

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 O-74

Operator: AEC OIL & GAS

Contractor: Akita Drilling Ltd.

Drilling Rig or Unit: Rig #14

Location-Unit: O

Section: 74

Coordinates: Lat.: 65 33' 48".06104

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

Elevation-KB/RT: 110.95m (est.) (ASL)

Approx. Spud Date: February 2., 2000

Anticipated Total Depth: 775m

Drilling Program No.:

Interest Identifier:

Estimated Well Cost: \$1,400,000

Grid Area: 65 40', 128 00'

Long.: 128 13' 59".28895

Field / Pool: Exploratory

GL / Seafloor: 106.95m

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

Canned sample intervals None

Conventional cores at Possible Core in the Kee Scarp

Logs and Tests DLTE/MSFL/LDTD/CNTH/SGTL/BHC/GR; 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	125m	Arctic Set
177.8	34.2	J-55	470m	RFC + add.
114.3	14.14	J-55	775m	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-A061-2-1

WID: 1888

UWI: 3000746540128000

Canada
444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S.-O.

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

01/07/99
H:\DOCUMENTS\Forms\stdwfm.spd

WELL
TERMINATION
RECORD (with
attachment)



Office national
de l'énergie

WELL TERMINATION RECORD

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

Well Name: AEC (West) Renaissance Carcajou O-74

Area: Carcajou (Ft. Good Hope)

Grid Area: 65 40', 128 00'

Field / Pool: Exploratory

Interest Identifier: 6L 387

Final Coordinates: Lat: 65 33' 48".05104"

Long: 128° 13' 59".28895

Drilling Unit: Rig #14

Elevations-KB/RT: 110.95m (A5L)

GL/Seafloor: 106.95m

Spud Date: February 23/00

R.R.: March 11/00

Total Depth: 748m

O.D. (mm)	Weight (kg/m)	Grade	Depth Set (m KB)	Cement (m³)
406.4			30.5	1.5
244.5	53.57	J-55	130	8
177.8	34.2	J-55	465	10
114.3	14.1	J-55	760	8.2

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 30, 2000.

Type of Plug	Interval (m KB)	Felt	Cement (m³)
Single	10m - 0m	Not required	.2
Single	568m - 555m	Not required	.2

Lost Circulation/Overpressure Zones:

Equipment left on Seafloor (Describe):

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

Cores:

Type:

Intervals:

Other Downhole Completion/Suspension Equipment:

Bridge plug set @ 568m, cement plug on top @ 555m.

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: July 27, 2000

Company: AEC West

Well Status

Suspended ☐

Completed ☐

Abandoned ☒

Acknowledged by:

Chief Conservation Officer

Date:

Aug 2/00

File:

9211-A61-2-1

UWI: 300Q746540128000

WID: 1888

Canada
444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S.-O.

Telephone/Téléphone : (403) 292-4800
Facsimile/Télocopieur : (403) 292-5876
<http://www.neb.gc.ca>
0107/99
M:\energy\wtrm\wpd

FINAL
WELL
REPORT

N.E.B. COPY

FINAL WELL REPORT

AEC OIL & GAS

AEC (WEST) Renaissance Carcajou O-74

Grid #.65 40', 128 00'

DATE: 04/07/00

COMPANY REPRESENTATIVE: Stephen Holyoake

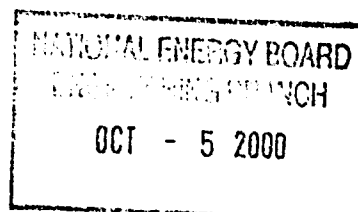


TABLE OF CONTENTS

A.	INTRODUCTION	Page
	Summary.....	1
B.	GENERAL DATA	
	Well Name.....	2
	Well Location	2
	Unique Well Identifier.....	2
	Operator.....	2
	Contractor	2
	Drilling Unit	3
	Position Keeping.....	3
	Support Craft	3
	Drilling Unit Performance	3
	Difficulties and Delays	3
	Total Well Cost.....	3
	Horizontal/Deviated Wells Require Bottom Hole Co-ordinates	3
C.	SUMMARY OF DRILLING OPERATIONS	
	Elevations	3
	Total Depth.....	3
	Date and Hour Spudded.....	3
	Date Drilling Completed.....	3
	Date of Rig Release	3
	Well Status.....	3
	Hole Sizes and Depths	3
	Casing and Cementing Record	4-5
	Sidetracked Hole.....	6
	Drilling Fluid.....	6
	Fishing Operations.....	6
	Well Kicks and Well Control Operations	6
	Formation Leak Off Tests.....	6
	Time Distribution	7-10
	Deviation Survey	11
	Abandonment Plugs.....	12
	Composite Well Record.....	12
	Completion Record.....	12

D. GEOLOGY

Page

Geological Markers.....	13
Sample Descriptions	14-18
Coring Record	18
Gas Detection Report.....	19-24
Drill Stem Tests	25
Well Evaluation	25
Analyses.....	26
Mud Salinity Record	26

E. APPENDICES TO WELL HISTORY REPORT 27

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 748 metre exploratory well spudded on Feb 22 /00 and finishing on March 11/00 to evaluate oil potential in the Kee Scarp formation at a depth of 580mKB.

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 1888 in which AEC West has a 100 % working interest.

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

Latitude: 65 33' 48".06104
Longitude: 128 13' 59.28895"

The surface hole rig was moved onto the location Feb 21/00 and the well spudded on Feb 22/00 at 6:00 hours to air drill the 406.5 mm conductor barrel to a depth of 20.7 m. The conductor pipe was cemented with good mud returns throughout. The diverter was nipped up and we ran in with 311mm bit to drill the surface hole.

The conductor shoe was then drilled out and the 311 mm surface hole was drilled ahead to 134 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 % BWOW + 0.2% D-46 + 0.8 % D-13 + 0.5% D-65. There was good mud returns reported throughout the cement job with 2.0 m³ cement returns. The plug was bumped with 3,500 kPa and the pressure held. The plug was down at 05:22 hours on Feb 25/00. The surface casing was set at 127 m. The surface hole rig was then released and moved to the O-47 location.

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

The float collar and shoe were drilled out on March 5/00. A formation leak off test was done and the gradient was taken to 18.1 kPa/m without breaking down the formation. The 222 mm intermediate hole was drilled ahead to 487 m.

The BOP's were installed and pressure tested. The annular preventor was pressure tested

to 1,400 kPa low and 10,000 kPa high. The pipe rams, kelly cock, stabbing valve and downhole BOP valve were tested to 1,400 kPa low and 10,000 kPa high. The accumulator precharge bottles were checked and the accumulator function tested prior to drilling out. The float collar and shoe were drilled out on March 8/00. The 156mm hole was drilled to a depth of 748m 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 24:00 hours on March 11, 2000. After the evaluation of the O-74 well it was decided to abandon the well.

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

B. GENERAL DATA

1. Well Name: AEC (West) Renaissance Carcajou O-74

Authority to Drill a Well No:1888

Exploration Agreement Number:.....9211-A061-2-1

Location Unit: O

Section: 74

Grid Area: 65 40', 128 00'

Classification: Exploratory

2. Well Location: Carcajou (FT. Good Hope/Norman Wells)

Coordinates: Latitude: 65 33' 48".06104
Longitude: 128 13' 59.28895"

3. Unique Well Identifier: 300O746540128000

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:\$174,503 (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: 106.95(m above sea level)
KB: 110.95 (m above sea level)
KB To Casing Flange: 4m (KB to CF)
2. Total Depth:
FTD: 748mKB
TVD: 748mKB
3. Date and Hour Spudded: 02/22/00 @ 06:00
4. Date Drilling Completed: 03/10/00 @ 20:00
5. Date of Rig Release: 03/11/00 @ 24:00
6. Well status: Dry and Abandoned
7. Hole Sizes and Depths:
Conductor Hole: 406.4 mm to 20.7 mKB
Surface Hole: 311 mm to 134 mKB
Intermediate Hole: 222 mm to 487 mKB

Main Hole: 156 mm to 748 mKB

8. Casing and Cementing Record:

Conductor Hole:

Casing Size: 406.4 mm
Casing Weight: 81.1 kg/m
Casing Grade:
Casing Make:
Number of Joints: 3.5
Thread: Welded
Depth Set: 20.7 m (KB)
Cut Height: At Surface KB
Cut off Depth: After abandonment 1m below ground level
Date Set: Feb 22, 2000
Cement Volume: 2 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: 10
Thread: ST&C
Depth Set: 127.2 m (KB)
Cut Height: At Surface (KB)
Date Set: Feb 25, 2000
Cement Volume: 11 Tonnes
Float Shoe Depth: 126.8m
Float Collar Depth: 113.17 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: 39
Thread: ST&C
Depth Set: 487 m (KB)
Cut Height: At Surface (KB)
Date Set: March 6, 2000
Cement Volume: 11 Tonnes
Float Shoe Depth: 486.59 m
Float Collar Depth: 473.47 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: 57
Thread: ST&C
Depth Set: 748 m (KB)
Cut Height: At Surface (KB)
Date Set: March 11, 2000
Cement Volume: 9 Tonnes
Float Shoe Depth: 747.81 m
Float Collar Depth: 733.96 m
Cut Off Depth: 1m below ground level, after abandonment
Cement Type: Arctic Set Cement
Additives: 12% D-44
0.5% D-65
0.8% D-13
0.2% D-46
Cement Top: Surface (mKB)
Casing Bowl Size:

Casing Bowl Make:

9. Sidetracked Hole: Not Applicable
10. Drilling Fluid:
- | | |
|-----------------|--------------------------------|
| Conductor Hole: | Air |
| Surface Hole: | Gel - Chemical |
| Properties: | Viscosity: 85 sec/L |
| | Weight: 1180 kg/m ³ |
| | PH: 9.0 |
| Intermediate: | Water |
| Properties: | Viscosity: 29 sec/L |
| | Weight: 1010 kg/m ³ |
| | PH: 10.5 |
| Main: | Gel - Chemical |
| Properties: | Viscosity: 57 sec/L |
| | Weight: 1060 kg/m ³ |
| | PH: 10.5 |
| | Water loss: 7.2 cc |
| | Filter Cake: 1.5 |
11. Fishing Operations: n/a
12. Well Kicks and Well Control Operations: n/a
13. Formation Leak Off Tests:
- | | |
|-----------------------|------------------------|
| Depth: | 135 m |
| Fluid Density: | 1000 kg/m ³ |
| Applied Pressure: | 2444 kPa |
| Hydrostatic Press. | 1324 kPa |
| Mud Weight Equi. | 1845 kg/m ³ |
| Casing Setting Depth: | 134 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
2/20/00	00:00:00	08:00:00	Wait on Daylight	8	
2/20/00	08:00:00	10:30:00	Wait on Trucks	2.5	
2/20/00	10:30:00	15:00:00	Rig Move	4.5	
2/20/00	15:00:00	18:00:00	Rig up	3	
2/20/00	18:00:00	23:59:00	Rig up	5.98	
2/21/00	00:00:00	06:00:00	Rig up	6	Rig up air drilling tools
2/21/00	06:00:00	09:00:00	Drilling	3	
2/21/00	09:00:00	12:30:00	Tripping	3.5	Trip for bad conductor pipe
2/21/00	12:30:00	18:00:00	Drilling	5.5	
2/21/00	18:00:00	19:00:00	Repair Rig	1	Casing shoe broke off
2/21/00	19:00:00	21:00:00	P.O.O.H	2	POOH with air hammer
2/21/00	21:00:00	22:30:00	Rig up	1.5	Prepare rig to drill with mud
2/21/00	22:30:00	23:59:00	Wait on cementers	1.48	
2/22/00	00:00:00	07:00:00	Wait on cementers	7	
2/22/00	07:00:00	12:00:00	Wait on cementers	5	
2/22/00	12:00:00	12:30:00	Safety meeting	0.5	
2/22/00	12:30:00	15:00:00	Cement casing	2.5	
2/22/00	15:00:00	16:30:00	W.O.C.	1.5	
2/22/00	16:30:00	19:00:00	Rig up	2.5	Weld on Diverter
2/22/00	19:00:00	23:00:00	Rig up	4	Rig up for mud drilling operations
2/22/00	23:00:00	23:59:00	Wait on Trucks	0.98	Wait on drilling mud
2/23/00	00:00:00	04:00:00	Wait on Trucks	4	Wait on gel from town
2/23/00	04:00:00	05:00:00	Drill out cement	1	
2/23/00	05:00:00	07:00:00	Repair Rig	2	
2/23/00	07:00:00	12:30:00	Repair Rig	5.5	
2/23/00	12:30:00	19:00:00	Drilling	6.5	
2/23/00	19:00:00	19:30:00	Safety meeting	0.5	
2/23/00	19:30:00	23:59:00	Drilling	4.48	
2/24/00	00:00:00	01:00:00	Drilling	1	
2/24/00	01:00:00	02:00:00	Cond mud	1	
2/24/00	02:00:00	05:30:00	Direction Survey	3.5	
2/24/00	05:30:00	06:00:00	Drilling	0.5	
2/24/00	06:00:00	09:00:00	Drilling	3	
2/24/00	09:00:00	13:00:00	Wiper trip	4	
2/24/00	13:00:00	15:00:00	Drilling	2	
2/24/00	15:00:00	16:30:00	P.O.O.H	1.5	
2/24/00	16:30:00	19:00:00	Run casing	2.5	Rig up to run casing
2/24/00	19:00:00	19:30:00	Safety meeting	0.5	
2/24/00	19:30:00	23:59:00	Run casing	4.48	
2/25/00	00:00:00	03:00:00	Run casing	3	
2/25/00	03:00:00	04:30:00	Circulate casing	1.5	

2/25/00	04:30:00	04:45:00	Safety meeting	0.25	
2/25/00	04:45:00	05:30:00	Cement casing	0.75	
2/25/00	05:30:00	11:00:00	Tear out rig.	5.5	
2/25/00	11:00:00	15:00:00	Rig Move	4	
3/4/00	08:00:00	16:00:00	Rig Move	8	MOVE RIG AND RIG UP W/TRKS
3/4/00	16:00:00	23:59:00	Rig up	7.98	RIG UP W/ CREWS AND DRLG RATHOLE AND JACKHAMMER CEMENT IN CELLAR
3/5/00	00:00:00	02:00:00	Nipple up BOP's	2	JACK HAMMER CEMENT IN CELLAR
3/5/00	02:00:00	05:00:00	Nipple up BOP's	3	SCREW BOWL ON,NIPPLE UP
3/5/00	05:00:00	08:00:00	Pressure Test	3	PRESS TEST MANIFOLD SYSTEM AND WINTERIZE
3/5/00	08:00:00	09:30:00	Tripping	1.5	MAKE UP BHA AND RIH W/ BIT #1
3/5/00	09:30:00	11:00:00	Pressure test BOP	1.5	PRES TEST HYDRIL,BOPS, AND BOP DRILL.
3/5/00	11:00:00	12:30:00	Drill out cement	1.5	DRLG OUT PLUG AND CEMENT
3/5/00	12:30:00	12:45:00	Pressure Test	0.25	RUN FORMATION INTEGRITY TEST
3/5/00	12:45:00	15:00:00	Drilling	2.25	DRLG AHEAD W/ BIT #1 F/125-171M
3/5/00	15:00:00	15:15:00	Survey	0.25	WIRELINE SURVEY
3/5/00	15:15:00	15:30:00	Rig Service	0.25	RS
3/5/00	15:30:00	21:00:00	Drilling	5.5	DRLG AHEAD F/ 171 - 278M
3/5/00	21:00:00	21:15:00	Survey	0.25	WIRELINE SURVEY
3/5/00	21:15:00	21:30:00	Rig Service	0.25	RS AND FUNCTION HYDRIL
3/5/00	21:30:00	23:00:00	Work tight hole	1.5	WORK TIGHT CONNECTION
3/5/00	23:00:00	23:59:00	Drilling	0.98	DRLG F/ 298 - 307 M.
3/6/00	00:00:00	00:15:00	B.O.P. drill	0.25	
3/6/00	00:15:00	06:15:00	Drilling	6	
3/6/00	06:15:00	06:30:00	Survey	0.25	
3/6/00	06:30:00	06:45:00	Rig Service	0.25	
3/6/00	06:45:00	08:00:00	Drilling	1.25	
3/6/00	08:00:00	08:15:00	Rig Service	0.25	
3/6/00	08:15:00	15:45:00	Drilling	7.5	
3/6/00	15:45:00	16:00:00	Survey	0.25	
3/6/00	16:00:00	16:15:00	Rig Service	0.25	
3/6/00	16:15:00	21:00:00	Drilling	4.75	
3/6/00	21:00:00	21:15:00	Survey	0.25	
3/6/00	21:15:00	23:59:00	Drilling	2.73	
3/7/00	00:00:00	01:00:00	Drilling	1	
3/7/00	01:00:00	01:30:00	Circulate	0.5	
3/7/00	01:30:00	04:30:00	Wiper trip	3	
3/7/00	04:30:00	05:45:00	Drilling	1.25	
3/7/00	05:45:00	06:15:00	Circulate	0.5	
3/7/00	06:15:00	06:30:00	Survey	0.25	
3/7/00	06:30:00	08:00:00	P.O.O.H	1.5	
3/7/00	08:00:00	09:00:00	P.O.O.H	1	

3/7/00	09:00:00	09:15:00	Rig Service	0.25	
3/7/00	09:15:00	13:00:00	Run casing	3.75	
3/7/00	13:00:00	14:00:00	Cond mud	1	
3/7/00	14:00:00	15:15:00	Cement casing	1.25	
3/7/00	15:15:00	16:00:00	W.O.C.	0.75	
3/7/00	16:00:00	19:15:00	W.O.C.	3.25	
3/7/00	19:15:00	20:15:00	Nipple up BOP's	1	Unscrew bowl
3/7/00	20:15:00	21:30:00	Nipple up BOP's	1.25	Cut casing, Polish casing for weld on bowl
3/7/00	21:30:00	23:59:00	Weld on Bowl	2.48	Weld on bowl and casing vent
3/8/00	00:00:00	02:00:00	Weld on Bowl	2	
3/8/00	02:00:00	02:15:00	Pressure Test	0.25	
3/8/00	02:15:00	04:15:00	Nipple up BOP's	2	
3/8/00	04:15:00	06:00:00	Pressure test BOP	1.75	
3/8/00	06:00:00	08:00:00	Make up BHA	2	Pick up mud motor
3/8/00	08:00:00	09:30:00	Make up BHA	1.5	Pick up monels
3/8/00	09:30:00	10:45:00	Make up BHA	1.25	Pick up mud motors
3/8/00	10:45:00	11:30:00	RIH	0.75	
3/8/00	11:30:00	13:30:00	Pressure Test	2	
3/8/00	13:30:00	13:45:00	B.O.P. drill	0.25	
3/8/00	13:45:00	14:00:00	Rig Service	0.25	
3/8/00	14:00:00	16:00:00	Drill out cement	2	
3/8/00	16:00:00	20:00:00	Directional Work	4	
3/8/00	20:00:00	20:15:00	B.O.P. drill	0.25	
3/8/00	20:15:00	23:30:00	Directional Work	3.25	
3/8/00	23:30:00	23:45:00	Accumulated surveys	0.25	
3/8/00	23:45:00	23:59:00	Rig Service	0.23	
3/9/00	00:00:00	06:30:00	Drilling	6.5	
3/9/00	06:30:00	06:45:00	Rig Service	0.25	
3/9/00	06:45:00	07:45:00	Drilling	1	
3/9/00	07:45:00	08:00:00	Accumulated surveys	0.25	
3/9/00	08:00:00	08:15:00	Rig Service	0.25	
3/9/00	08:15:00	15:15:00	Drilling	7	
3/9/00	15:15:00	16:00:00	Accumulated surveys	0.75	
3/9/00	16:00:00	16:15:00	Rig Service	0.25	
3/9/00	16:15:00	23:30:00	Drilling	7.25	
3/9/00	23:30:00	23:59:00	Accumulated surveys	0.48	
3/10/00	00:00:00	01:00:00	Drilling	1	
3/10/00	01:00:00	02:00:00	Repair Rig	1	
3/10/00	02:00:00	06:00:00	Drilling	4	
3/10/00	06:00:00	06:15:00	Rig Service	0.25	
3/10/00	06:15:00	07:45:00	Drilling	1.5	
3/10/00	07:45:00	08:00:00	Accumulated surveys	0.25	
3/10/00	08:00:00	08:15:00	Rig Service	0.25	
3/10/00	08:15:00	15:30:00	Drilling	7.25	
3/10/00	15:30:00	16:00:00	Accumulated surveys	0.5	
3/10/00	16:00:00	16:15:00	Rig Service	0.25	

3/10/00	16:15:00	20:00:00	Drilling	3.75	
3/10/00	20:00:00	20:30:00	Circulate	0.5	
3/10/00	20:30:00	23:00:00	Wiper trip	2.5	
3/10/00	23:00:00	23:45:00	Circulate	0.75	
3/10/00	23:45:00	23:59:00	Accumulated surveys	0.23	
3/11/00	00:00:00	03:15:00	P.O.O.H	3.25	
3/11/00	03:15:00	04:00:00	Lay dwn drill string	0.75	Lay down directional tools
3/11/00	04:00:00	08:00:00	Logging	4	
3/11/00	08:00:00	12:30:00	Logging	4.5	
3/11/00	12:30:00	14:30:00	Lay dwn drill string	2	
3/11/00	14:30:00	16:00:00	Run casing	1.5	
3/11/00	16:00:00	18:00:00	Run casing	2	
3/11/00	18:00:00	19:00:00	Circulate casing	1	
3/11/00	19:00:00	20:30:00	Cement casing	1.5	
3/11/00	20:30:00	23:30:00	Tear out rig.	3	
3/11/00	23:30:00	23:59:00	Tear out rig.	0.48	Set Slips w/ 3000daN

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:

DEVIATION RECORD

Survey y No.	Depth (meters)	Deviation (degrees)	Interval (meters)
1	169	0.250	169
2	279	1.000	110
3	354	1.000	75
4	402	1.000	48
5	450	1.500	48
6	487	1.500	37
7	496	1.100	9
8	506	1.300	10
9	515	1.200	9
10	525	1.400	10
11	535	1.400	10
12	544	1.800	9
13	554	2.100	10
14	583	1.400	29
15	593	1.800	10
16	602	0.200	9
17	622	0.700	20
18	631	0.900	9
19	641	0.800	10
20	661	1.000	20
21	670	0.700	9
22	683	0.700	13
23	704	0.600	21
24	722	0.400	18
25	729	0.400	7
26	735	0.400	6
27	748	0.400	13

16. Abandonment Plugs:

	Plug 1	Plug 2
Date	00-03-29	00-03-29
Interval	0m – 10m	568m - 555m
Formation Name		
Formation Depth (KB)		
Tonnes of Cement	.2	.2
Additives	0.2% D46, 0.4% D13, 0.5% D65	0.2% D46, 0.4% D13, 0.5% D65
Volume of H ₂ O Ahead	0m ³	0m ³
Displacement	.2m ³	.2m ³
Slurry Density	1900kg/m ³	1900kg/m ³
Calculated Plug Depth	-1.5m GL	555m
Felt Plug Depth (KB)	Not felt	Not felt
Fluid Between Plugs	Gel-Chem mud	Water

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

18. Completion Record: No Completion, Well abandoned

Start Date:
 Finish Date:
 Contractor:

Completion Summary: No Completion, Well abandoned

Date:
 Perf / OH Interval:
 Swab / Flow Results:
 Stimulation / Comments:

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

D: GEOLOGY

GEOLOGICAL MARKERS

K.B. 111.3 meters

Formation	Prognosis		Samples		Logs	
	Depth (m)	Subsea (m)	MD (m)	Subsea (m)	MD (m)	Subsea (m)
<u>Cretaceous</u>	19.3	92.0	np	np	np	np
<u>Devonian</u>						
Imperial	365.3	-254.0	375.0	-263.7	374.0	-262.7
Canol	584.3	-473.0	577.0	-465.7	578.0	-466.7
Kee Scarp	589.3	-478.0	580.0	-468.7	581.0	-469.7
Hare Indian	712.3	-601.0	716.0	-604.7	720.5	-609.2
Total Depth	775.3	-664.0	748.0	-636.7	747.0	-635.7

SAMPLE DESCRIPTIONS: (See also - Hydrocarbon Well Log attached)

131 - 140 m Interbedded Siltstone & Shale.

SILTSTONE - dark grey brown, blocky, argillaceous to highly argillaceous, micromicaceous.

SHALE - dark grey to black, subfissile to subblocky, silty, carbonaceous flakes, micromicaceous.

Samples are Predominantly cement cavings.

140 - 153 m Siltstone with Shale interbeds.

SILTSTONE - medium to dark grey to grey brown, blocky, very slightly calcareous, argillaceous to highly argillaceous, trace glauconite, micromicaceous.

SHALE - dark grey to black, subfissile to subblocky, silty to sandy, micromicaceous.

153 - 180 m Shale with Siltstone stringers.

SHALE - dark grey to black, subfissile to fissile, silty to highly silty grading to Siltstone at base, carbonaceous, micromicaceous.

SILTSTONE - dark grey to grey brown, well cemented, calcareous to sideritic cement, argillaceous, becoming sandy in part.

Minor Siderite.

180 - 191 m SANDSTONE - light to medium grey to grey brown, quartz, silt to very fine grained, subround to subangular, well sorted, well cemented, dolomitic cement, slightly carbonaceous, argillaceous, trace glauconite, tight, no shows.

191 - 207 m SHALE - dark grey, rare green, fissile to subfissile, silty to sandy, micromicaceous.

207 - 224 m Interbedded Siltstone & Shale.

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

SILTSTONE - dark grey to grey brown, blocky, argillaceous, sandy grading to Sandstone, trace glauconite, micromicaceous.

224 - 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 disseminated pyrite.

Minor Siderite stringers.

240 - 250 m SHALE - dark grey to black, fissile to subfissile, platy to blocky, silty part, micromicaceous, carbonaceous in part, firm.

SIDERITE - medium to dark brown, blocky, argillaceous, calcareous, hard.

250 - 267 m SHALE - dark grey to grey brown, subfissile to blocky, silty, micromicaceous,

trace pyrite, trace carbonaceous.
Trace Siderite stringers.

267 - 280 m Interbedded Siltstone & Shale.

SILTSTONE - dark grey to grey brown, argillaceous, calcareous in part, sandy grading to very fine Sandstone in part, rare glauconite, micromicaceous, pyritic.

SHALE - dark grey to black, subfissile, blocky, silty, carbonaceous, micromicaceous, common disseminated pyrite

280 - 304 m SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous Siltstone in part, carbonaceous, micromicaceous, minor disseminated pyrite, weak white cut, ? show.

304 - 316 m SANDSTONE - light grey to off white, quartz, very fine to fine, rare medium grains, angular to subangular, moderately to well sorted, moderate to poorly cemented, dolomitic cement, silty, trace carbonaceous flakes, tight to trace poor porosity, slow weak white cut, ? show.

316 - 333 m Siltstone with Shale interbeds & laminae.

SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous, slightly calcareous near base, trace carbonaceous flakes.

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

333 - 348 m Shale with Siltstone stringers.

SHALE - dark grey, fissile to subfissile, platy in part, silty to highly silty, minor carbonaceous material, micromicaceous.

SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone, argillaceous, tight to poor porosity (3%), no florescence, fast white cut.

348 - 371 m Siltstone grading to Sandstone.

SILTSTONE - light to medium brown, quartz, minor carbonaceous flakes, moderately to well cemented, silica cement, slightly dolomitic, sandy grading to Sandstone in part, minor pyrite.

Minor Shale laminae.

371 - 375 m SANDSTONE - tan to light grey brown, quartz, very fine grained, well sorted, subangular, moderately cemented, dolomitic cement, silty, tight to poor porosity (3%), no florescence fast white cut.

375 - 390 m Interbedded Siltstone & Shale.

(Imperial) SILTSTONE - grey to grey brown, siliceous, sandy in part, argillaceous to highly argillaceous.

SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.

390 - 405 m Siltstone with Shale interbeds.

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

SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.

405 - 423 m Interbedded & interlaminated Siltstone & Shale.

SILTSTONE - grey to grey brown, siliceous, sandy in part, argillaceous to highly argillaceous grading to Shale.

SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.

423 - 429 m Siltstone with Shale interbeds.

SILTSTONE - light brown, well cemented, siliceous, argillaceous.

SHALE - dark grey to black, fissile, platy, firm.

429 - 444 m SHALE - medium to dark grey, fissile to subfissile, platy, firm, silty grading to argillaceous Siltstone in part, trace disseminated pyrite, micromicaceous.

444 - 466 m SHALE - medium to dark grey, fissile to subfissile, platy to splintery, firm, silty to grading to argillaceous Siltstone, trace disseminated pyrite, micromicaceous.

466 - 487 m SHALE - dark grey, fissile subfissile, firm, silty to highly silty, minor disseminated pyrite, micromicaceous.
Minor Siltstone stringers.

487 - 515 m SHALE - dark grey, subfissile to subblocky, firm, slightly silty, trace disseminated pyrite, micromicaceous.
Minor Siltstone stringers.

515 - 530 m SHALE - dark grey to black, subfissile to subblocky, firm, slightly silty, micromicaceous.
Minor Siltstone stringers.

530 - 550 m SHALE - dark grey to dark grey brown, subfissile to subblocky, firm, slightly silty, micromicaceous.
Minor Siltstone & Siderite stringers.

550 - 565 m SHALE - medium to dark grey, subfissile to subblocky, firm, silty grading to Siltstone in part, slightly pyritic in part, micromicaceous.

SILTSTONE - medium to dark grey brown, blocky, well cemented, siliceous, argillaceous, slightly sandy, trace carbonaceous.

565 - 577 m SHALE - medium to dark grey, subfissile to subblocky, firm, silty grading to Siltstone in part, slightly pyritic in part, micromicaceous.

577 - 580 m SHALE - black to dark grey, fissile to subfissile, blocky, carbonaceous,

(Canol) disseminated pyrite, bituminous.

580 - 590 m LIMESTONE - off white to tan to medium brown, fine to coarse calcirudite, (Kee Scarp) stromatoporoid biomicrite, rudstone, micrite to crinoid biopelmicrite matrix, siliceous to cherty near top, fair moldic or vuggy porosity, tight to poor intercrystalline porosity, spotty florescence, fast white streaming cut. Trace euhedral calcite & quartz crystals (pore lining?).

590 - 605 m LIMESTONE - off white to tan to medium brown, coarse calcirudite, stromatoporoid biomicrite, rudstone, micrite to biopelmicrite matrix, tight to minor poor porosity (<3%), spotty florescence, fast white streaming cut, trace pyrobitumen.

Samples contain predominantly frags of large scale stroms (white to tan).
Shale interbed?.

605 - 616 m LIMESTONE - light to medium brown, fine to medium calcirudite, stromatoporoid biomicrite, floatstone to rudstone, micrite to biomicrite matrix, fossil debris, tight to trace minor porosity (<3%), weak ? florescence, moderate to slow white cut.

616 - 635 m LIMESTONE - light to medium brown, calcarenite to calcirudite, biopelmicrite, fossil debris, poor to fair chalky porosity (3-8%), spotty to even staining, bright yellow florescence, moderate to fast white cut.

635 - 649 m LIMESTONE - off white to tan to medium brown, fine calcarenite to calcirudite, stromatoporoid biopelmicrite, floatstone to rudstone, fossil debris, tight to minor poor to fair (3-6%) porosity, spotty florescence, slow white streaming cut to no shows.

649 - 663 m LIMESTONE - off white to tan to medium brown, fine calcarenite to calcirudite, stromatoporoid biopelmicrite to biopelsparite, floatstone to rudstone, fossil debris, slightly argillaceous, tight to minor poor intercrystalline (3%) porosity, trace fair moldic porosity (6%), even to spotty florescence, moderate to fast white streaming cut.

663 - 675 m LIMESTONE - off white tan to dark brown grey, calcirudite, stromatoporoid biopelmicrite, floatstone to rudstone, pellets & coral & fossil debris, argillaceous to highly argillaceous, tight to trace poor moldic porosity, minor pyrobitumen, no shows.

Minor Shale laminae.

675 - 687 m Limestone with Shale interbeds.

LIMESTONE - light tan to medium to dark grey brown, calcilutite to medium calcarenite, micrite to biopelmicrite, mudstone to packstone, argillaceous to highly argillaceous in part, tight, ? shows.

SHALE - dark grey to black, fissile to subfissile, calcareous, bituminous.

687 - 705 m LIMESTONE - off white to medium brown, very fine to medium calcarenite, micrite to biomicrite to biosparite, mudstone to packstone, fossil debris, slightly argillaceous in part, tight to trace poor intercrystalline porosity, no shows to ? shows.

705 - 716 m LIMESTONE - light to medium brown to grey brown, calcilutite to fine calcarenite, micrite to biomicrite, mudstone to wackestone, fossil debris, argillaceous to highly argillaceous, silty to highly silty @ base, tight, no shows.

716 - 728 m Siltstone with minor Limestone interbeds.

(Hare Indian) SILTSTONE - medium to dark brown, silt to very fine Sandstone, well cemented, highly calcareous grading to Silty Limestone, micaceous, argillaceous to highly argillaceous, dead oil stain, slow white streaming cut.

728 - 748 m Siltstone with Shale interbeds.

SILTSTONE - medium to dark brown, silt to very fine Sandstone, well cemented, calcareous cement, argillaceous to highly argillaceous, micaceous, disseminated pyrite, dead oil stain, slow white streaming cut.

SHALE - dark grey to black, fissile to subfissile, silty to highly silty, slightly carbonaceous.

Total Depth: Driller – 748.0 meters

Logger – 747.0 meters

CORING RECORD:

None cut

GAS DETECTION REPORT

depth m	rop min/m	tgu	depth m	rop min/m	tgu	depth m	rop min/m	tgu
125.5	0.2	1	333.5	5.1	67	541.5	9.5	35
126.5	0.2	1	334.5	4.7	73	542.5	9.3	28
127.5	0.2	1	335.5	7.6	72	543.5	9.2	29
128.5	1.9	1	336.5	12.5	90	544.5	9.4	31
129.5	0.2	1	337.5	11.8	91	545.5	9.4	32
130.5	0.2	1	338.5	11.6	91	546.5	10.2	33
131.5	0.2	1	339.5	11.8	94	547.5	8.8	35
132.5	0.2	1	340.5	9.1	85	548.5	7.5	34
133.5	0.2	1	341.5	7.8	86	549.5	8.3	36
134.5	0.2	1	342.5	4.3	96	550.5	8.4	35
135.5	1.5	3	343.5	4.4	106	551.5	9.5	30
136.5	0.8	4	344.5	4	105	552.5	10.4	30
137.5	1.8	16	345.5	3.4	113	553.5	8.5	31
138.5	3.9	50	346.5	4.3	81	554.5	8.6	33
139.5	4.3	46	347.5	3.3	88	555.5	8.5	44
140.5	4.3	35	348.5	10.2	88	556.5	9.3	33
141.5	4.3	37	349.5	12.8	79	557.5	15	32
142.5	4.4	39	350.5	10.3	73	558.5	8.8	34
143.5	4.4	36	351.5	11.9	83	559.5	9.6	40
144.5	4.3	34	352.5	10.9	83	560.5	8.6	40
145.5	3.3	31	353.5	11.6	83	561.5	7.7	45
146.5	3.4	40	354.5	11.3	68	562.5	8.3	44
147.5	3.4	44	355.5	10.3	74	563.5	7	48
148.5	3.2	52	356.5	13.5	58	564.5	7	40
149.5	3.3	59	357.5	12.4	53	565.5	6.8	43
150.5	3.3	61	358.5	15.1	57	566.5	7.9	45
151.5	3.8	66	359.5	14.4	49	567.5	18	44
152.5	3.3	66	360.5	13.4	46	568.5	7.8	56
153.5	2.3	44	361.5	14	45	569.5	8.8	62
154.5	2.4	70	362.5	17.8	62	570.5	8.3	62
155.5	1.5	92	363.5	12.6	55	571.5	7.9	59
156.5	1.8	92	364.5	11.3	54	572.5	8.5	60
157.5	2.3	103	365.5	11.3	53	573.5	7.7	56
158.5	2.3	103	366.5	11.8	55	574.5	8	52
159.5	2.3	102	367.5	12.1	53	575.5	6.9	52
160.5	2.4	102	368.5	11.5	52	576.5	7.6	53
161.5	2.8	96	369.5	11.7	53	577.5	5.4	86
162.5	2.9	94	370.5	11.7	59	578.5	7.8	115
163.5	2.2	76	371.5	8.9	113	579.5	6	159
164.5	1.9	97	372.5	9.5	156	580.5	2.9	118
165.5	2.1	107	373.5	10.1	141	581.5	2.4	333

166.5	2.2	110	374.5	10.2	71	582.5	4.8	372
167.5	2.6	109	375.5	8.5	64	583.5	5.3	308
168.5	2.8	97	376.5	7.9	54	584.5	7.7	384
169.5	2.5	78	377.5	7.9	54	585.5	8.3	356
170.5	2.7	70	378.5	7.4	55	586.5	7.5	294
171.5	3.2	69	379.5	8.3	61	587.5	6.5	238
172.5	3.5	60	380.5	8.5	60	588.5	7.9	222
173.5	3.3	53	381.5	8.1	66	589.5	8.3	84
174.5	2.8	61	382.5	7.5	68	590.5	9	75
175.5	3.7	61	383.5	7.8	68	591.5	10.6	91
176.5	3.9	60	384.5	8.3	68	592.5	10.8	65
177.5	2.7	46	385.5	8.2	69	593.5	9.2	60
178.5	3	53	386.5	7.2	79	594.5	8.5	51
179.5	2.7	54	387.5	7.4	74	595.5	11.4	44
180.5	4.2	50	388.5	6.6	79	596.5	17	41
181.5	5.8	50	389.5	6.8	77	597.5	11.3	41
182.5	4.5	29	390.5	6.7	79	598.5	11.3	37
183.5	4.6	34	391.5	6.3	80	599.5	10.4	23
184.5	3.3	33	392.5	6.7	80	600.5	11.3	21
185.5	3	40	393.5	7.4	81	601.5	11.8	20
186.5	3.1	42	394.5	6.7	75	602.5	10.7	21
187.5	2.8	42	395.5	5.9	72	603.5	12.5	22
188.5	3	44	396.5	6.4	78	604.5	13.4	22
189.5	2.1	44	397.5	10.4	74	605.5	18	30
190.5	2.3	59	398.5	9.2	75	606.5	12	41
191.5	3.1	63	399.5	6.9	79	607.5	12.2	45
192.5	2	35	400.5	7.4	79	608.5	11.7	45
193.5	2.1	57	401.5	6.8	82	609.5	12.5	47
194.5	2.8	60	402.5	7.3	84	610.5	10.9	39
195.5	2.8	57	403.5	6.4	85	611.5	9.9	36
196.5	2.7	51	404.5	6.6	94	612.5	9.2	45
197.5	2.3	52	405.5	6.1	95	613.5	9.5	45
198.5	2.8	62	406.5	5.6	85	614.5	9	52
199.5	2.8	63	407.5	5	85	615.5	19	59
200.5	2.6	60	408.5	5.6	86	616.5	10.3	51
201.5	3.5	54	409.5	5.6	88	617.5	9.7	51
202.5	3.5	52	410.5	5.5	93	618.5	9.2	54
203.5	2.8	52	411.5	5.9	95	619.5	8.4	74
204.5	2.9	52	412.5	5.8	91	620.5	8.4	77
205.5	3.1	55	413.5	5.4	90	621.5	8.8	77
206.5	3.3	62	414.5	5.4	95	622.5	8.2	80
207.5	2.9	57	415.5	4.5	103	623.5	7.4	81
208.5	2.7	51	416.5	4.8	104	624.5	9.8	80
209.5	2.8	53	417.5	5	102	625.5	7	76
210.5	3.2	53	418.5	5.1	103	626.5	9.1	72
211.5	2.8	47	419.5	5.1	103	627.5	11.4	66
212.5	2.9	56	420.5	5.3	105	628.5	10.4	63

213.5	3.1	60	421.5	5.3	105	629.5	10.9	60
214.5	2.8	60	422.5	5.2	105	630.5	12.3	63
215.5	2.7	60	423.5	6	104	631.5	8.3	83
216.5	2.7	61	424.5	6.4	85	632.5	8.9	71
217.5	2.7	62	425.5	4.7	113	633.5	11.5	76
218.5	2.8	73	426.5	5.1	117	634.5	11.3	73
219.5	2.9	74	427.5	6.8	117	635.5	8.6	91
220.5	3.3	57	428.5	7.2	90	636.5	8.9	86
221.5	2.9	65	429.5	6.1	96	637.5	11.4	77
222.5	2.9	31	430.5	5.5	96	638.5	11.3	78
223.5	3.1	90	431.5	5.4	99	639.5	10.4	71
224.5	2.7	120	432.5	5.4	100	640.5	10.6	71
225.5	2.6	77	433.5	6.5	90	641.5	10.5	57
226.5	2.4	99	434.5	6.4	112	642.5	10.3	56
227.5	2.4	91	435.5	7.5	95	643.5	11.9	53
228.5	2.6	91	436.5	6.9	90	644.5	11.8	45
229.5	3.1	89	437.5	6.8	86	645.5	9.7	55
230.5	2.9	71	438.5	6.2	88	646.5	11.7	56
231.5	2.4	68	439.5	6.2	88	647.5	10.6	47
232.5	2.4	92	440.5	5.5	91	648.5	10.8	51
233.5	2.2	91	441.5	6.7	91	649.5	10.4	46
234.5	2.5	109	442.5	7	83	650.5	9.5	51
235.5	2.6	109	443.5	6.8	83	651.5	9.5	43
236.5	2.6	98	444.5	5.5	104	652.5	9.8	42
237.5	2.6	107	445.5	5.5	102	653.5	11.3	41
238.5	2.4	108	446.5	5.5	101	654.5	11.8	40
239.5	4	103	447.5	5.8	103	655.5	13.3	48
240.5	2.3	72	448.5	5.8	100	656.5	13.6	39
241.5	2.1	121	449.5	5.3	108	657.5	9.7	45
242.5	2	138	450.5	5	111	658.5	9.6	40
243.5	1.8	138	451.5	4.8	112	659.5	8.7	43
244.5	2.6	136	452.5	5.5	103	660.5	7.5	73
245.5	1.9	121	453.5	4.8	110	661.5	9.1	39
246.5	2.4	110	454.5	5.2	115	662.5	9.8	49
247.5	2	112	455.5	5.8	109	663.5	13	44
248.5	2.9	109	456.5	5.9	105	664.5	12	34
249.5	2.8	65	457.5	5.3	110	665.5	11	34
250.5	1.3	99	458.5	5	114	666.5	12	28
251.5	1.6	111	459.5	5.3	115	667.5	13	28
252.5	1.6	112	460.5	5.2	115	668.5	13.2	25
253.5	1.6	109	461.5	5.7	115	669.5	10.8	42
254.5	1.5	110	462.5	6.8	110	670.5	10.2	48
255.5	1.5	107	463.5	7.7	124	671.5	11.5	40
256.5	1.6	91	464.5	7.6	101	672.5	14.3	35
257.5	1.7	74	465.5	8.8	107	673.5	13	30
258.5	1.7	94	466.5	7.1	107	674.5	12.5	20
259.5	2	102	467.5	6.2	104	675.5	16	24

