement: 11.5 Tonnes RFC + additives
 Plug down @ 0240 Hrs February 29, 2000

Production Casing: **Size:** 114.3 mm
 Type: 56 joints 14.1 kg/m J-55 ST-C
 Landed @ 669 meters
 Cement: 10.0 Tonnes RFC + additives
 Plug down @ 0035 Hrs March 4, 2000

Open Hole Logs: Schlumberger

<u>Log</u>	<u>Interval Logged</u>	<u>Scale</u>
CNL-LDT-DLL	663 to 508 meters	1:240 & 1:600
BHCS-GR	666 to 508 meters	1:240 & 1:600

Final Status: Casing ran / abandoned

Rig Release: 0600 Hrs, March 4, 2000

AEC (WEST) RENAISSANCE CARCAJOU P-16

GEOLOGICAL MARKERS

K.B. 90.7 meters

Formation	Prognosis		Samples		Logs	
	Depth (m)	Subsea (m)	MD (m)	Subsea (m)	MD (m)	Subsea (m)
Cretaceous	24.7	66.0	np	np	np	np
Devonian						
Imperial	303.7	-213.0	308.0	-217.3	308.0	-217.3
Canol	502.7	-412.0	504.0	-413.3	508.0	-417.3
Kee Scarp	507.7	-417.0	508.0	-417.3	513.0	-422.3
Hare Indian	624.7	-534.0	637.0	-546.3	637.5	-546.8
Total Depth	675.7	-585.0	669.0	-578.3	668.9	-578.2

AEC (WEST) RENAISSANCE CARCAJOU P-16

DAILY PROGRESS SUMMARY

Date	Costs	Depth @ 2400 Hrs.	Progress (meters)	ROP	Formation	Operation	Operations Summary
2/24/00	\$549,203	27	27	2.3	Cretaceous	Run in hole	Drill 411mm conductor hole. Circulate. Pull out of hole. Run 340mm Conductor barrel. Circulate. Cement conductor. WOC. Rig in diverter. Make up & run in hole with 311mm bit.
2/25/00	\$629,495	136	109	11.5	Cretaceous	WOC	Pressure test. Drill out cement. Spud well @ 0315 Hrs. Drill ahead & survey. Wiper trip. Drill to 136m. Circulate. Pull out of hole. Rig to & run 244mm casing. Circulate. Rig to & cement casing. WOC.
2/26/00	\$660,420	191	55	15.7	Cretaceous	Drill	WOC. Nipple up & pressure test. Run in hole. Pressure test. Drill out cement @ 1930 Hrs. Drill 222mm hole.
2/27/00	\$687,921	442	251	11.5	Imperial	Drill	Drill ahead & survey.
2/28/00	\$811,599	508	66	5.9	Canol	Run casing	Drill ahead & survey to 481m. Wiper trip. Control drill ahead to 508m. Wiper trip. Circulate. Pull out of hole. Rig to & run 177.8mm casing.
2/29/00	\$855,150	508	0		Canol	Circulate	Run casing. Rig to & cement casing. WOC. Nipple up & pressure test. Drill out @ 2215 hrs. Circulate & displace hole to mud.
3/1/00	\$894,794	552	44	4.2	Kee Scarp	Drill	Circulate. Drill ahead. Circulate. Pull out of hole to core. Pick up & make up core barrel. Run in hole. Circulate. Cut 9.0 meters core. Pull out & recover core. Run in hole. Drill ahead.
3/2/00	\$925,044	648	96	4.2	Hare Indian	Drill	Drill ahead & survey.

