

**APPROVAL
TO DRILL A
WELL**



NOV 29 2002

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: PARA ET AL NOGHA C-49
Operator: PARAMOUNT RESOURCES LTD.
Contractor: WISON DRILLING
Drilling Rig or Unit: 3
Location-Unit: C Section: 49
Coordinates: Lat.: 66°38'05.420" Long.: 125°53'35.733"
Area: NOGHA Field / Pool: N/A
Elevation-KB/RT: 359.8 (ASL) GL / ~~353.8~~ 353.8
Approx. Spud Date: DECEMBER 15, 2002 Est. Days on Location: 35
Anticipated Total Depth: 1416 Target Horizons: MOUNT CLARKE

EVALUATION PROGRAM

Ten-metre sample intervals
Five-metre sample intervals Surface to total depth
Canned sample intervals
Conventional cores at 1343m, 1350m, and 1359m
Logs and Tests GR-XY, Cal-DLL, Sonic-GR-XY, DL-CNL-GR-PE-XY-Cal. 3 DST's in Mt. Clarke

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing
<u>339.7</u>	<u>101</u>	<u>K-55</u>	<u>60</u>	<u>10 Tonnes Arctic Set</u>
<u>244.5</u>	<u>59.53</u>	<u>L-80</u>	<u>500</u>	<u>8 Tonnes Arctic Set</u>
				<u>20 Tonnes Class "G"</u>
<u>177.8</u>	<u>43.16</u>	<u>L-80</u>	<u>1416</u>	<u>29 Tonnes "G"</u>

B.O.P. Equipment: 1-21 mPa Annular, 1-21mPa double gate rams, double choke 21mPa manifold

Other Information: The main hole will be drilled with salt saturated drilling fluid. The contaminated mud and solids will be encapsulated with Zeolite and concrete, then buried on lease.

Signed: Wayne Tomm Title: Sr. Drilling & Completions Engineer

Responsible Officer

Name: Wayne Tomm Company: Paramount Resources Ltd.
Date: November 25, 2002 Phone: (403) 290-3626

APPROVAL

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

Date: Jan 21/03
File: 9211-P33-18-5
WID: 1934
UWI: 300C496640125450

Signed: e.kell
Chief Conservation Officer

WELL
TERMINATION
RECORD (with
attachment)



WELL TERMINATION RECORD

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

Well Name: Para et al Noghra C-49 Area: Noghra
Grid Area: 66°40', 125°45' Field / Pool: N/A
Interval: _____ Final: _____ Lat: 66°38'05.920" Long: 125°53'35.733"
Drilling: Wilson 3 Elevations: 359.4m (ASL) GL/Seafloor: 354.10m
Spud Date: Jan 25/03 R.R.: Mar 1/03 Total Depth: 1409.0m
O.D. (mm) Weight (kg/m) Grade Depth Set (m KB) Cement (m³)
339.7 107.15 J-55 60.0 5.2m³ Class G
244.5 59.53 L-80 509.0 5.9m³ Arctic Set 15.8m³ Class G
177.8 43.16 PS-80 1409.0 29m³ Class G

PLUGGING PROGRAM

Approval of the following program was obtained by (person) N/A
from (person) N/A of the N/A
by means of N/A on N/A

Type of Plug Interval (m KB) Felt Cement (m³)
Well is cased with 177.8mm casing
to a depth of 1409.0m KB and cemented
full length. A string of 73.0mm tubing
is in place with a packer at 1334.3m
KB. A back pressure valve is installed
and the wellhead is chained & locked.

Lost Circulation/Overpressure Zones: Severe lost circ. @ 331m to 509mEquipment left on Seafloor (Describe): N/A

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

Cores: Type: N/A Interval: N/AOther Downhole Completion/Suspension: Perfs at 1357-1360 & 1373-1376m

CERTIFICATION

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

Signed: Gregory D. Hladun Title: Senior Staff Drilling Eng.Name: Gregory D. Hladun Date: June 27/03Company: Apache Canada Ltd.

Well Status

Suspended ☒Completed ☐Abandoned ☐Acknowledged by: J. M. Baker

Chief Conservation Officer

Date: July 10/03File: 9211-P033-16-4UWI: 300C496640125451WID: 1934

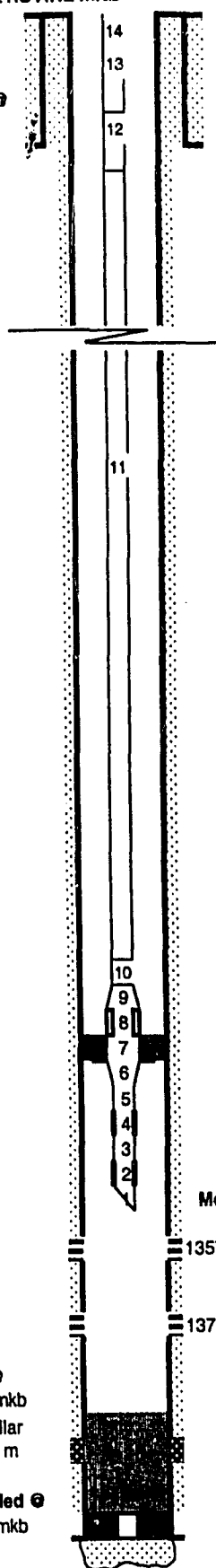


APACHE CANADA LTD.
WELL DIAGRAM "Final"

Report No 14
Page: 4 OF 5

ALL DEPTHS ARE mKB

Surf. Csg. @
509.0 m



WELL NAME: ACL Nogha 300-C-49-66-40-125-45-0

PREPARED BY: Mike Periard

DATE: 2003-03-16

ELEVATIONS (meters):

Licence No: WID 1934

TD 1,409.00 KB Elev. 359.40

KB to CF Dist. H 4.80

PBTD 1,390.00 Ground Elev. 354.10

KB to Ground 5.30

CASING/TUBING	SIZE (mm)	WEIGHT (Kg/m)	GRADE	DEPTHS (m)
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Surface Casing	244.50	53.50	J-55	509.00
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Production Casing	177.80	43.16	PS-80	1,409.00
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			LT&C	
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Prod. Liner	N/A	N/A	N/A	N/A
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Tubing	73.00	9.87	L-80	1,431.12
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EUE				138 Jts
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BOTTOM HOLE ASSEMBLY:

ITEM	DESCRIPTION	LENGTH (m)	Top at (m KB)
1	73 mm re-entry guide c/w 56.0 mm No-Go	0.15	1,340.98
2	73 mm x 55.58 mm "OTIS RN" nipple c/w 51.05 mm No-Go	0.50	1,340.48
3	73 mm EUE L-80 pup joint	1.85	1,338.63
4	73 mm x 55.58 mm "OTIS R" nipple	0.48	1,338.15
5	73 mm EUE L-80 pup joint	1.86	1,336.29
6	88.9 mm x 73 mm EUE crossover	0.20	1,336.09
7	177.8 mm x 88.9 mm 10 K Halliburton PLT wireline set retrievable packer	1.79	1,334.30
8	177.8 mm x 88.9 mm TL tripple bonded c/w 55.58mm OTIS "R"	0.65	1,333.65
9	88.9 mm x 73 mm EUE crossover	0.20	1,333.45
10	73 mm EUE L-80 pup joint	3.08	1,330.37
11	137 - 73 mm EUE L-80 tubing joints	1,312.32	18.05
12	2 - 73 mm EUE L-80 pup joints	6.16	11.89
13	1 - 73 mm EUE L-80 tubing joint	9.48	2.41
			2.41
	Compression	-0.50	2.91
14	177.8 mm x 73 mm ABB Velco extended neck w/ BPV	0.16	2.75
	Correction	-1.55	4.30
	TALLY	1,336.83	
	KB TO TUBING HEAD	4.30	
	TUBING BOTTOM	1,341.13	

NOTE: String landed in 8500 daNs compression

PUMP AND ROD ASSEMBLY

NONE

PERFORATION INTERVALS

1357.0 - 1360.0 mkb - Mount Clark "A"

1373.0 - 1376.0 mkb - Mount Clark "C"

NOTE:

FINAL WELL REPORT

N.E.B. COPY

FINAL WELL REPORT
APACHE CANADA LTD.
PARA ET AL NOGHA C-49

Grid Area 66 deg 40 ' , 125 deg 45 ' ,

DATE: Sept. 23, 2004

COMPANY REPRESENTATIVE: Greg D. Hladun

TABLE OF CONTENTS

Include page numbers.

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

D.	GEOLOGY	Page
	Geological Summary.....	12
	Tops.....	12
	Sample Descriptions	12
	Coring Record.....	12
	Gas Detection Report.....	12
	Drill Stem Tests	12
	Well Evaluation	12
	Analyses	12
	Mud Salinity Record	12
	Gas, Oil & Water	12
	Formation Stimulation	12
	Formation and Test Results	12
	Detailed Test Pressure Data Readings	12
E.	ENVIRONMENTAL WELL ANALYSIS	14
F.	APPENDICES TO WELL HISTORY REPORT	14

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

1. Stratigraphic column.
2. Oil, gas and water analysis.
3. Reservoir engineering data on cores and cuttings, porosity, permeability, fluid saturation, density measurements, etc.
4. Photographic record of core under natural and ultraviolet light.
5. Core study reports.
6. Details of formation and production testing.
7. Petrological reports.
8. Palynological/Paleontological reports.
9. Geochemical reports.
10. Age determinations (K/Ar, etc.).
11. Processed combination of well logs.
12. Deviation and drift records.
13. Gas detector log or mud logging records.
14. Completion data such as perforated intervals, down hole equipment, tubing and stimulation records.
15. Composite well records.
16. Final survey plan.
17. Synthetic seismograms.

A. INTRODUCTION

Apache Canada Ltd. In partnership with Paramount Resources Ltd drilled a 1409 meter exploratory well spudded on January 25, 2003 and finishing on March 1, 2003 to evaluate gas potential in the Mt. Clarke formation at a depth of 1142 to 1369 mKB.

The drilling contractor was Wilson Drilling Ltd. Shehtah 3 based out of Calgary, Alberta. The drilling rig used was a Diesel Electric land rig. The rig had a 79.8 m³ mud system and was equipped with two boilers. The well was drilled on Exploration License No: 1934 in which Paramount Resources had a 100 % working interest, but has reverted to a 50% working interest after Apache Canada Ltd. drilled the C-49 well to earn the other 50%. The operating license was issued to Paramount Resources on January 21, 2003. The well is located on Sahtu Settlement Lands, Block C-49.

The well which is located approximately 27 km south of Colville Lake. The exact co-ordinates of the well are as follows:

Latitude: 66 deg 38 min, 05.420 sec
Longitude: 125 deg, 53 min, 35.733 sec.

The rig was moved onto the location January 19, 2003 and the conductor hole was commenced on Jan 25, 2003 at 12:00 hours to drill the 444.5 mm conductor hole was drilled to a depth of 60 m. The conductor hole was drilled with a 311 mm pilot bit and was opened to 445 mm with a 445 mm bit. Using the drilling rig to drill the mousehole, rathole and conductor hole took a total of nine days. The conductor hole was dolomite with some limestone. The 339.7 mm X 101.71 kg/m J-55, BT&C conductor pipe was set with the shoe depth being at 60 m. The conductor pipe was cemented with 5.2 m³ of Class G cement with good mud returns throughout the cement job and 0.3 m³ returns of cement. The diverter was nipped up and function tested.

The conductor shoe was then drilled out and the 311 mm surface hole was spudded on Feb 1, 2003 at 00:15 hours using a directional drilling assembly and a water based gel mud. The 311 mm hole was drilled ahead to 331 m where circulation was lost. Lost circulation material was pumped, but only partial returns could be achieved. The surface hole was then drilled to 509 m with partial or no returns. The wellbore was then cemented back with 3 plugs from a depth of 509 m, back to 380 m. The first plug was from 509 m to a calculated depth of 380 m using 13 tonnes of class G cement + 2% CACL2 + 4 sx of celloflake (9.84 m³ of slurry @ 1900 kg/m³.) The cement was later tagged at 402 m. Plug #2 was from 402 m to a calculated depth of 288 m using 11.6 tonnes class G + 2% CACL2 + 4 sx celloflake (11.72 m³ slurry @ 1900 kg/m³). The cement top was tagged at 377 m. A third plug was set from 377 m to a theoretical top of 233 m using 20 tonnes of class G cement + 2% CaCl2 plus 4 sacks of celloflake (8.74 m³ slurry @ 1900 kg/m³). The cement top was tagged at 285m. The cemented wellbore was then drilled out to a depth of 509 m with full returns.

A total of 36 joints of 244.5 mm, 59.53 kg/m L-80 ERW casing was run to 509 m. The casing

was cemented with 8 tonnes (5.9 m³) of Dowell Schlumberger Arctic Set cement + 0.5% D56 TIC + 0.2% D13 + 20.7 tonnes (15.8 m³) class G + 2.0% CaCl₂. The cement was displaced with 19.6 m³ water. The last 1.0 m³ was staged in 200 liter stages to stabilize the cement level in the annulus. The cement reached surface but no significant cement volume was received at surface.

A 279.4 mm x 244.5 mm, 21,000 kPa casing bowl was welded onto the 244.5 mm casing and BOP's were installed and pressure tested. The annular preventor was pressure tested to 1,400 kPa low and 14,000 kPa high. The pipe rams, Kelly cock, stabbing valve and downhole BOP valve were tested to 1,400 kPa low and 14,000 kPa high. The accumulator precharge bottles were checked and the accumulator function tested prior to drilling out. One day was then taken to install encapsulation equipment to encapsulate the cuttings from the production hole. The cuttings from the conductor and surface hole were disposed of in a surface sump.

The float collar and shoe were drilled out on February 17, 2003. A formation leak off test was attempted but it was found that the hole would not hold a fresh water gradient and the fluid dropped in the wellbore at a rate of 0.25 m³/min. The production hole was drilled from 512 m – 534 m with partial returns and a LCM plug was spotted on bottom and the wellbore was mudded up. Full circulation was then held. The well was drilled ahead using a directional drilling assembly to control deviation in the wellbore. Total depth was reached on February 26, 2003. After total depth had been reached the open hole was logged by Schlumberger. Log run # 1 was a DLL/MSFL. Run #2 was a SPED, Neutron/SGR/XY caliper. Run #3 was a MDA/GR.

After the logs were evaluated it was decided to case the well. A total of 99 joints of 177.8 mm, 43.16 kg/m, L-80 casing was run and landed at 1409 m. The casing was cemented from T.D to surface with 30 tonnes class G + 0.5% D-65 and 0.3 % D-167. The slurry volume was 23.86 m³ at 1921 kg/m³. All of the preflush and a trace of cement was observed at surface. Full mud returns were obtained throughout the job. The casing was cut off and the well was turned over to completions.

B. GENERAL DATA

1. Well Name: Para et al Nogha C-49

Authority to Drill a Well No: 1934

Exploration Agreement Number: Sahtu Settlement Lands Block C-49

Location : Unit: C Section: 49

Grid Area: 66 deg 40' 125 deg 45 '

Classification: Exploration

2. Well Location Area: Nohga
Coordinates: Latitude: 66 deg 38' 5.420"
Longitude: 125 deg 53' 35.733 "
3. Unique Well Identifier: 300-C-49-66-40-125-45-0
4. Operator: Paramount Resources Ltd. in conjunction with Apache Canada Ltd.
5. Contractor: Wilson Drilling (Shehtah)
6. Drilling Unit: #3
Diesel Electric, Land Rig
7. Position Keeping: Not Applicable, Land Rig
8. Support Craft: Trucking via Winter Road from Norman Wells / Fort Good Hope
9. Drilling Unit Performance: Surface spud to T.D. in 24 days
10. Difficulties and Delays:
 - Nine days to drill rat hole, mouse hole and conductor with drilling rig in solid dolomite.
 - Severe lost circulation from 331 m to 509 m.
11. Total Well Cost: \$ 5.0 M
12. Vertical well controlled with directional drilling equipment.

C. SUMMARY OF DRILLING OPERATIONS

1. Elevations:
 - Ground: 354.1 m above sea level
 - KB: 359.43 m above sea level
 - KB To Casing Flange: 4.8 m
2. Total Depth:
 - FTD: 1409.0 mKB
 - PBTD: 1390 m KB
 - TVD: 1409.0 mKB
3. Date and Hour Spudded: Jan 25, 2003, 12:00 hrs

4. Date Drilling Completed: Feb 25, 2003, 6:00 hrs

5. Date of Rig Release: March 1, 2003, 22:00 hrs

6. Well status: Completed

7. Hole Sizes and Depths:

Conductor Hole: 445 mm to 60 m KB

Surface Hole: 311 mm to 509.0 m KB

Main Hole: 216 mm to 1409.0 m KB

8. Casing and Cementing Record:

Conductor Hole:

Hole Size:	444.5mm
Casing Size:	339.7 mm
Casing Weight:	101kg/m
Casing Grade:	K-55
Casing Make:	Ipsco
Number of Joints:	6
Thread:	BT&C
Depth Set:	60 m (KB)
Cut Height:	At Surface
Cut off Depth:	At Surface
Date Set:	January 30, 2003
Cement Volume:	7 Tonnes
Cement Type:	Class G Cement
Additives:	2.0 % CaCl ₂

Surface Hole:

Hole Size:	311.0mm
Casing Size:	244.5 mm
Casing Weight:	59.53 kg/m
Casing Grade:	L-80
Casing Make:	Ipsco
Number of Joints:	36
Thread:	LT&C
Depth Set:	509.0 m (KB)
Cut Height:	At Surface
Date Set:	Feb 13, 2003
Cement Volume:	21.7 m ³
Float Shoe Depth:	509.0 m
Cut Off Depth:	Surface
Cement Type:	5.9 m ³ Arctic Set Cement followed by 15.8

Additives: m3 Class G cement
Arctic Set
0.5% D-56 TIC
0.2% D-13

Class G
2.0% CaCl₂

Cement Top: Surface (m KB)
Casing Bowl Size: 279 mm X 244.5 mm X 21 MPa
Casing Bowl Make: Cameron

Production Hole:

Hole Size: 216.0mm
Casing Size: 177.8 mm
Casing Weight: 43.16 kg/m
Casing Grade: L-80
Casing Make: Ipsco
Number of Joints: 99
Thread: LT&C
Depth Set: 1409.0 m (KB)
Cut Height: At Surface
Date Set: Feb 28, 2003
Cement Volume: 23.9 m³
Float Shoe Depth: 1409.0 m
Float Collar Depth: (Top) 1393.8
Cut Off Depth: Surface
Cement Type: 23.9 m³ Class G Cement
Additives:
0.5% D-65
0.3% D-167
Cement Top: Surface

9. Sidetracked Hole: N/A

10. Drilling Fluid:

Conductor Hole: Gel - Chemical
Properties: Viscosity: 50 sec/L
Weight: 1080 kg/m³
PH: 12.0
Gels: 8.0 / 16.0
PV / YP: 6 / 21.0

Surface Hole: Gel - Chemical

Properties: Viscosity: 50 sec/L
 Weight: 1080 kg/m³
 PH: 12.0
 Gels: 8.0 / 16.0
 PV / YP: 6 / 21.0

Main: Gel – Chemical Saturated Salt
 Properties: Viscosity: 69 sec/L
 Weight: 1250 kg/m³
 PH: 10.5
 Water loss: 9.0 cc
 Solids: 1.0
 Gels: 1 / 5
 Filter Cake: 1.0
 PV / YP: 16.0 / 4.7

11. Fishing Operations: n/a

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

13. Formation Leak-off Tests:

Depth: 509 m
 Fluid Density: 1000 kg/m³

A leak-off was attempted but lost circulation occurred under the surface casing shoe. A lost circulation pill was spotted on bottom and circulation was regained. A decision was made to drill ahead. No future attempts were made to establish a formation leak-off.

14. Time Distribution:

Nohga C-49		
Date	Time	Activity
Jan 21, 2004	08:00 – 24:00	Drilled rat hole. 2 m of boulders and then solid Dolomite.
Jan 22, 2003	0 – 24:00 hrs	Drilled rat hole
Jan 23, 2003	0-13:15 hrs	Drilled mouse hole
	13:15 -24:00hrs	Rig repairs.
Jan 24, 2003	22:30 – 24:00 hrs	Drilled mouse hole
Jan 25, 2003	0 – 8:15 hrs	Finished drilling 311 mm rathole
	8:15 – 24:00 hrs	Install rat hole sleeve.
Jan 26, 2003	0- 24:00 hrs	Drilled 222 mm conductor pilot hole from 15 m to 38 m.
Jan 27 , 2003	0 – 14:30	Drilled 222 mm conductor

		pilot hole from 38 m to 60 m.
	14:30 – 24:00 hrs	Reamed 222mm pilot hole to 445mm from surface to 12 m.
Jan 28, 2003	0-24:00 hrs	Reamed pilot hole from 12 m to 37 m
Jan 29, 2003	0-19:00 hrs	Reamed pilot hole from 37 m to 60 m (222 mm to 445 mm) and condition hole.
	19:00 hrs – 24:00 hrs	Ran 339.7 mm conductor pipe.
Jan 30, 2003	0-7:30 hrs	Ran Conductor Pipe to 60 m and cemented with 7 tonnes class G cement. 0.3 m3 cement returns.
	7:30 – 24:00 hrs	Waited 10 hrs on cement and headed up on conductor pipe.
Jan 31, 2003	0-6:00 hrs	Nippled up diverter system
	6:00 – 24:00 hrs	Made up directional drilling assembly and collars. Tagged cement at 58.75 m.
Feb 1, 2003	0-05:15 hrs	Spudded in at 00:15 Feb 1, 2003. Drilled to 89 m
	05:15 – 21:15	Conductor dropped 1 m. Repaired flow nipple and headed up again.
	21:15-24:00 hrs	Drilled to 106 m.
Feb 2, 2003	0 – 14:15 hrs	Drilled to 166 m.
	14:15 – 24:00 hrs	Fished hardband material from hole
Feb 3, 2003	0-24:00 hrs	Drill to 248 m. Hole angle increased to 4.5 degree and was brought back to 3.8 degrees with directional tools.
Feb 4, 2003	0-24:00 hrs	Drilled to 337 m. Lost circulation at 337 m. Laid down directional equipment.
Feb 5, 2003	0-24:00 hrs	Drill with partial returns to 352 m. Spotted 9 LCM pills. Returns varied between 0 and 100%.
Feb 6, 2003	0-24:00 hrs	Drill with partial returns to 390 m (60% down to 10% returns)
Feb 7, 2003	0-24:00 hrs	Drill with 10% returns to 445 m.
Feb 8, 2003	0-24:00 hrs	Drill with 5% returns to 486

		m.
Feb 9, 2003	0-24:00 hrs	Drilled to 494 m. Set plug #1 at 509 m to 380 m.
Feb 10, 2003	0-24:00 hrs	Tagged plug #1 at 402 m. Set 2 nd plug from 402 m to 288 m. Tagged at 377 m. Third plug from 377 m to 233 m.
Feb 11, 2003	0-24:00 hrs	Tagged plug #3 at 285 m. Drilled out to 480 m.
Feb 12, 2003	0- 24:00 hrs	Drilled to 509 m. No losses.
Feb 13, 2003	0 – 1:15 hrs	Tripped out to run casing
	1:15 – 6:45	Ran casing.
	6:45 – 24:00 hrs	Cemented casing to surface. No losses. 5 m3 cement returns.
Feb 14, 2003	0 – 00:45	Plug down
	00:45 – 24:00 hrs	Head 279.4mm bowl and pressure test.
Feb 15, 2003	0-5:30	Pressure test BOP's
	5:30 – 24:00 hrs	Ran in drill collars and tripped out while inspecting.
Feb 16,2003	0-20:00	Rigged in encapsulation system.
	20:00 – 24:00	Run in and drilled out float collar.
Feb 17, 2003	0 – 5:45m	Drilled 216 mm hole to 534 m. Lost circulation at 534 m
	5:45 – 11:45	Ran lost circulation material and got circulation back.
	11:45 – 24:00	Drilled with directional drilling assembly to 641 m.
Feb 18, 2003	0 – 24:00	Drilled with directional drilling assembly to 729 m.
Feb 19, 2003	0 – 24:00	Drilled with directional drilling assembly to 890 m.
Feb 20, 2003	0 – 24:00	Drilled with directional drilling assembly to 1114 m
Feb 21, 2003	0 – 24:00	Drilled with directional drilling assembly to 1195 m
Feb 22, 2003	0 – 02:30	Drilled with directional drilling assembly to 1204 m
	02:30 – 20:15	Tripped for bit.
	20:15 – 24:00	Drilled with directional drilling assembly to 1227 m.
Feb 23, 2003	0 – 24:00	Drilled with directional

		drilling assembly to 1321 m.
Feb 24, 2003	0 – 24:00	Drilled with directional drilling assembly to 1391 m.
Feb 25, 2003	0 – 06:00	Drilled with directional drilling assembly to 1409 m.
	06:00 – 24:00	Laid down directional tools and conditioned hole to log.
Feb 26, 2003	0 – 1:15	Pulled out of hole to log.
	1:15 – 23:00	Logged hole
	23:00 – 24:00	Ran in and conditioned hole for casing.
Feb 27, 2003	0 – 22:00	Conditioned hole for casing
	22:00 – 24:00	Ran 177.8 mm production casing.
Feb 28, 2003	0 – 6:45	Ran 177.8 mm casing.
	6:45 – 10:15	Conditioned hole for cementing.
	10:15 – 12:30	Cemented casing with 30 tonnes class G cement with cement returns to surface.
	12:30 – 24:00	Tear out BOP and rig.
March 1, 2003	0 – 24:00	Tear out and clean tanks. Rig release March 1 @ 22:00 hrs.

Time Break Down

Operation	Scheduled		Trouble	
	Hours	%	Hours	%
Rig Move	63.75	9.1		
Drilling	239.45	34.2		
Circulating	14.75	2.1	9.5	3.9
Tripping	53.5	7.6	33.0	13.7
Directional/Survey	19.25	2.75	.5	.21
PU/LD DP/DC/TBG	20.75	3.0	3.75	1.6
Equip Failure			33.75	13.98
Lost Circulation	.25	.04	65.75	27.23
Fishing	0	0		
Logging & FEWD	21.75	3.1		
Run Csg/ RU & RD/ Test Csg	23.0	3.3	6.75	2.8
Cementing	4.98	.71	5.0	2.1
Drill out Cement	.73	.1	20.75	8.6
NU/ND/ Bop Test/Drill	32.23	4.6		
Wait on Cement	14.5	2.1	14.75	6.1
Rig Repair	3.0	.4	8.5	3.5

Rig Maintenance	24.5	3.5	2.25	.9
Condition Fluid / Hole	13.25	1.9		
Retrieve Wellhead	.25	.04		
WOO/Tools			17.0	7.04
Safety Meeting	1.25	.2		
Equipment Repair			4.0	1.7
Downhole Equip.Test	.5	.1		
Other	57.8	8.25	10.25	4.24
Total	699.0	100	241.5	100

15. Deviation Survey: The bottom hole location is within 30 m of bottom hole location.

Refer to Geological Report Page 12-1

16. Abandonment Plugs: n/a

17. Composite Well Record: **See attached Well Logs**

18. Completion Record:

Start Date: March 3, 2003

Finish Date: March 14, 2003

Contractor: Shehtah

Completion Summary: **See attached completions results**

Final Well Configuration: **See attached Stick Diagram**

D: GEOLOGY

Geological Summary

Tops: See attached Geological Report, Page 16-1.

SAMPLE DESCRIPTIONS: See attached Geological Report, Page 19-1.

CORING RECORD: No coring performed.

GAS DETECTION REPORT: See attached Strip Log

DRILL STEM TESTS: No DST's performed.

WELL EVALUATION:

The following logs were run:	(depth)
MDA-UGR:	1400.8 m to 18.5 m
SPeD-CNT-SGR-DAC:	1407.2 m to 18.5 m
DLL-GR:	1400.1 m to 509.1 m

ANALYSES: See attached Geological Report, Page 9-1

MUD SALINITY:

The well was drilled with a salt saturated system from 700m to TD.

GAS, OIL, & WATER ANALYSES:

No additional fluid analyses were conducted on this well.

FORMATION STIMULATION: See attached Post Job Frac Analyses:

FORMATION AND TEST RESULTS: See attached reports

DETAILED TEST PRESSURE DATA READINGS: See attached subsurface pressure reports.

E. ENVIRONMENTAL WELL ANALYSIS.

A total of 140 m³ of encapsulated cuttings from C-49 were produced and buried in the remote sump. The encapsulated cuttings were produced by mixing class G cement, zeolite and cuttings together to form the solid encapsulating blocks.

The left over drilling fluid was sent to the M-17 well and was used in the M-17 wellbore.

F. APPENDICES TO WELL HISTORY

(See Table of Contents)

GEOLOGICAL REPORT

N.E.B. COPY

Geological Report

on

Apache Paramount Nogha C-49
66° 38' 5.42" N / 125° 53' 35.78" W

Well Reached Total Depth on
Feb 25, 2003 @ 06:05

for

Apache Canada Ltd.

Prepared For: Ross Pitman P.Geol
Apache Canada Ltd.

Prepared By: Colin Bredin P.Geol
C.L. Bredin Holdings Ltd.

Colin Bredin P.Geol

Table of Contents

<u>Section</u>	<u>Page</u>
Well Summary	2-1
Logging Reports	9-1
Deviation Survey Points	12-1
Formation Tops	16-1
Formation Evaluation	17-1
Sample Descriptions	19-1

Well Abstract

Storage Units:

Metric

This well was drilled based on new 2D seismic interpretation, and to offset the Canterra Nogha O-47 well, which had significant gas shows. C-49 tested the lateral extent of the gas bearing Cambrian sandstones identified in O-47.

The initial part of the drilling proved to present the most difficulty. The rat hole, mouse hole and conductor hole were drilled utilizing the drilling rig as the winter road was not as yet open for other services. The upper 3m consisted of glacial drift composed of sand, pebbles, cobbles and boulders that continually washed and sloughed into the afore-mentioned holes making progress difficult. The till was lying upon the cherty dolomite of the Franklin Mountain Formation which in itself proved to be pretty slow going. The drilling of these preparatory holes and the setting of 60m of conductor took 10 days. We drilled out and drilled 311mm surface hole with a mud motor. As a consequence of questionable drilling practices, the hole deviated to 4.5 degrees by 166m and was switched to directional MWD. It was at this point that the well changed operators. At 337m we lost circulation. It was necessary to switch back to a conventional string and drill blind to 509m. The hole was plugged back with cement to seal the lost circulation zones, then drilled out, before running surface casing. The hole then continued successfully to TD drilling with salt saturated gel chem mud. No further significant hole problems were encountered. The well was logged and subsequently cased as a Mt. Clarke gas well.

Well Summary

Storage Units: Metric

Well Information

Operator: Apache Canada Ltd.
Well Name: Apache Paramount Nogha C-49
Location: 66° 38' 5.42" N / 125° 53' 35.78" W
UWI: 300C496640125450
Pool: Mount Clarke
Field: Nogha
State / Province: Northwest Territories
Country: Canada
License Number: WID: 1934
Well Status: Mt. Clarke Gas

Surface Co-ordinates

Hole Type:

Fault Indicator:

Latitude: 66.3854200

Longitude: 125.5335780

N / S:

E / W:

Bottom Hole Co-ordinates

Latitude:

Longitude:

N / S:

E / W:

Elevations

Ground Elevation:	354.10	Reference:	8892001
Kelly Bushing Elevation:	359.43	Kelly Bushing to Ground:	5.30
Casing Flange Elevation:		Cut (-):	
		Fill (+):	0.30

Total Depth

	Measured Depth	True Vertical Depth
Total Depth Driller (Tally):	1,408.94	1,408.19
Total Depth Driller (Strap or SLM):	1,408.66	1,407.91
Total Depth Logger:	1,407.90	1,407.15

Miscellaneous Depths

Plugback Depth:

Water Depth Reference:

Sidetrack Depth:

Water Depth:

Well Summary

Drilling Contractor: Wilson Drilling Rig # 3
Rig Release Date:

Spud Date: Jan 25, 2003 @ 12:00
Total Depth Date: Feb 25, 2003 @ 06:05

Cores	#	Formation	Interval	Cut	Recovered	%
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Casing Summary

Casing Type	Casing Size	Landed Depth	Hole Size
Production	177.8		216.0
Conductor	339.7	60.34	444.5
Surface	244.5	508.50	311.0

Apache Canada Ltd.
UWI 300C496640125450

Apache Paramount Nogha C-49
66° 38' 5.42" N / 125° 53' 35.78" W
Page 2-1

Well Summary

Storage Units: Metric

Logging Summary

Company	Engineer	Total Depth (MD)	Logging tools
Computalog	M. Macleod	1,408.94	MDA - UGR from 1400.8m to 18.5m
			SPeD - CNT - SGR - DAC from 1407.2 to 18.5m
			DLL - GR from 1400.1 to 509.1m

Wireline Logging Summary

Storage Units:

Metric

Logging Sulte Number: 1
Wireline Logging Company: Computalog
District: Grande Prairie
Witness: C. Bredin

Engineer: M. Macleod
Unit Number: 377

Was Pressure Control Equipment Utilized: No Maximum Deviation: 4.500 °
Was the Logging Job Mechanically Assisted: No Hole Size: 216.0

Total Lost Time: 0.00
Loggers' Total Down Time: 1.00
Total Job Time (From Rig up to Rig down): 16.00

	Measured Depth	True Vertical Depth
Casing Depth Driller	509.00	508.56
Casing Depth Logger	509.10	508.66
Total Depth Driller (Tally)	1,408.94	1,408.19
Total Depth Driller (Strap or SLM)	1,408.60	

General Remarks: This well had to be logged in three runs. The use of salt saturated gel chem mud neccessitated a dual laterolog be used for resistivity. The only one available was an old style sonde which physically could not be run in conjunction with the newer SPeD. The second run was the spectral GR- spectral DN. The last tool in the hole was the dipole array Sonic ran in dipole mode which can't be run in conjunction with other tools.

High resolution 1:120 intervals were selected at wellsite.

Logging Run #: 1
Date: Feb 25, 2003

Drilling Fluid Data

Drilling Fluid Type: Salt saturated gel chem
Fluid Density: 1250.0 Viscosity: 108 pH: 12.5 Fluid Loss: 8.0

Mud Resistivity (Rm): 0.15 @ 15.0 °
Mud Resistivity (Rm) @ BHT: 0.01 @ 33.0 ° Maximum Temperature: 33.0 °
Mud Filtrate Resistivity (Rmf): 0.03 @ 14.0 ° Source (Rmf): Flowline
Mud Cake Resistivity (Rmc): 0.06 @ 18.0 ° Source (Rmc): Flowline

Logging Run Information

Date on Bottom: Feb 26, 2003
Total Depth Logger: 1,407.90 (MD) (TVD)

Logging Tools: DLL - GR from 1400.1 to 509.1m

Remarks: Had a little tool trouble initially but was handled expertly.

Hole Conditions: Good

Apache Canada Ltd.
UWI 300C496640125450

Apache Paramount Nogha C-49
66° 38' 5.42" N / 125° 53' 35.78" W
Page 9-1

Wireline Logging Summary

Storage Units:

Metric

Logging Run #: 2
Date: Feb 25, 2003

Drilling Fluid Data

Drilling Fluid Type: Salt saturated gel chem
Fluid Density: 1250.0 Viscosity: 108 pH: 12.5 Fluid Loss: 8.0

Mud Resistivity (Rm):	0.15 @ 15.0 °		
Mud Resistivity (Rm) @ BHT:	0.01 @ 33.0 °	Maximum Temperature:	33.0 °
Mud Filtrate Resistivity (Rmf):	0.03 @ 14.0 °	Source (Rmf):	Flowline
Mud Cake Resistivity (Rmc):	0.06 @ 18.0 °	Source (Rmc):	Flowline

Logging Run Information

Date on Bottom: Feb 26, 2003
Total Depth Logger: 1,407.90 (MD) (TVD)

Logging Tools: SPeD - CNT - SGR - DAC from 1407.2 to 18.5m

Remarks: Pulled GR and Neutron through casing to surface.

Hole Conditions: Good

Logging Run #: 3
Date: Feb 25, 2003

Drilling Fluid Data

Drilling Fluid Type: Salt saturated gel chem
Fluid Density: 1250.0 Viscosity: 108 pH: 12.5 Fluid Loss: 8.0

Mud Resistivity (Rm):	0.15 @ 15.0 °		
Mud Resistivity (Rm) @ BHT:	0.01 @ 33.0 °	Maximum Temperature:	33.0 °
Mud Filtrate Resistivity (Rmf):	0.03 @ 14.0 °	Source (Rmf):	Flowline
Mud Cake Resistivity (Rmc):	0.06 @ 18.0 °	Source (Rmc):	Flowline

Logging Run Information

Date on Bottom: Feb 26, 2003
Total Depth Logger: 1,407.90 (MD) (TVD)

Logging Tools: MDA - UGR from 1400.8m to 18.5m

Remarks: No problems.

Hole Conditions: Good

Apache Canada Ltd.
UWI 300C496640125450

Apache Paramount Nogha C-49
66° 38' 5.42" N / 125° 53' 35.78" W
Page 9-2

Deviation / Directional Survey Report

Directional Drilling Company: Orion Directional
Directional Drillers: George
Measured While Drilling (MWD) Hands: Omar
Survey Type: electronic
Survey Mode: MWD
Survey Date: Jan 20, 2003
Survey Calculation Method: minimum curvature
Target Azimuth: 0.00 °
Dog Leg Severity Characteristic: 30.00

Survey Tie-In Information

Tie-In Co-Ordinates

Latitude: 66.3854200
Longitude: 125.5335780
N / S:
E / W:

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00

Kick-Off (Whipstock) Information

Kick-Off Co-Ordinates

Latitude:
Longitude:
N / S:
E / W:

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity

Remarks: The mud motor and MWD were used to correct uphole deviation and hold the well vertically.

Deviation Survey Points

Storage Units: Metric

Survey Type: electronic / MWD

Measured Depth	Drift Angle (°)	TVD	Measured Depth	Drift Angle (°)	TVD
0.00	0.000	0.00	1,393.00	2.300	1,392.26
70.00	1.000	70.00	1,409.00	2.300	1,408.25
117.00	2.800	116.97			
150.40	4.300	150.30			
157.70	4.500	157.58			
166.50	4.500	166.36			
175.90	4.400	175.73			
185.30	4.400	185.10			
194.70	4.200	194.47			
204.10	4.100	203.85			
213.50	3.900	213.23			
222.00	3.800	221.71			
232.20	3.200	231.89			
241.70	2.900	241.37			
251.40	2.800	251.06			
261.10	2.800	260.75			
270.90	2.500	270.54			
280.60	2.000	280.23			
290.30	1.600	289.93			
300.10	1.300	299.72			
309.80	1.300	309.42			
319.60	1.200	319.22			
586.50	1.500	586.04			
1,168.00	1.100	1,167.40			
1,208.87	1.800	1,208.25			
1,218.00	2.300	1,217.38			
1,227.72	2.100	1,227.09			
1,256.90	2.400	1,256.25			
1,334.60	2.000	1,333.90			
1,344.40	2.100	1,343.69			
1,354.08	2.200	1,353.37			
1,363.77	1.900	1,363.05			
1,373.46	2.300	1,372.73			
1,383.23	2.300	1,382.50			

Formation Top Summary

Storage Units:

Metric

Kelly Bushing Elevation:
Ground Elevation:

359.43
354.10

Casing Flange Elevation:

**** All Depths measured from Kelly Bushing Elevation ****

Group Formation Member	Prognosis (TVD)	Sample Top (MD)	Sample Top (TVD)	Log Top (MD)	Log Top (TVD)	Subsea	Thickness
<i>Franklin Mountain</i>	0.00	8.50	8.50			350.93	135.50
<i>Franklin Mountain rhythmic</i>	101.80	144.00	143.91	145.00	144.91	214.52	339.80
<i>Franklin Mountain cyclic</i>	483.80	483.80	483.37	484.00	483.57	-124.14	215.20
<i>Saline River</i>	694.80	699.00	698.51	699.00	698.51	-339.08	64.40
<i>Saline River Upper Salt</i>	757.80	763.40	762.90	762.50	762.00	-402.57	104.60
<i>Saline River Lower Shale</i>	863.80	868.00	867.47	867.00	866.47	-507.04	16.00
<i>Saline River Lower Salt</i>	879.80	884.00	883.47	883.00	882.47	-523.04	138.80
<i>Saline River M2 Marker</i>	1,019.80	1,022.80	1,022.23	1,021.50	1,020.94	-661.51	97.80
<i>Mt Cap</i>	1,156.80	1,120.60	1,120.01	1,121.00	1,120.41	-760.98	30.40
<i>Middle Mt Cap</i>	1,156.80	1,151.00	1,150.40	1,151.00	1,150.40	-790.97	119.40
<i>Mt Cap Lower Mt Cap</i>	1,273.80	1,270.40	1,269.74	1,271.00	1,270.34	-910.91	87.20
<i>Mt Clarke</i>	1,357.80	1,357.60	1,356.89	1,356.00	1,355.29	-995.86	21.40
<i>Proterozoic</i>	1,383.80	1,379.00	1,378.27	1,381.00	1,380.27	-1,020.84	

Apache Canada Ltd.
UWI 300C496640125450

Apache Paramount Nogha C-49
66° 38' 5.42" N / 125° 53' 35.78" W
Page 16-1

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 359.43
Ground Elevation: 354.10

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Franklin Mountain
Member:
Boundary Type: unconformable
Fault Type:

Era: Paleozoic
Series: Middle
Period: Ordovician
Stage:
Age (Approx): 470 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	8.50	8.50	350.93	135.50
Log Top				

Evaluation:

The upper Franklin Mountain consists of fine to medium crystalline porous thick bedded Dolomite containing numerous beds of massive white Chert, scattered grains of drusy quartz, and the occasional silicified stromatolite. No gas was encountered through the interval.

Conclusion:

No reservoir potential.

Group:
Formation: Franklin Mountain
Member: rhythmic
Boundary Type: disconformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Ordovician
Stage:
Age (Approx): 485 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	144.00	143.91	215.52	339.80
Log Top	145.00	144.91	214.52	

Evaluation:

The Franklin Mountain middle rhythmic unit consisted of interbeds of Dolomite buff to light brown cryptocrystalline to microcrystalline mudstone and Dolomite buff to light brown, fine to medium crystalline wackestone to packstone. Significant porosity and considerable lost circulation was encountered.

Conclusion:

No hydrocarbon reservoir potential.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 359.43
Ground Elevation: 354.10

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Franklin Mountain
Member: cyclic
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Late
Period: Cambrian
Stage:
Age (Approx): 495 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	483.80	483.37	-123.94	215.20
Log Top	484.00	483.57	-124.14	

Evaluation:

The basal Franklin Mountain cyclic unit contains thick beds of Dolomite, cryptocrystalline to microcrystalline mudstone, Dolomite, microcrystalline to very finely crystalline wackestone to packstone and Limestone, white to buff to light brown cryptocrystalline mudstone. In addition, the basal section contains thinbeds of Shale. No gas shows.

Conclusion:

No hydrocarbon reservoir potential

Group:
Formation: Saline River
Member:
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Middle
Period: Cambrian
Stage:
Age (Approx): 500 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	699.00	698.51	-339.08	64.40
Log Top	699.00	698.51	-339.08	

Evaluation:

The upper Saline River consists predominately of red and green Shales with Dolomite mudstone interbeds.

Conclusion:

No reservoir potential.

Formation Evaluations

Storage Units: Metric

Kelly Bushing Elevation: 359.43
Ground Elevation: 354.10

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Saline River
Member: Upper Salt
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Cambrian
Stage:
Age (Approx): 505 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	763.40	762.90	-403.47	104.60
Log Top	762.50	762.00	-402.57	

Evaluation:

The upper salt zone consists of interbedded dolomite and anhydrite becoming predominately halite with depth.

Conclusion:

No reservoir potential.

Group:
Formation: Saline River
Member: Lower Shale
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Cambrian
Stage:
Age (Approx): 510 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	868.00	867.47	-508.04	16.00
Log Top	867.00	866.47	-507.04	

Evaluation:

A representative sample of the lower shale was not caught. Clobbered mud prevented significant recovery. The sample top was interpreted to mud response.

Conclusion:

No reservoir potential.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 359.43
Ground Elevation: 354.10

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Saline River
Member: Lower Salt
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Cambrian
Stage:
Age (Approx): 515 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	884.00	883.47	-524.04	138.80
Log Top	883.00	882.47	-523.04	

Evaluation:

The lower salt zone is predominately halite with scattered beds of cryptocrystalline dolomite and anhydrite.

Conclusion:

No reservoir potential.

Group:
Formation: Saline River
Member: M2 Marker
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Cambrian
Stage:
Age (Approx): 520 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,022.80	1,022.23	-662.80	97.80
Log Top	1,021.50	1,020.94	-661.51	

Evaluation:

Seismic marker.

Conclusion:

No reservoir potential.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 359.43
Ground Elevation: 354.10

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Mt Cap
Member:
Boundary Type: unconformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Cambrian
Stage:
Age (Approx): 525 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,120.60	1,120.01	-760.58	30.40
Log Top	1,121.00	1,120.41	-760.98	

Evaluation:

The upper Mt. Cap is interbedded green to gray shale and dolomite mudstones.

Conclusion:

No reservoir potential.

Group:
Formation: Middle Mt Cap
Member:
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Cambrian
Stage:
Age (Approx): 527 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,151.00	1,150.40	-790.97	119.40
Log Top	1,151.00	1,150.40	-790.97	

Evaluation:

The middle Mt. Cap appears to be very thinly bedded / laminar shale, dolomite, and sandy siltstone with streaks of good visible porosity but not much effective porosity. At the base of the silt unit, 1164-1167m appears to be a fractured Chert (trace moldic) with secondary sucrosic dolomite infilling / lining and remnants of the original dolomite. The sucrosic dolomite has good visual porosity, a strong petroliferous odor and a little dead oil but no fluorescence. Gas show 294 / 6 units. Below the Chert is predominately shale with occasional thinbeds of limestone.

Conclusion:

Reservoir potential.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 359.43
Ground Elevation: 354.10

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Mt Cap
Member: Lower Mt Cap
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Cambrian
Stage:
Age (Approx): 530 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,270.40	1,269.74	-910.31	87.20
Log Top	1,271.00	1,270.34	-910.91	

Evaluation:

The top of the Lower Mt. Cap is a fractured limestone with gas 115 / 10 units. Below this is interbedded shale and tight dolomite. At 1300m is interbedded dolomite and sandstone, dark gray, medium to dark brown, white to medium gray, silty to very fine grained, quartzose, angular, medium to well sorted, very friable, dolomitic cement, very argillaceous in part, common dead oil, no fluorescence, intergranular porosity to 20%, very low permeability, common bitumen plugging, porosity intervals 1299.6-1300.2m, 1303-1303.5m, 1304.6-1304.8m. Liberated gas 286 / 30 units. At 1330m is a dolomite light to dark brown, coarsely crystalline, wackestone to grainstone, intercrystalline bitumen, no fluorescence, intercrystalline and vuggy porosity to 14%, low permeability, gas 99 / 12 units.

Conclusion:

Reservoir potential at 1272, 1300 and 1330m.

Formation Evaluations

Storage Units: Metric

Kelly Bushing Elevation: 359.43
Ground Elevation: 354.10

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Mt Clarke
Member:
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: Early
Period: Cambrian
Stage:
Age (Approx): 535 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,357.60	1,356.89	-997.46	21.40
Log Top	1,356.00	1,355.29	-995.86	

Evaluation:

The upper "A" zone is Sandstone buff to light brown, light to medium gray, quartzose, very fine to medium grained, subangular to subround, medium to well sorted, friable, siliceous cement, dolomitic in part, no stain, common intergranular bitumen, no fluorescence, intergranular porosity to 12%, low permeability, bitumen plugging particularly in the lower half of the zone. Liberated gas 173 / 6 units. The middle "B" zone is Sandstone white to buff, light brown, quartzose, very fine to fine grained, subangular to subround, well sorted, clean, well indurated with siliceous cement, cherty, tight. Liberated gas 154 / 35 units. The basal "Coarse" zone is Sandstone white to buff, quartzose, very fine to medium grained, subangular to well rounded, friable to very friable, light dolomitic cement, siliceous in part, occasional clay laminae, no stain, very weak dry fluorescence, weak blooming wet cut fluorescence, intergranular porosity to 14%. Liberated gas 928 / 35 units, probable associated condensate.

Conclusion:

Good reservoir potential.

Group:
Formation: Proterozoic
Member:
Boundary Type: unconformable
Fault Type:

Era: PreCambrian
Series:
Period: Proterozoic
Stage:
Age (Approx): 544 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,379.00	1,378.27	-1,018.84	
Log Top	1,381.00	1,380.27	-1,020.84	

Evaluation:

Basalt, gray to red, firm to hard, fine groundmass, porphyritic.

Conclusion:

No reservoir potential.