260.5	1.3	103	468.5	6.4	107	676.5	16.7	24
261.5	1.4	57	469.5	6.4	109	677.5	14.8	29
262.5	1.5	76	470.5	6.4	113	678.5	10.3	31
263.5	1.4	89	471.5	7	112	679.5	15	34
264.5	1.6	94	472.5	7.5	103	680.5	9.7	35
265.5	1.6	90	473.5	7	97	681.5	12.6	38
266.5	1.4	82	474.5	9	90	682.5	17.3	36
267.5	2.5	68	475.5	10.8	87	683.5	23	33
268.5	3.2	63	476.5	8.6	70	684.5	22.1	34
269.5	3.7	74	477.5	8.8	70	685.5	19.9	25
270.5	2.8	115	478.5	8.3	65	686.5	15.8	25
271.5	2.3	128	479.5	8.8	68	687.5	13.2	28
272.5	2.3	165	480.5	8.5	63	688.5	13.5	26
273.5	1.7	165	481.5	10.2	63	689.5	14.2	22
274.5	1.7	155	482.5	8	56	690.5	13.4	24
275.5	2	155	483.5	8.8	52	691.5	14.8	25
276.5	3.3	150	484.5	10.1	53	692.5	12.1	21
277.5	3.9	135	485.5	10.6	53	693.5	15.1	21
278.5	3.3	156	486.5	11	53	694.5	13.4	21
279.5	3.5	149	487.5	12.8	50	695.5	15	20
280.5	2	139	488.5	11.4	45	696.5	10.7	37
281.5	1.9	186	489.5	11.5	38	697.5	10.7	46
282.5	1.8	192	490.5	10	41	698.5	12.6	34
283.5	1.7	195	491.5	12.1	39	699.5	13.6	34
284.5	1.9	199	492.5	9.3	33	700.5	13	32
285.5	2	200	493.5	7.4	35	701.5	12.5	28
286.5	1.8	206	494.5	7.2	39	702.5	12.8	29
287.5	2.3	206	495.5	8.9	36	703.5	11.1	34
288.5	2.9	180	496.5	6.7	35	704.5	11.7	48
289.5	3	103	497.5	9.1	32	705.5	11.3	56
290.5	3.4	147	498.5	12.3	31	706.5	11.3	49
291.5	2.4	186	499.5	8.9	31	707.5	10.6	40
292.5	2.6	183	500.5	6	33	708.5	10.8	42
293.5	2.8	180	501.5	8.1	33	709.5	11.3	40
294.5	2.1	178	502.5	8.8	32	710.5	10.3	61
295.5	2.1	189	503.5	9.2	30	711.5	10.4	59
296.5	2.2	190	504.5	9.3	30	712.5	13.2	40
297.5	2.5	185	505.5	9.2	30	713.5	13.4	43
298.5	4.9	174	506.5	9.3	30	714.5	11.1	66
299.5	3.8	158	507.5	9.6	27	715.5	11.3	84
300.5	3.3	133	508.5	13.9	27	716.5	11.1	60
301.5	3.3	135	509.5	9.8	26	717.5	12.3	243
302.5	3.2	136	510.5	11.8	25	718.5	11.5	141
303.5	4.8	136	511.5	9.8	21	719.5	10.7	176
304.5	8.1	122	512.5	10.3	24	720.5	11.9	105
305.5	6.4	83	513.5	10.1	23	721.5	13.5	117
306.5	7	73	514.5	10.3	23	722.5	13.3	115

307.5	5.9	71	515.5	10.5	26	723.5	13.3	260
308.5	5.8	72	516.5	10.9	25	724.5	11.2	125
309.5	8.3	123	517.5	12.1	24	725.5	11.5	135
310.5	8.3	98	518.5	14.6	36	726.5	10.3	100
311.5	7.6	75	519.5	10.3	28	727.5	11.9	120
312.5	7.4	73	520.5	10.5	31	728.5	7.3	127
313.5	6.8	68	521.5	9.8	36	729.5	8	132
314.5	6.1	60	522.5	10.2	38	730.5	8.5	131
315.5	7.9	64	523.5	9.4	38	731.5	12	138
316.5	5.5	67	524.5	9.1	39	732.5	9.1	125
317.5	5.4	70	525.5	9.3	34	733.5	9.4	145
318.5	4.3	67	526.5	9.4	31	734.5	7.6	161
319.5	5.1	73	527.5	11.3	29	735.5	7	172
320.5	4.3	84	528.5	12	32	736.5	8.2	172
321.5	5	82	529.5	7.8	34	737.5	8.4	183
322.5	6	145	530.5	9.3	36	738.5	8.4	188
323.5	5.3	152	531.5	8.5	40	739.5	7.8	190
324.5	4.8	109	532.5	8.2	39	740.5	9.2	191
325.5	4.9	102	533.5	7.9	40	741.5	9.7	170
326.5	4.5	103	534.5	7.9	43	742.5	8.3	185
327.5	5.6	88	535.5	7.8	42	743.5	8	189
328.5	5.6	83	536.5	7.8	35	744.5	8.4	167
329.5	5	86	537.5	10.7	31	745.5	8	154
330.5	8.8	84	538.5	7.8	29	746.5	8.4	160
331.5	9.3	101	539.5	7.3	32	747.5	8.9	143
332.5	8.4	65	540.5	9.4	32	748.5	0.1	172

Summary of total gas response:

<u>Depth</u>	<u>TGU</u>
125-225	30-110
225-270	60-140
270-304	115-205
304-350	70-150
350-475	80-120
475-487	50-80
550-577	30-60
577-590	180-380
590-615	20-90
615-640	50-90
640-675	20-80
675-716	40-70
716-725	100-260
725-748	100-200

Significant total gas response summary:

<u>Depth</u>	<u>TGU</u>	<u>Avg. Background</u>	<u>Interpr. Lithology</u>
371-375	156	55	sandstone
580-590	380	80	limestone
660	73	40	limestone

WELL EVALUATION

RUN 1

Logging Company: Schlumberger **Engineer:** Sean McConkey
District: Norman Wells **Truck No.:** 8416
Circulation Ended: 2345 Hrs. 00/03/10 **Finish Trip:** 0430 Hrs. 00/03/11
On Location: 1930 Hrs. 00/03/10 **Off Location:** 1400 Hrs. 00/03/11
Rig Up: 0430 Hrs. 00/03/11 **Rig Down:** 1230 Hrs. 00/03/11
Mud Properties: **Mud Type:** Gel Chem **BHT:** 35.0°C
 Density: 1130 **Rmf:** 0.92 @ 17.0 °C
 Viscosity: 60
 WL: 9.5
 pH: 10.0

Services:

<i>Log</i>	<i>Interval Logged</i>	<i>Meters Logged</i>	<i>Comments</i>
CNL-LDT-DLL	747.0 to 485.0	262.0	1:240 & 1:600
BHCS-GR	747.0 to 485.0	262.0	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	00/03/11	0530	0615	0730	0830	3.00
BHCS-GR	00/03/11	0930	1015	1030	1145	2.25

Logging Time: 5.25 Hours **Rig Up/Down:** 2.75 Hours

Time Losses: 0 Hours **Total Logging Time:** 8.00 Hours

Remarks: Compensated Neutron logged to surface. Arrived on location early to ensure satellite communication. Operation slowed due to extremely cold conditions. Tools heated in hole near surface to avoid leaks. Good job. Fast, friendly & proficient service.

DRILL STEM TESTS

None

MUD REPORT

Mud up @ 472 meters

Date	Depth (m)	Density (kg/m3)	Viscosity (s/l)	pH	Water Loss
3/6/00	487	1060	57	10.5	7.2
3/7/00	487	1060	56	10.0	
3/8/00	528	1070	48	11.0	14.0
3/9/00	661	1110	63	10.0	9.2
3/10/00	748	1130	57	9.5	9.9
3/11/00	748	1110	43		

E. APPENDICES TO WELL HISTORY

(See Table of Contents)

GEOLOGICAL PROGNOSIS

AEC(West) Renaissance Carcajou O-74

location: 65° 33' 48.06104"N, 128° 13' 59.28895"W

NAD1927

Line 99CAR99-02 shot point 237

Formation	Drill Depth(TVD)	Subsea depth	interval	Lithology
KB	0	+111m	0	
Surface GL	4m	+107m	4m	air
Pleistocene	4m	+107m	15m	Tundra, Gravel/ sands/silty-shale
Cretaceous	19m	+92m	346m	Shale/silt/sand//Basal sand thin
Devonian Imperial	365m	-254m	219m	Shale slightly silty dk.Grey
Mid Devonian Canol	584m	-473m	5m	Shale Black(source rock)
Kee Scarp *	589m	-478m	223m	Limestone(tight/porous) *objective
Hare Indian	712m	-601m	63m	Shale-silty dk.grey/green
Total Depth projected	775m	-664m		

Objective: Kee Scarp

Core 9m in Objective

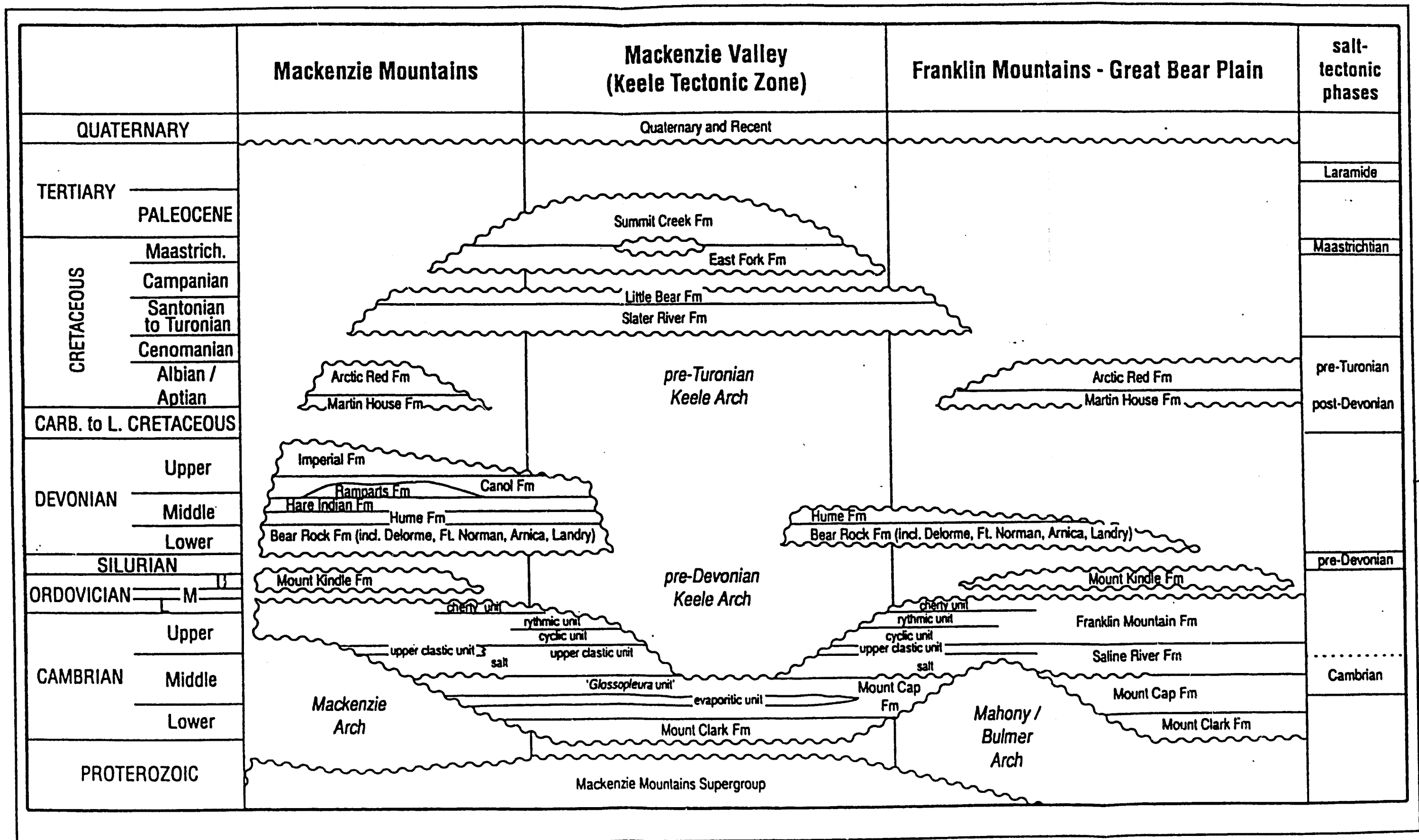


Fig. 5. Regional stratigraphic and tectonic relationships chart including salt tectonic phases in the study area.

From: B.C. Maclean and D.G. Cook, 1999; Bull. Cdn. Petr. Geol., vol. 47.

Insert 5 year data here



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 O-74

Operator: AEC OIL & GAS

Contractor: Akita Drilling Ltd.

Drilling Rig or Unit: Rig #14

Location-Unit: O

Section: 74

Coordinates: Lat.: 65 33' 48".06104

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

Elevation-KB/RT: 110.95m (est.) (ASL)

Approx. Spud Date: February 2., 2000

Anticipated Total Depth: 775m

Drilling Program No.:

Interest Identifier:

Estimated Well Cost: \$1,400,000

Grid Area: 65 40', 128 00'

Long.: 128 13' 59".28895

Field / Pool: Exploratory

GL / Seafloor: 106.95m

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

Canned sample intervals None

Conventional cores at Possible Core in the Kee Scarp

Logs and Tests DLTE/MSFL/LDTD/CNTH/SGTL/BHC/GR; 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	125m	Arctic Set
177.8	34.2	J-55	470m	RFC + add.
114.3	14.14	J-55	775m	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

Date: 2000/01/07

Company: AEC Oil & Gas

Phone: (403) 213-2629

APPROVAL

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

Date: Feb 11/2000

File: 9211-A061-2-1

WD: 1888

UWI: 3000746540128000

Signed:

Chief Conservation Officer

Canada
444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S.-O.

Telephone/Téléphone : (403) 292-4800
Facsimile/Télex : (403) 292-5876
<http://www.neb.gc.ca>
01/07/99
H:\DOCUMENT\Formatadwinm.upd

AEC (WEST) RENAISSANCE CARCAJOU O-74

DEVIATION RECORD

Survey No.	Depth (meters)	Deviation (degrees)	Interval (meters)
1	169	0.250	169
2	279	1.000	110
3	354	1.000	75
4	402	1.000	48
5	450	1.500	48
6	487	1.500	37
7	496	1.100	9
8	506	1.300	10
9	515	1.200	9
10	525	1.400	10
11	535	1.400	10
12	544	1.800	9
13	554	2.100	10
14	583	1.400	29
15	593	1.800	10
16	602	0.200	9
17	622	0.700	20
18	631	0.900	9
19	641	0.800	10
20	661	1.000	20
21	670	0.700	9
22	683	0.700	13
23	704	0.600	21
24	722	0.400	18
25	729	0.400	7
26	735	0.400	6
27	748	0.400	13

Summary of Service Costs

Alberta Energy Company Ltd.

Wellbore Name	AEC (WEST) REN CARCAJOU O-74	AFE Numbers	000892	Supervisor	P. Donnelly
Service Start Date	Mar 23, 2000	Service End Date	Mar 29, 2000		

[illegible]

AEC (WEST) RENAISSANCE CARCAJOU O-74

WELL DATA SUMMARY

Company: AEC (West)

Well Name: AEC (West) Renaissance Carcajou O-74

Surface Location: 65°33'48.24649", 128°14'06.27211"

Surface Co-ordinates: Northing: 7271461.557, Easting: 535309.098

Elevations: *Ground:* 107.0 meters
Kelly Bushing: 111.3 meters
K.B. to Ground: 4.3 meters

Unique Well I.D.: 300O746540128000

Field: Exploratory

Classification: NPW

Objectives: *Primary* – Kee Scarp

Terminating Zone: Hare Indian

Security: Tight

AFE Number: 5000045

Licence Number: 1888

Spud Date: 1245 Hrs., March 5, 2000

Total Depth: 748 meters @ 1950 Hrs, March 10, 2000

AEC (WEST) RENAISSANCE CARCAJOU O-74

Sampled Interval: **AEC/Ren:** 131.5 to 748 meters (5 & 2.5 meter intervals)
Gov't: 131.5 to 748 meters (5 & 2.5 meter intervals)

Contractor: Akita Drilling # 14

Drilling Supervision: Steve Holyoake

Geological Supervision: Glen MacIntosh

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

Surface Casing: **Size:** 244.5 mm
Type: 10 joints of 53.57 kg/m J-55
Landed @ 127.2 meters from G.L.
Cement: 8.0 Tonnes Arctic Set + additives
Plug down @ 0538 Hrs February 25, 2000

Intermediate Casing: **Size:** 177.8 mm
Type: 39 joints of 34.2 kg/m J-55
Landed @ 485.7 meters
Cement: 10.8 Tonnes RFC + additives
Plug down @ 0305 Hrs March 7, 2000

Production Casing: **Size:** 114.3 mm
Type: 59 joints 14.1 kg/m J-55 ST-C
Landed @ 748 meters
Cement: 9.0 Tonnes RFC + additives
Plug down @ 2030 Hrs March 11, 2000

Open Hole Logs: Schlumberger

Log	Interval Logged	Scale
CNL-LDT-DLL	741 to 485 meters	1:240 & 1:600
BHCS-GR	745 to 485 meters	1:240 & 1:600

Final Status: Casing ran to evaluate possible Kee Scarp oil well

Rig Release: 2400 Hrs, March 11, 2000

AEC (WEST) RENAISSANCE CARCAJOU O-74

DAILY PROGRESS SUMMARY

Date	Costs	Depth @ 2400 Hrs.	Progre ss (meters)	ROP	Formation	Operation	Operations Summary
3/4/00	\$251,931	125	27			Rig up	Move rig from P-16 location & rig up. Surface set ahead of time with Layne Christensen rig @ 125m.
3/5/00	\$293,581	307	182	18.7	Cretaceous	Drill	Nipple up & pressure test. Make up Bit #1 & run in hole. Drill out cement. Spud well 1245 Hrs. Drill ahead & survey.
3/6/00	\$610,386	476	169	7.4	Imperial	Drill	Drill ahead & survey.
3/7/00	\$691,729	487	11	4.9	Imperial	Weld on bowl	Drill ahead to 482m. Circulate. Pull wiper trip. Drill ahead to casing point of 487m. Circulate. Pull out of hole. Rig to & run 177.8mm casing. Circulate. Rig to & cement casing. WOC. Nipple up. Weld on bowl.
3/8/00	\$736,489	528	41	12.6	Imperial	Drill	Nipple up & pressure test. Make up directional tools & bit #2. Run in hole. Drill out cement. Drill ahead & survey.
3/9/00	\$776,736	661	133	6.2	Kee Scarp	Drill	Drill ahead & survey.
3/10/00	\$815,520	748	87	5.0	Hare Indian	Circulate	Drill ahead & survey to T.D. Wiper trip. Circulate
3/11/00	\$933,544	748	0	0.0	Hare Indian	Rig release	Pull out of hole. Lay down directional tools. Rig in & log with Schlumberger. Lay down drill string. Run 114mm casing. Circulate. Rig to & cement casing. Tear out rig. Release rig 2400 Hrs.

AEC (WEST) RENAISSANCE CARCAJOU O-74

MUD RECORD

Mud up @ 472 meters

Date	Depth (m)	Density (kg/m3)	Viscosity (s/l)	pH	Water Loss
3/6/00	487	1060	57	10.5	7.2
3/7/00	487	1060	56	10.0	
3/8/00	528	1070	48	11.0	14.0
3/9/00	661	1110	63	10.0	9.2
3/10/00	748	1130	57	9.5	9.9
3/11/00	748	1110	43		

AEC (WEST) RENAISSANCE CARCAJOU O-74

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		
1	FDS+2	222	487	487	62.8	14000	100	3	1	E	7.8	Int. casing pt.
2	MF2P	156	748	261	42.3	8000	200	2	2	2	6.2	T.D.

AEC (WEST) RENAISSANCE CARCAJOU O-74

OPEN HOLE LOG SUMMARY

RUN 1

Logging Company: Schlumberger **Engineer:** Sean McConkey
District: Norman Wells **Truck No.:** 8416
Circulation Ended: 2345 Hrs. 00/03/10 **Finish Trip:** 0430 Hrs. 00/03/11
On Location: 1930 Hrs. 00/03/10 **Off Location:** 1400 Hrs. 00/03/11
Rig Up: 0430 Hrs. 00/03/11 **Rig Down:** 1230 Hrs. 00/03/11
Mud Properties: **Mud Type:** Gel Chem **BHT:** 35.0°C
 Density: 1130 **Rmf:** 0.92 @ 17.0 °C
 Viscosity: 60
 W/L: 9.5
 pH: 10.0

Services:

<i>Log</i>	<i>Interval Logged</i>	<i>Meters Logged</i>	<i>Comments</i>
CNL-LDT-DLL	747.0 to 485.0	262.0	1:240 & 1:600
BHCS-GR	747.0 to 485.0	262.0	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	00/03/11	0530	0615	0730	0830	3.00
BHCS-GR	00/03/11	0930	1015	1030	1145	2.25

Logging Time: 5.25 Hours **Rig Up/Down:** 2.75 Hours
Time Losses: 0 Hours **Total Logging Time:** 8.00 Hours

Remarks: Compensated Neutron logged to surface. Arrived on location early to ensure satellite communication. Operation slowed due to extremely cold conditions. Tools heated in hole near surface to avoid leaks. Good job. Fast, friendly & proficient service.

POST WELL ANALYSIS REPORT

AEC OIL & GAS CO. LTD.
POST WELL ANALYSIS REPORT FOR
AEC RENAISSANCE CARCAJOU
A-0-74-A/104-N-16

RD
H
MAY 29 2000

Schlumberger Anadrill

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

Schlumberger

40004609

AEC OIL & GAS CO. LTD.
POST WELL ANALYSIS REPORT FOR
AEC RENAISSANCE CARCAJOU
A-0-74-A/104-N-16

Job Identification

Alberta Energy Corp

Project ID: AEC Renaissance Carcajou O-74

Pad ID: Single well

Well ID: AEC Renaissance Carcajou O-74

Unique ID: 200/ A-O-74-A/ 104-N-16/ 00

Operator: Alberta Energy Corp

Address: 3700, 707-8th AVE SW
Calgary, Alberta
T2P-1H5

Co Rep: Steve Holyoake

Contractor: Akita Drilling

Rig ID: Akita #14

Pusher: Logan Wild

Service Co: Anadrill - Schlumberger

District: Calgary, Alberta

DD Eng(s): Eric Erickson

DD Eng(s):

MWD Eng(s): Barry Timmerman

MWD Eng(s):

Start Date: Sunday March 5, 2000

Release Date: Saturday march 11, 2000

Total Days: 7

Schlumberger

Anadrill

JOB NUMBER
40004809

Well Specifications

Alberta Energy Corp

Well Name: AEC Renaissance Carcajou O-74

Well Number: 200/ A-O-74-A/ 104-N-16/ 00

Field Name: Carcajou

Area: Fort Good Hope

KB level (above sea): 111.30 m

Magnetic Declination

Ground Level (above sea): 107.10 m

31.6

KB to Ground level : 4.20 m

Surface Location

N/S Coord:

E/W Coord:

Target Loc: Planned

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

N/-S Coord: vertical

N/-S Coord: 0.27m

E/-W Coord:

E/-W Coord: 1.52m

TVD:

TVD: 747.95m

Target Radius: vertical

Well Descriptions

Alberta Energy Corp

AEC Renaissance Carcajou O-74
200/ A-O-74-A/ 104-N-16/ 00

Project Description: Proposed

This is a vertical well that will be kept vertical using motors and MWD.

Project Description: Actual

We arrived from Akita #51 too late to pick up tools for main hole.

4.75" tools were sent up from Calgary via Pentastar transport so we could use them for the bottom section of this hole. 16.5 meters of slid were required to keep this hole straight AEC wanted to drill this bottom section with a PDC bit , but the bit did not arrive in time.

A MF2 was run instead, the bit only drilled at 5.5m per hour. The bottom section was drill very smoothly with TD being called at 748m. This is a tight hole.

Final Survey

Client: Alberta Energy Company
 Field: CARCAJOU (CDN)
 Structure: AEC / A-O-74-A/104-N-16
 Well: AEC CARCAJOU A-O-74-A/104-N-16
 Borehole: Job# 40004609
 UWWAPI#:
 Date: May 18, 2000
 Grid Convergence: 0.00000000°
 Scale Factor: 1.00269630

Location: N 0 0 0.000, W 121 29 19.478
 : N 0.000 m, E 0.000 m
 Coordinate System: NAD83 UTM Zone 11N

Survey Computation Method: Minimum Curvature
 DLS Computation Method: Lubinski
 Vertical Section Azimuth: 0.000°
 Vertical Section Origin: N 0.000 m, E 0.000 m
 TVD Reference: KB
 111.3 m above MSL
 Magnetic Declination: 9.413°
 Total Field Strength: 31246.844 nT
 Dip: 8.818°
 Declination Date: April 05, 2000
 Magnetic Declination Model: BGGM 1999
 North Reference: True North
 Coordinate Reference To: Well Head

Station ID	MD (m)	Incl (°)	Azim (°)	TVD (m)	VSec (m)	N-S (m)	E-W (m)	Closure (m)	at Azim (°)	DLS (°/30m)	TF (°)
Tie-In	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.0		0.0 M
	486.00	0.00	0.0	486.00	0.00	0.00	0.00	0.00	0.0	0.00	54.1 M
	496.00	1.10	54.1	496.00	0.06	0.06	0.08	0.10	54.1	3.30	52.7 M
	505.70	1.30	52.7	505.70	0.18	0.18	0.24	0.30	53.6	0.63	53.4 M
	515.40	1.20	53.4	515.39	0.30	0.30	0.41	0.51	53.4	0.31	56.9 M
	525.10	1.40	56.9	525.09	0.43	0.43	0.59	0.73	53.9	0.67	63.2 M
	534.80	1.40	63.2	534.79	0.55	0.55	0.80	0.97	55.4	0.48	70.3 M
	544.50	1.80	70.3	544.49	0.65	0.65	1.04	1.23	58.0	1.38	71.0 M
	554.20	2.10	71.0	554.18	0.76	0.76	1.36	1.56	60.7	0.93	71.0 M
	563.90	1.90	71.0	563.87	0.87	0.87	1.68	1.89	62.5	0.62	77.3 M
	573.60	1.10	77.3	573.57	0.95	0.95	1.92	2.14	63.8	2.52	76.6 M
	583.20	1.40	76.6	583.17	0.99	0.99	2.12	2.34	64.9	0.94	49.9 M
	592.90	1.80	49.9	592.86	1.12	1.12	2.36	2.61	64.6	2.58	-22.8 M
	602.60	0.20	337.2	602.56	1.23	1.23	2.46	2.76	63.4	5.42	-7.1 M
	612.30	0.20	352.9	612.26	1.26	1.26	2.46	2.76	62.8	0.17	-107.6 M
	622.00	0.70	252.4	621.96	1.26	1.26	2.40	2.71	62.2	2.36	-127.3 M
	631.70	0.90	232.7	631.66	1.20	1.20	2.28	2.58	62.3	1.04	-119.6 M
	641.40	0.80	240.4	641.36	1.12	1.12	2.16	2.43	62.6	0.47	-125.9 M
	651.10	1.00	234.1	651.06	1.04	1.04	2.03	2.28	63.0	0.69	-123.1 M
	660.70	1.00	236.9	660.66	0.94	0.94	1.90	2.12	63.6	0.15	-144.9 M
	670.40	0.70	215.1	670.36	0.85	0.85	1.79	1.98	64.7	1.35	-149.8 M
	680.10	0.60	210.2	680.06	0.75	0.75	1.73	1.89	66.4	0.35	-159.6 M
	689.80	0.50	200.4	689.76	0.67	0.67	1.69	1.82	68.4	0.42	-154.7 M
	699.50	0.50	205.3	699.46	0.59	0.59	1.66	1.76	70.3	0.13	-146.3 M
	709.10	0.40	213.7	709.06	0.53	0.53	1.62	1.71	72.0	0.37	-142.8 M
	718.80	0.50	217.2	718.76	0.47	0.47	1.58	1.64	73.6	0.32	168.0 M
	728.50	0.40	168.0	728.45	0.40	0.40	1.56	1.61	75.7	1.19	-157.8 M
	735.00	0.40	202.2	734.95	0.36	0.36	1.55	1.59	77.1	1.09	-152.0 M

Station ID	MD (m)	Incl (°)	Azim (°)	TVD (m)	VSec (m)	N-S (m)	E-W (m)	Closure (m)	at Azim (°)	DLS (°/30m)	TF (°)
Extrapolation to TD	748.00	0.40	208.0	747.95	0.27	0.27	1.52	1.54	79.8	0.09	---

Survey Program:

Measured Depth

0.00

748.00

Tool (Wolff & deWardt Error Model)

None

None

Schlumberger

Alberta Energy Corp

JSO#	40004609	Hole Size: 156 mm	Depth In: 487 m	Depth out: 748 m	Mtr. Drig: 281 m	BHA # 1					
Well	AEC Renaissance Can	Last cas. @	487.0m	Date In	Mar 08 00	Date Out	Mar 11 00	Days	4.0	SPP Off	7700.0 MPa
LSD	200/ A-O-74-A/ 104-N-1	Bit to Svy.	13.0 m	PDM Run #	1	Drig hrs	48.75 hrs	Circ. Hrs	5.5 hrs	SPP On	9900.0 MPa
Pad ID	Single well	React. Torq.	45	Mot. Vend.	Anadrill	Avg. ROP	5.58 m/hr	Tot. D&C	52.3 hrs	Differential	2200.0 MPa
Field	Carcajou	Rot. Torq	70	R/S conf.	7:8 2.2	verse ROP	10.8 min/m	Pump #	1	Pump #	
Prov.	N W T	Inc. In	1.1 deg	ABH Set	1.15	Slide Dist.	18.5 m	Pump Man.	En:oco	Pump Man.	
Rig	Akita #14	Azm. In	54.1 deg	Motor RPM	120	Rotate Dist.	244.5 m	Pump Type	F-500	Pump Type	
Co.Rep	Steve Holyoake	Inc. Out	0.4 deg	Rot. RPM	50	Slide Hrs.	2.96 hrs	Tri /Dup	Triplex	Tri /Dup	
Rig Man	Logan Wild	Azm. Out	208.0 deg	Avg. WOB	6/8	Rot. Hrs.	43.79 hrs	Stroke	181 mm	Stroke	
DD	Eric Erickson	MWD	Barry Timmerm	BHA Wt.	10000 maN	Slide ROP	5.57 m/hr	Liner	152 mm	Liner	
DD		MWD		String Wt	28 maN	Rot. ROP	5.23 m/hr	Strks / min	90	Strks / min	
DD		MWD		P/U Wt.	30 maN	Steering	15.8%	Vol(strk)	.0104cu. m	Vol(strk)	
DD		MWD		S/O Wt.	28 maN	Rotate	84.8%	Volume	0.94 m3	Volume	
Mud	Gel	Mud Vis	60 sec/L	Sand		Chlorides		YP		PH	9.0
Mud Wt	1120 kg/cu. m	WL	9.5 cc's	Solid cont		Oil/Water		PV		MWD BHT	29.8 deg/C

Item	#	Description	Vendor	Serial #	Max OD	OD	ID	B. Conn	T. Conn	Length	Cum Len
1	1	MF2 P 3 X15.9	SMITH	LT8148		156			3.5 Reg	0.25	0.25
2	1	4.75 Motor 7:8 2.2@1.15	Anadrill	475-14-102	136	121		3.5 Reg	3.5 IF	5.51	5.76
3	1	Float Sub	Anadrill	1312104		119	0.53	3.5 IF	3.5 IF	0.88	6.64
4	1	UBHO Sub	Anadrill	1412193		120	0.59	3.5 IF	3.5 IF	0.66	7.30
5	1	NMDC	Anadrill	2112111		120	0.58	3.5 IF	3.5 IF	9.47	16.77
6	1	NMDC	Anadrill	46300035		121	0.58	3.5 IF	3.5 IF	9.48	26.25
7	10	DC's	Akita			121	0.58	3.5 IF	3.5 IF	94.90	121.15
8	1	X/Over	Akita			121	0.58	3.5 IF	4 FH	0.47	121.62
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Exp. :	Bit condition									
Act. :	Cutting structure B G Remarks									
Com.:	IADC	Inner	Outer	MDC	LOC	BRG	GAUG	ODC	REASON	
	code	rows	rows				1/16		PULLED	
	517									

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

Drill Collars		Hevi-Wate drill pipe		Motor Nut - Anadrill's Motors	
4.5 H90	23000 ft lb / 31200 N-m	2.9 AOH	3500 ft lb / 4700 Nlm	2.38	890 ft lb / 1200 N-m
4 IF/4.5XH/NC46	22200 ft lb / 30100 N-m	2.9 H90	4600 ft lb / 6200 Nlm	2.87	1650 ft lb / 2200 N-m
4.6 FH	19600 ft lb / 26800 N-m	3.5 IF / NC38	9900 ft lb / 13400 Nlm	3.38	3600 ft lb / 4900 N-m
3.5 IF / NC38	9900 ft lb / 13400 N-m	4 FH / NC40	13250 ft lb / 18000 Nlm	4.76	10000 ft lb / 13600 N-m
2.9 AOH	3500 ft lb / 4700 N-m	4 IF / 4.5 XH / NC46	21800 ft lb / 29800 N-m	6.26	20000 ft lb / 27100 N-m
2.9 H90	4600 ft lb / 6200 N-m	4.5 IF / 5 XH / NC50	29400 ft lb / 39900 N-m	6.75	25000 ft lb / 33900 N-m
PH6	5500 ft lb / 7500 N-m	5.5 FH	33200 ft lb / 45000 N-m	8	35000 ft lb / 47500 N-m
VO55	3750 ft lb / 5100 N-m	6.635 FH	46900 ft lb / 63600 N-m	9.62	30000 ft lb / 41300 N-m

414092

9090449780

Schlumberger		AEC Renaissance Carcajou O-74	
JOB NUMBER 4609	DATE TUES MARCH 7, 2000	COMPANY Alberta Energy Corp	WELL NAME AEC Renaissance Carcajou O-74
COMPANY REPRESENTATIVE Steve Holyake	WIG NAME Akita #14	LOCATION Carcajou O-74	
DELINE RECORD		TIME RECORD	
BIT NUMBER	TIME	FROM	TO
BIT SIZE			
BIT TYPE			
JETS (mm)			
DEPTH IN			
DEPTH OUT			
METERS			
HOURS			
ROP (m/hr)			
RPM			
WOB			
PP ON			
PP OFF			
STD WT			
PUMP/T			
STD WT			
PUMP DATA		COST ESTIMATE	
PUMP MAN.		LIST SUPPLIER (if not Anydill)	COST
PUMP MOD.		SUPERVISION 2 @ 2500.00	\$ 1,400.00
Triplex/Double		FLAT RATE	
LINE		MOTOR HRS 200.00	
STROKE		MOTOR DAILY	
CIL M/STK		MOTOR STDY	
STK/MIN		JARS	
VOLUME		S. SHOT KIT 125.00	
		UBNO SUB 25.00	
		MOMEL 125.00	
		STABILIZERS	
		TR REAMER	
		MWD SUPER 2 @ 550.00	\$ 1,100.00
		MWD SYSTEMS 2800.00	
		GAMMA RAY	
		GAMMA RAY (STDY)	
		CHPTR & WELL FILE 350.00	\$ 350.00
		MWD STANDBY 2 @ 1000.00	\$ 2,000.00
		SUSPENSION (Camp?)	
		No camp 75.00	
		VER. LIC. #	KM TODAY
			0.75
			\$
			4,750.00
			4,750.00
MUD TYPE (Col. sec.)		DOWNHOLE MOTORS	
MUD WEIGHT			
VISCOSITY (sec/L)			
WATER LOSS			
PH			
SAND			
TEMPERATURE (°C)			
TOTAL		TOTAL	
TOTAL LENGTH		TOTAL LENGTH	
PERSONNEL		TARGET TVD @ TIME	
DD: Eric Erickson	MWD: Barry Timmerman	AFE NUMBER 9000845	CONTRACT NUMBER
DD:	MWD:	FIELD CELL #	CO. MAN'S CELL #
DD:	MWD:	SIGNATURE OF COMPANY'S REPRESENTATIVE	
DD:	MWD:	<i>Steve Holyake</i>	

- 9210/320

Schlumberger Anadriell

JOB NUMBER	DATE	COMPANY	WELL NAME
	WED MARCH. 8, 2000	Alberta Energy Corp	AEC Renaissance Carcajou 0-74
COMPANY REPRESENTATIVE	RIG NAME	LOCATION	
Steve Holyoake	Akita #14	Carcajou 0-74	

DRILLING RECORD				TIME RECORD				COST ESTIMATE			
BIT NUMBER	1	TIME	FROM	TO	DESCRIPTION	LIST SUPPLIER (If not Anadriell)	COST				
BIT SIZE	158.0	2.00	2.00	2.00	Weld on Casing Bowl	SUPERVISION 1 @	700.00	\$	700.00		750
BIT TYPE	MP2 P	0.25	2.00	2.15	Pressure Test Bowl	FLAT RATE	210				
JETS (mm)	15.9	2.00	2.15	4.15	Nipple up	MOTOR HRS 9.75 @	200.00	\$	1,950.00		2047.50
DEPTH IN	480 m	1.75	4.15	6.00	Pressure Test	MOTOR DAILY					
DEPTH OUT		3.50	6.00	9.30	Make up BHA	MOTOR STBY					
METERS	42 m	1.25	9.30	10.45	Pick up 20 DC's	JARS					
HOURS	7.50	0.75	10.45	11.30	RIH	S. SHOT KIT	125.00				
ROP (m/hr)	5.6	2.00	11.30	13.30	Pressure Test	FLOAT SUB 1	25.00	\$	25.00		370
RPM	30/120	0.25	13.30	13.45	BOP Drill	MONEL 2	125.00	\$	250.00		
WOB	45	0.25	13.45	14.00	Rig Service	X/OVER	25.00				
PP ON	9000	2.00	14.00	16.00	Ortl Out Shoe	STABILIZERS					
PP OFF	7700	4.00	16.00	20.00	Directional Drill	TB REAMER					
STG WT	25	0.25	20.00	20.15	BOP Drill	MWD SUPER 1 @	600.00	\$	600.00		550
PAI WT	25	3.60	20.15	23.45	Directional Drill	MWD SYSTEMS 1	2800.00	\$	2,800.00		3000
S/O WT	25	0.25	23.45	0.00	Accumulated Surveys	GAMMA RAY					
PUMP DATA						GAMMA RAY (STDBY)					
PUMP MAN.	Emaco					CMPT & WELL PLAT					
PUMP MOD.	F-500					EQUIPMENT STANDBY					
Triplex/Duplex	Triplex										
LINER	152mm										
STROKE	191mm					SUBSISTENCE (Camp?)					
CUL M/STK	0.0104					camp					
STKRS/min	90					MESSAGE					
VOLUME	0.94					VEH. LIC. #					
MUD REPORT						KM TDY/KM ACC					
MUD TYPE (Gel. sol.)	Gel										
MUD WEIGHT	1050										
VISCOSITY (sec/L)	48										
WATER LOSS											
pH	9.5					KM TODAY	0.75	\$			
SAND						KM ACCUM.					
TEMPERATURE (°C)	24.00	TOTAL				DAILY TOTAL		\$	8,425.00		6022.50
						ACCUMULATED		\$	31,200.00		12597.52

DOWNHOLE MOTORS															
RUN	MAKE	SER. NO.	Daily			Run			Well			Total			FAILURE? (Yes / No)
			Drill	Circ	D+C	Drill	Circ	D+C	Drill	Circ	D+C	Drill	Circ	D+C	
1	Anadroll	475-14-1028	7.50	2.25	9.75	7.50	2.25	9.75	7.50	2.25	9.75	7.50	2.25	9.75	N

BHA -				DOWNHOLE JARS										
ITEM	VENDOR	SERIAL#	LENGTH	ITEM	VENDOR	SERIAL#	LENGTH	RUN	MAKE	SER. #	Drill	Circ	D+C	FAILURE?
Bit	Smith	LT8146	0.25											
Motor	Anadrill	475-14-1028	5.51											
Float	Anadrill	1372104	0.88											
UBHO	Anadrill	1412193	0.66											

TOTAL LENGTH		218.62	TOTAL LENGTH			TARGET TVD @ TIME		
PERSONNEL		AFE NUMBER		6090045-9210-320		CONTRACT NUMBER		
DD: Eric Erickson	MWD: Barry Therman	FIELD CELL #				CO. MAN'S CELL #		
DD:	MWD:	SIGNATURE OF COMPANY'S REPRESENTATIVE						
DD:	MWD:							
DD:	MWD:							

Schumberger Anadriill

JOB NUMBER	DATE	COMPANY	WELL NAME
	THUR MARCH, 9. 2000	Alberta Energy Corp	AEC Renaissance Carcajou O-74
COMPANY REPRESENTATIVE	JOB NAME	LOCATION	
Steve Holyoake	Akita #14	Carcajou O-74	