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Date	Costs	Depth @ 2400 Hrs.	Progress (meters)	ROP	Formation	Operation	Operations Summary
3/3/00	\$1,025,904	669	21	3.8	Hare Indian	Cement	Drill to T.D. Circulate. Wiper trip. Circulate. Pull out of hole to log. Rig in & log with Schlumberger. Lay down drill string. Rig to & run production casing. Circulate. Rig in & cement casing.
3/4/00	1,025,904	669	0		Hare Indian	Rig release	Set casing slips. Cut off casing. Tear out rig. Release rig @ 0600 Hrs. Move rig to Carcajou O-74 location

MUD RECORD

Mud up @ 481 meters

Date	Depth (m)	Density (kg/m3)	Viscosity (s/l)	pH	Water Loss
2/29/00	527	1120	44	9.0	14.0
3/1/00	573	1080	45	9.0	9.0
3/2/00	650	1090	60	9.0	9.0
3/3/00	669	1100	45	9.0	9.0

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BIT RECORD

Bit No.	Type	Size (mm)	Depth Out(m)	Interval Cut(m)	Hrs	FOB (daN)	RPM	Cond'n			ROP (m/hr)	Comments
								T	B	G		
1A	SDGH	444	27	27	12.0	4000	100	2	E	1	2.3	Conductor
2A	FDT	311	136	109	9.5	8000	200	2	E	1	11.5	Sur Casing
1	FDS+2	222	508	372	33.0	10000	120	3	E	1	11.3	Int Casing
2	XR20TY	156	527	19	4.8	8000	75	1	1	1	4.0	Trip for Core
2RR	XR20TY	156	669	142	34.0	8000	75	3	2	2	4.2	Trip for T.D.

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DEVIATION RECORD

Survey No.	Depth (meters)	Deviation (degrees)	Interval (meters)
1	47	0.130	47
2	75	0.250	28
3	102	0.500	27
4	130	0.500	28
5	227	1.000	97
6	324	2.000	97
7	373	2.500	49
8	421	2.500	48
9	469	3.000	48
10	500	2.000	31
11	570	2.000	70
12	657	2.500	87

AEC (WEST) RENAISSANCE CARCAJOU P-16

OPEN HOLE LOG SUMMARY

RUN 1

Logging Company: Schlumberger **Engineer:** Sean McConkey
District: Norman Wells **Truck No.:** 8416
Circulation Ended: 0750 Hrs. 00/03/03 **Finish Trip:** 1000 Hrs. 00/03/03
On Location: 2230 Hrs. 00/03/03 **Off Location:** 1830 Hrs. 00/03/03
Rig Up: 1000 Hrs. 00/03/03 **Rig Down:** 1645 Hrs. 00/03/03
Mud Properties: **Mud Type:** Gel Chem **BHT:** 35.0°C
 Density: 1110 **Rmf:** 1.32 @ 18.0 °C
 Viscosity: 70
 WL: 9.0
 pH: 9.0

Services:

<u>Log</u>	<u>Interval Logged</u>	<u>Meters Logged</u>	<u>Comments</u>
CNL-LDT-DLL	669.0 to 508.0	161.0	1:240 & 1:600
BHCS-GR	669.0 to 508.0	161.0	1:240 & 1:600

Times:

<u>Tool Combo</u>	<u>Date</u>	<u>Start In</u>	<u>First on Bottom</u>	<u>Last on Bottom</u>	<u>Clear Hole</u>	<u>Total Hours</u>
CNL-LDT-DLL	00/03/03	1130	na	1200	1330	2.00
BHCS-GR	00/03/03	1400	na	1550	1645	2.75

Logging Time: 4.75 Hours **Rig Up/Down:** 2.75 Hours

Time Losses: 0 Hours **Total Logging Time:** 7.50 Hours

Remarks: Compensated Neutron logged to surface. Poor Satellite communications prevented lognets from being sent from location. Good job. Fast, friendly & proficient service.