Sample Descriptions

Storage Units:

Metric

5.00 to 8.50 (3.50)	100% Till Measured rig cellar. Glacial drift, boulder clay, cobbles, pebbles and quartz / feldspar sand.
8.50 to 10.00 (1.50)	70% DOLOMITE light gray, buff, light yw brown weathered, cryptocrystalline to medium crystalline, sucrosic in part, wackestone to packstone, scattered pin point, intercrystalline and fracture porosity 2-3% 30% Till predominately coarse angular unconsolidated quartz and feldspar cavings
10.00 to 15.00 (5.00)	90% DOLOMITE light gray white, buff, weathered yw brown, light pinkish, cryptocrystalline to medium crystalline, subhedral in part, common very fine to fine rounded quartz grains, no stain, no fluorescence, trace of intercrystalline porosity 2-3% 10% Till sand cavings as above
15.00 to 20.00 (5.00)	100% DOLOMITE white to buff, light gray, very fine to coarsely crystalline, mudstone to wackestone, subhedral in part, trace sucrosic, very spotty tarry oil stain, no dry, weak blooming wet cut fluorescence, very patchy intercrystalline porosity 2-3%
20.00 to 25.00 (5.00)	100% DOLOMITE light gray white, light yw brown, cryptocrystalline to finely crystalline, mudstone to wackestone, scattered well rounded fine to medium quartz grains, minor scattered nodular chert, no stain, no fluorescence, trace of pin point to vuggy porosity, minor cavings, trace of tarry sucrosic dolomite as above.
25.00 to 30.00 (5.00)	100% DOLOMITE light gray white, light yw brown, pinkish, cryptocrystalline to finely crystalline, mudstone to wackestone, scattered well rounded quartz grains, slightly calcareous in part, trace of coarse euhedral calcite crystals, no stain, no fluorescence, trace of pin point to intercrystalline porosity 1-2%, minor sand cavings
30.00 to 35.00 (5.00)	90% DOLOMITE light gray, light gray white, light yw brown, cryptocrystalline to finely crystalline, predominately mudstone, tight, trace of finely crystalline sucrosic packstone, tarry oil stain, faint dry, strong blooming wet cut fluorescence, very patchy pin point to intercrystalline to vuggy porosity 2-3% 10% CHERT white to light gray, milky to translucent, nodular to laminar
35.00 to 40.00 (5.00)	80% DOLOMITE light gray white, light gray, cryptocrystalline to microcrystalline, predominately mudstone, siliceous in part, scattered drusy quartz, tight, minor light gray finely crystalline sucrosic packstone, very spotty dead oil stain, fair blooming wet cut fluorescence, scattered intercrystalline to vuggy porosity 4-5%

Sample Descriptions

Storage Units:

Metric

35.00 to 40.00 (5.00)	20% CHERT light gray white, light gray, milky, variegated in part, predominately nodular
40.00 to 45.00 (5.00)	90% DOLOMITE light gray white, light gray, cryptocrystalline to finely crystalline, predominately mudstone, siliceous in part, occasional drusy quartz, trace of dead oil stain, spotty weak blooming wet cut fluorescence, trace of vuggy porosity 2-3%
	10% CHERT light gray white, light gray, milky, predominately nodular
45.00 to 50.00 (5.00)	100% DOLOMITE light gray white, light gray, cryptocrystalline to finely crystalline, predominately mudstone, siliceous in part, occasional drusy quartz, trace of dead oil, trace of pin point porosity, minor nodular Chert as above
50.00 to 55.00 (5.00)	70% CHERT white, translucent to milky, dolomitic in part, incomplete replacement, tight
	70% DOLOMITE white to light gray, cryptocrystalline to microcrystalline, mudstone, clean, very siliceous in part, no stain, no fluorescence, trace of pin point -vuggy porosity 1-2%
55.00 to 60.00 (5.00)	80% DOLOMITE white to light gray, cryptocrystalline to finely crystalline, mudstone to sucrosic packstone, clean, siliceous in part, very spotty tarry stain, strong blooming wet cut fluorescence, trace of intercrystalline to vuggy porosity 3-5%
	20% CHERT white, milky to translucent, dolomitic in part, tight
60.00 to 65.00 (5.00)	90% DOLOMITE white to light gray, cryptocrystalline to finely crystalline, predominately mudstone, minor wackestone, clean, very siliceous in part, no stain, no fluorescence, no visible porosity
	10% CHERT variegated, white to light gray, milky to translucent, laminar in part, probable stromatolites, dolomitic in part, incomplete replacement, trace of fine clear subhedral quartz grains
65.00 to 70.00 (5.00)	80% DOLOMITE white to buff, light gray, cryptocrystalline to finely crystalline, predominately mudstone, siliceous in part, no stain, no fluorescence, trace of intercrystalline to vuggy porosity 3-4%
	20% CHERT white to light gray, milky to translucent, dolomitic in part

Sample Descriptions

Storage Units:

Metric

70.00 to 75.00 (5.00)	100% DOLOMITE white to buff, cryptocrystalline to finely crystalline, subhedral, mudstone to wackestone, minor packstone, no stain, no fluorescence, fractured in part, scattered vuggy porosity 4-6%, minor Chert as above
75.00 to 80.00 (5.00)	90% DOLOMITE white to buff, light gray, cryptocrystalline to finely crystalline, predominately mudstone, trace of drusy quartz, no stain, no fluorescence, no visible porosity, scattered nodular Chert fragments 10% CEMENT Schlumberger arctic set
80.00 to 85.00 (5.00)	80% DOLOMITE white to buff, light reddish brown, cryptocrystalline to finely crystalline, predominately mudstone, trace of drusy quartz, trace of micro fractures, no stain, no fluorescence, no visible porosity 20% CHERT white to light gray, milky, dolomitic in part, incomplete replacement, trace stromatolitic
85.00 to 90.00 (5.00)	90% DOLOMITE white to buff, light reddish brown, crplx to finely crystalline, predominately mudstone, wackest in part, no stain, no fluorescence, trace of pin point to vuggy porosity 2-3%, minor Chert 10% CEMENT Schlumberger arctic set
90.00 to 95.00 (5.00)	100% DOLOMITE white to buff, light brown, cryptocrystalline to finely crystalline, predominately mudstone, minor medium crystalline wackestone to packstone, clean, scattered drusy quartz, no stain, no fluorescence, scattered vuggy porosity 3-4%, trace of Chert
95.00 to 100.00 (5.00)	90% DOLOMITE white to buff, light brown, light to medium gray, cryptocrystalline to medium crystalline, mudstone to wackestone, minor packstone, very siliceous in part, scattered drusy quartz grains, no stain, no fluorescence, minor intercrystalline to vuggy porosity 3-4% 10% CHERT white to light gray, milky, variegated in part, dolomitic in part, incomplete replacement
100.00 to 105.00 (5.00)	100% DOLOMITE white to buff, light brown, light to medium gray, cryptocrystalline to medium crystalline, mudstone to wackestone, minor packstone, very siliceous in part, scattered drusy quartz grains, no stain, no fluorescence, minor pin point to vuggy porosity 3-4%

Sample Descriptions

Storage Units:

Metric

105.00 to 110.00 (5.00)	80% DOLOMITE white to buff, light brown, light to medium gray, cryptocrystalline to medium crystalline, mudstone to wackestone, minor packstone, very siliceous in part, common drusy quartz grains, no stain, no fluorescence, vuggy porosity 3-6%
	20% CHERT white to light gray, milky, variegated in part, dolomitic in part
110.00 to 115.00 (5.00)	80% DOLOMITE white to buff, light brown, cryptocrystalline to medium crystalline, mudstone to packstone, trace sucrosic, no stain, no fluorescence, scattered intercrystalline to vuggy porosity 4-6%, trace to 8%, Dolomite light gray, light to medium gray, cryptocrystalline to microcrystalline, mudstone to wackestone, tight, minor disseminated pyrite
	20% CHERT white to light gray, milky, variegated in part
115.00 to 120.00 (5.00)	90% DOLOMITE white to buff, light brown, light gray, cryptocrystalline to medium crystalline, mudstone to wackestone, minor packstone, siliceous in part, trace of drusy quartz, no stain, no fluorescence, no visible porosity, trace of disseminated pyrite
	10% CHERT white, light gray, variegated in part, milky to translucent
120.00 to 125.00 (5.00)	80% DOLOMITE white to buff, light brown, light gray, cryptocrystalline to medium crystalline, mudstone to wackestone, minor packstone, siliceous in part, trace of drusy quartz, no stain, no fluorescence, no visible porosity, trace of disseminated pyrite
	20% CHERT white to light gray, variegated in part, milky to translucent
125.00 to 130.00 (5.00)	70% DOLOMITE white to buff, cryptocrystalline to finely crystalline, predominately mudstone, very siliceous, trace of sucrosic packstone, no stain, no fluorescence, no visible porosity, common drusy quartz
	30% CHERT white to buff, light gray, slightly dolomitic in part, milky to translucent, massive
130.00 to 135.00 (5.00)	70% DOLOMITE white to buff, minor light gray, cryptocrystalline to finely crystalline, predominately mudstone, trace of sucrosic wackestone to packstone, very siliceous, scattered drusy quartz, no stain, no fluorescence, no visible porosity
	30% CHERT white to buff, light gray, slightly dolomitic in part, milky to translucent, massive

Sample Descriptions

Storage Units:

Metric

135.00 to 140.00 (5.00)	100% DOLOMITE buff to light brown, light to medium gray, predominately fine to medium crystalline, subhedral, wackestone to packstone, siliceous in part, trace of drusy quartz crystals, occasional disseminated pyrite, trace of micro fractures, no stain, no fluorescence, no visible porosity, minor Chert as above
140.00 to 145.00 (5.00)	100% DOLOMITE buff to light brown, light to medium gray, very fine to lower coarsely crystalline, subhedral, wackestone to packstone, cherty in part, scattered drusy quartz, no stain, no fluorescence, no visible porosity
145.00 to 150.00 (5.00)	100% DOLOMITE buff to light brown, microcrystalline, mudstone to wackestone, slightly silty, no stain, no fluorescence, no visible porosity
150.00 to 155.00 (5.00)	100% DOLOMITE buff to light brown, microcrystalline to finely crystalline, mudstone to wackestone, minor fine to medium crystalline subhedral packstone, clean, slightly silty in part, scattered coarse euhedral clear dolomite crystals, no stain, no fluorescence, patchy vuggy porosity 8-10%
155.00 to 160.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, predominately mudstone, silty, tight
160.00 to 165.00 (5.00)	100% DOLOMITE buff to light brown, fine to lower coarsely crystalline, subhedral, wackestone to packstone, sucrosic in part, no stain, no fluorescence, no visible porosity
165.00 to 170.00 (5.00)	100% DOLOMITE buff to light brown, light to medium gray, cryptocrystalline to finely crystalline, mudstone to wackestone, minor sucrosic packstone, occasional disseminated pyrite, no stain, no fluorescence, no visible porosity
170.00 to 175.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, predominately mudstone, slightly silty, tight
175.00 to 180.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, predominately mudstone, silty in part, tight
180.00 to 185.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, mudstone, silty, no stain, no fluorescence, no visible porosity
185.00 to 190.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, mudstone, silty, no stain, no fluorescence, no visible porosity

Sample Descriptions

Storage Units:

Metric

190.00 to 195.00 (5.00)	100% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, mudstone, silty, trace of disseminated pyrite, no visible porosity, minor Chert, white, milky, nodular, Dolomite light gray, light reddish gray, finely crystalline, sucrosic, very friable, chert cement in part, no stain, no fluorescence, patchy intercrystalline porosity 6-10%
195.00 to 200.00 (5.00)	100% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, slightly silty, tight
200.00 to 205.00 (5.00)	100% DOLOMITE as above, minor Dolomite buff to light brown white, finely crystalline, wackestone to packstone, white chert cement, tight, trace of drusy quartz, trace of nodular Chert
205.00 to 210.00 (5.00)	100% DOLOMITE buff to light brown, minor light gray, cryptocrystalline to microcrystalline, mudstone, silty, mottled in part, tight
210.00 to 215.00 (5.00)	100% DOLOMITE as above, Dolomite light brown, fine to medium crystalline, wackestone to packstone, subhedral, sucrosic in part, occasional cherty cement, scattered drusy quartz crystals, no stain, no fluorescence, patchy intercrystalline porosity 3-5%
215.00 to 220.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, mudstone, silty, tight, trace of finely crystalline wackestone
220.00 to 225.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, mudstone, silty, trace stylolitic, tight
225.00 to 230.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, silty, trace stylolitic, trace of Shale light gray, fissile, platy, scattered pyrite
230.00 to 235.00 (5.00)	100% DOLOMITE buff to light brown, silty, cryptocrystalline to microcrystalline, mudstone, trace stylolitic, trace of nodular chert, no stain, no fluorescence, no visible porosity
235.00 to 240.00 (5.00)	100% DOLOMITE buff to light brown, slightly silty, cryptocrystalline to microcrystalline, clean, mudstone, tight
240.00 to 245.00 (5.00)	100% DOLOMITE buff to light brown, slightly silty, cryptocrystalline to microcrystalline, clean, mudstone, tight
245.00 to 250.00 (5.00)	100% DOLOMITE white to buff, light brown, cryptocrystalline, to microcrystalline, mudstone, silty in part, clean, tight

Sample Descriptions

Storage Units:

Metric

250.00 to 255.00 (5.00)	100% DOLOMITE buff to light brown, light gray slightly argillaceous, cryptocrystalline to microcrystalline, mudstone, silty in part, tight
255.00 to 260.00 (5.00)	100% DOLOMITE buff to light brown, light gray slightly argillaceous, cryptocrystalline to microcrystalline, mudstone, silty in part, tight
260.00 to 265.00 (5.00)	100% DOLOMITE as above, minor Dolomite buff to light brown, fine to medium crystalline, wackestone to packstone, trace of coarse clear euhedral dolomite crystals, no stain, no fluorescence, patchy intercrystalline to vuggy porosity 3-4%
265.00 to 270.00 (5.00)	100% DOLOMITE buff to light brown, light gray, cryptocrystalline to medium crystalline, mudstone to packstone, tight
270.00 to 275.00 (5.00)	100% DOLOMITE buff to light brown, microcrystalline to finely crystalline, wackestone to packstone, minor slightly silty cryptocrystalline mudstone, no stain, no fluorescence, no visible porosity
275.00 to 280.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to medium crystalline, mudstone to packstone, clean, tight
280.00 to 285.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, mudstone to packstone, clean, minor chert cement, very patchy intercrystalline porosity 2-3%
285.00 to 290.00 (5.00)	100% DOLOMITE buff to light brown, microcrystalline to medium crystalline, mudstone to packstone, clean, trace of chert cement, very patchy intercrystalline porosity 2-3%
290.00 to 295.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, minor finely crystalline, mudstone to wackestone, clean, tight
295.00 to 300.00 (5.00)	100% DOLOMITE light brown, buff to light brown, cryptocrystalline to microcrystalline, minor finely crystalline, mudstone to wackestone, clean, tight
300.00 to 305.00 (5.00)	100% DOLOMITE buff to light brown, light to medium brown, cryptocrystalline to microcrystalline, predominately mudstone, tight
305.00 to 310.00 (5.00)	90% DOLOMITE buff to light brown, medium brown, cryptocrystalline to microcrystalline, mudstone, minor stylolitic, tight
	10% SHALE light gray green, light gray, dolomitic, fissile, platy

Sample Descriptions

Storage Units:

Metric

310.00 to 315.00 (5.00)	100% DOLOMITE light to medium brown, light gray brown, cryptocrystalline to microcrystalline, predominately mudstone, silty in part, argillaceous in part, trace stylolitic, tight
315.00 to 320.00 (5.00)	100% DOLOMITE light to medium brown, medium gray brown, cryptocrystalline to microcrystalline, predominately mudstone, argillaceous in part, slightly silty in part, stylolitic, tight
320.00 to 325.00 (5.00)	100% DOLOMITE buff, light gray, cryptocrystalline to microcrystalline, mudstone, tight, trace of coarse euhedral calcite crystals
325.00 to 330.00 (5.00)	100% DOLOMITE buff, light gray, cryptocrystalline to microcrystalline, mudstone, minor very finely crystalline wackest, tight
330.00 to 335.00 (5.00)	100% DOLOMITE white to buff, light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, calcareous in part, tight
335.00 to 350.00 (15.00)	NSPL lost circulation, bypassed shaker
350.00 to 355.00 (5.00)	100% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, mudstone to wackestone, tight, trace medium crystalline sucrosic packstone, trace of coarse euhedral dolomite crystals
355.00 to 360.00 (5.00)	100% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, slightly silty, tight
360.00 to 365.00 (5.00)	100% DOLOMITE white to buff, light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, slightly silty, tight
365.00 to 370.00 (5.00)	100% DOLOMITE white to buff, light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, silty in part, tight
370.00 to 375.00 (5.00)	100% DOLOMITE white to buff, light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, silty in part, tight
375.00 to 380.00 (5.00)	100% DOLOMITE white to buff, light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, silty in part, tight

Sample Descriptions

Storage Units:

Metric

380.00 to 385.00 (5.00)	100% DOLOMITE white to buff, light brown, cryptocrystalline to microcrystalline, mudstone, slightly silty, scattered fine to medium rounded quartz grains, minor Chert white, milky, nodular, trace of coarse euhedral dolomite crystals, probable scattered vuggy porosity
385.00 to 390.00 (5.00)	100% DOLOMITE as above, buff to light brown, fine to medium crystalline, sucrosic, packstone, no stain, no fluorescence, scattered coarse euhedral clear to translucent dolomite crystals, intercrystalline to vuggy porosity 10-12%, minor Chert, white, milky
390.00 to 395.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to medium crystalline, mudstone to sucrosic packstone, scattered coarse euhedral dolomite crystals, no stain, no fluorescence, patchy intercrystalline to vuggy porosity, occasional nodular and laminar Chert
395.00 to 400.00 (5.00)	NO SAMPLE drilling blind
400.00 to 405.00 (5.00)	90% LCM partial returns 10% DOLOMITE buff to light brown, fine to medium crystalline, sucrosic packstone, scattered coarse euhedral dolomite crystals, intercrystalline and vuggy porosity
405.00 to 410.00 (5.00)	NO SAMPLE drilling blind
410.00 to 415.00 (5.00)	70% LCM partial returns 30% DOLOMITE white to buff, light brown, microcrystalline to medium crystalline, wackestone to sucrosic packstone, scattered translucent euhedral dolomite crystals, intercrystalline and vuggy porosity, occasional coarse angular Chert
415.00 to 420.00 (5.00)	40% DOLOMITE white to buff, light brown, microcrystalline to finely crystalline, wackestone to sucrosic packstone, scattered euhedral dolomite crystals, scattered coarse angular Chert 40% LCM partial returns
420.00 to 425.00 (5.00)	70% LCM partial returns 30% DOLOMITE white to buff, light brown, cryptocrystalline to finely crystalline, mudstone to wackestone, minor packstone, scattered euhedral dolomite crystals, no stain, no fluorescence, no visible porosity

Sample Descriptions

Storage Units:

Metric

425.00 to 430.00 (5.00)	NO SAMPLE drilling blind
430.00 to 435.00 (5.00)	NO SAMPLE drilling blind
435.00 to 440.00 (5.00)	NO SAMPLE drilling blind
440.00 to 445.00 (5.00)	NO SAMPLE drilling blind
445.00 to 450.00 (5.00)	NO SAMPLE drilling blind
450.00 to 455.00 (5.00)	NO SAMPLE drilling blind
455.00 to 460.00 (5.00)	NO SAMPLE drilling blind
460.00 to 465.00 (5.00)	NO SAMPLE drilling blind
465.00 to 470.00 (5.00)	NO SAMPLE drilling blind
470.00 to 475.00 (5.00)	NO SAMPLE drilling blind
475.00 to 480.00 (5.00)	NO SAMPLE drilling blind
480.00 to 485.00 (5.00)	NO SAMPLE drilling blind
485.00 to 490.00 (5.00)	NO SAMPLE drilling blind
490.00 to 495.00 (5.00)	NO SAMPLE drilling blind
495.00 to 500.00 (5.00)	NO SAMPLE drilling blind
500.00 to 505.00 (5.00)	NO SAMPLE drilling blind
509.00 to 510.00 (1.00)	50% CEMENT 0-1-0 Good

Sample Descriptions

Storage Units:

Metric

509.00 to 510.00 (1.00)	50% DOLOMITE buff to light brown, cryptocrystalline to finely crystalline, mudstone to wackestone, trace of packstone, no stain, no fluorescence, scattered pin point to intergranular porosity
510.00 to 515.00 (5.00)	100% DOLOMITE white to buff, cryptocrystalline, mudstone, slightly silty in part, Dolomite light to medium brown, cryptocrystalline to finely crystalline, mudstone to wackestone, no stain, no fluorescence, occasional pin point porosity
515.00 to 520.00 (5.00)	90% DOLOMITE buff to light brown, medium brown, cryptocrystalline to microcrystalline, mudstone to wackestone, minor packstone, stylolitic in part, no stain, no fluorescence, very patchy intercrystalline to vuggy porosity to 16%, trace of nodular Chert 10% SHALE light to medium gray, predominately laminar, fissile
520.00 to 525.00 (5.00)	100% DOLOMITE white to buff, light brown, cryptocrystalline mudstone, tight, Dolomite light to medium brown, microcrystalline to finely crystalline, predominately wackestone, minor packstone, slightly argillaceous in part, no stain, no fluorescence, very patchy intercrystalline to moldic porosity to 18%
525.00 to 530.00 (5.00)	100% DOLOMITE light gray, light brown, cryptocrystalline to finely crystalline, mudstone to wackestone, slightly argillaceous in part, slightly silty in part, no stain, no fluorescence, very patchy pin point to intercrystalline to moldic porosity to 10%, trace of clear to translucent subhedral to euhedral crystalline quartz, possible fracture or karst lining
530.00 to 534.00 (4.00)	100% DOLOMITE light gray, light brown, cryptocrystalline to finely crystalline, mudstone to wackestone, slightly argillaceous in part, no stain, no fluorescence, very patchy pin point to intxn porosity 6-8%
535.00 to 540.00 (5.00)	100% DOLOMITE white to buff, light brown, predominately cryptocrystalline mudstone, occasional microcrystalline to finely crystalline wackestone, no stain, no fluorescence, no visible porosity
540.00 to 545.00 (5.00)	100% DOLOMITE light gray to buff, light brown, cryptocrystalline to microcrystalline, predominately mudstone, slightly argillaceous in part, tight
545.00 to 550.00 (5.00)	100% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, predominately mudstone, minor wackestone, tight
550.00 to 555.00 (5.00)	80% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, predominately mudstone, minor wackestone, tight

Sample Descriptions

Storage Units:

Metric

550.00 to 555.00 (5.00)	20% LIMESTONE light gray, light brown, medium to dark brown, cryptocrystalline mudstone, tight, minor Shale light gray, light gray green laminar
555.00 to 560.00 (5.00)	50% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, predominately mudstone, silty in part, tight
	50% LIMESTONE buff to light brown, medium brown, cryptocrystalline to microcrystalline, mudstone, silty in part, tight, minor Shale light gray, light gray green, laminar
560.00 to 565.00 (5.00)	80% LIMESTONE white to buff, light brown, medium brown, cryptocrystalline to microcrystalline, mudstone, stylolitic in part, stromatolitic
	20% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, predominately mudstone, silty in part, tight
565.00 to 570.00 (5.00)	80% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, mudstone to wackestone, silty, tight
	20% LIMESTONE white to buff, light brown, medium brown, cryptocrystalline to microcrystalline, mudstone, tight
570.00 to 575.00 (5.00)	60% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, calcareous, mudstone to wackestone, tight
	40% LIMESTONE buff to light brown, cryptocrystalline, dolomitic, mudstone, slightly argillaceous, tight
575.00 to 580.00 (5.00)	70% LIMESTONE buff to light gray, light brown, cryptocrystalline to microcrystalline, mudstone, slightly argillaceous in part, stylolitic in part, tight
	30% DOLOMITE light brown, cryptocrystalline to microcrystalline, mudstone, silty in part, tight
580.00 to 585.00 (5.00)	80% DOLOMITE buff to light brown, microcrystalline to very finely crystalline, mudstone to wackestone, minor packstone, silty, no stain, no fluorescence, patchy pin point to intercrystalline porosity 6-8%
	20% LIMESTONE light gray, buff to light brown, cryptocrystalline to microcrystalline, mudstone, tight

Sample Descriptions

Storage Units:

Metric

585.00 to 590.00 (5.00)	90% DOLOMITE buff to light brown, microcrystalline to very finely crystalline, mudstone to wackestone, minor packstone, silty, patchy pin point to intercrystalline porosity 6-8%
	10% LIMESTONE buff to light brown, medium brown, light gray, cryptocrystalline to microcrystalline, dolomitic in part, tight, minor Shale laminae, light to medium gray
590.00 to 595.00 (5.00)	90% DOLOMITE buff to light brown, microcrystalline to very finely crystalline, mudstone to wackestone, minor packstone, silty, patchy pin point to intercrystalline porosity
	10% LIMESTONE as above
595.00 to 600.00 (5.00)	100% DOLOMITE white to light gray, microcrystalline to very finely crystalline, wackestone to packstone, slightly silty, sucrosic in part, calcareous in part, patchy intercrystalline to moldic porosity 12-18%, low permeability
600.00 to 605.00 (5.00)	100% DOLOMITE white to light gray, light brown, cryptocrystalline to microcrystalline, predominately mudstone, silty, tight
605.00 to 610.00 (5.00)	60% DOLOMITE white to light gray, light brown, cryptocrystalline to microcrystalline, predominately mudstone, silty, tight
	40% LIMESTONE buff to light brown, light gray, cryptocrystalline mudstone, stylolitic in part, tight
610.00 to 615.00 (5.00)	70% LIMESTONE buff to light brown, light gray, cryptocrystalline mudstone, tight
	30% DOLOMITE white to light gray, light brown, cryptocrystalline to microcrystalline, predominately mudstone, silty, tight
615.00 to 620.00 (5.00)	70% LIMESTONE white to buff, light brown dolomitic, light gray, cryptocrystalline mudstone, tight
	30% DOLOMITE light brown, calcareous in part, cryptocrystalline to microcrystalline, predominately mudstone, tight
620.00 to 625.00 (5.00)	70% LIMESTONE white to buff, light brown dolomitic, light gray, cryptocrystalline mudstone, tight
	30% DOLOMITE white to light gray, light brown, cryptocrystalline to microcrystalline, predominately mudstone, silty, tight

Sample Descriptions

Storage Units:

Metric

625.00 to 630.00 (5.00)	80% LIMESTONE white to buff, light to medium brown, mottled in part, cryptocrystalline to microcrystalline, mudstone, stylolitic in part, tight
	20% DOLOMITE light brown, calcareous, cryptocrystalline to microcrystalline, predominately mudstone, tight
630.00 to 635.00 (5.00)	80% DOLOMITE light brown, cryptocrystalline to very finely crystalline, mudstone to wackestone, common packstone, sucrosic in part, very spotty dead oil stain, no fluorescence, pin point to intercrystalline porosity 12-14%
	20% LIMESTONE white to buff, light brown, mottled in part, cryptocrystalline to microcrystalline, mudstone, tight
635.00 to 640.00 (5.00)	60% LIMESTONE white to buff, light brown, medium brown, dolomitic, cryptocrystalline to microcrystalline, predominately mudstone, tight
	40% DOLOMITE light brown, cryptocrystalline to very finely crystalline, mudstone to wackestone, common packstone, sucrosic in part, spotty dead oil stain, no fluorescence, pin point to intercrystalline to vuggy porosity 12- 14%
640.00 to 645.00 (5.00)	100% DOLOMITE buff to light brown, minor light gray, cryptocrystalline to finely crystalline, mudstone to wackestone, slightly argillaceous, scattered pin point porosity 3-4%, trace of Chert
645.00 to 650.00 (5.00)	70% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, tight
	30% LIMESTONE light gray white, light gray dolomitic, cryptocrystalline mudstone, tight
650.00 to 655.00 (5.00)	70% LIMESTONE light gray, light gray white, light brown, cryptocrystalline to microcrystalline, mudstone, argillaceous in part, tight
	30% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, tight
655.00 to 660.00 (5.00)	70% LIMESTONE light gray, light gray white, light brown, cryptocrystalline to microcrystalline, mudstone, argillaceous in part, tight

Sample Descriptions

Storage Units:

Metric

655.00 to 660.00 (5.00)	30% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, tight
660.00 to 665.00 (5.00)	70% LIMESTONE light gray, light gray eh, light brown, cryptocrystalline to microcrystalline, mudstone, tight
	20% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, predominately mudstone, slightly argillaceous, tight
	10% SHALE light gray, calcareous, predominately laminar
665.00 to 670.00 (5.00)	80% DOLOMITE light gray, white to buff, cryptocrystalline to microcrystalline, mudstone, argillaceous in part, tight
	20% LIMESTONE light gray, light brown, dolomitic, cryptocrystalline mudstone, tight
670.00 to 675.00 (5.00)	90% DOLOMITE buff to light brown, microcrystalline to very finely crystalline, cryptocrystalline in part, mudstone to wackestone, tight, minor Shale light to medium gray, dolomitic, fissile, platy
	10% LIMESTONE light gray, light brown, cryptocrystalline mudstone, tight
675.00 to 680.00 (5.00)	80% DOLOMITE buff to light brown, light gray, cryptocrystalline to microcrystalline, minor very finely crystalline, mudstone to wackestone, argillaceous in part, tight
	10% LIMESTONE light gray, light brown, cryptocrystalline mudstone, tight
	10% SHALE light gray, light to medium gray, fissile, platy, predominately laminar
680.00 to 685.00 (5.00)	80% DOLOMITE buff to light brown, cryptocrystalline to microcrystalline, predominately mdsty, tight
	20% SHALE light gray green, light to medium gray, fissile, dolomitic
685.00 to 690.00 (5.00)	90% DOLOMITE buff to light brown, cryptocrystalline mudstone, tight
	10% SHALE light gray green, light to medium gray, fissile, platy

Sample Descriptions

Storage Units:

Metric

690.00 to 695.00 (5.00)	80% DOLOMITE buff to light brown, cryptocrystalline mudstone, tight
	20% SHALE light gray green, light to medium gray green, dolomitic, fissile, platy to blocky
695.00 to 700.00 (5.00)	70% DOLOMITE buff to light brown, light gray, cryptocrystalline mudstone, tight
	30% SHALE light to medium green, light to medium gray, medium red, fissile, platy to blocky
700.00 to 705.00 (5.00)	50% DOLOMITE buff to light brown, light gray, cryptocrystalline mudstone, tight, minor Anhydrite white to buff, light gray
	50% SHALE light to medium green, medium gray, light to medium red, dolomitic in part, fissile, platy to blocky
705.00 to 710.00 (5.00)	60% DOLOMITE buff to light brown, light gray, light reddish brown, cryptocrystalline to microcrystalline, mudstone, tight, minor Anhydrite, white to translucent, laminar
	40% SHALE light to medium green, medium reddish brown, medium red, light to medium gray dolomitic, fissile, platy to blocky
710.00 to 715.00 (5.00)	60% SHALE medium red, light reddish brown, light to medium green, fissile, blocky to platy
	40% DOLOMITE buff to light brown, light gray, light reddish brown, cryptocrystalline to microcrystalline, mudstone, tight, minor Anhydrite, white to translucent, laminar
715.00 to 720.00 (5.00)	80% SHALE medium red, light reddish brown, light to medium green, fissile, blocky to platy
	20% DOLOMITE buff to light brown, light gray, argillaceous in part, cryptocrystalline, mudstone, tight
720.00 to 725.00 (5.00)	70% DOLOMITE white to buff, light gray, light brown, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight
	30% SHALE medium red, light to medium gray, medium gray, slightly silty, fissile, blocky to platy
725.00 to 730.00 (5.00)	70% SHALE medium red, light to medium green, platy to blocky

Sample Descriptions

Storage Units:

Metric

725.00 to 730.00 (5.00)	30% DOLOMITE white to buff, light gray, light brown, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight
730.00 to 735.00 (5.00)	60% SHALE medium red, light to medium green, fissile, platy to blocky
	40% DOLOMITE white to buff, light gray, light brown, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight
735.00 to 740.00 (5.00)	80% SHALE medium red, light to medium green, medium gray, fissile, platy to blocky
	20% DOLOMITE white to buff, light gray, light brown, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight
740.00 to 745.00 (5.00)	60% DOLOMITE white to buff, light gray, light brown, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight
	40% SHALE medium red, light to medium green, fissile, blocky to platy, occasional light red, soft, gypsiferous, subfissile
745.00 to 750.00 (5.00)	60% SHALE medium red, light to medium green, fissile, blocky to platy, medium red soft, waxy, subfissile
	40% DOLOMITE white to buff, light gray, light brown, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight
750.00 to 755.00 (5.00)	60% SHALE light to medium green, light gray green, dolomitic in part, medium red, fissile to subfissile, blocky
	40% DOLOMITE white to buff, light gray, light brown, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight
755.00 to 760.00 (5.00)	60% SHALE light to medium green, light gray green, dolomitic in part, medium round, light to medium round subfissile gypsiferous, platy to blocky
	40% DOLOMITE white to buff, light gray, light brown, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight

Sample Descriptions

Storage Units:

Metric

760.00 to 765.00 (5.00)	60% SHALE light to medium green dolomitic, light to medium round waxy, gypsiferous, subfissile to fissile, blocky
	30% DOLOMITE buff to light brown, light gray, cryptocrystalline mudstone, anhydritic, silty in part, argillaceous in part, trace of Siltstone white, dolomitic tight, trace of Gypsum orange, tabular crystals
	10% ANHYDRITE white to buff, light gray brown, dolomitic, massive
765.00 to 770.00 (5.00)	40% DOLOMITE white to buff, light brown, cryptocrystalline mudstone, anhydritic, argillaceous in part, silty in part, trace of salt casts with dead oil lining, possible moldic porosity
	30% ANHYDRITE light brown, light gray, white chalky, commonly dolomitic, massive
	30% SHALE light to medium green, dolomitic, medium red, light red gypsiferous, fissile to subfissile, waxy in part, blocky to platy
770.00 to 775.00 (5.00)	40% DOLOMITE white to buff, light brown, cryptocrystalline mudstone, anhydritic, argillaceous in part, silty in part, trace of salt casts with dead oil lining, possible moldic porosity
	30% ANHYDRITE light brown, light gray, white chalky, commonly dolomitic, massive
	30% SHALE light to medium green, dolomitic, medium red, light red gypsiferous, fissile to subfissile, waxy in part, blocky to platy
775.00 to 780.00 (5.00)	40% DOLOMITE white to buff, light brown, cryptocrystalline mudstone, anhydritic, occasional scattered salt casts, trace of Salt very fine orange to clear cubic crystals
	30% ANHYDRITE white to buff, dolomitic, massive, chalky texture in part, scattered nodular orangish gypsum
	30% SHALE light green, light green dolomitic, platy, light reddish gray, light yellow gypsiferous, platy to blocky
780.00 to 785.00 (5.00)	40% SHALE light green, light green dolomitic, light rdsh brown, light yellow gypsiferous, platy to blocky
	30% ANHYDRITE buff to light brown, light gray, dolomitic, massive

Sample Descriptions

Storage Units:

Metric

780.00 to 785.00 (5.00)	30% DOLOMITE white to buff, light brown, cryptocrystalline mudstone, anhydritic, silty in part, tight
785.00 to 790.00 (5.00)	40% DOLOMITE buff to light brown, light gray, light gray green, cryptocrystalline mudstone, anhydritic in part, argillaceous in part, tight
	30% ANHYDRITE white to buff, dolomitic, chalky to crystalline, massive
	30% SHALE light green, light to medium gray green, light to medium red, fissile to subfissile, waxy, blocky
790.00 to 795.00 (5.00)	30% ANHYDRITE white to buff, light brown, massive, chalky in part, dolomitic in part
	30% DOLOMITE buff to light brown, light gray, light gray green, anhydritic, cryptocrystalline, mudstone, tight, trace of Salt clear coarse halite
	30% SHALE light gray green, light green, light to medium red, fissile to subfissile, blocky
	10% SILTSTONE light orangish brown, dolomitic, tight
795.00 to 800.00 (5.00)	40% DOLOMITE buff to light brown, light gray, cryptocrystalline mudstone, anhydritic, tight
	30% ANHYDRITE white to light brown, clear in part, massive, occasionally chalky dolomitic
	30% SHALE light gray green, light red, light gray green, platy to blocky, dolomitic in part
800.00 to 805.00 (5.00)	60% SALT clear to yellow, massive, halite
	20% DOLOMITE white to buff, light gray, cryptocrystalline mudstone, anhydritic, tight
	10% ANHYDRITE white to buff, light gray, massive
	10% SHALE light green, large gray green, light to medium red, dolomitic in part, blocky
805.00 to 810.00 (5.00)	80% SALT clear to yellow, milky in part, massive, halite

Sample Descriptions

Storage Units:

Metric

805.00 to 810.00 (5.00)	10% DOLOMITE white to buff, light brown, cryptocrystalline mudstone, anhydritic, tight
	10% SHALE light green, light gray green, fissile to subfissile, blocky, dolomitic
810.00 to 815.00 (5.00)	80% SALT clear to yellow, massive, halite
	10% ANHYDRITE white to buff, crystalline to massive
	10% DOLOMITE white to buff, cryptocrystalline mudstone, anhydritic, tight
815.00 to 820.00 (5.00)	90% SALT halite, clear to fro, light yellow brown, massive
	10% SHALE light gray green, anhydritic, platy
820.00 to 825.00 (5.00)	100% SALT halite, clear to translucent, milky white, light yellow brown, massive, minor Shale light gray green, platy
825.00 to 830.00 (5.00)	100% SALT halite, clear to translucent, milky white, light yellow brown, massive, minor Shale light gray green, platy
830.00 to 835.00 (5.00)	100% SALT halite, clear to white, light yellow, massive
835.00 to 840.00 (5.00)	100% SALT halite, clear to white, light yellow, massive, minor Shale light green, platy
840.00 to 845.00 (5.00)	100% SALT halite, clear to white, light yellow, massive
845.00 to 850.00 (5.00)	100% SALT halite, clear to translucent, milky white to light yellow, massive
850.00 to 855.00 (5.00)	100% SALT halite, clear to white, massive
855.00 to 860.00 (5.00)	100% SALT halite, clear to white, light yellow, massive
860.00 to 865.00 (5.00)	100% SALT halite, clear to white, light yellow, massive

Sample Descriptions

Storage Units:

Metric

865.00 to 870.00 (5.00)	NO SAMPLE mud clobbered, trace of Shale light green dolomitic, trace of Dolomite buff to light brown, anhydritic, trace of Salt
870.00 to 875.00 (5.00)	NO SAMPLE mud clobbered, trace of Shale light green dolomitic, trace of Dolomite buff to light brown, anhydritic, trace of Salt
875.00 to 880.00 (5.00)	NO SAMPLE mud clobbered, trace of Shale light green dolomitic, trace of Dolomite buff to light brown, anhydritic, trace of Salt
880.00 to 885.00 (5.00)	30% SALT halite, clear to white, light yellow, massive, clobbered mud, trace of Shale light green dolomitic
885.00 to 890.00 (5.00)	100% SALT halite, clear to white, light yellow, massive
890.00 to 895.00 (5.00)	100% SALT clear to white, light yellow, massive
895.00 to 900.00 (5.00)	100% SALT halite, clear to white, light yellow orange, massive
900.00 to 905.00 (5.00)	100% SALT clear to white, light orange, massive
905.00 to 910.00 (5.00)	100% SALT halite, clear to white, light orange, massive
910.00 to 915.00 (5.00)	70% SALT mud clobbered, halite, as above 30% ANHYDRITE buff to light brown, massive, dolomitic
915.00 to 920.00 (5.00)	100% SALT halite, clear to white, massive
920.00 to 925.00 (5.00)	100% SALT halite, clear to white, light yellow orange, massive
925.00 to 930.00 (5.00)	100% SALT halite, clear to white, light yellow orange, massive, minor Anhydrite buff to light brown, dolomitic
930.00 to 935.00 (5.00)	80% ANH white to buff, light brown, massive, dolomitic, minor Shale light green, platy 20% SALT halite, clear to white, light orange, massive

Sample Descriptions

Storage Units: Metric

935.00 to 940.00 (5.00)	100% SALT halite, clear to white, massive
940.00 to 945.00 (5.00)	100% SALT halite, clear to white, massive, minor Anhydrite buff to light brown, massive
945.00 to 950.00 (5.00)	40% ANHYDRITE white to buff, light brown, massive 40% DOLOMITE buff to light brown, cryptocrystalline mudstone, very anhydritic, tight 20% SALT halite, clear to white, massive
950.00 to 955.00 (5.00)	80% SALT halite, clear to white, massive 10% ANHYDRITE buff to light brown, white, dolomitic in part, massive 10% DOLOMITE buff to light brown, cryptocrystalline mudstone, anhydritic, tight, trace of SHALE light green, laminar
955.00 to 960.00 (5.00)	100% SALT halite, clear to white, massive
960.00 to 965.00 (5.00)	100% SALT halite, clear to white, massive, trace Anhydrite, trace Shale
965.00 to 970.00 (5.00)	100% SALT clear to white, light yellow orange, massive, trace of Anhydrite
970.00 to 975.00 (5.00)	90% SALT clear to white, light yellow orange, massive 10% ANHYDRITE white to buff, light gray, dolomitic, massive
975.00 to 980.00 (5.00)	90% SALT clear to white, light yellow orange, massive 10% ANHYDRITE white to buff, light gray, dolomitic, massive
980.00 to 985.00 (5.00)	90% SALT clear to white, light yellow orange, massive 10% ANHYDRITE white to buff, light gray, dolomitic, massive

Sample Descriptions

Storage Units:

Metric

985.00 to 990.00 (5.00)	100% SALT halite, clear to white, light yellow orange, massive, trace of Anhydrite light brown, dolomitic, massive
990.00 to 995.00 (5.00)	100% SALT halite, clear to white, massive
995.00 to 1,000.00 (5.00)	100% SALT halite, clear to white, massive
1,000.00 to 1,005.00 (5.00)	100% SALT halite, clear to white, massive, trace of Anhydrite, white to light gray, massive
1,005.00 to 1,010.00 (5.00)	100% SALT halite, clear to white, massive, trace of Anhydrite
1,010.00 to 1,015.00 (5.00)	100% SALT halite, clear to white, massive
1,015.00 to 1,020.00 (5.00)	100% SALT halite, clear to white, massive
1,020.00 to 1,025.00 (5.00)	100% SALT halite, clear to white, massive
1,025.00 to 1,030.00 (5.00)	30% DOLOMITE buff to light brown, cryptocrystalline mudstone, very anhydritic, scattered salt casts 30% SALT halite, clear to white, massive 20% ANHYDRITE white to buff, light brown, dolomitic, massive 20% SHALE light green dolomitic, soft, platy
1,030.00 to 1,035.00 (5.00)	40% SALT halite, clear to white, massive 30% SHALE light green, dolomitic, soft, platy 20% ANHYDRITE white to buff, light brown, dolomitic 10% DOLOMITE buff to light brown, cryptocrystalline, mudstone, anhydritic, scattered salt casts
1,035.00 to 1,040.00 (5.00)	100% SALT halite, clear to white, light yellow orange, massive

Sample Descriptions

Storage Units:

Metric

1,040.00 to 1,045.00 (5.00)	100% SALT halite, clear to white, light yellow orange, massive
1,045.00 to 1,050.00 (5.00)	50% SALT halite, clear to white, light yellow orange, massive
	40% DOLOMITE medium brown, cryptocrystalline mudstone, common salt casts, tight
	10% SHALE light green, dolomitic, soft, platy
1,050.00 to 1,055.00 (5.00)	60% DOLOMITE poor sample, clobbered, light gray, white to buff, light brown, cryptocrystalline mudstone, tight
	40% SALT halite, clear to white, light yellow orange, massive
1,055.00 to 1,060.00 (5.00)	60% DOLOMITE light gray, white to buff, light brown, cryptocrystalline mudstone, tight
	20% SALT halite, clear to white, light yellow orange, massive
	10% ANHYDRITE white to buff, massive
	10% SHALE light green, dolomitic, soft, platy
1,060.00 to 1,065.00 (5.00)	60% DOLOMITE buff to light brown, light gray, cryptocrystalline mudstone, scattered salt casts
	30% SALT halite, clear to white, light yellow orange, massive
	10% ANH white to buff, massive
1,065.00 to 1,070.00 (5.00)	90% DOLOMITE buff to light brown, light gray, cryptocrystalline mudstone, tight
	10% ANH white to buff, massive
1,070.00 to 1,075.00 (5.00)	70% DOLOMITE buff to light brown, cryptocrystalline mudstone, anhydritic, tight, scattered salt casts
	20% SALT halite, clear to white, light yellow orange, massive

Sample Descriptions

Storage Units:

Metric

1,070.00 to 1,075.00 (5.00)	10% ANH white to buff, light brown, dolomitic
1,075.00 to 1,080.00 (5.00)	100% SALT halite, clear to white, light yellow orange, massive
1,080.00 to 1,085.00 (5.00)	100% SALT halite, clear to white, massive
1,085.00 to 1,090.00 (5.00)	100% SALT halite, clear to white, massive
1,090.00 to 1,095.00 (5.00)	40% SALT halite, clear to white, massive
	40% SHALE medium gray, medium to dark gray, waxy, fissile, platy
	20% DOLOMITE buff to light brown, cryptocrystalline mudstone, anhydritic, tight
1,095.00 to 1,100.00 (5.00)	70% SALT halite, clear to white, light yellow orange, massive
	20% SHALE medium gray, waxy, fissile, platy
	10% DOLOMITE buff to light brown, cryptocrystalline mudstone, anhydritic, tight
1,100.00 to 1,105.00 (5.00)	80% SALT halite, clear to white, light yellow orange, massive
	10% DOLOMITE buff to light brown, cryptocrystalline mudstone, tight
	10% SHALE medium gray, fissile, platy
1,105.00 to 1,110.00 (5.00)	60% SHALE medium gray, fissile, platy
	30% DOLOMITE buff to light brown, cryptocrystalline mudstone, anhydritic, slightly argillaceous, tight
	10% SALT halite, clear to white, massive
1,110.00 to 1,115.00 (5.00)	60% SHALE medium gray, fissile, platy

Sample Descriptions

Storage Units: Metric

- 1,110.00 to 1,115.00 40% **DOLOMITE**
(5.00) buff to light brown, cryptocrystalline mudstone, anhydritic, slightly argillaceous, tight
- 1,115.00 to 1,120.00 70% **DOLOMITE**
(5.00) buff to light brown, cryptocrystalline mudstone, anhydritic, slightly argillaceous, tight, minor Salt
- 30% **SHALE**
medium gray, fissile, platy
- 1,120.00 to 1,125.00 60% **DOLOMITE**
(5.00) buff to light brown, cryptocrystalline mudstone, slightly argillaceous in part, tight, minor Anhydrite light to medium brown, massive
- 40% **SHALE**
light gray green, light to medium green, light to medium gray, fissile, platy
- 1,125.00 to 1,130.00 50% **DOLOMITE**
(5.00) buff to light brown, cryptocrystalline mudstone, occasional argillaceous laminae, tight, trace of disseminated pyrite
- 40% **SHALE**
light to medium gray, medium gray, light green, fissile, platy
- 10% **ANH**
white to light brown, cryptocrystalline, slightly dolomitic
- 1,130.00 to 1,135.00 50% **SHALE**
(5.00) light to medium gray, light brown, light gray green, medium brown, fissile, platy
- 40% **DOLOMITE**
buff to light brown, cryptocrystalline mudstone, occasional argillaceous laminae, anhydritic in part, tight
- 10% **SILTSTONE**
white to light brown sandy, dolomitic matrix, silt to very fine grained clear subangular quartz, no stain, no fluorescence, very patchy pin point to intercrystalline porosity 2-4%, very low permeability
- 1,135.00 to 1,140.00 50% **SHALE**
(5.00) light gray, light gray green, fissile, platy
- 40% **DOLOMITE**
light gray brown, cryptocrystalline mudstone, minor light to medium brown medium to coarse grainstone, dolomitic and anhydritic cement, pelletoidal in part, stromatolitic in part, tight
- 10% **SILTSTONE**
white to buff, dolomitic matrix, sandy in part, tight
- 1,140.00 to 1,142.00 60% **DOLOMITE**
(2.00) light gray, light to medium brown, cryptocrystalline mudstone, tight

Sample Descriptions

Storage Units:

Metric

1,140.00 to 1,142.00 (2.00)	30% SHALE light gray, light gray green, platy
	10% SILTSTONE white to light brown sandy, angular to subangular quartz, dolomitic matrix, tight
1,142.00 to 1,144.00 (2.00)	70% DOLOMITE light gray, light to medium brown, cryptocrystalline mudstone, tight
	20% SHALE light gray, light gray green, platy
	10% SILTSTONE white to buff, sandy, angular to subangular quartz, dolomitic matrix, tight
1,144.00 to 1,146.00 (2.00)	60% SHALE light gray, light gray green, platy
	40% DOLOMITE light gray, light to medium brown, cryptocrystalline mudstone, silty in part, tight
1,146.00 to 1,148.00 (2.00)	40% DOLOMITE white to buff, light brown, medium brown, cryptocrystalline mudstone, very silty in part, tight
	30% SHALE light to medium gray, light green, platy to blocky, minor disseminated pyrite
	30% SILTSTONE white to light gray, laminar, dolomitic matrix, sandy in part, tight
1,148.00 to 1,150.00 (2.00)	40% DOLOMITE buff to light brown, light gray, cryptocrystalline mudstone, silty in part, tight, trace of nodular Chert fragments
	40% SHALE light to medium gray, light gray green, platy
	20% SILTSTONE white to buff, sandy, dolomitic cement to matrix, very fine clear angular quartz, no stain, no fluorescence, streaks of visible intercrystalline porosity 8-12%, effective porosity 2-3%
1,150.00 to 1,152.00 (2.00)	40% DOLOMITE buff to light brown, light gray, cryptocrystalline mudstone, silty, tight
	40% SILTSTONE white to buff, light brown, sandy in part, dolomite matrix, tight
	20% SHALE light gray, light to medium gray, light green, platy

Sample Descriptions

Storage Units:

Metric

- 1,152.00 to 1,154.00 40% **DOLOMITE**
(2.00) buff to light brown, cryptocrystalline mudstone, silty in part, anhydritic in part, tight, trace of nodular Chert
- 20% **ANH**
white to buff, dolomitic, laminar to nodular
- 20% **SANDSTONE**
light brown, quartzose, silty to very fine grained, angular, medium to well sorted, firm to friable, predominately well indurated with dolomitic and anhydritic cement, no stain, no fluorescence, streaks of visible intergranular porosity 8-10%, effective porosity 1-2%
- 20% **SILTSTONE**
buff to light brown, sandy in part, dolomitic matrix, tight
- 1,154.00 to 1,156.00 70% **DOLOMITE**
(2.00) buff to light brown, light to medium gray, medium brown, cryptocrystalline mudstone, very silty in part, tight, trace of nodular Chert fragments
- 20% **SHALE**
medium gray, light gray green, platy
- 10% **ANH**
white to light brown, dolomitic in part, massive
- 1,156.00 to 1,158.00 70% **DOLOMITE**
(2.00) buff to light brown, light to medium gray, medium brown, cryptocrystalline mudstone, very silty in part, tight, trace of nodular Chert fragments
- 20% **SHALE**
medium gray, light gray green, platy
- 10% **ANH**
light brown, white, dolomitic in part
- 1,158.00 to 1,160.00 70% **DOLOMITE**
(2.00) buff to light brown, light to medium gray, medium brown, cryptocrystalline mudstone, silty in part, tight, trace of nodular Chert fragments
- 20% **SHALE**
medium gray, dark gray, light gray green, platy to blocky, slight petroliferous odor
- 10% **ANH**
white to buff, dolomitic
- 1,160.00 to 1,162.00 60% **DOLOMITE**
(2.00) buff to light brown, cryptocrystalline mudstone, silty in part, tight
- 20% **SHALE**
medium gray, light gray, light green, platy

Sample Descriptions

Storage Units:

Metric

- 1,160.00 to 1,162.00 20% **SILTSTONE**
(2.00) buff to light brown, dolomitic matrix, tight
- 1,162.00 to 1,164.00 40% **DOLOMITE**
(2.00) buff to light brown, crppxl mudstone, silty in part, tight
- 40% **SHALE**
medium to dark gray, medium gray, platy
- 20% **SILTSTONE**
buff to light brown, dolomitic matrix, tight
- 1,164.00 to 1,166.00 60% **DOLOMITE**
(2.00) as above, minor light brown, very finely crystalline sucrosic, infilling to lining, very spotty dead oil, no fluorescence, very patchy visible intercrystalline porosity to 18%, low effective porosity, strong petroliferous odor
- 40% **CHERT**
variegated, light to dark brown, fractured, moldic in part, anhydrite and dolomite infilling to lining, spotty bitumen
- 1,166.00 to 1,168.00 60% **DOLOMITE**
(2.00) as above
- 40% **CHERT**
variegated, light to dark brown, fractured, as above
- 1,168.00 to 1,170.00 60% **DOLOMITE**
(2.00) buff to light brown, cryptocrystalline mudstone, anhydritic in part, tight
- 40% **SHALE**
light to medium gray, light green, platy
- 1,170.00 to 1,175.00 60% **DOLOMITE**
(5.00) buff to light brown, cryptocrystalline mudstone, argillaceous in part, anhydritic in part, tight
- 40% **SHALE**
light to medium gray, light green, platy
- 1,175.00 to 1,180.00 60% **SHALE**
(5.00) medium gray, light to medium gray, dolomitic in part, fissile, blocky to platy
- 40% **DOLOMITE**
light to medium gray, light to medium brown, cryptocrystalline, mudstone, argillaceous, silty, tight, scattered nodular Chert fragments
- 1,180.00 to 1,185.00 90% **SHALE**
(5.00) light to medium gray, light to medium gray green, fissile, platy
- 10% **DOLOMITE**
as above, scattered Chert fragments

Sample Descriptions

Storage Units:

Metric

- 1,185.00 to 1,190.00 70% **SHALE**
(5.00) light to medium gray, medium gray, light to medium gray green, fissile, platy
- 30% **DOLOMITE**
light brown, cryptocrystalline mudstone, argillaceous, calcareous in part, tight
- 1,190.00 to 1,195.00 70% **LIMESTONE**
(5.00) buff to light brown, medium to dark brown argillaceous, cryptocrystalline to medium grained, mudstone to wackestone, grainstone in part, mottled in part, pelmicrite in part, trace stylolitic, scattered well rounded glauc pellets, scattered chert breccia / intraclasts, silty in part, trace of branching stromatoporoids, no stain, no fluorescence, no visible porosity
- 30% **SHALE**
light to medium gray, light gray green, medium gray, fissile, platy
- 1,195.00 to 1,200.00 100% **SHALE**
(5.00) medium gray, light to medium gray green, fissile, platy, minor Limestone
- 1,200.00 to 1,205.00 90% **SHALE**
(5.00) medium gray, light to medium gray green, dark gray, fissile, platy
- 10% **LIMESTONE**
white to buff, cryptocrystalline mudstone, argillaceous, tight
- 1,205.00 to 1,210.00 100% **SHALE**
(5.00) medium gray, dark gray, slightly calcareous, fissile, platy
- 1,210.00 to 1,215.00 100% **SHALE**
(5.00) medium gray, dark gray, slightly calcareous, fissile, platy, trace of Dolomite buff to light brown, silty, trace of Siltstone buff to light brown, dolomitic, tight
- 1,215.00 to 1,220.00 70% **SHALE**
(5.00) medium gray, dark gray, slightly calcareous, fissile, platy
- 30% **LIMESTONE**
buff to light brown, light gray, cryptocrystalline mudstone, argillaceous, tight
- 1,220.00 to 1,225.00 90% **SHALE**
(5.00) medium gray, dark gray, slightly calcareous, fissile, platy
- 10% **LIMESTONE**
light gray, light brown, argillaceous, trace of brachiopods, tight
- 1,225.00 to 1,230.00 90% **SHALE**
(5.00) medium gray, dark gray, slightly calcareous, fissile, platy
- 10% **LIMESTONE**
light gray, light brown, cryptocrystalline mudstone, argillaceous, tight

Sample Descriptions

Storage Units: Metric

- 1,230.00 to 1,235.00 100% **SHALE**
(5.00) medium gray, dark gray, slightly calcareous, fissile, platy, minor argillaceous Limestone
- 1,235.00 to 1,240.00 100% **SHALE**
(5.00) medium gray, dark gray, slightly calcareous, fissile, platy, minor argillaceous Limestone
- 1,240.00 to 1,245.00 90% **SHALE**
(5.00) medium gray, medium to dark gray, fissile, platy
- 10% **LIMESTONE**
light gray, light brown, cryptocrystalline mudstone, argillaceous, tight
- 1,245.00 to 1,250.00 100% **SHALE**
(5.00) medium gray, medium to dark gray, slightly calcareous, fissile, platy to blocky, minor Limestone as above
- 1,250.00 to 1,255.00 100% **SHALE**
(5.00) medium gray, medium to dark gray, calcareous in part, fissile, platy to blocky
- 1,255.00 to 1,260.00 100% **SHALE**
(5.00) medium gray, medium to dark gray, calcareous in part, slightly micromicaceous, minor disseminated to nodular pyrite, fissile, platy to blocky
- 1,260.00 to 1,265.00 100% **SHALE**
(5.00) medium gray, medium to dark gray, calcareous in part, slightly micromicaceous, minor disseminated to nodular pyrite, fissile, platy to blocky
- 1,265.00 to 1,270.00 100% **SHALE**
(5.00) medium gray, medium to dark gray, light to medium gray green, slightly calcareous, fissile, platy to blocky, minor Limestone buff to light brown, light to medium gray, cryptocrystalline mudstone, argillaceous, tight
- 1,270.00 to 1,275.00 60% **LIMESTONE**
(5.00) buff to light gray brown, light gray, argillaceous in part, cryptocrystalline mudstone, slightly silty, slickensided in part, scattered nodular Chert fragments, scattered euhedral calcite crystals, fractured
- 40% **SHALE**
medium gray, medium to dark gray, calcareous in part, slickensided in part, occasional calcite veining, probable fractures
- 1,275.00 to 1,280.00 60% **LIMESTONE**
(5.00) light brown, light to medium gray, medium gray brown, argillaceous, cryptocrystalline mudstone, silty in part, tight
- 40% **SHALE**
medium gray, medium to dark gray, slightly calcareous, fissile, platy to blocky