DRILLING RECORD				TIME RECORD				COST ESTIMATE			
BIT NUMBER	1	TIME	FROM	TO	DESCRIPTION	LIST SUPPLIER (if not Anadriill)				COST	
BIT SIZE	15R D	6.50	6:30	6:30	Directional Drill	SUPERVISOR	1 @	700.00	\$	700.00	750
BIT TYPE	MF3 P	0.25	6:30	6:45	Rig Service	FLAT RATE		400			
JETS (mm)	15.9	1.00	6:45	7:45	Directional Drill	MOTOR HRS	23.25 @	200.00	\$	4,650.00	4862.50
DEPTH IN	480 m	0.25	7:45	8:00	Accumulated Surveys	MOTOR DAILY					
DEPTH OUT		0.25	8:00	8:15	Rig Service	MOTOR STBY					
METERS	173 m	7.00	8:15	15:15	Directional Drill	JARS					
HOURS	29.00	0.75	15:15	18:00	Accumulated Surveys	S. SHOT KIT		125.00			
ROP (m/hr)	6.0	0.25	18:00	18:15	Rig Service	FLOAT SUB	1.00 @	25.00	\$	25.00	50
RPM	30/120	7.25	18:15	23:30	Directional Drill	MONEL	2.00 @	125.00	\$	250.00	
WOB	7/8	0.50	23:30	0:00	Accumulated Surveys	X/OVER		25.00			
PP ON	10000					STABILIZERS					
PP OFF	8000					TB REAMER					
STG INT	25					MWD SUPER	1.00 @	800.00	\$	800.00	550
PULWT	25					MWD SYSTEMS	1.00 @	2900.00	\$	2,900.00	3000
NO WT	25					GAMMA RAY					
PUMP DATA						GAMMA RAY (STBY)					
PUMP MAN.	Emaco					CMPT & WELL PLAN					
PUMP MOD.	P500					EQUIPMENT STANDBY					
Triplex/Duplex	Triplex										
LINER	152mm										
STROKE	191mm					SUBSISTENCE (Camp?)					
CU. M/STK	0.0104					CATED					
STROKS/min.	90					VEH. LIC. #					
VOLUME	0.94					KM TOYKM ACC					
MUD REPORT											
MUD TYPE (Gel. vol.)	Gel										
MUD WEIGHT	1100										
VISCOSITY (cP/L)	48										
WATER LOSS	9										
PH	9										
SAND											
TEMPERATURE (°C)	24.00	TOTAL				KM TODAY		0.75	\$		
						KM ACCUM.					
						DAILY TOTAL			\$	9,125.00	7167.50
						ACCUMULATED			\$	20,625.00	22040.50

DOWNHOLE MOTORS															
RUN	MAKE	SER. NO.	Daily			Run			Well			Total		FAILURE (Yes/No)	
			Drill	Clrc	D+C	Drill	Clrc	D+C	Drill	Clrc	D+C	Drill	Clrc		D+C
1	Anadriill	475-14-1028	21.75	1.50	23.25	29.25	3.75	33.00	29.25	3.75	33.00	29.25	3.75	33.00	N

BHA #				SHA #				DOWNHOLE JARS						
ITEM	VENDOR	SERIAL#	LENGTH	ITEM	VENDOR	SERIAL#	LENGTH	RUN	MAKE	GER. #	Dt#	Circ	D 4C	FAILURE
Bit	Smith	LT8146	0.25											
Motor	Anadrill	475-14-1028	5.51											
Float	Anadrill	1312104	0.88											
UBHO	Anadrill	1412195	0.66											
Monel	Anadrill	2112111	9.47					RUN	COMP.	MRS BY	MRS ED	COMMENTS	FAILURE	
Monel	Anadrill	46000035	9.48					1	SHA323	24.00	40.00			N
20DC's	Akita		189.80					1	SEA158	24.00	40.00			N
X/Over	Akita		0.47					1	SEA4544	24.00	40.00			N

TOTAL LENGTH	216.62	TOTAL LENGTH		TARGET TVD @ TIME	
DD: Eric Erickson	MWD: Betty Thimeman	SAFE NUMBER	5000045-0210-320	CONTRACT NUMBER	
DD: MWD:		FIELD CELL #		CO. MAN'S CELL #	
DD: MWD:		SIGNATURE OF COMPANY REPRESENTATIVE			
DD: MWD:					

Schlumberger

DATE	FRI MARCH, 10, 2000	COMPANY	Alberta Energy Corp	WELL NAME	AEC Renaissance Carcajou 0-74
COMPANY REPRESENTATIVE	Steve Holyoake	RIG NAME	Akita #14	LOCATION	200/A-0-74-AJ 104-N-16/00

DRILLING RECORD				TIME RECORD		COST ESTIMATE	
BIT NUMBER	1	TIME	FROM	TO	DESCRIPTION	LIST SUPPLIER (if not Anadri)	COST
BIT SIZE	156.0	1.00	1.00	2.00	Directional Drill 660 m to 664 m	SUPERVISION 1 @ 700.00	\$ 700.00
BIT TYPE	MF2 P	1.00	1.00	2.00	Rig Repair	FLAT RATE	
JETS (mm)	15.9	4.00	2.00	6.00	Directional Drill 664 m to 683 m	MOTOR HRS 19.25 @ 200.00	\$ 3,850.00
DEPTH IN	487 m	6.25	6.00	8.15	Rig Service	MOTOR DAILY	
DEPTH OUT	748 m	1.50	8.15	7.45	Directional Drill 683 m to 690 m	MOTOR STBY	
METERS	281 m	0.25	7.45	8.00	Accumulated Surveys	JARS	
HOURS	48.75	0.25	8.00	8.15	Rig Service	S. SHOT KIT 125.00	
NOP (m/hr)	5.6	7.25	8.15	15.30	Directional Drill 690 m to 724 m	FLOAT SUB 1.00 @ 25.00	\$ 25.00
RPM	30/120	0.50	15.30	16.00	Accumulated Surveys	MONEL 2.00 @ 125.00	\$ 250.00
WOB	7/6	0.25	16.00	16.15	Rig Service	X/Over 25.00	
PP ON	10000	3.75	16.15	20.00	Directional Drill 724 m to 748 m	STABILIZERS	
PP OFF	9070	0.50	20.00	20.30	Circulate	TB REAMER	
STG WT	28	2.50	20.30	23.00	Wear Trip	MWD SUPER 1.00 @ 600.00	\$ 600.00
PU WT	30	0.50	23.00	23.30	Circulate	MWD SYSTEMS 1.00 @ 2900.00	\$ 2,900.00
S/O WT	28	0.50	23.30	0.00	POOH to Log	GAMMA RAY	
PUMP MAN.	Enisco					CAMMA RAY (STDBY)	
PUMP MOD.	F-500					CMPT & WELL PLAN	
Triplex/Triplex	Triplex					EQUIPMENT STANDBY	
LINER	152mm						
STROKE	191mm					SUBSISTENCE (Camp?)	
CU. M/STK	0.0104					Camp	
STKRS/Mh.	90						
VOLUME	0.94					VEN. LIC. # KM TDYKM ACC	
MUD REPORT							
MUD TYPE (Col.ect.)	Gel						
MUD WEIGHT	1120						
VISCOSITY (sec/L)	80						
WATER LOSS	0.5						
pH	9						
SAND							
TEMPERATURE (°C)	29.8	24.00	TOTAL				

RUN	MAKE	SER. NO.	Daily			Run			Well			Total			FAILURE?
			Drill	Circ	D+C	Drill	Circ	D+C	Drill	Circ	D+C	Drill	Circ	D+C	
1	Anadri	475-14-1026	17.50	1.75	19.25	48.75	5.50	52.25	48.75	5.50	52.25	48.75	9.50	52.25	N

ITEM VENDOR			SERIALS	LENGTH	ITEM VENDOR			SERIALS	LENGTH	RUN	MAKE	SER. NO.	Drill	Circ	D+C	FAILURE?
Bit	Smith	LT8146		0.25												
Motor	Anadri	475-14-1026		5.51												
Float	Anadri	1312104		0.58												
UBHO	Anadri	1412193		0.66												
Monel	Anadri	2112111		9.47												
Monel	Anadri	46C00035		9.48												
200C's	Akita			189.60												
X/Over	Akita			0.47												

TOTAL LENGTH			218.62	TOTAL LENGTH			TARGET TVD @ TIME
PERSON	PERSON	PERSON	PERSON	PERSON	PERSON	PERSON	PERSON
DD: Eric Erickson	MWD: Barry Yarmann	FIELD CELL #	CONTRACT NUMBER	CO. MAN'S CELL #	SIGNATURE OF COMPANY'S REPRESENTATIVE		
DD:	MWD:						
DD:	MWD:						
DD:	MWD:						

750

4012.50

30

90

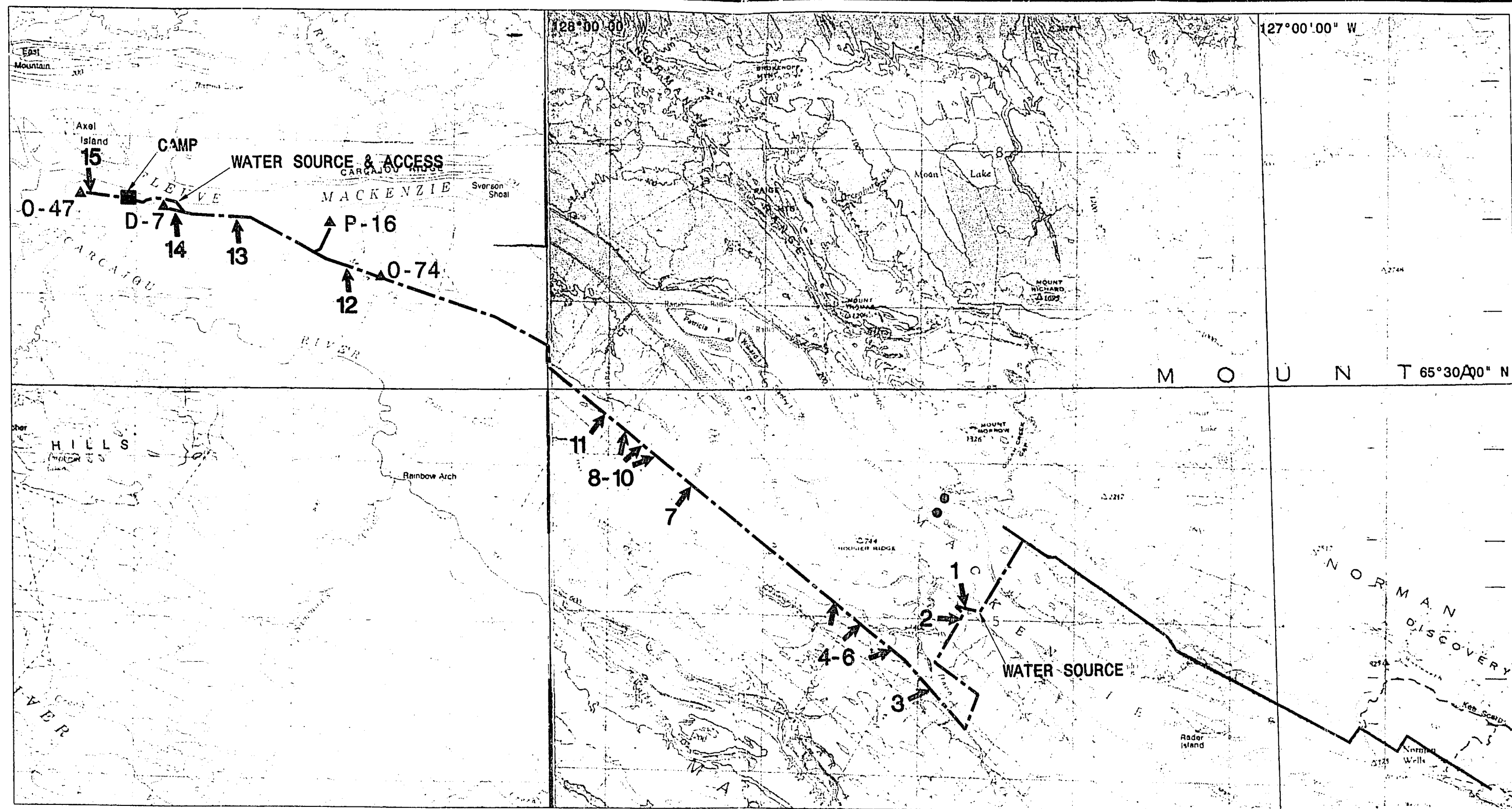
7.500

8662.50

30662.50

[illegible]

PROPOSED
LOCATIONS
MAP



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

0 2.5 5.0 7.5 10 12.5(km)

SCALE 1:250,000



PROPOSED AEC (WEST) CARCAJOU EXPLORATORY DRILLING PROGRAM

DRAWN: RFM APPROVED: DATE: 18 NOV. 1999

PROJECT: 992-2233

FIGURE: 2

SURVEY PLAN

OVERSIZED

DOCUMENT

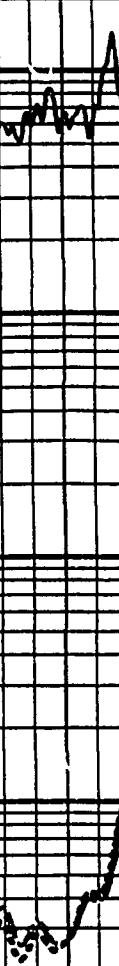
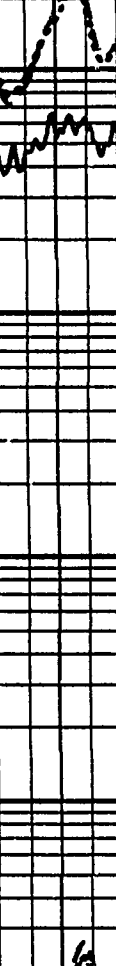
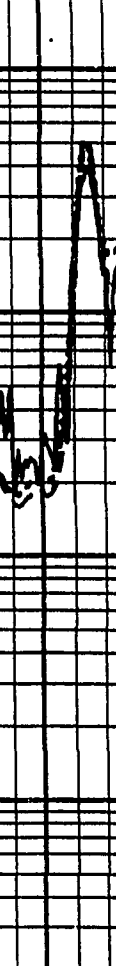
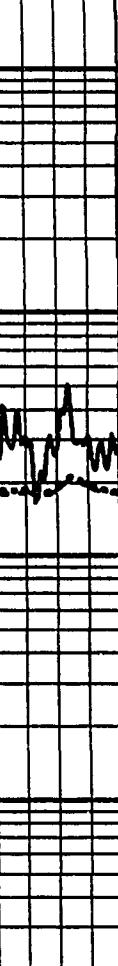
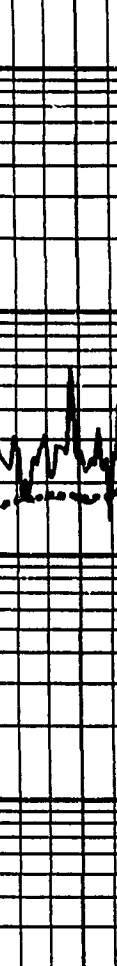
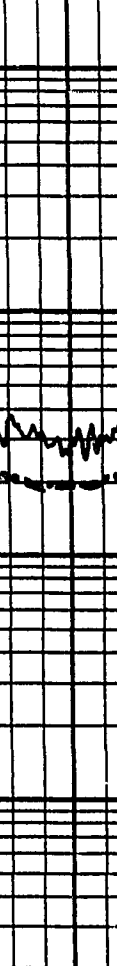
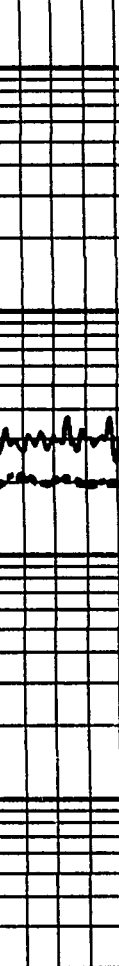
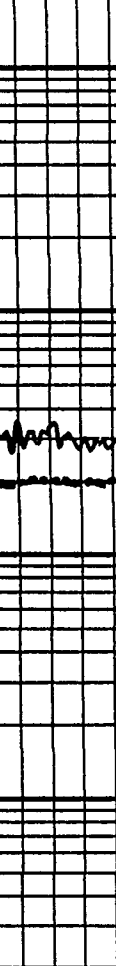
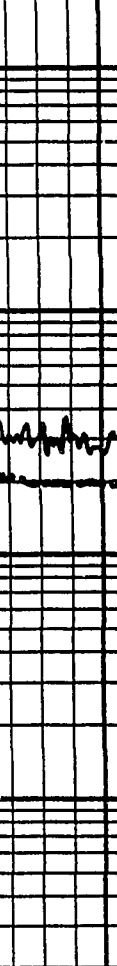
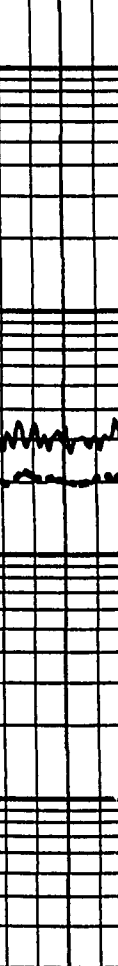
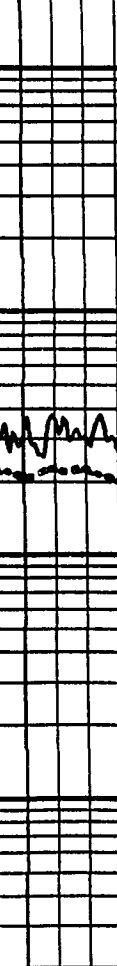
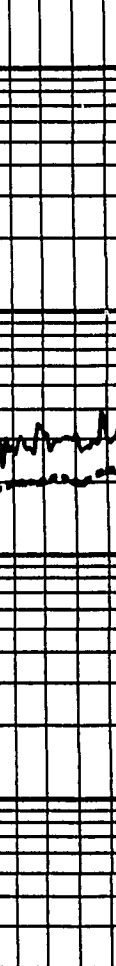
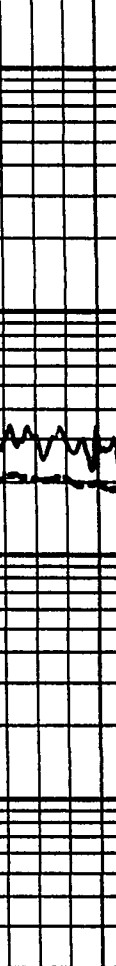
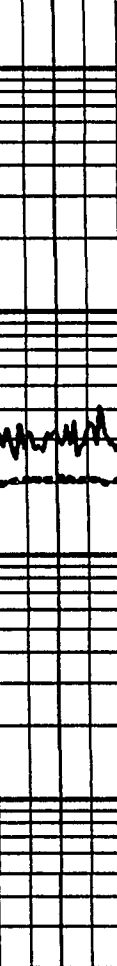
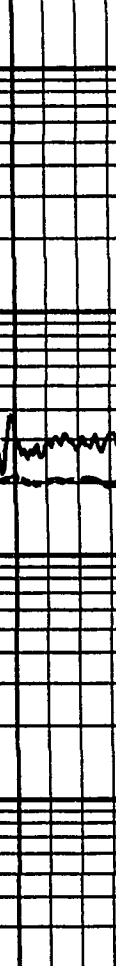
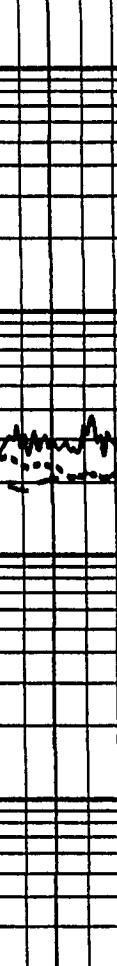
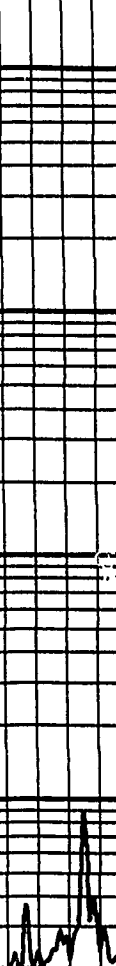
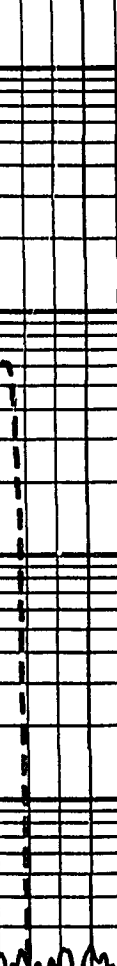
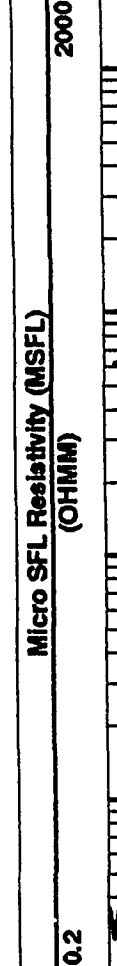
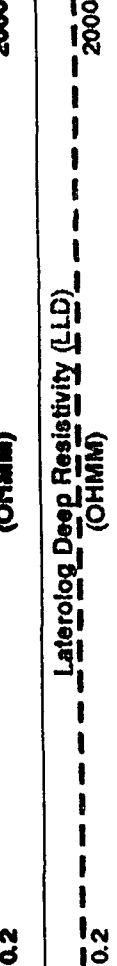
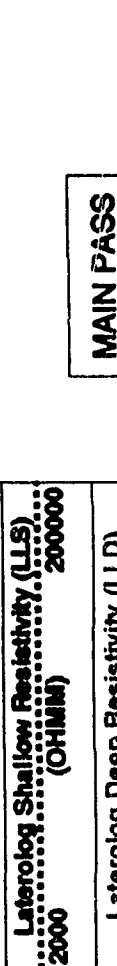
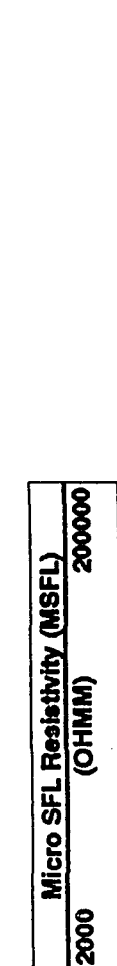
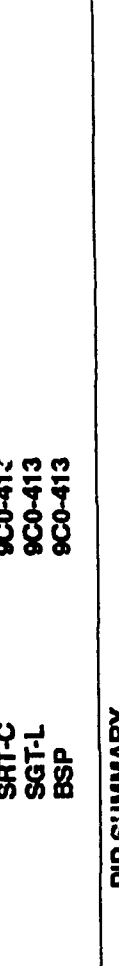
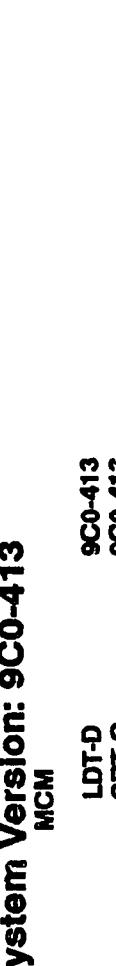
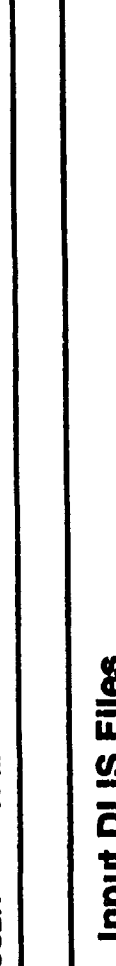
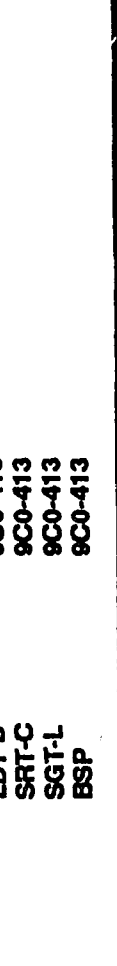
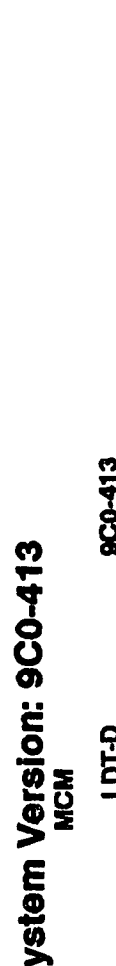
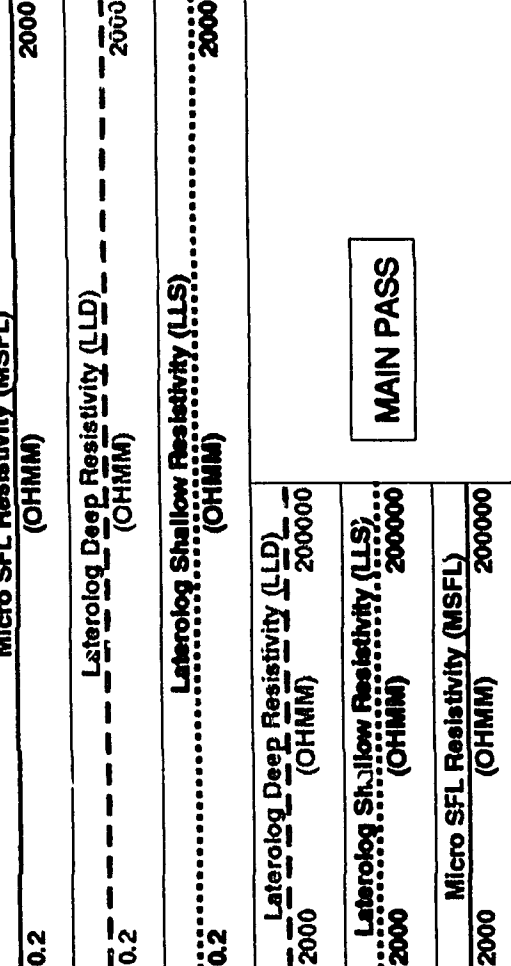
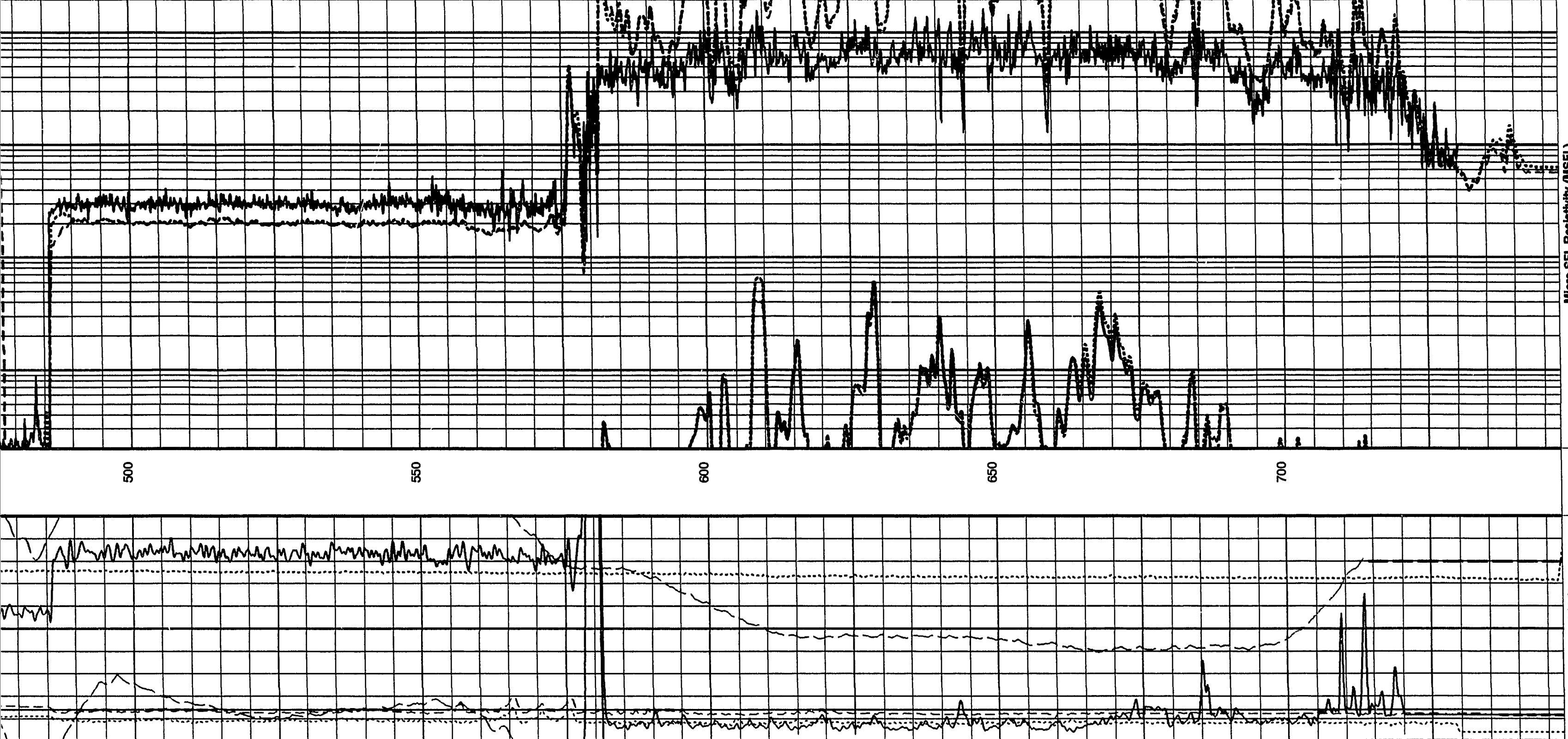
FILMED

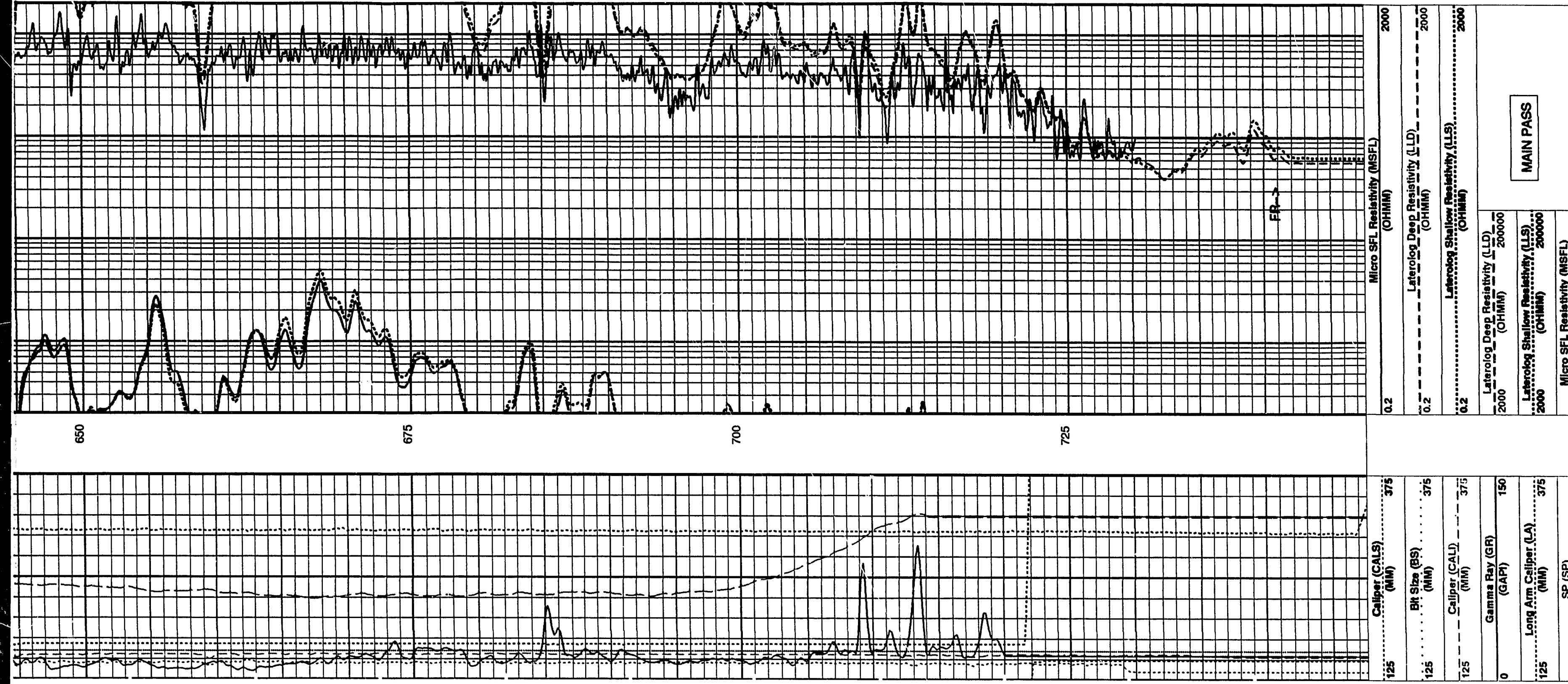
ON

35mm

RESISTIVITY/

CONDUCTIVITY





Caliper (CAL)	375
Gamma Ray (GR)	150
Long Arm Caliper (LA)	375
SP (SP)	20
Tension (TENS)	0

Time Mark Every 60 S

DLIS Name	Description	Value
BS	Bit Size	159.000 MM
DO	Depth Offset	0.0 M
DPAC	Deep Reference Power	0.0 M
KEAC	K Factor	0.0 NW
CMR	Origin of Mud Processing	SOND
PLRM	Power Loop Reference Mode	OFF
PP	Playback Processing	DEEP
RMUD	Relativity of Mud Sample	NORMAL
SPNV	SP Next Value	0
SPT	SP Next Value	550
SPT	SPT Pad Type	SLIM