AEC (WEST) RENAISSANCE CARCAJOU P-16

CORE REPORT

Core #1

Company: Baker Inteq

Coring Supervisor: R. Rooney

Formation: Kee Scarp

Interval: 527.6m to 536.6m

Cut: 9.0 meters

Recovered: 9.0 meters

Core Times

From	To	Time	From	To	Time
527.6	527.8	5.0	532.6	532.8	2.0
527.8	528.0	5.0	532.8	533.0	1.5
528.0	528.2	3.0	533.0	533.2	2.0
528.2	528.4	4.0	533.2	533.4	1.5
528.4	528.6	8.5	533.4	533.6	1.5
528.6	528.8	2.5	533.6	533.8	2.0
528.8	529.0	1.5	533.8	534.0	2.0
529.0	529.2	1.5	534.0	534.2	2.0
529.2	529.4	2.0	534.2	534.4	2.0
529.4	529.6	2.0	534.4	534.6	1.5
529.6	529.8	1.5	534.6	534.8	2.0
529.8	530.0	1.5	534.8	535.0	2.0
530.0	530.2	1.5	535.0	535.2	1.5
530.2	530.4	1.5	535.2	535.4	1.5
530.4	530.6	1.5	535.4	535.6	1.5
530.6	530.8	1.5	535.6	535.8	1.5
530.8	531.0	1.5	535.8	536.0	1.5
531.0	531.2	2.0	536.0	536.2	2.0
531.2	531.4	2.0	536.2	536.4	2.0
531.4	531.6	1.5	536.4	536.6	1.5
531.6	531.8	1.5			
531.8	532.0	1.5			
532.0	532.2	1.5			
532.2	532.4	2.0			
532.4	532.6	1.5			

AEC (WEST) RENAISSANCE CARCAJOU P-16

Core Descriptions

Formation: Kee Scarp

Interval: 527.6m-536.6m

527.6 - 531.4 m LIMESTONE - medium to dark brown, calcilutite rare calcarenite, micrite to dismicrite, mudstone to wackestone, burrows & minor fractures infilled with sparry calcite, argillaceous, oil stained in part, spotty fluorescence, white cut in part, trace poor porosity?
Minor stylolites.

531.4 - 532.6 m LIMESTONE - dark brown, calcilutite, micrite, mudstone, argillaceous, bioturbated, minor fractures infilled with sparry calcite, tight, no shows.

532.6 - 536.6 m LIMESTONE - medium to dark brown, calcilutite to calcirudite, micrite to biomicrite with interbeds of biomicrudite, mudstone to wackestone, rudstone, argillaceous in part, bioturbated in part with sparry calcite infill, tight to trace poor porosity, trace spotty shows, white cut.

End of Core #1

AEC (WEST) RENAISSANCE CARCAJOU P-16

SAMPLE DESCRIPTIONS

- 136 - 145 m Interbedded Siltstone & Shale.
SILTSTONE - dark grey brown, blocky, argillaceous to highly argillaceous, micromicaceous.
SHALE - dark grey to black, subfissile to subblocky, silty, micromicaceous to micaceous.
Abundant cement cavings.
- 145 - 161 m Shale with Siltstone interbeds.
SHALE - dark grey to black, subfissile to subblocky, silty to sandy, micromicaceous.
SILTSTONE - medium to dark grey to grey brown, blocky, argillaceous to highly argillaceous, micromicaceous.
Trace Siderite.
- 161 - 180 m SANDSTONE - light to medium grey, quartz, silt to very fine grained, subround to subangular, well sorted, well cemented, dolomitic cement, carbonaceous, argillaceous, trace glauconite, tight to trace poor porosity, no shows.
- 180 - 200 m SHALE - dark grey to black, fissile to subfissile, silty, micaceous, trace disseminated pyrite.
- 200 - 211 m SHALE - dark grey, blocky to subblocky, micromicaceous;
Minor Siderite stringers.
- 211 - 229 m Shale with Siltstone interbeds & stringers.
SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
Siltstone in part, micromicaceous, trace carbonaceous.
SILTSTONE - dark grey to grey brown, blocky, argillaceous, micromicaceous.
- 229 - 240 m Shale with Siltstone stringers.
SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
Siltstone in part, micromicaceous, trace carbonaceous.
Minor Siderite.
- 240 - 250 m SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
Siltstone in part, micromicaceous, trace carbonaceous.
- 250 - 260 m SHALE - dark grey, subfissile to blocky, silty, micromicaceous, trace pyrite, carbonaceous in part.
Trace Siderite stringers.