Sample Descriptions

Storage Units:

Metric

- 1,280.00 to 1,285.00 (5.00) 80% **SHALE**
medium gray, medium to dark gray, slightly calcareous, fissile, platy to blocky, minor nodular and disseminated pyrite
- 20% **DOLOMITE**
light brown, light to medium gray, medium gray brown, argillaceous, cryptocrystalline mudstone, silty in part, tight
- 1,285.00 to 1,290.00 (5.00) 60% **SHALE**
medium gray, medium to dark gray, slightly calcareous, fissile, platy to blocky
- 40% **DOLOMITE**
light brown, light to medium gray, medium gray brown, argillaceous, cryptocrystalline mudstone, silty in part, tight
- 1,290.00 to 1,295.00 (5.00) 80% **SHALE**
medium gray, medium to dark gray, slightly calcareous, fissile, platy to blocky, minor disseminated pyrite
- 20% **DOLOMITE**
light brown, light to medium gray, medium gray brown, argillaceous, cryptocrystalline mudstone, silty in part, tight
- 1,295.00 to 1,300.00 (5.00) 80% **SHALE**
medium gray, medium gray green, fissile, platy to blocky
- 20% **DOLOMITE**
light brown, light to medium gray, medium gray brown, argillaceous, cryptocrystalline mudstone, silty in part, minor light brown microcrystalline wackestone, tight
- 1,300.00 to 1,305.00 (5.00) 60% **SANDSTONE**
dark gray, medium to dark brown, white to medium gray, silty to very fine grained, quartzose, angular, medium to well sorted, very friable, dolomitic cement, very argillaceous in part, common dead oil, no fluorescence, intergranular porosity to 20%, very low permeability, common bitumen plugging, porosity intervals 1299.6-1300.2m, 1303-1303.5m, 1304.6-1304.8m.
- 20% **DOLOMITE**
light brown, light gray, silty to sandy, argillaceous in part, cryptocrystalline to microcrystalline, predominately mudstone, tight
- 20% **SHALE**
medium gray, medium to dark gray, fissile, platy
- 1,305.00 to 1,310.00 (5.00) 60% **SILTSTONE**
white to buff, light gray white, quartzose, firm, dolomitic cement to matrix, sandy in part, tight

Sample Descriptions

Storage Units:

Metric

- 1,305.00 to 1,310.00 (5.00) 30% **SANDSTONE**
white to buff, light gray, quartzose, silty to very fine grained, angular to subangular, well sorted, firm, well indurated with dolomitic and siliceous cement, micromicaceous, no stain, no fluorescence, no visible porosity
- 10% **SHALE**
medium gray, medium to dark gray, fissile, platy
- 1,310.00 to 1,315.00 (5.00) 80% **SILTSTONE**
white to buff, light gray, quartzose, sandy, siliceous cement, dolomitic in part, argillaceous in part, micromicaceous, tight
- 20% **SHALE**
medium good, medium gray silty, fissile, platy to blocky
- 1,315.00 to 1,320.00 (5.00) 70% **SHALE**
medium gray, medium gray silty, micromicaceous, fissile, platy
- 30% **SILTSTONE**
white to buff, light gray, medium gray argillaceous, sandy in part, siliceous cement, tight
- 1,320.00 to 1,325.00 (5.00) 90% **SHALE**
medium gray, dark gray, silty in part, platy to blocky
- 10% **SILTSTONE**
medium to dark gray, argillaceous, tight
- 1,325.00 to 1,330.00 (5.00) 90% **SHALE**
dark gray, medium gray, silty in part, fissile, predominately platy
- 10% **DOLOMITE**
buff to light brown, coarsely crystalline, packstone to grainstone, tight
- 1,330.00 to 1,332.00 (2.00) 80% **DOLOMITE**
light to dark brown, coarsely crystalline, wackestone to grainstone, intercrystalline bitumen, no fluorescence, intercrystalline and vuggy porosity to 14%, low permeability, Dolomite medium to dark brown, cryptocrystalline to microcrystalline, mudstone, tight
- 20% **SHALE**
dark gray, medium gray, silty in part, fissile, predominately platy
- 1,332.00 to 1,334.00 (2.00) 70% **DOLOMITE**
light to medium brown, light to medium gray, cryptocrystalline mudstone, argillaceous, very silty in part, tight
- 30% **SHALE**
medium gray, dark gray, fissile, silty in part, platy to blocky

Sample Descriptions

Storage Units:

Metric

- 1,334.00 to 1,336.00 60% **DOLOMITE**
(2.00) medium gray, light to medium gray brown, cryptocrystalline mudstone, very argillaceous, silty, tight
- 40% **SHALE**
medium gray, medium gray brown, dolomitic, silty in part, blocky
- 1,336.00 to 1,338.00 80% **DOLOMITE**
(2.00) mottled light to dark brown, medium to coarsely crystalline, wackestone to packstone, dolomitic cement, no stain, no fluorescence, trace of pin point to vuggy porosity, minor Siltstone, white to light gray, speckled gm, quartzose, dolomitic cement to matrix, glauc pellets, tight
- 20% **SHALE**
medium gray, dark gray, silty, dolomitic, blocky
- 1,338.00 to 1,340.00 70% **SHALE**
(2.00) medium gray, dark gray, silty, dolomitic, nodular and disseminated pyrite, blocky
- 30% **DOLOMITE**
mottled light to dark brown, medium to coarsely crystalline, wackestone to packstone, dolomitic cement, no stain, no fluorescence, trace of pin point to vuggy porosity
- 1,340.00 to 1,342.00 40% **DOLOMITE**
(2.00) mottled light to dark brown, medium gray, light gray, cryptocrystalline to coarsely crystalline, mudstone to packstone, argillaceous in part, dolomitic cement, commonly silty, no stain, no fluorescence, minor disseminated pyrite
- 30% **SHALE**
medium gray, medium gray green, dolomitic, fissile, platy to blocky
- 30% **SILTSTONE**
light gray, medium gray, dolomitic matrix to cement, sandy, glauconite pellets in part, very argillaceous in part, tight
- 1,342.00 to 1,344.00 70% **SILTSTONE**
(2.00) light gray, quartzose, sandy, dolomitic cement to matrix, occasional glauconite pellets, tight
- 20% **DOLOMITE**
light gray, silty, cryptocrystalline mudstone, tight
- 10% **SHALE**
light to medium gray, medium gray green, fissile, platy
- 1,344.00 to 1,346.00 60% **SILTSTONE**
(2.00) light gray quartzose, sandy, dolomitic cement to matrix, scattered glauconite pellets, tight
- 40% **SHALE**
light to medium gray, medium gray green, fissile, platy

Sample Descriptions

Storage Units:

Metric

- 1,346.00 to 1,348.00 (2.00) 90% **DOLOMITE**
mottled white to medium brown, fine to coarsely crystalline, wackestone to pkest, dolomite cement, no stain, no fluorescence, trace of pin point to vuggy porosity
- 10% **SILTSTONE**
as above
- 1,348.00 to 1,350.00 (2.00) 60% **SILTSTONE**
light gray, medium gray quartzose, sandy, dolomitic cement to matrix, argillaceous in part, scattered glauconite pellets, tight
- 30% **DOLOMITE**
medium gray, light to medium brown, cryptocrystalline to coarse crystalline, predominately mudstone, silty, argillaceous, tight
- 10% **SHALE**
medium gray, medium gray green, fissile, platy, silty in part
- 1,350.00 to 1,352.00 (2.00) 80% **DOLOMITE**
medium gray, light to medium brown, cryptocrystalline to coarse crystalline, predominately mudstone, silty, argillaceous, tight
- 10% **SHALE**
medium gray, medium gray silty, fissile, platy to blocky
- 10% **SILTSTONE**
light gray, medium gray, quartzose, argillaceous, tight
- 1,352.00 to 1,354.00 (2.00) 80% **DOLOMITE**
medium gray, light to medium brown, cryptocrystalline to coarse crystalline, predominately mudstone, silty, argillaceous, tight
- 10% **SHALE**
medium gray, silty, blocky
- 10% **SILTSTONE**
medium gray, light gray, quartzose, argillaceous, tight
- 1,354.00 to 1,356.00 (2.00) 60% **DOLOMITE**
medium gray, light to medium brown, cryptocrystalline to coarse crystalline, predominately mudstone, silty, argillaceous, tight, minor Sandstone white to light gray, quartzose, fine to coarse grained, medium sorted, well rounded, friable, dolomitic cement to matrix, speckled glauconitic, no stain, no fluorescence, no visible porosity
- 30% **SILTSTONE**
light gray, medium gray, argillaceous, dolomitic, tight
- 10% **SHALE**
as above

Sample Descriptions

Storage Units: Metric

- 1,356.00 to 1,358.00 80% **SANDSTONE**
(2.00) white to light gray, quartzose, very fine to medium grained, subangular to subround, firm to friable, siliceous cement, dolomitic in part, no stain, no fluorescence, very patchy pin point to intergranular porosity 3-4%
- 10% **DOLOMITE**
as above
- 10% **SILTSTONE**
as above
- 1,358.00 to 1,360.00 90% **SANDSTONE**
(2.00) buff to light brown, light to medium gray, quartzose, very fine to medium grained, subangular to subround, medium to well sorted, friable, siliceous cement, dolomitic in part, no stain, common intergranular bitumen, no fluorescence, intergranular porosity to 12%, low permeability, bitumen plugging
- 10% **DOLOMITE**
as above
- 1,360.00 to 1,362.00 90% **SANDSTONE**
(2.00) light to medium gray, quartzose, very fine to fine grained, subangular to subround, medium to well sorted, firm to friable, siliceous cement, no stain, common intergranular bitumen, very weak blooming wet cut fluorescence, intergranular porosity 6-8%, bitumen plugging
- 10% **SHALE**
as above
- 1,362.00 to 1,364.00 90% **SANDSTONE**
(2.00) light to medium gray, quartzose, very fine to fine grained, subangular to subround, medium to well sorted, firm to friable, siliceous cement, argillaceous in part, no stain, no fluorescence, intergranular porosity 2-3%, bitumen plugging
- 10% **SHALE**
as above
- 1,364.00 to 1,366.00 30% **SANDSTONE**
(2.00) to medium gray, quartzose, very fine to fine grained, subangular to subround, medium to well sorted, firm to friable, siliceous cement, argillaceous in part, no stain, no fluorescence, intergranular porosity 2-3%, bitumen plugging
- 30% **SHALE**
medium gray, medium to dark gray, silty in part, fissile, platy to blocky
- 20% **DOLOMITE**
medium gray, medium brown, cryptocrystalline mudstone, silty, argillaceous, tight
- 20% **SILTSTONE**
light gray, light brown, quartzose, dolomitic matrix, tight

Sample Descriptions

Storage Units:

Metric

- 1,366.00 to 1,368.00 40% **DOLOMITE**
(2.00) white to buff, light brown, medium to dark brown, cryptocrystalline to finely crystalline, silty in part, argillaceous in part, tight
- 40% **SHALE**
light to medium gray green, fissile, platy
- 20% **SILTSTONE**
white to buff, light gray, quartzose, dolomitic matrix, argillaceous in part, sandy in part, tight
- 1,368.00 to 1,370.00 100% **SANDSTONE**
(2.00) white to buff, light brown, silty to medium grained, siliceous cement, cherty, firm, no stain, no fluorescence, no visible porosity
- 1,370.00 to 1,372.00 90% **SANDSTONE**
(2.00) white to buff, light brown, quartzose, very fine to fine grained, subangular to subround, well sorted, clean, well indurated with siliceous cement, cherty, tight
- 10% **SHALE**
medium gray, dark gray, fissile, platy
- 1,372.00 to 1,374.00 90% **SANDSTONE**
(2.00) as above, minor Sandstone buff to light gray, quartzose, very fine to medium grained, subangular to well rounded, medium to well sorted, no stain, no fluorescence, trace of intergranular porosity
- 10% **SHALE**
as above
- 1,374.00 to 1,376.00 100% **SANDSTONE**
(2.00) white to buff, quartzose, very fine to medium grained, subangular to well rounded, friable to very friable, light dolomitic cement, siliceous in part, occasional clay laminae, no stain, very weak dry fluorescence, weak blooming wet cut fluorescence, intergranular porosity to 14%
- 1,376.00 to 1,378.00 100% **SANDSTONE**
(2.00) white to buff, quartzose, very fine to medium grained, subangular to well rounded, firm to friable, siliceous cement, cherty in part, no stain, no fluorescence, patchy intergranular porosity 6-8%
- 1,378.00 to 1,380.00 40% **SANDSTONE**
(2.00) as above
- 30% **BASALT**
gray to red, firm to hard, fine grained groundmass, porphyritic, trace of vesicular dolomite
- 30% **SHALE**
medium gray, light to medium gray green, dark gray, fissile, platy

Sample Descriptions

Storage Units:

Metric

- 1,380.00 to 1,385.00 100% **BASALT**
(5.00) gray to red, firm to hard, fine groundmass, porphyritic, trace of vesicular dolomite, minor cavings, Sandstone, Dolomite, Shale as above
- 1,385.00 to 1,390.00 100% **BASALT**
(5.00) gray to red, firm to hard, fine groundmass, porphyritic
- 1,390.00 to 1,395.00 100% **BASALT**
(5.00) gray to red, firm to hard, fine groundmass, porphyritic
- 1,395.00 to 1,400.00 100% **BASALT**
(5.00) gray to red, firm to hard, fine groundmass, porphyritic, minor cavings
- 1,400.00 to 1,405.00 100% **BASALT**
(5.00) predominately gray, gray to red, firm to hard, fine groundmass, porphyritic, common green Shale cavings
- 1,405.00 to 1,409.00 100% **BASALT**
(4.00) predominately gray, gray to green, gray to red, firm to hard, fine groundmass, porphyritic

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~VERSION INFORMATION

VERS. 2.0: CWLS LOG ASCII STANDARD - VERSION 2.0
 WRAP. NO: ONE LINE PER DEPTH STEP

~WELL INFORMATION BLACK

#MNEM.UNIT	DATA	DESCRIPTION OF MNEMONIC
STRT.m	18.0:	START DEPTH
STOP.m	1441.0:	STOP DEPTH
STEP.m	1.0 :	STEPVALUE
NULL.	-999.25:	NULL VALUE
COMP.	: COMPANY NAME	
WELL.	: WELLNAME	
FLD.	: FIELDNAME	
LOC.	: LOCATION	
PROV.	: PROVINCE	
SRVC.	: SERVICE COMPANY NAME	
DATE.	: DATE	
UWI.	: UNIQUE WELL IDENTIFIER	

~CURVE INFORMATION

#MNEM.UNIT	APICODE	CURVE DESCRIPTION
DEPT.M		: 1 DEPTH
ROP .MIN		: 2 PENETRATION RATE
TG .UNITS		: 3 TOTAL GAS IN UNITS

~A DEPTH	ROP	TG
18	-999.25	-999.25
19	340.69	0
20	68.64	-999.25
21	44.6	0
22	98.92	0
23	22.61	0
24	213.36	0
25	59.9	0
26	51.9	3
27	57.43	2
28	102.49	2
29	67.56	0
30	2.31	-999.25
31	2.31	-999.25
32	2.31	-999.25
33	66.59	0
34	61.87	0
35	46.07	0
36	35.5	0
37	66.9	0
38	53.98	0
39	33.78	0
40	28.45	0
41	39.47	-2
42	28.03	25
43	43.25	0
44	27.62	0
45	39.82	0
46	27.38	0
47	30.28	0
48	36.88	0
49	43.81	0
50	60.21	0
51	60.48	0
52	29.57	0
53	21.94	0
54	40.66	0
55	24.58	0

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56	31.65	0
57	52.72	0
58	36.85	0
59	35.83	2
60	33.72	0
61	8.63	2
62	1.77	0
63	.46	-999.25
64	43.39	0
65	10.48	0
66	12.45	0
67	14.2	0
68	13.68	0
69	8.47	0
70	10.45	0
71	7.92	0
72	36.23	0
73	4.85	0
74	4.93	0
75	6.23	0
76	6.83	0
77	8.8	0
78	6.55	0
79	6.2	0
80	7.55	0
81	43.26	142
82	14.63	105
83	9.02	0
84	9.33	0
85	7.65	0
86	8.38	0
87	7.92	0
88	8.07	0
89	5.65	0
90	975.45	0
91	4.92	0
92	6.5	0
93	7.65	0
94	4.2	0
95	5.3	0
96	6.15	0
97	28.47	0
98	5.83	0
99	5.63	0
100	5.67	0
101	3.82	0
102	4.17	0
103	4.03	0
104	4.47	0
105	8.26	0
106	11.99	-999.25
107	29.79	0
108	4.5	0
109	3.53	0
110	3.87	2
111	4	2
112	3.67	0
113	5.92	0
114	7.53	0
115	9.07	0
116	9.15	2
117	8.57	0
118	11.95	0

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119	17.75	0
120	16.4	0
121	12.37	0
122	8.53	0
123	7.63	0
124	23.3	0
125	7.07	0
126	6.65	0
127	9.83	0
128	7.43	0
129	6.52	0
130	8.29	0
131	8.48	0
132	41.05	0
133	7.95	0
134	9.5	0
135	8.52	0
136	7.05	0
137	7.67	0
138	7	0
139	8.68	0
140	7.18	0
141	20.43	0
142	6.1	0
143	8.2	0
144	11.58	0
145	11.55	0
146	12.2	0
147	14.65	0
148	15.53	0
149	14.45	0
150	18.1	0
151	13.13	0
152	21.67	0
153	26.13	0
154	7.45	0
155	8.78	0
156	39.11	0
157	19.23	0
158	14.78	0
159	5.77	0
160	5.82	120
161	2.44	0
162	16.82	0
163	18	2
164	32.48	2
165	17.18	2
166	14.57	2
167	31.65	2
168	8.13	3
169	6.63	3
170	9.17	3
171	7.32	2
172	5.32	2
173	8.17	2
174	19.55	2
175	1.55	0
176	8.63	0
177	9.93	2
178	6.58	2
179	5.47	2
180	5.15	2
181	5.68	2

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182	6.5	2
183	7.87	0
184	9.1	2
185	10.72	2
186	9.6	2
187	13.65	2
188	7.72	2
189	7.17	2
190	3.98	2
191	6.35	2
192	3.33	2
193	8.6	0
194	6.87	2
195	8.87	2
196	9.12	0
197	6.85	0
198	7.7	0
199	8.12	2
200	11.43	0
201	9.68	0
202	12.27	0
203	10.33	0
204	8.12	0
205	11.25	0
206	11.43	0
207	10.93	0
208	11.63	0
209	8.48	0
210	9.4	0
211	5.77	0
212	8.32	0
213	12.6	0
214	9.32	0
215	8.73	0
216	11.2	0
217	8.28	0
218	6.78	0
219	6.3	0
220	5.43	0
221	9	0
222	12.57	0
223	9.13	0
224	9.22	0
225	8.53	0
226	6.92	0
227	4.28	0
228	6.4	0
229	4.93	0
230	10.55	0
231	16.07	0
232	11.57	0
233	16.4	0
234	13.3	0
235	12.95	0
236	14.23	0
237	10.13	0
238	9.2	0
239	8.79	0
240	8.36	0
241	11.38	0
242	8.97	0
243	8.37	0
244	7.45	0

gas.las

245	7.42	0
246	10.9	0
247	7.38	0
248	6.3	0
249	5.85	0
250	11.82	0
251	12.47	0
252	10.73	0
253	9.29	0
254	4.63	0
255	4.67	0
256	5.8	0
257	6.1	0
258	7.14	0
259	12.87	0
260	13.35	0
261	9.55	0
262	10.45	0
263	11.52	0
264	7.92	0
265	5.2	0
266	7.87	0
267	7.7	0
268	6.53	0
269	8.44	0
270	7	0
271	5.5	0
272	5.88	0
273	6.23	0
274	3.38	0
275	4.3	0
276	4.92	0
277	5.67	0
278	8.2	0
279	11.52	0
280	8.4	0
281	9.02	0
282	11.6	0
283	10.72	0
284	10.17	0
285	3.93	0
286	6.25	0
287	4.97	0
288	5.6	0
289	13.43	0
290	8.73	0
291	7.1	0
292	9.75	0
293	10.78	0
294	12.17	0
295	7.42	0
296	5.87	0
297	8.8	0
298	12.83	0
299	13.1	0
300	12.42	0
301	14.82	0
302	14.97	0
303	11.42	0
304	7.57	0
305	10	0
306	8.63	0
307	11.57	0

gas.1as

308	14.47	0
309	17.57	0
310	17.95	0
311	8.68	0
312	6.57	0
313	7.8	2
314	10.88	2
315	10.68	2
316	7.14	0
317	8.81	0
318	9.23	0
319	9.48	0
320	9.05	0
321	8.85	0
322	10.12	0
323	9.6	0
324	10.22	0
325	10.53	0
326	11.68	0
327	9.73	0
328	13.12	0
329	12.45	0
330	8.47	0
331	10.83	0
332	9.73	0
333	10.2	195
334	12.1	-62
335	11.1	-68
336	16.12	2
337	21.7	0
338	4	0
339	8.1	0
340	13.58	0
341	13.48	0
342	16.54	0
343	15.48	0
344	16.15	2
345	17.17	0
346	15.05	0
347	15.52	2
348	3.55	0
349	.14	-3
350	9.21	-2
351	15.12	-2
352	14.57	-2
353	13.82	-2
354	8.58	-2
355	10.8	-2
356	16.3	0
357	18.65	0
358	23.78	0
359	21.15	-2
360	82.23	3
361	.82	-999.25
362	.82	2
363	23.6	3
364	22.1	3
365	27.82	3
366	23.77	3
367	26.73	3
368	24.13	3
369	23.15	3
370	24.4	3

gas.las

371	25.67	3
372	13.65	3
373	12.69	3
374	.76	3
375	11.28	3
376	15.32	3
377	13.44	3
378	11.18	3
379	9.3	5
380	10.83	5
381	10.43	3
382	16.92	5
383	4.48	3
384	2.92	5
385	9.48	5
386	10.47	3
387	10.07	3
388	7.22	3
389	8.77	3
390	12.12	3
391	11.27	0
392	11.2	0
393	11.3	0
394	11.45	0
395	9.32	0
396	9.73	0
397	12.02	0
398	12.88	0
399	13.32	0
400	12.62	0
401	11.32	0
402	14.18	0
403	14.82	0
404	14.18	0
405	13.08	0
406	12.85	0
407	14.42	0
408	6.38	0
409	6.92	0
410	14.03	0
411	11.48	0
412	10.53	0
413	11.32	0
414	10.63	0
415	15.58	0
416	8.68	0
417	12.58	0
418	12.28	0
419	13.18	148
420	12.13	0
421	11.95	2
422	9.67	2
423	12.37	3
424	10.3	3
425	18.33	3
426	10.28	3
427	11.48	3
428	10.4	3
429	11.85	5
430	12	0
431	11.22	0
432	12.82	0
433	11.93	0

gas.las

434	18.52	0
435	8.81	0
436	.81	-999.25
437	11.21	0
438	13.38	0
439	12.78	0
440	9.57	0
441	10.23	0
442	12.07	0
443	12.52	0
444	12.33	0
445	11.45	0
446	14.68	0
447	10.02	0
448	9.82	0
449	11.4	0
450	9.97	0
451	11.83	0
452	12.33	0
453	11.84	0
454	10.5	0
455	10.45	0
456	12.17	0
457	11.17	-2
458	8.93	0
459	9.62	0
460	7.67	0
461	8.75	-2
462	9.4	-2
463	8.9	0
464	10.7	160
465	7.93	2
466	7.24	2
467	10.65	2
468	9.68	2
469	10.13	2
470	11.22	2
471	8.9	2
472	8.43	2
473	8.65	2
474	9.17	2
475	5.38	2
476	9.47	2
477	8.5	2
478	9.32	2
479	6.93	2
480	8.68	2
481	9.47	2
482	6.85	0
483	12.12	0
484	8.92	0
485	7.05	0
486	9.03	0
487	6.47	0
488	5.38	0
489	9.27	0
490	8.33	0
491	7.63	0
492	8.63	0
493	9.97	0
494	9.52	0
495	8.65	0
496	8.48	0

gas.las

497	7.72	0
498	7.8	0
499	7.18	0
500	6.65	0
501	8.02	0
502	8.43	0
503	10.85	0
504	6.48	0
505	7.28	0
506	8.15	0
507	7.85	0
508	8.5	0
509	6.13	0
510	16.48	9
511	13.4	6
512	9.23	0
513	9.03	0
514	7.13	0
515	5.03	0
516	8.28	18
517	6.05	3
518	4.92	3
519	4.78	3
520	5.57	3
521	4.43	3
522	3.47	3
523	6.82	2
524	5.6	0
525	6.62	2
526	8.57	2
527	8.62	2
528	9	2
529	9.13	2
530	6.7	0
531	5.05	-2
532	3.92	-3
533	4.05	-3
534	4.13	0
535	6.17	2
536	4.7	-2
537	5.38	-3
538	9.12	-3
539	12.29	-3
540	7.83	-3
541	7.17	-3
542	7.42	-3
543	4.47	0
544	6.32	2
545	7.45	2
546	6.17	2
547	3.9	2
548	6.43	122
549	6.25	2
550	4.88	2
551	6.87	2
552	7.58	2
553	5.9	2
554	2	2
555	7.52	2
556	2.52	3
557	1.87	2
558	8.1	3
559	5.95	3

gas. las

560	7.13	2
561	6.97	3
562	3.82	3
563	6.45	3
564	8	3
565	7.13	3
566	5.65	3
567	7.45	3
568	6.84	3
569	5.45	3
570	4.9	2
571	1.13	2
572	4.47	2
573	3.58	3
574	6.37	2
575	7.08	2
576	6.58	2
577	7.28	2
578	5.98	2
579	5.1	2
580	4.92	2
581	4.42	2
582	4.1	2
583	3.3	2
584	2.47	3
585	1.85	3
586	2.9	3
587	2.18	2
588	1.85	2
589	2.45	3
590	1.52	3
591	1.93	2
592	3.18	2
593	2.63	3
594	4.63	3
595	2.8	2
596	2.58	2
597	1.87	2
598	1.27	3
599	1.53	2
600	2.1	2
601	3.33	2
602	4.07	2
603	6.32	3
604	7.94	2
605	4.32	3
606	2.45	2
607	4.33	2
608	4.18	2
609	9.52	2
610	5.37	2
611	4	2
612	7.1	2
613	7.4	2
614	9.35	2
615	7.28	2
616	4.72	2
617	5.43	2
618	5.2	2
619	4.72	3
620	6.72	3
621	8.12	3
622	4.03	3

gas.las

623	2.6	3
624	4.78	3
625	4.45	3
626	4.07	3
627	6.05	3
628	7.75	3
629	6	3
630	5.42	3
631	5.24	3
632	2.05	3
633	2.03	3
634	2.37	3
635	2.28	3
636	3.25	3
637	3.6	3
638	4.04	3
639	3.03	2
640	4.13	2
641	3.13	3
642	2.85	3
643	4.8	3
644	4.83	3
645	6.04	2
646	6.48	2
647	5.83	2
648	5.62	2
649	5.12	2
650	3.85	2
651	4.4	2
652	4.48	2
653	9.35	2
654	9.38	2
655	8.33	2
656	4.45	2
657	9.07	2
658	7.6	2
659	6.13	2
660	6.4	2
661	8.08	2
662	6.57	2
663	4.08	2
664	5.67	2
665	2.9	2
666	5.32	2
667	6.25	2
668	6.65	2
669	5.12	2
670	6.45	0
671	3	2
672	6.88	3
673	4.6	3
674	4.7	3
675	7.38	3
676	8.7	3
677	7.2	3
678	7.45	3
679	6.57	3
680	7.83	3
681	7.83	3
682	10.75	3
683	9.38	3
684	9.8	3
685	9.2	3

gas.las

686	9.22	3
687	12.07	2
688	16.37	3
689	13.5	3
690	13.87	3
691	14.33	2
692	9.37	2
693	10.67	2
694	13.32	2
695	7.58	2
696	8.27	2
697	11.6	2
698	10.67	2
699	12.95	3
700	8.18	3
701	11.47	169
702	8.65	0
703	9.82	0
704	8.88	0
705	9.77	0
706	9.7	0
707	5.18	0
708	7.13	0
709	5.48	0
710	9.47	0
711	10.32	0
712	7.9	0
713	9.73	0
714	8.42	0
715	9.03	0
716	7.77	0
717	8.63	0
718	7.82	0
719	8.45	0
720	11.22	0
721	10.75	0
722	8.08	0
723	8.55	0
724	9.8	0
725	9.77	0
726	7.97	0
727	9.17	0
728	8.12	0
729	9.02	0
730	9.03	0
731	9	0
732	8.97	0
733	8.22	0
734	8.3	0
735	11.25	0
736	9.58	0
737	9.57	0
738	10.95	0
739	10.12	0
740	11.25	14
741	11.4	148
742	9.23	2
743	9.77	2
744	9.87	2
745	10.55	2
746	9.4	2
747	13.63	2
748	11.3	83

gas .las

749	12.55	2
750	11.28	2
751	12.52	2
752	11.48	2
753	11.57	3
754	9.53	3
755	10.2	3
756	11.03	3
757	11.13	3
758	9.58	3
759	9.2	12
760	-999.25	-999.25
761	-999.25	-999.25
762	-999.25	-999.25
763	-999.25	-999.25
764	-999.25	-999.25
765	-999.25	-999.25
766	-999.25	-999.25
767	-999.25	-999.25
768	-999.25	-999.25
769	-999.25	-999.25
770	-999.25	-999.25
771	-999.25	-999.25
772	-999.25	-999.25
773	-999.25	-999.25
774	-999.25	-999.25
775	-999.25	-999.25
776	-999.25	-999.25
777	-999.25	-999.25
778	-999.25	-999.25
779	6.02	15
780	9.17	0
781	8.42	0
782	8.12	0
783	5.27	-2
784	7.27	-2
785	5.12	-2
786	6.37	-3
787	7.07	-3
788	7.08	-3
789	5.95	5
790	7.02	2
791	6.78	2
792	6.5	0
793	6.65	0
794	8.25	2
795	7.63	0
796	9.19	0
797	8.58	0
798	6.87	0
799	5.32	0
800	5.82	0
801	6.82	0
802	5.07	0
803	6.68	0
804	5.2	0
805	6.02	0
806	5.97	0
807	5.73	0
808	6.38	0
809	6.12	0
810	5.18	0
811	5.32	0

gas.las

812	5.92	0
813	6.08	0
814	6	0
815	5.18	0
816	5.83	0
817	5.32	0
818	6.38	0
819	6.5	0
820	8.28	0
821	12.4	0
822	9.37	0
823	9.82	0
824	6.87	0
825	5.52	0
826	5.92	0
827	5.45	0
828	4.59	0
829	5.65	0
830	5.1	0
831	5	0
832	5.52	0
833	5.73	0
834	6.43	0
835	5.92	0
836	5.1	0
837	5.49	0
838	5.45	0
839	5.43	0
840	4.87	0
841	6.92	0
842	5.68	28
843	5.88	0
844	5.85	0
845	5.32	0
846	5.08	0
847	5.6	0
848	4.78	0
849	6.77	0
850	5.32	0
851	5.8	0
852	5.8	0
853	5.25	0
854	5.77	0
855	5.13	0
856	5.33	0
857	5.42	2
858	5.3	2
859	5.35	2
860	5.57	2
861	5.58	0
862	5.6	0
863	6.77	2
864	5.4	0
865	5.5	0
866	6.38	0
867	4.97	0
868	5.7	0
869	4.85	0
870	4.48	0
871	5.2	0
872	5.8	2
873	5.42	2
874	5	0

gas.las

875	5.7	0
876	5.97	0
877	5.87	0
878	6.38	0
879	6.42	0
880	6.94	0
881	5.82	0
882	4.75	0
883	9.45	0
884	8.8	0
885	5.45	0
886	7.32	0
887	5.07	0
888	4.57	0
889	5.55	0
890	4.48	0
891	4.52	0
892	5.33	0
893	4.27	0
894	4.1	0
895	5.13	0
896	6.43	0
897	4.17	0
898	4.27	0
899	4.2	0
900	3.87	0
901	3.88	0
902	3.92	0
903	4.3	0
904	4.22	0
905	4.12	0
906	4.25	0
907	3.57	0
908	3.65	0
909	4.4	0
910	3.87	0
911	5.25	0
912	5.32	0
913	8.6	0
914	4.07	0
915	4.52	0
916	3.75	0
917	3.74	0
918	3.77	0
919	3.62	0
920	3.83	0
921	4	0
922	4.32	0
923	4.18	0
924	3.83	0
925	8.95	0
926	7.15	0
927	3.8	0
928	4.63	0
929	3.68	0
930	3.92	0
931	5.9	0
932	8.67	0
933	4.2	2
934	2.8	3
935	3.93	3
936	7.2	3
937	3.8	0

gas.las

938	3.39	0
939	4.27	0
940	3.79	2
941	6.4	2
942	4.18	0
943	4.93	2
944	8.42	2
945	4.63	0
946	3.8	0
947	9.9	0
948	9.18	2
949	9.83	2
950	10.42	0
951	5.05	0
952	3.6	0
953	3.35	0
954	5.57	0
955	3.1	0
956	3.23	0
957	3.14	0
958	3.05	0
959	3.17	0
960	3.27	0
961	3.77	0
962	3.87	0
963	3.27	0
964	3.47	0
965	3.98	0
966	4.25	0
967	3.42	0
968	3.3	0
969	3.39	0
970	3.17	0
971	4.32	0
972	3.88	0
973	3.18	0
974	6.13	0
975	4.32	0
976	4.9	0
977	4.33	0
978	3.6	0
979	3.4	0
980	4.43	0
981	3.85	0
982	3.45	0
983	4.17	0
984	3.78	0
985	4.6	0
986	4.3	0
987	3.85	0
988	4.27	0
989	3.73	0
990	3.92	0
991	4.8	0
992	4.65	0
993	3.84	0
994	3.87	0
995	3.17	0
996	4.97	0
997	3.85	0
998	3.47	0
999	3.6	0
1000	5.07	0

gas.las

1001	3.65	0
1002	3.47	0
1003	3.9	0
1004	3.95	0
1005	4.53	0
1006	3.79	0
1007	3.74	0
1008	3.8	0
1009	3.65	0
1010	3.72	0
1011	3.8	0
1012	3.93	0
1013	3.74	-2
1014	3.97	0
1015	3.92	0
1016	4.4	2
1017	4.07	2
1018	3.59	2
1019	3.83	2
1020	4.05	2
1021	4.02	2
1022	4.5	2
1023	4.67	3
1024	10.88	3
1025	4	3
1026	3.92	3
1027	6.1	3
1028	5.4	3
1029	5.54	3
1030	4.8	3
1031	1.68	3
1032	3.85	2
1033	4.37	2
1034	4.33	2
1035	4.33	2
1036	4.17	2
1037	4.18	2
1038	4.38	2
1039	4.57	2
1040	4.48	3
1041	6.22	3
1042	4.8	3
1043	7.88	3
1044	11.8	2
1045	8.68	3
1046	9.37	3
1047	3.87	3
1048	11.63	3
1049	3.38	3
1050	4.07	3
1051	3.38	3
1052	2.87	3
1053	4.92	3
1054	4.53	3
1055	6.25	3
1056	4.37	3
1057	4.32	3
1058	3.45	3
1059	2.83	3
1060	2.89	3
1061	4.2	3
1062	5.65	3
1063	3.97	2

gas.las

1064	4.07	3
1065	5.33	3
1066	6	3
1067	7.02	2
1068	6.95	3
1069	5.67	3
1070	4.27	3
1071	4.17	3
1072	6.02	3
1073	5.13	3
1074	4.18	3
1075	4.1	2
1076	3.6	2
1077	3.47	2
1078	3.58	2
1079	4.12	2
1080	3.58	0
1081	3.97	2
1082	4.25	2
1083	4.07	0
1084	4.17	0
1085	4.17	2
1086	4.07	2
1087	3.78	2
1088	4.12	2
1089	3.55	2
1090	4.88	2
1091	15.05	2
1092	19.62	2
1093	13.07	2
1094	5.47	2
1095	4.4	2
1096	4.27	2
1097	4	2
1098	4.28	2
1099	4.58	2
1100	6.65	2
1101	4.73	2
1102	4.47	2
1103	4.32	2
1104	4.22	0
1105	9.52	2
1106	11.93	2
1107	8.65	2
1108	4.99	2
1109	5.72	2
1110	14.8	2
1111	17.82	2
1112	15.88	2
1113	15.15	2
1114	14.88	2
1115	15.42	2
1116	4.73	0
1117	3.63	2
1118	5.33	2
1119	5.62	0
1120	5.58	0
1121	10.15	0
1122	24.18	2
1123	28.63	2
1124	27.38	2
1125	19.17	2
1126	13.93	2

gas.las

1127	12.22	2
1128	11.88	2
1129	14.63	2
1130	14.77	2
1131	13.95	2
1132	18.53	2
1133	19.3	2
1134	17.35	2
1135	16.47	3
1136	16.55	2
1137	16.62	2
1138	20.92	2
1139	15.33	2
1140	15.3	2
1141	16	2
1142	14.07	127
1143	15.97	3
1144	20.42	3
1145	17.27	3
1146	12.51	3
1147	10.58	5
1148	18.9	3
1149	28.37	3
1150	18.35	3
1151	19.98	6
1152	14.2	9
1153	14.4	9
1154	17.68	3
1155	17.32	6
1156	18.35	106
1157	16.58	9
1158	22.35	6
1159	21.12	6
1160	17.12	26
1161	34.33	43
1162	16.88	34
1163	20.02	12
1164	15.53	99
1165	7.62	294
1166	12.57	189
1167	7.73	153
1168	16.73	68
1169	19.15	62
1170	16.07	49
1171	20.32	238
1172	21.32	15
1173	17.4	14
1174	19.65	9
1175	15.32	29
1176	13.67	23
1177	15.63	6
1178	17.05	6
1179	20.32	6
1180	17.47	5
1181	16.12	3
1182	15.97	3
1183	15.93	3
1184	14.53	3
1185	15.57	3
1186	15.08	6
1187	14.82	3
1188	14.03	6
1189	14.12	9

gas.las

1190	14.98	14
1191	14.73	11
1192	13.18	37
1193	12.42	38
1194	15.88	8
1195	15.5	9
1196	13.47	9
1197	13.47	3
1198	17.23	3
1199	12.17	3
1200	12.98	0
1201	12.4	2
1202	15.62	2
1203	14.9	3
1204	13.95	3
1205	16.87	3
1206	16.4	3
1207	12.63	3
1208	12.08	3
1209	13.13	3
1210	14.07	3
1211	13.27	3
1212	13.97	3
1213	13.2	9
1214	14.33	9
1215	15.98	25
1216	15.9	25
1217	15.77	6
1218	17.78	8
1219	18.15	6
1220	17.5	6
1221	16.13	6
1222	12.78	6
1223	13.28	5
1224	14.5	6
1225	11.2	3
1226	12.03	3
1227	11.27	5
1228	14.03	6
1229	14.63	5
1230	13.88	5
1231	14.47	3
1232	16.03	3
1233	15.13	3
1234	14.18	3
1235	14.7	3
1236	17.03	3
1237	17.13	3
1238	16.9	3
1239	15.29	3
1240	14.25	3
1241	15.65	3
1242	14.72	5
1243	16.77	5
1244	13.9	6
1245	16.35	5
1246	16.78	5
1247	13.02	5
1248	14.18	5
1249	15.35	5
1250	15.63	5
1251	17.33	5
1252	18.7	6

gas.las

1253	15.68	5
1254	7.55	6
1255	15.23	6
1256	16.43	6
1257	13.47	6
1258	11.57	6
1259	12.38	6
1260	14.48	6
1261	14.6	6
1262	15.97	6
1263	14.78	9
1264	12.77	9
1265	13.48	6
1266	12.38	11
1267	13.3	11
1268	13.53	12
1269	12.7	14
1270	12.38	17
1271	10.33	31
1272	9.53	31
1273	8.1	46
1274	6.98	114
1275	11.3	115
1276	13.25	59
1277	8.72	66
1278	9.38	49
1279	6.68	48
1280	11.33	40
1281	11.02	55
1282	12.72	43
1283	12.73	26
1284	14.7	14
1285	14.15	12
1286	14.97	9
1287	13.17	9
1288	17.47	6
1289	14.18	9
1290	13.05	5
1291	13.47	3
1292	15.07	3
1293	9.23	3
1294	14	3
1295	13.07	3
1296	12.97	3
1297	14.78	3
1298	14.78	3
1299	14.85	2
1300	10.17	229
1301	6.4	238
1302	8.22	114
1303	11.63	180
1304	4.38	286
1305	5.05	264
1306	6.37	164
1307	6.37	124
1308	7.38	102
1309	7.25	94
1310	9.38	65
1311	8.45	79
1312	8.16	83
1313	10.19	89
1314	12.78	25
1315	16.45	25

gas.las

1316	16.93	22
1317	16.08	14
1318	15.92	9
1319	18.03	11
1320	15.72	15
1321	14.77	6
1322	13.87	8
1323	14.59	6
1324	14.23	8
1325	16.27	6
1326	15.28	3
1327	16.53	5
1328	16.65	12
1329	15.3	12
1330	14.8	25
1331	9.15	99
1332	15.17	69
1333	18.95	18
1334	19.25	18
1335	20.23	15
1336	21.98	15
1337	22.38	15
1338	16.72	71
1339	20.23	11
1340	18.27	22
1341	22.58	11
1342	28.73	6
1343	20.15	6
1344	20.98	6
1345	23.13	6
1346	19.9	3
1347	23.37	3
1348	21.27	5
1349	21.32	3
1350	20.23	3
1351	20.33	6
1352	18.42	6
1353	17.55	6
1354	16.53	6
1355	14.93	6
1356	13.17	6
1357	14.62	28
1358	9	153
1359	9.12	173
1360	8.95	172
1361	9.08	143
1362	11.75	160
1363	15.35	124
1364	15.87	116
1365	20.72	123
1366	23.08	37
1367	18.37	37
1368	21.73	25
1369	11.73	71
1370	6.48	154
1371	8.12	141
1372	13.25	116
1373	12.47	158
1374	4.95	715
1375	5.73	928
1376	6.42	306
1377	7.27	460
1378	9.35	321

gas.las

1379	12.07	156
1380	33.3	57
1381	32.89	37
1382	23.9	22
1383	24.7	15
1384	26.31	9
1385	25.22	6
1386	28.27	3
1387	31.38	3
1388	27.32	3
1389	26.37	3
1390	29.48	5
1391	26.93	3
1392	23.53	3
1393	23.17	3
1394	23.35	3
1395	22.85	3
1396	21.67	3
1397	19.77	3
1398	19.98	3
1399	22.23	2
1400	19.74	3
1401	18.62	2
1402	18.67	2
1403	20.02	2
1404	20.95	2
1405	20.07	2
1406	19.67	3
1407	18.4	3
1408	20.43	3
1409	17.65	5
1410	3.39	-999.25
1411	3.39	-999.25
1412	2.72	5
1413	.02	-999.25
1414	.02	-999.25
1415	.02	-999.25
1416	.02	5
1417	.02	-999.25
1418	.02	-999.25
1419	.02	-999.25
1420	.05	3
1421	.88	3
1422	.04	-999.25
1423	.04	3
1424	.02	-999.25
1425	.02	-999.25
1426	.02	-999.25
1427	.02	3
1428	.02	-999.25
1429	.02	-999.25
1430	.02	-999.25
1431	.01	3
1432	.01	-999.25
1433	.01	-999.25
1434	.01	-999.25
1435	.01	-999.25
1436	.02	3
1437	.02	-999.25
1438	.02	-999.25
1439	.03	3
1440	.03	-999.25
1441	11.74	3

Well Information

Operator: Apache Canada Ltd.
 Well Name: Apache Paramount Nogha C-49
 Location: 66° 38' 5.42" N / 125° 53' 35.78" W
 UWI: 300C496640125450
 Pool: Mount Clarke
 Field: Nogha
 Province / State: Northwest Territories
 Country: Canada

Elevations

Reference: 8892001 Ground: 354.1 m
 Cut(-) / Fill(+): +0.3 m Kelly Bushing: 359.43 m
 K.B. to Ground: 5.3 m Casing Flange: m

Total Depth

Measurement Type	Measured Depth	True Vertical Depth
Drillers TD (Tally)	1408.94 m	1408.19 m
Drillers TD (Strap or SLM)	1408.66 m	1407.91 m
Loggers TD	1407.9 m	1407.15 m



Surface Co - Ordinates

Well Type: Straight Longitude: 125.533578 Latitude: 66.38542
 N / S Co - Ordinates: _____
 E / W Co - Ordinates: _____

Bottom Hole Co - Ordinates

Longitude: _____ Latitude: _____
 N / S Co - Ordinates: _____
 E / W Co - Ordinates: _____

Drilling Fluid Summary

Fluid Type	From	To
Water	0 m	60 m
Gel Chem	60 m	500 m
Water	500 m	700 m
Salt Saturated Gel Chem	700 m	1409 m

Casing Summary

Type	Hole Size	Casing Size	Landed At
Conductor	444.5 mm	339.7 mm	60.34 m
Surface	311 mm	244.5 mm	508.5 m
Production	216 mm	177.8 mm	m

Well Summary

Spud Date: Jan 25, 2003 @ 12:00hrs Contractor: Wilson Drilling Rig # 3
 TD Date: Feb 25, 2003 @ 06:05hrs Rig Release Date: _____

Work Schedule

Contractor	Geologist	Log Interval	Dates Logged
C.L. Bredin Holdings Ltd.	Colin Bredin P.Geol	0 m - 1409 m	Jan 20, 2003 - Feb 27, 2003

Remarks

Legend

Rock Types and Thin Beds

Whole Bed	Stringer	Nodule	Breccia	Clast	Pebble	Grain	Rock Type
							Anhydrite - primary
							Anhydrite - secondary
							Argillite
							Barite
							Bentonite
							Breccia
							Calcareous
							Cement
							Conglomerate - mixed
							Conglomerate - dark chert
							Conglomerate - light chert
							Conglomerate - varicolored chert
							Chert - dark
							Chert - fossiliferous
							Chert - light
							Chert - tripolitic
							Chert - varicolored
							Claystone - colored
							Claystone - gray
							Coal
							Dolomite
							Ferruginous
							Feldspar
							Gypsum
							Igneous - acidic
							Igneous - basic
							Igneous - metamorphic
							Limestone - grain supported
							Limestone - mud supported
							Manganese
							Marlstone - calcareous
							Marlstone - dolomitic
							Phosphate
							Pyrite
							Quartz
							Salt
							Shale - black
							Shale - dark gray
							Shale - medium gray
							Shale - light gray
							Shale - green
							Shale - red
							Siderite
							Sandstone
							Siltstone
							Till - glacial
							Volcanic (Tuff)
							Welded Volcanic (Tuff)

Accessories

	Anhydritic		Gibbsitic
	Argillaceous		Illitic
	Baritic		Kaolinitic
	Bentonitic		Lithic Fragment
	Bituminous		Marly - calcareous
	Calcareous		Marly - dolomitic
	Carbonaceous		Micromicaceous
	Cherty - dark		Mixed layer clayey
	Cherty - fossiliferous		Montmorillonitic
	Cherty - light		Phosphate pellets
	Cherty - tripolitic		Pyritic
	Cherty - varicolored		Salt casts
	Chloritic		Sandy
	Clayey		Sideritic
	Dolomitic		Siliceous
	Ferruginous staining		Silty
	Fractures		Stylolitic
	Glauconitic		Tuffaceous
	Gypsiferous		Zeolitic

Fossils (Rock Builders)

	Aggregate grain		Euryamphipera
	Algae - laminations		Foraminifera
	Algae - non descript		Fossil
	Algae - ooloid		Fragmental
	Algae - skeletal		Gastropod
	Amphipora		Graptolite
	Belemnite		Hydrozoa
	Bioclastic		Intraclast
	Brachiopod		Mollusc
	Bryozoa		Oncolite
	Calciaphera		Oolite
	Cephalopod		Ostracod
	Chaetetes		Pelecypod
	Coated grain		Pellet
	Conodont		Fisolite
	Coral		Plant Remains
	Coral - branching		Scaphopod
	Coral - head		Spicule
	Coral - colonial		Sponge
	Coral - solitary		Stromatoporoid
	Crinoid		Stromatoporoid - bulbous
	Diatom		Stromatoporoid - massive
	Echnoid		Stromatoporoid - tabular
	Echnoid - spine		Tentaculites
	Fish Remains		Trilobite

Miscellaneous Grains

	Biotite		Mineral crystal		Orthoclase
	Glauconite		Mineral - dark		Plagioclase
	Mica flakes		Muscovite		Sand grain

Textures

	Chalky		Earthy		Microcrystalline
	Cryptocrystalline		Lithographic		Slickenside

Matrix

	Argillaceous		Marl - dolomitic
	Bentonite		Micrite
	Bituminous		Mixed Clay
	Clay		Montmorillonite
	Chlorite		Sand
	Gibbsite		Silt
	Illite		Sperry Calcite
	Kaolinite		Zeolite
	Marl - calcareous		

Porosity Type Track

E	Earthy - low permeability - crystals / grains less than 1 / 16 mm
D	Fenestral - voids from gas bubbles - shrinkage cracks - birdseye texture
F	Fracture
I	Inter-crystalline - Interfragmental - Intergranular
J	Interclitic - Interpelletoidal
M	Moldic
O	Organic - Bridged - Intrafossil
P	Pinpoint - voids less than 1 / 16 mm
V	Vuggy - voids greater than 1 / 16 mm

Oil Show Track

●	Even staining (75 - 100% of the rock is stained) - fluoresces in solvent
○	Spotted staining (50 - 75% of the rock is stained) - fluoresces in solvent
●	Spotted staining (25 - 50% of the rock is stained) - fluoresces in solvent
○	Spotted staining (1 - 25% of the rock is stained) - fluoresces in solvent
○	Questionable oil staining - No fluorescents in solvent
D	Dead oil staining - asphaltic - bitumen - pyrobitumen etc.
F	Fluoresces - no visible oil staining

Diagenesis Track

■	Calcification - Calchified
■	Dolomitization
●	Diagenetically mottled
↘	Fracturing
⊖	Leaching
◇	Metasomatism - Replacement - Allotropic recrystallization - Inversion - Transformation
Pd	Pressure Deformation
Rx	Recrystallization - Strain recrystallization - Grain growth
^	Silicification
⊖	Solution cavity filled - Geopetal structure
●	Stylolitic
W	Weathering Degree of Diagenesis is in (%) percent. ? Indicates questionable interpretation

Cement

■	Anhydritic	■	Gypiferous
■	Baritic	■	Hematitic
■	Bituminous	■	Umonitic
■	Calcareous	■	Pyritic
■	Chert - dark	■	Salt
■	Chert - light	■	Sideritic
■	Dolomitic	■	Siliceous
■	Ferruginous		

Sorting Track

vP	Very poorly sorted - > 10 phi size grade classes
P	Poorly sorted - 6-10 phi size grade classes
M	Moderately sorted - 3-6 phi size grade classes
mW	Moderately well sorted - 2-3 phi size grade classes
W	Well sorted - < 2 phi size grade classes

Rounding Track

vA	Very Angular	r	Subrounded
A	Angular	R	Rounded
a	Subangular	wR	Well Rounded

Framework Track

Framework is a ratio between clastic material greater than 1/16 mm and primary void filler less than 1/16 mm.
? Indicates questionable interpretation

Core Track

Indicates
Cored Interval
Indicates Lost Core

Test Track

Indicates
Tested
Interval

Wentworth Grain / Crystal Size Scale Chart

Clastic Rocks Common Name	Crystalline Rocks Common Name	Lower Size Limit (mm)	Upper Size Limit (mm)	Size Grades Phi (Ø)
Clay	Cryptocrystalline	0.00098	0.004	+10 to +9
Very Fine Silt	Very Finely Microcrystalline	0.004	0.008	+8
Fine Silt	Finely Microcrystalline	0.008	0.016	+7
Medium Silt	Medium Microcrystalline	0.016	0.031	+6
Coarse Silt	Coarsely Microcrystalline	0.031	0.0625	+5
Very Fine Sand	Very Finely Crystalline	0.0625	0.125	+4
Fine Sand	Finely Crystalline	0.125	0.25	+3
Medium Sand	Medium Crystalline	0.25	0.5	+2
Coarse Sand	Coarsely Crystalline	0.5	1.0	+1
Very Coarse Sand	Finely Megacrystalline	1.0	2.0	0
Granules	Coarsely Megacrystalline	2.0	4.0	-1
Fine Pebbles		4.0	8.0	-2
Medium pebbles		8.0	16.0	-3
Coarse Pebbles		16.0	32.0	-4
Very Coarse pebbles		32.0	64.0	-5
Cobbles		64.0	256.0	-6 to -7
Boulders		256.0	infinity	-8 to -9

The size measure Phi is equal to the negative logarithm to the base 2 of the size in millimeters.