Format: DLT, MSFL, 240 Vertical Scale: 1:240

OP System Version: 9C0-413

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

DLIS Files

Input DLIS Files

Output DLIS Files

Time Mark Every 60 S

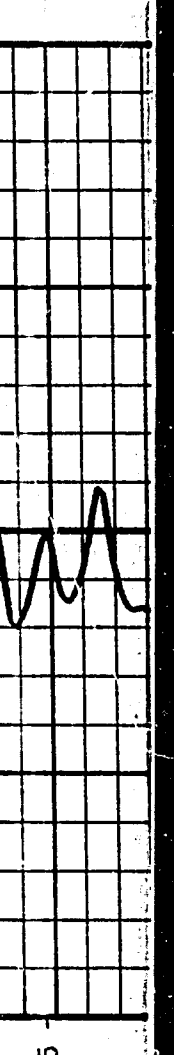
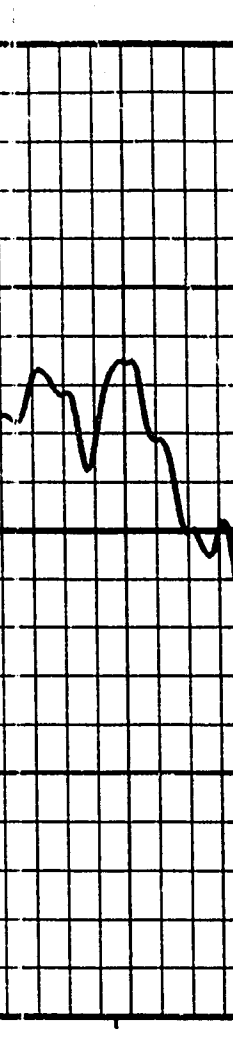
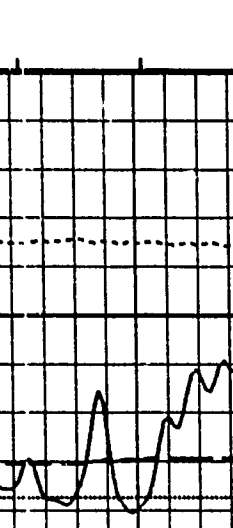
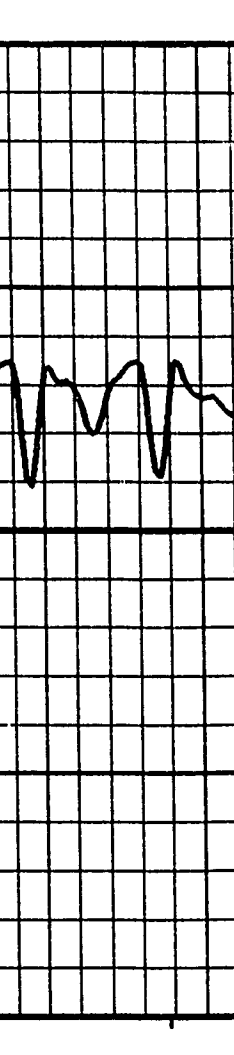
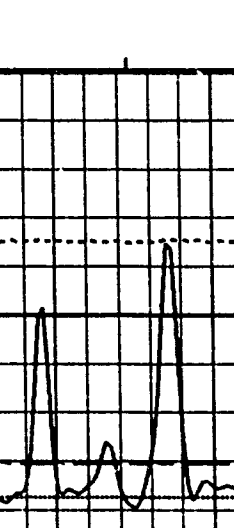
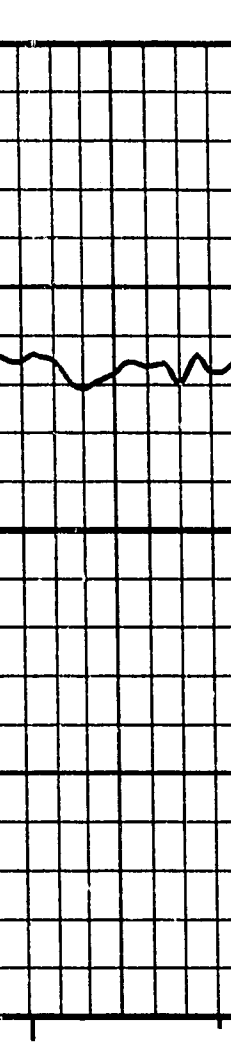
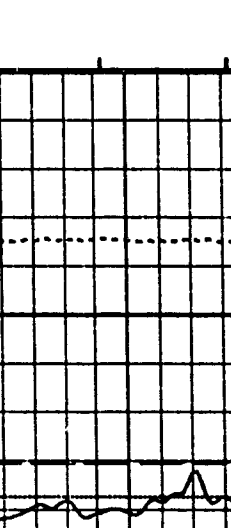
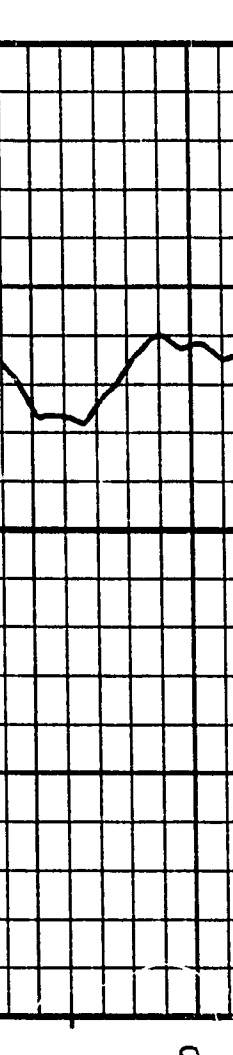
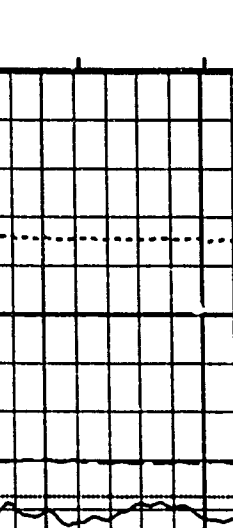
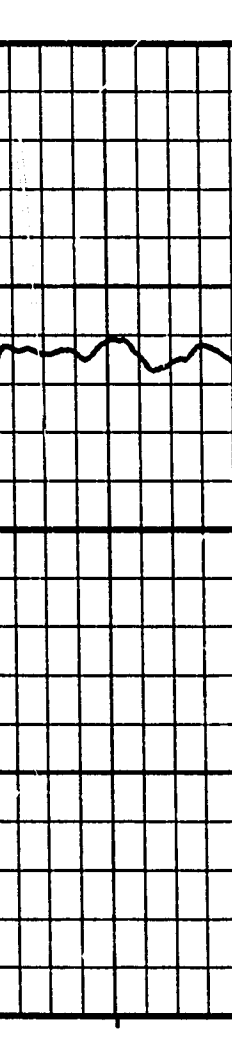
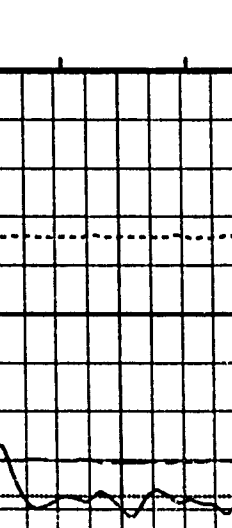
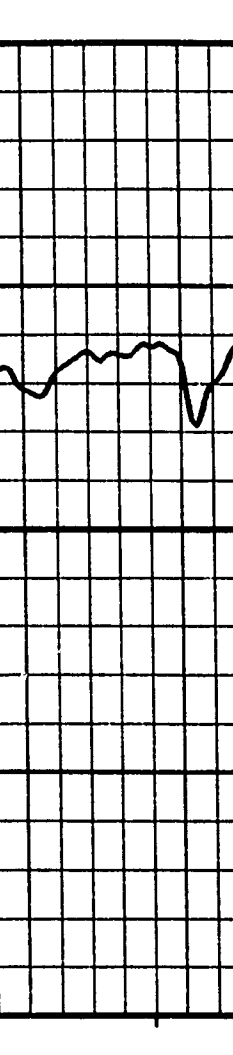
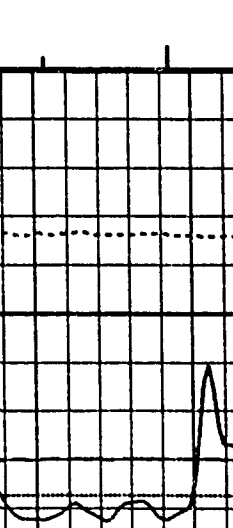
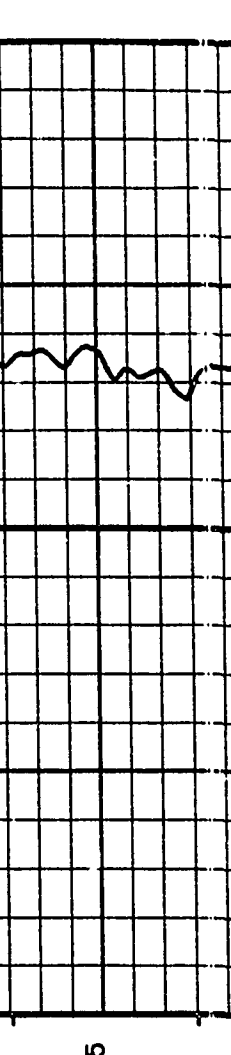
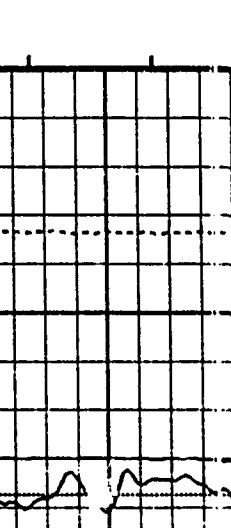
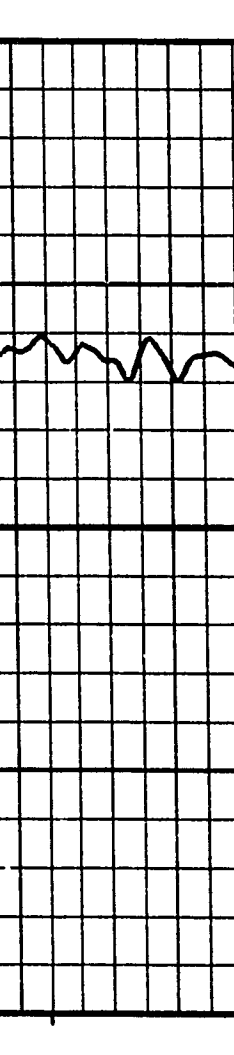
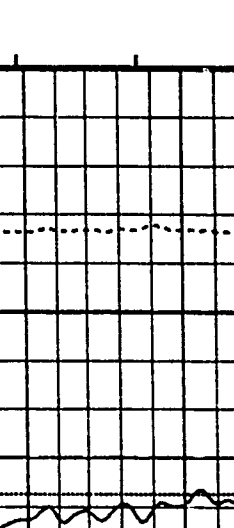
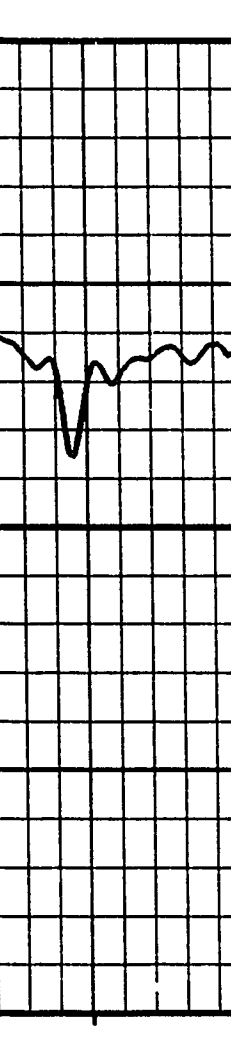
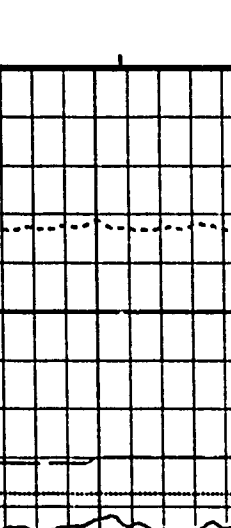
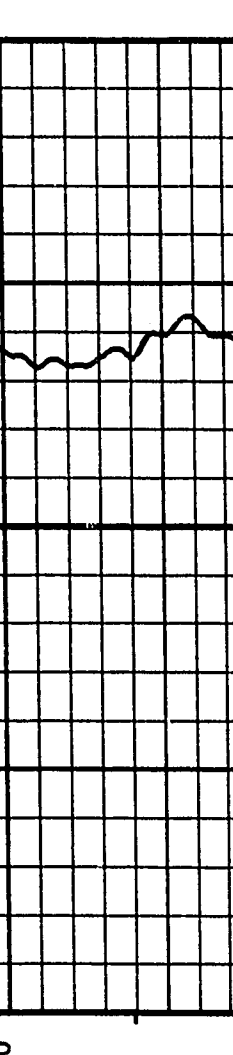
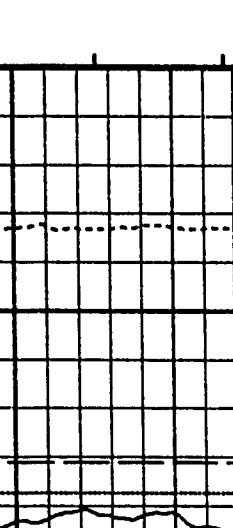
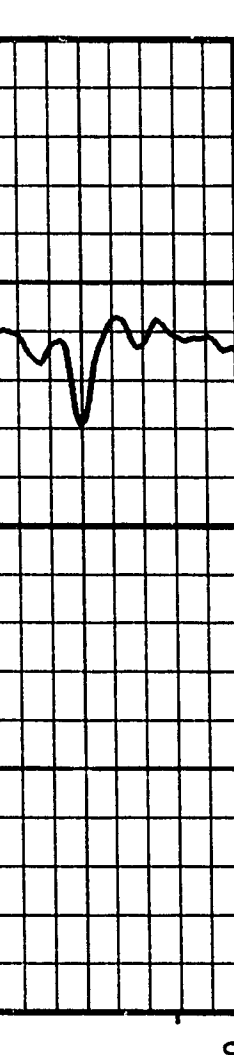
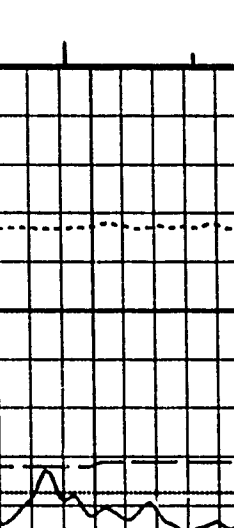
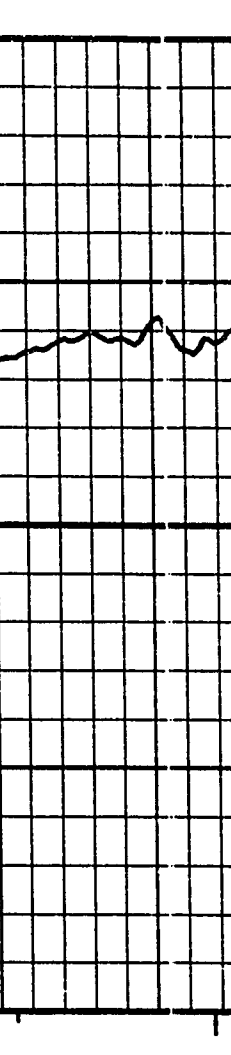
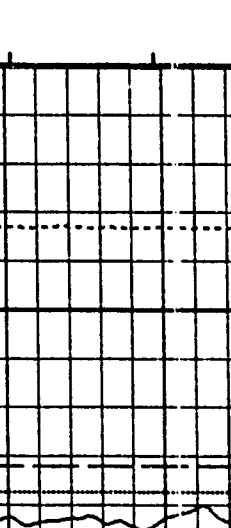
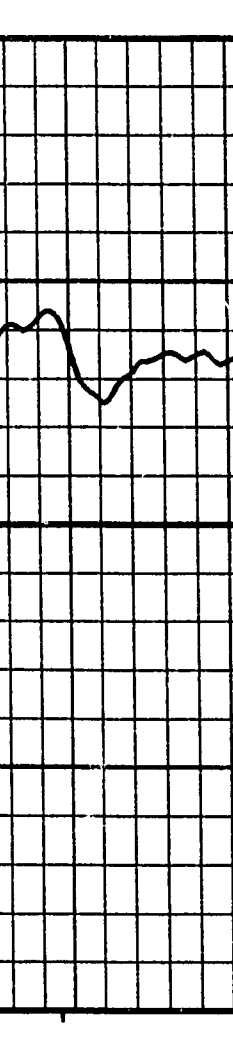
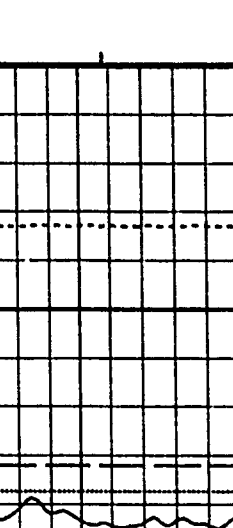
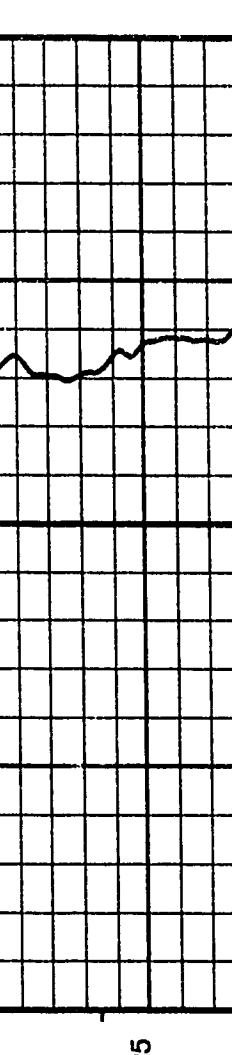
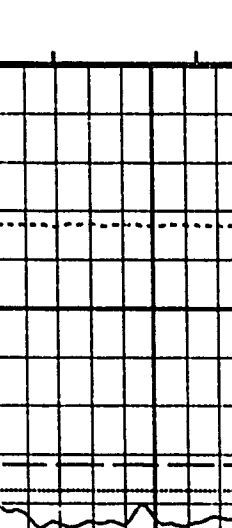
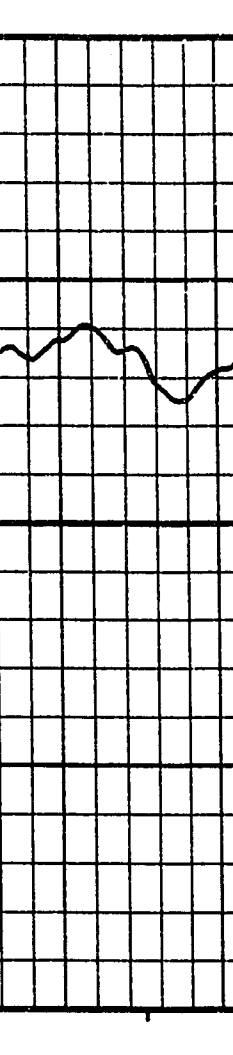
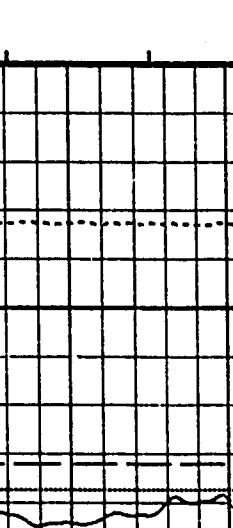
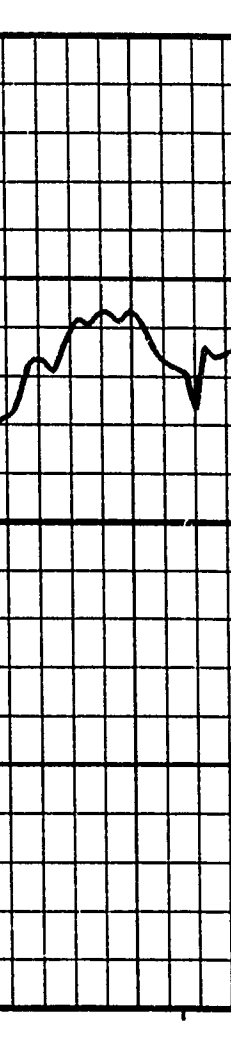
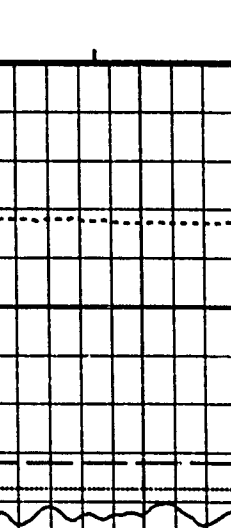
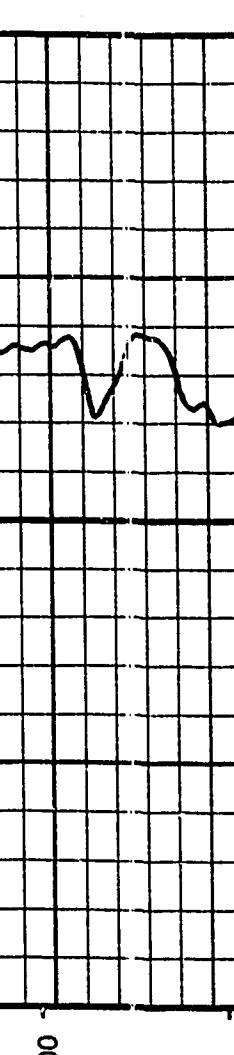
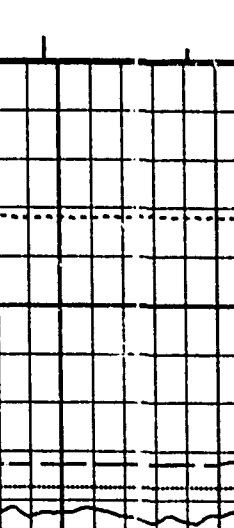
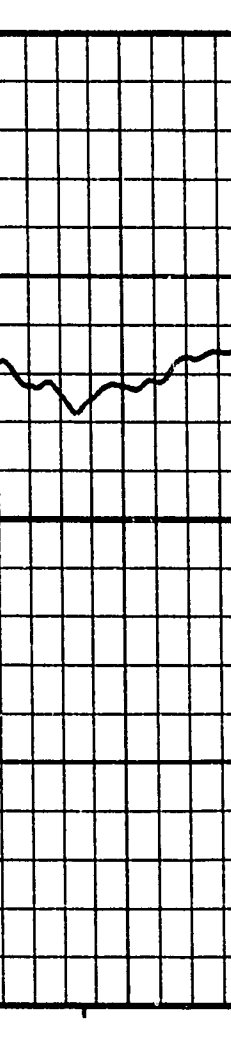
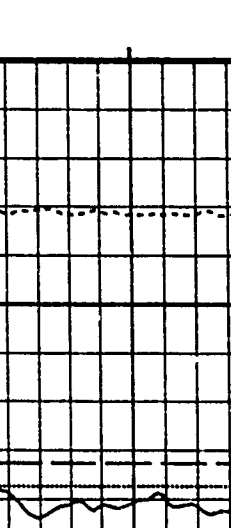
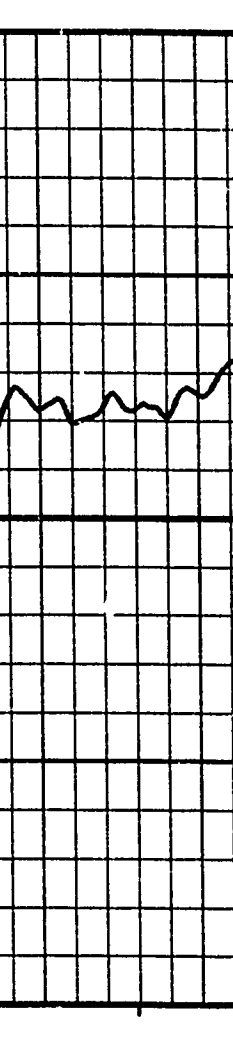
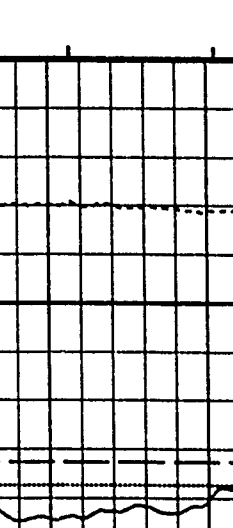
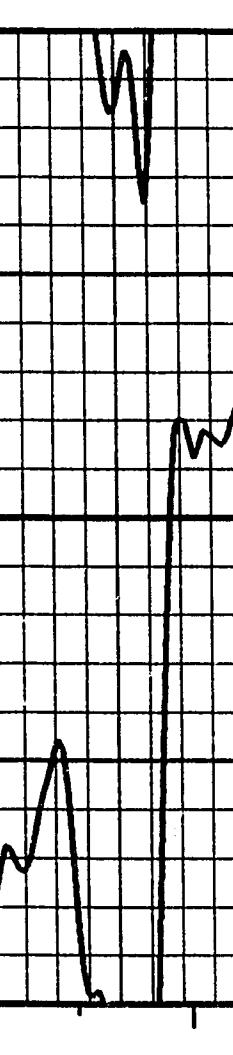
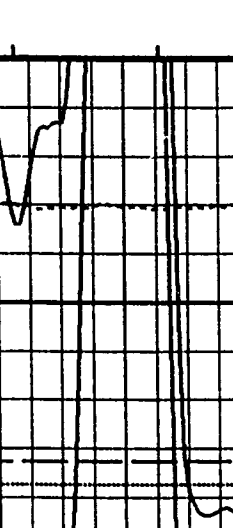
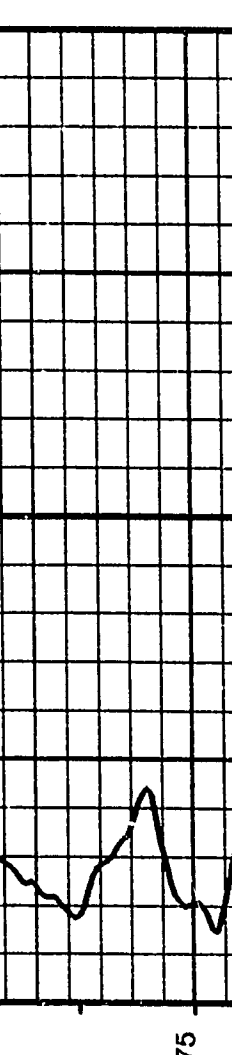
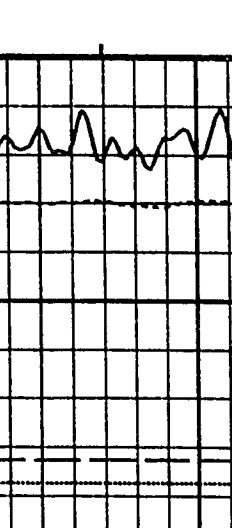
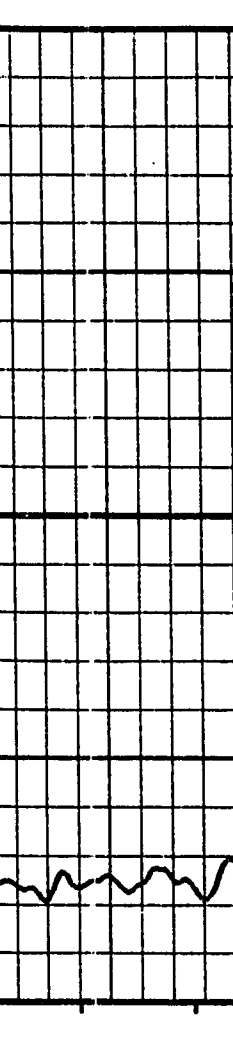
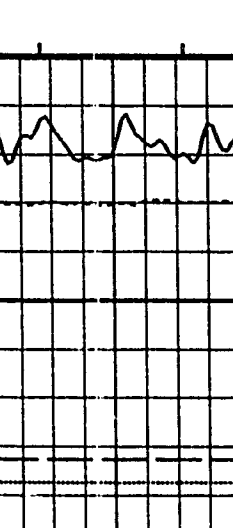
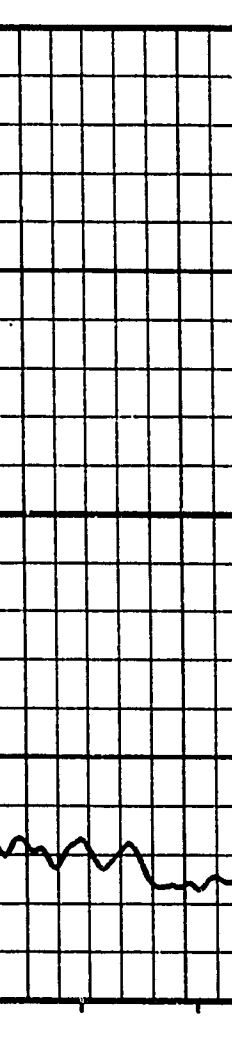
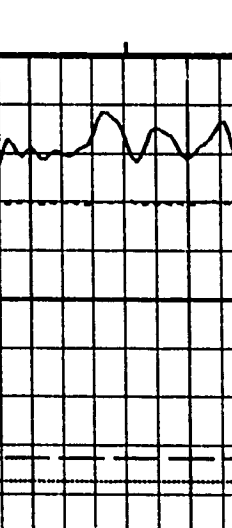
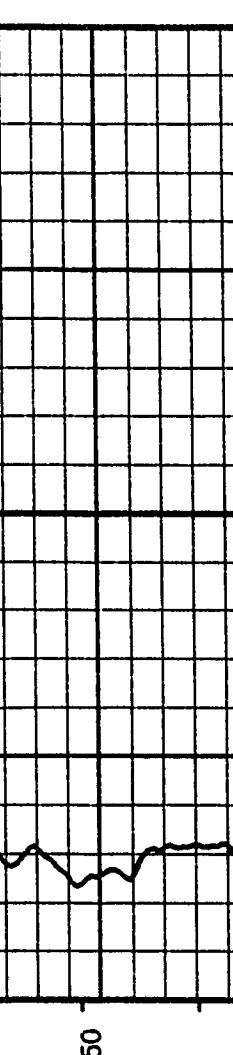
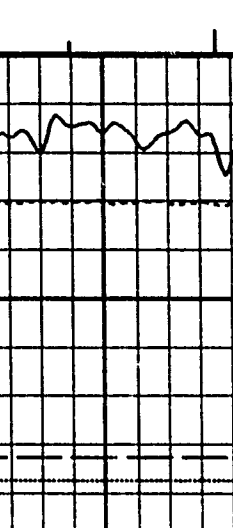
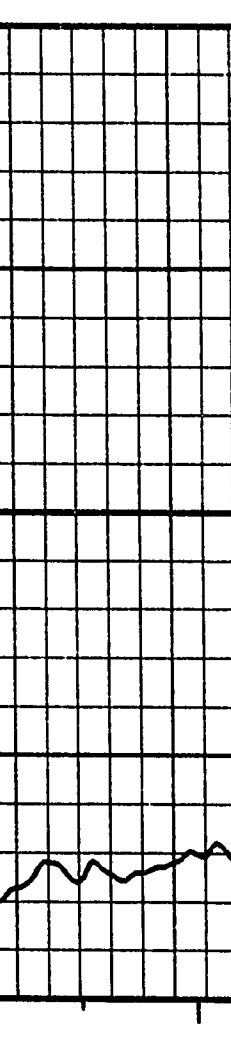
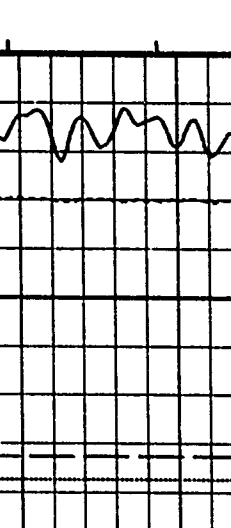
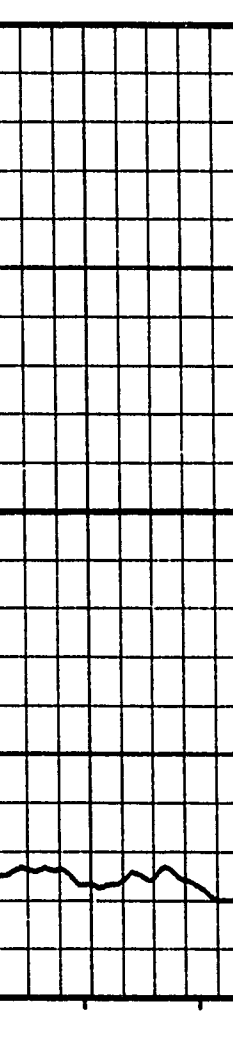
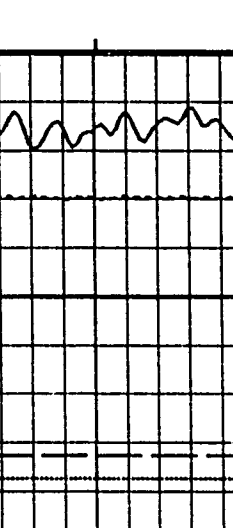
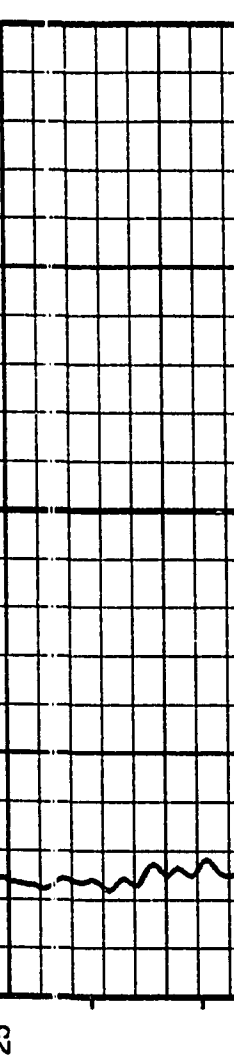
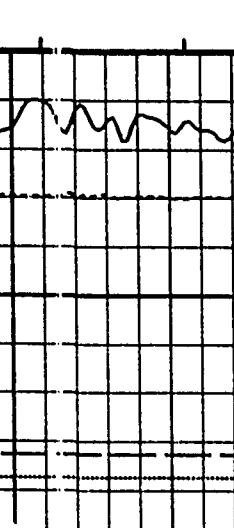
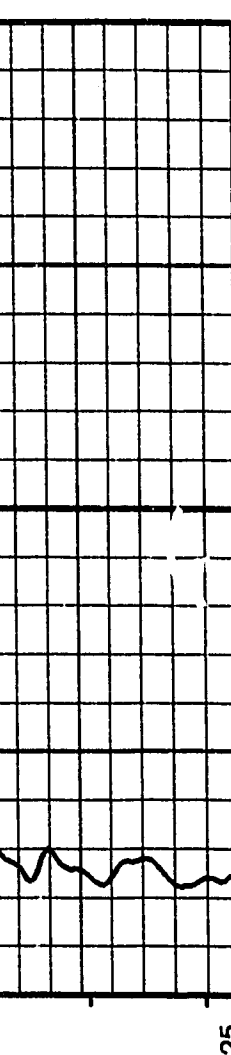
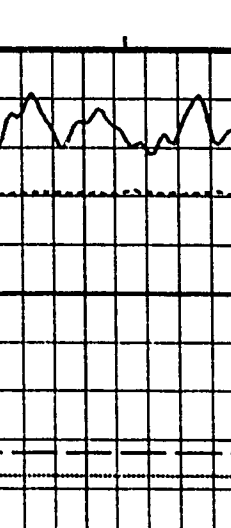
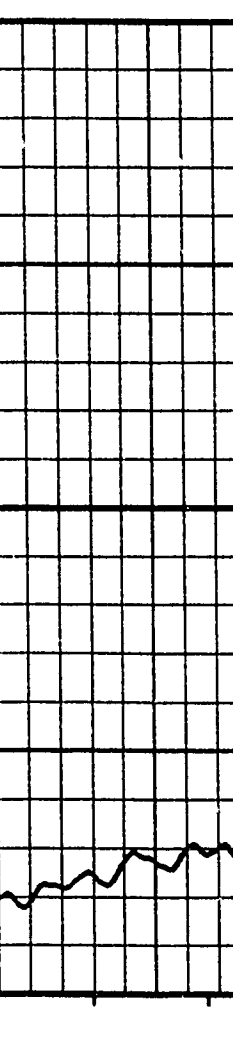
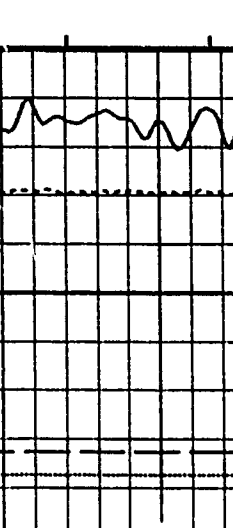
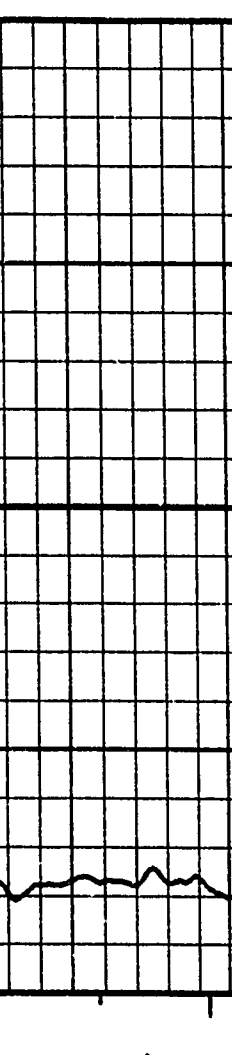
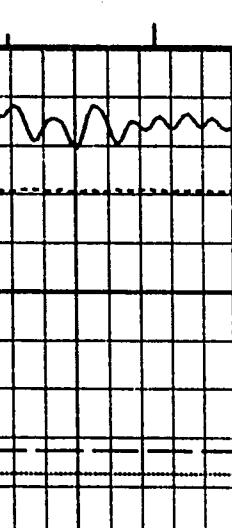
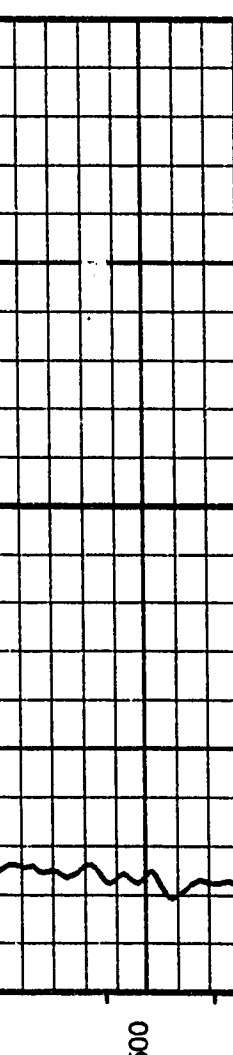
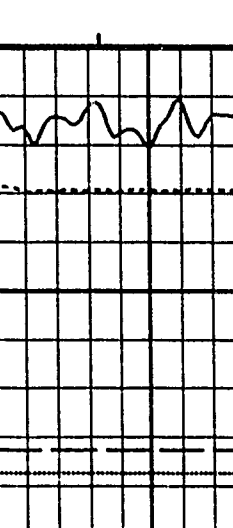
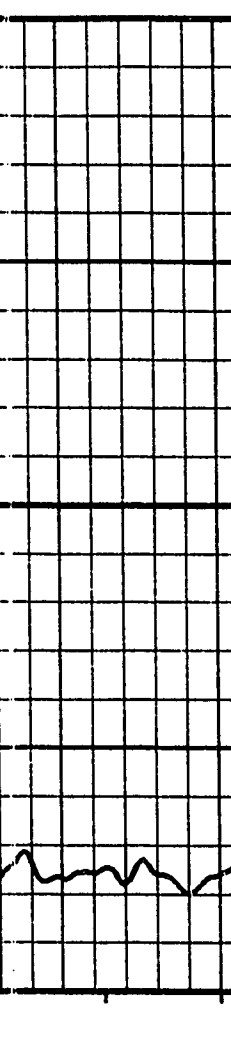
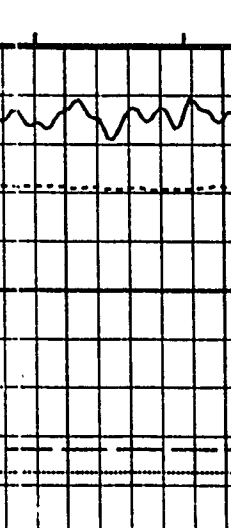
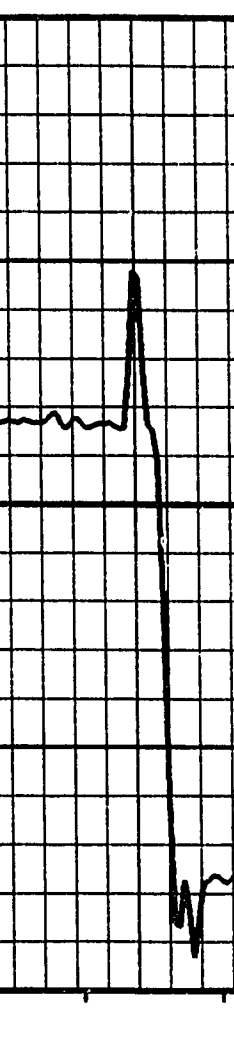
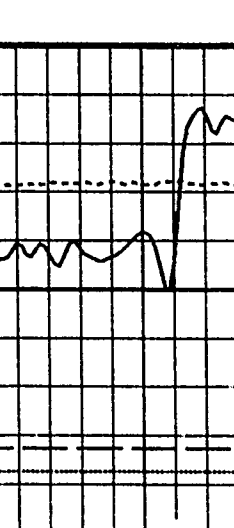
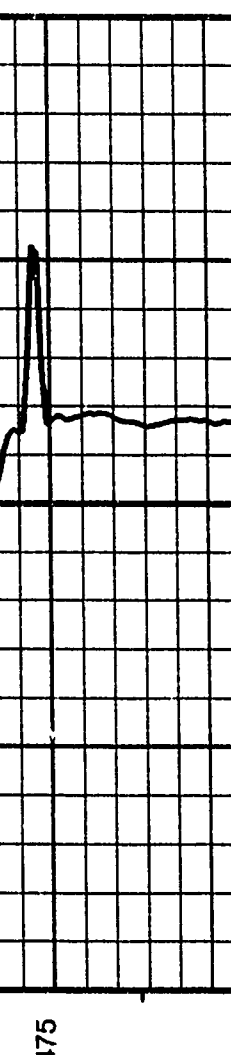
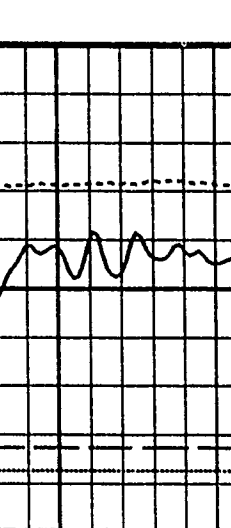
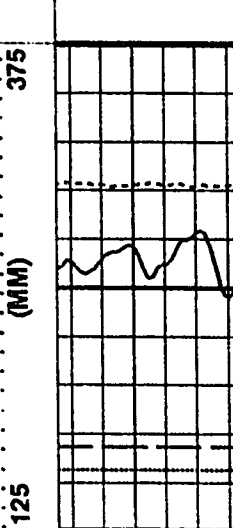
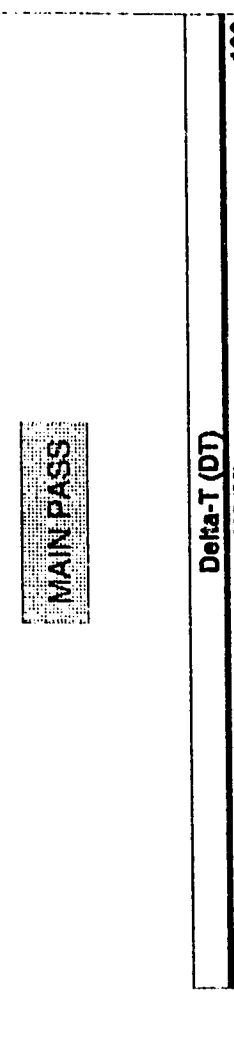
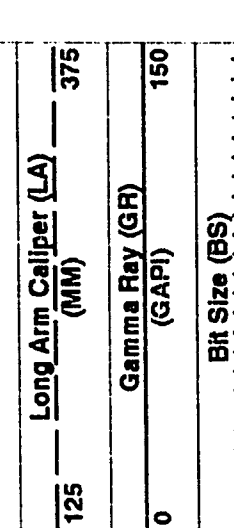
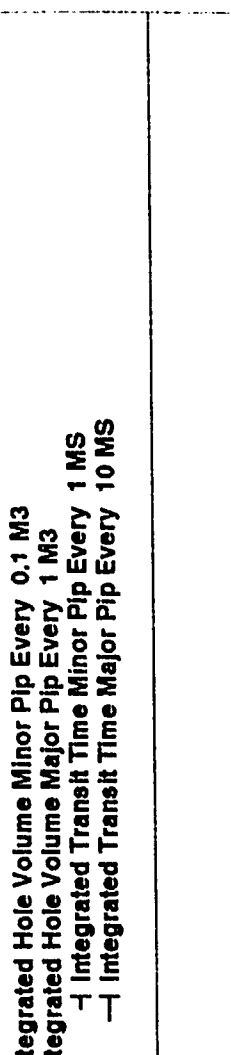
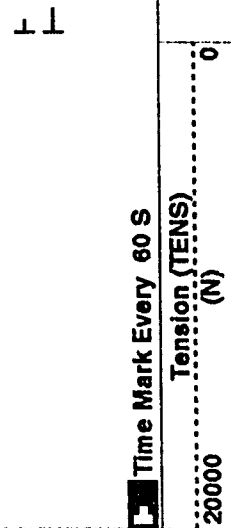
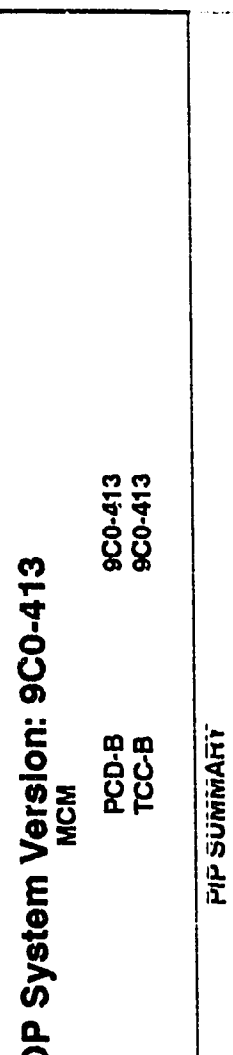
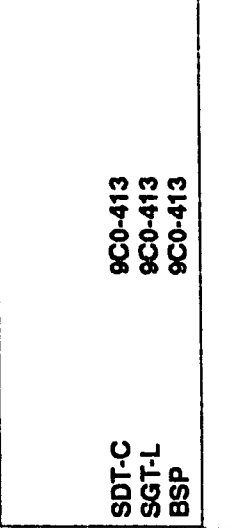
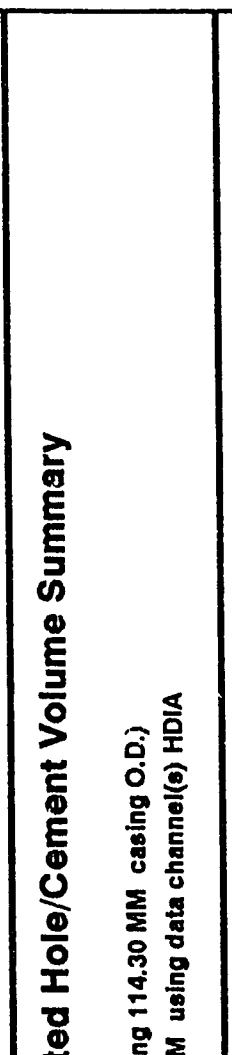
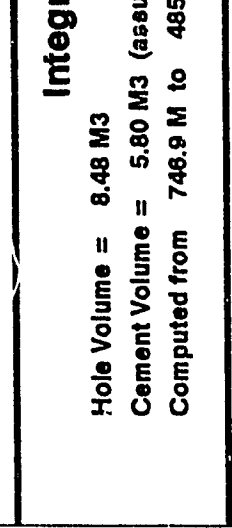
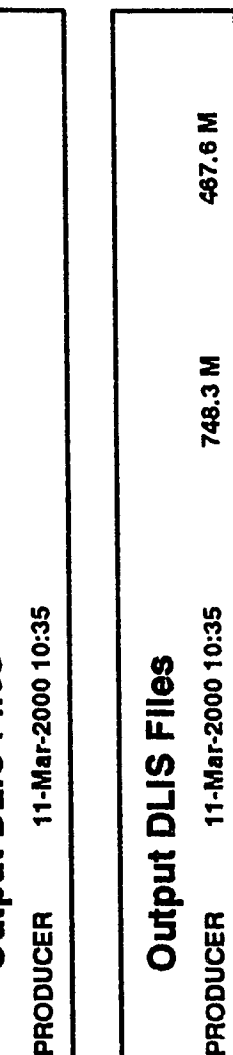
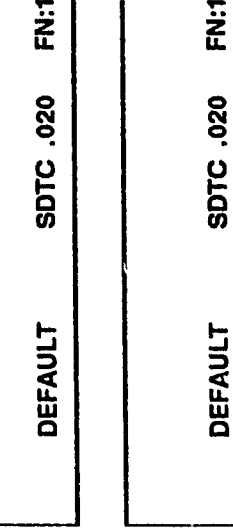
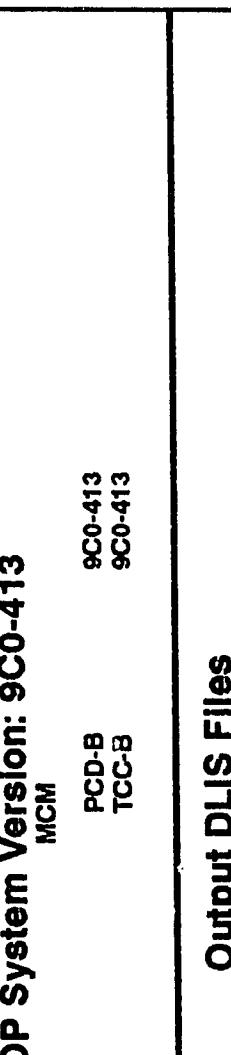
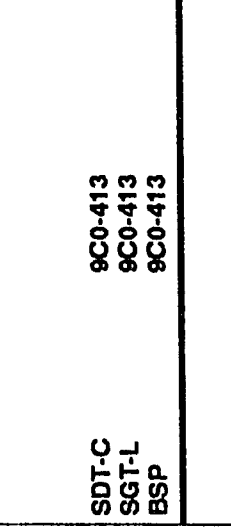
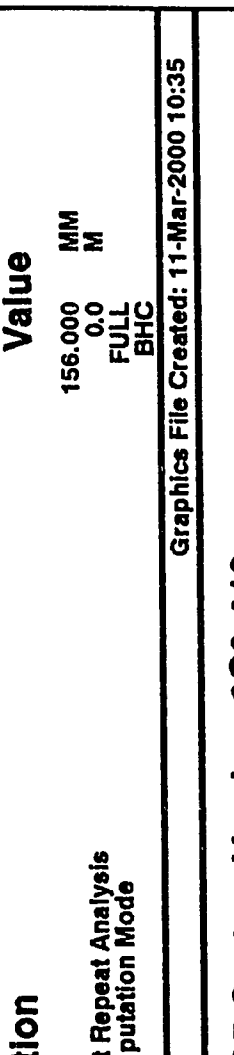
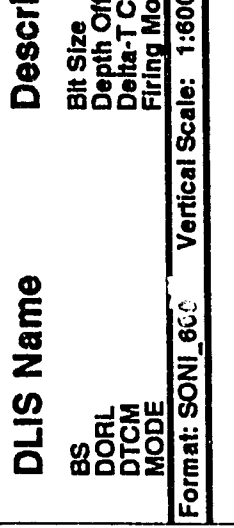
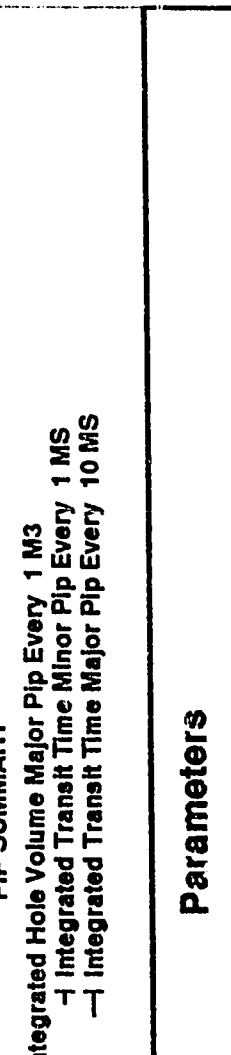
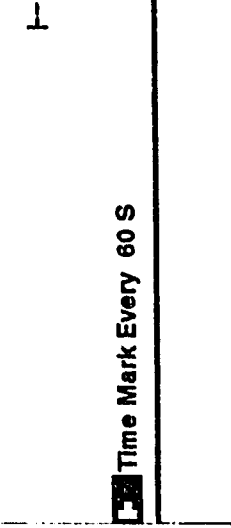
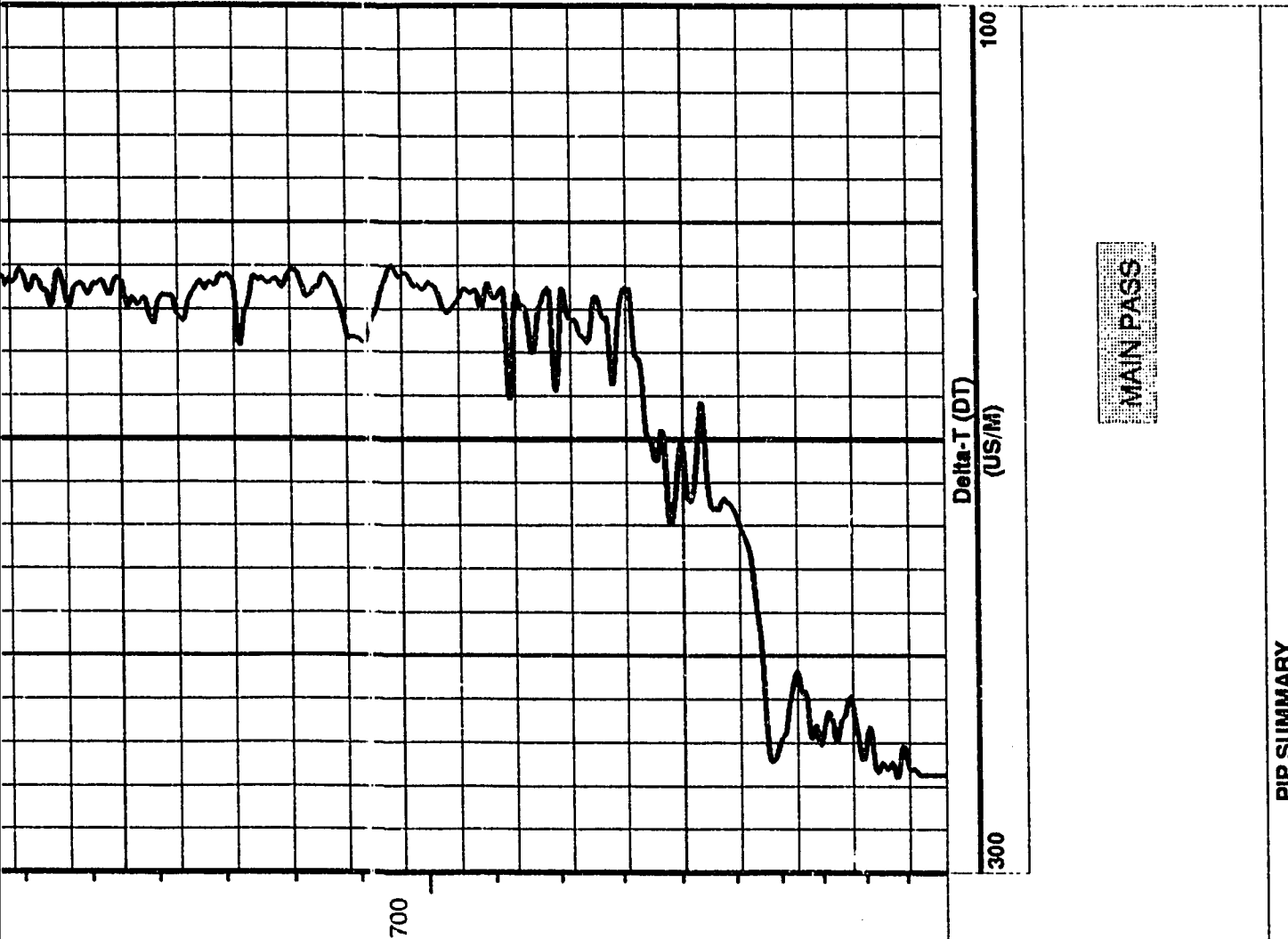
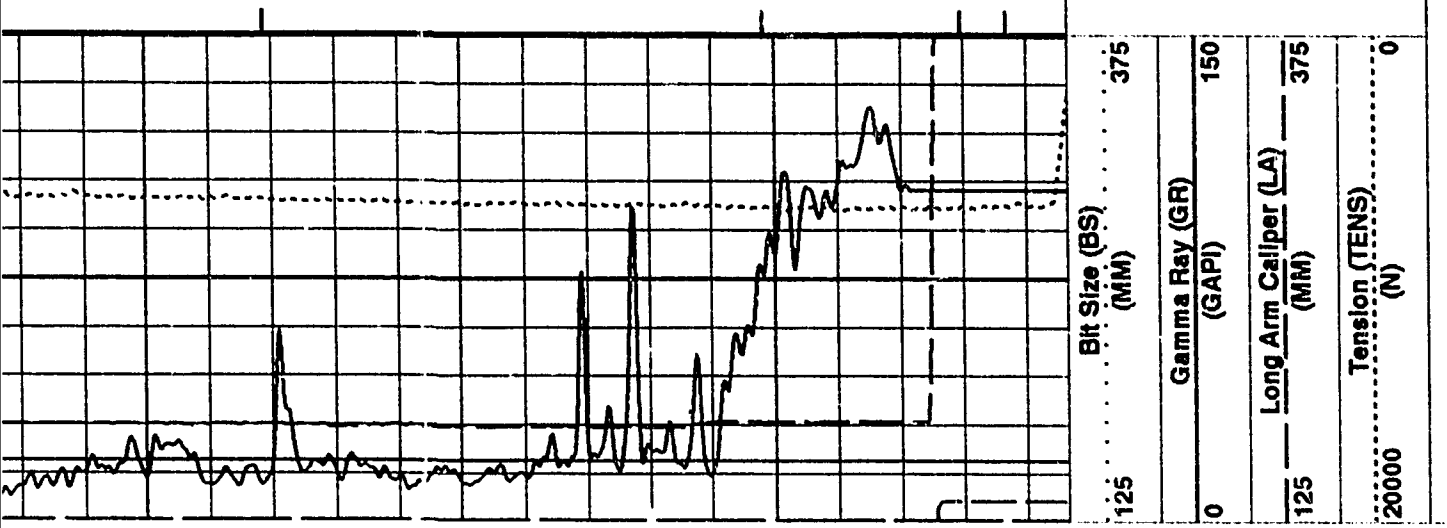
DLIS Files