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- 260 - 280 m Shale with Siltstone interbeds.
SHALE - dark grey to black, subfissile, blocky, silty, micromicaceous, common disseminated pyrite.
SILTSTONE - dark grey to grey brown, argillaceous, sandy grading to very fine Sandstone in part, rare glauconite, micromicaceous.
 Abundant cement cavings?.
- 280 - 304 m SHALE - dark grey, fissile to subfissile, silty grading to argillaceous Siltstone in part, micromicaceous, minor disseminated pyrite.
- 304 - 308 m SANDSTONE - light grey to off white, quartz, very fine to minor medium grains, angular to subangular, well sorted, poorly cemented to loose, dolomitic cement, tight to trace poor porosity, no shows.
- 308 - 326 m
 (Imperial) Siltstone with Shale interbeds & laminae.
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous.
SHALE - dark grey, fissile, silty, micromicaceous, trace carbonaceous.
- 325 - 337 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.
- 337 - 365 m Shale with Siltstone stringers.
SHALE - dark grey, fissile to subfissile, platy in part, silty to highly silty, minor carbonaceous material, rare trace glauconite, micromicaceous.
SILTSTONE - grey to grey brown, siliceous, sandy, argillaceous.
 Minor Siderite stringers.
- 365 - 385 m Shale with minor Siltstone stringers.
SHALE - dark grey, fissile to subfissile, platy, firm, silty to sandy, trace glauconite, minor disseminated pyrite, micromicaceous.
- 385 - 400 m SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, trace disseminated pyrite, micromicaceous.
- 400 - 425 m SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, trace disseminated pyrite, micromicaceous.
- 425 - 445 m Shale with minor Siltstone stringers.
SHALE - dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, rare glauconite, trace disseminated pyrite, micromicaceous.
 Trace Siderite.

AEC (WEST) RENAISSANCE CARCAJOU P-16

- 445 - 465 m SHALE - dark grey, fissile to subfissile, firm, silty to sandy, trace disseminated pyrite, micromicaceous.
- 465 - 485 m SHALE - dark grey to black, fissile, platy, firm, silty to highly silty, minor disseminated pyrite, micromicaceous.
Minor Siderite & Siltstone stringers.
- 485 - 504 m SHALE - dark grey to black, fissile, platy, firm, silty, minor disseminated pyrite, micromicaceous.
Minor Siderite & Siltstone stringers.
- 504 - 507 m SHALE - dark grey to black, subblocky to blocky, minor disseminated pyrite,
(Canol) slightly silty, calcareous, slightly bituminous.
- 507 - 513 m SHALE - dark grey to black to deep brown, fissile to subfissile, blocky, carbonaceous, bituminous, calcareous in part.
- 513 - 524 m LIMESTONE - white to dark brown, fine to coarse calcirudite, stromatoporoid
(Kee Scarp) biomicrite, floatstone to rudstone, micrite to coral biomicrite matrix, slightly argillaceous, spotty to even oil staining, slow white cut, tight to trace poor chalky porosity.
- 524 - 527.6 m LIMESTONE - as above, even oil staining, slow white cut, poor to fair (3-10%) chalky porosity, micrite to dismicrite.
- 527.6 - 536.6 m See detailed core description at end of striplog.
- 536.6 - 548 m LIMESTONE - light tan to medium brown, calcilutite to calcirudite, stromatoporoid biomicrite, floatstone to rudstone, micrite matrix, tight, spotty to even oil shows, slow streaming white cut, tight to fair chalky porosity(5-8%)
- 548 - 568 m LIMESTONE - light tan to medium brown, calcirudite, stromatoporoid biomicrite, rudstone, micrite to biomicrite matrix, tight to poor chalky porosity (>5%), spotty oil shows, weak white streaming cut.
- 568 - 577 m LIMESTONE - medium brown, to brownish grey, calcilutite to medium calcarenite, biopelmicrite, packstone to floatstone, argillaceous, tight to poor porosity, (>5%), spotty to even yellow florescence, moderate streaming white cut.
- 577 - 595 m LIMESTONE - light brown tan to brownish grey, calcilutite to calcirudite, biopelmicrite to biopelsparite?, packstone to floatstone, fossil debris, strom frags, argillaceous in part, trace poor chalky & intraparticle porosity, trace fractures, no shows.