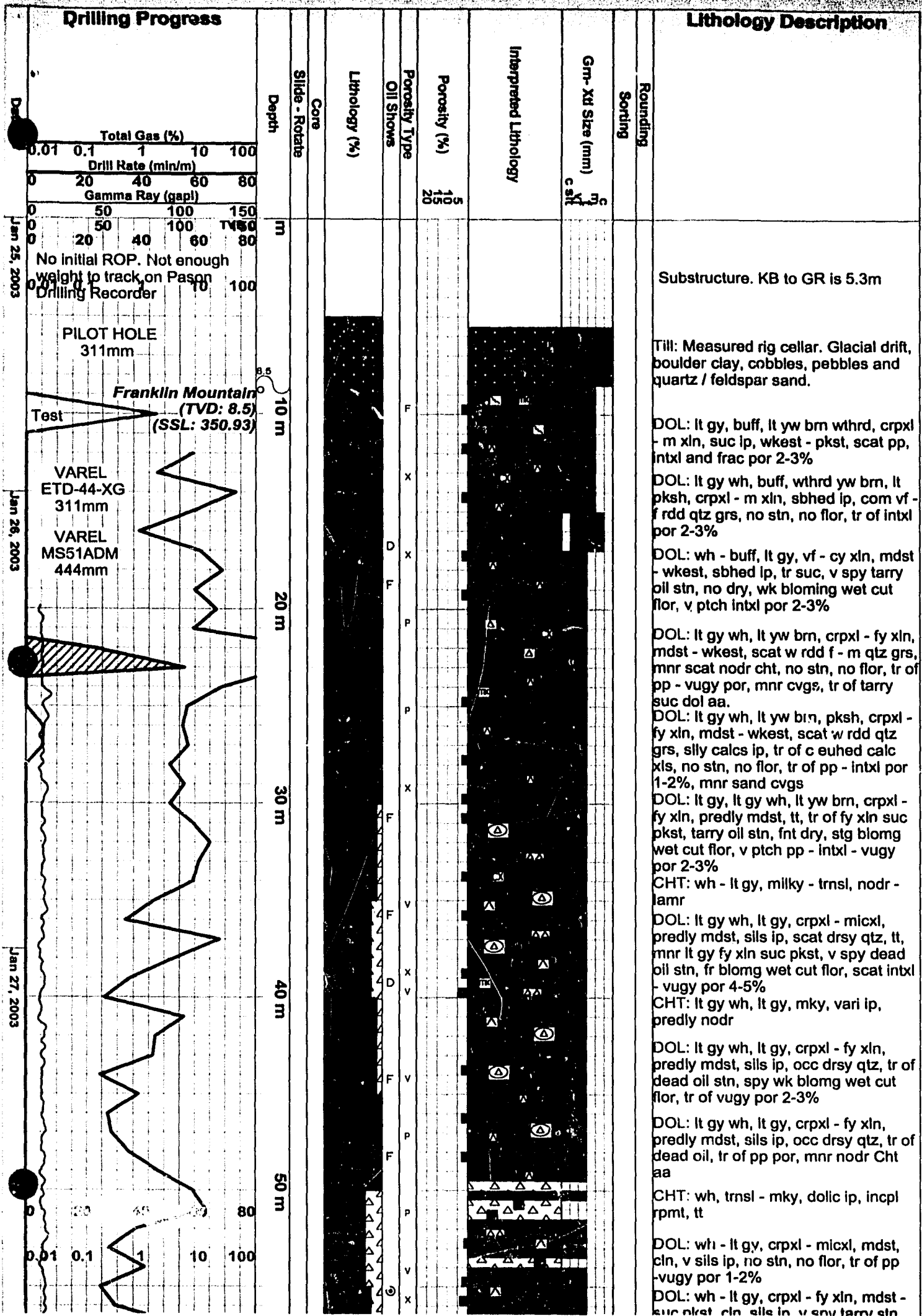
Thus 1 mm = 0 Phi and 1/2 mm = +1 Phi and 1/4 mm = +2 Phi etc.

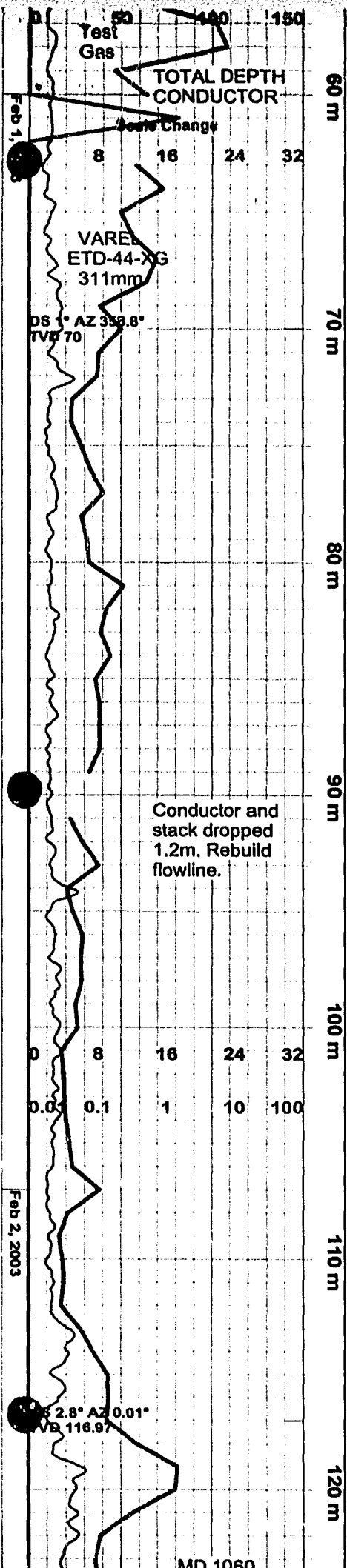
Canstrat/Amstrat Grain Size Scale Chart

Clastic Rocks Common Name	Lower Size Limit (mm)	Upper Size Limit (mm)	Size Grades Phi (Ø)
Silt (Lower)	0.0039	0.0312	+8 to +7
Silt (Upper)	0.0312	0.0625	+6 to +5
Very Fine Sand (Lower)	0.0625	0.0937	+4.5
Very Fine Sand (Upper)	0.0937	0.125	+4
Fine Sand (Lower)	0.125	0.187	+3.5
Fine Sand (Upper)	0.187	0.25	+3
Medium Sand (Lower)	0.25	0.375	+2.5
Medium Sand (Upper)	0.375	0.5	+2
Coarse Sand (Lower)	0.5	0.75	+1.5
Coarse Sand (Upper)	.75	1.0	+1
Very Coarse Sand (Lower)	1.0	1.5	+0.5
Very Coarse Sand (Upper)	1.5	2.0	0

The size measure Phi is equal to the negative logarithm to the base 2 of the size in millimeters.

Thus 1 mm = 0 Phi and 1/2 mm = +1 Phi and 1/4 mm = +2 Phi etc.





stg bloming wet cut flor, tr of inbd -
vugy por 3-5%
CHT: wh, mky - trnsi, dolc ip, tt

DOL: wh - lt gy, crpxl - fy xln, predly
mdst, mnr wkest, cln, v sils ip, no stn,
no flor, no vis por

CHT: vari, wh - lt gy, mky - trnsi, lamr
ip, prob stromlts, dolc ip, incpl replt,
tr of f clr sbhed qtz grs

DOL: wh - buff, lt gy, crpxl - fy xln,
predly mdst, sils ip, no stn, no flor, tr
of intxl - vugy por 3-4%

CHT: wh - lt gy, mky - trnsi, dolc ip

DOL: wh - buff, crpxl - fy xln, sbhed,
mdst - wkest, mnr pkst, no stn, no
flor, fracd ip, scat vugy por 4-6%,
mnr Cht aa

DOL: wh - buff, lt gy, crpxl - fy xln,
predly mdst, tr of drsy qtz, no stn, no
flor, no vis por, scat nodr Cht frags

CMT: Schlumberger arctic set

DOL: wh - buff, lt redsh brn, crpxl - fy
xln, predly mdst, tr of drsy qtz, tr of
micro fracs, no stn, no flor, no vis por

CHT: wh - lt gy, mky, dolc ip, incpl
repl, tr stromlitic

DOL: wh - buff, lt redsh brn, crpxl - fy
xln, predly mdst, wackest ip, no stn,
no flor, tr of pp - vugy por 2-3%, mnr
Cht

CMT: Schlumberger arctic set

DOL: wh - buff, lt brn, crpxl - fy xln,
predly mdst, mnr m xln wkest - pkst,
cln, scat drsy qtz, no stn, no flor, scat
vugy por 3-4%, tr of Cht

DOL: wh - buff, lt brn, lt - m gy, crpxl -
m xln, mdst - wkest, mnr pkst, v sils
ip, scat drsy qtz xls, no stn, no flor,
mnr intxl - vugy por 3-4%

CHT: wh - lt gy, mky, vari ip, dolc ip,
incpl replt

DOL: wh - buff, lt brn, lt - m gy, crpxl -
m xln, mdst - wkest, mnr pkst, v sils
ip, scat drsy qtz xls, no stn, no flor,
mnr pp - vugy por 3-4%

CHT: wh - lt gy, mky, vari ip, dolc ip

DOL: wh - buff, lt brn, lt - m gy, crpxl -
m xln, mdst - wkest, mnr pkst, v sils
ip, com drsy qtz xls, no stn, no flor,
vugy por 3-6%

CHT: wh - lt gy, mky, vari ip

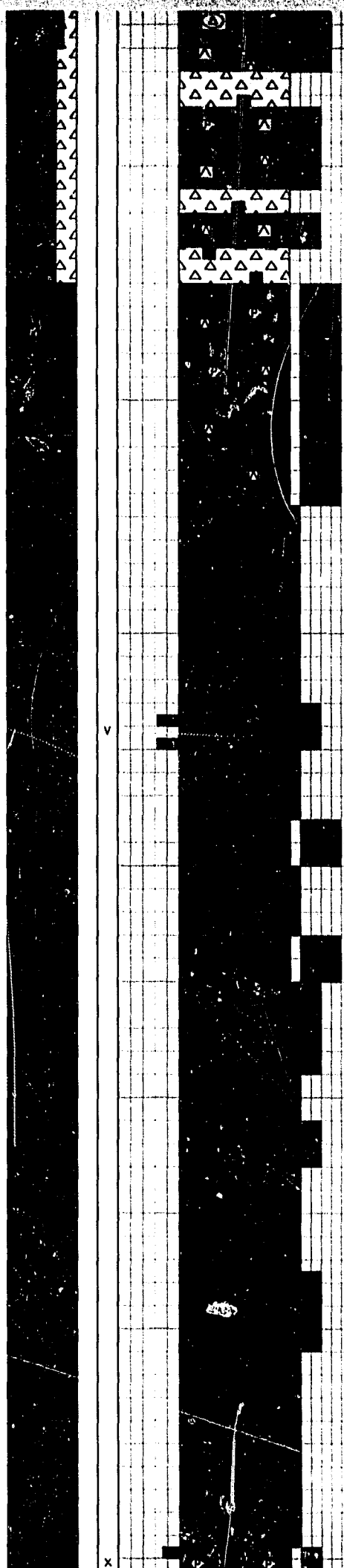
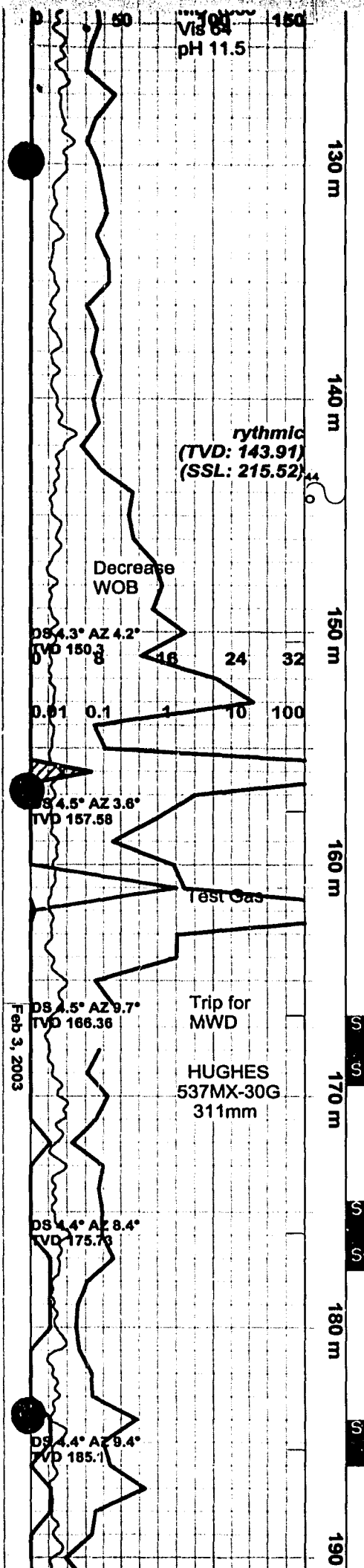
DOL: wh - buff, lt brn, crpxl - m xln,
mdst - pkst, tr suc, no stn, no flor,
scat intxl - vugy por 4-6%, tr to 8%,
Dol lt gy, lt - m gy, crpxl - micxl, mdst
- wkest, tt, mnr dism pyr

CHT: wh, lt gy, vari ip, mky - trnsi

DOL: wh - buff, lt brn, lt gy, crpxl - m
xln, mdst - wkest, mnr pkst, sils ip, tr
of drsy qtz, no stn, no flor, no vis por,
tr of dism pyr

CHT: wh - lt gy, vari ip, mky - trnsi

DOL: wh - buff, lt brn, lt gy, crpxl - m
xln, mdst - wkest, mnr pkst, sils ip, tr



of drsy qtz, no stn, no flor, no vis por,
tr of dism pyr
CHT: wh - buff, lt gy, sily dolc ip, mky
- trnsi, mas

DOL: wh - buff, crpxl - fy xln, predly
mdst, v sils, tr of suc pkst, no stn, no
flor, no vis por, com drsy qtz

CHT: wh - buff, lt gy, sily dolc ip, mky
- trnsi, mas

DOL: wh - buff, mnr lt gy, crpxl - fy
xln, predly mdst, tr of suc wkest -
pkst, v sils, scat drsy qtz, no stn, no
flor, no vis por

DOL: buff - lt brn, lt - m gy, predly f -
m xln, sbhed, wkest - pkst, sils ip, tr
of drsy qtz xls, occ dism pyr, tr of
micro fracs, no stn, no flor, no vis
por, mnr Cht aa

DOL: buff - lt brn, lt - m gy, vf - l cy
xln, sbhed, wkest - pkst, chty ip, scat
drsy qtz, no stn, no flor, no vis por

DOL: buff - lt brn, micxl, mdst -
wkest, sily sily, no stn, no flor, no vis
por

DOL: buff - lt brn, micxl - fy xln, mdst
- wkest, mnr f - m xln sbhed pkst, cln,
sily sily ip, scat c euhed clr dol xls, no
stn, no flor, ptch vugy por 8-10%

DOL: buff - lt brn, crpxl - micxl, predly
mdst, sily, tt

DOL: buff - lt brn, f - l cy xln, sbhed,
wkest - pkst, suc ip, no stn, no flor,
no vis por

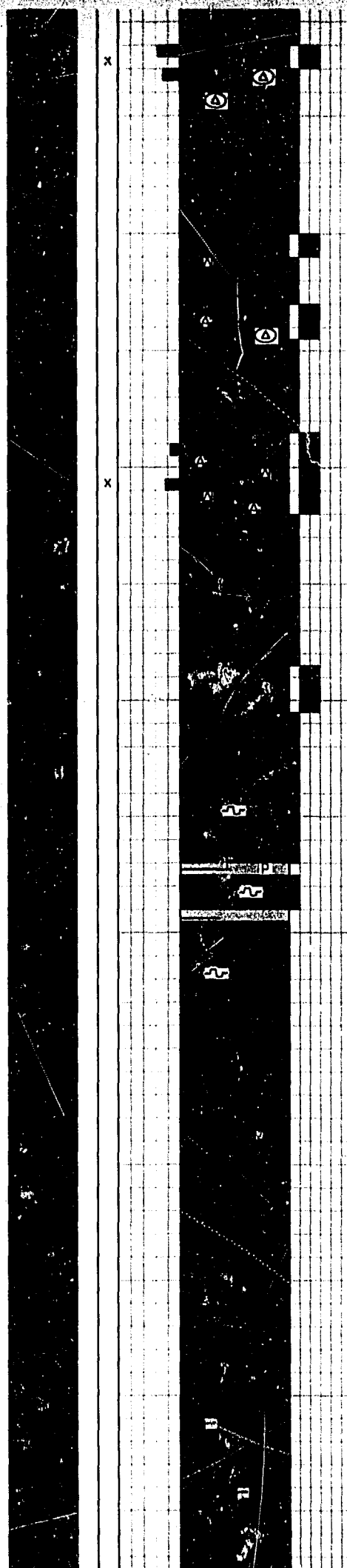
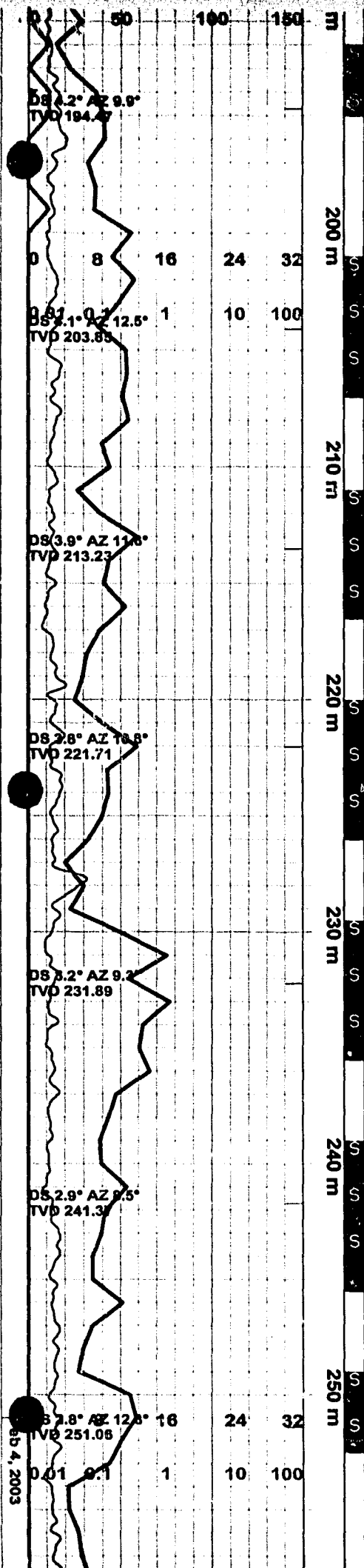
DOL: buff - lt brn, lt - m gy, crpxl - fy
xln, mdst - wkest, mnr suc pkst, occ
dism pyr, no stn, no flor, no vis por

DOL: buff - lt brn, crpxl - micxl, predly
mdst, sily sily, tt

DOL: buff - lt brn, crpxl - micxl, predly
mdst, sily ip, tt

DOL: buff - lt brn, crpxl - micxl, mdst,
sily, no stn, no flor, no vis por

DOL: buff - lt brn, crpxl - micxl, mdst,
sily, no stn, no flor, no vis por



DOL: buff - lt brn, lt gy, crpxl - micxl, mdst, slty, tr of dism pyr, no vis por, mnr Cht, wh, inky, nodr, Dol lt gy, lt redsh gy, fy xln, suc, v fri, cht cmt ip, no stn, no flor, ptch intxl por 6-10%

DOL: buff - lt brn, lt gy, crpxl - micxl, predly mdst, sily slty, tt

DOL: aa, mnr Dol buff - lt brn wh, fy xln, wkest - pkst, wh cht cmt, tt, tr of drsy qtz, tr of nodr Cht

DOL: buff - lt brn, mnr lt gy, crpxl - micxl, mdst, slty, mot ip, tt

DOL: aa, Dol lt brn, f - m xln, wkest - pkst, sbhed, suc ip, occ chty cmt, scat drsy qtz xls, no stn, no flor, ptch intxl por 3-5%

DOL: buff - lt brn, crpxl - micxl, mdst, slty, tt, tr of fy xln wkest

DOL: buff - lt brn, crpxl - micxl, mdst, slty, tr stylic, tt

DOL: buff - lt brn, crpxl - micxl, slty, tr stylic, tr of Sh lt gy, fis, plty, scat pyr

DOL: buff - lt brn, slty, crpxl - micxl, mdst, tr stylic, tr of nodr cht, no stn, no flor, no vis por

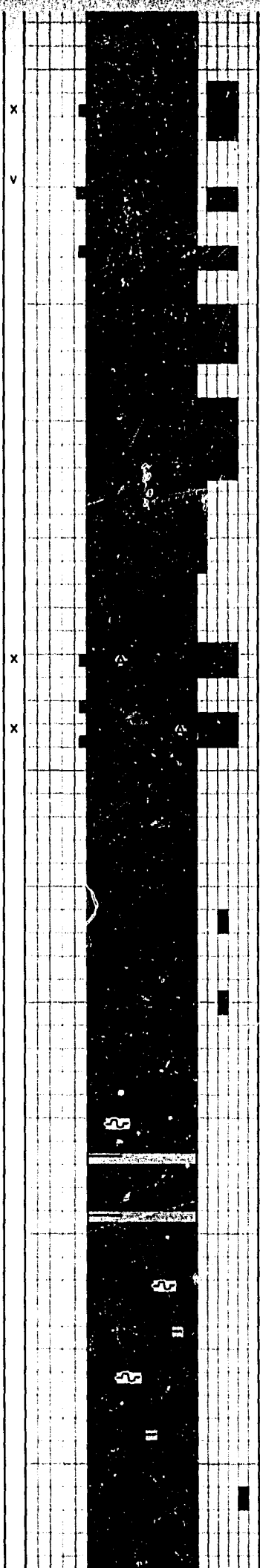
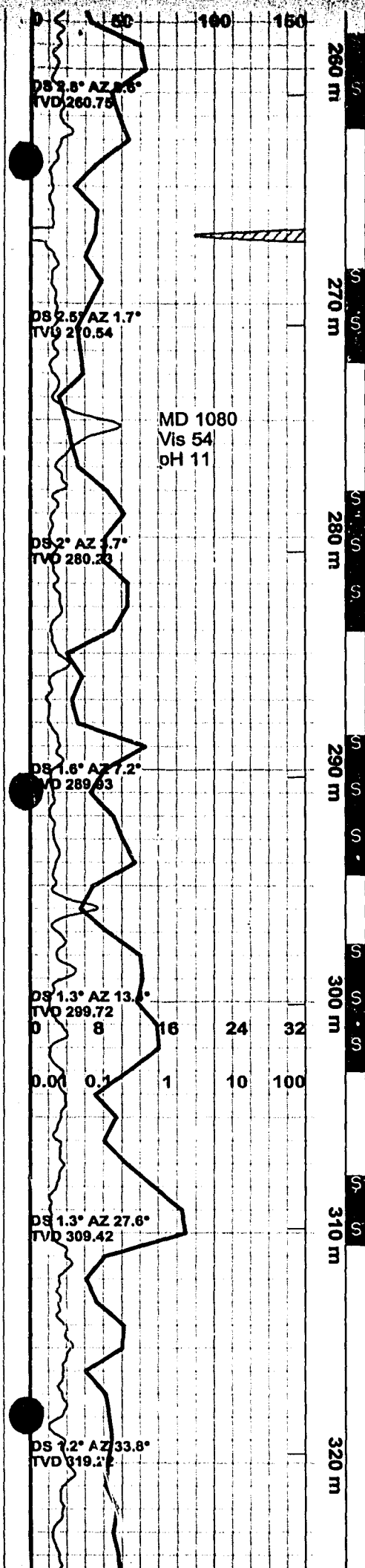
DOL: buff - lt brn, sily slty, crpxl - micxl, cln, mdst, tt

DOL: buff - lt brn, sily slty, crpxl - micxl, cln, mdst, tt

DOL: wh - buff, lt brn, crpxl - micxl, mdst, slty ip, cln, tt

DOL: buff - lt brn, lt gy sily arg, crpxl - micxl, mdst, slty ip, tt

DOL: buff - lt brn, lt gy sily arg, crpxl - micxl, mdst, slty ip, tt



DOL: aa, mnrl Dol buff - lt brn, f - m xln, wkest - pkst, tr of c clr euhed dol xls, no str, no flor, ptch intxl - vugy por 3-4%

DOL: buff - lt brn, lt gy, crpxl - m xln, mdst - pkst, tt

DOL: buff - lt brn, micxl - fy xln, wkest - pkst, mnrl sily sily crpxl mdst, no str, no flor, no vis por

DOL: buff - lt brn, crpxl - m xln, mdst - pkst, cln, tt

DOL: buff - lt brn, crpxl - micxi, mdst - pkst, cln, mnrl cht cmt, v ptch intxl por 2-3%

DOL: buff - lt brn, micxl - m xln, mdst - pkst, cln, tr of cht cmt, v ptch intxl por 2-3%

DOL: buff - lt brn, crpxl - micxl, mnrl fy xln, mdst - wkest, cln, tt

DOL: lt brn, buff - lt brn, crpxl - micxl, mnrl fy xln, mdst - wkest, cln, tt

DOL: buff - lt brn, lt - m brn, crpxl - micxl, predly mdst, tt

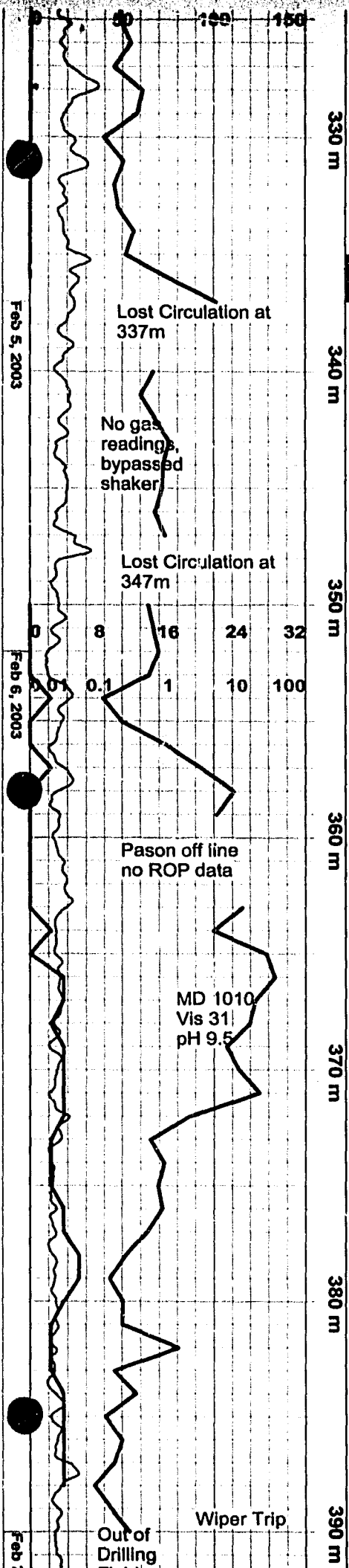
DOL: buff - lt brn, m brn, crpxl - micxl, mdst, mnrl stylic, tt

SH: lt gy gn, lt gy, dolc, fis, plty

DOL: lt - m brn, lt gy brn, crpxl - micxl, predly mdst, sily ip, arg ip, tr stylic, tt

DOL: lt - m brn, m gy brn, crpxl - micxl, predly mdst, arg ip, sily sily ip, stylic, tt

DOL: buff, lt gy, crpxl - micxl, mdst, tt, tr of c euhed calc xls



DOL: buff, lt gy, crpxl - micxl, mdst, mnrv fy xln wackest, tt

DOL: wh - buff, lt brn, lt gy, crpxl - micxl, predly mdst, calcs lp, tt

NO SPL: lost circulation, bypassed shaker

NO SPL: lost circulation, bypassed shaker

NO SPL: lost circulation, bypassed shaker

DOL: buff - lt brn, lt gy, crpxl - micxl, mdst - wkest, tt, tr m xln suc pkst, tr of c euhed dol xls

DOL: buff - lt brn, lt gy, crpxl - micxl, predly mdst, slly slty, tt

DOL: wh - buff, lt brn, lt gy, crpxl - micxl, predly mdst, slly slty, tt

DOL: wh - buff, lt brn, lt gy, crpxl - micxl, predly mdst, slty lp, tt

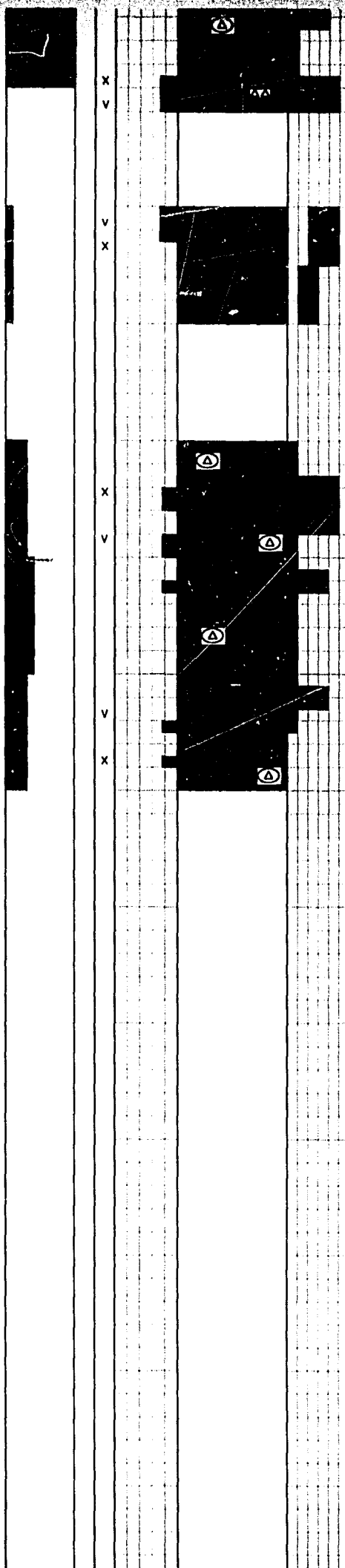
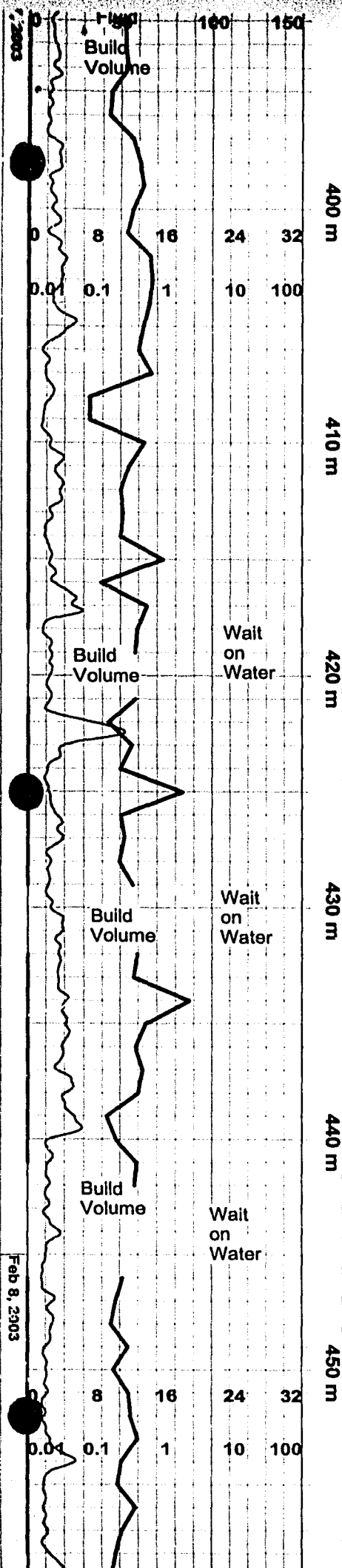
DOL: wh - buff, lt brn, lt gy, crpxl - micxl, predly mdst, slty lp, tt

DOL: wh - buff, lt brn, lt gy, crpxl - micxl, predly mdst, slty lp, tt

R
DOL: wh - buff, lt brn, crpxl - micxl, mdst, slly slty, scat f - m rdd qtz grs, mnrv Cht wh, mky, nodr, tr of c euhed dol xls, prob scat vugy por

DOL: aa, buff - lt brn, f - m xln, suc, pkst, no stn, no flor, scat c euhed clr - lmsl dol xls, intxl - vugy por 10-12%, mnrv Cht, wh, mky

DOL: buff - lt brn, crpxl - m xln, mdst



- suc pkst, scat c euhed dol xls, no stn, no flor, ptch lntd - vugy por, occ lamr and nodr Cht

NO SPL: drilling blind

LCM: partial returns

DOL: buff - lt brn, f - m xln, suc pkst, scat c euhed dol xls, intxl and vugy por

NO SPL: drilling blind

LCM: partial returns

DOL: v:h - buff, lt brn, micxl - m xln, wkest - suc pkst, scat trns l euhed dol xls, intxl and vugy por, ccc c ang Cht

LCM: partial returns

DOL: wh - buff, lt brn, micxl - fy xln, wkest - suc pkst, scat euhed dol xls, scat c ang Cht

LCM: partial returns

DOL: wh - buff, lt brn, crpxl - fy xln, mdst - wkest, mnr pkst, scat euhed dol xls, no stn, no flor, no vis por

NO SPL: drilling blind

NO SPL: drilling blind

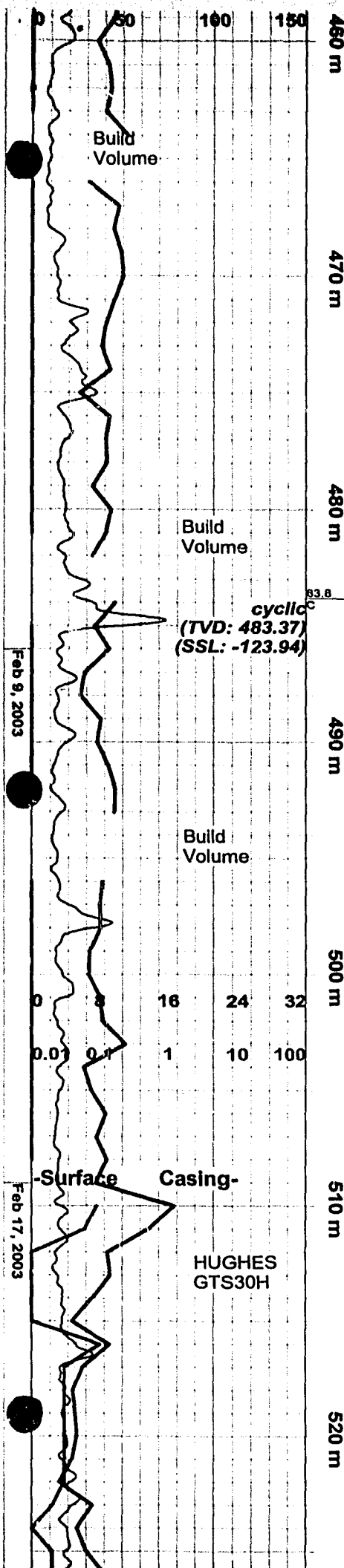
NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind



NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

NO SPL: drilling blind

Plug back with and drill out
cement to cover fluid loss zones.
Run surface casing to 508.5m.

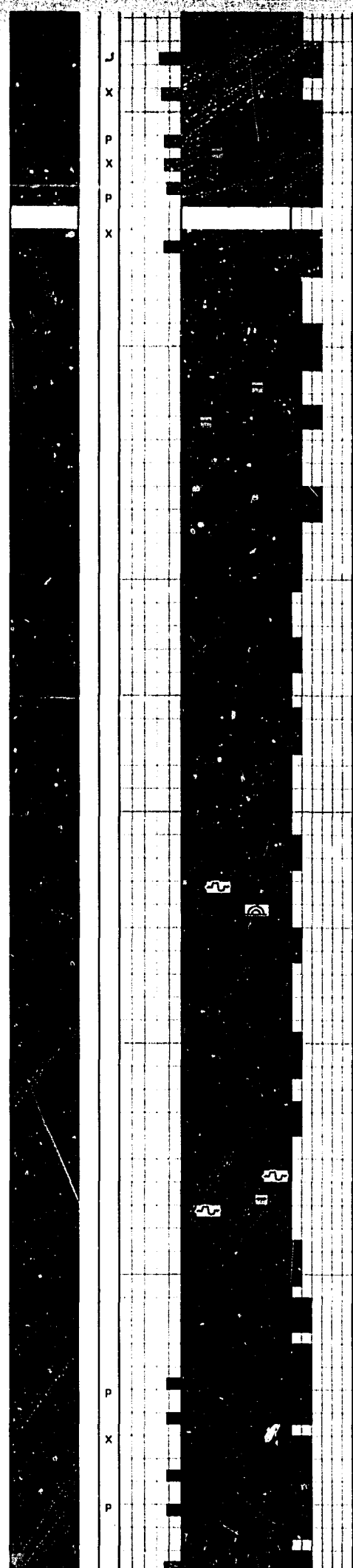
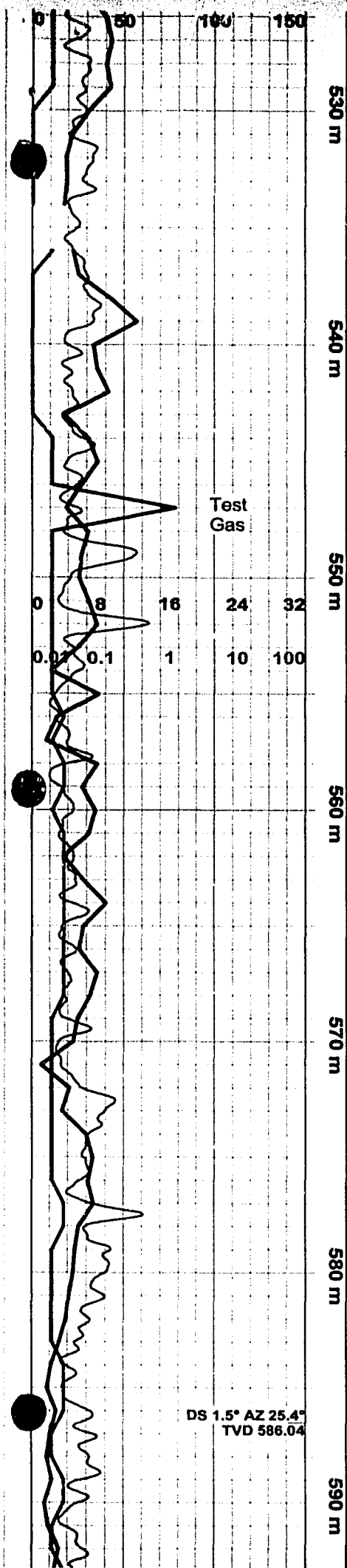
DOL: buff - lt brn, crpxl - fy xln, mdst
- wkest, tr of pkst, no stn, no flor, scat
pp - intgran por

DOL: wh - buff, crpxl, mdst, slly slty
ip, Dol lt - m brn, crpxl - fy xln, mdst -
wkest, no stn, no flor, occ pp por

SH: lt - m gy, predly lamr, fis

DOL: buff - lt brn, m brn, crpxl -
micxl, mdst - wkest, mnr pkst, stylic
ip, no stn, no flor, v ptch intxl - vugy
por to 16%, tr of nodr Cht

DOL: wh - buff, lt brn, crpxl mdst, tt,
Dol lt - m brn, micxl - fy xln, predly
wkest, mnr pkst, slly arg ip, no stn,
no flor, v ptch intxl - mld por to 18%



DOL: lt gy, lt brn, crpxl - fy xln, mdst - wkest, sily arg ip, sily slty ip, no str, no flor, v ptch pp - intxl - mld por to 10%, tr of clr - trns sbhed - euhed xln qtz, pos frac or karst lng

Lost Circulation

DOL: wh - buff, lt brn, predly crpxl mdst, occ micxl - fy xln wkest, no str, no flor, no vis por

DOL: lt gy - buff, lt brn, crpxl - micxl, predly mdst, sily arg ip, tt

DOL: buff - lt brn, crpxl - micxl, predly mdst, mnw wkest, tt

DOL: buff - lt brn, crpxl - micxl, predly mdst, mnw wkest, tt

LS: lt gy, lt brn, m - dk brn, crpxl mdst, tt, mnw Sh lt gy, lt gy gn lamr

DOL: buff - lt brn, crpxl - micxl, predly mdst, slty ip, tt

LS: buff - lt brn, m brn, crpxl - micxl, mdst, slty ip, tt, mnw Sh lt gy, lt gy gn, lamr

DOL: buff - lt brn, crpxl - micxl, predly mdst, slty ip, tt

LS: wh - buff, lt brn, m brn, crpxl - micxl, mdst, stylic ip, stromlitic

DOL: buff - lt brn, crpxl - micxl, mdst - wkest, slty, tt

LS: wh - buff, lt brn, m brn, crpxl - micxl, mdst, tt

DOL: buff - lt brn, crpxl - micxl, calcs, mdst - wkest, tt

LS: buff - lt brn, crpxl, dolc, mdst, sily arg, tt

DOL: lt brn, crpxl - micxl, mdst, slty ip, tt

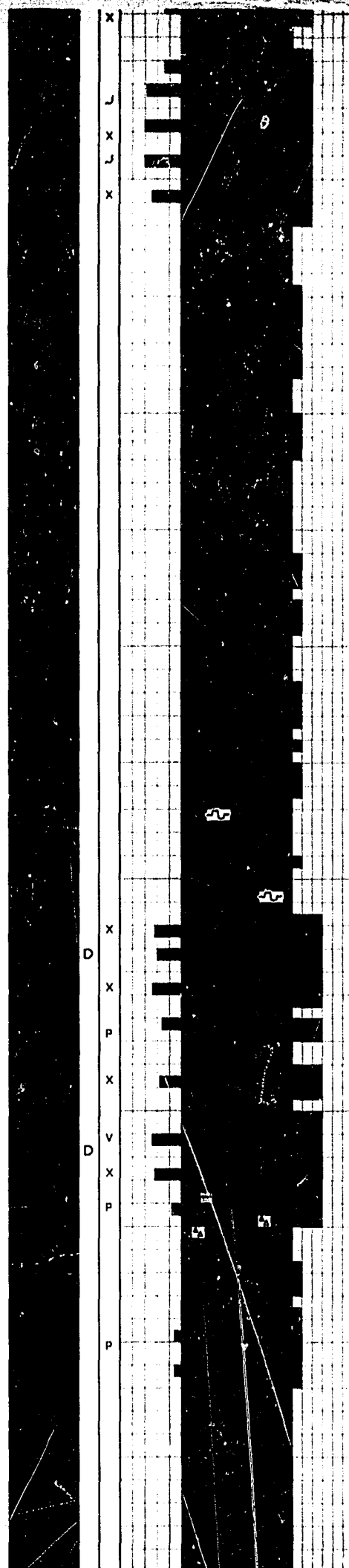
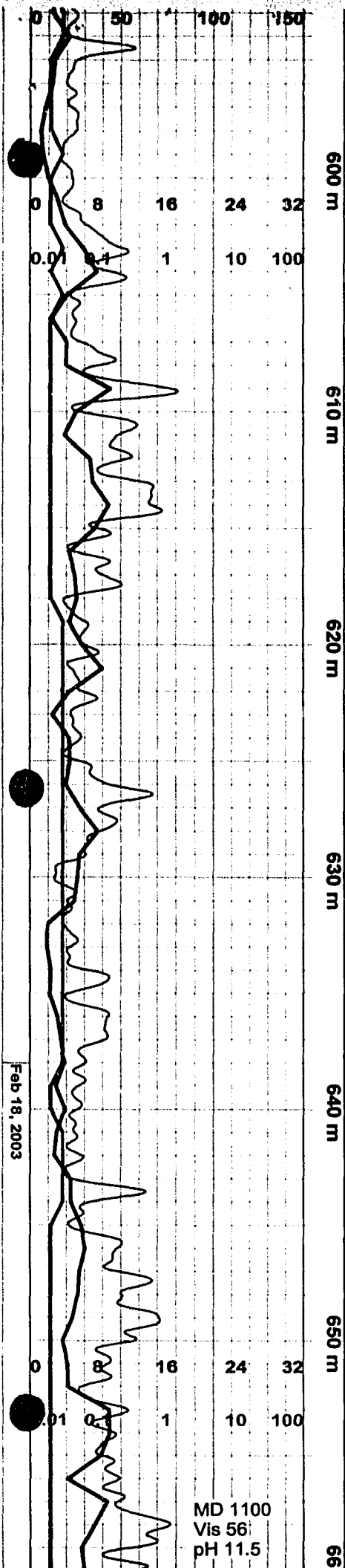
LS: buff - lt gy, lt brn, crpxl - micxl, mdst, sily arg ip, stylic ip, tt

DOL: buff - lt brn, micxl - v fy xln, mdst - wkest, mnw pkst, slty, no str, no flor, ptch pp - intxl por 6-8%

LS: buff - lt brn, m brn, lt gy, crpxl - micxl, dolc ip, tt, mnw Sh lam, lt - m gy

DOL: buff - lt brn, micxl - v fy xln, mdst - wkest, mnw pkst, slty, ptch pp - intxl por 6-8%

DOL: buff - lt brn, micxl - v fy xln, mdst - wkest, mnw pkst, slty, ptch pp - intxl por



LS: aa

DOL: wh - lt gy, micxl - v fy xln, wkest
- pkst, sly sly, suc ip, calcs ip, ptch
inbl - mid por 12-18%, low perm

DOL: wh - lt gy, lt brn, crpxl - micxl,
predly mdst, sly, tt

LS: buff - lt brn, lt gy, crpxl mdst,
stylic ip, tt

DOL: wh - lt gy, lt brn, crpxl - micxl,
predly mdst, sly, tt

LS: buff - lt brn, lt gy, crpxl mdst, tt

DOL: wh - lt gy, lt brn, crpxl - micxl,
predly mdst, sly, tt

LS: wh - buff, lt brn dollic, lt gy, crpxl
mdst, tt

DOL: lt brn, calcs ip, crpxl - micxl,
predly mdst, tt

LS: wh - buff, lt brn dollic, lt gy, crpxl
mdst, tt

DOL: wh - lt gy, lt brn, crpxl - micxl,
predly mdst, sly, tt

LS: wh - buff, lt - m brn, mot ip, crpxl
- micxl, mdst, stylic ip, tt

DOL: lt brn, calcs, crpxl - micxl,
predly mdst, tt

DOL: lt brn, crpxl - v fy xln, mdst -
wkest, com pkst, suc ip, v spy dead
oil stn, no flor, pp - intxl por 12-14%

LS: wh - buff, lt brn, m brn, dollic,
crpxl - micxl, predly mdst, tt

DOL: lt brn, crpxl - v fy xln, mdst -
wkest, com pkst, suc ip, spy dead oil
stn, no flor, pp - intxl - vugy por 12-
14%

DOL: buff - lt brn, mnr lt gy, crpxl - fy
xln, mdst - wkest, sly arg, scat pp
por 3-4%, tr of Cht

DOL: buff - lt brn, lt gy, crpxl - micxl,
predly mdst, tt

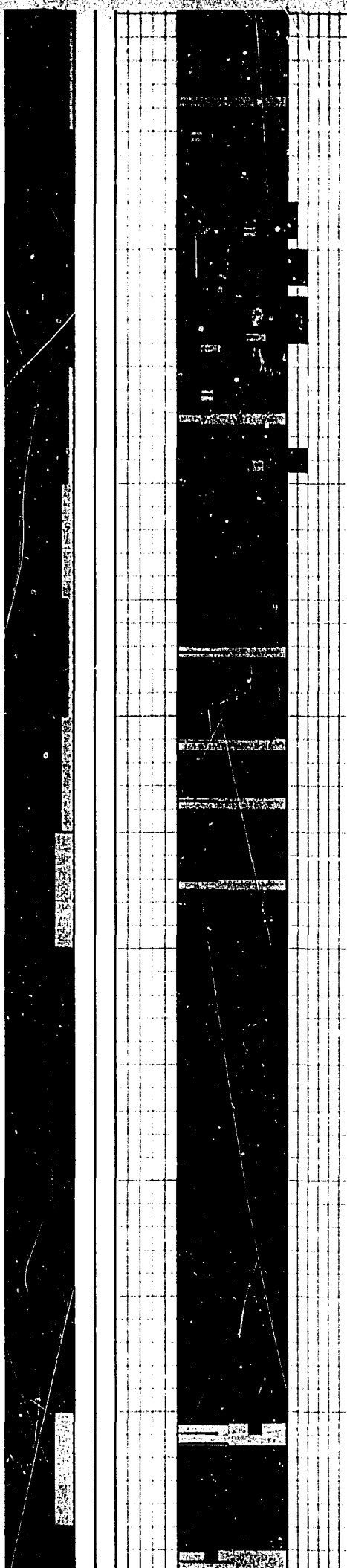
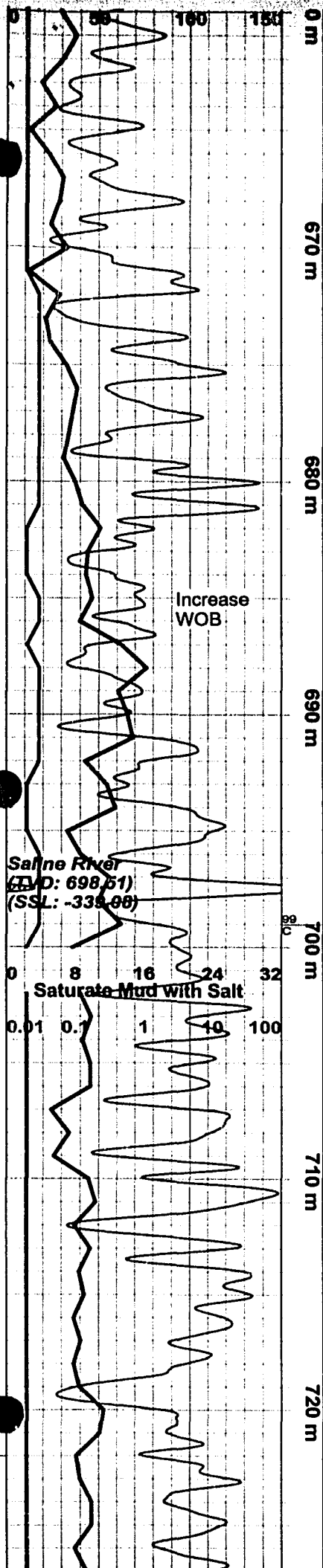
LS: lt gy wh, lt gy dollic, crpxl mdst, tt

DOL: buff - lt brn, lt gy, crpxl - micxl,
predly mdst, tt

LS: lt gy, lt gy wh, lt brn, crpxl - micxl,
mdst, arg ip, tt

LS: lt gy, lt gy wh, lt brn, crpxl - micxl,
mdst, arg ip, tt

DOL: buff - lt brn, lt gy, crpxl - micxl,
predly mdst, tt



LS: lt gy, lt gy eh, lt brn, crpxl - micxl, mdst, tt

DOL: buff - lt brn, lt gy, crpxl - micxl, predly mdst, sily arg, tt

SH: lt gy, calcs, predly lamr

DOL: lt gy, wh - buff, crpxl - micxl, mdst, arg ip, tt

LS: lt gy, lt brn, dolc, crpxl mdst, tt

DOL: buff - lt brn, micxl - v fy xln, crpxl ip, mdst - wkest, tt, mnr Sh lt - m gy, dolc, fis, plty

LS: lt gy, lt brn, crpxl mdst, tt

DOL: buff - lt brn, lt gy, crpxl - micxl, mnv vfy xln, mdst - wkest, arg ip, tt

LS: lt gy, lt brn, crpxl mdst, tt

SH: lt gy, lt - m gy, fis, plty, predly lamr

DOL: buff - lt brn, crpxl - micxl, predly mdsty, tt

SH: lt gy gn, lt - m gy, fis, dolc

DOL: buff - lt brn, crpxl mdst, tt

SH: lt gy gn, lt - m gy, fis, plty

DOL: buff - lt brn, crpxl mdst, tt

SH: lt gy gn, lt - m gy gn, dolc, fis, plty - blk

DOL: buff - lt brn, lt gy, crpxl mdst, tt

SH: lt - m gn, lt - m gy, m red, fis, plty - blk

DOL: buff - lt brn, lt gy, crpxl mdst, tt, mnv Anhy wh - buff, lt gy

SH: lt - m gn, m gy, lt - m red, dolc ip, fis, plty - blk

DOL: buff - lt brn, lt gy, lt redsh brn, crpxl - micxl, mdst, tt, mnv Anhy, wh - trns, lamr

SH: lt - m gn, m redsh brn, m red, lt - m gy dolc, fis, plty - blk lt red brn, sft, sbfis, gyps

DOL: buff - lt brn, lt gy, lt redsh brn, crpxl - micxl, mdst, tt, mnv Anhy, wh - trns, lamr