Input DLIS Files

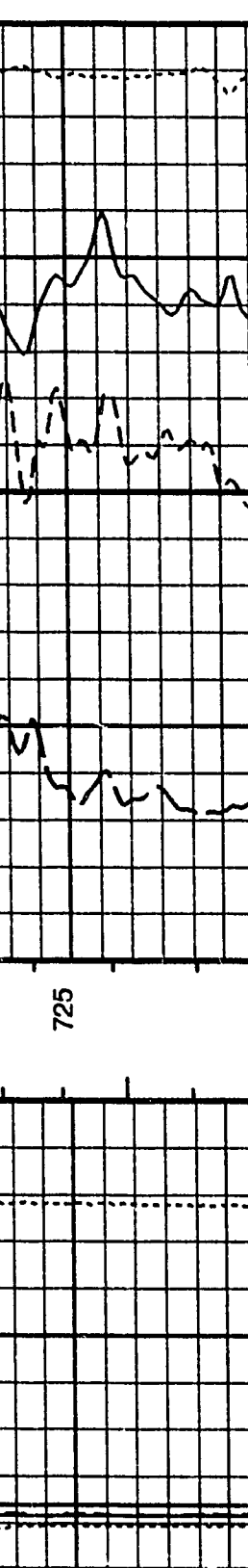
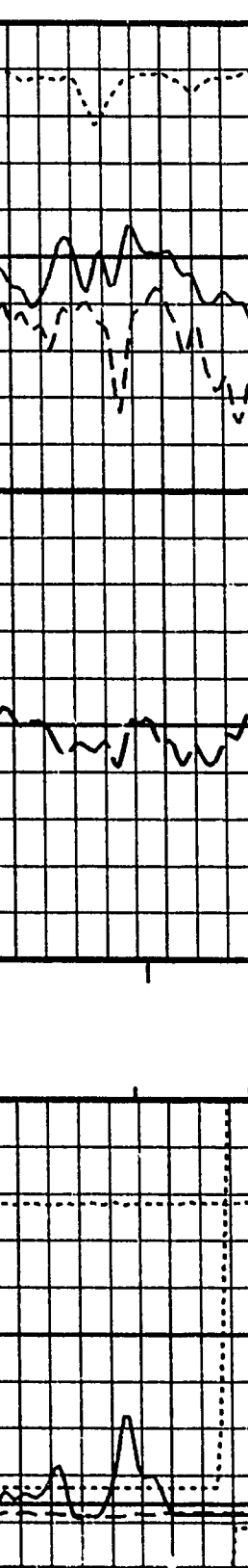
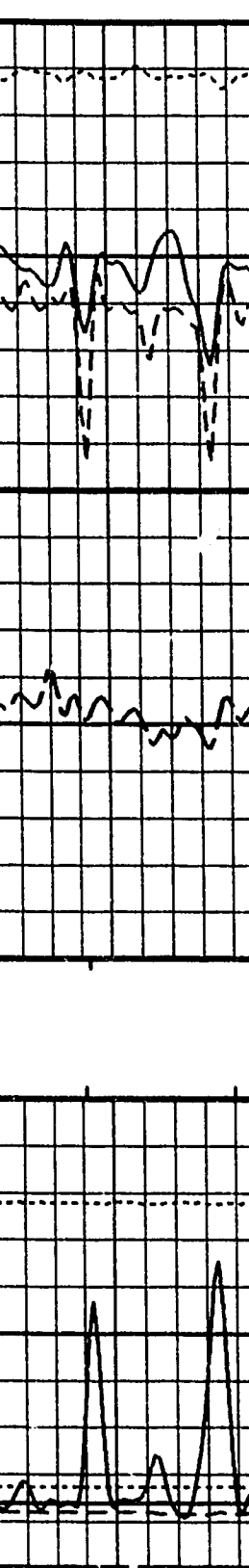
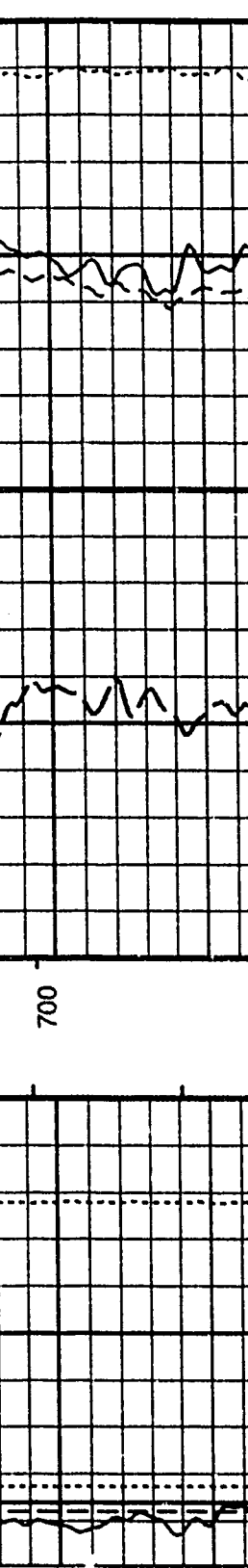
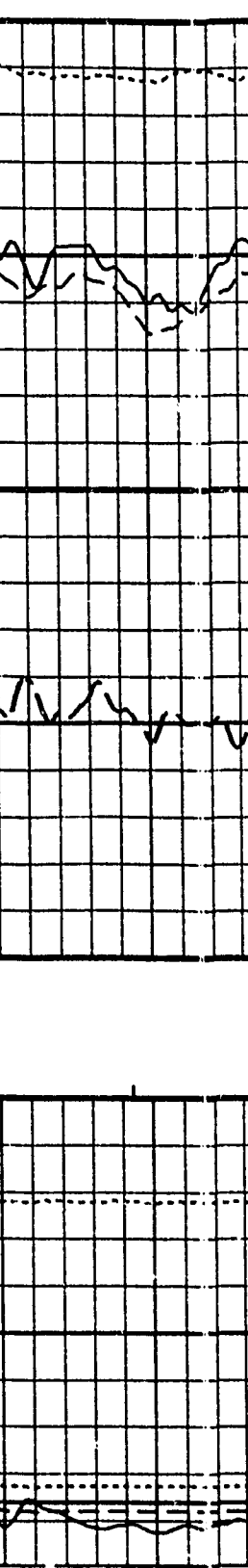
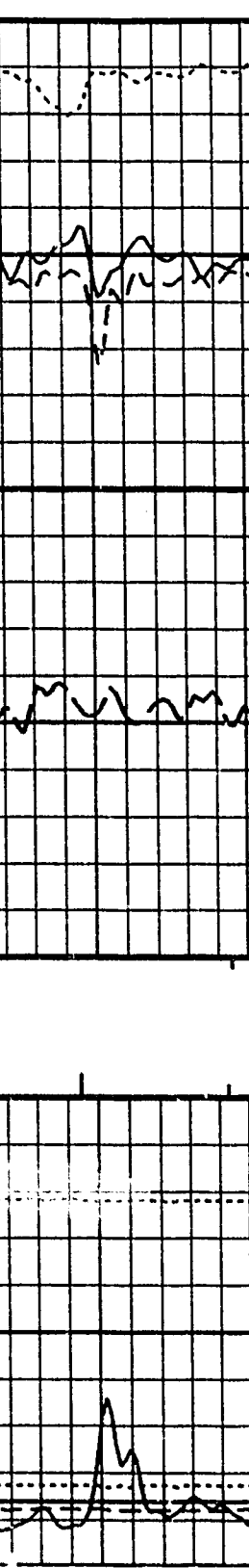
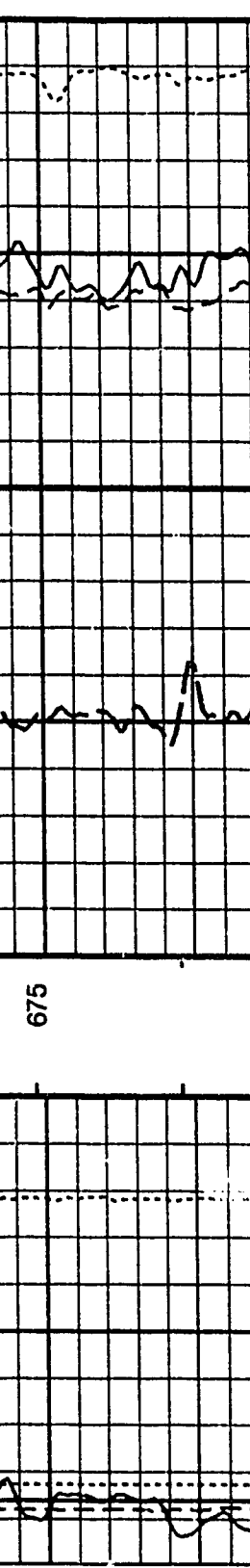
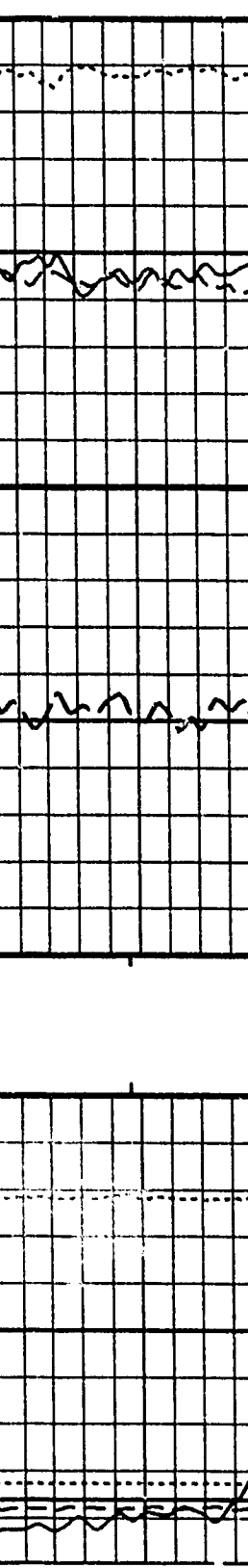
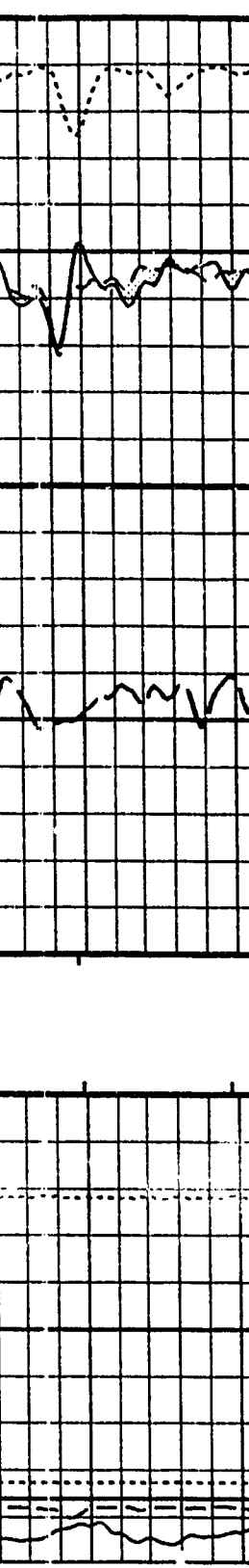
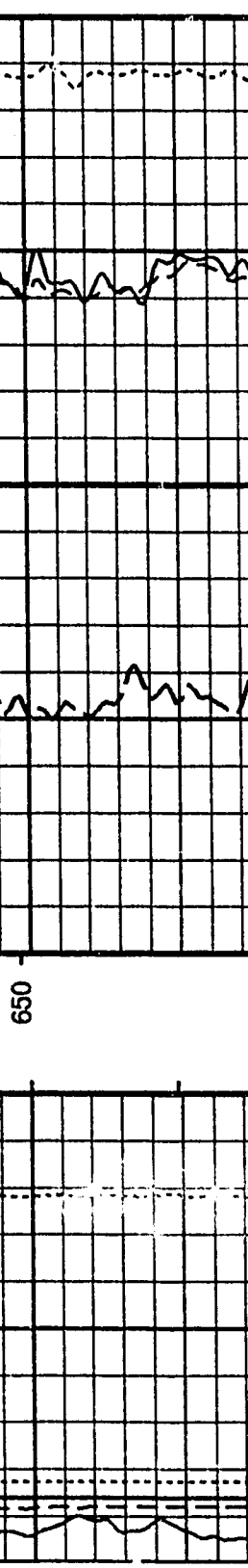
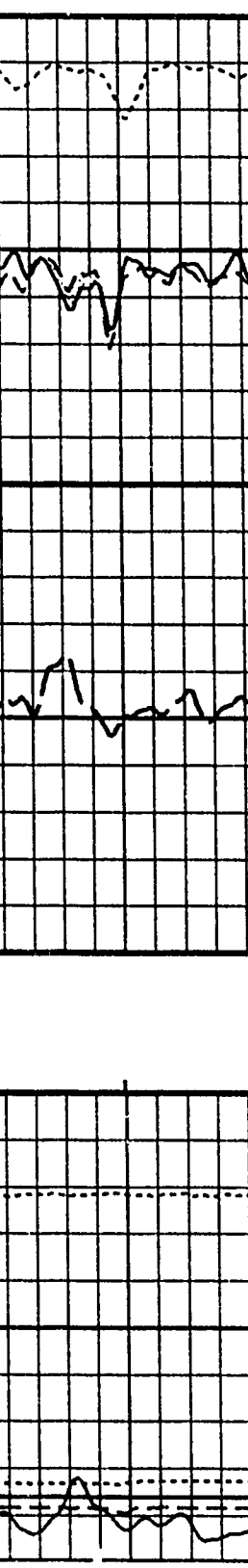
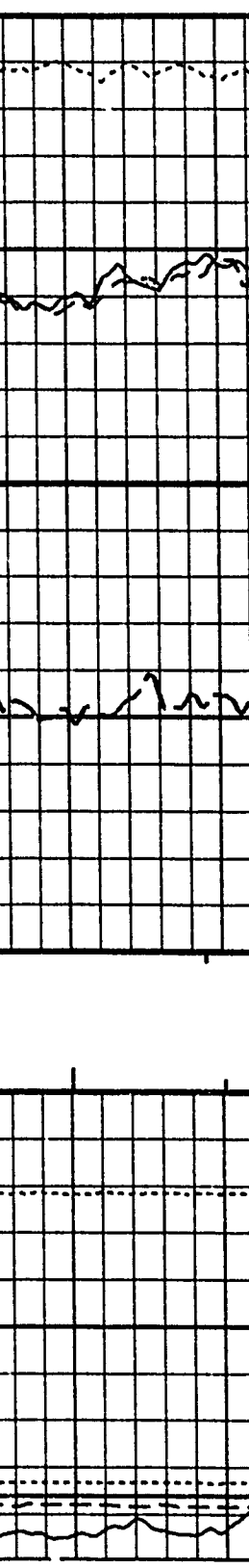
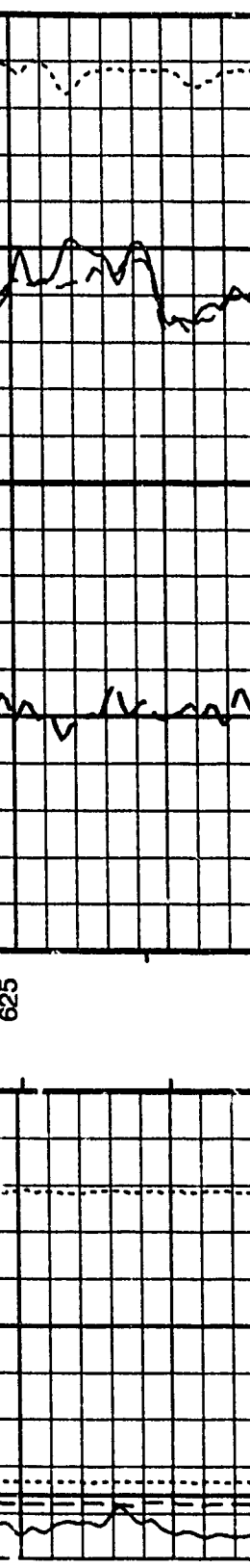
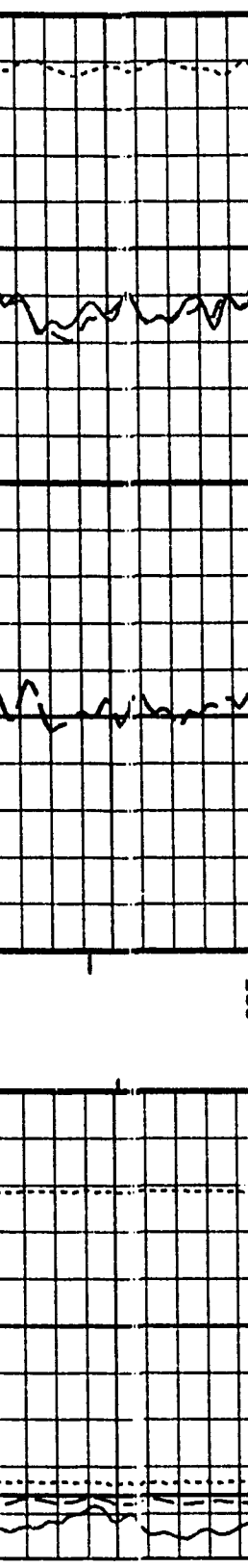
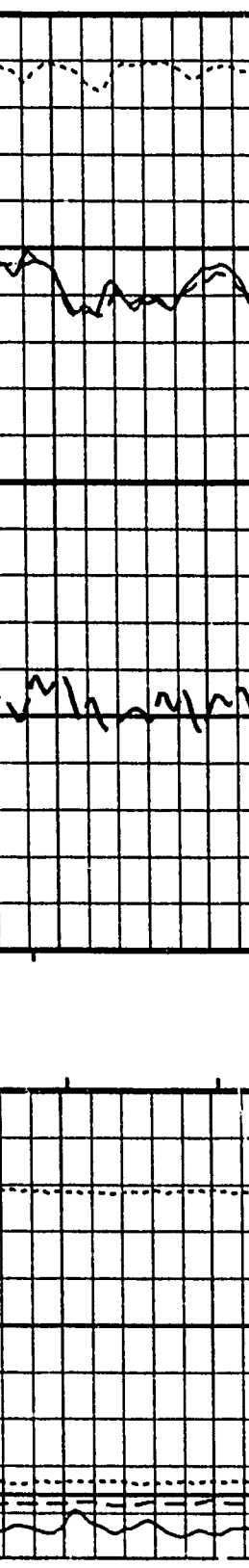
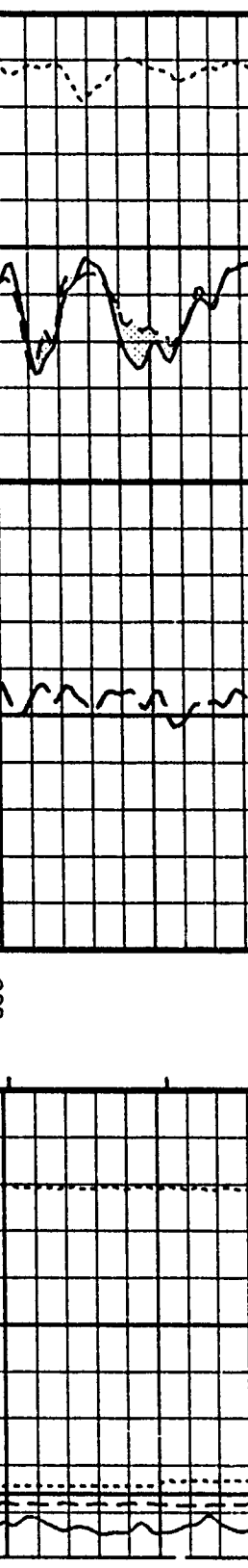
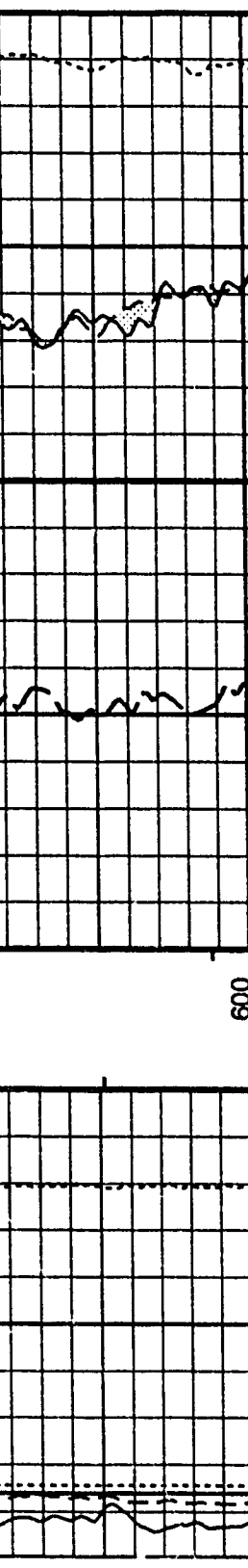
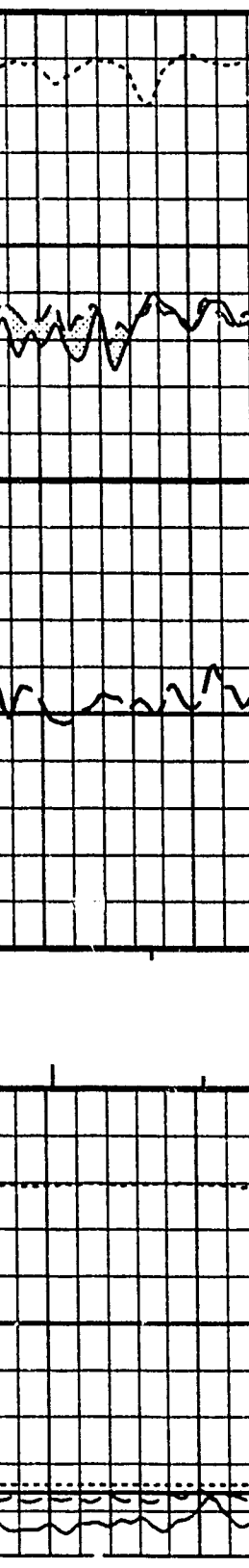
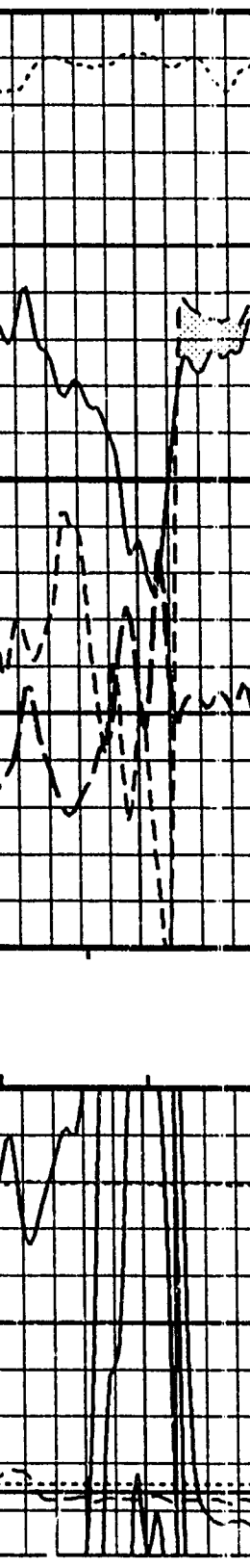
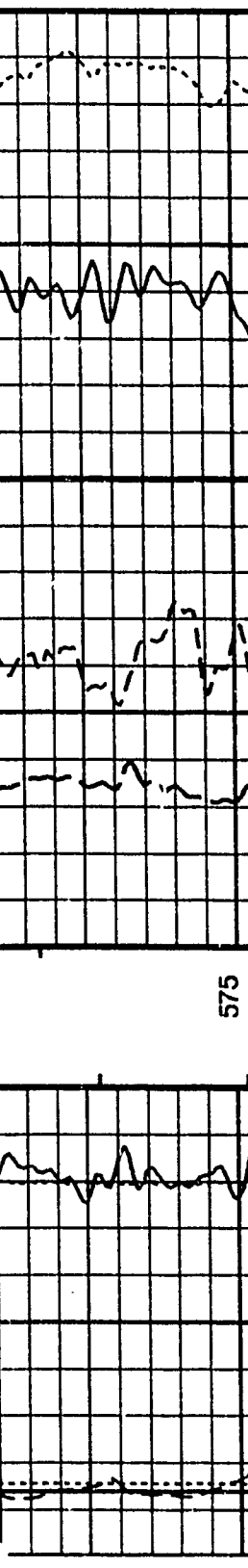
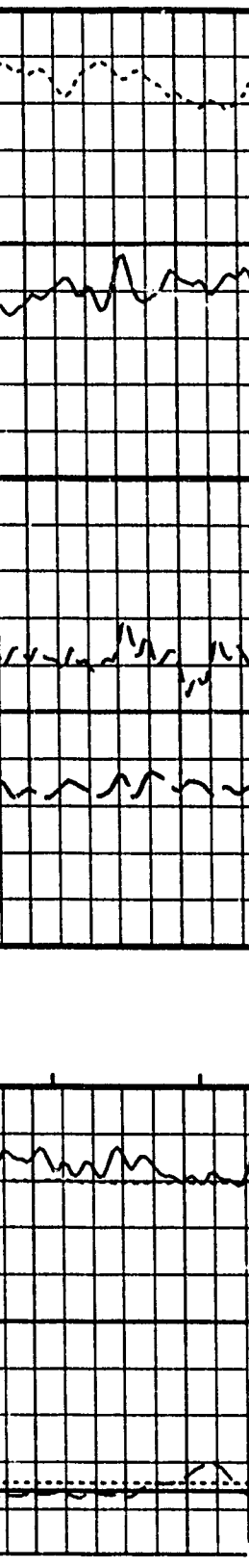
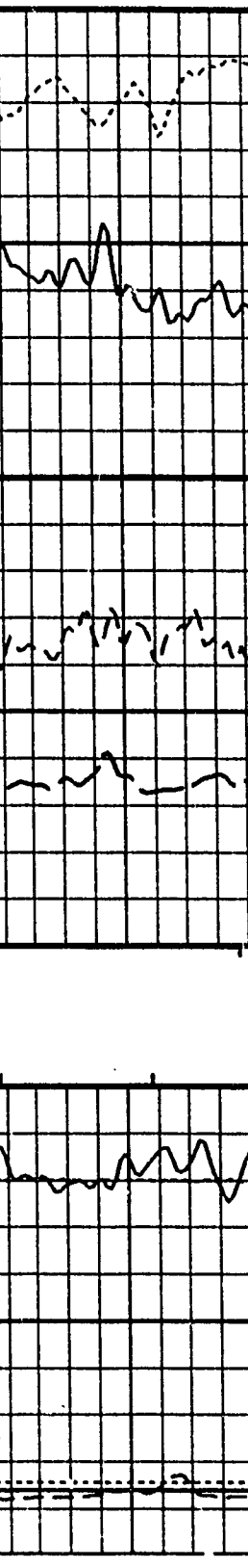
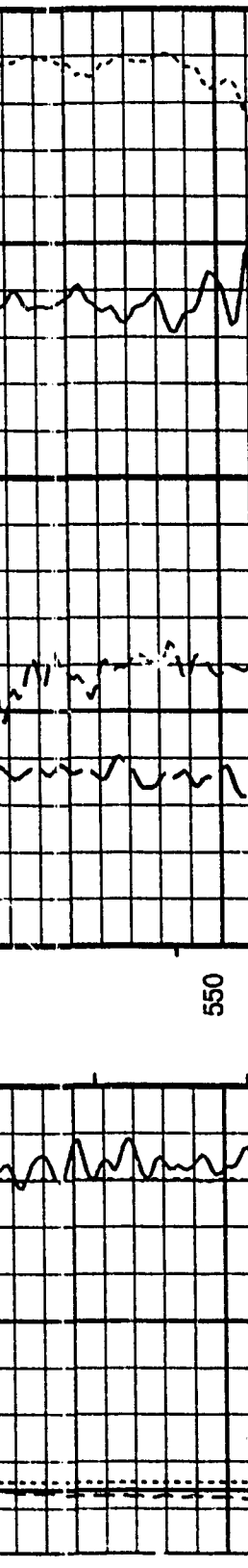
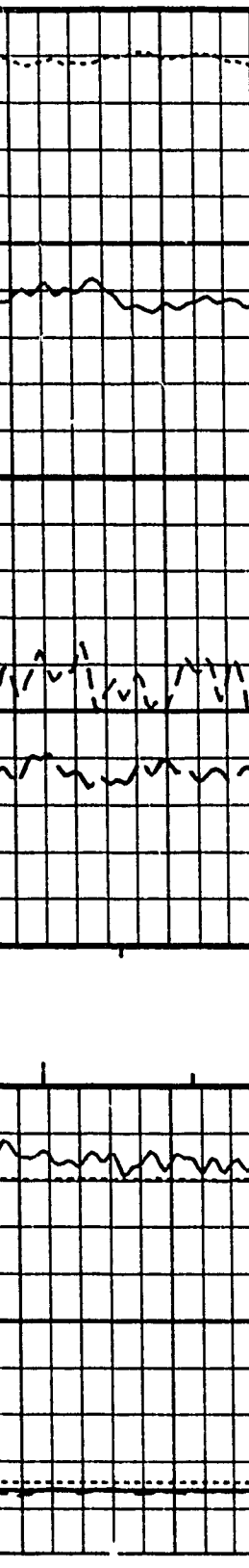
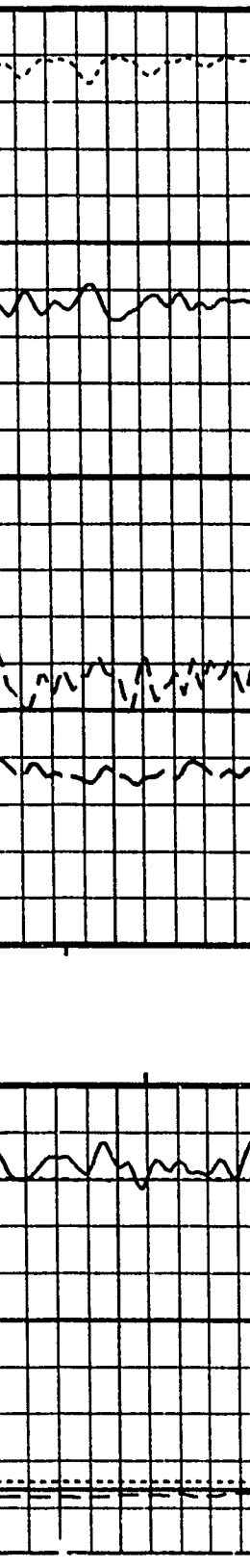
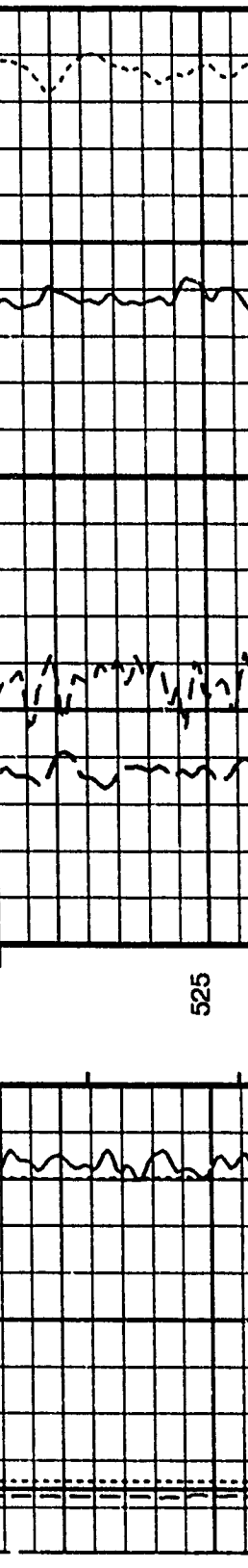
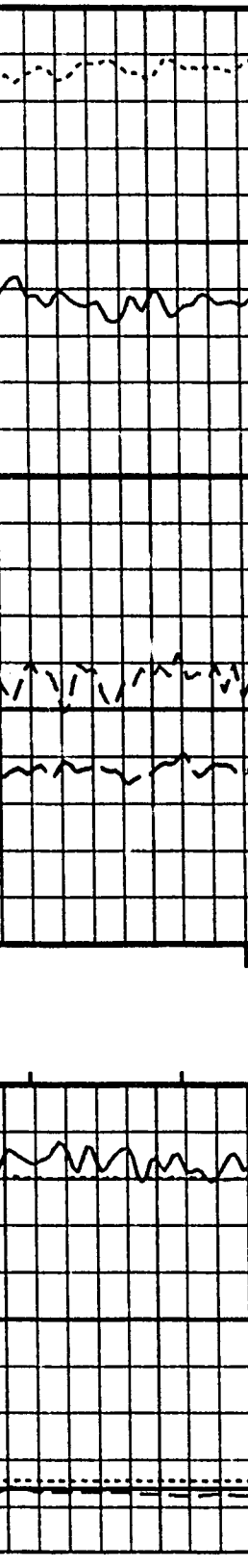
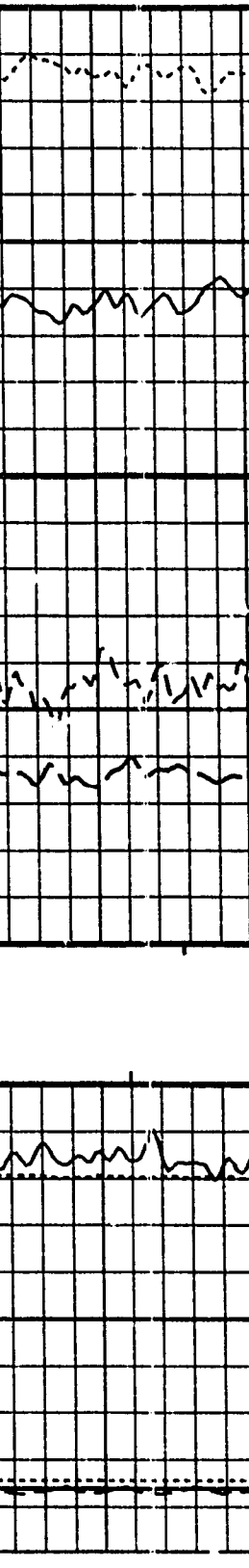
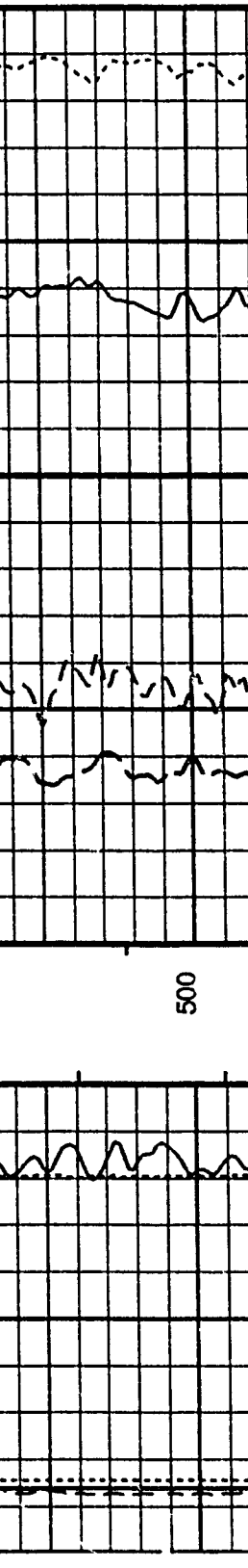
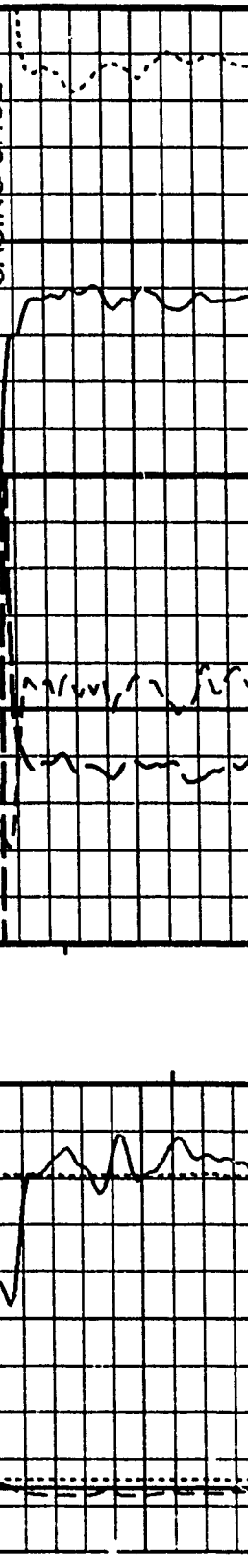
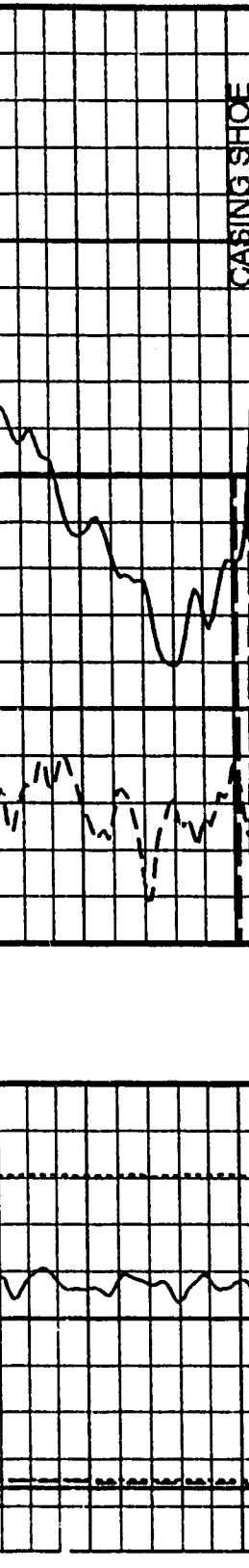
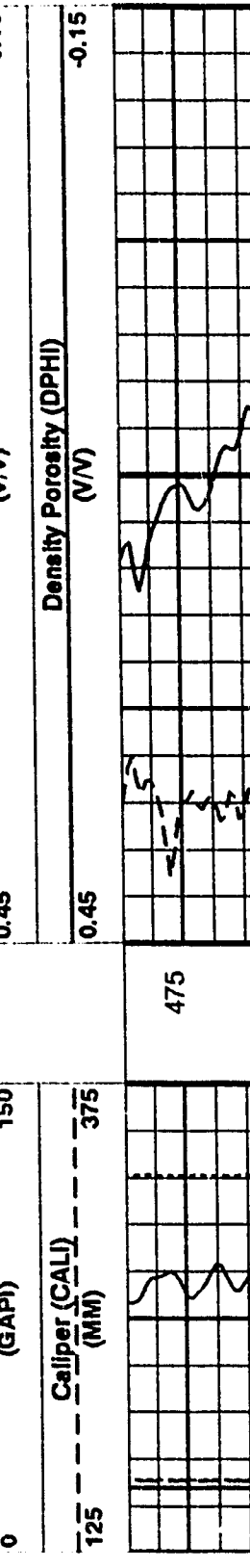
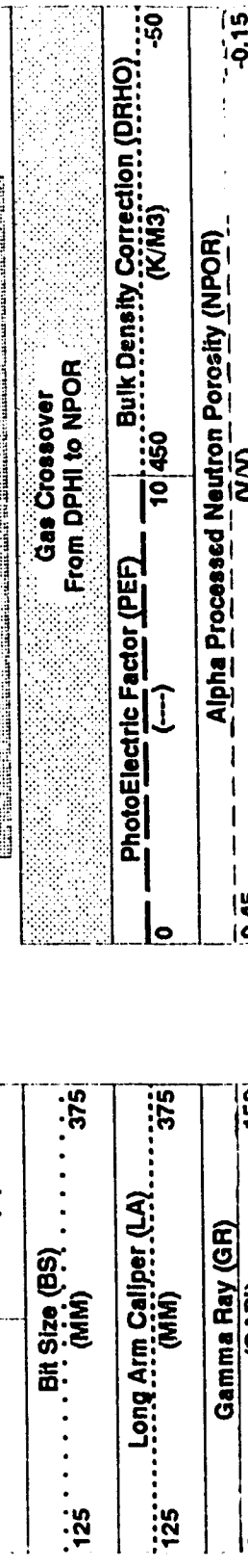
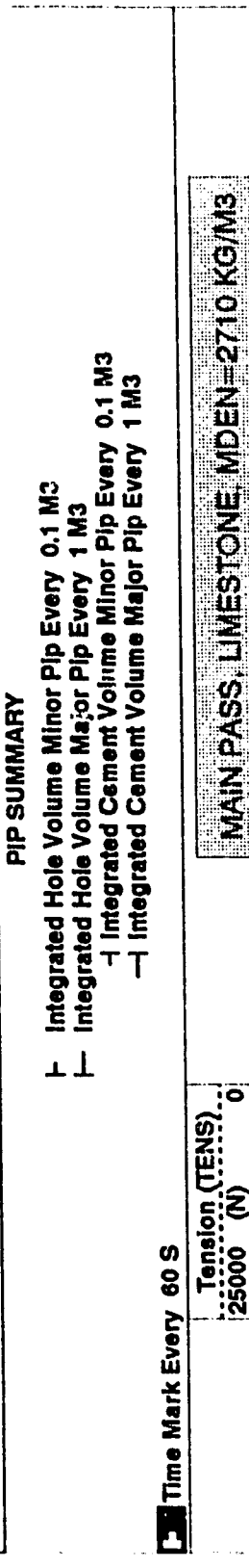
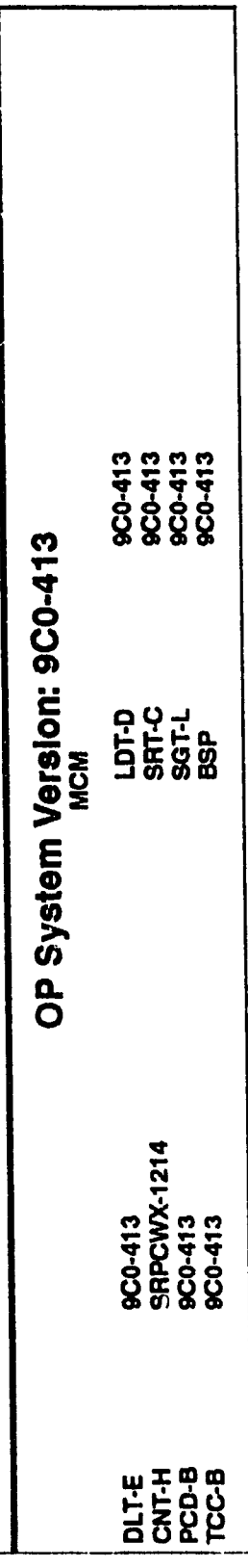
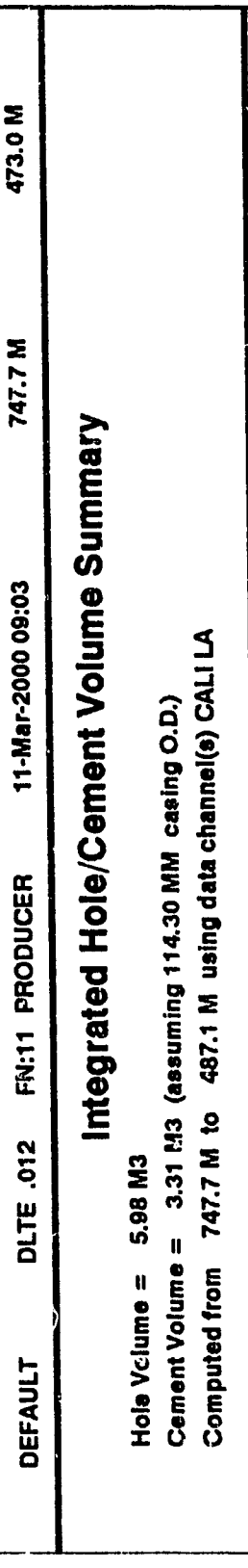
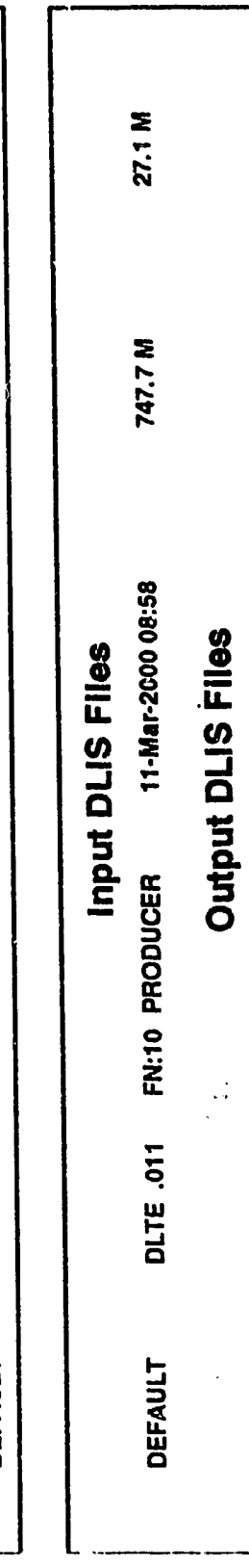
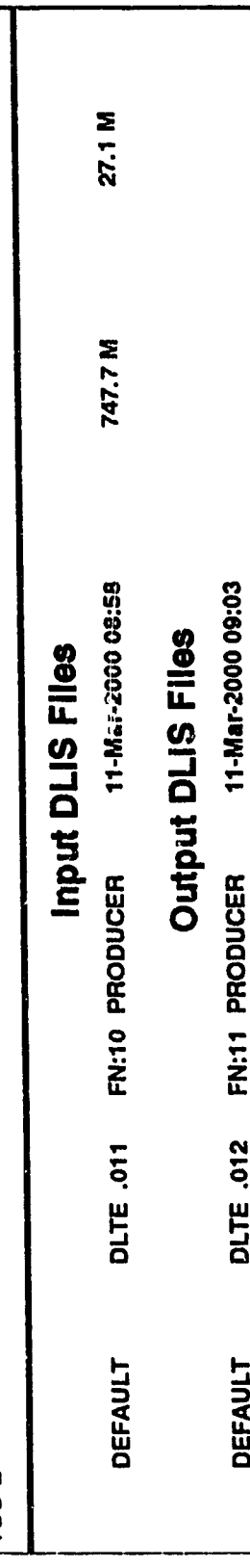
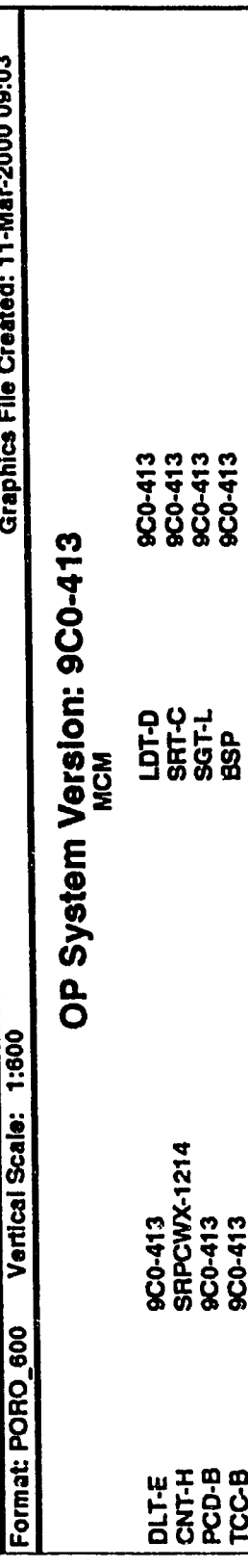
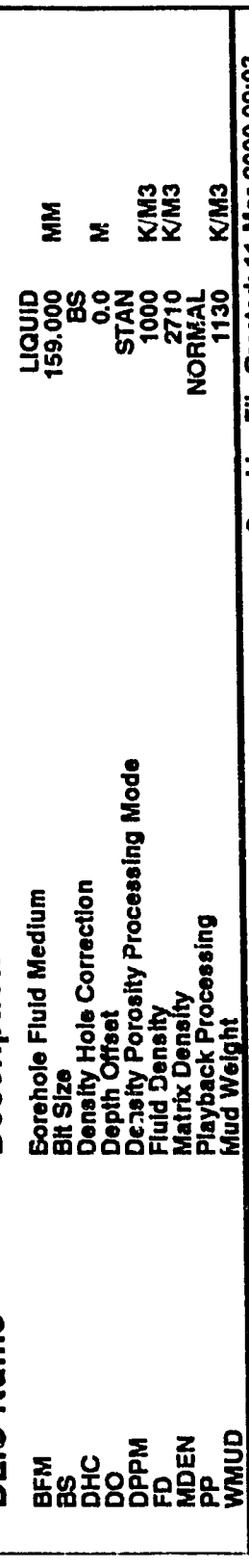
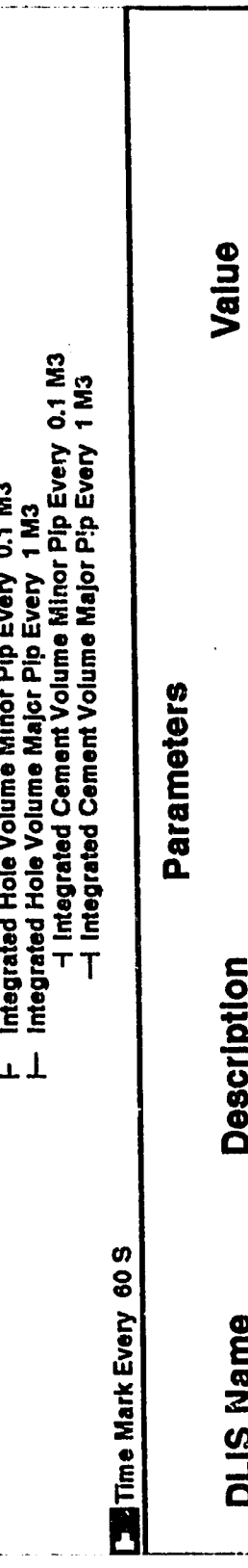
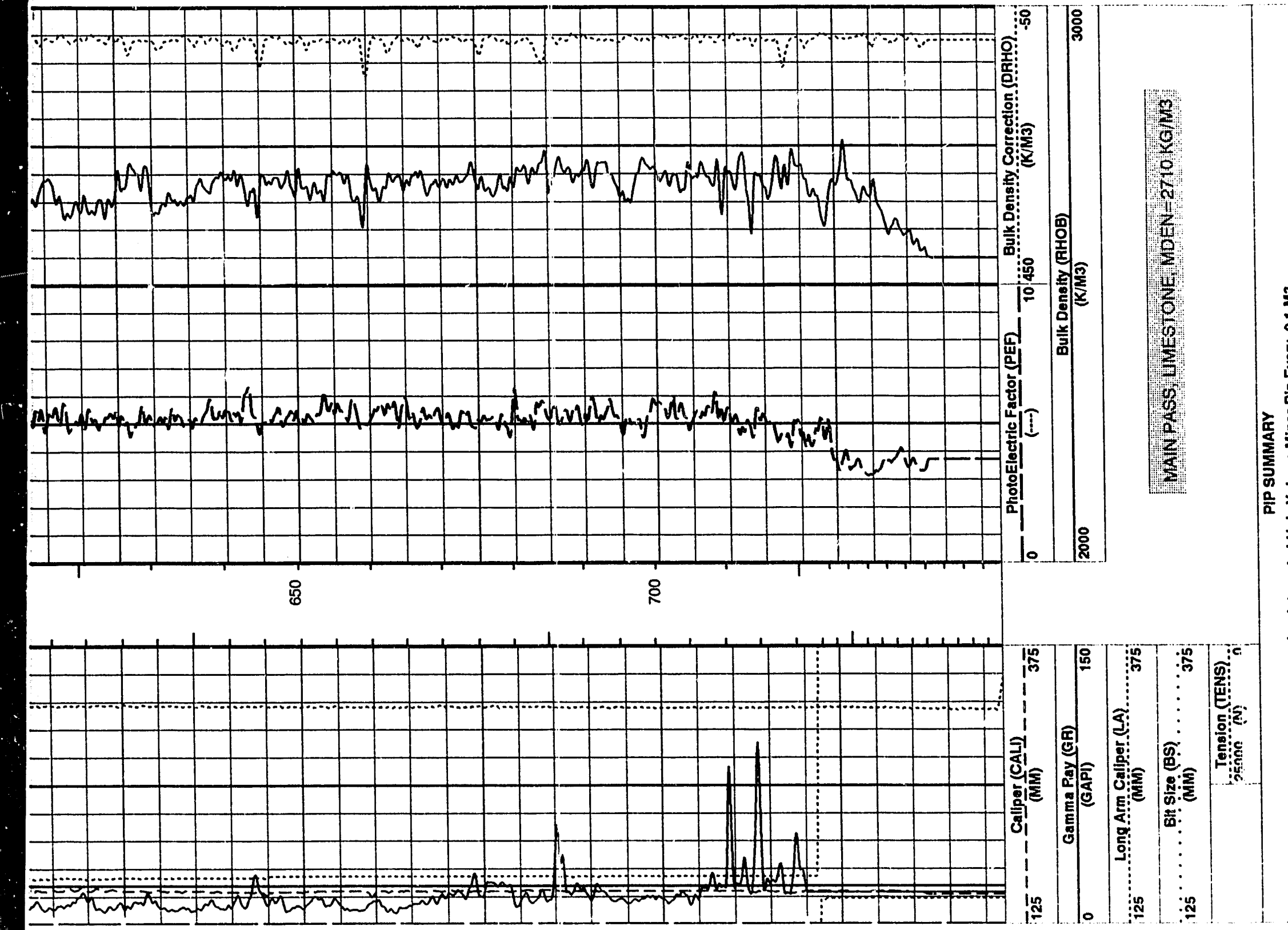
Output DLIS Files