AEC (WEST) RENAISSANCE CARCAJOU P-16

- 595 - 609 m LIMESTONE - light brown tan, calcilutite to medium calcarenite, biopelmicrite, packstone to wackestone, fossil debris, argillaceous, tight to trace poor chalky porosity, spotty oil stain, ? florescence, weak white cut.
- 609 - 619 m LIMESTONE - medium to dark brown, calcilutite to fine calcarenite, biopelmicrite, wackestone to packstone, argillaceous to highly argillaceous, silty, tight, no shows.
- 619 - 621 m SHALE - dark grey, brownish, fissile, platy, slightly bituminous, slightly calcareous.
- 621-630 m LIMESTONE - medium to dark brown to grey brown, calcilutite to very fine calcarenite, micrite to biopelmicrite, mudstone to wackestone, argillaceous, tight, weak white cut, ? show.
- 630 - 637 m LIMESTONE - light brown tan, calcarenite to calcirudite, biosparite, grainstone, trace calcite fracture fill, siliceous, silty, tight, spotty florescence, slow white cut.
- 637 - 648 m Siltstone with Shale laminae & Limestone stringers:
(Hare Indian) SILTSTONE - medium to dark brown, silt to very fine Sandstone, well cemented, highly calcareous, trace carbonaceous, micaceous, argillaceous grading to silty Shale.
- 648 - 669 m Limestone with Siltstone stringers.
LIMESTONE - light to medium brown to grey brown, calcilutite to fine calcarenite, micrite to biomicrite, mudstone to wackestone, fossil debris, pellets, silty to highly silty, argillaceous in part, trace vug/fracture filling euhedral quartz crystals, tight to trace fracture porosity, no shows.

Total Depth: Driller - 669.0 meters
Logger - 668.9 meters

CABRA CONSULTING 1623 - 48th Avenue S.W. CALGARY, Alberta T2T 2S9 (403) 243-5022		COMPOSITE WELL HISTORY DRILLING TIME LITHOLOGY LOG	
COMPANY: AEC OIL & GAS LTD WELL: AEC (WEST) RENAISSANCE P-16 FIELD: EXPLORATORY PROVINCE: NWT LOCATION: LSD SEC TWP RGE W MERIDIAN		CASING DEPTH SURFACE: 138.0 m INTERMEDIATE: 508.0 m MAIN: 689.0 m	
COORDINATES: 7275228.7 N 532805.10 E ELEVATIONS: GD 88.4 m KB 90.7 m LOG MEASURED FROM KB 4.3 m ABOVE GROUND WELL TYPE: EXPLORATORY SPUD DATE: 2000-02-25 LICENCE No.: 1889 AFE No.: 5000046		CASING SIZE SURFACE: 244.5 mm INTERMEDIATE: 177.8 mm MAIN: 114.3 mm	
CONTRACTOR: AIGTA #14 MUD TYPE: GEL CHEM MUD UP @: 481 meters SAMPLES: 2.5 & 5 METER INTERVALS AEC/REN: 138 to 689 meters COST: NONE		CORES: BAKER INTEG KEE SCARP - 527.8m TO 536.6m OPEN HOLE LOGS: SCHLUMBERGER CNL-LDT-DLL: 683m TO 508m BHC9-GR: 689m TO 508m	
SUPERVISION GEOLOGICAL: GLEN MACINTOSH		DRILLING: LYNN SANDQUIST	

REMARKS: SAMPLE QUALITY FAIR TO GOOD. CNL-GR LOGGED TO SURFACE THROUGH CASING. TOPS ARE NOT ADJUSTED TO OPEN HOLE LOGS.