SH: m red, lt redsh brn, lt - m gn, fis, blk - plty

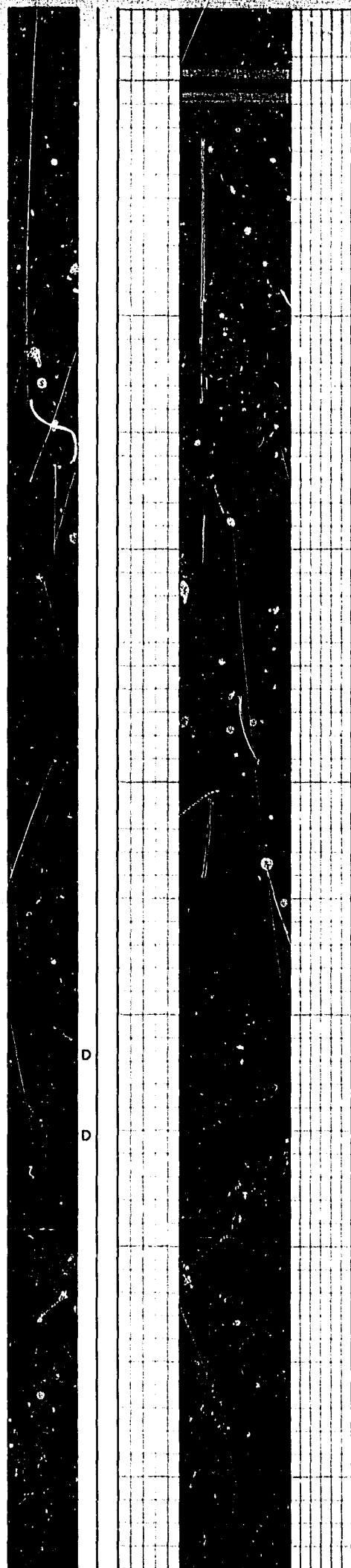
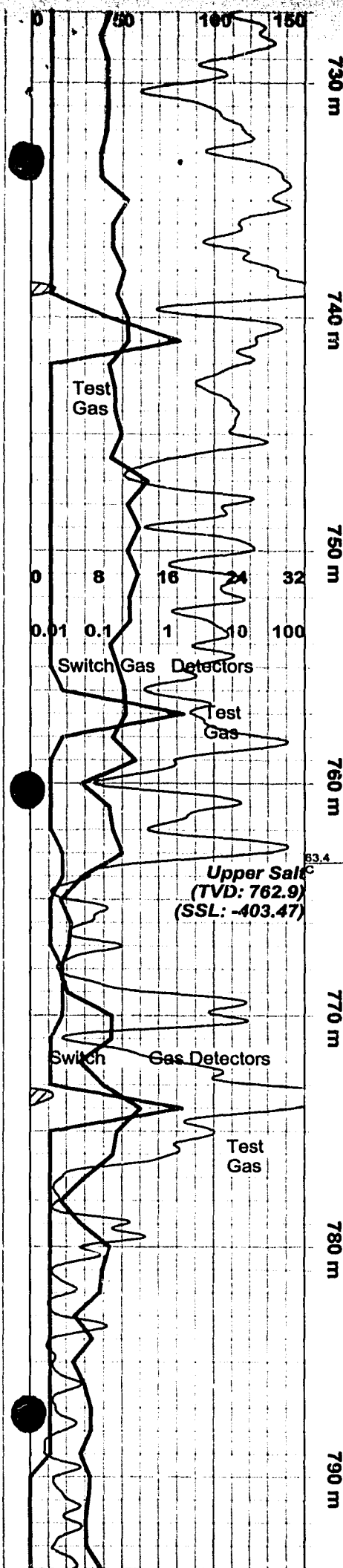
DOL: buff - lt brn, lt gy, arg ip, crpxl, mdst, tt

SH: m red, lt redsh brn, lt - m gn, fis, blk - plty

DOL: wh - buff, lt gy, lt brn, crpxl mdst, anhyic ip, arg ip, tt

SH: m red, lt - m gy, m gy, sily slty, fis, blk - plty

DOL: wh - buff, lt gy, lt brn, crpxl



mdst, anhyic ip, arg ip, tt

SH: m red, lt - m gn, plty - blk

DOL: wh - buff, lt gy, lt brn, crpxl
mdst, anhyic ip, arg ip, tt

SH: m red, lt - m gn, fis, plty - blk

DOL: wh - buff, lt gy, lt brn, crpxl
mdst, anhyic ip, arg ip, tt

SH: m red, lt - m gn, m gy, fis, plty -
blk

DOL: wh - buff, lt gy, lt brn, crpxl
mdst, anhyic ip, arg ip, tt

SH: m red, lt - m gn, fis, blk - plty,
occ lt red, sft, gyps, sbfis

DOL: wh - buff, lt gy, lt brn, crpxl
mdst, anhyic ip, arg ip, tt

SH: m red, lt - m gn, fis, blk - plty, m
red sft, wxy, sbfis

DOL: wh - buff, lt gy, lt brn, crpxl
mdst, anhyic ip, arg ip, tt

SH: lt - m gn, lt gy gn, dolc ip, m red,
fis - sbfis, blk

DOL: wh - buff, lt gy, lt brn, crpxl
mdst, anhyic ip, arg ip, tt

SH: lt - m gn, lt gy gn, dolc ip, m rd, lt
- m rd sbfis gyps, plty - blk

DOL: buff - lt brn, lt gy, crpxl mdst,
anhyic, slty ip, arg ip, tr of sltst wh,
dolc tt, tr of Gyp orng, tab xls

SH: lt - m gn dolc, lt - m rd wxy,
gyps, sbfis - fis, blk

ANHY: wh - buff, lt gy brn, dolc, mas

DOL: wh - buff, lt brn, crpxl mdst,
anhyic, arg ip, slty ip, tr of sa-c with
dead oil lng, pos mld por

ANHY: lt brn, lt gy, wh chky, comly
dolc, mas

SH: lt - m gn, dolc, m red, lt red
gyps, fis - sbfis, wxy ip, blk - plty

DOL: wh - buff, lt brn, crpxl mdst,
anhyic, arg ip, slty ip, tr of sa-c with
dead oil lng, pos mld por

SH: lt gn, lt gn dolc, plty, lt redsh gy,
lt yel gyps, plty - blk

DOL: wh - buff, lt brn, crpxl mdst,
anhyic, occ scat sa-c, tr of Sa vf orng
- clr cubic xls

ANHY: wh - buff, dolc, mas, chky tex
ip, scat nodr orngsh gyp

SH: lt gn, lt gn dolc, lt rdsh brn, lt yel
gyps, plty - blk

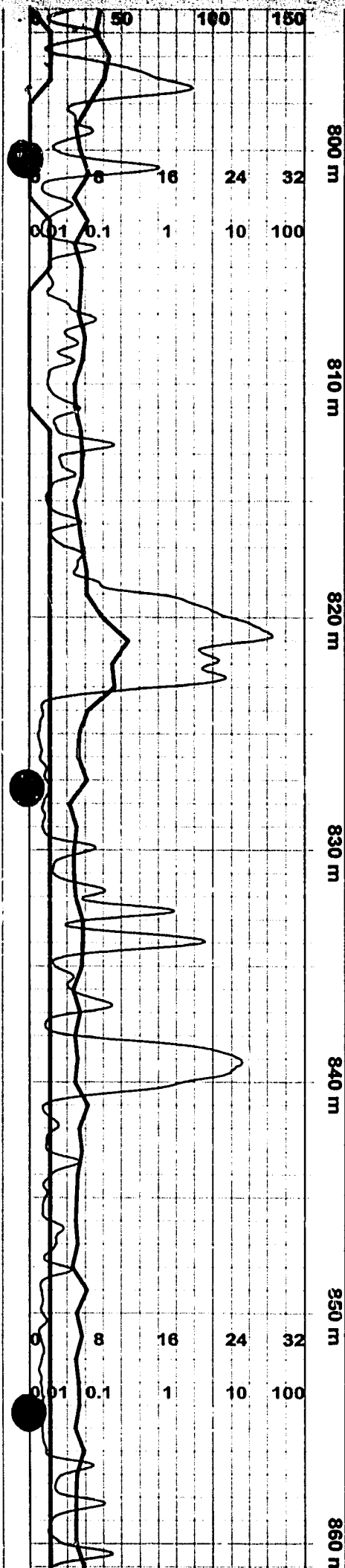
DOL: wh - buff, lt brn, crpxl mdst,
anhyic, slty ip, tt

ANHY: wh - buff, dolc, chky - xln,
mas

DOL: buff - lt brn, lt gy, lt gy gn, crpxl
mdst, anhyic ip, arg ip, tt

SH: lt gy gn, lt gn, lt - m red, fis -
sbfis, blk

DOL: buff - lt brn, lt gy, lt gy gn,
anhyic, crpxl, mdst, tt, tr of Sa clr c



hal

SLTST: lt omgsh brn, dolc, tt

ANHY: wh - lt brn, clr ip, mas, occly
chky dolc

SH: lt gy gn, lt red, lt gy gn, plty -
blky, dolc ip

SA: clr - yel, mas, hal

DOL: wh - buff, lt gy, crpxl mdst,
anhyic, tt

SH: lt gn, lg gy gn, lt - m red, dolc ip,
blky

SA: clr - yel, mky ip, mas, hal

DOL: wh - buff, lt brn, crpxl mdst,
anhyic, tt

SH: lt gn, lt gy gn, fis - sbfis, blky,
dolc

SA: clr - yel, mas, hal

ANHY: wh - buff, xln - mas

DOL: wh - buff, crpxl mdst, anhyic, tt

SA: hal, clr - fro, lt yel brn, mas

SH: lt gy gn, anhyic, plty

SA: hal, clr - trns, mky wh, lt yel brn,
mas, mnr Sh lt gy gn, plty

SA: hal, clr - trns, mky wh, lt yel brn,
mas, mnr Sh lt gy gn, plty

SA: hal, clr - wh, lt yel, mas

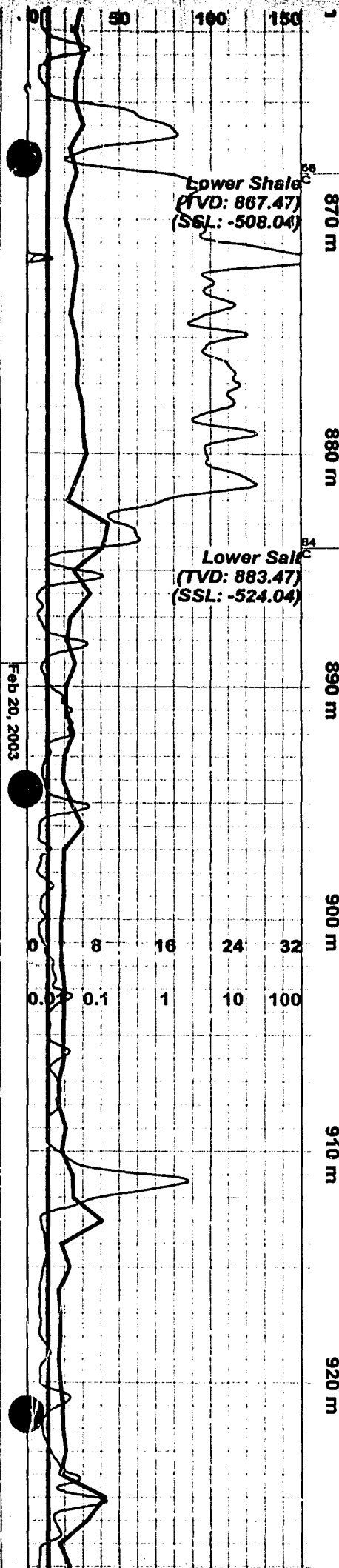
SA: hal, clr - wh, lt yel, mas, mnr Sh lt
gn, plty

SA: hal, clr - wh, lt yel, mas

SA: hal, clr - trns, mky wh - lt yel,
mas

SA: hal, clr - wh, mas

SA: hal, clr - wh, lt yel, mas



SA: hal, clr - wh, lt yel, mas

NO SPL: mud clobbered, tr of Sh lt
gn dollic, tr of Dol buff - lt brn, anhyic,
tr of Sa

NO SPL: mud clobbered, tr of Sh lt
gn dollic, tr of Dol buff - lt brn, anhyic,
tr of Sa

NO SPL: mud clobbered, tr of Sh lt
gn dollic, tr of Dol buff - lt brn, anhyic,
tr of Sa

SA: hal, clr - wh, lt yel, mas,
clobbered mud, tr of Sh lt gn dollic

SA: hal, clr - wh, lt yel, mas

SA: clr - wh, lt yel, mas

SA: hal, clr - wh, lt yel orng, mas

SA: clr - wh, lt orng, mas

SA: hal, clr - wh, lt orng, mas

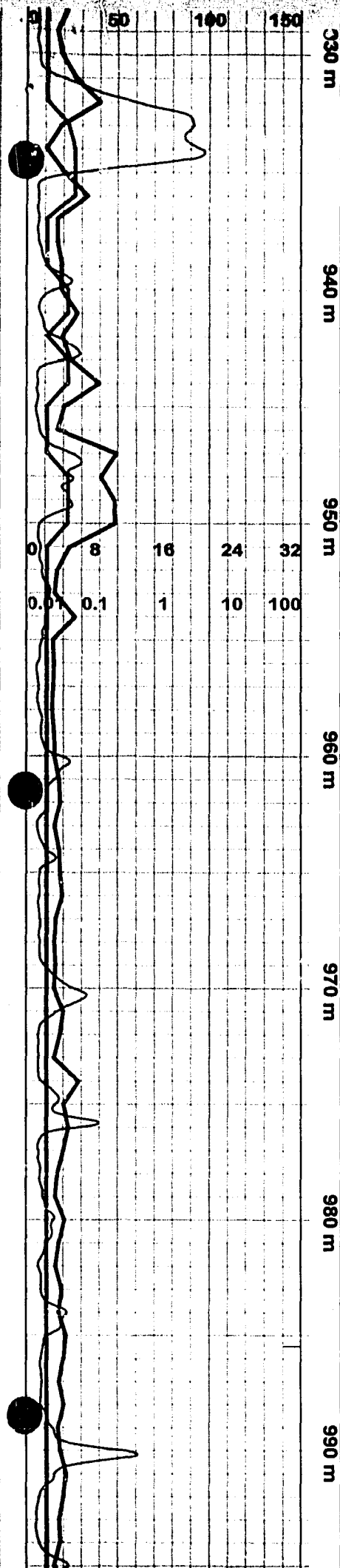
SA: mud clobbered, hal, aa

ANHY: buff - lt brn, mas, dollic

SA: hal, clr - wh, mas

SA: hal, clr - wh, lt yel orng, mas

SA: hal, clr - wh, lt yel orng, mas, mn
Anhy buff - lt brn, dollic



ANH: wh - buff, lt brn, mas, dolc,
mnr Sh lt gn, pity

SA: hal, clr - wh, lt omg, mas

SA: hal, clr - wh, mas

SA: hal, clr - wh, mas, mnr Anhy buff
- lt brn, mas

ANH: wh - buff, lt brn, mas

DOL: buff - lt brn, crpxl mdst, v
anhyic, tt

SA: hal, clr - wh, mas

ANH: buff - lt brn, wh, dolc ip, mas

SA: hal, clr - wh, mas

DOL: buff - lt brn, crpxl mdst, anhyic,
tt, tr of SH lt gn, lamr

SA: hal, clr - wh, mas

SA: hal, clr - wh, mas, tr Anhy, tr Sh

SA: clr - wh, lt yel omg, mas, tr of
Anhy

SA: clr - wh, lt yel omg, mas

ANH: wh - buff, lt gy, dolc, mas

SA: clr - wh, lt yel omg, mas

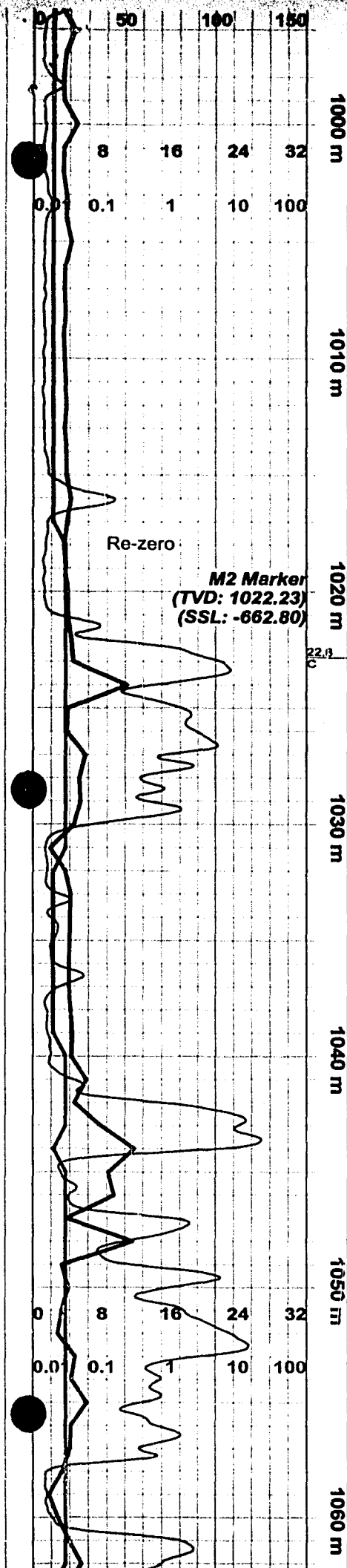
ANH: wh - buff, lt gy, dolc, mas

SA: clr - wh, lt yel omg, mas

ANH: wh - buff, lt gy, dolc, mas

SA: hal, clr - wh, lt yel omg, mas, tr of
Anhy lt brn, dolc, mas

SA: hal, clr - wh, mas



SA: hal,clr - wh, mas

SA: hal,clr - wh, mas, tr of Anhy, wh -
lt gy, mas

SA: hal,clr - wh, mas, tr of Anhy

SA: hal,clr - wh, mas

SA: hal,clr - wh, mas

SA: hal,clr - wh, mas

SH: lt gn dolic, sft, plty

SA: hal, clr - wh, mas

ANHY: wh - buff, lt brn, dolic, mas

DOL: buff - lt brn, crpxl mdst, v
anhyic, scat sa-c

SH: lt gn, dolic, sft, plty

ANHY: wh - buff, lt brn, dolic

DOL: buff - lt brn, crpxl, mdst, anhyic,
scat sa-c

SA: hal, clr - wh, lt yel orng, mas

SA: hal, clr - wh, lt yel orng, mas

DOL: m brn, crpxl mdst, com sa-c, tt

SA: hal, clr - wh, lt yel orng, mas

SH: lt gn, dolic, sft, plty

DOL: poor samples, clobbered, lt gy,
wh - buff, lt brn, crpxl mdst, tt

SA: hal, clr - wh, lt yel orng, mas

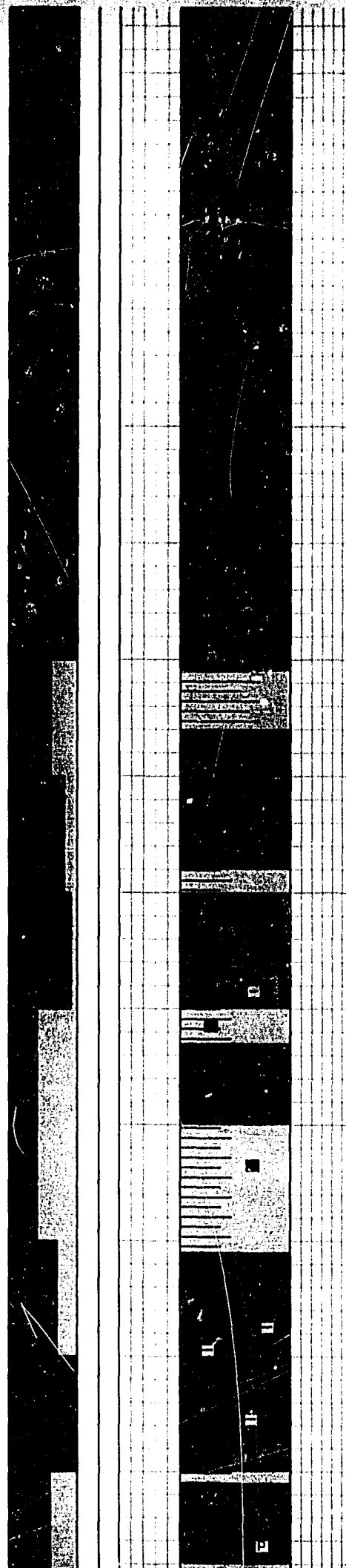
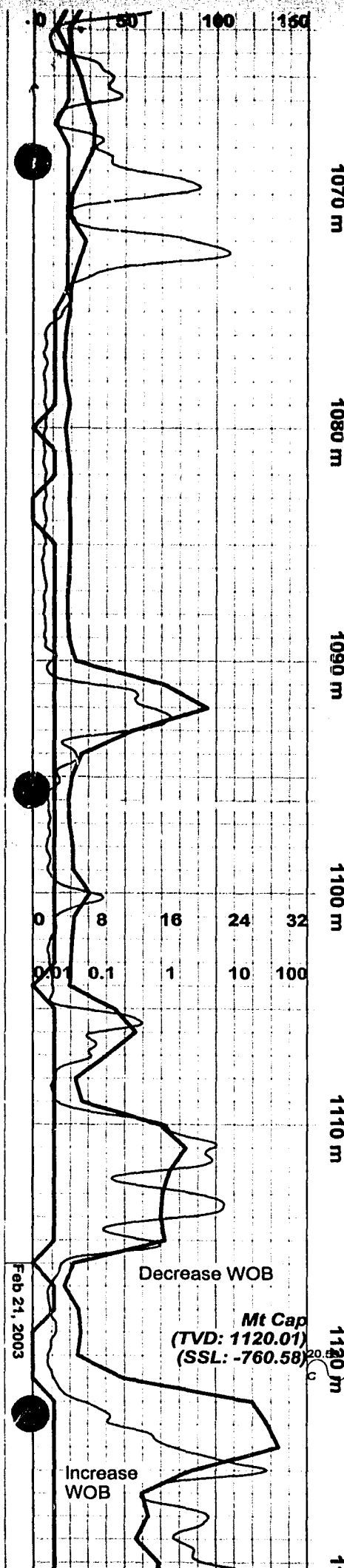
DOL: lt gy, wh - buff, lt brn, crpxl
mdst, tt

SA: hal, clr - wh, lt yel orng, mas

ANHY: wh - buff, mas

SH: lt gn, dolic, sft, plty

SA: hal, clr - wh, lt yel orng, mas



ANH: wh - buff, mas

DOL: buff - lt brn, lt gy, crpxl mdst, tt

ANH: wh - buff, mas

DOL: buff - lt brn, crpxl mdst, anhyic, tt, scat sa-c

SA: hal, clr - wh, lt yel orng, mas

ANH: wh - buff, lt brn, dolc

SA: hal, clr - wh, lt yel orng, mas

SA: hal, clr - wh, mas

SA: hal, clr - wh, mas

SA: hal, clr - wh, mas

SH: m gy, m - dk gy, wxy, fis, plty

DOL: buff - lt brn, crpxl mdst, anhyic, tt

SA: hal, clr - wh, lt yel orng, mas

SH: m gy, wxy, fis, plty

DOL: buff - lt brn, crpxl mdst, anhyic, tt

SA: hal, clr - wh, lt yel orng, mas

SH: m gy, fis, plty

DOL: buff - lt brn, crpxl mdst, tt

SH: m gy, fis, plty

DOL: buff - lt brn, crpxl mdst, anhyic, sly arg, tt

SA: hal, clr - wh, mas

SH: m gy, fis, plty

DOL: buff - lt brn, crpxl mdst, anhyic, sly arg, tt

SH: m gy, fis, plty

DOL: buff - lt brn, crpxl mdst, anhyic, sly arg, tt, mnr Sa

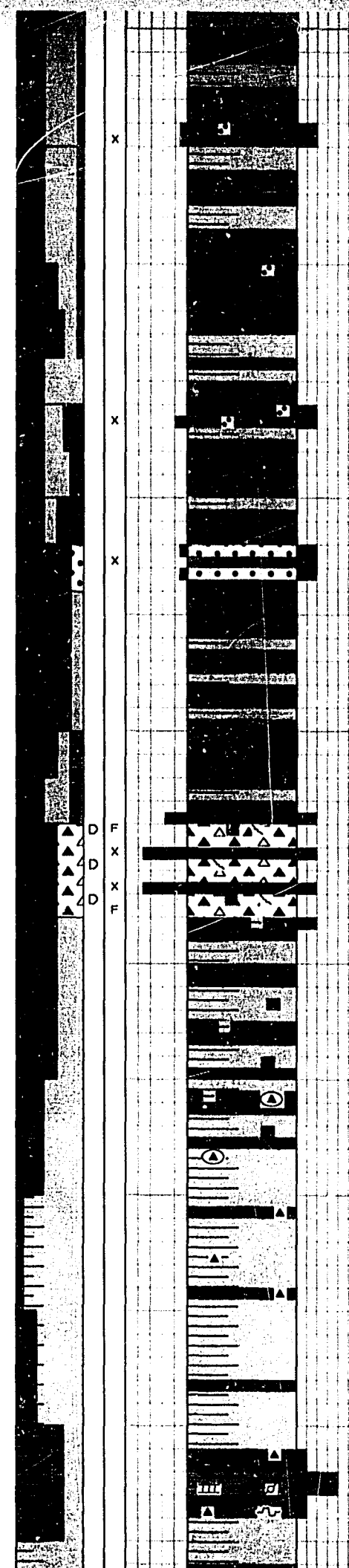
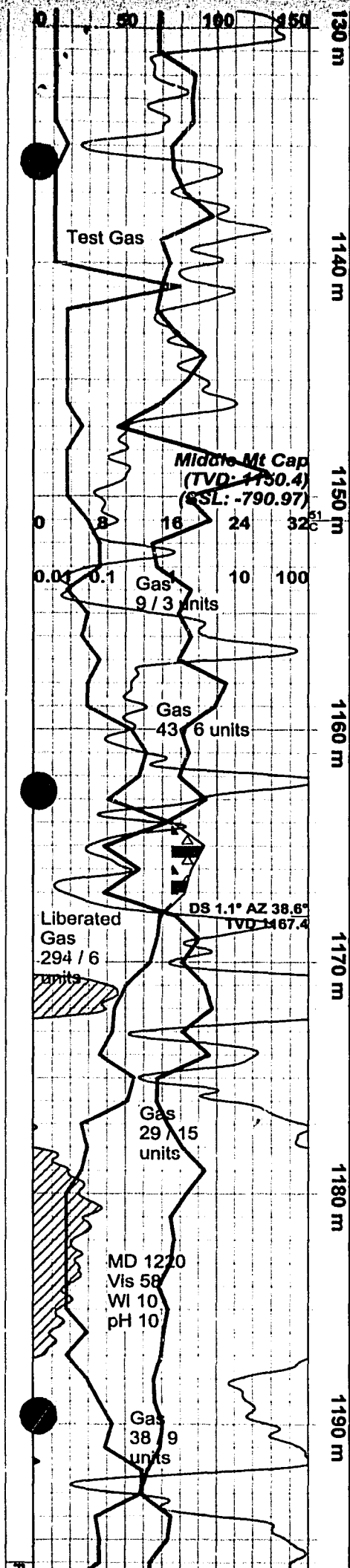
DOL: buff - lt brn, crpxl mdst, sly arg ip, tt, mnr Anhy lt - m brn, mas

SH: lt gy gn, lt - m gn, lt - m gy, fis, plty

DOL: buff - lt brn, crpxl mdst, occ arg lam, tt, tr of. dism pyr

SH: lt - m gy, m gy, lt gn, fis, plty

ANH: wh - lt brn, crpxl, sly dolc



SH: lt - m gy, lt brn, lt gy gn, m brn, fis, plty

SLTST: wh - lt brn sdy, dolc mxt, slt - vf gred clr sbang qtz, no stn, no flor, v ptch pp - intxl por 2-4%, v low perm

SH: lt gy, lt gy gn, fis, plty

DOL: lt gy brn, crpxl mdst, mnr lt - m brn m - c grst, dolc and anhyic cmt, pell ip, stromlitic ip, tt

SLTST: wh - buff, dolc mxt, sdy ip, tt

DOL: lt gy, lt - m brn, crpxl mdst, tt

SLTST: wh - buff, sdy, ang - sbang qtz, dolc mxt, tt

DOL: buff - lt brn, lt gy, crpxl mdst, slty ip, tt, tr of nodr Cht frags

SLTST: wh - buff, sdy, dolc cmt - mxt, vf clr ang qtz, no stn, no flor, str of vis intxl por 8-12%, eff por 2-3%

SH: lt - m gy, lt gy gn, plty

SS: lt brn, qtzs, slty - vf gred, ang, m - w srt, firm - fri, predly w ind with dolc and anhyic cmt, no stn, no flor, str of vis intgran por 8-10%, eff por 1-2%

SH: m gy, lt gy gn, plty

DOL: buff - lt brn, lt - m gy, m brn, crpxl mdst, v slty ip, tt, tr of nodr Cht frags

SH: m gy, lt gy gn, plty

SLTST: buff - lt brn, dolc mxt, tt

CHT: vari, lt - dk brn, fracd, mld ip, anhy and dol inflg - lng, spy bit

DOL: aa, mnr lt brn, v fy xln suc, inflg - lng, v spy dead oil, no flor, v ptch vis intxl por to 18%, low eff por, stg pets odor

SH: lt - m gy, lt gn, plty

DOL: buff - lt brn, crpxl mdst, arg ip, anhyic ip, tt

SH: m gy, lt - m gy, dolc ip, fis, blk - plty

DOL: lt - m gy, lt - m brn, crpxl, mdst, arg, slty, tt, scat nodr Cht frags

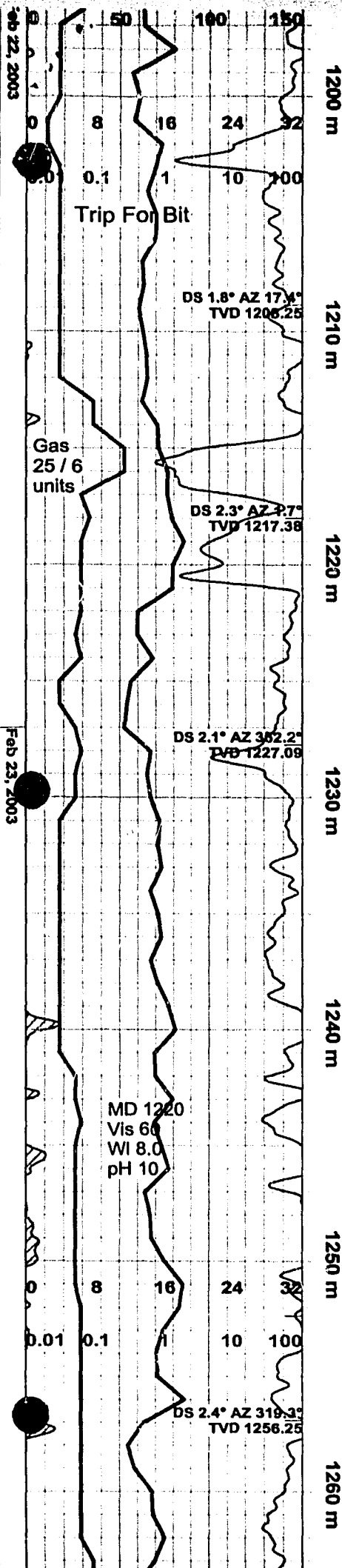
SH: lt - m gy, lt - m gy gn, fis, plty

DOL: aa, scat Cht frags

SH: lt - m gy, m gy, lt - m gy gn, fis, plty

DOL: lt brn, crpxl mdst, arg, calcs ip, tt

LS: buff - lt brn, m - dk brn arg, crpxl - m gred, mdst - wkest, grst ip, mot ip, pelmicr ip, tr stylic, scat w rdd glauc pels, scat cht brec / intcls, slty ip, tr of brhg stroms, no stn, no flor, no vis por



SH: m gy, lt - m gy gn, fis, plty, mnr Ls

LS: wh - buff, crpxl mdst, arg, tt

SH: m gy, lt - m gy gn, fis, plty

SH: m gy, sily calcs, fis, plty

SH: m gy, sily calcs, fis, plty, tr of Dol buff - lt brn, sily, tr of Slst buff - lt brn, dolc, tt

SH: m gy, dk gy, sily calcs, fis, plty

LS: buff - lt brn, lt gy, crpxl mdst, arg, tt

SH: m gy, dk gy, sily calcs, fis, plty

LS: lt gy, lt brn, arg, tr of bracs, tt

SH: m gy, dk gy, sily calcs, fis, plty

LS: lt gy, lt brn, crpxl mdst, arg, tt

SH: m gy, dk gy, sily calcs, fis, plty, mnr arg Ls

SH: m gy, dk gy, sily calcs, fis, plty, mnr arg Ls

SH: m gy, m - dk gy, fis, plty

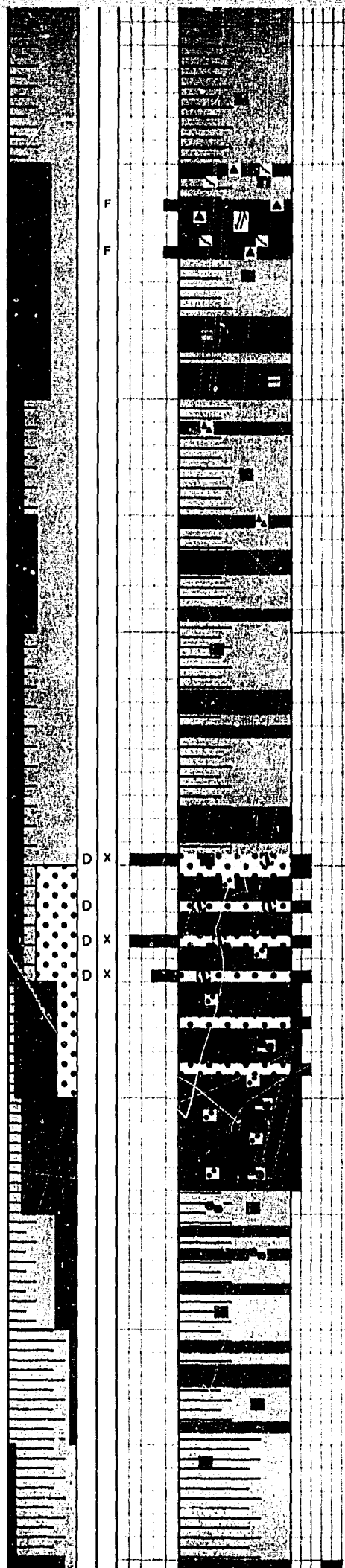
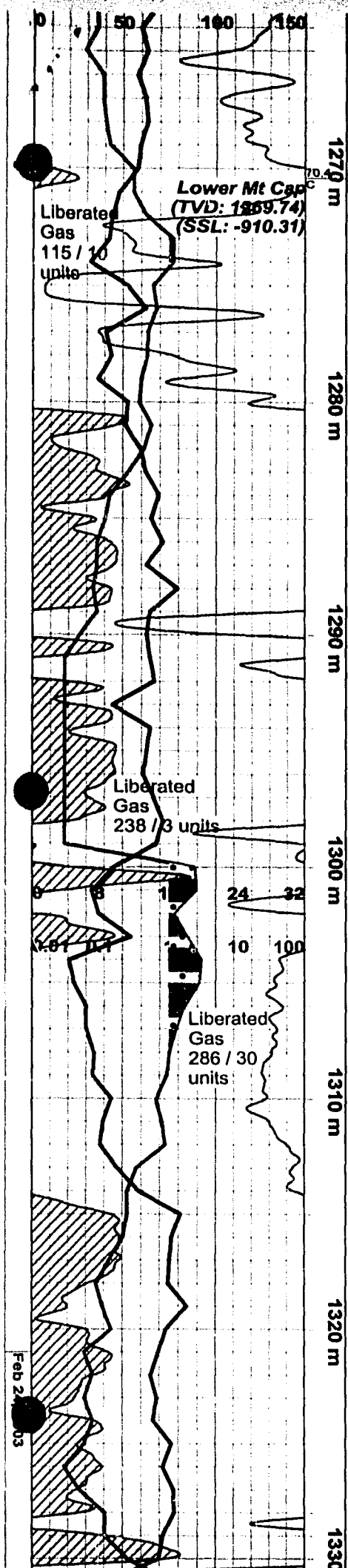
LS: lt gy, lt brn, crpxl mdst, arg, tt

SH: m gy, m - dk gy, sily calcs, fis, plty - blk, mnr Ls aa

SH: m gy, m - dk gy, calcs ip, fis, plty - blk

SH: m gy, m - dk gy, calcs ip, sily micmica, mnr dism - nodr pyr, fis, plty - blk

SH: m gy, m - dk gy, calcs ip, sily micmica, mnr dism - nodr pyr, fis, plty - blk



SH: m gy, m - dk gy, lt - m gy gn, sily calcs, fis, plty - blk, mnr Ls buff - lt brn, l - m gy, crpxl mdst, arg, tt

LS: buff - lt gy brn, lt gy, arg ip, crpxl mdst, sily sily, sksd ip, scat nodr Cht frags, scat euhed calc xls, fracd, no stn, no flor, no vis por

SH: m gy, m - dk gy, calcs ip, sksd ip, occ calc vng, prob frags

LS: lt brn, lt - m gy, m gy brn, arg, crpxl mdst, sily ip, tt

SH: m gy, m - dk gy, sily calcs, fis, plty - blk, mnr nodr and dism pyr, com Cht frags

DOL: lt brn, lt - m gy, m gy brn, arg, crpxl mdst, sily ip, tt

SH: m gy, m - dk gy, sily calcs, fis, plty - blk

DOL: lt brn, lt - m gy, m gy brn, arg, crpxl mdst, sily ip, tt

SH: m gy, m - dk gy, sily calcs, fis, plty - blk, mnr dism pyr

DOL: lt brn, lt - m gy, m gy brn, arg, crpxl mdst, sily ip, tt

SH: m gy, m gy gn, fis, plty - blk

DOL: lt brn, lt - m gy, m gy brn, arg, crpxl mdst, sily ip, mnr lt brn micxl wkest, tt

SS: dk gy, m - dk brn, wh - m gy, sily - vf gred, qtzs, ang, m - w srt, v fri, dolc cmt, v arg ip, com dead oil, no flor, intgran por to 20%, v low perm, com bit plugging, por intervals 1299.6-1300.2m, 1303-1303.5m, 1304.6-1304.8m.

DOL: lt brn, lt gy, sily - sdy, arg ip, crpxl - micxl, predly mdst, tt

SLTST: wh - buff, lt gy wh, qtzs, firm, dolc cmt - mtx, sdy ip, tt

SS: wh - buff, lt gy, qtzs, sily - vf gred, ang - sbang, w srt, firm, w ind with dolc and sils cmt, micmica, no stn, no flor, no vis por

SLTST: wh - buff, lt gy, qtzs, sdy, sils cmt, dolc ip, arg ip, micmica, tt

SH: m g, m gy sily, fis, plty - blk

SLTST: wh - buff, lt gy, m gy arg, sdy ip, sils cmt, tt

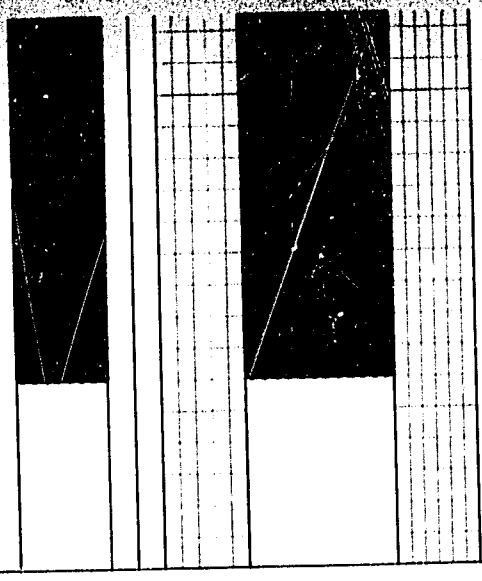
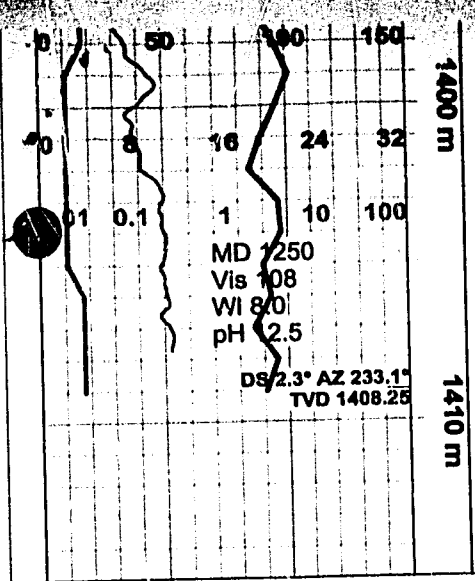
SH: m gy, m gy sily, micmica, fis, plty

SLTST: m - dk gy, arg, tt

SH: m gy, dk gy, sily ip, plty - blk

SH: dk gy, m gy, sily ip, fis, predly plty

DOL: buff - lt brn, cy xln, pkst - grst, tt



BA: predly gy, gy - red, firm - hd, f grmas, porphic, com gn Sh cvgs

BA: predly gy, gy - gn, gy - red, firm - hd, f grmas, porphic

Total Depth 1409m



EXTENDED GAS ANALYSIS

V0008047 - 1

CONTAINER IDENTITY

METER ID

1934

WELL LICENSE NUMBER

52136-2003-4383

LABORATORY FILE NUMBER

Apache Canada Ltd.

OPERATOR

1

PAGE

c-49-66-40-125-45

LOCATION (UWI)

Apache Coleville c-49-66-40-125-45

WELL NAME

KS ELEV (m)

GR ELEV (m)

Coleville

Lower Mount Clark

Northland-Norward

FIELD OR AREA

POOL OR ZONE

SAMPLER

TEST TYPE AND NO.

TEST RECOVERY

Wellhead

POINT OF SAMPLE

CORE LAB SAMPLE POINT ID

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL or PERFS (meters)

12600

°C

13936 @ 22 °C

0

SEPARATOR

RESERVOIR

OTHER

CONTAINER WHEN SAMPLED

CONTAINER WHEN RECEIVED

SEPARATOR

OTHER

at 10:30 hrs

Pressures, kPa (gauge)

Temperatures, °C

2003 03 11

2003 03 20

2003 03 28

AB

°C

DATE SAMPLED (Y/M/D)

DATE RECEIVED (Y/M/D)

DATE ANALYZED (Y/M/D)

ANALYST

AMT. AND TYPE CUSHION

MUD RESISTIVITY

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m ³ AIR FREE AS RECEIVED
H ₂	0.0000	0.0000	
He	0.0064	0.0064	
N ₂	0.2073	0.2073	
CO ₂	0.0001	0.0000	
H ₂ S	0.0000	0.0000	
C ₁	0.7505	0.7506	
C ₂	0.0247	0.0247	87.7
C ₃	0.0066	0.0066	24.2
IC ₄	0.0011	0.0011	4.8
C ₄	0.0010	0.0010	4.2
IC ₅	0.0003	0.0003	1.5
C ₅	0.0001	0.0001	0.5
C ₆	0.0002	0.0002	1.1
C ₇₊	0.0017	0.0017	10.3
Total	1.0000	1.0000	134.3

CALCULATED GROSS HEATING VALUE MJ/m³ @ 15°C & 101.325 kPa (abs.)		CALCULATED VAPOR PRESSURE kPa (abs.) @ 40 °C	
31.31	31.31	34.3	
MOISTURE FREE		PENTANES PLUS	
CALCULATED TOTAL SAMPLE PROPERTIES (AIR=1) @ 15°C & 101.325 kPa			
MOISTURE FREE AS SAMPLED			
0.814	kg/m³	0.865	19.3
DENSITY	RELATIVE DENSITY	RELATIVE MOLECULAR MASS	
CALCULATED PSEUDOCRITICAL PROPERTIES			
AS SAMPLED		ACID GAS FREE	
4321.3	kPa (abs)	181.3	K
4321.0	kPa (abs)	181.3	K
p _{Pc}	p _{Tc}	p _{Pc}	p _{Tc}
C ₇₊ PROPERTIES @ 15°C & 101.325 kPa		GAS COMPRESSIBILITY	
738.7	kg/m³	105.4	
DENSITY	MOLECULAR WEIGHT	SUPER COMPRESSIBILITY	
		@ 15°C, 101.325 kPa	
		@ 15°C, 101.325 kPa	

REMARKS:

H2S was not detected in the field by Gastec.

NOTE: THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO
AGA REPORT #6 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING
GPA 3143 - 90 PHYSICAL CONSTANTS.



OIL ANALYSIS

470 - 2

CONTAINER IDENTITY

METER ID

1934

WELL LICENSE NUMBER

62136-2003-4383

LABORATORY FILE NUMBER

Apache Canada Ltd.

OPERATOR

2

PAGE

c-49-66-40-125-45

LOCATION (UWI)

Apache Coleville c-49-66-40-125-45

WELL NAME

KB ELEV (m)

GR ELEV (m)

Coleville

FIELD OR AREA

Lower Mount Clark

POOL OR ZONE

Northland-Norward

SAMPLER

TEST TYPE AND NO.

TEST RECOVERY

Tank

POINT OF SAMPLE

CORE LAB SAMPLE POINT ID

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL or PERFS (meters)

SEPARATOR

RESERVOIR

OTHER

CONTAINER
WHEN SAMPLEDCONTAINER
WHEN RECEIVED

SEPARATOR

OTHER

at 10:30 hrs

Pressures, kPa (gauge)

Temperatures, °C

2003 03 11

DATE SAMPLED (Y/M/D)

2003 03 20

DATE RECEIVED (Y/M/D)

2003 03 29

DATE ANALYZED (Y/M/D)

MA

ANALYST

AMT. AND TYPE CUSHION

KUD RESISTIVITY

SAMPLE PROPERTIES

Amber

COLOR OF CLEAN OIL

0.000

WATER

0.008

BS

0.008

TOTAL BS & W

ABSOLUTE DENSITY
kg/m³ @ 15°C

API GRAVITY @ 15.6°C

AS RECEIVED

AFTER CLEANING

AS RECEIVED

AFTER CLEANING

SULPHUR

SALT

POUR POINT °C

N.D.

grams/kg

kg/m³

-60

A.S.T.M.

REID VAPOUR PRESSURE

kPa

CARBON RESIDUE

CONRADSON

RAMSBOTTOM

VISCOSITY

TEMP °C	DYNAMIC mPa·s	KINEMATIC mm ² /s
20	0.632	0.832
30	0.560	0.744
40	0.493	0.663

FRACTION DISTILLED	TEMP °C
0.05	106
0.10	109
0.15	110
0.20	111
0.25	112
0.30	113
0.35	114
0.40	116
0.45	118
0.50	119
0.55	120
0.60	121
0.65	123
0.70	125
0.75	128
0.80	132
0.85	138
0.90	152
0.95	216
0.98	266
FBP	
CRACKED	266

ASTM D-86

METHOD

84.9 kPa

BAROM PRESS

28.0 °C

ROOM TEMP

97 °C

INITIAL BOIL, PT

DISTILLATION SUMMARY

0.94

204 °C NAPHTHA

0.02

274 °C KEROSENE

0.00

343 °C LIGHT GAS/OIL

0.96

RECOVERED

0.03

RESIDUE

0.01

DISTILLATION LOSS

MARKS: Total Sulphur (Not Detected) = < 0.50 g/kg.
 Pour Point Detection Limit = -60°C.
 Free water (volume %) = 6%

File: 62136-2003-4383

Page No: 3



Company Name: Apache Canada Ltd.

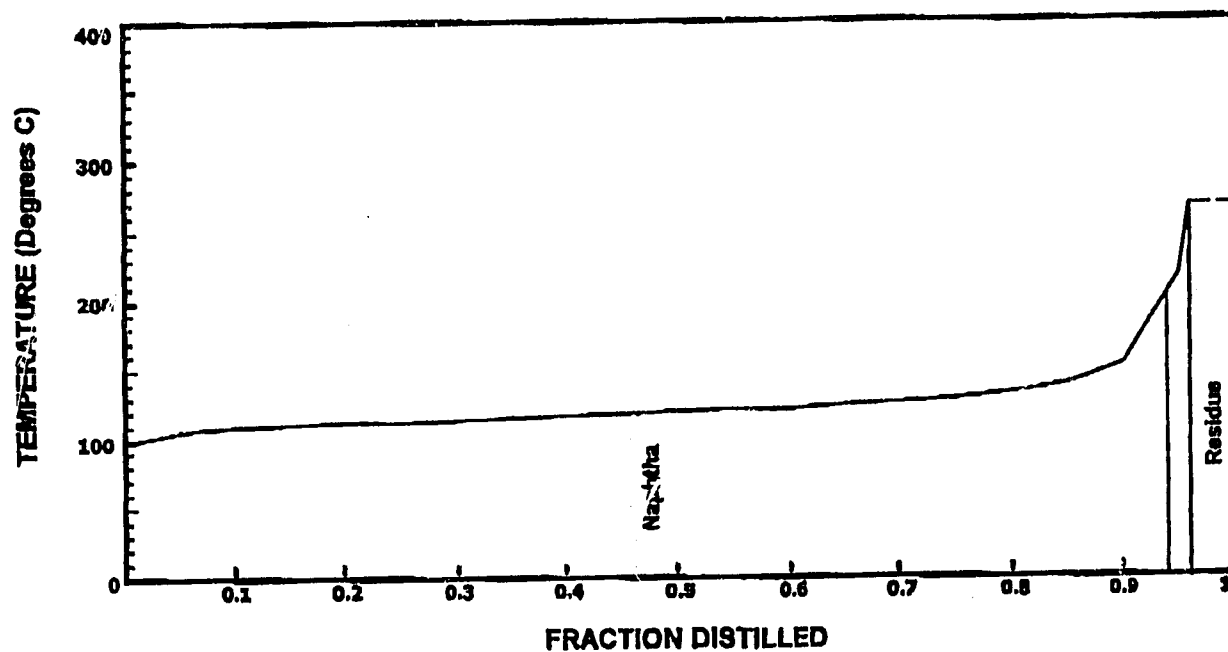
Well Name: Apache Coleville c-49-66-40-125-45

Location: c-49-66-40-125-45

Sampled From: Tank

Sampling Date: 2003 03 11

ASTM DISTILLATION SUMMARY





EXTENDED GAS ANALYSIS

Z0000175 - 3

CONTAINER IDENTITY

METER ID

1934

WELL LICENSE NUMBER

52136-2003-4383

LABORATORY FILE NUMBER

Apache Canada Ltd.

OPERATOR

4

PAGE

c-49-66-40-125-45

LOCATION (UWI)

Apache Coleville c-49-66-40-125-45

WELL NAME

KB ELEV (m)

GR ELEV (m)

Coleville

FIELD OR AREA

Upper Mount Clark

POOL OR ZONE

Northland-Norward

SAMPLER

TEST TYPE AND NO.

TEST RECOVERY

Separator

POINT OF SAMPLE

CORE LAB SAMPLE POINT ID

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL or PERFS (meters)

260

SEPARATOR

RESERVOIR

OTHER

276

CONTAINER

WHEN SAMPLED

22

CONTAINER

WHEN RECEIVED

26

SEPARATOR

OTHER

at 08:20 hrs

Pressures, kPa (gauge)

Temperatures, °C

2003 03 14

DATE SAMPLED (Y/M/D)

2003 03 20

DATE RECEIVED (Y/M/D)

2003 03 27

DATE ANALYZED (Y/M/D)

CL

ANALYST

AMT. AND TYPE CUSHION

MUD RESISTIVITY

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m ³ AIR FREE AS RECEIVED
H ₂	0.0005	0.0005	
He	0.0054	0.0054	
N ₂	0.2687	0.2689	
CO ₂	0.0008	0.0000	
H ₂ S	0.0000	0.0000	
C ₁	0.6783	0.6788	
C ₂	0.0253	0.0254	89.8
C ₃	0.0087	0.0087	31.9
IC ₄	0.0018	0.0018	7.9
C ₄	0.0019	0.0019	8.0
IC ₅	0.0007	0.0007	3.4
C ₅	0.0004	0.0004	1.9
C ₆	0.0010	0.0010	6.3
C ₇₊	0.0065	0.0065	38.4
Total	1.0000	1.0000	188.6

CALCULATED GROSS HEATING VALUE MJ/m ³ @ 15°C & 101.325 kPa (abs.)		CALCULATED VAPOR PRESSURE kPa (abs.) @ 40 °C	
30.25		30.27	
MOISTURE FREE		MOISTURE & ACID GAS FREE	
		PENTANES PLUS	
CALCULATED TOTAL SAMPLE PROPERTIES (AIR=1) @ 15°C & 101.325 kPa			
MOISTURE FREE AS SAMPLED			
0.874 kg/m ³		0.713	
DENSITY		RELATIVE DENSITY	
		RELATIVE MOLECULAR MASS	
CALCULATED PSEUDOCRITICAL PROPERTIES			
AS SAMPLED		ACID GAS FREE	
4241.1 kPa (abs.)		4238.7 kPa (abs.)	
pPc		pPc	
180.6 K		180.6 K	
pTc		pTc	
C ₇₊ PROPERTIES @ 15°C & 101.325 kPa		GAS COMPRESSIBILITY	
745.2 kg/m ³		102.5	
DENSITY		MOLECULAR WEIGHT	
		@ 15°C, 101.325 kPa	
		@ 15°C, 101.325 kPa	
		SUPER COMPRESSIBILITY	

REMARKS:

H2S was not detected in the field by Gastec.