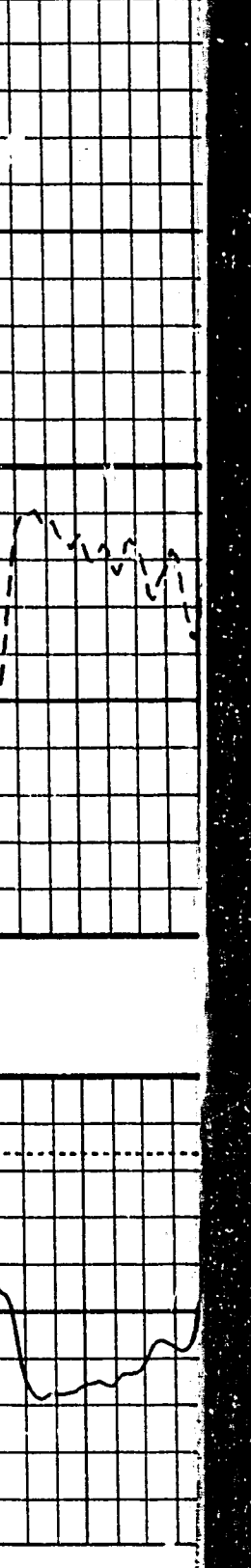
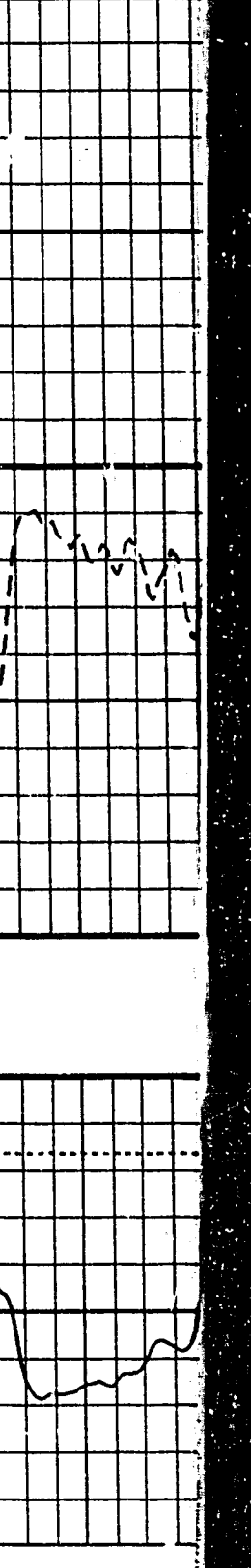
**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**