NOTE: THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO
AGA REPORT #8 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING
GPA 2146 - 00 PHYSICAL CONSTANTS.



OIL ANALYSIS

472 - 4

CONTAINER IDENTITY

METER ID

1934

WELL LICENSE NUMBER

52138-2003-4383

LABORATORY FILE NUMBER

Apache Canada Ltd.

OPERATOR

5

PAGE

c-48-66-40-125-45

LOCATION (UWI)

Apache Coleville c-48-66-40-125-45

WELL NAME

KB ELEV (m)

GR ELEV (m)

Coleville

FIELD OR AREA

Upper Mount Clark

POOL OR ZONE

Northland-Norward

SAMPLER

TEST TYPE AND NO.

TEST RECOVERY

Separator

POINT OF SAMPLE

CORE LAB SAMPLE POINT ID

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL or PERFS (meters)

SEPARATOR

RESERVOIR

OTHER

CONTAINER
WHEN SAMPLEDCONTAINER
WHEN RECEIVED

SEPARATOR

OTHER

at 06:20 hrs

Pressures, kPa (gauge)

Temperatures, °C

2003 03 14

DATE SAMPLED (Y/M/D)

2003 03 20

DATE RECEIVED (Y/M/D)

2003 03 31

DATE ANALYZED (Y/M/D)

MA

ANALYST

AMT. AND TYPE CUSHION

MUD RESISTIVITY

SAMPLE PROPERTIES

Amber

COLOR OF CLEAN OIL

0.000

WATER

0.002

BS

0.002

TOTAL BS & W

ABSOLUTE DENSITY

kg/m³ @15°C

API GRAVITY @15.6°C

767.2

AS RECEIVED

AFTER CLEANING

52.9

AS RECEIVED

AFTER CLEANING

SULPHUR

SALT

POUR POINT °C

N.D.

grams/kg

kg/m³

-60

A.S.T.M.

REID VAPOUR PRESSURE

CARBON RESIDUE

kPa

CONRADSON

RAMSBOTTOM

VISCOSITY

TEMP °C	DYNAMIC mPa·s	KINEMATIC mm ² /s
20	1.357	1.770
30	1.085	1.437
40	0.870	1.164

FRACTION DISTILLED	TEMP °C
0.05	109
0.10	110
0.15	111
0.20	112
0.25	113
0.30	114
0.35	116
0.40	116
0.45	117
0.50	118
0.55	119
0.60	122
0.65	124
0.70	127
0.75	131
0.80	138
0.85	152
0.90	180
0.91	185
FBP	
CRACKED	185

ASTM D-86

METHOD

94.5

kPa BAROM PRESS

24 °C

ROOM TEMP

105 °C

INITIAL BOIL PT

DISTILLATION SUMMARY

0.91

254 °C NAPHTHA

0.00

274 °C KEROSENE

0.00

343 °C LIGHT GAS/OIL

0.91

RECOVERED

0.08

RESIDUE

0.01

DISTILLATION LOSS

REMARKS: Total Sulphur (Not Detected) = < 0.50 g/kg.
Pour Point Detection Limit = -60°C.

File: 52130-2003-4383

Page No: 6



Company Name: Apache Canada Ltd.

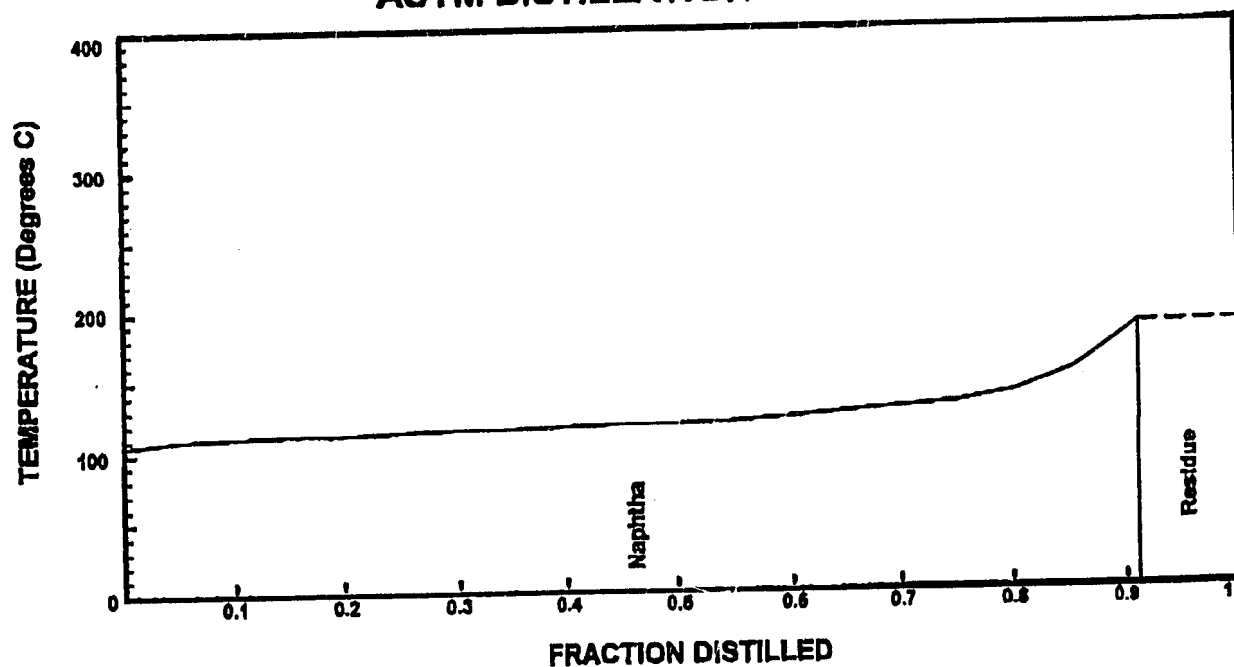
Well Name: Apache Coleville c-49-68-40-125-45

Location: c-49-68-40-125-45

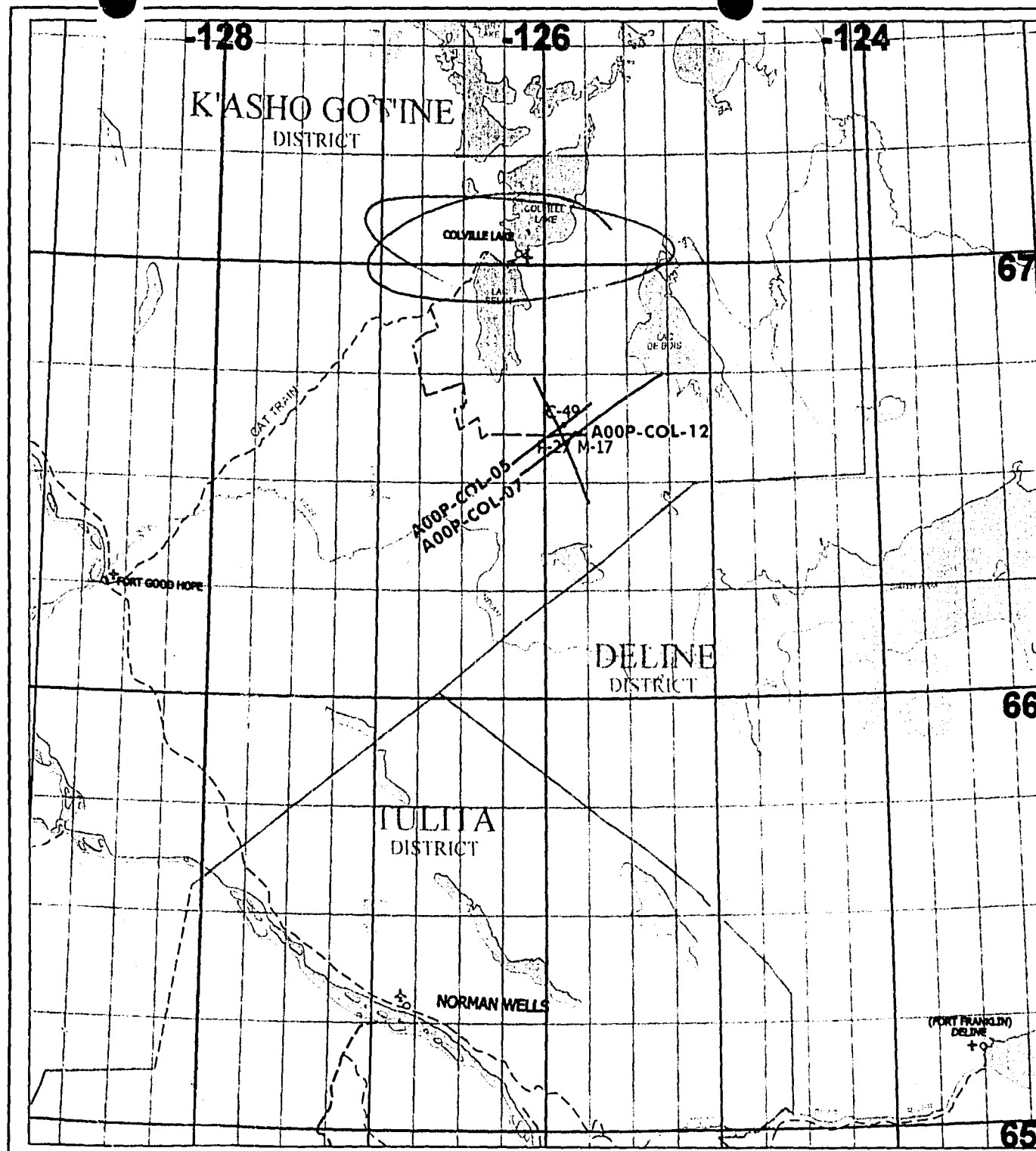
Sampled From: Separator

Sampling Date: 2003 03 14

ASTM DISTILLATION SUMMARY



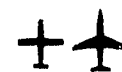
LOCATION MAP



Paramount
resources Ltd.

WELLSITES & PROGRAM LOCATION MAP

AOP-COL - COLVILLE, NWT



AIRSTRIP / AIRPORT



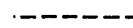
ALL WEATHER ROAD (PRIMARY)



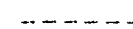
ALL WEATHER ROAD (SECONDARY)



WINTER ROAD



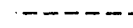
CANOL HERITAGE TRAIL



ACCESS TRAIL FROM FORT GOOD HOPE (CAT TRAIN)



CURRENT SEISMIC



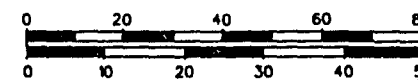
NEW ACCESS



PROPOSED EXPLORATORY WELLS

SCALE 1:1 500 000

KILOMETRES



MILES

UNIVERSAL TRANSVERSE MERCATOR PROJECTION



excalibur
resources

PROPOSED SURVEY PLAN

OVERSIZED

DOCUMENT

FILMED

ON

35mm

ANALYTICAL REPORT

04/16/2003 12:49

17804899054

STAD ENT 2K LTD

PAGE 82

193A


**NORWEST
LABS**

 Accredited & Environmental Group
 Calgary Edmonton Winnipeg Laboratories Survey

Analytical Report

 Norwest Labs
 9838-67 Avenue
 Edmonton, AB, T6E 0P3
 Phone: (780) 438-5522
 Fax: (780) 438-0388

 Bill to: STAD Enterprises 2000 Ltd.
 Report to: STAD Enterprises 2000 Ltd.

 535, 9766 - 170 Street N W
 Edmonton, AB, Canada
 T5T 5L4

Attn: Dallas Bell

Sampled By:

Company:

 Project
 ID:
 Name: Paramount C-49
 Location:
 LSD:
 P.O.:
 Acct. Code:

 NWL Lot ID: 227669
 Control Number:
 Date Received: Apr 12, 2003
 Date Reported: Apr 14, 2003
 Report Number: 387300

Page: 1 of 7

		NWL Number	227889-1	227669-2	227669-3		
		Sample Date					
		Sample Description	#1	#2	#3		
Analyte		Units	Results	Results	Results	Detection Limit	
Salinity	Salinity		5.6	6.5	5.3		
pH	Salinity	dS/m at 25 °C	0.32	0.64	0.23	0.01	
Electrical Conductivity	Salinity						
Solids	Total Dissolved	mg/L	224	451	160	1	
Calcium	Salinity	mg/L	40.9	100	27.2	0.2	
Magnesium	Salinity	mg/L	19.6	41.2	16.6	0.05	
Sodium	Salinity	mg/L	3.8	7.7	4.5	0.4	
Potassium	Salinity	mg/L	10.5	6.0	3.3	0.4	
Chloride	Salinity	mg/L	10.9	14.3	9.5	0.1	
Sulphate-S	Salinity	mg/L	5.5	14.6	7.1	0.2	
SAR	Salinity		0.1	0.2	0.2		
Specific Gravity	Saturated Paste		1.033	Saturated	1.329		
Specific Gravity	As Received		<1.000	1.305	1.452		

		NWL Number	227889-4	227889-5	227669-6		
		Sample Date					
		Sample Description	#4	#5	#6		
Analyte		Units	Results	Results	Results	Detection Limit	
Salinity	Salinity		4.2	6.5	7.1		
pH	Salinity	dS/m at 25 °C	0.14	0.48	0.46	0.01	
Electrical Conductivity	Salinity						
Solids	Total Dissolved	mg/L	99	335	325	1	
Calcium	Salinity	mg/L	11.7	53.9	58.9	0.2	
Magnesium	Salinity	mg/L	4.67	38.3	28.6	0.05	
Sodium	Salinity	mg/L	4.4	4.8	6.2	0.4	
Potassium	Salinity	mg/L	9.6	7.1	12.9	0.4	
Chloride	Salinity	mg/L	13.2	17.2	15.6	0.1	
Sulphate-S	Salinity	mg/L	6.2	8.5	11.7	0.3	
SAR	Salinity		0.3	0.1	0.2		
Specific Gravity	Saturated Paste		1.012	1.070	Saturated		
Specific Gravity	As Received		<1.000	1.093	1.084		



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STAD ENT 2K LTD

PAGE 03



Agri-Food & Environmental Group
Calgary, Edmonton, Winnipeg, Lethbridge, Surrey

Analytical Report

Norwest Labs
9988-67 Avenue
Edmonton, AB. T6E 0P6
Phone: (780) 438-5522
Fax: (780) 438-0398

Bill to: STAD Enterprises 2000 Ltd.
Report to: STAD Enterprises 2000 Ltd.

535, 9768 - 170 Street N W
Edmonton, AB, Canada
T5T 5L4

Attn: Dallas Bell

Sampled By:

Company:

Project
ID:
Name: Paramount C-49
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 227669
Control Number:
Date Received: Apr 12, 2003
Date Reported: Apr 14, 2003
Report Number: 387300

Page: 2 of 7

		NWL Number	227669-7	227669-8	227669-9	
		Sample Date				
		Sample Description	#7	#8	#9	
Analyte	Units	Results	Results	Results	Detection Limit	
Salinity	Salinity	6.0	5.6	6.8		
pH	Salinity	0.21	0.13	0.24	0.01	
Electrical Conductivity	dS/m at 25 °C	146	93	167	1	
Solids	Total Dissolved	mg/L	27.5	18.4	30.4	0.2
Calcium	Salinity	mg/L	12.3	7.23	16.6	0.05
Magnesium	Salinity	mg/L	7.4	3.8	4.7	0.4
Sodium	Salinity	mg/L	4.3	1.3	4.7	0.4
Potassium	Salinity	mg/L	11.2	8.8	13.2	0.1
Chloride	Salinity	mg/L	5.3	4.6	5.0	0.3
Sulphate-S	Salinity		0.3	0.2	0.2	
SAR	Salinity		1.039	1.118	1.028	
Specific Gravity	Saturated Paste		<1.000	<1.000	<1.000	
Specific Gravity	As Received					

		NWL Number	227669-10	227669-11	227669-12	
		Sample Date				
		Sample Description	#10	#11	#12	
Analyte	Units	Results	Results	Results	Detection Limit	
Salinity	Salinity	6.7	7.1	6.8		
pH	Salinity	0.21	0.51	0.18	0.01	
Electrical Conductivity	dS/m at 25 °C	148	357	127	1	
Solids	Total Dissolved	mg/L	25.1	70.7	24.0	0.2
Calcium	Salinity	mg/L	12.1	31.8	11.2	0.05
Magnesium	Salinity	mg/L	5.0	4.9	3.9	0.4
Sodium	Salinity	mg/L	1.6	7.7	3.6	0.4
Potassium	Salinity	mg/L	20.6	15.3	17.2	0.1
Chloride	Salinity	mg/L	8.2	13.4	7.1	0.3
Sulphate-S	Salinity		0.2	0.1	0.2	
SAR	Salinity		1.134	1.104	1.024	
Specific Gravity	Saturated Paste		1.335	1.198	1.039	
Specific Gravity	As Received					



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STAD ENT 2K LTD

PAGE 84


**NORWEST
LABS**

 Agr. Food & Environmental Group
 Calgary Edmonton Winnipeg Lethbridge Surrey

Analytical Report

 Norwest Labs
 9938-67 Avenue
 Edmonton, AB. T6E 0P5
 Phone: (780) 438-5522
 Fax: (780) 438-0398

 Bill to: STAD Enterprises 2000 Ltd.
 Report to: STAD Enterprises 2000 Ltd.

 535, 9768 - 170 Street N W
 Edmonton, AB, Canada
 T5T 5L4

Attn: Dallas Bell

Sampled By:

Company:

 Project
 ID:
 Name: Paramount C-49
 Location:
 LBD:
 P.O.:
 Acct. Code:

 NWL Lot ID: 227669
 Control Number:
 Date Received: Apr 12, 2003
 Date Reported: Apr 14, 2003
 Report Number: 387300

Page. 3 of 7

		NWL Number	227669-13	227669-14	227669-15		
		Sample Date					
		Sample Description	#13	#14	#15		
Analyte	Units	Results	Results	Results	Detection Limit		
Salinity	Salinity	8.6	6.7	6.6			
pH	Salinity	3.72	0.21	0.45	0.01		
Electrical Conductivity	dS/m at 25 °C						
Solids	Total Dissolved	mg/L 2600	145	315	1		
Calcium	Salinity	mg/L 709	26.0	54.2	0.2		
Magnesium	Salinity	mg/L 126	13.0	23.9	0.05		
Sodium	Salinity	mg/L 138	4.1	5.2	0.4		
Potassium	Salinity	mg/L 24.4	0.8	4.1	0.4		
Chloride	Salinity	mg/L 327	10.4	20.1	0.1		
Sulphate-S	Salinity	mg/L 688	12.3	32.4	0.3		
SAR	Salinity	1.2	0.2	0.1			
Specific Gravity	Saturated Paste	1.804	1.131	1.090			
Specific Gravity	As Received	2.122	1.108	1.110			
		NWL Number	227669-16	227669-17	227669-18		
		Sample Date					
		Sample Description	#16	#17	#18		
Analyte	Units	Results	Results	Results	Detection Limit		
Salinity	Salinity	6.5	5.2	6.3			
pH	Salinity	0.92	0.16	0.20	0.01		
Electrical Conductivity	dS/m at 25 °C						
Solids	Total Dissolved	mg/L 641	112	144	1		
Calcium	Salinity	mg/L 73.7	25.8	27.0	0.2		
Magnesium	Salinity	mg/L 35.2	8.80	10.9	0.05		
Sodium	Salinity	mg/L 56.3	4.2	7.7	0.4		
Potassium	Salinity	mg/L 5.3	4.2	1.3	0.4		
Chloride	Salinity	mg/L 185	14.4	24.6	0.1		
Sulphate-S	Salinity	mg/L 30.9	8.3	8.8	0.2		
SAR	Salinity	1.4	0.2	0.3			
Specific Gravity	Saturated Paste	Saturated	1.020	1.044			
Specific Gravity	As Received	1.036	<1.000	1.032			



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Agri-Food & Environmental Group
Calgary Edmonton Winnipeg Lethbridge Surrey

Analytical Report

Norwest Labs
8938-87 Avenue
Edmonton, AB. T6E 0P5
Phone: (780) 438-5522
Fax: (780) 438-0398

Bill to: STAD Enterprises 2000 Ltd.
Report to: STAD Enterprises 2000 Ltd.

535, 9768 - 170 Street N W
Edmonton, AB, Canada
T5T 5L4

Attn: Dallas Bell

Sampled By:

Company:

Project
ID:
Name: Paramount C-49
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 227669
Control Number:
Date Received: Apr 12, 2003
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Report Number: 387300

Page: 4 of 7

		NWL Number	227669-19	227669-20	227669-21	
		Sample Date				
		Sample Description	#19	#20	#21	
Analyte	Units	Results	Results	Results	Detection Limit	
Salinity	Salinity	6.3	6.9	7.1		
pH	Salinity	21.0	1.07	1.97	0.01	
Electrical Conductivity	dS/m at 25 °C					
Solids	Total Dissolved	mg/L	14700	752	1380	1
Calcium	Salinity	mg/L	928	110	155	0.2
Magnesium	Salinity	mg/L	346	51.3	87.2	0.05
Sodium	Salinity	mg/L	3500	57.8	119	0.4
Potassium	Salinity	mg/L	77	1.3	9.5	0.4
Chloride	Salinity	mg/L	8070	140	512	0.2
Sulphate-S	Salinity	mg/L	51	31.8	29.8	0.3
SAR	Salinity	24.9	1.1	1.9		
Specific Gravity	Saturated Paste	1.093	1.510	Saturated		
Specific Gravity	As Received	1.092	1.340	1.049		

		NWL Number	227669-22	227669-23	227669-24	
		Sample Date				
		Sample Description	#22	#23	#24	
Analyte	Units	Results	Results	Results	Detection Limit	
Salinity	Salinity	6.8	6.1	6.6		
pH	Salinity	0.36	10.3	0.38	0.01	
Electrical Conductivity	dS/m at 25 °C					
Solids	Total Dissolved	mg/L	391	7180	265	1
Calcium	Salinity	mg/L	51.0	331	39.4	0.2
Magnesium	Salinity	mg/L	22.5	128	17.4	0.05
Sodium	Salinity	mg/L	35.1	1740	10.9	0.4
Potassium	Salinity	mg/L	5.9	23	2.9	0.4
Chloride	Salinity	mg/L	101	3600	36.2	0.1
Sulphate-S	Salinity	mg/L	22.0	71.9	22.5	0.3
SAR	Salinity	1.0	20.5	0.4		
Specific Gravity	Saturated Paste	1.036	1.036	Saturated		
Specific Gravity	As Received	<1.000	1.051	1.047		



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04/16/2003 12:49 17904899054

STAD ENT 2K LTD

PAGE 86


**NORWEST
LABS**

 Agri-Food & Environmental Group
 Calgary Edmonton Winnipeg Lethbridge Surrey

Analytical Report

 Norwest Labs
 9038-87 Avenue
 Edmonton, AB, T6E 0P5
 Phone: (780) 438-5522
 Fax: (780) 438-0386

 Bill to: STAD Enterprises 2000 Ltd.
 Report to: STAD Enterprises 2000 Ltd.

 535, 9768 - 170 Street N W
 Edmonton, AB, Canada
 T5T 5L4

Attn: Dallas Bell

Sampled By:

Company:

 Project
 ID:
 Name: Paramount C-49
 Location:
 LSD:
 P.O.:
 Acct. Code:

 NWL Lot ID: 227669
 Control Number:
 Date Received: Apr 12, 2003
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 Report Number: 387300

Page: 5 of 7

		NWL Number	227669-25	227669-28	227669-27	
		Sample Date				
		Sample Description	#25	Paramount Surface A	Paramount Surface B	
Analyte		Units	Results	Results	Results	Detection Limit
Salinity	Salinity		6.6	9.3	9.0	
pH	Salinity					
Electrical Conductivity	Salinity	dS/m at 25 °C	0.41	5.13	10.1	0.01
Solids	Total Dissolved	mg/L	289	3590	7580	1
Calcium	Salinity	mg/L	42.4	164	587	0.2
Magnesium	Salinity	mg/L	18.2	6.36	44.6	0.05
Sodium	Salinity	mg/L	13.4	932	1870	0.4
Potassium	Salinity	mg/L	3.4	28	37	0.4
Chloride	Salinity	mg/L	38.4	1340	2420	0.1
Sulphate-S	Salinity	mg/L	29.9	99.6	655	0.3
SAR	Salinity		0.4	19.4	20.0	
Cation/ EC	Salinity		-	10	11	
Specific Gravity	Saturated Paste		Saturated	-	-	
Specific Gravity	As Received		1.045	-	-	

		NWL Number	227669-28	227669-29	227669-30	
		Sample Date				
		Sample Description	Paramount Surface C	Paramount Surface D	Paramount Surface E	
Analyte		Units	Results	Results	Results	Detection Limit
Salinity	Salinity		11.5	9.3	7.8	
pH	Salinity					
Electrical Conductivity	Salinity	dS/m at 25 °C	22.0	3.23	3.75	0.01
Solids	Total Dissolved	mg/L	15400	2260	2630	1
Calcium	Salinity	mg/L	763	87.3	76.3	0.2
Magnesium	Salinity	mg/L	1.2	2.58	11.0	0.05
Sodium	Salinity	mg/L	4640	538	587	0.4
Potassium	Salinity	mg/L	72	51.7	83.0	0.4
Chloride	Salinity	mg/L	7760	781	917	0.1
Sulphate-S	Salinity	mg/L	517	59.5	62.0	0.3
SAR	Salinity		46.1	15.3	16.6	
Cation/ EC	Salinity		11	9	9	



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Agri-Food & Environmental Group
Calgary Edmonton Winnipeg Lethbridge Surrey

Analytical Report

Norwest Labs
9938-67 Avenue
Edmonton, AB. T6E 0P5
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: STAD Enterprises 2000 Ltd.
Report to: STAD Enterprises 2000 Ltd.

535, 9768 - 170 Street N W
Edmonton, AB, Canada
T5T 5L4

Attn: Dallas Bell

Sampled By:
Company:

Project
ID:
Name: Paramount C-49
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 227669
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Page: 6 of 7

		NWL Number	227669-31	227669-32	227669-33	
		Sample Date				
		Sample Description	Paramount Surface F (Zyllite)	Paramount Surface G	Paramount Surface H	
Analyte	Units	Results	Results	Results	Detection Limit	
Salinity						
pH	Salinity	9.1	8.3	9.5		
Electrical Conductivity	Salinity	dS/m at 25 °C	2.34	5.03	5.49	0.01
Solids	Total Dissolved	mg/L	1640	3520	3840	1
Calcium	Salinity	mg/L	68.3	82.6	142	0.2
Magnesium	Salinity	mg/L	4.42	7.09	1.9	0.05
Sodium	Salinity	mg/L	377	879	1060	0.4
Potassium	Salinity	mg/L	36.4	78.9	24	0.4
Chloride	Salinity	mg/L	561	1320	1550	0.1
Sulphate-S	Salinity	mg/L	46.4	78.6	106	0.2
SAR	Salinity		11.9	24.9	24.1	
Cation/EC	Salinity		9	9	10	

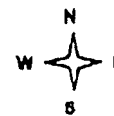
		NWL Number	227669-34			
		Sample Date				
		Sample Description	Control SW Corner - Off Lease			
Analyte	Units	Results	Results	Results	Detection Limit	
Salinity						
pH	Salinity	6.1				
Electrical Conductivity	Salinity	dS/m at 25 °C	0.11			0.01
Solids	Total Dissolved	mg/L	80			1
Calcium	Salinity	mg/L	12.8			0.2
Magnesium	Salinity	mg/L	6.93			0.05
Sodium	Salinity	mg/L	4.8			0.4
Potassium	Salinity	mg/L	4.1			0.4
Chloride	Salinity	mg/L	12.9			0.1
Sulphate-S	Salinity	mg/L	6.7			0.3
SAR	Salinity		0.3			
Specific Gravity	Saturated Paste		1.034			
Specific Gravity	As Received		<1.000			

Approved by: Anthony Neumann, MSc
Laboratory Operations Manager



Accredited by the Standards Council of Canada (SCC) and by the Canadian Association for Environmental Analytical Laboratories (CAEAL) for specific tests registered with the Council and the Association

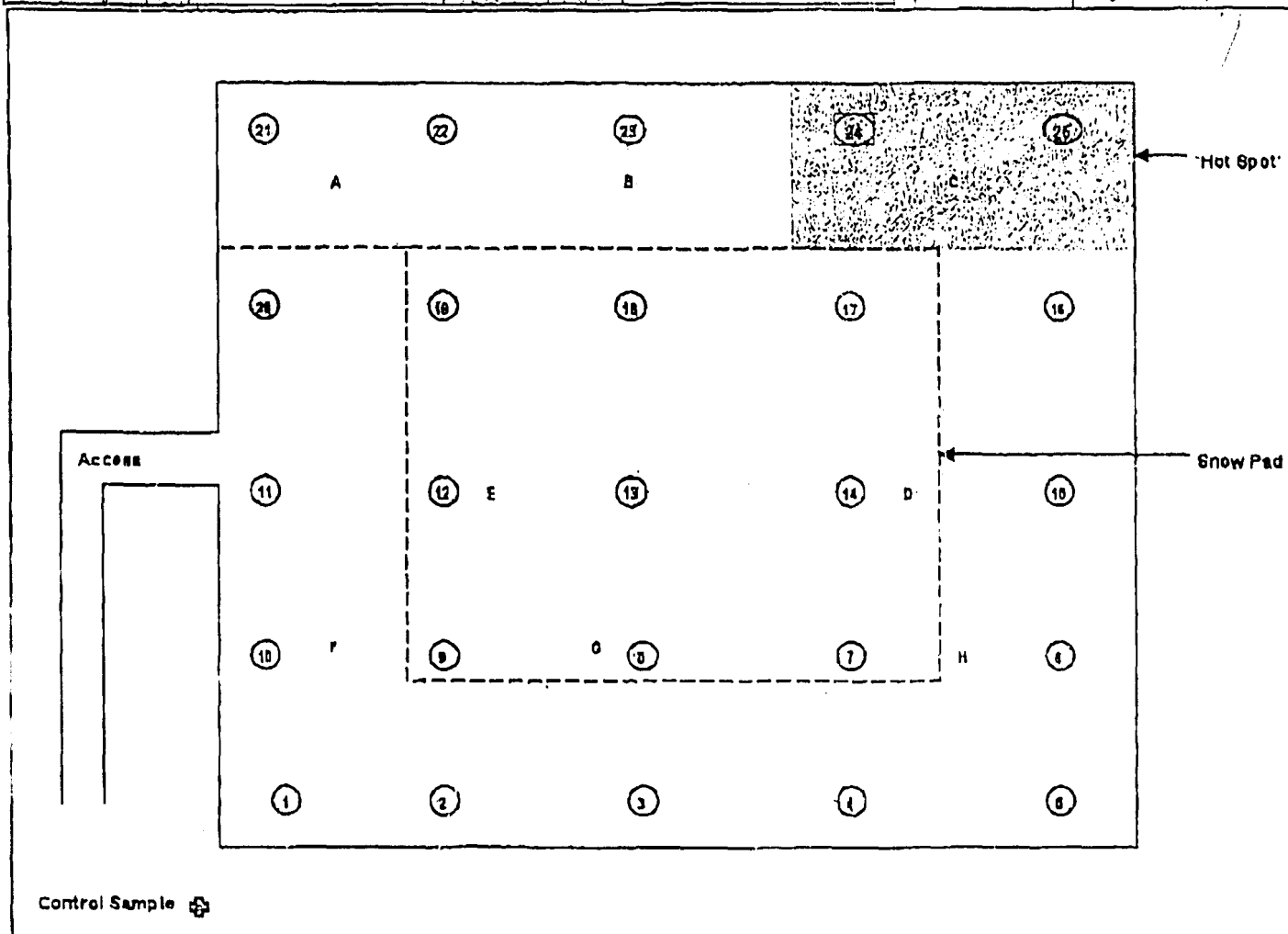
Lease Specifications Diagram



NOTE: Not to Scale

Report #	6467	Date of Sampling	April 10, 2003
Licensee	Paramount Resources Ltd.		
Surface Location	UC-49-66-40-125W45		
Remote Location			
Well Authorization / License #		MSL #	

LEGEND	
X X X	Proposed Pump Off Location
⊗	Well Centre
←	Drainage
⊕	Sample Points (A number or letter may be used)



Comments	1 - 25 - 80ll. 6" In Depth
	A - H - Top 3" of Snow Pac

S.T.A.D.

SUB-SURFACE PRESSURE REPORT



4100, 150 - 6th Ave S.W., Calgary, Alberta, T2P 3Y7

Subsurface Pressure Reports

Apache Canada Ltd.
300-C-49-66-40-125-45-0
03/03/08 - 03/03/09

Challenger - Silverline ZI Pressure Recorder

1	(403)	262-6306	Calgary Head Office
1	(403)	303-2317	Reporting Dept.
1	(403)	342-2112	Red Deer
1	(780)	539-3257	Grande Prairie
1	(403)	362-2433	Brooks
1	(780)	849-4448	Slave Lake
1	(250)	785-9486	Fort St. John



#100, 150 69 Ave SW, Calgary, Alberta, T2P 3Y1

Subsurface Pressure Measurements

Company: Apache Canada Ltd.
Address: 1000, 700 - 9 Ave S.W. Calgary, AB T2P 3V4
Well Name: ACL NOGHA C- 49
Location: 300-C-49-66-40-125-45-0
Field/Pool: NOGHA / Mount Clark

Type of Test: Buildup
Well Status:
Producing Interval (mKB TVD):
Mid Point Perfs (mKB TVD): GL: 354.10 KB: 359.40
Elevations (m):
Pool datum (mSS):
Datum Depth (mKB):
Producing Through Tubing (mm): N/A Casing: 177.8

Probe Serial #: N45[Bottom]
Probe Range: 93 - 20775 kPaa
Last Calibration Date: 02/10/01

Tubing Pressure	Initial	Final	kPaa
Casing Pressure	Initial 643	Final	1623 kPaa
Run Depth (mKB TVD):		1375.00	
Time On Bottom:		03/03/08 17:12:00	
Time Off Bottom:		03/03/09 07:42:00	
Maximum Temperature:		20.9 °C	
Date of Test:		03/03/08	

Comments:

Report to: Bruce , Niel , Ross , Walter.
Note: " Tight Hole Status " Please E - mail reports to the following
bruce.beveridge@apachecorp.com
niels.guadesen@apachecorp.com
ross.pitman@apachecorp.com
walterf.stock@apachecorp.com
Casing Weight : 43.1kg/m

Apache Canada Ltd.

ACL NOGHA C- 49

(300-C-49-66-40-125-45-0)

<u>Item #</u>	<u>Date</u>	<u>Total Acc Time</u>	<u>Event Acc Time</u>	<u>Temp C</u>	<u>Pres kPaa</u>
Recorders on bottom - 03/03/08 17:12:00					
1	03/03/08 17:12:36	0.000		13.26	1843.46
6	03/03/08 17:17:36	0.083		18.73	1843.21
11	03/03/08 17:22:36	0.167		20.39	1846.24
16	03/03/08 17:27:36	0.250		20.84	1849.92
21	03/03/08 17:32:36	0.333		20.92	1853.63
26	03/03/08 17:37:36	0.417		20.89	1857.48
31	03/03/08 17:42:36	0.500		20.82	1861.18
36	03/03/08 17:47:36	0.583		20.74	1865.01
41	03/03/08 17:52:36	0.667		20.67	1868.87
46	03/03/08 17:57:36	0.750		20.59	1872.72
51	03/03/08 18:02:36	0.833		20.53	1876.90
56	03/03/08 18:07:36	0.917		20.46	1880.77
61	03/03/08 18:12:36	1.000		20.41	1884.88
66	03/03/08 18:17:36	1.083		20.35	1888.93
71	03/03/08 18:22:36	1.167		20.30	1893.25
76	03/03/08 18:27:36	1.250		20.25	1897.54
81	03/03/08 18:32:36	1.333		20.20	1901.69
86	03/03/08 18:37:36	1.417		20.16	1905.90
91	03/03/08 18:42:36	1.500		20.11	1910.23
96	03/03/08 18:47:36	1.583		20.07	1914.72
101	03/03/08 18:52:36	1.667		20.03	1919.04
106	03/03/08 18:57:36	1.750		20.00	1923.55
111	03/03/08 19:02:36	1.833		19.96	1928.10
116	03/03/08 19:07:36	1.917		19.93	1932.77
121	03/03/08 19:12:36	2.000		19.89	1937.30
126	03/03/08 19:17:36	2.083		19.86	1941.97
131	03/03/08 19:22:36	2.167		19.83	1946.81
136	03/03/08 19:27:36	2.250		19.81	1951.63
141	03/03/08 19:32:36	2.333		19.78	1956.53
146	03/03/08 19:37:36	2.417		19.75	1961.48
151	03/03/08 19:42:36	2.500		19.72	1966.32
156	03/03/08 19:47:36	2.583		19.70	1971.15
161	03/03/08 19:52:36	2.667		19.68	1976.44
166	03/03/08 19:57:36	2.750		19.65	1981.35
171	03/03/08 20:02:36	2.833		19.63	1986.56
176	03/03/08 20:07:36	2.917		19.61	1991.78
181	03/03/08 20:12:36	3.000		19.59	1997.23
186	03/03/08 20:17:36	3.083		19.57	2002.73
191	03/03/08 20:22:36	3.167		19.54	2008.30
196	03/03/08 20:27:36	3.250		19.52	2013.94
201	03/03/08 20:32:36	3.333		19.50	2019.30
206	03/03/08 20:37:36	3.417		19.48	2025.15
211	03/03/08 20:42:36	3.500		19.47	2030.55
216	03/03/08 20:47:36	3.583		19.44	2036.01
221	03/03/08 20:52:36	3.667		19.42	2041.80
226	03/03/08 20:57:36	3.750		19.41	2047.44
231	03/03/08 21:02:36	3.833		19.39	2053.25
236	03/03/08 21:07:36	3.917		19.38	2058.62
241	03/03/08 21:12:36	4.000		19.35	2064.30
246	03/03/08 21:17:36	4.083		19.34	2070.28

* denotes fast readings

Run depth (mKB TVD): 1375.00

Recorder: N45

CHALLENGER - WIRELINE

Apache Canada Ltd.

ACL NOGHA C- 49

(300-C-49-66-40-125-45-0)

<u>Item #</u>	<u>Date</u>	<u>Total Acc Time</u>	<u>Event Acc Time</u>	<u>Temp C</u>	<u>Pres kPaa</u>
251	03/03/08 21:22:36	4.167		19.32	2076.19
256	03/03/08 21:27:36	4.250		19.30	2082.12
261	03/03/08 21:32:36	4.333		19.28	2087.88
266	03/03/08 21:37:36	4.417		19.26	2093.71
271	03/03/08 21:42:36	4.500		19.25	2099.83
276	03/03/08 21:47:36	4.583		19.23	2105.72
281	03/03/08 21:52:36	4.667		19.21	2111.69
286	03/03/08 21:57:36	4.750		19.20	2117.85
291	03/03/08 22:02:36	4.833		19.19	2124.04
296	03/03/08 22:07:36	4.917		19.17	2130.12
301	03/03/08 22:12:36	5.000		19.16	2136.35
306	03/03/08 22:17:36	5.083		19.14	2142.43
311	03/03/08 22:22:36	5.167		19.13	2148.84
316	03/03/08 22:27:36	5.250		19.11	2154.74
321	03/03/08 22:32:36	5.333		19.10	2161.50
326	03/03/08 22:37:36	5.417		19.08	2167.44
331	03/03/08 22:42:36	5.500		19.07	2173.74
336	03/03/08 22:47:36	5.583		19.06	2180.35
341	03/03/08 22:52:36	5.667		19.04	2187.11
346	03/03/08 22:57:36	5.750		19.03	2193.51
351	03/03/08 23:02:36	5.833		19.02	2199.88
356	03/03/08 23:07:36	5.917		19.01	2206.81
361	03/03/08 23:12:36	6.000		19.00	2213.59
366	03/03/08 23:17:36	6.083		18.98	2220.10
371	03/03/08 23:22:36	6.167		18.98	2226.50
376	03/03/08 23:27:36	6.250		18.97	2233.10
381	03/03/08 23:32:36	6.333		18.96	2239.64
386	03/03/08 23:37:36	6.417		18.96	2246.22
391	03/03/08 23:42:36	6.500		18.94	2252.85
396	03/03/08 23:47:36	6.583		18.93	2259.59
401	03/03/08 23:52:36	6.667		18.92	2266.14
406	03/03/08 23:57:36	6.750		18.91	2272.43
411	03/03/09 00:02:36	6.833		18.90	2278.60
416	03/03/09 00:07:36	6.917		18.89	2284.93
421	03/03/09 00:12:36	7.000		18.88	2291.09
426	03/03/09 00:17:36	7.083		18.87	2297.83
431	03/03/09 00:22:36	7.167		18.86	2304.62
436	03/03/09 00:27:36	7.250		18.84	2311.11
441	03/03/09 00:32:36	7.333		18.83	2318.37
446	03/03/09 00:37:36	7.417		18.82	2324.98
451	03/03/09 00:42:36	7.500		18.81	2331.91
456	03/03/09 00:47:36	7.583		18.80	2338.81
461	03/03/09 00:52:36	7.667		18.80	2345.94
466	03/03/09 00:57:36	7.750		18.78	2352.87
471	03/03/09 01:02:36	7.833		18.77	2359.61
476	03/03/09 01:07:36	7.917		18.77	2366.94
481	03/03/09 01:12:36	8.000		18.76	2374.24
486	03/03/09 01:17:36	8.083		18.75	2381.25
491	03/03/09 01:22:36	8.167		18.75	2388.64
496	03/03/09 01:27:36	8.250		18.75	2396.06
501	03/03/09 01:32:36	8.333		18.74	2403.15
506	03/03/09 01:37:36	8.417		18.73	2410.44
511	03/03/09 01:42:36	8.500		18.72	2417.80

* denotes fast readings

Run depth (mKB TVD): 1375.00

Recorder: N45

CHALLENGER - WIRELINE

Apache Canada Ltd.

ACL NOGHA C- 49

(300-C-49-66-40-125-45-0)

<u>Item #</u>	<u>Date</u>	<u>Total Acc Time</u>	<u>Event Acc Time</u>	<u>Temp C</u>	<u>Pres kPaa</u>
516	03/03/09 01:47:36	8.583		18.71	2424.84
521	03/03/09 01:52:36	8.667		18.70	2432.18
526	03/03/09 01:57:36	8.750		18.70	2439.17
531	03/03/09 02:02:36	8.833		18.68	2446.12
536	03/03/09 02:07:36	8.917		18.68	2453.65
541	03/03/09 02:12:36	9.000		18.67	2460.98
546	03/03/09 02:17:36	9.083		18.66	2467.98
551	03/03/09 02:22:36	9.167		18.65	2475.46
556	03/03/09 02:27:36	9.250		18.64	2482.86
561	03/03/09 02:32:36	9.333		18.64	2490.26
566	03/03/09 02:37:36	9.417		18.62	2497.45
571	03/03/09 02:42:36	9.500		18.61	2504.88
576	03/03/09 02:47:36	9.583		18.61	2512.11
581	03/03/09 02:52:36	9.667		18.60	2519.45
586	03/03/09 02:57:36	9.750		18.60	2526.74
591	03/03/09 03:02:36	9.833		18.59	2534.26
596	03/03/09 03:07:36	9.917		18.58	2541.54
601	03/03/09 03:12:36	10.000		18.58	2549.39
606	03/03/09 03:17:36	10.083		18.57	2556.96
611	03/03/09 03:22:36	10.167		18.57	2564.61
616	03/03/09 03:27:36	10.250		18.56	2572.23
621	03/03/09 03:32:36	10.333		18.55	2579.73
626	03/03/09 03:37:36	10.417		18.55	2587.05
631	03/03/09 03:42:36	10.500		18.54	2594.57
636	03/03/09 03:47:36	10.583		18.53	2602.29
641	03/03/09 03:52:36	10.667		18.52	2609.45
646	03/03/09 03:57:36	10.750		18.52	2617.15
651	03/03/09 04:02:36	10.833		18.51	2624.50
656	03/03/09 04:07:36	10.917		18.50	2631.88
661	03/03/09 04:12:36	11.000		18.50	2639.40
666	03/03/09 04:17:36	11.083		18.49	2646.61
671	03/03/09 04:22:36	11.167		18.48	2654.09
676	03/03/09 04:27:36	11.250		18.48	2661.64
681	03/03/09 04:32:36	11.333		18.48	2669.28
686	03/03/09 04:37:36	11.417		18.47	2676.82
691	03/03/09 04:42:36	11.500		18.46	2684.41
696	03/03/09 04:47:36	11.583		18.46	2692.06
701	03/03/09 04:52:36	11.667		18.45	2699.63
706	03/03/09 04:57:36	11.750		18.44	2707.35
711	03/03/09 05:02:36	11.833		18.43	2714.73
716	03/03/09 05:07:36	11.917		18.43	2722.19
721	03/03/09 05:12:36	12.000		18.42	2730.23
726	03/03/09 05:17:36	12.083		18.42	2737.62
731	03/03/09 05:22:36	12.167		18.42	2745.28
736	03/03/09 05:27:36	12.250		18.41	2753.16
741	03/03/09 05:32:36	12.333		18.41	2761.04
746	03/03/09 05:37:36	12.417		18.40	2768.69
751	03/03/09 05:42:36	12.500		18.39	2776.31
756	03/03/09 05:47:36	12.583		18.38	2783.97
761	03/03/09 05:52:36	12.667		18.38	2791.62
766	03/03/09 05:57:36	12.750		18.38	2799.43
771	03/03/09 06:02:36	12.833		18.37	2807.14
776	03/03/09 06:07:36	12.917		18.37	2814.91

* denotes fast readings

Run depth (mKB TVD): 1375.00

Recorder: N45

CHALLENGER - WIRELINE

Apache Canada Ltd.

ACL NOGHA C- 49

(300-C-49-66-40-125-45-0)

<u>Item #</u>	<u>Date</u>	<u>Total Acc Time</u>	<u>Event Acc Time</u>	<u>Temp C</u>	<u>Pres kPaa</u>
781	03/03/09 06:12:36	13.000		18.36	2822.50
786	03/03/09 06:17:36	13.083		18.35	2830.22
791	03/03/09 06:22:36	13.167		18.35	2838.04
796	03/03/09 06:27:36	13.250		18.35	2845.75
801	03/03/09 06:32:36	13.333		18.34	2853.58
806	03/03/09 06:37:36	13.417		18.33	2861.29
811	03/03/09 06:42:36	13.500		18.33	2869.10
816	03/03/09 06:47:36	13.583		18.32	2877.01
821	03/03/09 06:52:36	13.667		18.32	2884.90
826	03/03/09 06:57:36	13.750		18.31	2892.69
831	03/03/09 07:02:36	13.833		18.31	2901.43
836	03/03/09 07:07:36	13.917		18.31	2909.44
841	03/03/09 07:12:36	14.000		18.30	2917.48
846	03/03/09 07:17:36	14.083		18.30	2925.64
851	03/03/09 07:22:36	14.167		18.29	2933.49
856	03/03/09 07:27:36	14.250		18.28	2941.72
861	03/03/09 07:32:36	14.333		18.28	2949.39
866	03/03/09 07:37:36	14.417		18.27	2957.58

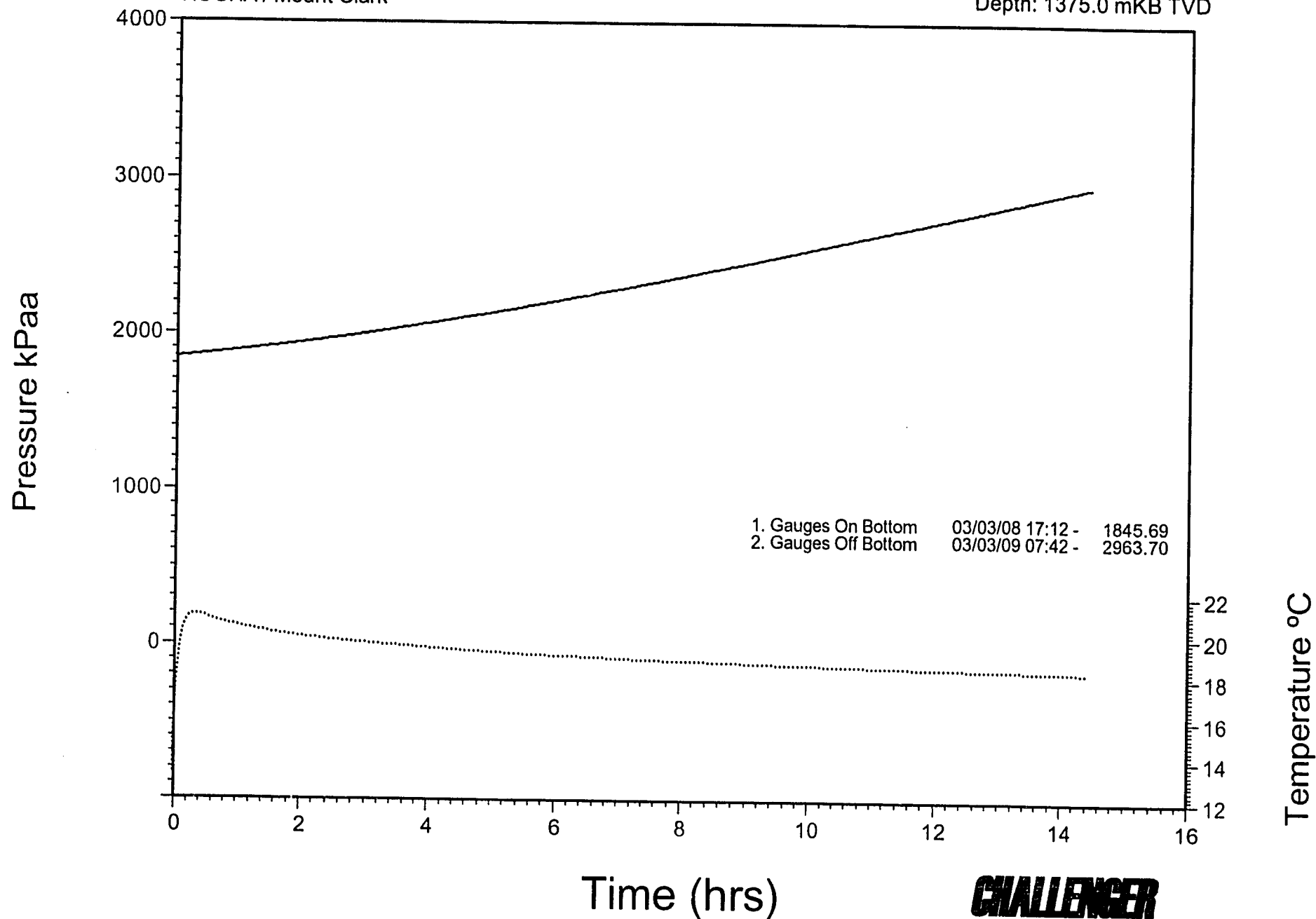
Recorders off bottom - 03/03/09 07:42:00

Apache Canada Ltd.

ACL NOGHA C- 49 (300-C-49-66-40-125-45-0)

Buildup
NOGHA / Mount Clark

Probe: N45 [Bottom]
Depth: 1375.0 mKB TVD





4100, 150 - 6th Ave S.W., Calgary, Alberta, T2P 3Y7

Subsurface Pressure Reports

Apache Canada Ltd.
300-C-49-66-40-125-45-0
03/03/08 - 03/03/09

Challenger - Silverline ZI Pressure Recorder

1	(403)	262-6306	Calgary Head Office
1	(403)	303-2317	Reporting Dept.
1	(403)	342-2112	Red Deer
1	(780)	539-3257	Grande Prairie
1	(403)	362-2433	Brooks
1	(780)	849-4448	Slave Lake
1	(250)	785-9486	Fort St. John



Subsurface Pressure Measurements

Company: Apache Canada Ltd.
Address: 1000, 700 - 9 Ave S.W. Calgary, AB T2P 3V4
Well Name: ACL NOGHA C- 49
Location: 300-C-49-66-40-125-45-0
Field/Pool: NOGHA / Mount Clark

Type of Test: Buildup
Well Status:
Producing Interval (mKB TVD):
Mid Point Perfs (mKB TVD):
Elevations (m): GL: 354.10 KB: 359.40
Pool datum (mSS):
Datum Depth (mKB):
Producing Through Tubing (mm): N/A Casing: 177.8
Probe Serial #: M56[Top]
Probe Range: 93 - 20775 kPaa
Last Calibration Date: 02/10/01

Tubing Pressure	Initial		Final	kPaa
Casing Pressure	Initial	643	Final	1623 kPaa

Run Depth (mKB TVD): 1374.00

Time On Bottom: 03/03/08 17:12:00
Time Off Bottom: 03/03/09 07:42:00

Maximum Temperature: 21.0 °C
Date of Test: 03/03/08

Comments:

Report to: Bruce , Niel , Ross , Walter.
Note: " Tight Hole Status " Please E - mail reports to the following
bruce.beveridge@apachecorp.com
niels.guadesen@apachecorp.com
ross.pitman@apachecorp.com
walterf.stock@apachecorp.com
Casing Weight : 43.1kg/m

Apache Canada Ltd.