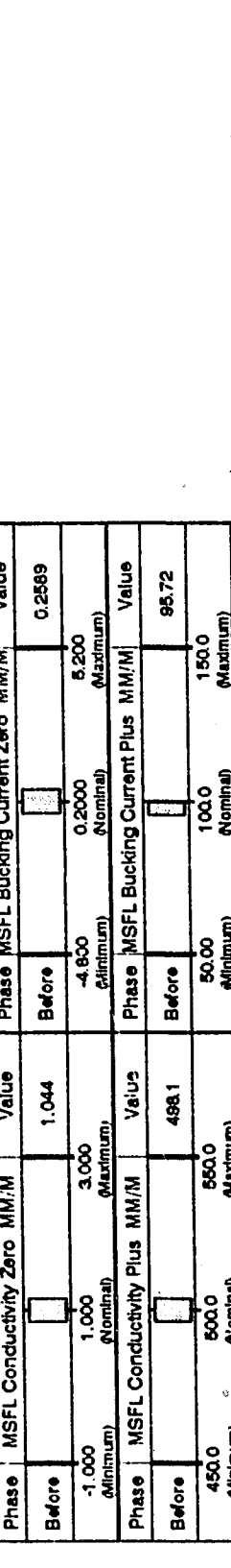
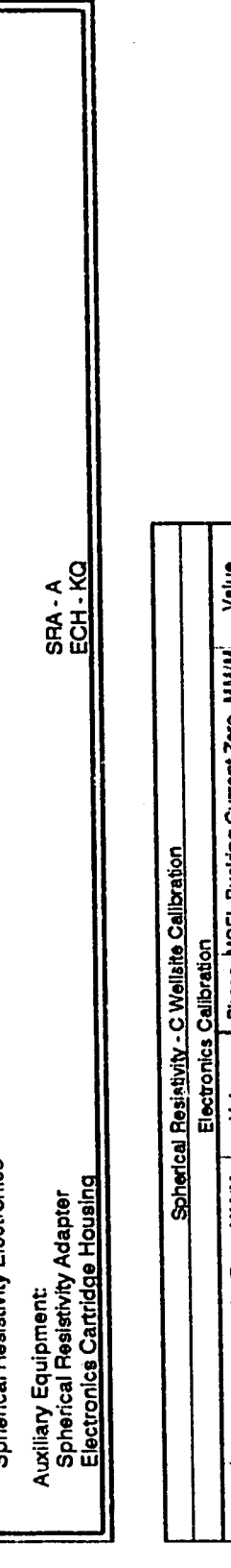
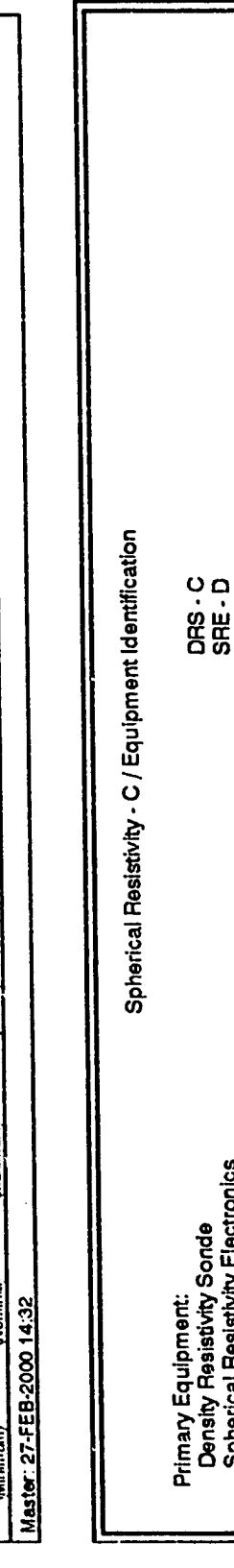
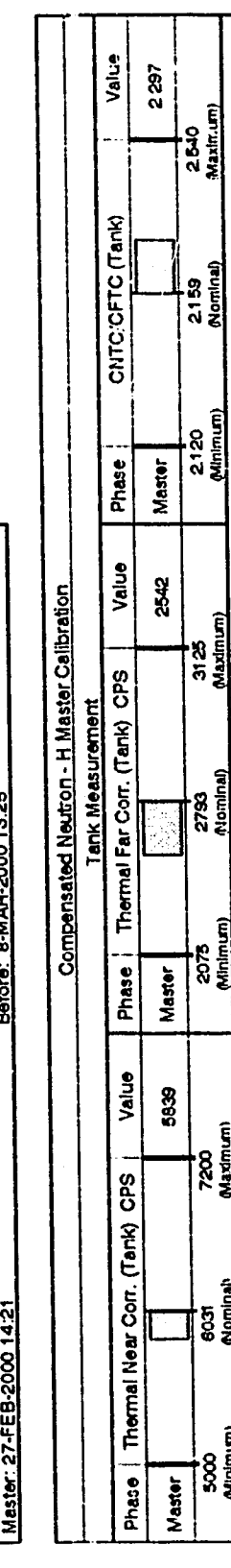
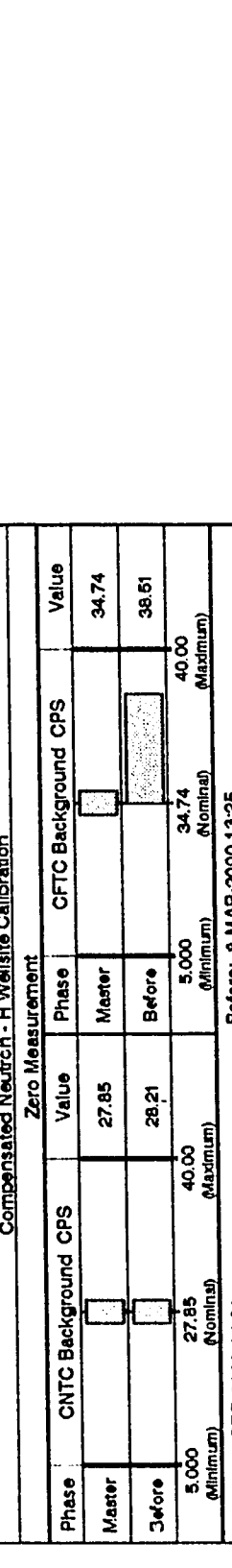
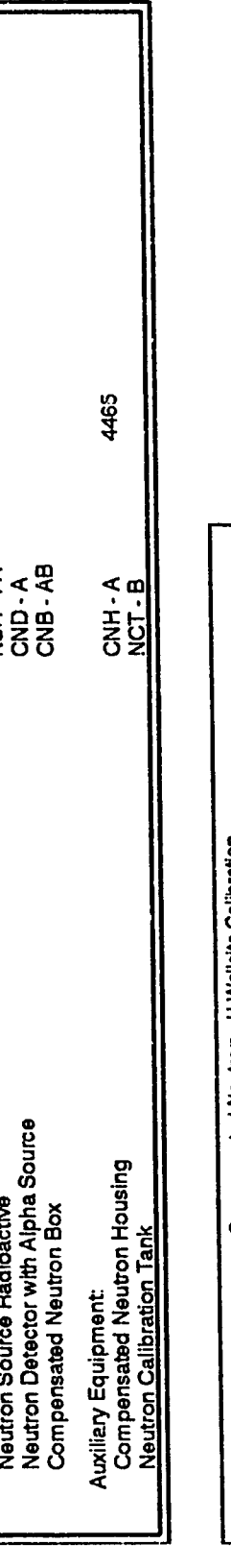
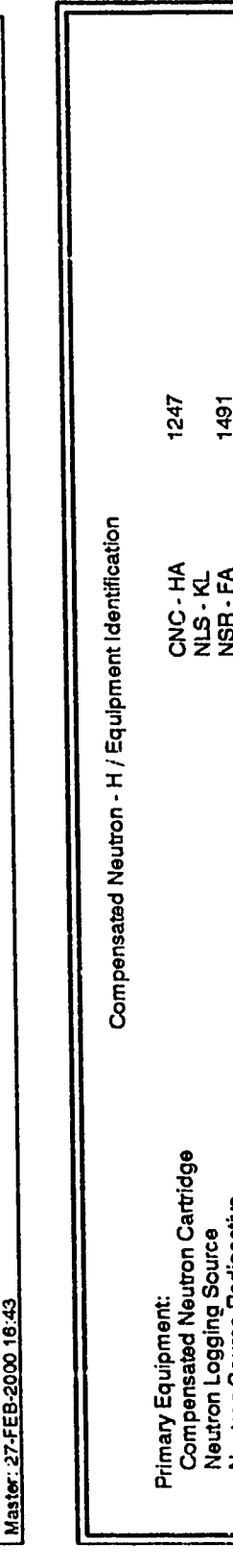
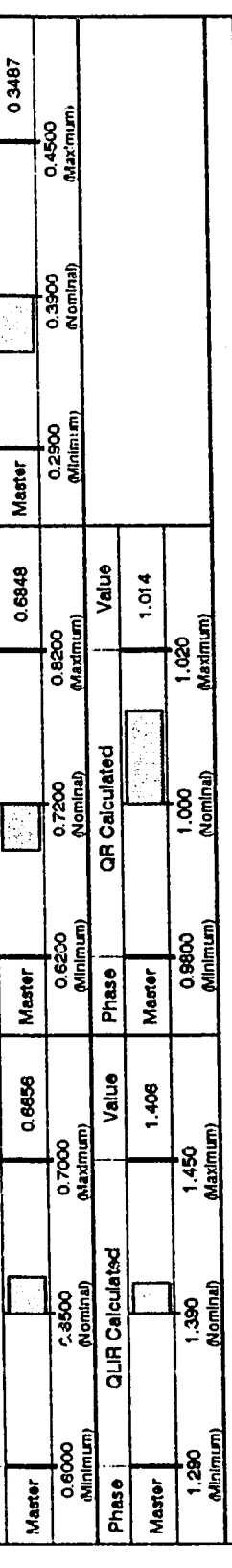
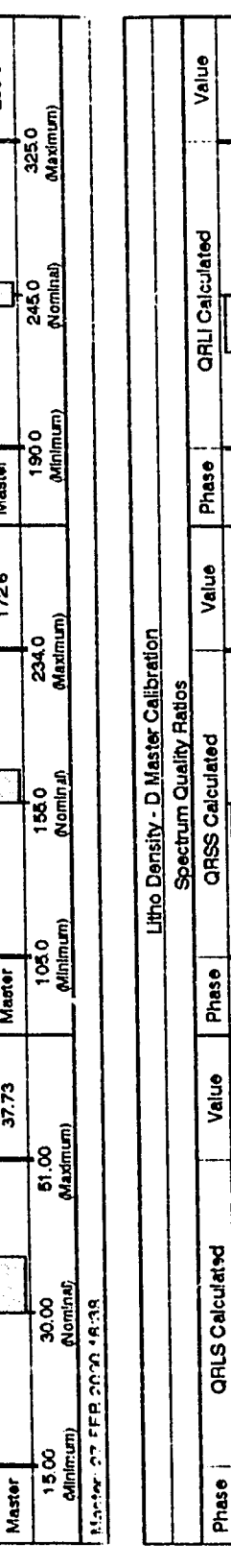
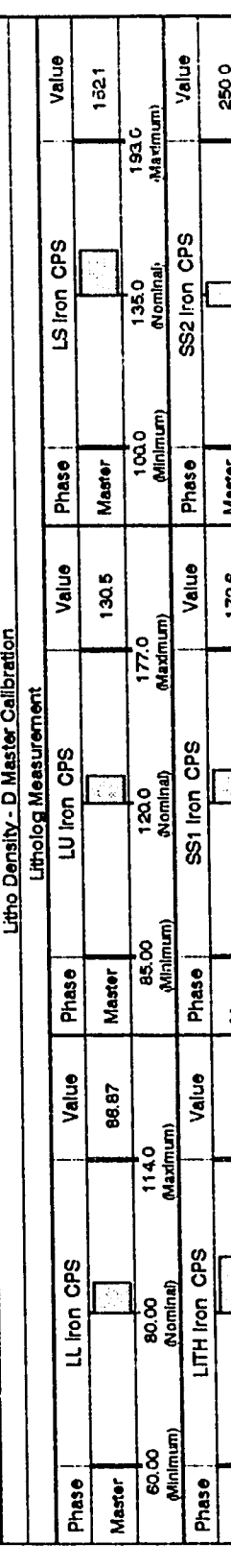
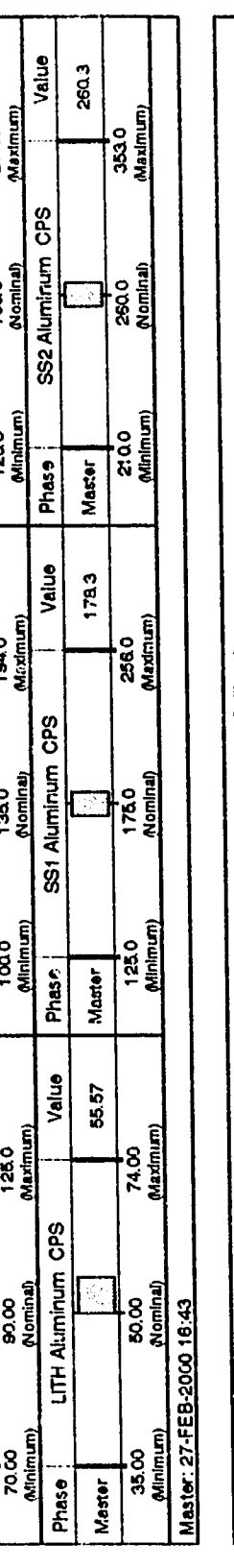
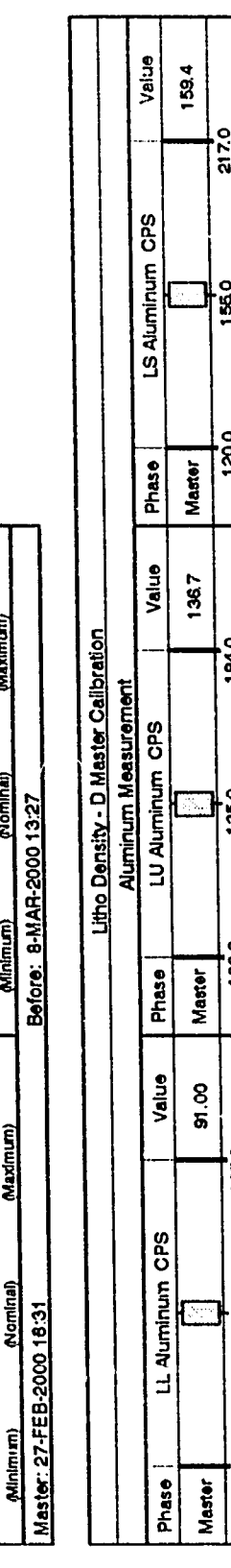
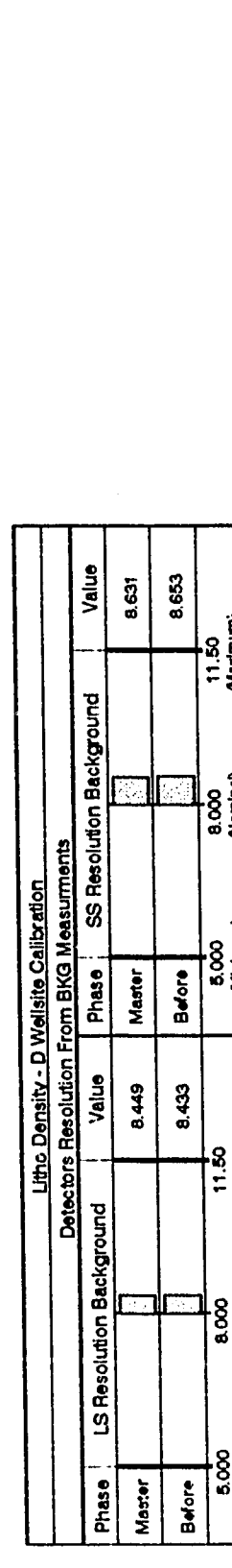
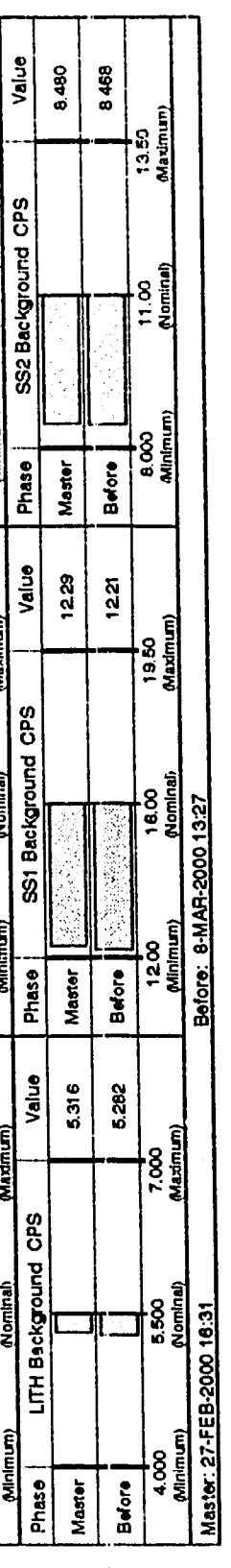
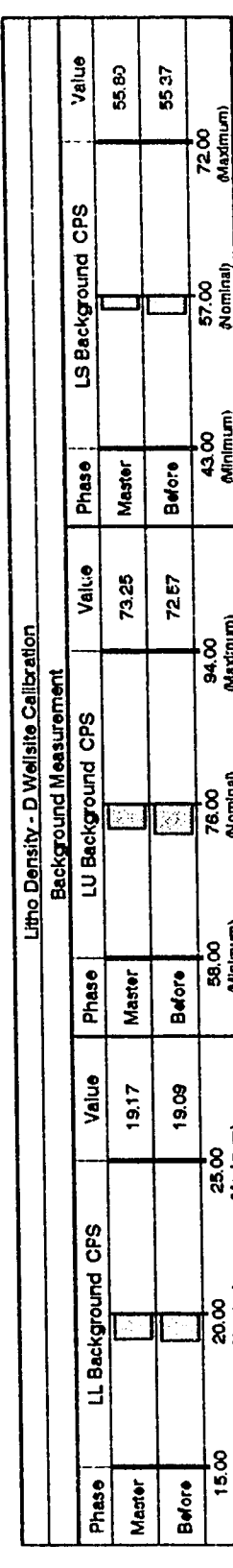
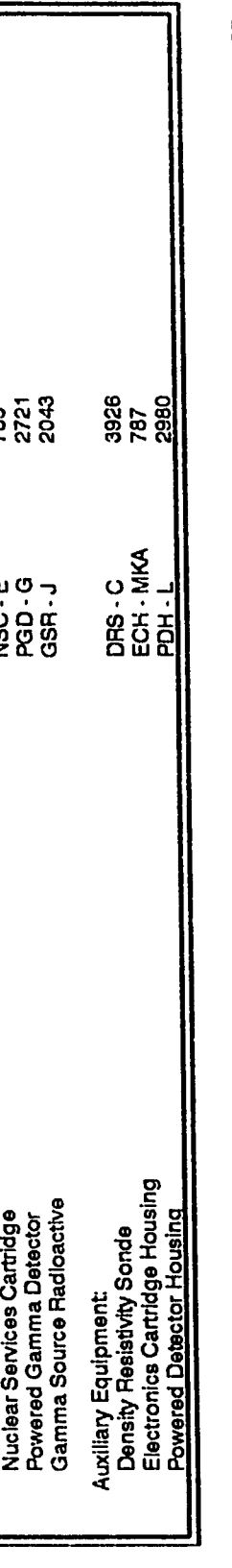
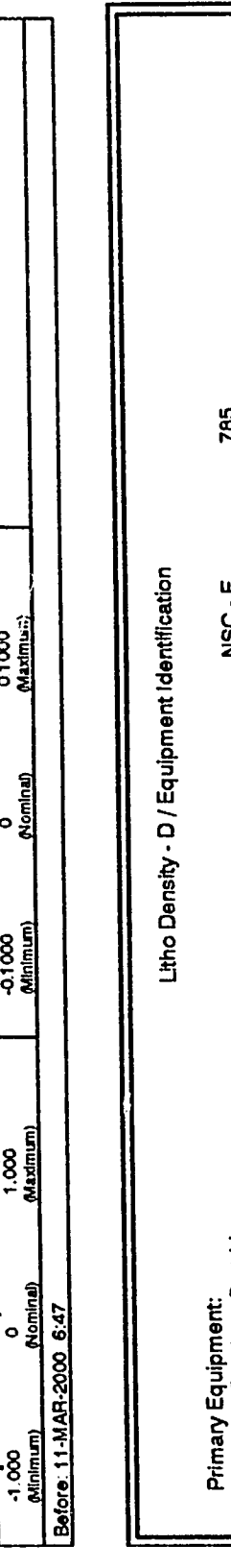
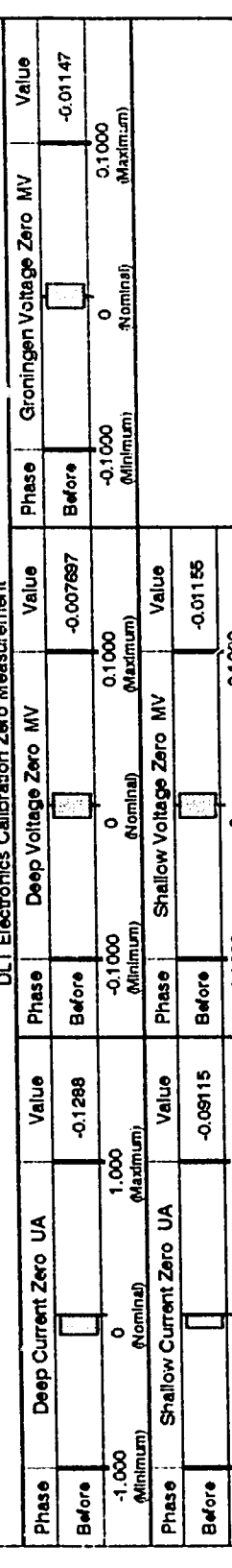
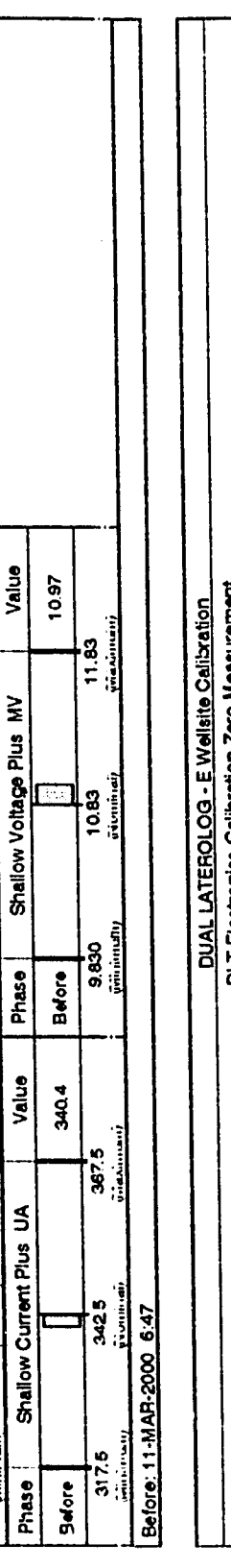
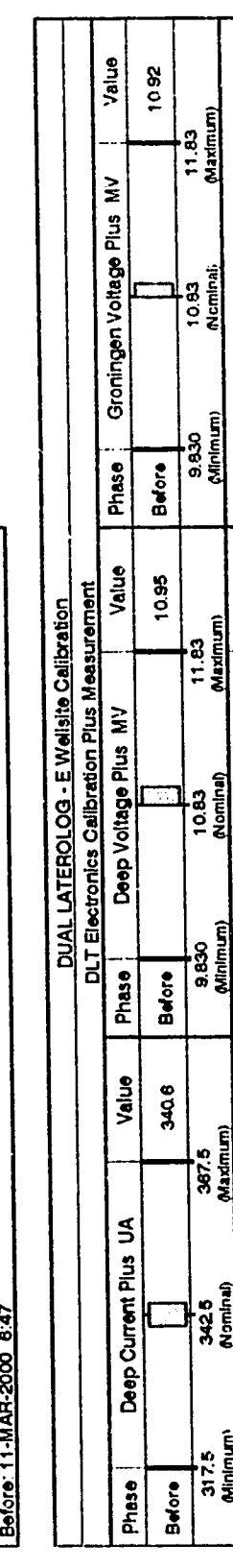
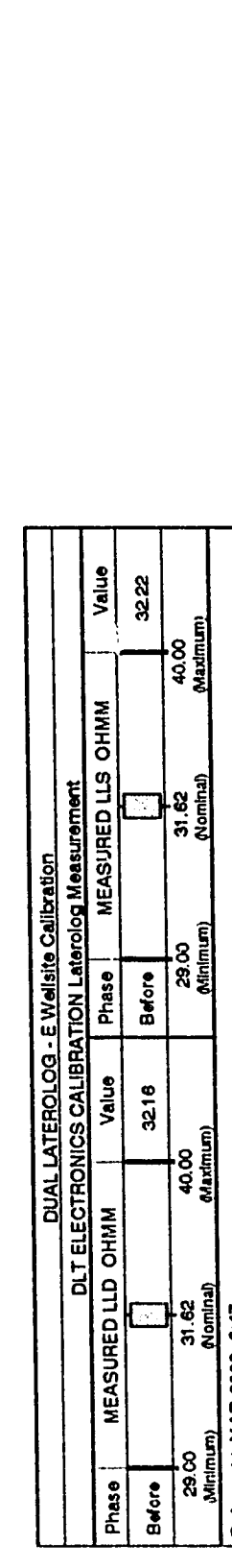
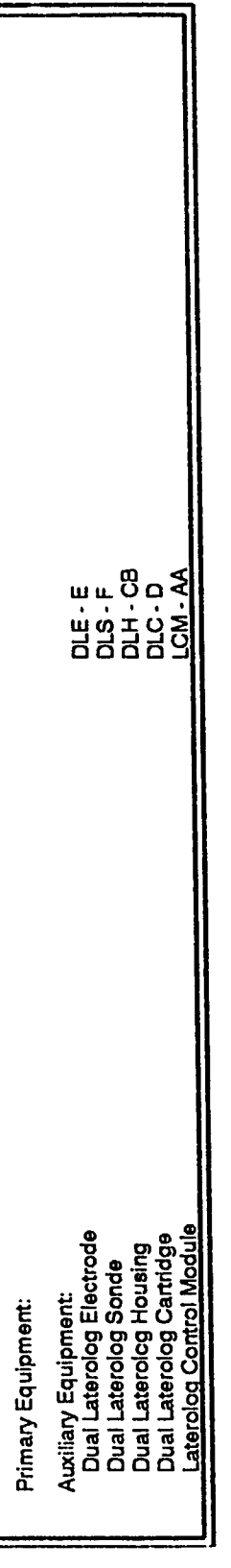
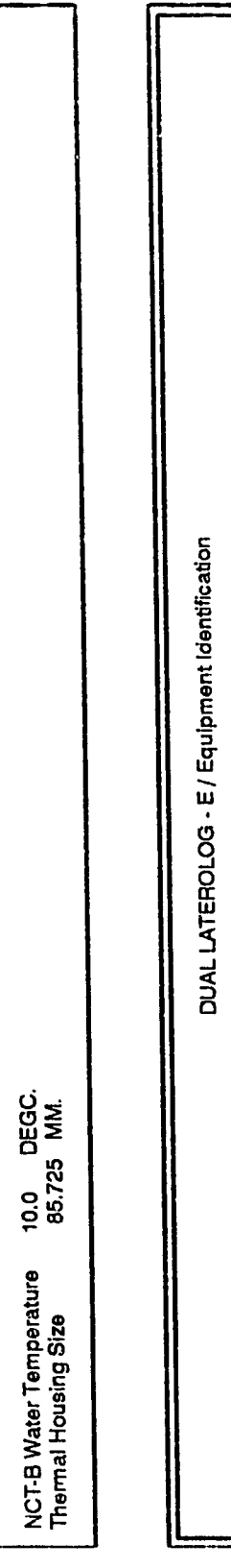
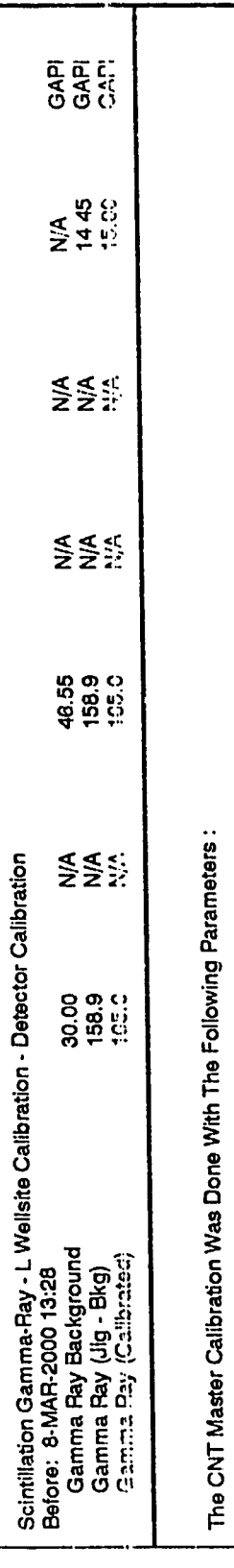
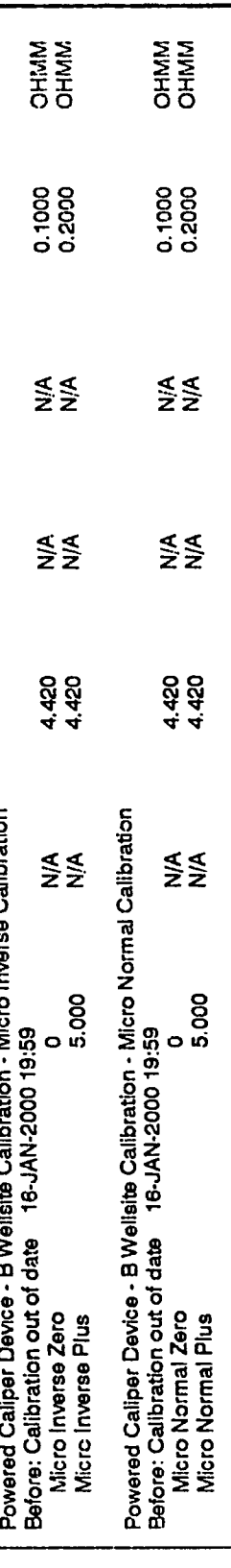
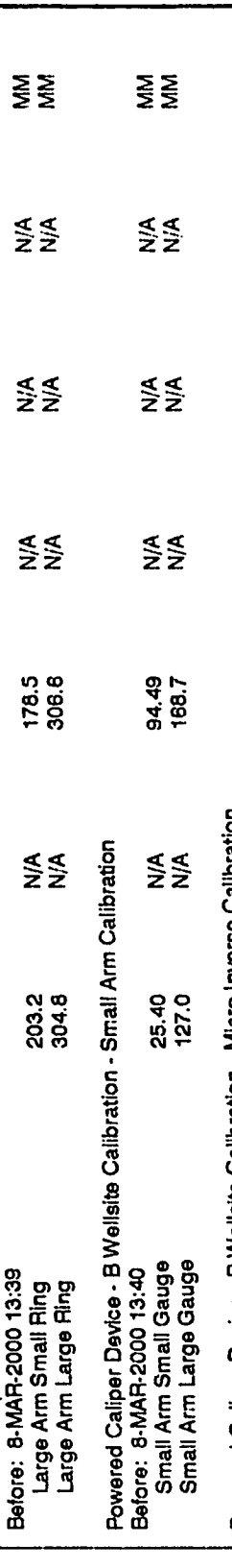
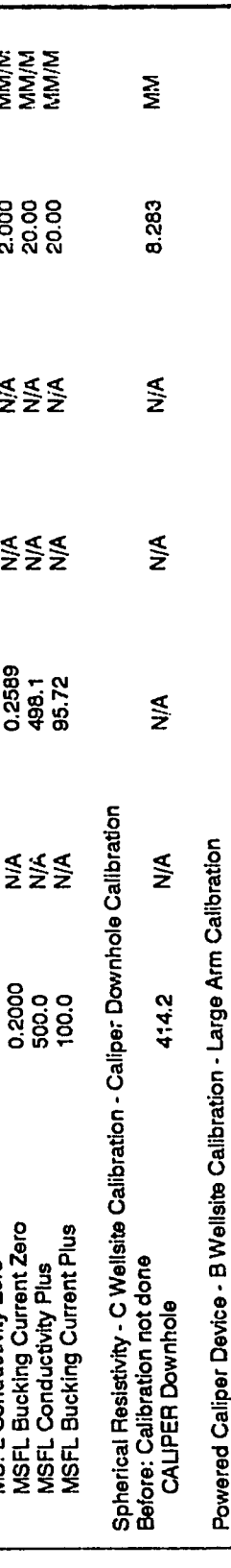
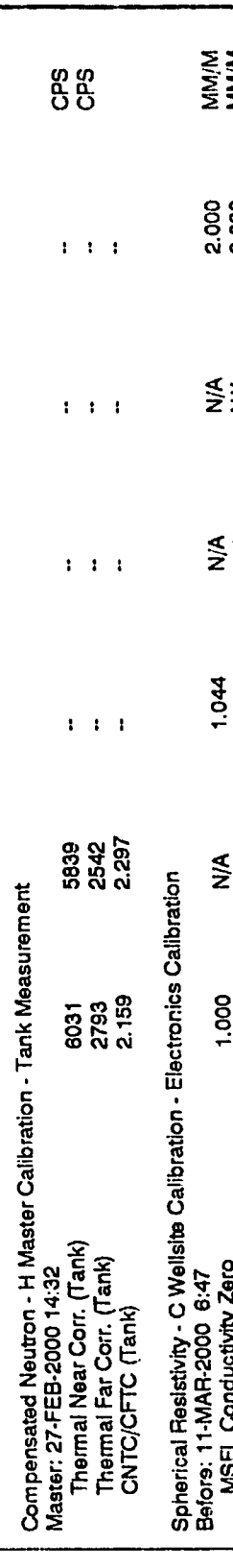
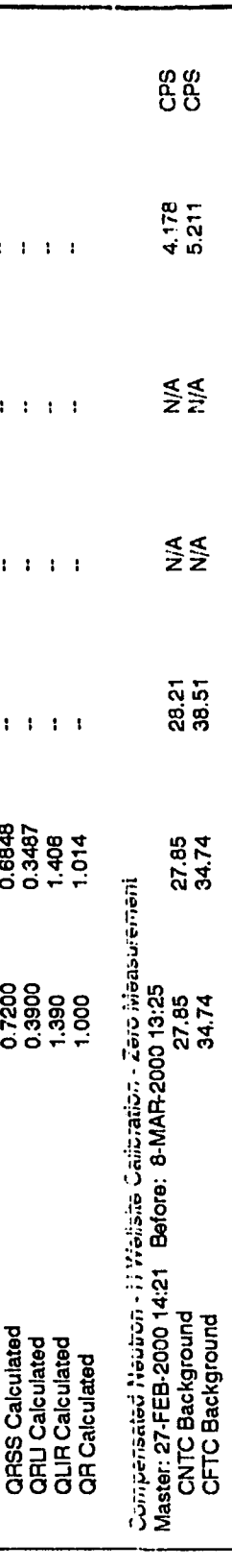
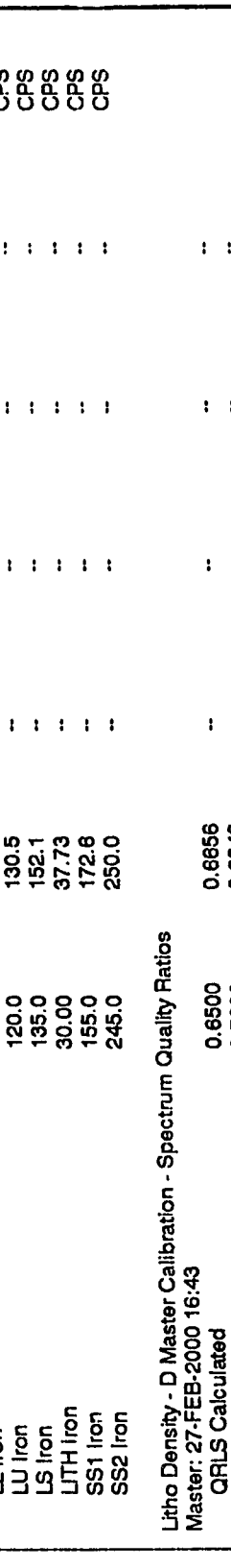
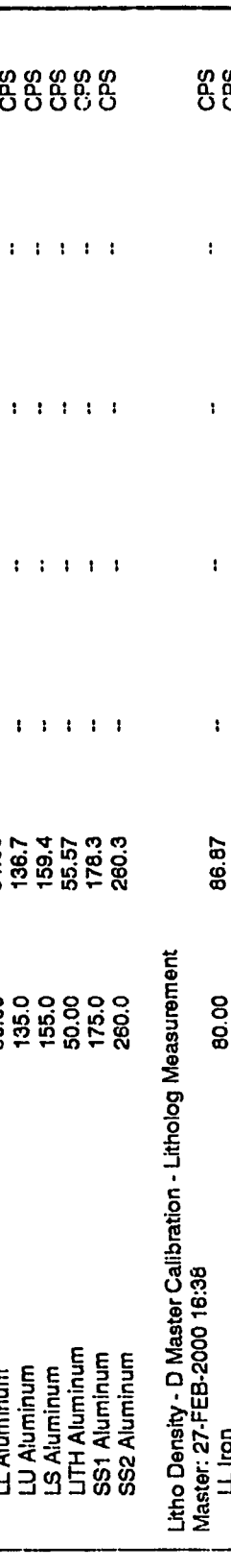
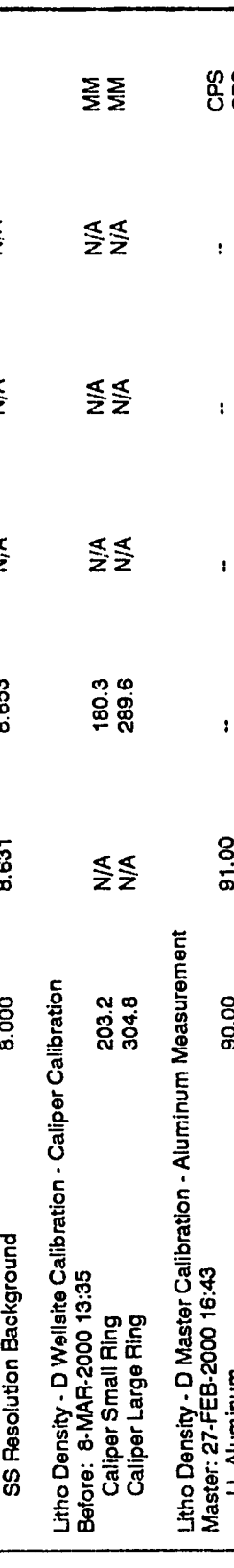
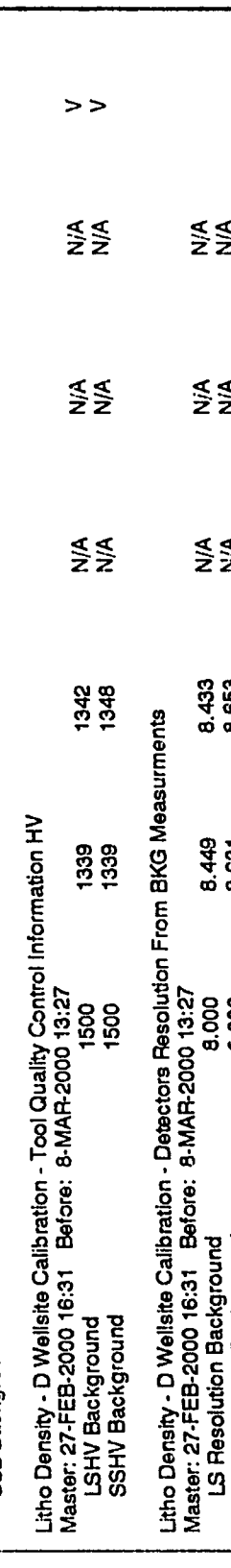
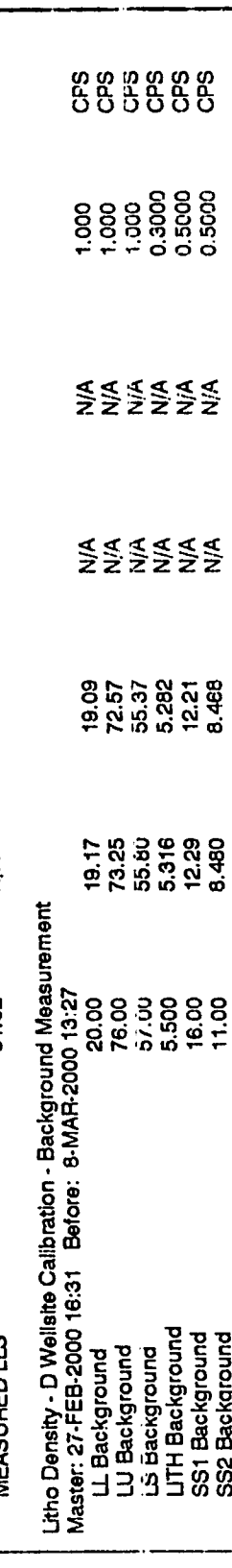
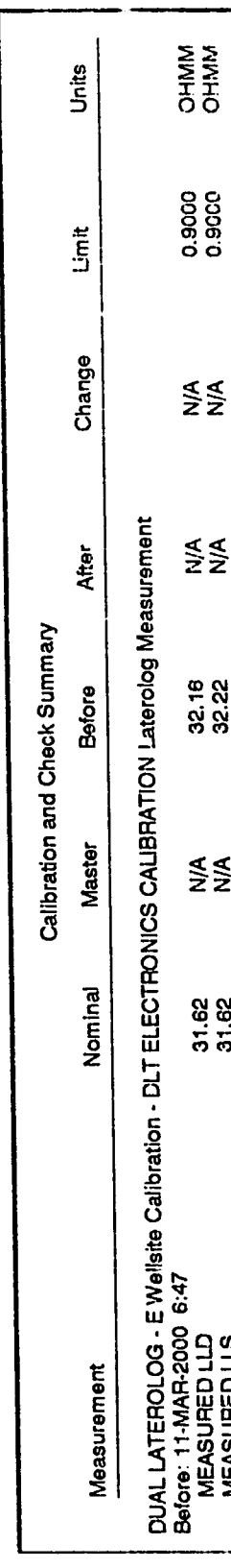
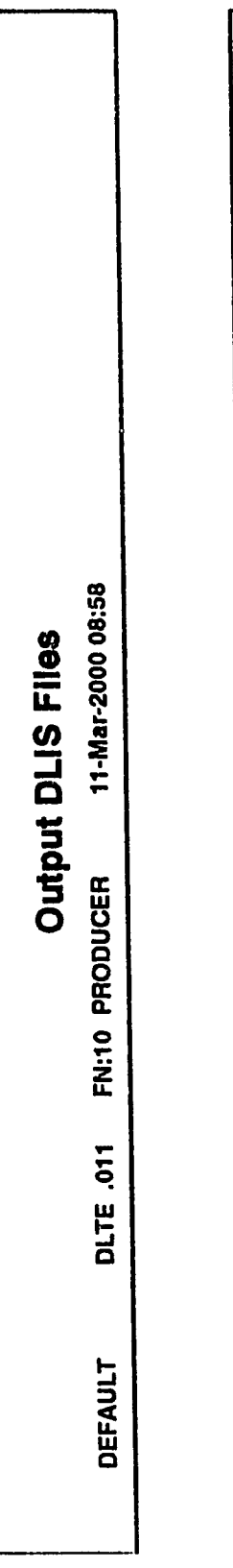
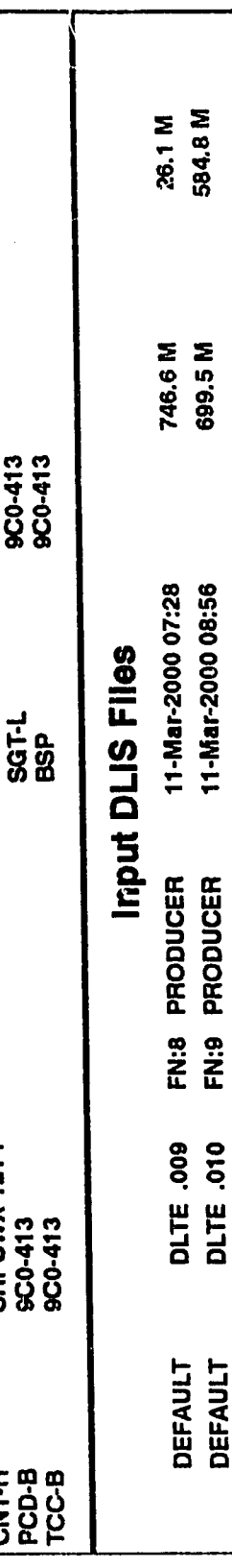
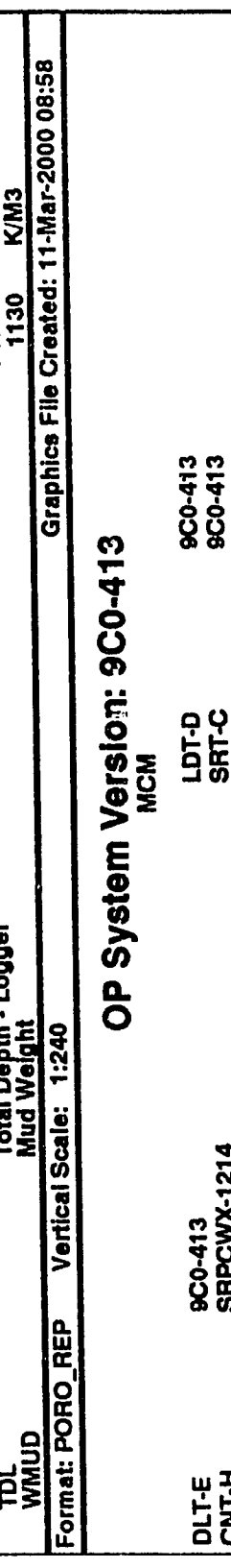
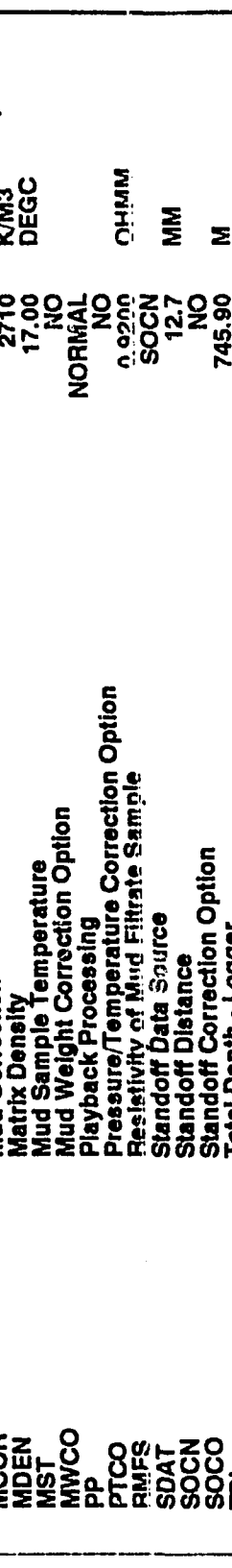
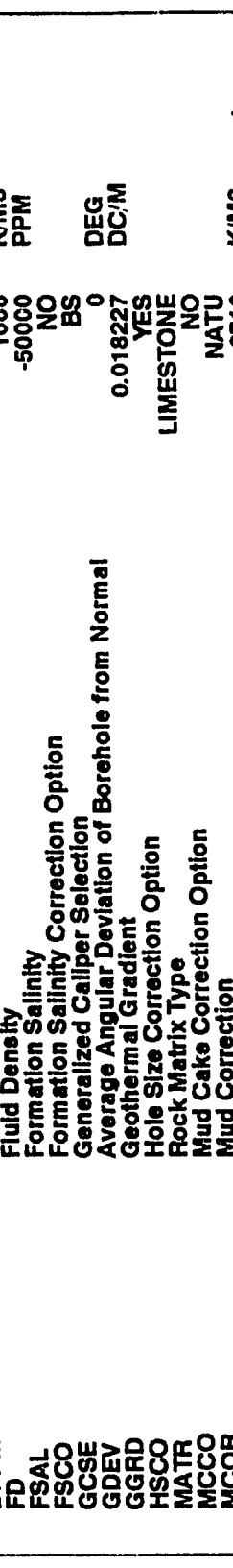
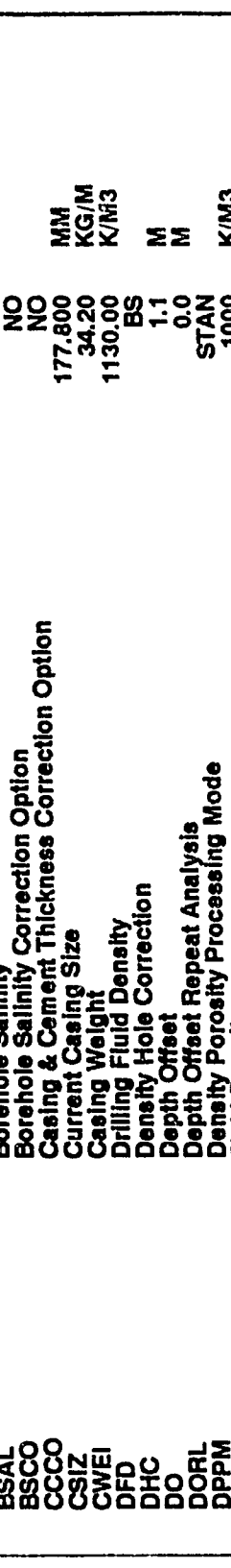
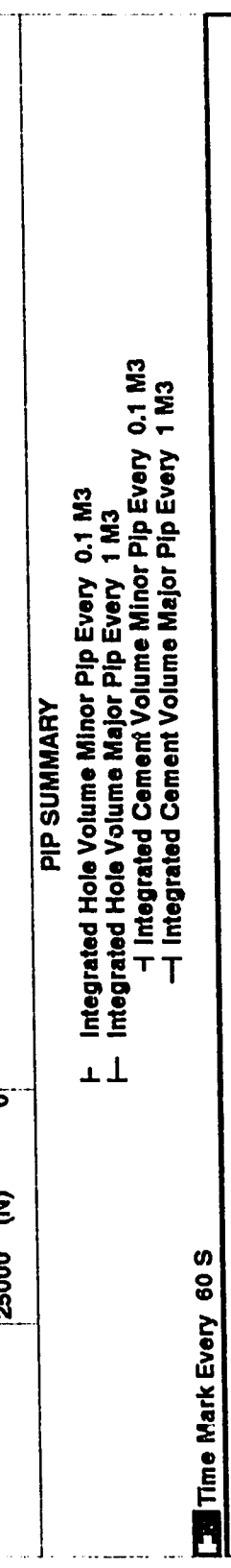
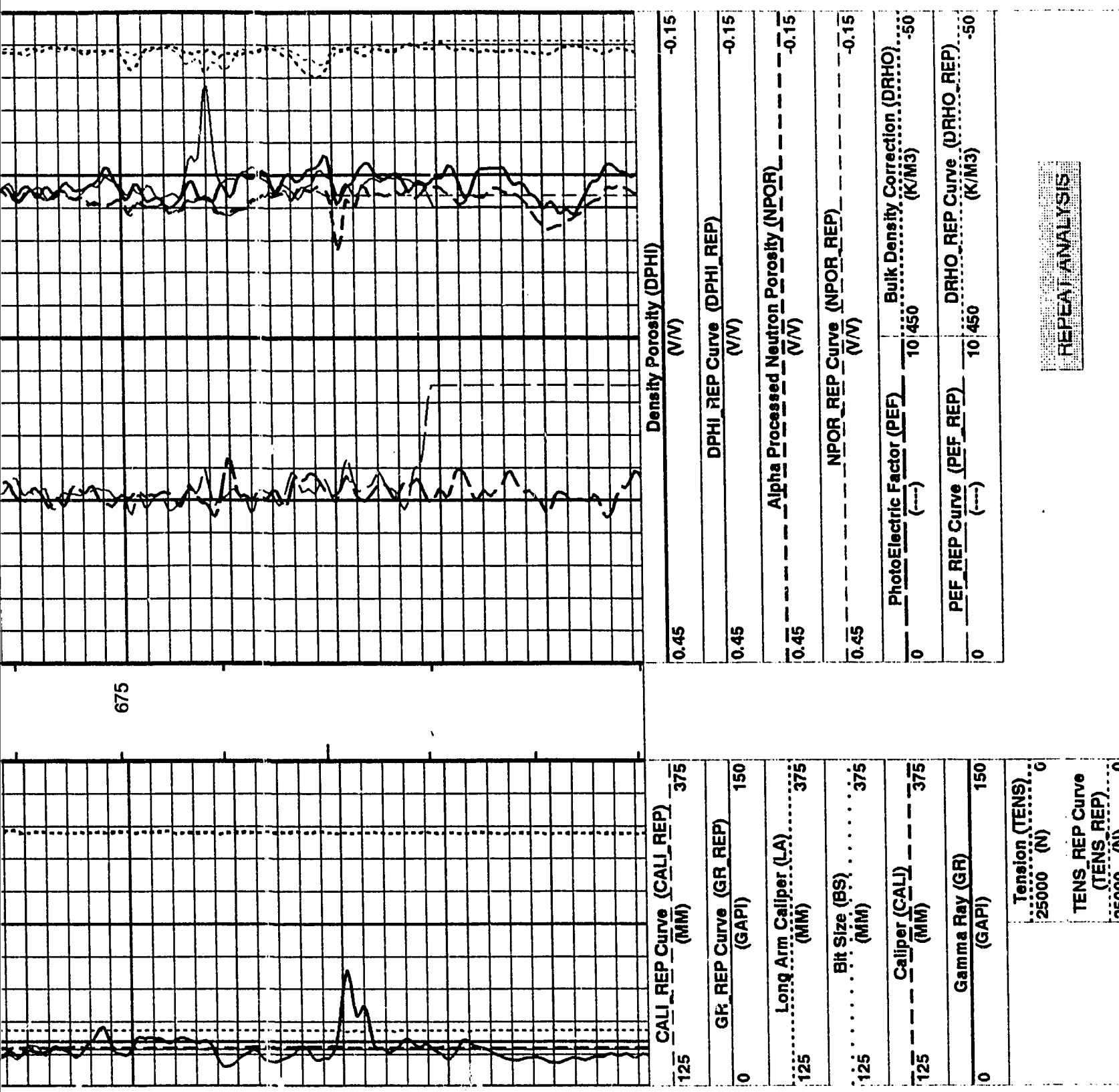
SONIC



DENSITY







Before: 11-MAR-2000 6:47

Spherical Resistivity - C Wellsite Calibration					
Caliper Calibration					
Phase	CALIPER Small Ring MM	Value	Phase	CALIPER Large Ring MM	Value
Before		223.5	Before		320.1
101.6 (Minimum)	203.2 (Nominal)	228.6 (Maximum)	243.8 (Minimum)	304.8 (Nominal)	381.0 (Maximum)

Before: 8-MAR-2000 14:03

Spherical Resistivity - C Wellsite Calibration		
Caliper Downhole Calibration		
Phase	CALIPER Downhole MM	Value
Before	NOT DONE	N/A
372.8 (Minimum)	414.2 (Nominal)	455.6 (Maximum)

Before: Calibration not done

Powered Caliper Device - B / Equipment Identification

Primary Equipment:

Powered Caliper Mechanical (sonde) - A

PCM - A

Powered Caliper Cartridge - H

PCC - H

Auxiliary Equipment:

Powered Caliper Housing - A

PCH - A

1371

Powered Caliper Device - B Wellsite Calibration					
Micro Inverse Calibration					
Phase	Micro Inverse Zero OHMM	Value	Phase	Micro Inverse Plus OHMM	Value
Before	EXCEEDS LIMIT	4.420	Before		4.420
-1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	4.250 (Minimum)	5.000 (Nominal)	5.750 (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	4.420	Before		4.420
-1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	4.250 (Minimum)	5.000 (Nominal)	5.750 (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

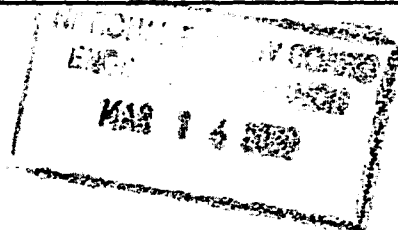
500

Gamma Source Radioactive

GSR - U/Y

Scintillation Gamma-Ray - L Wellsite Calibration									
Detector Calibration									
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value	
Before		48.55	Before		158.9	Before		165.0	
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	144.5 (Minimum)	158.9 (Nominal)	173.4 (Maximum)	150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)	

Before: 8-MAR-2000 13:28



COMPANY AEC OIL & GAS

WELL AEC WEST RENAISSANCE CARCAJOU 0-74

FIELD EXPLORATORY

PROVINCE NWT

BOTTOM LOG INTERVAL 736.5 m

SCHLUMBERGER DEPTH 747 m

DEPTH DRILLER 748 m

KELLY BUSHING 111.3 m

DRILL FLOOR

GROUND LEVEL 107 m

Schlumberger

COMPENSATED NEUTRON
LITHO-DENSITY

SYNTHETIC SEISMOGRAM

O-074 65-40 128-00
KB = 111.30M

Time Control Curve = SONIC
Time Datum = -358.26 m
Time Sample Interval = 1.00 ms

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

Time Scale = 19.050 cm/sec
Date = Aug-20-2000 13:26:12

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

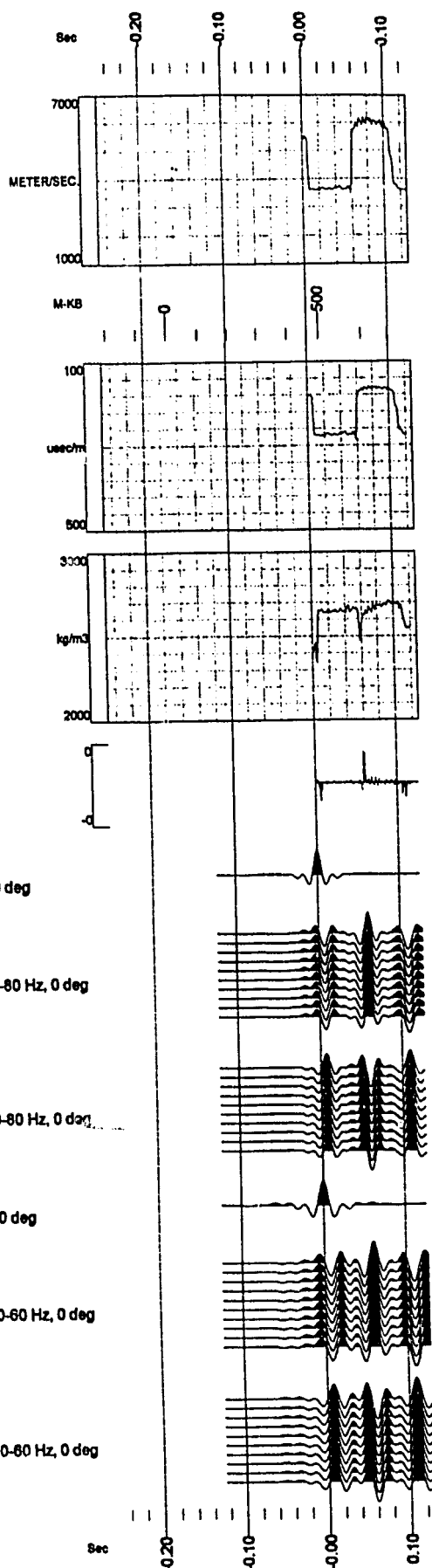
(2) Reverse
Ormsby 10-15-60-80 Hz, 0 deg

(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 = 60.0 Hz
Phase = 0 deg

WAVELET: 2) Ormsby

Frequency 1 = 10.0 Hz
Frequency 2 = 15.0 Hz
Frequency 3 = 60.0 Hz
Phase = 0 deg

AEC Oil & Gas - Western New Ventures

**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)

N.E.B. COPY

WELL: AEC (West) RENAISSANCE CARCAJOU O-74

FIELD: EXPLORATORY

PROVINCE: NWT

LOCATION: LSD SEC TWP RGE W MERIDIAN

COORDINATES: 7271461.56

535309.10 E

ELEVATIONS: GD 107.0 m

LOG MEASURED FROM KB

KB 111.3 m

4.3 m ABOVE GROUND

WELL TYPE: EXPLORATORY

TOTAL DEPTH:

SPUD DATE: 2000-03-05

T.D. DATE:

LICENCE No.: 1888

AFE No.: 5000045

CONTRACTOR: AKITA #14

CORES:

MUD TYPE: GEL CHEM

MUD UP @: 472 METERS

SAMPLES: 5 & 2.5 METER SAMPLES

AEC/REN: 125 to T.D. METERS

GOVT: 125 to T.D. METERS

DSTs: NONE

OPEN HOLE LOGS: SCHLUMBERGER

CNL-LDT-DLL:

BHCS-GR

CASING DEPTH

SURFACE: 125.0 m
INTERMEDIATE: 487.0 m
MAIN: m

CASING SIZE

SURFACE: 244.5 mm
INTERMEDIATE: 177.8 mm
MAIN: mm

HOLE SIZE

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

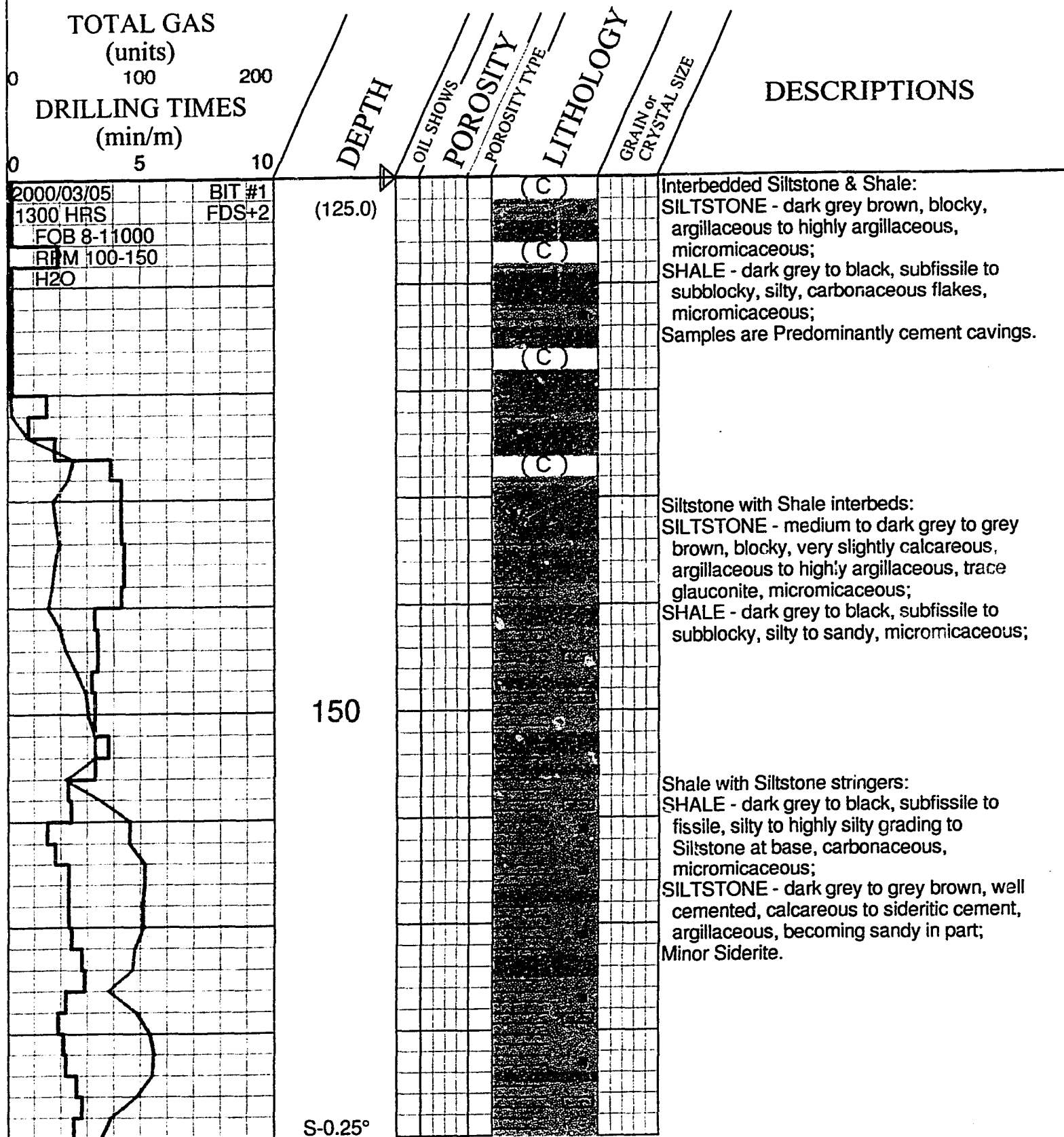
REMARKS: SURFACE HOLE DRILLED IN ADVANCE WITH LAYNE CHRISTENSEN. SAMPLE
QUALITY FAIR TO GOOD

SUPERVISION

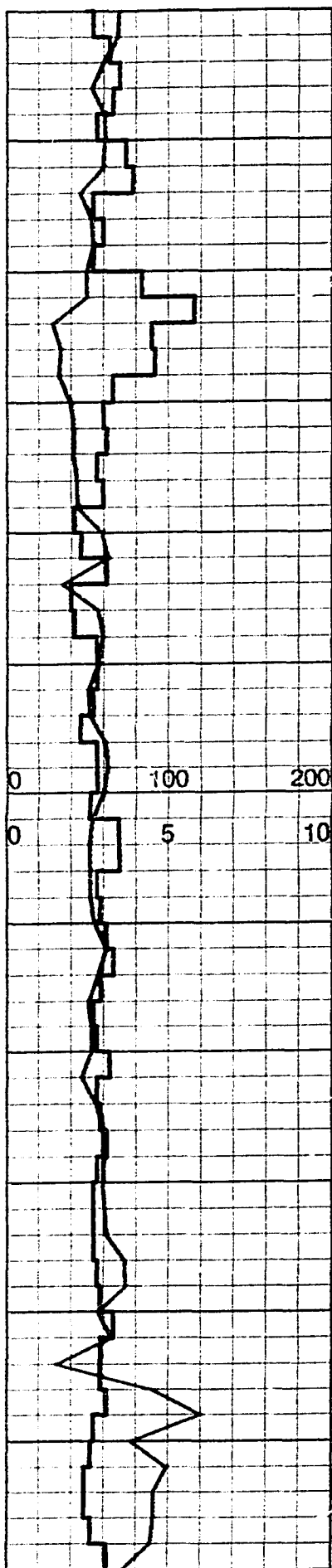
GEOLOGICAL: Glen MacIntosh

DRILLING: STEVE HOLYOAKE

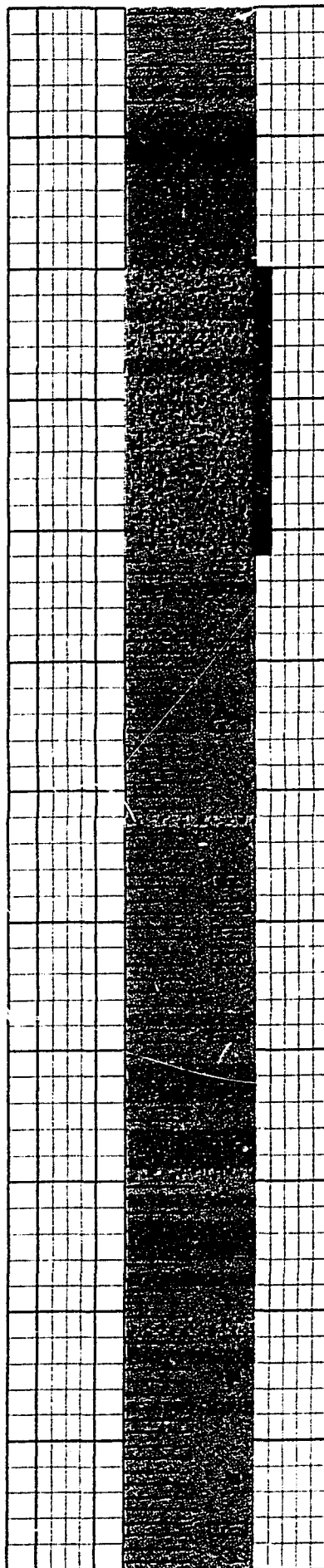
SCALE 1:240



0 5 10



175



SANDSTONE - light to medium grey to grey brown, quartz, silt to very fine grained, subround to subangular, well sorted, well cemented, dolomitic cement, slightly carbonaceous, argillaceous, trace glauconite, tight, no shows.