ACL NOGHA C- 49

(300-C-49-66-40-125-45-0)

<u>Item #</u>	<u>Date</u>	<u>Total Acc Time</u>	<u>Event Acc Time</u>	<u>Temp C</u>	<u>Pres kPaa</u>
Recorders on bottom - 03/03/08 17:12:00					
1	03/03/08 17:12:36	0.000		12.94	1837.00
6	03/03/08 17:17:36	0.083		18.73	1840.54
11	03/03/08 17:22:36	0.167		20.44	1843.94
16	03/03/08 17:27:36	0.250		20.92	1847.64
21	03/03/08 17:32:36	0.333		20.97	1851.27
26	03/03/08 17:37:36	0.417		20.92	1854.97
31	03/03/08 17:42:36	0.500		20.85	1858.80
36	03/03/08 17:47:36	0.583		20.77	1862.61
41	03/03/08 17:52:36	0.667		20.69	1866.41
46	03/03/08 17:57:36	0.750		20.62	1870.37
51	03/03/08 18:02:36	0.833		20.55	1874.35
56	03/03/08 18:07:36	0.917		20.49	1878.36
61	03/03/08 18:12:36	1.000		20.43	1882.44
66	03/03/08 18:17:36	1.083		20.38	1886.55
71	03/03/08 18:22:36	1.167		20.32	1890.78
76	03/03/08 18:27:36	1.250		20.27	1894.93
81	03/03/08 18:32:36	1.333		20.23	1899.24
86	03/03/08 18:37:36	1.417		20.18	1903.64
91	03/03/08 18:42:36	1.500		20.14	1908.04
96	03/03/08 18:47:36	1.583		20.09	1912.41
101	03/03/08 18:52:36	1.667		20.05	1916.88
106	03/03/08 18:57:36	1.750		20.01	1921.46
111	03/03/08 19:02:36	1.833		19.98	1925.98
116	03/03/08 19:07:36	1.917		19.95	1930.64
121	03/03/08 19:12:36	2.000		19.92	1935.26
126	03/03/08 19:17:36	2.083		19.89	1939.93
131	03/03/08 19:22:36	2.167		19.86	1944.64
136	03/03/08 19:27:36	2.250		19.82	1949.47
141	03/03/08 19:32:36	2.333		19.80	1954.31
146	03/03/08 19:37:36	2.417		19.77	1959.25
151	03/03/08 19:42:36	2.500		19.75	1964.16
156	03/03/08 19:47:36	2.583		19.72	1969.14
161	03/03/08 19:52:36	2.667		19.69	1974.19
166	03/03/08 19:57:36	2.750		19.67	1979.29
171	03/03/08 20:02:36	2.833		19.65	1984.49
176	03/03/08 20:07:36	2.917		19.63	1989.74
181	03/03/08 20:12:36	3.000		19.61	1994.97
186	03/03/08 20:17:36	3.083		19.58	2000.20
191	03/03/08 20:22:36	3.167		19.56	2005.46
196	03/03/08 20:27:36	3.250		19.54	2010.90
201	03/03/08 20:32:36	3.333		19.52	2016.27
206	03/03/08 20:37:36	3.417		19.50	2021.80
211	03/03/08 20:42:36	3.500		19.48	2027.34
216	03/03/08 20:47:36	3.583		19.46	2032.82
221	03/03/08 20:52:36	3.667		19.44	2038.46
226	03/03/08 20:57:36	3.750		19.42	2044.02
231	03/03/08 21:02:36	3.833		19.40	2049.76
236	03/03/08 21:07:36	3.917		19.39	2055.46
241	03/03/08 21:12:36	4.000		19.37	2061.17
246	03/03/08 21:17:36	4.083		19.35	2067.05

* denotes fast readings

Run depth (mKB TVD): 1374.00

Recorder: M56

CHALLENGER - WIRELINE

Apache Canada Ltd.

ACL NOGHA C- 49

(300-C-49-66-40-125-45-0)

<u>Item #</u>	<u>Date</u>	<u>Total Acc Time</u>	<u>Event Acc Time</u>	<u>Temp C</u>	<u>Pres kPaa</u>
251	03/03/08 21:22:36	4.167		19.33	2072.79
256	03/03/08 21:27:36	4.250		19.32	2078.65
261	03/03/08 21:32:36	4.333		19.30	2084.56
266	03/03/08 21:37:36	4.417		19.28	2090.54
271	03/03/08 21:42:36	4.500		19.26	2096.46
276	03/03/08 21:47:36	4.583		19.25	2102.50
281	03/03/08 21:52:36	4.667		19.23	2108.47
286	03/03/08 21:57:36	4.750		19.21	2114.73
291	03/03/08 22:02:36	4.833		19.20	2120.60
296	03/03/08 22:07:36	4.917		19.19	2126.78
301	03/03/08 22:12:36	5.000		19.17	2132.88
306	03/03/08 22:17:36	5.083		19.16	2139.07
311	03/03/08 22:22:36	5.167		19.14	2145.36
316	03/03/08 22:27:36	5.250		19.13	2151.60
321	03/03/08 22:32:36	5.333		19.12	2157.81
326	03/03/08 22:37:36	5.417		19.10	2164.11
331	03/03/08 22:42:36	5.500		19.09	2170.53
336	03/03/08 22:47:36	5.583		19.07	2176.84
341	03/03/08 22:52:36	5.667		19.06	2183.22
346	03/03/08 22:57:36	5.750		19.05	2189.71
351	03/03/08 23:02:36	5.833		19.03	2196.13
356	03/03/08 23:07:36	5.917		19.03	2202.64
361	03/03/08 23:12:36	6.000		19.02	2209.14
366	03/03/08 23:17:36	6.083		19.00	2215.56
371	03/03/08 23:22:36	6.167		18.99	2222.15
376	03/03/08 23:27:36	6.250		18.98	2228.87
381	03/03/08 23:32:36	6.333		18.97	2235.37
386	03/03/08 23:37:36	6.417		18.97	2241.98
391	03/03/08 23:42:36	6.500		18.95	2248.65
396	03/03/08 23:47:36	6.583		18.94	2255.36
401	03/03/08 23:52:36	6.667		18.94	2262.06
406	03/03/08 23:57:36	6.750		18.92	2268.72
411	03/03/09 00:02:36	6.833		18.92	2275.52
416	03/03/09 00:07:36	6.917		18.90	2282.26
421	03/03/09 00:12:36	7.000		18.90	2289.09
426	03/03/09 00:17:36	7.083		18.88	2295.93
431	03/03/09 00:22:36	7.167		18.88	2302.75
436	03/03/09 00:27:36	7.250		18.87	2309.58
441	03/03/09 00:32:36	7.333		18.85	2316.43
446	03/03/09 00:37:36	7.417		18.84	2323.36
451	03/03/09 00:42:36	7.500		18.83	2330.28
456	03/03/09 00:47:36	7.583		18.82	2337.13
461	03/03/09 00:52:36	7.667		18.81	2344.05
466	03/03/09 00:57:36	7.750		18.81	2351.16
471	03/03/09 01:02:36	7.833		18.79	2358.14
476	03/03/09 01:07:36	7.917		18.78	2365.07
481	03/03/09 01:12:36	8.000		18.77	2372.19
486	03/03/09 01:17:36	8.083		18.77	2379.21
491	03/03/09 01:22:36	8.167		18.76	2386.32
496	03/03/09 01:27:36	8.250		18.75	2393.55
501	03/03/09 01:32:36	8.333		18.75	2400.61
506	03/03/09 01:37:36	8.417		18.74	2407.78
511	03/03/09 01:42:36	8.500		18.73	2414.94

* denotes fast readings

Run depth (mKB TVD): 1374.00

Recorder: M56

CHALLENGER - WIRELINE

Apache Canada Ltd.

ACL NOGHA C- 49

(300-C-49-66-40-125-45-0)

<u>Item #</u>	<u>Date</u>	<u>Total Acc Time</u>	<u>Event Acc Time</u>	<u>Temp C</u>	<u>Pres kPaa</u>
516	03/03/09 01:47:36	8.583		18.72	2422.11
521	03/03/09 01:52:36	8.667		18.71	2429.39
526	03/03/09 01:57:36	8.750		18.71	2436.62
531	03/03/09 02:02:36	8.833		18.70	2443.85
536	03/03/09 02:07:36	8.917		18.69	2451.09
541	03/03/09 02:12:36	9.000		18.68	2458.33
546	03/03/09 02:17:36	9.083		18.67	2465.60
551	03/03/09 02:22:36	9.167		18.66	2472.92
556	03/03/09 02:27:36	9.250		18.65	2480.21
561	03/03/09 02:32:36	9.333		18.64	2487.54
566	03/03/09 02:37:36	9.417		18.63	2494.94
571	03/03/09 02:42:36	9.500		18.63	2502.21
576	03/03/09 02:47:36	9.583		18.62	2509.60
581	03/03/09 02:52:36	9.667		18.61	2517.09
586	03/03/09 02:57:36	9.750		18.60	2524.32
591	03/03/09 03:02:36	9.833		18.60	2531.81
596	03/03/09 03:07:36	9.917		18.59	2539.15
601	03/03/09 03:12:36	10.000		18.58	2546.58
606	03/03/09 03:17:36	10.083		18.58	2554.02
611	03/03/09 03:22:36	10.167		18.57	2561.54
616	03/03/09 03:27:36	10.250		18.57	2568.95
621	03/03/09 03:32:36	10.333		18.56	2576.37
626	03/03/09 03:37:36	10.417		18.56	2583.84
631	03/03/09 03:42:36	10.500		18.54	2591.26
636	03/03/09 03:47:36	10.583		18.54	2598.78
641	03/03/09 03:52:36	10.667		18.53	2606.22
646	03/03/09 03:57:36	10.750		18.52	2613.73
651	03/03/09 04:02:36	10.833		18.52	2621.18
656	03/03/09 04:07:36	10.917		18.51	2628.74
661	03/03/09 04:12:36	11.000		18.50	2636.24
666	03/03/09 04:17:36	11.083		18.50	2643.58
671	03/03/09 04:22:36	11.167		18.49	2651.05
676	03/03/09 04:27:36	11.250		18.48	2658.71
681	03/03/09 04:32:36	11.333		18.48	2666.33
686	03/03/09 04:37:36	11.417		18.47	2673.85
691	03/03/09 04:42:36	11.500		18.47	2681.45
696	03/03/09 04:47:36	11.583		18.46	2689.02
701	03/03/09 04:52:36	11.667		18.45	2696.63
706	03/03/09 04:57:36	11.750		18.44	2704.22
711	03/03/09 05:02:36	11.833		18.44	2711.78
716	03/03/09 05:07:36	11.917		18.43	2719.40
721	03/03/09 05:12:36	12.000		18.43	2726.91
726	03/03/09 05:17:36	12.083		18.42	2734.16
731	03/03/09 05:22:36	12.167		18.42	2741.79
736	03/03/09 05:27:36	12.250		18.41	2749.46
741	03/03/09 05:32:36	12.333		18.41	2757.20
746	03/03/09 05:37:36	12.417		18.40	2764.81
751	03/03/09 05:42:36	12.500		18.40	2772.55
756	03/03/09 05:47:36	12.583		18.39	2780.22
761	03/03/09 05:52:36	12.667		18.38	2787.83
766	03/03/09 05:57:36	12.750		18.38	2795.60
771	03/03/09 06:02:36	12.833		18.37	2803.31
776	03/03/09 06:07:36	12.917		18.37	2811.03

* denotes fast readings

Run depth (mKB TVD): 1374.00

Recorder: M56

Apache Canada Ltd.

ACL NOGHA C- 49

(300-C-49-66-40-125-45-0)

<u>Item #</u>	<u>Date</u>	<u>Total Acc Time</u>	<u>Event Acc Time</u>	<u>Temp C</u>	<u>Pres kPaa</u>
781	03/03/09 06:12:36	13.000		18.37	2818.85
786	03/03/09 06:17:36	13.083		18.36	2826.68
791	03/03/09 06:22:36	13.167		18.35	2834.33
796	03/03/09 06:27:36	13.250		18.34	2842.26
801	03/03/09 06:32:36	13.333		18.34	2850.03
806	03/03/09 06:37:36	13.417		18.33	2857.84
811	03/03/09 06:42:36	13.500		18.33	2865.71
816	03/03/09 06:47:36	13.583		18.32	2873.49
821	03/03/09 06:52:36	13.667		18.32	2881.26
826	03/03/09 06:57:36	13.750		18.31	2889.25
831	03/03/09 07:02:36	13.833		18.31	2897.76
836	03/03/09 07:07:36	13.917		18.30	2905.54
841	03/03/09 07:12:36	14.000		18.29	2913.48
846	03/03/09 07:17:36	14.083		18.29	2921.38
851	03/03/09 07:22:36	14.167		18.28	2929.33
856	03/03/09 07:27:36	14.250		18.28	2937.19
861	03/03/09 07:32:36	14.333		18.26	2945.05
866	03/03/09 07:37:36	14.417		18.27	2953.04

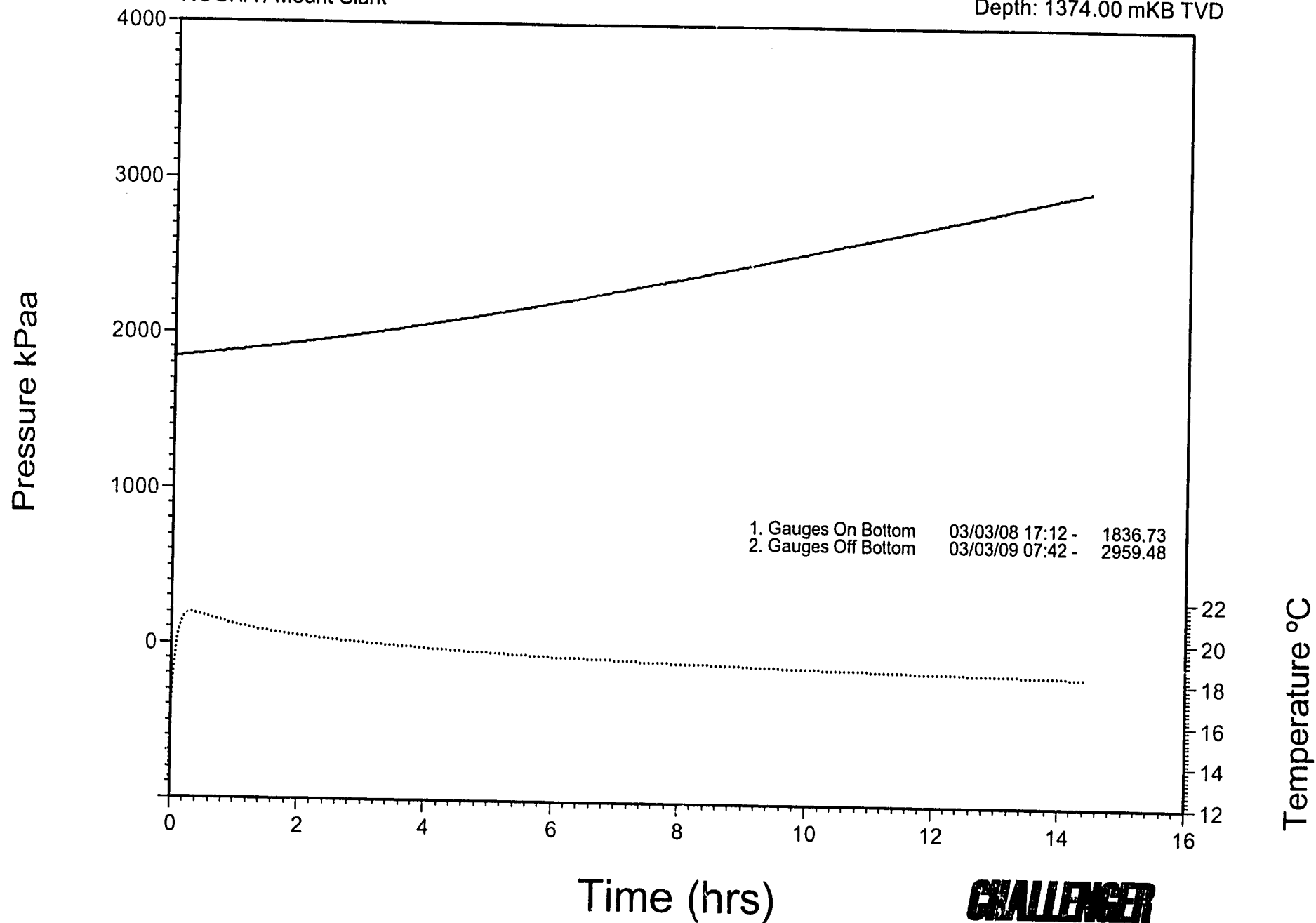
Recorders off bottom - 03/03/09 07:42:00

Apache Canada Ltd.

ACL NOGHA C- 49 (300-C-49-66-40-125-45-0)

Buildup
NOGHA / Mount Clark

Probe: M56 [Top]
Depth: 1374.00 mKB TVD



CHALLENGER
WIRELINE

**RESISTIVITY/
CONDUCTIVITY**

COMPUTALOG

Wireline Services

N.E.B. COPY

DUAL LATEROLOG

MICRO SPHERICALLY

FOCUSED LOG

PROVINCE

N.M.T.

WELL

NOGHA

COMPANY

APACHE CANADA LTD.

COMPANY

APACHE CANADA LTD.

WELL

APACHE PARAMOUNT NOGHA C-49

FIELD

NOGHA

PROVINCE

N.W.T.

LSO

Sec.

Top.

Rge.

Perm. Datum

Ground Level

Elev.

354.10

Log measured from

K.B.

5.30

m above

Permanent datum.

Other Services:

SPDR

CNT

5GR-DAC

MDA-UGR

ELEV. K.B.

359.40

G.L.

354.10

CBF

UNI

300C496640125450

Licence

MTD 1934

Date

FEBRUARY 25, 2003

Run No.

ONE

Bot. Driller

1409.1 m

Bot. Logger

1407.9 m

First Reading

1400.1 m

Last Reading

509.1 m

Mr's Meas.

891.0 m

Csg. Driller

509.0 m

Csg. Logger

509.1 m

Bit Size

216.0 mm

Fluid Type

Gel Chemical

Dens.

1250

Visc.

108

pH

12.5

Fluid Loss

8.0

Sample Source

Flowline

Rm

0.15

@ 15

°C

Rmf

0.03

@ 14

°C

Rmc

0.06

@ 18

°C

Rm @ BHT

0.01

@ 33

°C

Max Rec. Temp

33

°C

Spacing

N/A

Operating Time

4.5

HRS

Unit #

377

Location

GRANDE PRAIRIE

Recorded By

M. MACLEOD

Witnessed By

C. BREDIN

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

REMARKS

RIS: WILSON #3

Drilling stopped 08:30/25. Circulation Stopped 20:30/25. Tool on Bottom 04:15/26

MSFL-DLL-UGR RAN IN COMBINATION.

SP WAS EFFECTED BY HIGH SALT CONTENT IN MUD. THEREFORE IT WAS NOT PRESENTED ON THE LOG.

CHANGES IN MUD TYPE OR NEW SAMPLE

Scale

Interval

Scale

Equipment Data

Run No.

Tool Type

Tool No.

MSFL

UGR

DLL

Other

MAIN PASS

1:600 SCALE

CONDUCTIVITY PRESENTATION

DEPTH SCALE: 1:600

FINISH DEPTH: 495.9 Meters

DIRECTION: UP

DATE: 02/28/2003

TIME: 10:11

MODE: TRACE PLAYBACK

VERSION: 2003.01.06.282

30015531 DLLMP

Service Order # 30015531

Tool on Bottom 04:15/26

BHT 26 °C

Prints: 6

Shallow Resistivity

Deep Resistivity

Deep Conductivity

Tension

Gamma Ray

API

500

525

550

575

600

625

650

675

700

725

750

775

800

825

850

875

900

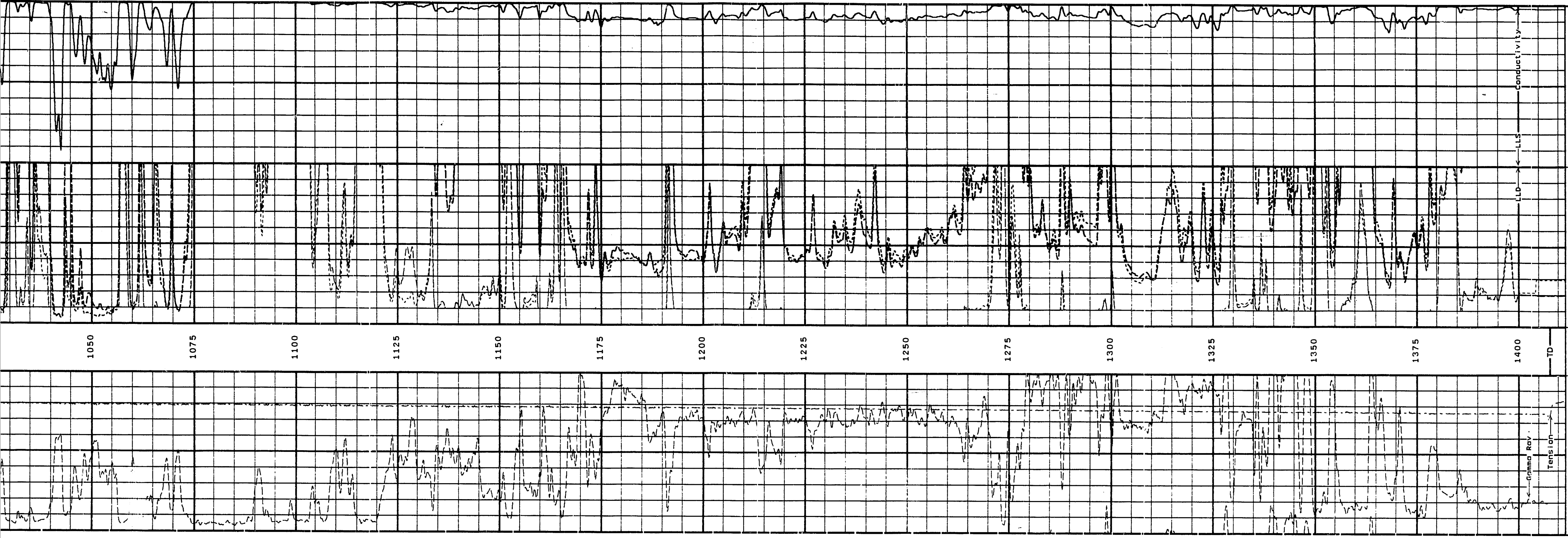
925

950

975

1000

1025



START DEPTH: 1412.4 DIRECTION: UP DATE: 02/26/2003 TIME: 10:11 MODE: TRACE PLAYBACK
30016531 DLLMP

MAIN PASS

DEPTH SCALE: 1:600

VERSION: 2003.01.05.282

REMARKS

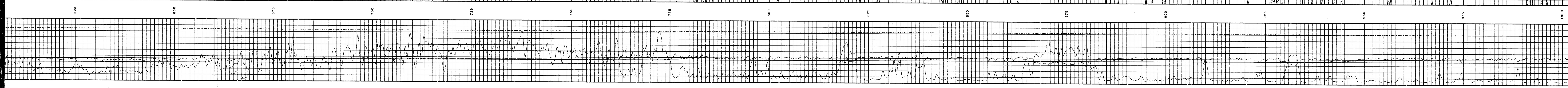
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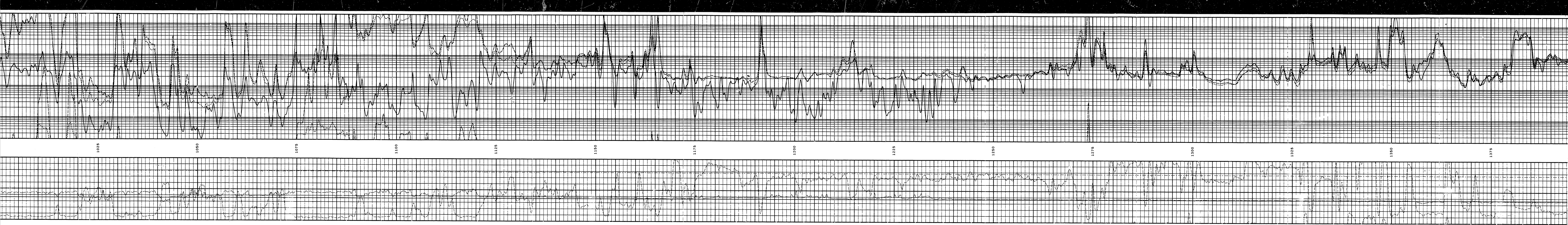
DEPTH SCALE: 1:240

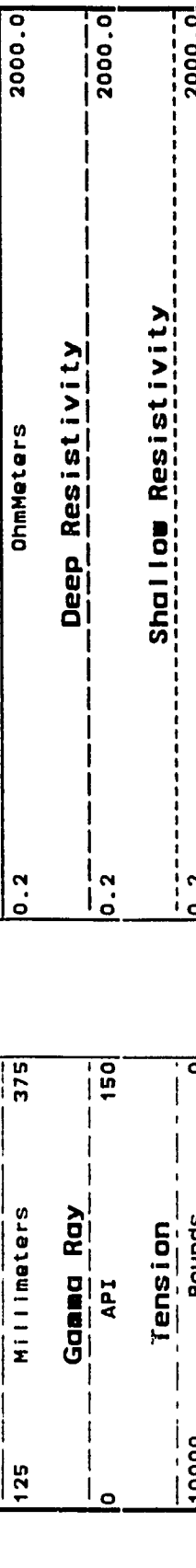
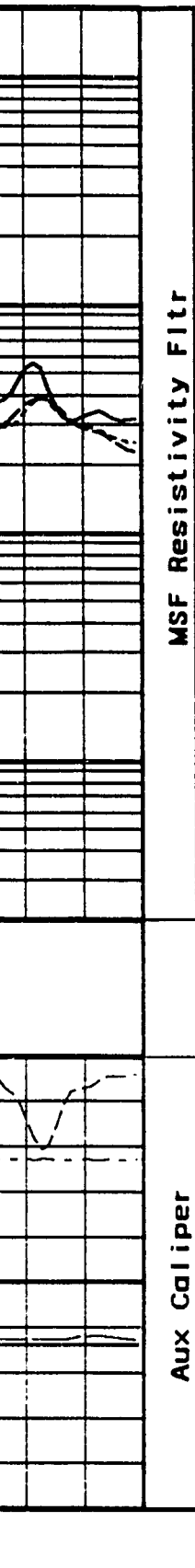
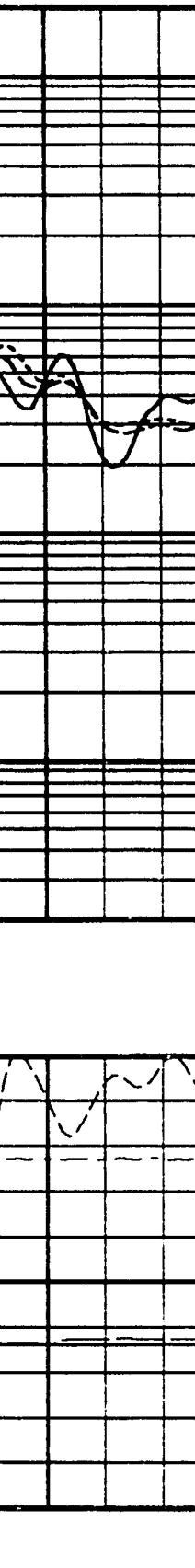
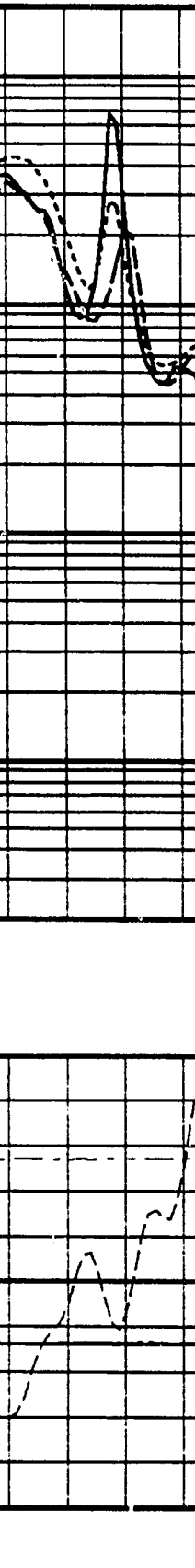
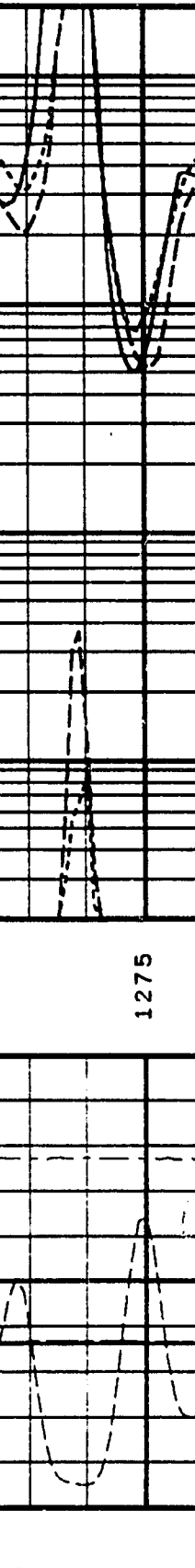
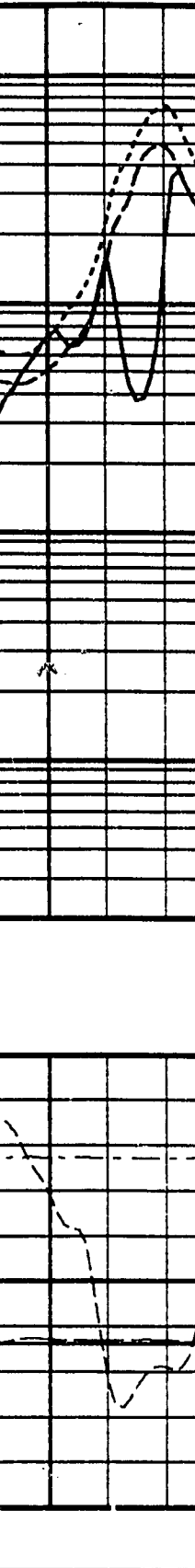
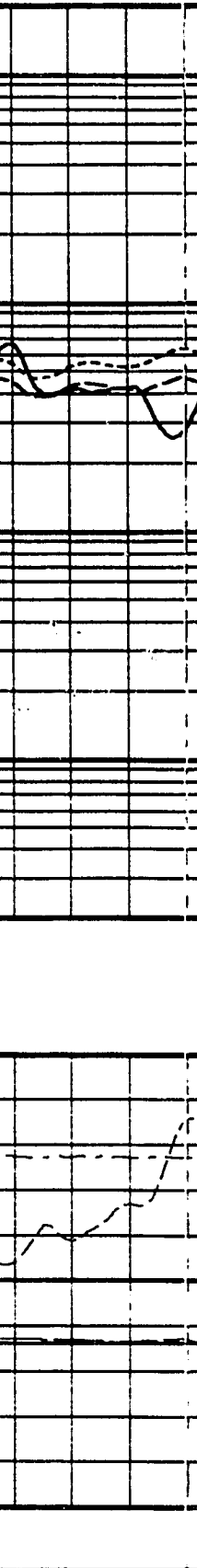
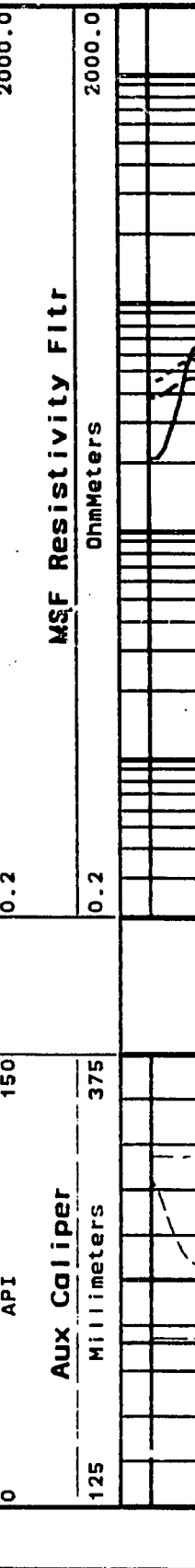
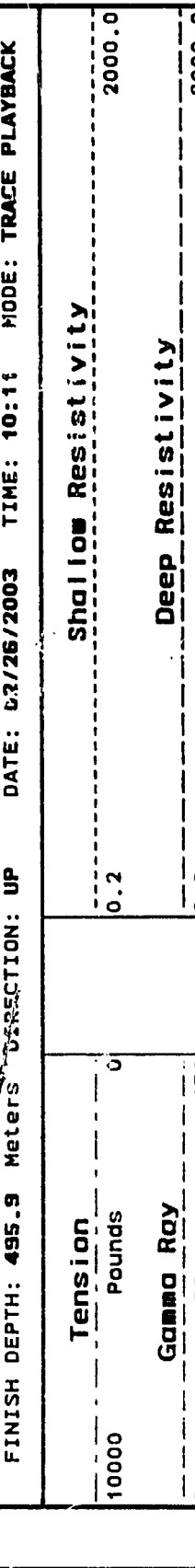
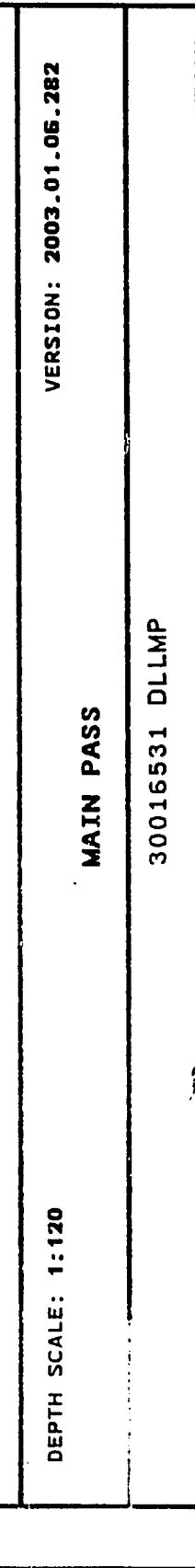
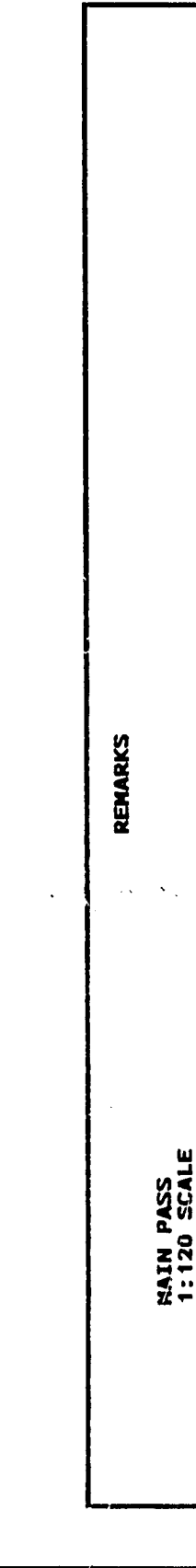
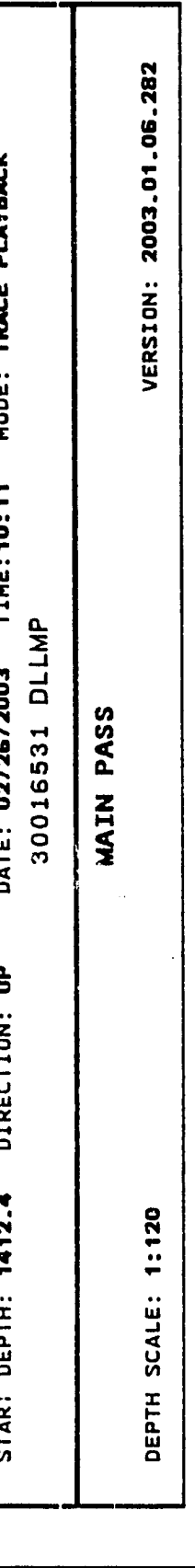
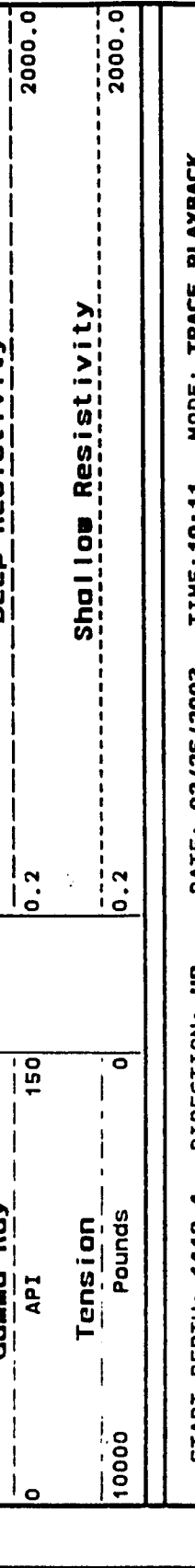
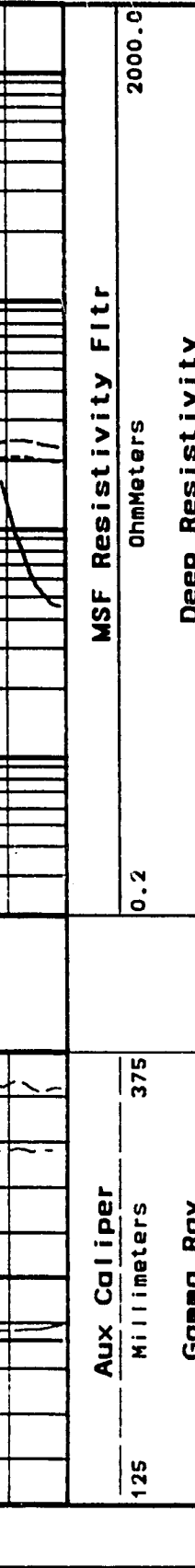
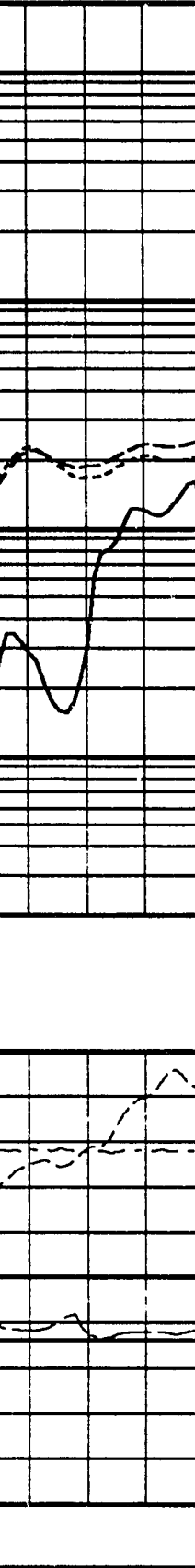
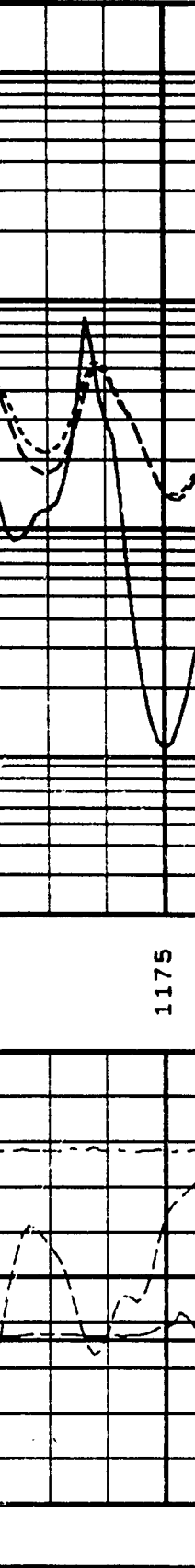
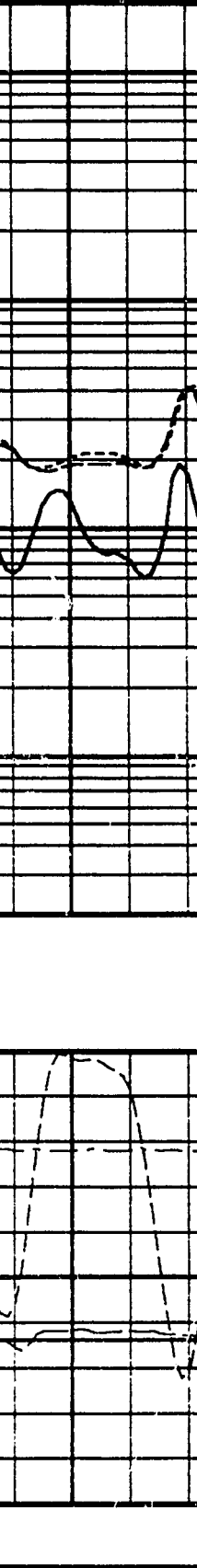
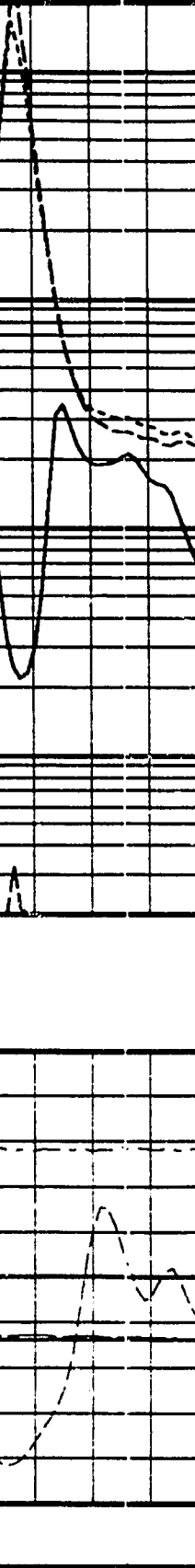
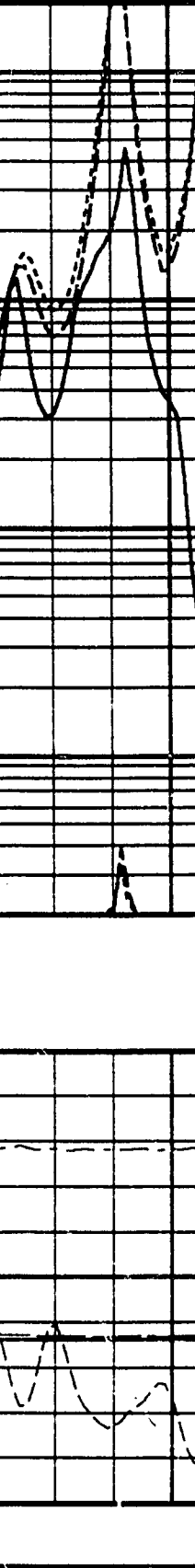
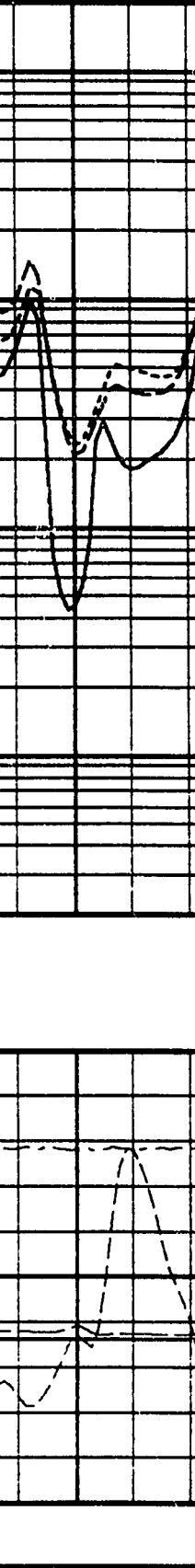
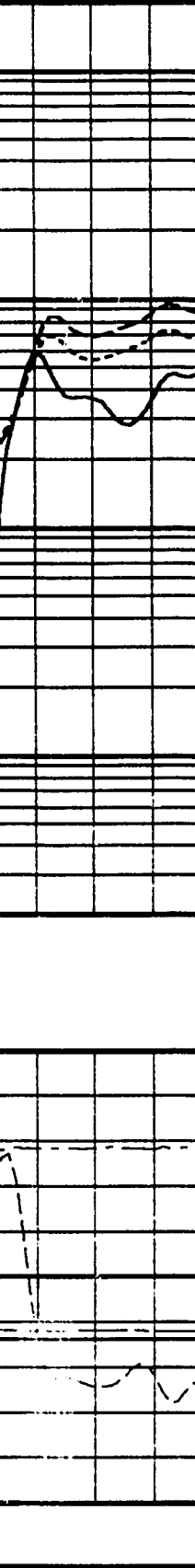
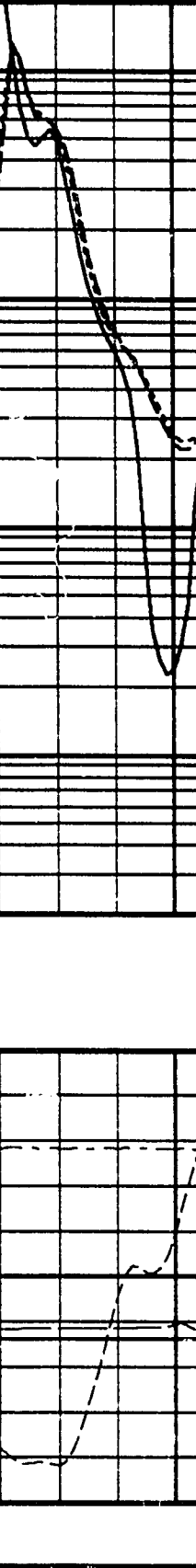
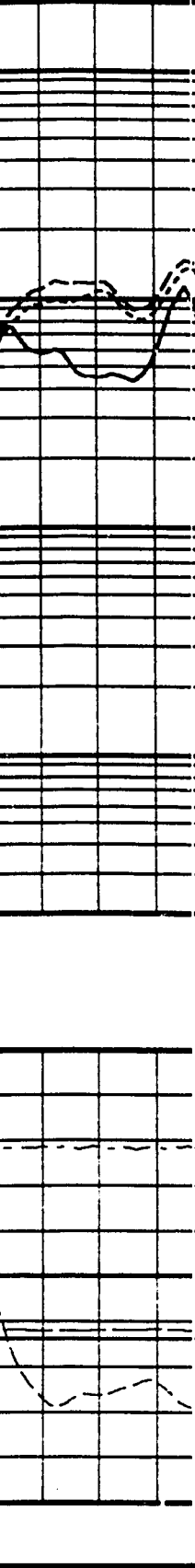
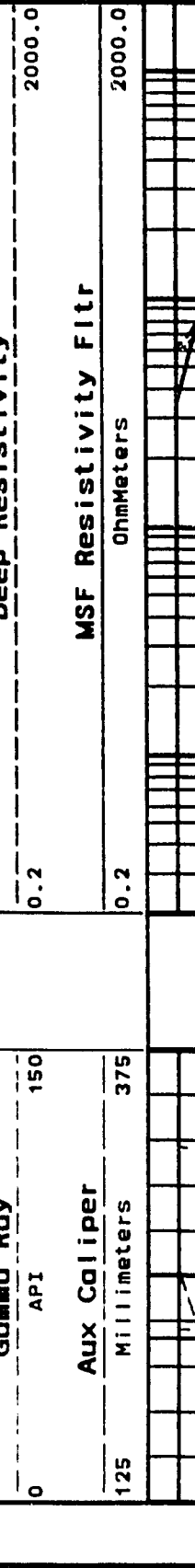
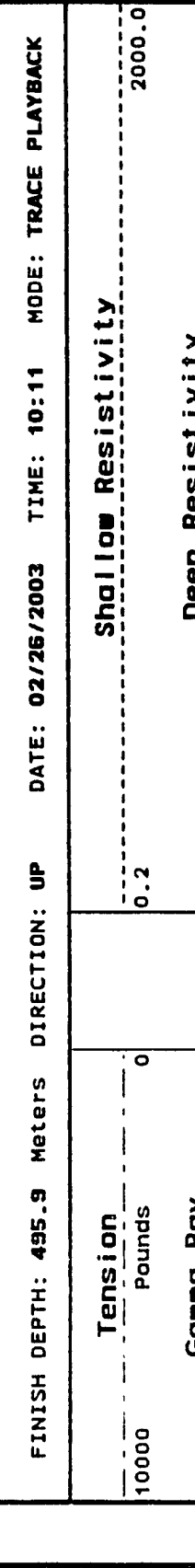
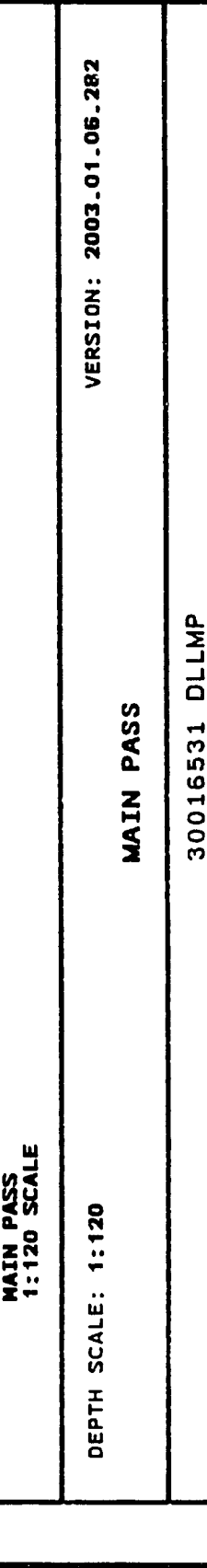
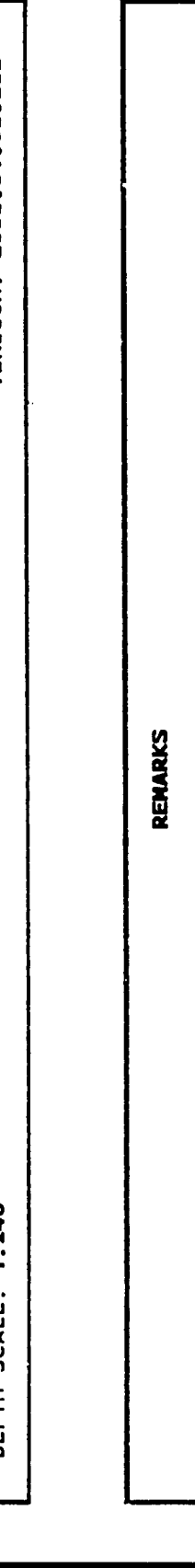
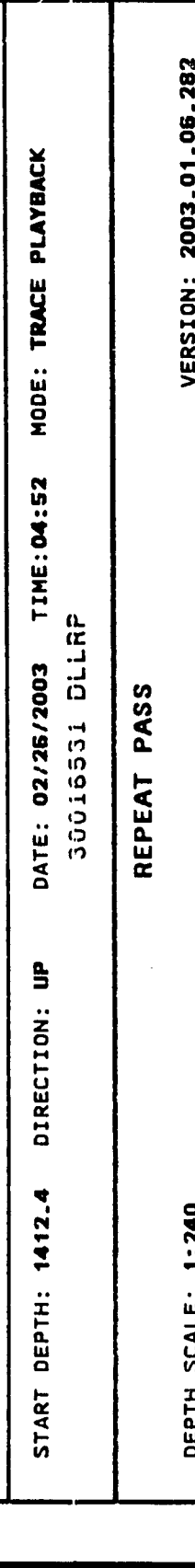
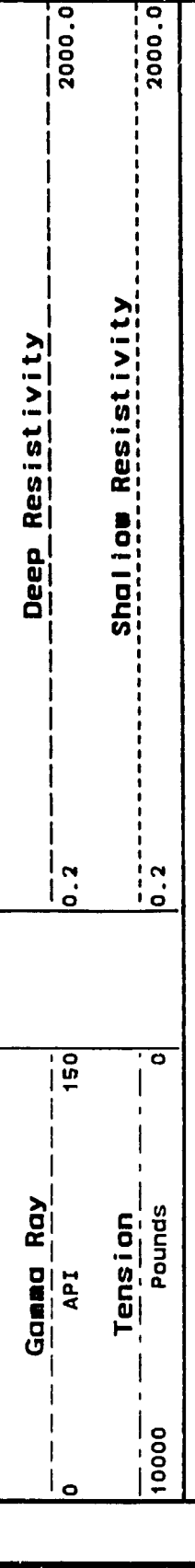
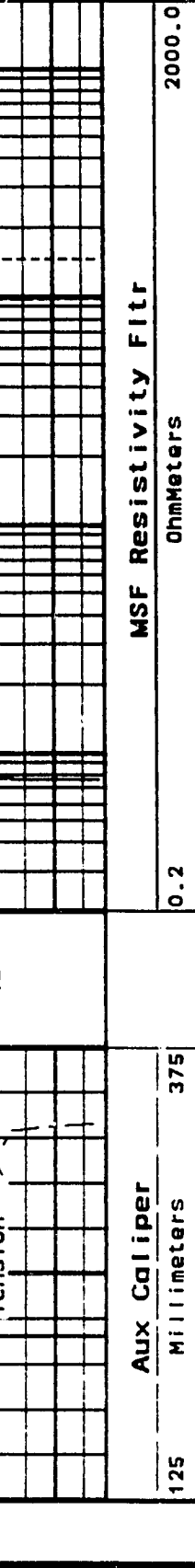
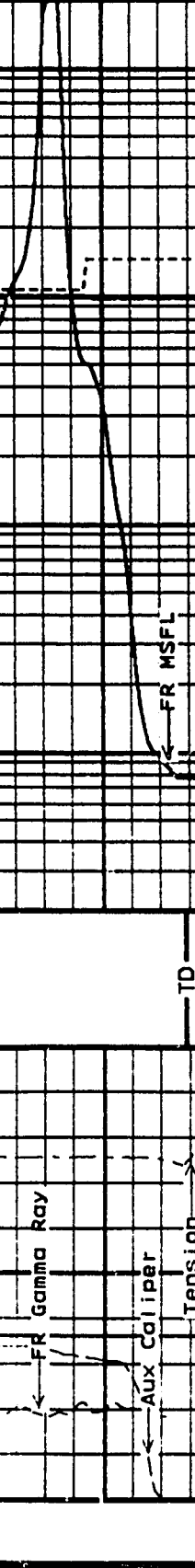
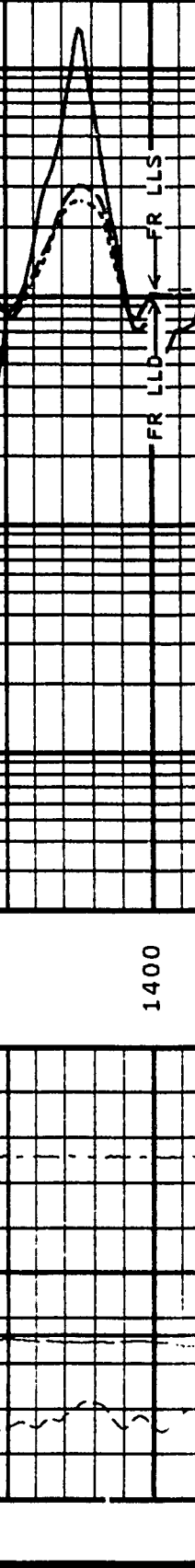
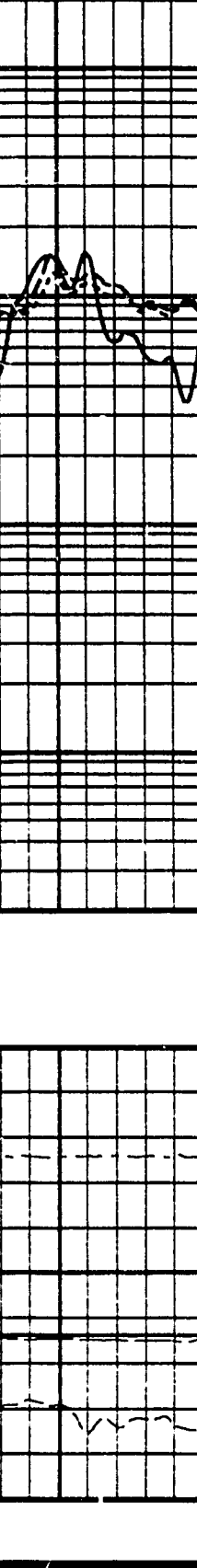
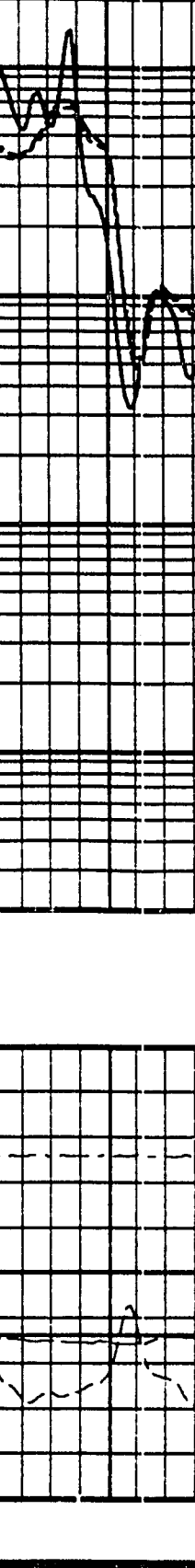
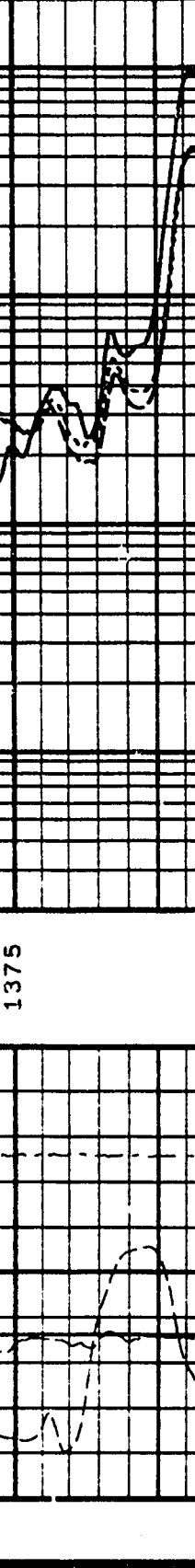
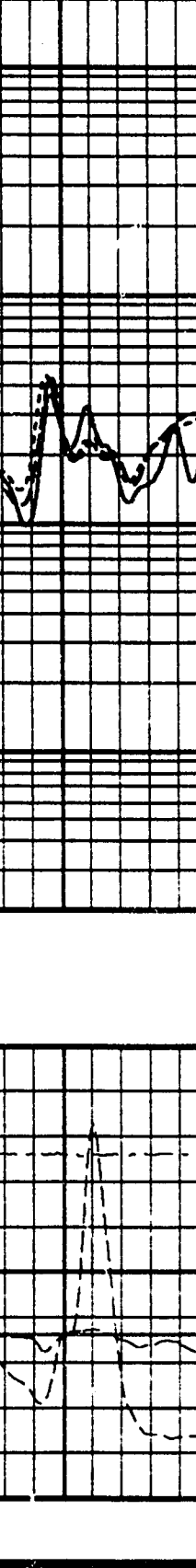
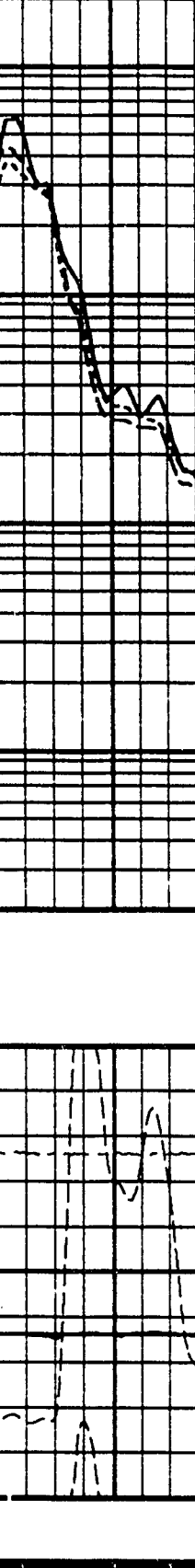
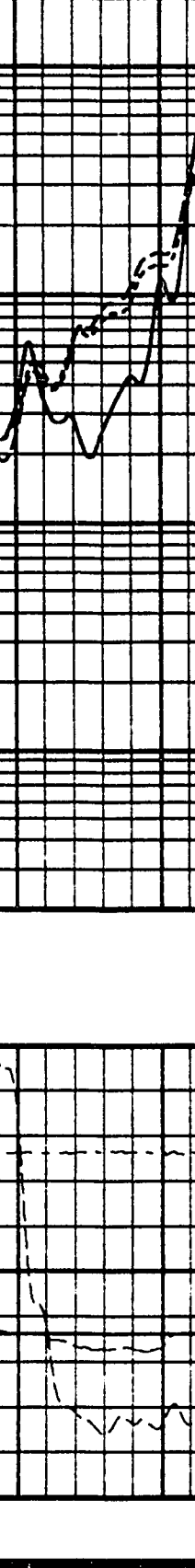
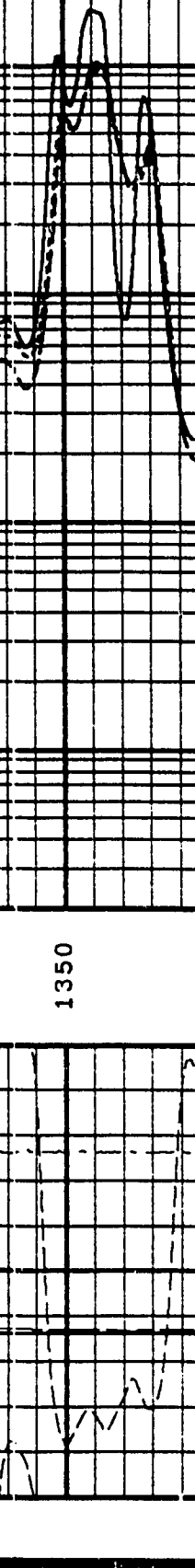
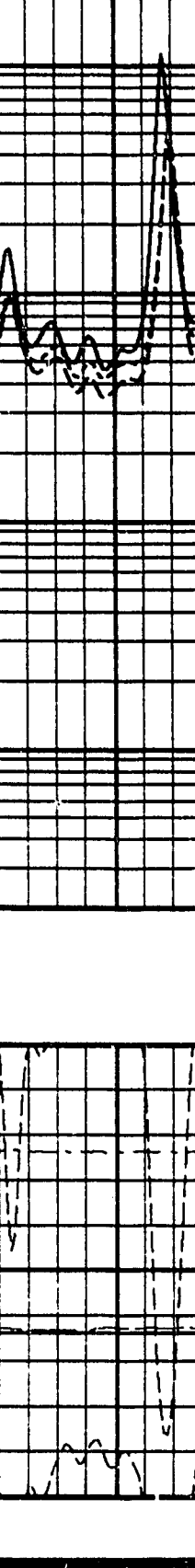
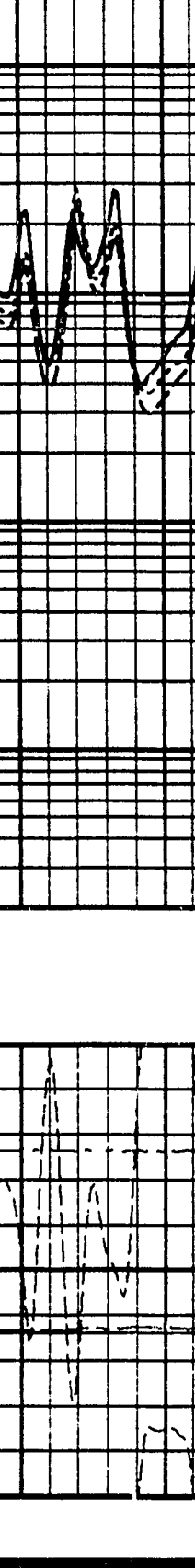
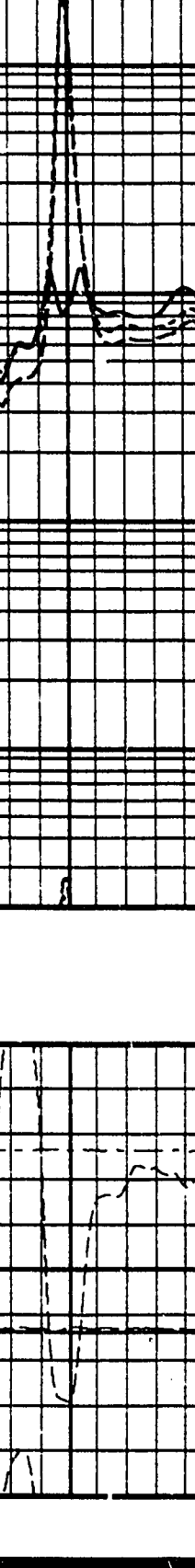
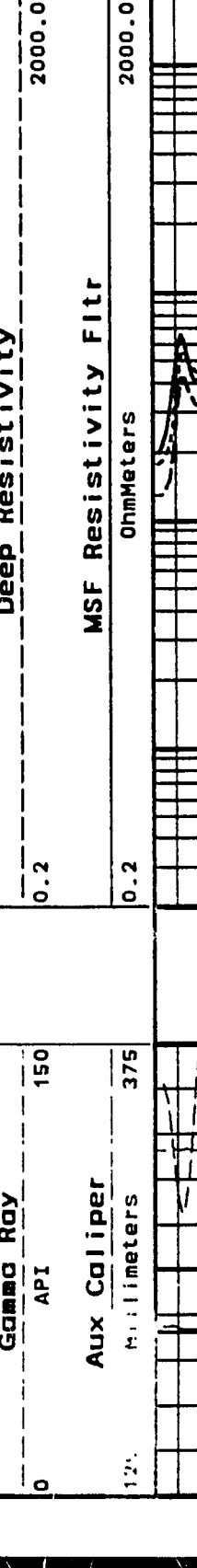
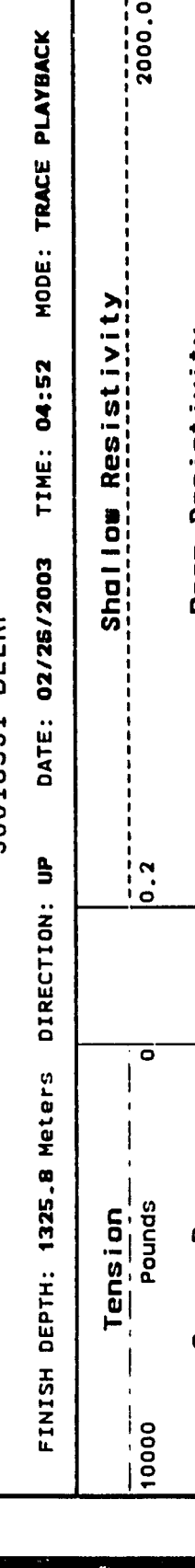
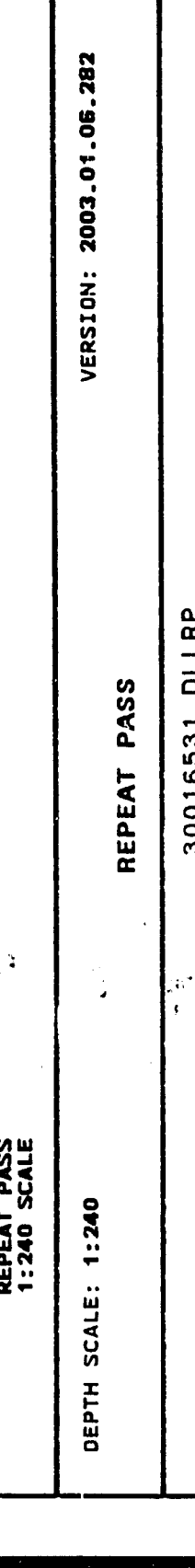
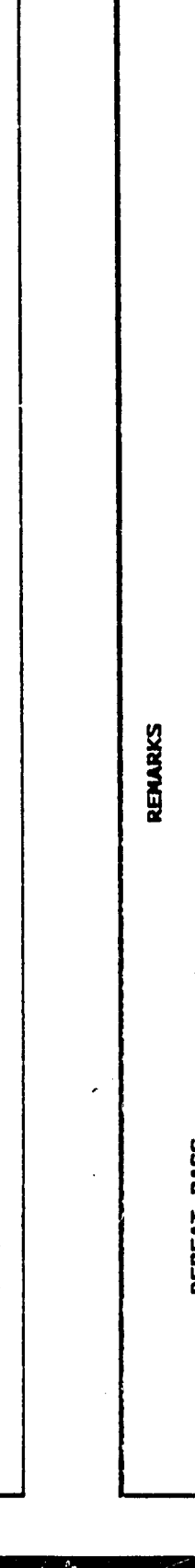
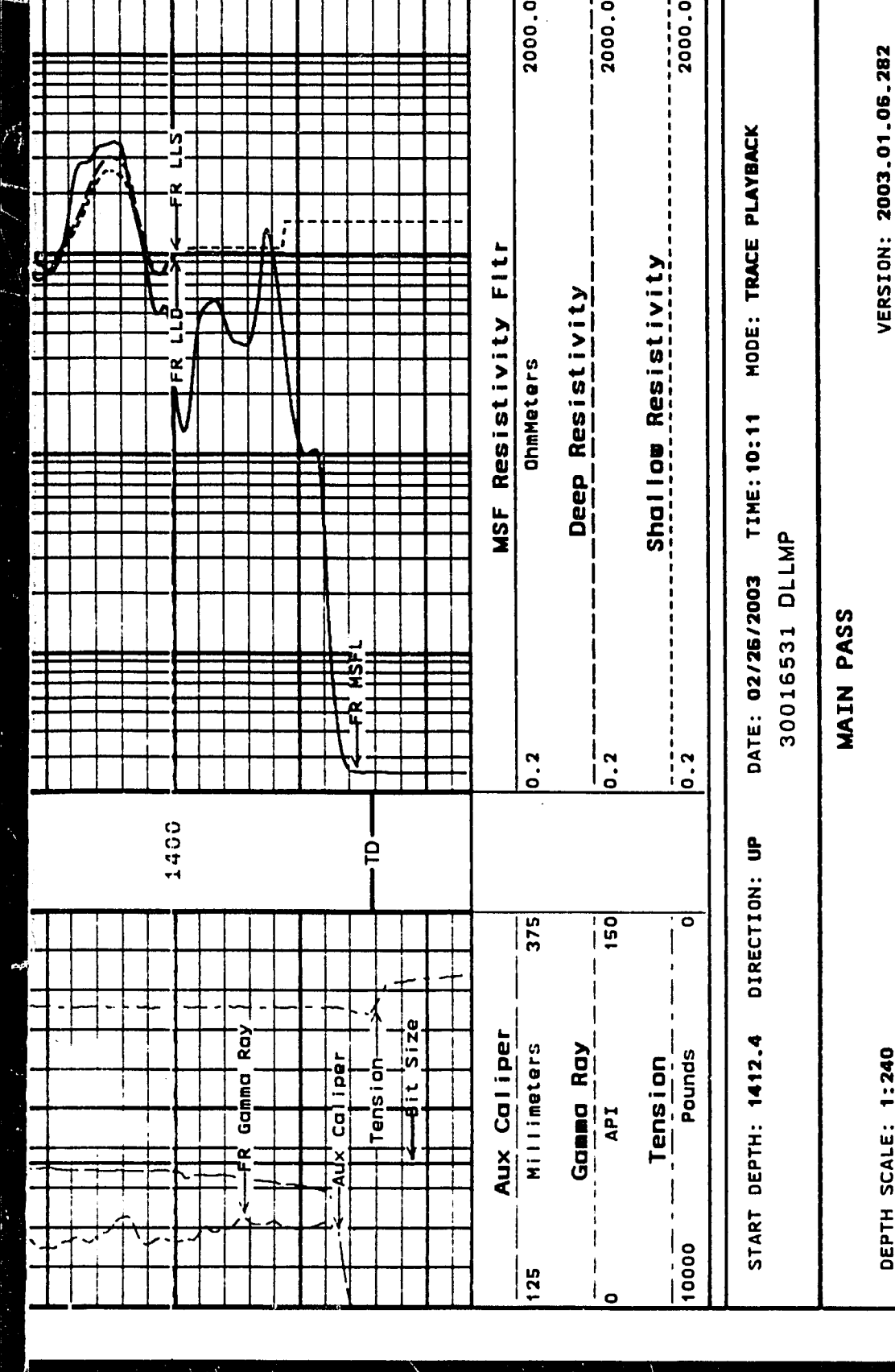
VERSION: 2003.01.05.282