SHALE - dark grey, rare green, fissile to subfissile, silty to sandy, micromicaceous.

0 100 200
0 5 10

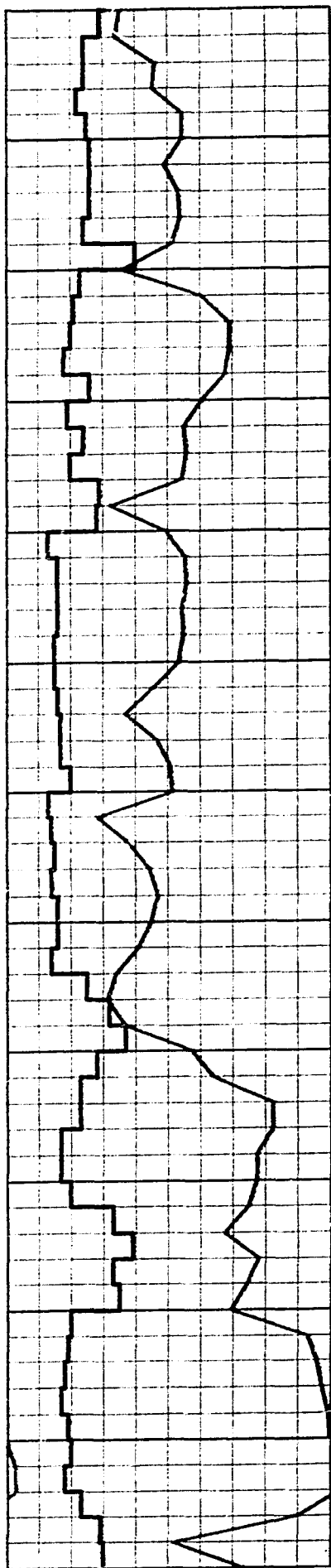
200

Interbedded Siltstone & Shale:
SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
Siltstone in part, sandy, micromicaceous, trace carbonaceous;
SILTSTONE - dark grey to grey brown, blocky, argillaceous, sandy grading to Sandstone, trace glauconite, micromicaceous.

225

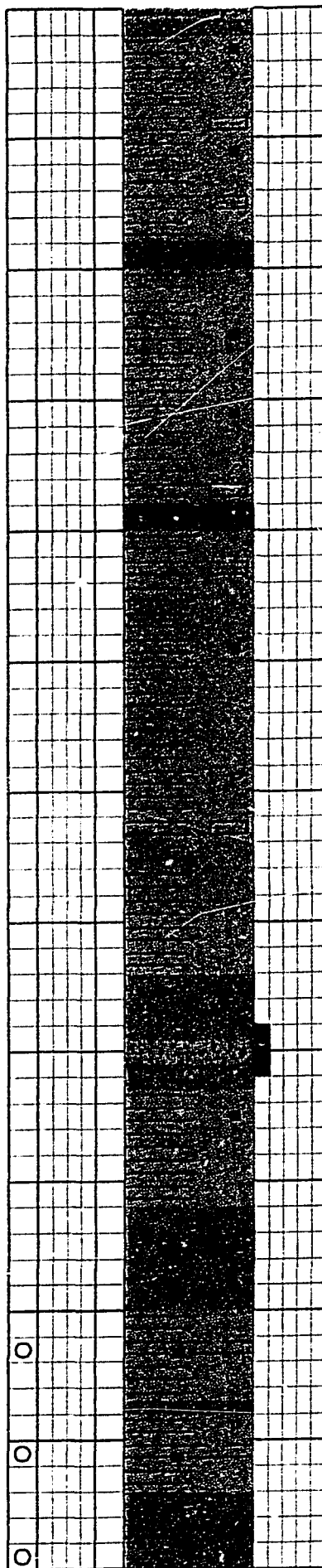
Shale with Siltstone stringers:
SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous
Siltstone in part, micromicaceous, trace carbonaceous, minor disseminated pyrite;
Minor Siderite stringers.

0 5 10



250

275
S-1.0°



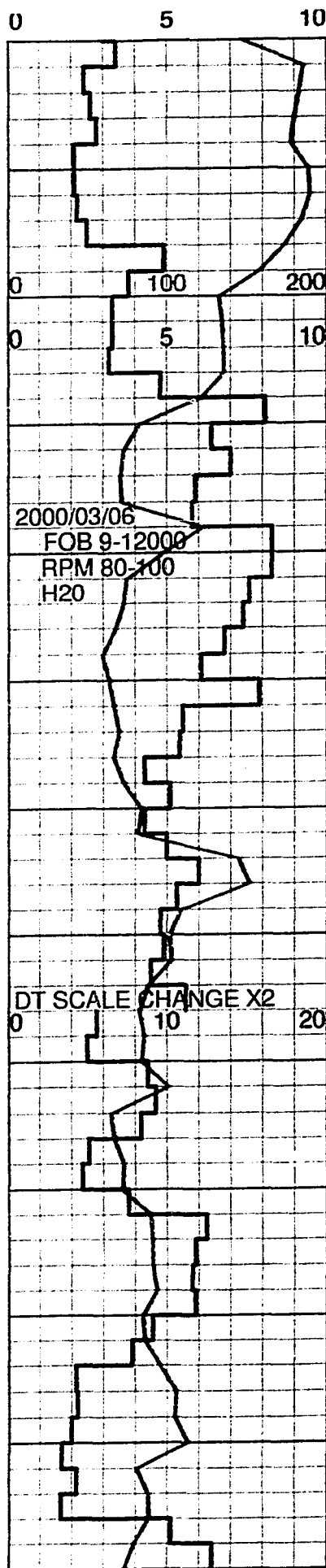
SHALE - dark grey to black, fissile to subfissile, platy to blocky, silty part, micromicaceous, carbonaceous in part, firm;

SIDERITE - medium to dark brown, blocky, argillaceous, calcareous, hard.

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

Interbedded Siltstone & Shale:
SILTSTONE - dark grey to grey brown, argillaceous, calcareous in part, sandy grading to very fine Sandstone in part, rare glauconite, micromicaceous, pyritic;
SHALE - dark grey to black, subfissile, blocky, silty, carbonaceous, micromicaceous, common disseminated pyrite;

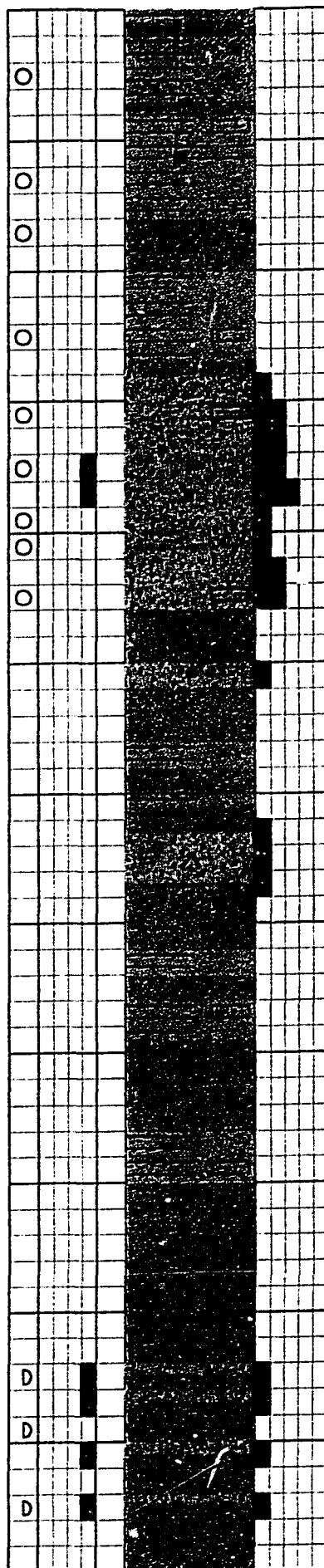
SHALE - dark grey to black, fissile to subfissile, silty grading to argillaceous Siltstone in part, carbonaceous, micromicaceous, minor disseminated pyrite, weak white cut, ? show.



300

325

350

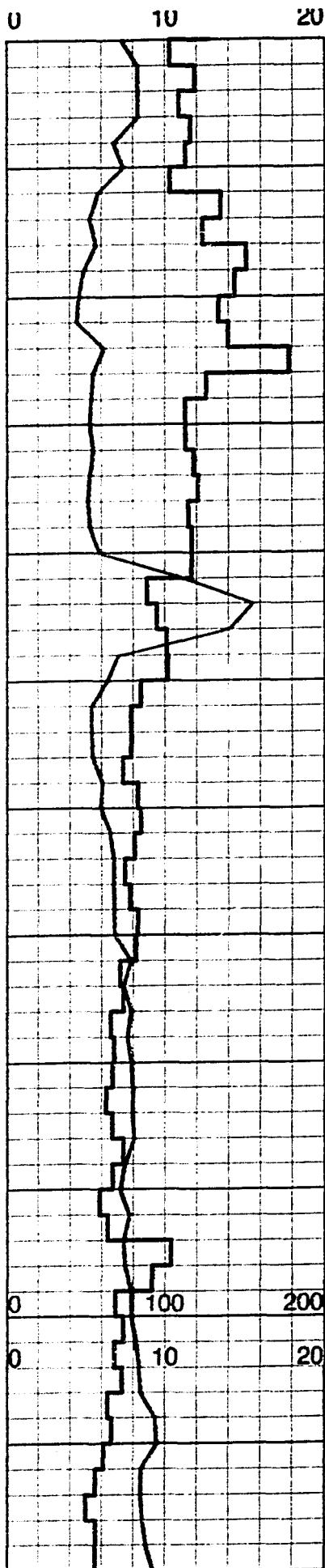


SANDSTONE - light grey to off white, quartz, very fine to fine, rare medium grains, angular to subangular, moderately to well sorted, moderate to poorly cemented, dolomitic cement, silty, trace carbonaceous flakes, tight to trace poor porosity, slow weak white cut, ? show.

Siltstone with Shale interbeds & laminae:
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous, slightly calcareous near base, trace carbonaceous flakes;
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, micromicaceous;
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone, argillaceous, tight to poor porosity (3%), no florescence, fast white cut.

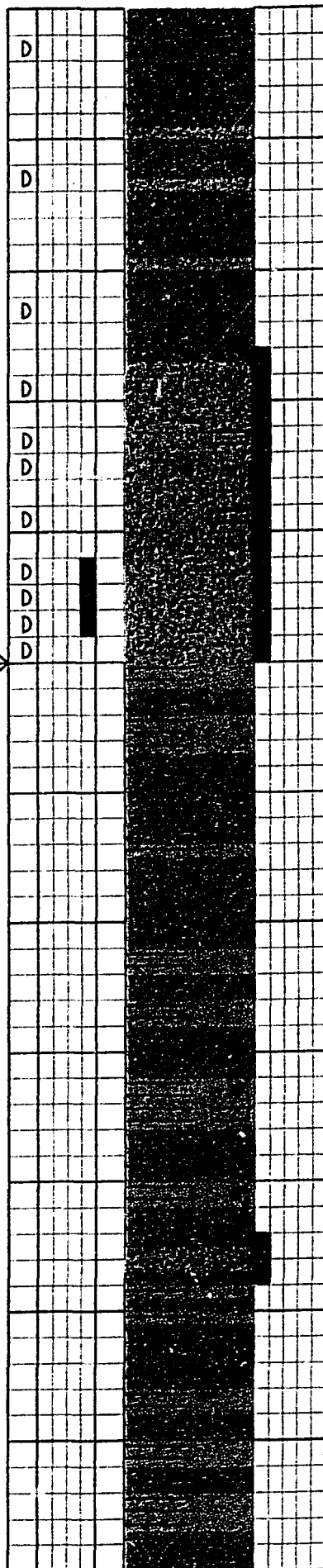
Siltstone grading to Sandstone:
SILTSTONE - light to medium brown, quartz,



S-1.0°

IMPERIAL
375
(375.0)

400



minor carbonaceous flakes, moderately to well cemented, silica cement, slightly dolomitic, sandy grading to Sandstone in part, minor pyrite, no florescence, fast white cut;
Minor Shale laminae.

SANDSTONE - tan to light grey brown, quartz, very fine grained, well sorted, subangular, moderately cemented, dolomitic cement, silty, tight to poor porosity (3%), no florescence fast white cut.

Interbedded Siltstone & Shale:

SILTSTONE - grey to grey brown, siliceous, sandy in part, argillaceous to highly argillaceous;

SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.

Siltstone with Shale interbeds:

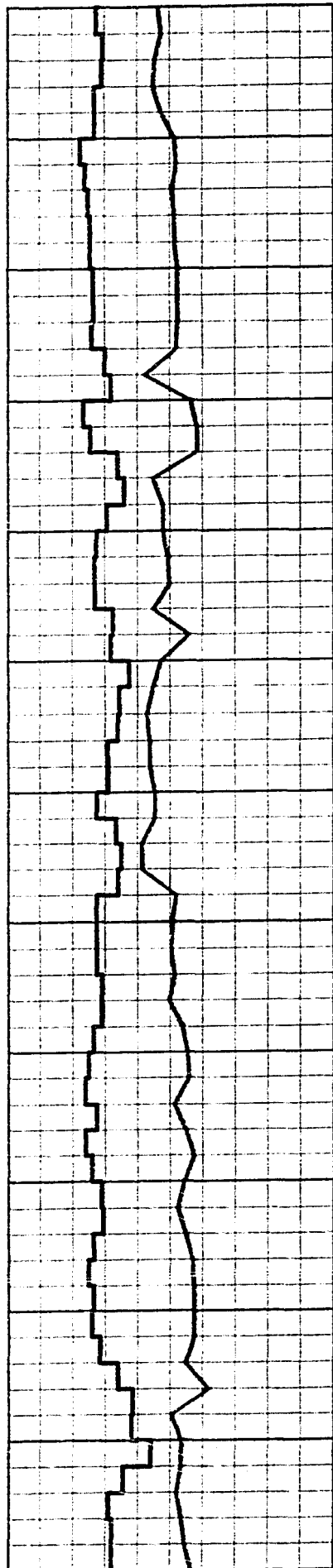
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous to highly argillaceous;

SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.

Interbedded & interlaminated Siltstone & Shale:

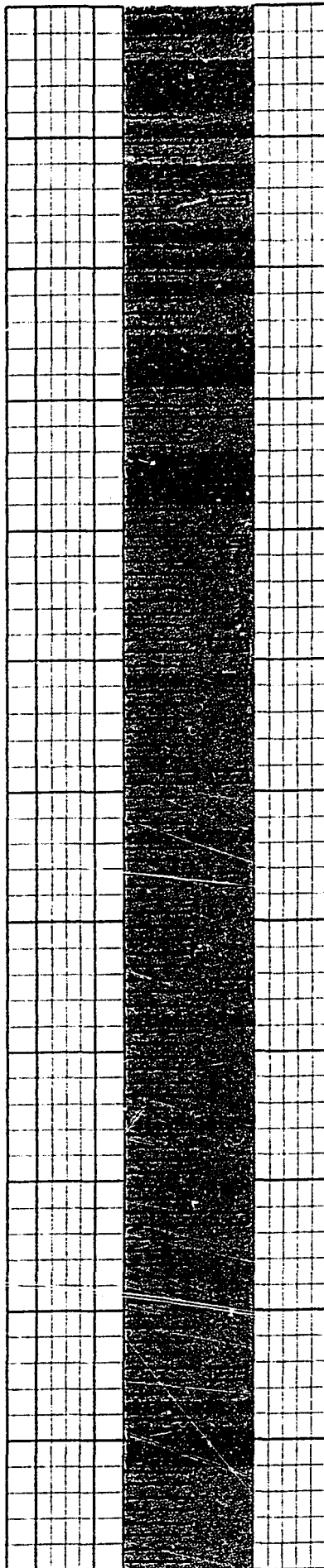
SILTSTONE - grey to grey brown, siliceous, sandy in part, argillaceous to highly argillaceous grading to Shale;

0 10 20



425

450
S-1.5°



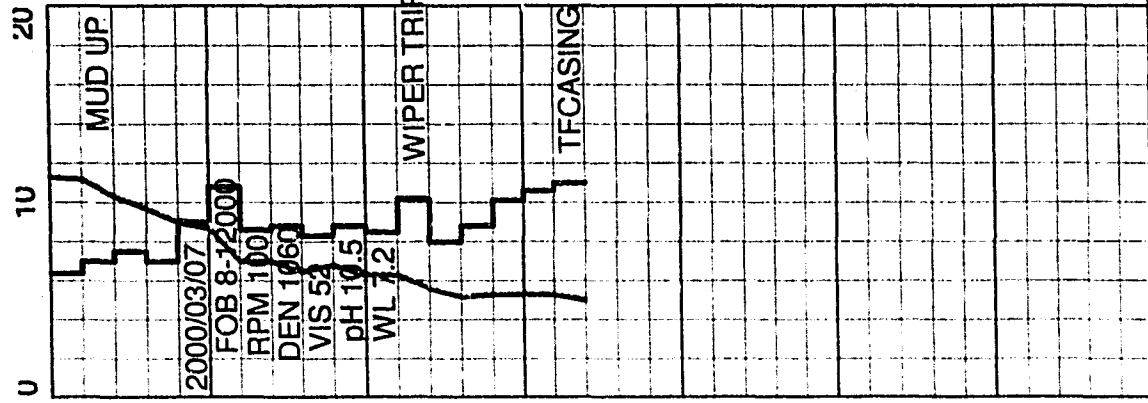
SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.

Siltstone with Shale interbeds:
SILTSTONE - light brown, well cemented, siliceous, argillaceous;
SHALE - dark grey to black, fissile, platy, firm.

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

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

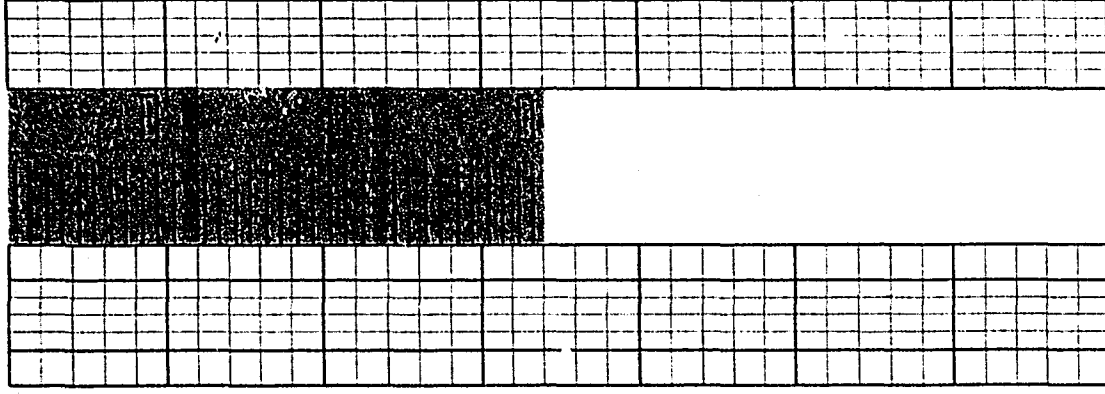
SHALE - dark grey, fissile subfissile, firm, silty to highly silty, minor disseminated pyrite, micromicaceous;
Minor Siltstone stringers.



475

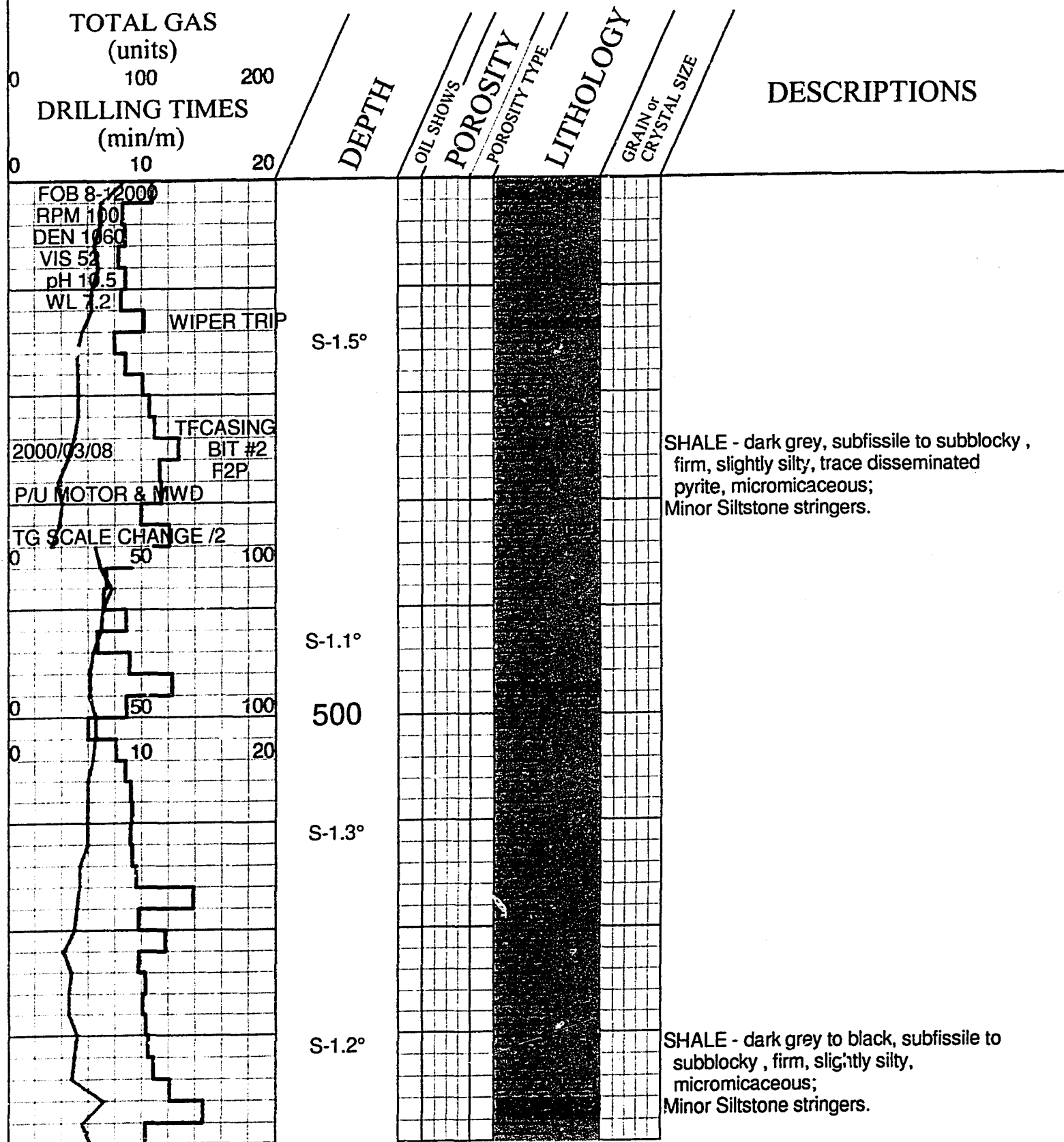
S-1.5°

500



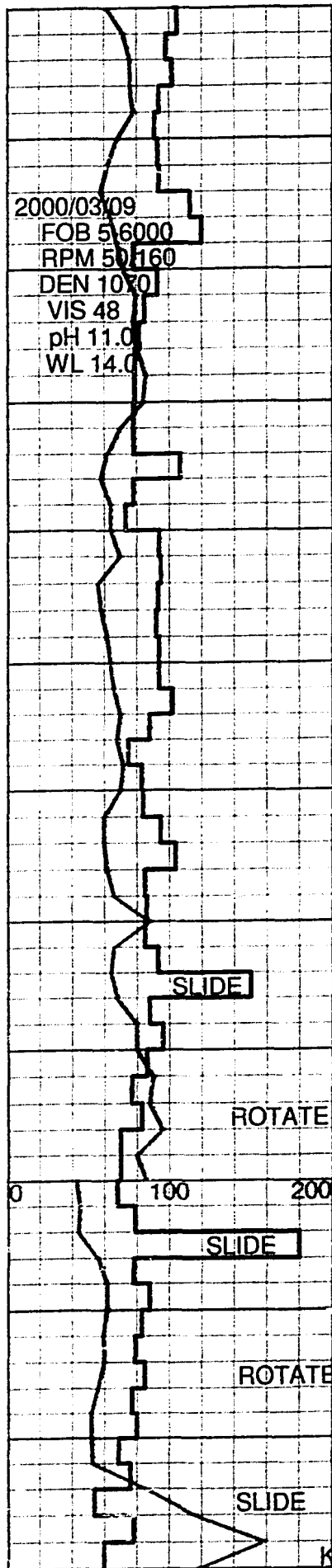
CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240



0 10 20

2000/03/09
 FOB 56000
 RPM 50160
 DEN 1070
 VIS 48
 pH 11.0
 WL 14.0



525
 S-1.4°

S-1.4°

S-1.8°

550

S-2.1°

S-1.9°

S-1.1°
 575

CANOL
 (577.0)

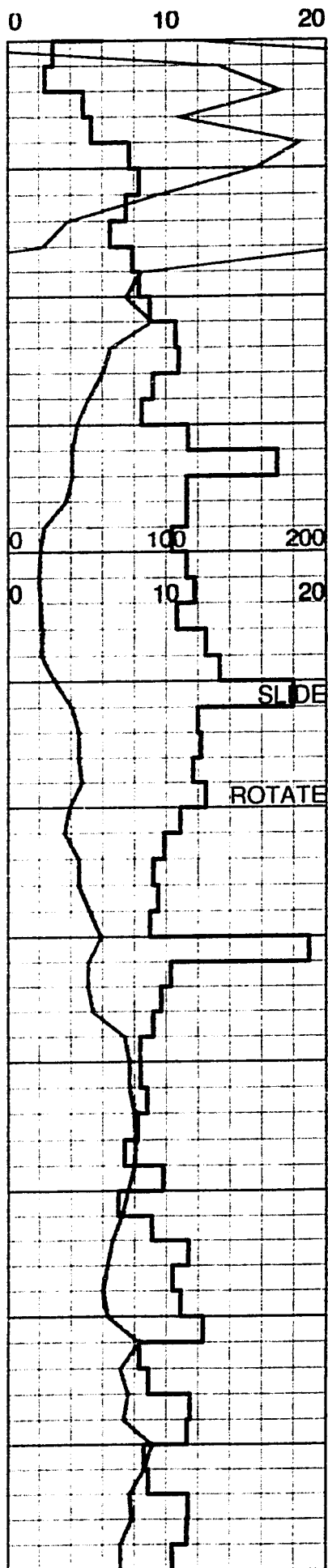
KEE SCARP
 (580.0)

SHALE - dark grey to dark grey brown,
 subfissile to subblocky, firm, slightly silty,
 micromicaceous;
 Minor Siltstone & Siderite stringers.

SHALE - medium to dark grey, subfissile to
 subblocky, firm, silty grading to Siltstone in
 part, slightly pyritic in part,
 micromicaceous;
 SILTSTONE - medium to dark grey brown,
 blocky, well cemented, siliceous,
 argillaceous, slightly sandy, trace
 carbonaceous.

SHALE - medium to dark grey, subfissile to
 subblocky, firm, silty grading to Siltstone in
 part, slightly pyritic in part,
 micromicaceous;

SHALE - black to dark grey, fissile to
 subfissile, blocky, carbonaceous,
 disseminated pyrite, bituminous.



(580.0)

S-1.4°

S-1.8°

600

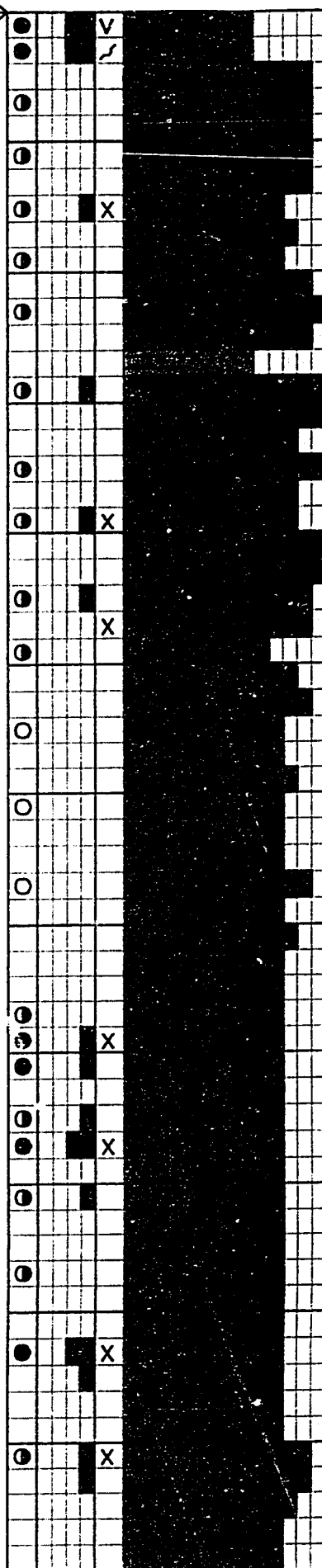
S-0.2°

S-0.2°

S-0.7°

625

S-0.9°



LIMESTONE - off white to tan to medium brown, fine to coarse calcirudite, stromatoporoid biomicrite, rudstone, micrite to crinoid biopelmicrite matrix, siliceous to cherty near top, fair moldic or vuggy porosity, tight to poor intercrystalline porosity, spotty florescence, fast white streaming cut;

Trace euhedral calcite & quartz crystals (pore lining?).

LIMESTONE - off white to tan to medium brown, coarse calcirudite, stromatoporoid biomicrite, rudstone, micrite to biopelmicrite matrix, tight to minor poor porosity (<3%), spotty florescence, fast white streaming cut, trace pyrobitumen;

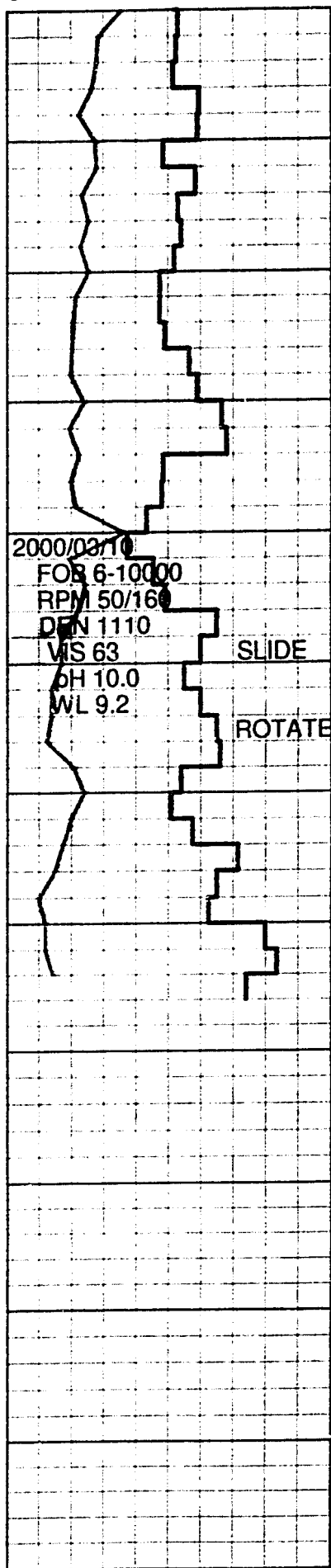
Samples contain predominantly frags of large scale stroms (white to tan); Shale interbed.

LIMESTONE - light to medium brown, fine to medium calcirudite, stromatoporoid biomicrite, floatstone to rudstone, micrite to biomicrite matrix, fossil debris, tight to trace minor porosity (<3%), weak ? florescence, moderate to slow white cut.

LIMESTONE - as above, calcarenite to calcirudite, biopelmicrite, fossil debris, poor to fair chalky porosity (3-8%), spotty to even staining, bright yellow florescence, moderate to fast white cut.

LIMESTONE - off white to tan to medium brown, fine calcarenite to calcirudite, stromatoporoid biopelmicrite, floatstone to rudstone, fossil debris, tight to minor poor to fair (3-6%) porosity, spotty florescence,

0 10 20



S-0.8°

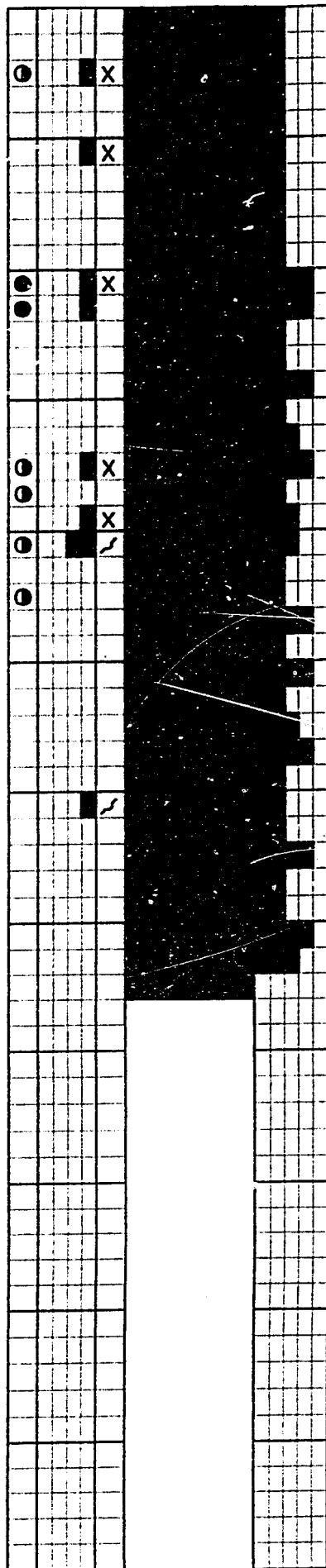
650

S-1.0°

S-1.0°

675

700



slow white streaming cut to no shows.

LIMESTONE - off white to tan to medium brown, fine calcarenite to calcirudite, stromatoporoid biopelmicrite to biopelsparite, floatstone to rudstone, fossil debris, slightly argillaceous, tight to minor poor intercrystalline (3%) porosity, trace fair moldic porosity (6%), even to spotty fluorescence, moderate to fast white streaming cut.

LIMESTONE - off white tan to dark brown grey, calcirudite, stromatoporoid biopelmicrite, floatstone to rudstone, pellets & coral & fossil debris, argillaceous to highly argillaceous, tight to trace poor moldic porosity, minor pyrobitumen, no shows; Minor Shale laminae.

log Dhi 720.5m

ROCK TYPE

	CONGLOMERATE
	SANDSTONE
	SILTSTONE
	SHALE, grey
	SHALE, black
	SHALE, coloured
	CHERT
	LIMESTONE
	DOLOMITE

	ANHYDRITE
	COAL
	CLAYSTONE, grey
	CLAYSTONE, col
	MARLSTONE, calc
	MARLSTONE, dol
	SALT
	SIDERITE, LIMONITE
	BRECCIA

	IGNEOUS, basic
	IGNEOUS, acidic
	CANNOT INTERPRET
	NO SAMPLE
	CEMENT
	TUFF
	ULTRABASIC

ACCESSORIES

	SANDY
	SILTY
	FELDSPAR
	SILICEOUS
	CHERTY, light
	CHERTY, dark
	ARGILLACEOUS
	CARBONACEOUS
	BITUMENOUS
	CALCAREOUS
	LIMESTONE strg
	DOLOMITIC
	DOLOMITE strg
	ANHYDRITIC
	ANHYDRITE strg
	PHOSPHATE pel
	FERRUGINOUS

	GLAUCONITIC
	BENTONITIC
	PYRITIC
	KAOLINITIC
	BIOCLASTIC
	OOLITES
	PELLETS
	INTRACLASTS
	FOSSILS
	CRINOID
	PELECYPOD
	BRACHIOPOD
	OSTRACOD
	CORAL
	STROMATOPOROID
	AMPHIPORA
	FISH REMAINS

	PLANT REMAINS
	BRECCIA frag
	SANDSTONE strg
	SILTSTONE strg
	SHALE lam
	TUFFACEOUS
	Heavy, dark Minerals
	FORAMINIFERA/Rad
	ANTIGORITE
	BRUCITE
	BRONZITE
	CHROMITE
	CHRYSOTILE
	DUNITE
	TALC
	SERPENTINE

OIL SHOWS

●	EVEN STAINING, FLUORESCES
⦿	SPOTTY STAIN, FLUORESCES
○	QUESTIONABLE, NO FLUORESCENCE,
D	DEAD, ASPHALTIC

POROSITY TYPES

X	INTERCRYSTALLINE, INTERGRANULAR
⦿	INTEROOLITIC, INTEPELLETOID,
V	VUGGY,
P	PINPOINT,
~	MOLDIC
⦿	ORGANIC
F	FRACTURE
e	EARTHY
□	FENESTRAL

DUNHAM CLASSES

PK	PACKSTONE
WK	WACKESTONE
MD	MUDSTONE
BD	BOUNDSTONE
GR	GRAINSTONE