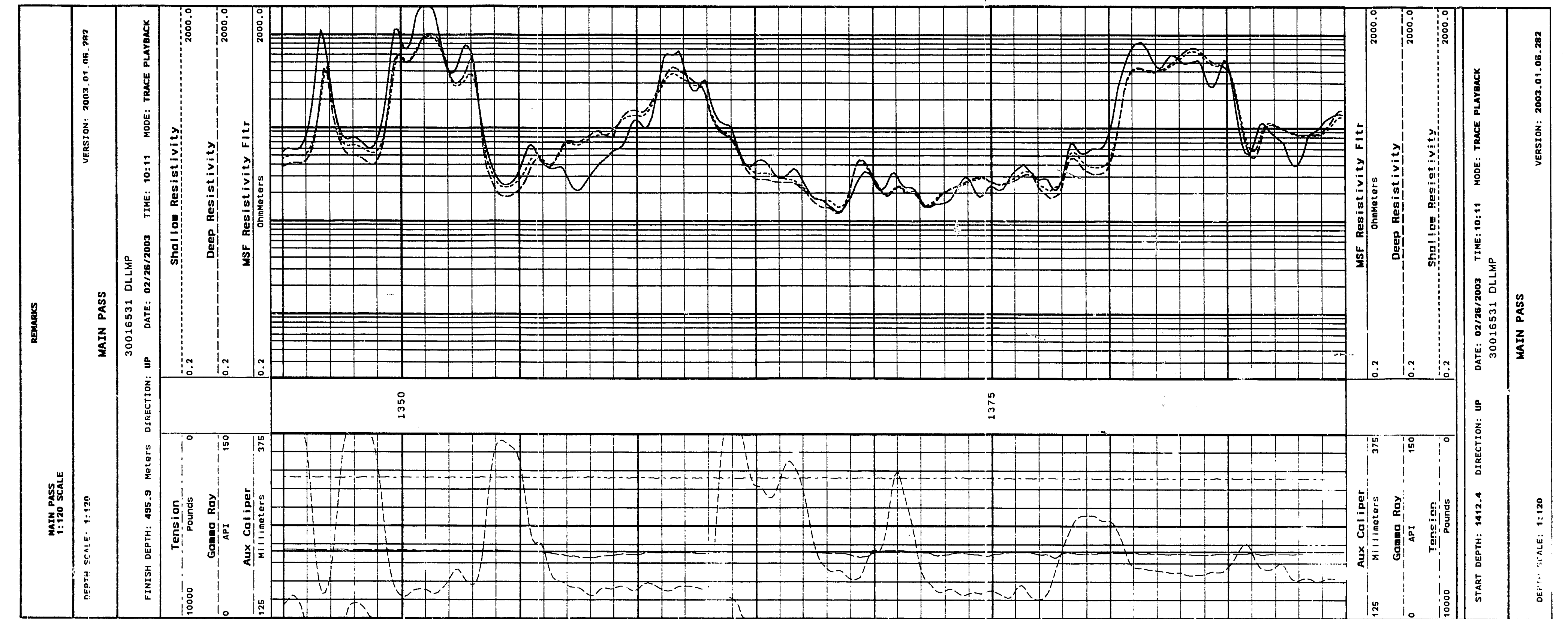
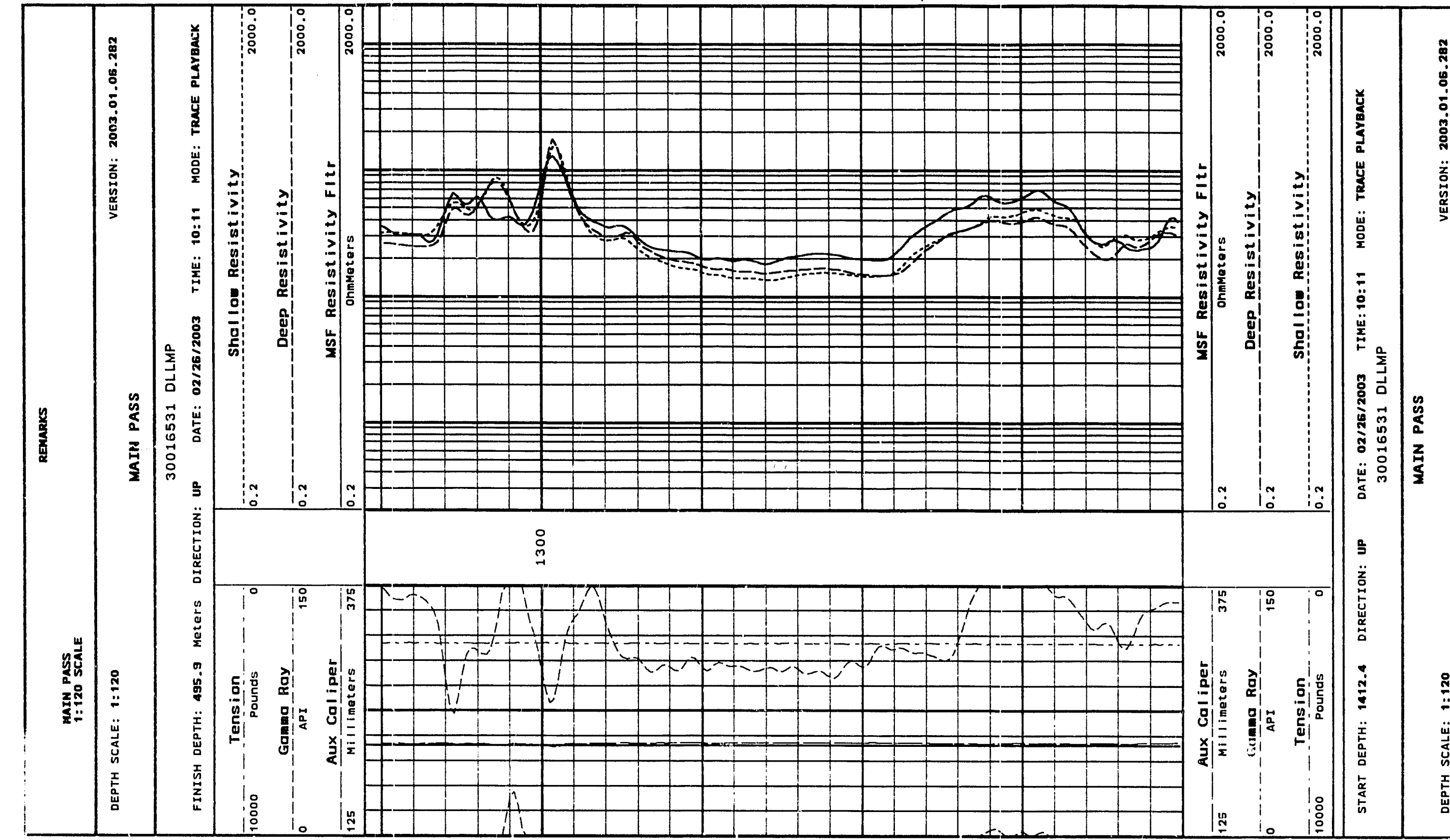
FINISH DEPTH: 495.9 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 10:11 MODE: TRACE PLAYBACK
30016531 DLLMP











02/26/03	03:45	1074.0 M	Ver 2.0b-2.0b	Job 30016531
Dual Laterolog Before Survey Calibration				
Tool Type: DLT-FA Sonde Serial # 51021 Electronics Serial # 51021				
100 OHM-Meter Cal				
Measured	Calibrated	Units		
LLD 93.3	100.0	ohm-m		
LLS 103.2	100.0	ohm-m		

REFERENCE DATA				
Zero Offset	LLD	Units		
Calibration Ratio	-1.89	ohm-m		
Power Reference	0.27	ohm-m		
Drive Output	1.072	0.969		
Channel Offsets V(0)	6102.3	5393.5		
Channel Offsets V(90)	2652.0	1749.0		
Channel Offsets V(180)	4.1	0.7		
Channel Offsets I(0)	1.1	0.7		
Channel Offsets I(90)	-1.1	1.9		
Channel Offsets I(180)	-1.4	-1.5		
Target Vector Voltage	75	mv		

02/26/03	05:50	532.0 M	Ver 2.0b-2.0b	Job 30016531
Dual Laterolog After Survey Calibration				
Tool Type: DLT-FA Sonde Serial # 51021 Electronics Serial # 51021				
100 OHM-Meter Cal				
Before	After	Units		
LLD 100.0	38.5	ohm-m		
LLS 100.0	98.4	ohm-m		

REFERENCE DATA				
Drive Output	LLD	Units		
Channel Offsets V(0)	0.0	0.0		
Channel Offsets V(90)	2.7	1.7		
Channel Offsets V(180)	4.3	1.8		
Channel Offsets I(0)	1.1	-1.8		
Channel Offsets I(90)	1.1	-1.8		

02/25/03	23:14	0.0 M	Ver 2.0b-2.0b	Job 30016531
Gamma Ray Before Survey Calibration				
Tool Type: UGR-JA Serial No: usrj181				
Calibrator No: RA-205-53				
Background	Calibrator	Standard	Units	
126.2	632.5	140.0	API	
Delta Counts Per Sec: 505.3 CPS/API = 3.616				

02/26/03	01:44	100.0 M	Ver 2.0b-2.0b	Job 30016531
MSFL Before Survey Calibration				
Tool Type: MRT-BA Sonde SN: MRSB130 Electronics SN: MRSB130				
Firmware Version: 4.02				
Offset	Before	After	Units	
20 OHM CAL	2171.3	2167.8	20 OHM CAL	
20 OHM CAL	2339.2	2338.4	20 OHM CAL	
20 OHM CAL	2339.2	2338.4	20 OHM CAL	
Calibration Constant: 21.56 (20 +/-4)				

02/26/03	05:48	527.0 M	Ver 2.0b-2.0b	Job 30016531
MSFL After Survey Check				
Tool Type: MRT-BA Sonde SN: MRSB130 Electronics SN: MRSB130				
Firmware Version: 4.02				
Offset	Before	After	Units	
20 OHM CAL	2171.3	2167.8	20 OHM CAL	
20 OHM CAL	2339.2	2338.4	20 OHM CAL	
20 OHM CAL	2339.2	2338.4	20 OHM CAL	
Calibration Constant: 21.56 (20 +/-4)				

02/25/03	23:15	0.0 M	Ver 2.0b	Job 30016531
Caliper Before Survey Calibration				
Tool Type: MRT-CL Serial No: mrsb130				
Measured	Small	Large	Units	
1643.2	3510.4	177.8	355.6 mm	

Weight 18.0 kg
 Length 0.74 m
 Max. Diameter 8.9 cm
 Total Stack Weight 342.4 kg in air
 Total Stack Length 12.36 m

Dual Laterolog

Weight 158.8 kg
 Length 5.77 m
 Max. Diameter 8.9 cm

Crossover
 Weight 6.8 kg
 Length 0.27 m

Universal GR
 Weight 37.3 kg
 Length 1.40 m
 Max. Diameter 8.6 cm

MRT 400
 Weight 121.5 kg
 Length 4.18 m
 Max. Diameter 12.7 cm

LLD/LLS 7.78 m

GR 5.18 m

2 in. 0.73 m
 1 in. 0.72 m

Tool Zero

2.313 in. dia.
 (5.874 cm)

3.500 in. dia.
 (8.890 cm)

3.500 in. dia.
 (8.890 cm)

5.00 in. dia.
 (12.70 cm)

3.500 in. dia.
 (8.890 cm)

3.375 in. dia.
 (8.573 cm)

3.500 in. dia.
 (8.890 cm)

3.750 in. dia.
 (9.525 cm)

4.00 in. dia.
 (10.16 cm)

Caliper 0.72 m

COMPANY APACHE CANADA LTD.

WFLI APACHE PARAMOUNT NOGHA C-49

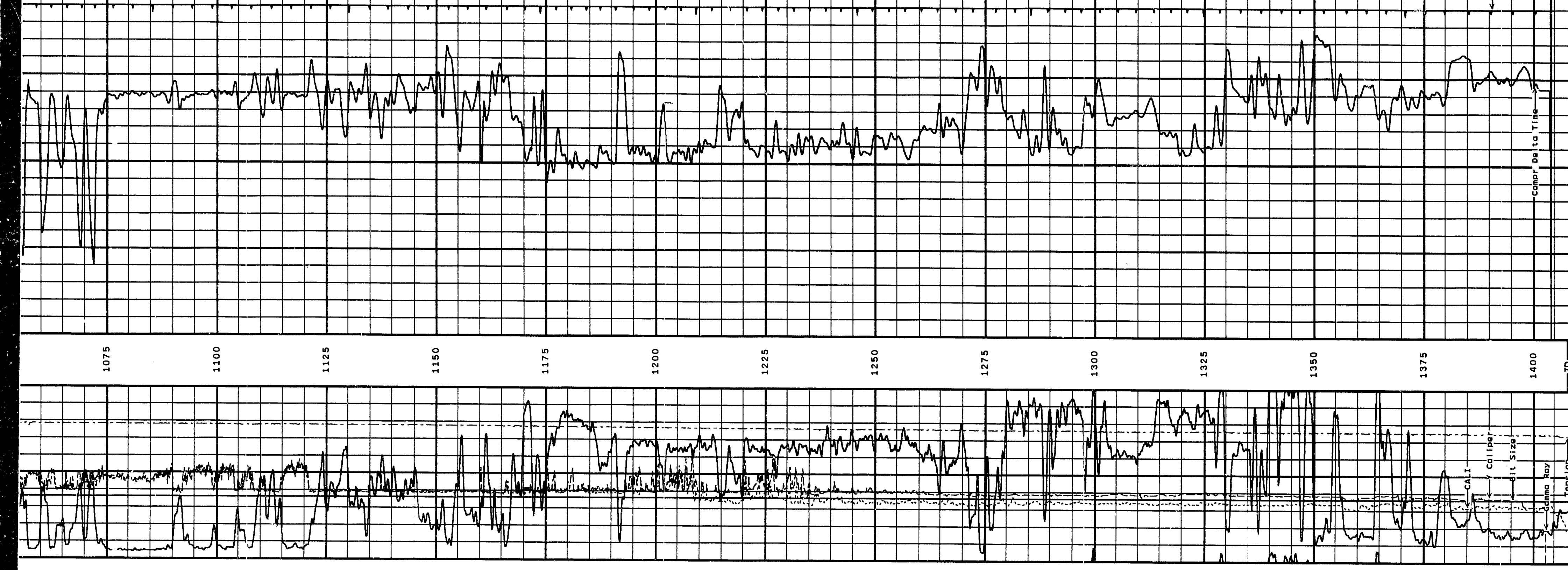
FIELD NOGHA PROVINCE N.W.T.

COMPUTALOG

Wireline Services



SONIC



Y Caliper
Millimeters 375
X Caliper
Millimeters 375
Gamma Ray
API 150
Tension
Pounds 10000

START DEPTH: 1415.0 DIRECTION: UP DATE: 03/04/2003 TIME: 12:31 MODE: TRACE PLAYBACK
30016531 MDANEWMP1

DEPTH SCALE: 1:800

MAIN PASS

VERSION: 2003.01.09.599

REMARKS

MAIN PASS

30016531 MDANEWMP1

FINISH DEPTH: 27.5 Meters DIRECTION: UP DATE: 03/04/2003 TIME: 12:32 MODE: TRACE PLAYBACK

Y Caliper
Millimeters 375
X Caliper
Millimeters 375
Gamma Ray
API 150
Tension
Pounds 10000

START DEPTH: 1415.0 DIRECTION: UP DATE: 03/04/2003 TIME: 12:31 MODE: TRACE PLAYBACK
30016531 MDANEWMP1

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.09.599

REMARKS

MAIN PASS

30016531 MDANEWMP1

FINISH DEPTH: 27.5 Meters DIRECTION: UP DATE: 03/04/2003 TIME: 12:32 MODE: TRACE PLAYBACK

Y Caliper
Millimeters 375
X Caliper
Millimeters 375
Gamma Ray
API 150
Tension
Pounds 10000

START DEPTH: 1415.0 DIRECTION: UP DATE: 03/04/2003 TIME: 12:31 MODE: TRACE PLAYBACK
30016531 MDANEWMP1

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.09.599

REMARKS

MAIN PASS

30016531 MDANEWMP1

FINISH DEPTH: 27.5 Meters DIRECTION: UP DATE: 03/04/2003 TIME: 12:32 MODE: TRACE PLAYBACK

Y Caliper
Millimeters 375
X Caliper
Millimeters 375
Gamma Ray
API 150
Tension
Pounds 10000

START DEPTH: 1415.0 DIRECTION: UP DATE: 03/04/2003 TIME: 12:31 MODE: TRACE PLAYBACK
30016531 MDANEWMP1

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.09.599

REMARKS

MAIN PASS

30016531 MDANEWMP1

FINISH DEPTH: 27.5 Meters DIRECTION: UP DATE: 03/04/2003 TIME: 12:32 MODE: TRACE PLAYBACK

Y Caliper
Millimeters 375
X Caliper
Millimeters 375
Gamma Ray
API 150
Tension
Pounds 10000

START DEPTH: 1415.0 DIRECTION: UP DATE: 03/04/2003 TIME: 12:31 MODE: TRACE PLAYBACK
30016531 MDANEWMP1

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.09.599

REMARKS

MAIN PASS

30016531 MDANEWMP1

FINISH DEPTH: 27.5 Meters DIRECTION: UP DATE: 03/04/2003 TIME: 12:32 MODE: TRACE PLAYBACK

Y Caliper
Millimeters 375
X Caliper
Millimeters 375
Gamma Ray
API 150
Tension
Pounds 10000

START DEPTH: 1415.0 DIRECTION: UP DATE: 03/04/2003 TIME: 12:31 MODE: TRACE PLAYBACK
30016531 MDANEWMP1

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.09.599

REMARKS

MAIN PASS

30016531 MDANEWMP1

FINISH DEPTH: 27.5 Meters DIRECTION: UP DATE: 03/04/2003 TIME: 12:32 MODE: TRACE PLAYBACK

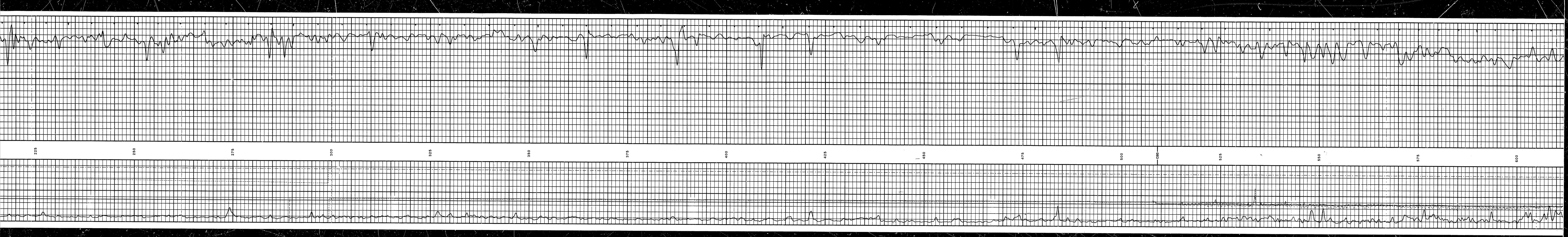
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Millimeters 375
X Caliper
Millimeters 375
Gamma Ray
API 150
Tension
Pounds 10000

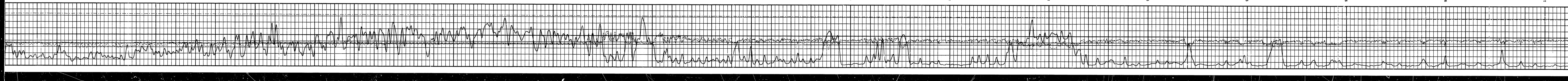
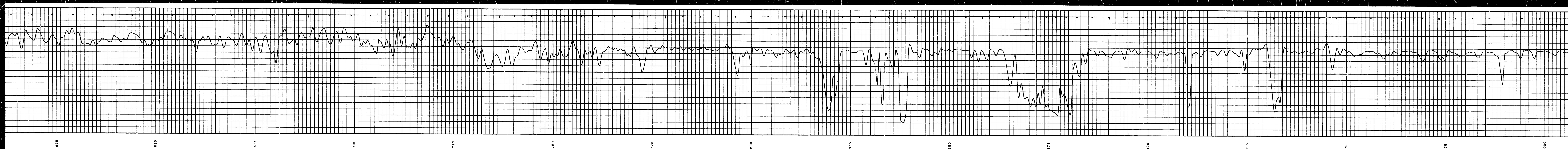
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30016531 MDANEWMP1

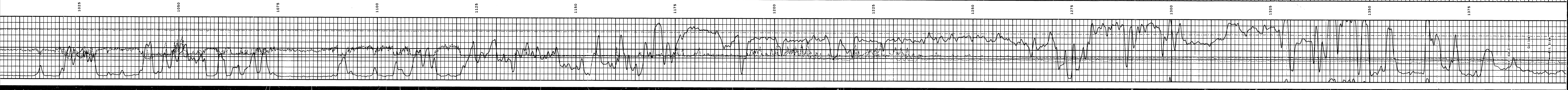
DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.09.599

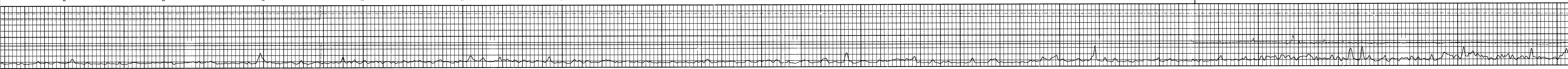
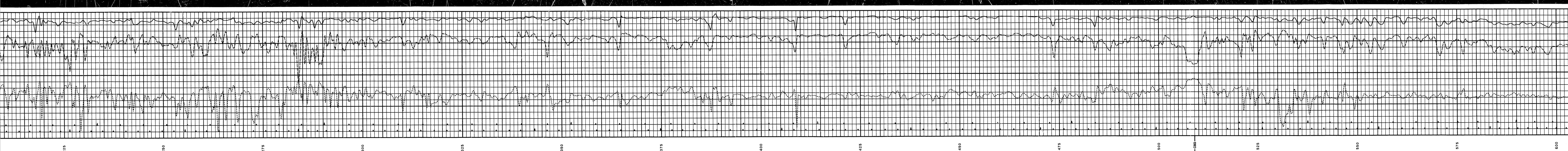


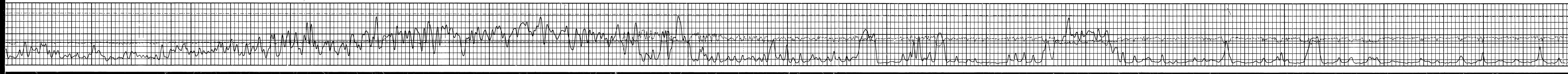
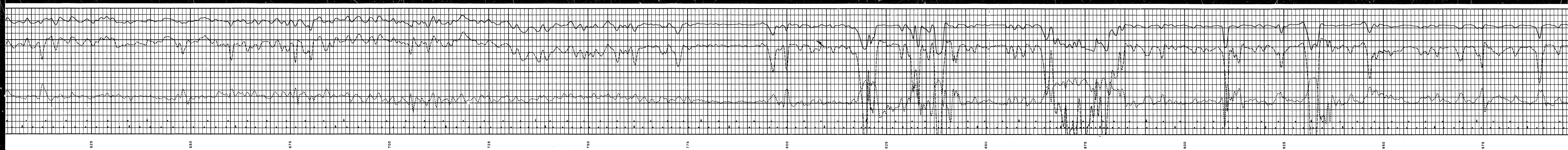


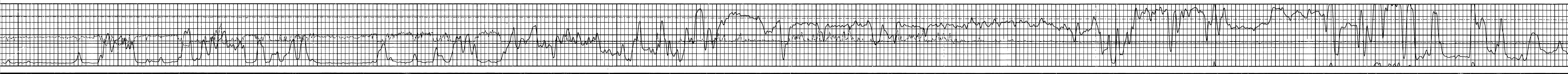
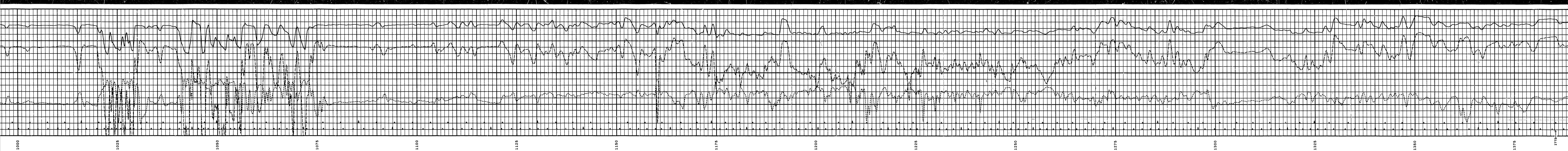


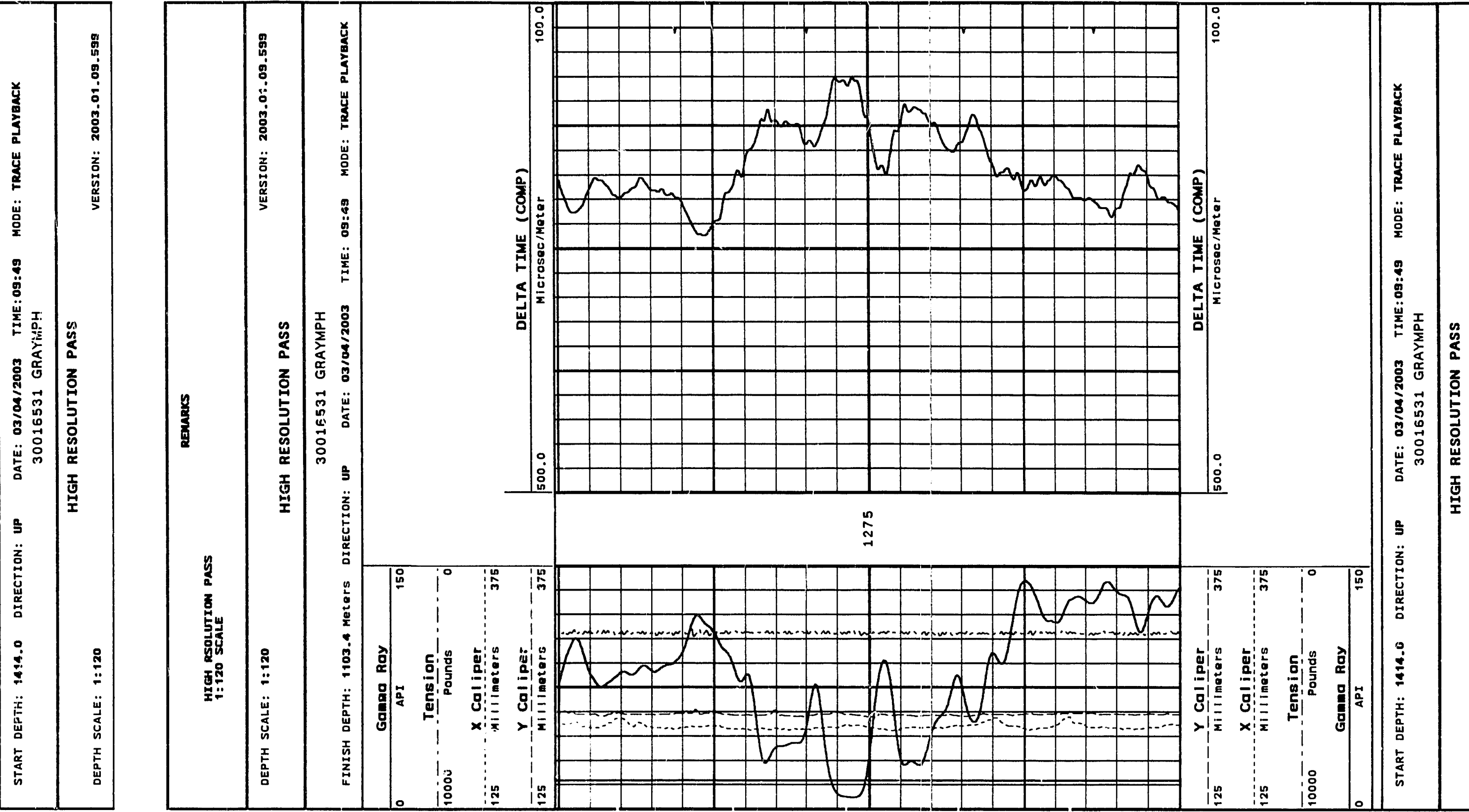
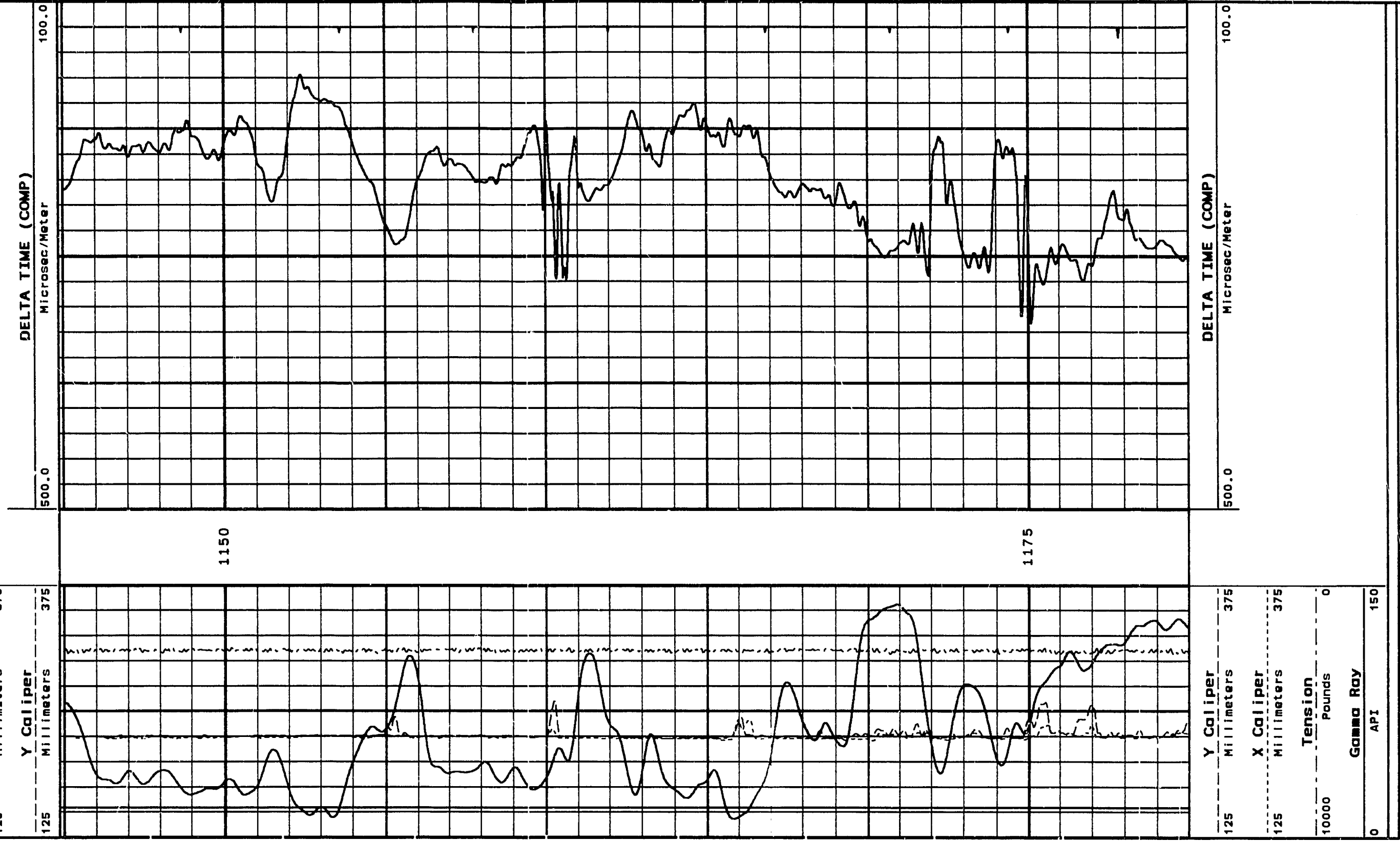
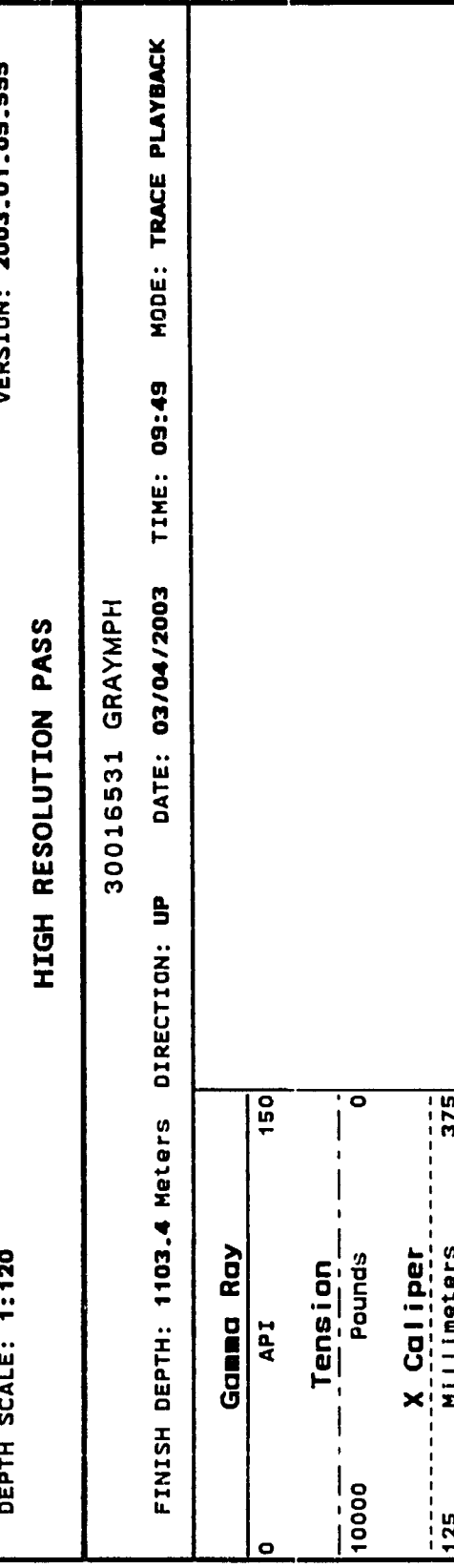
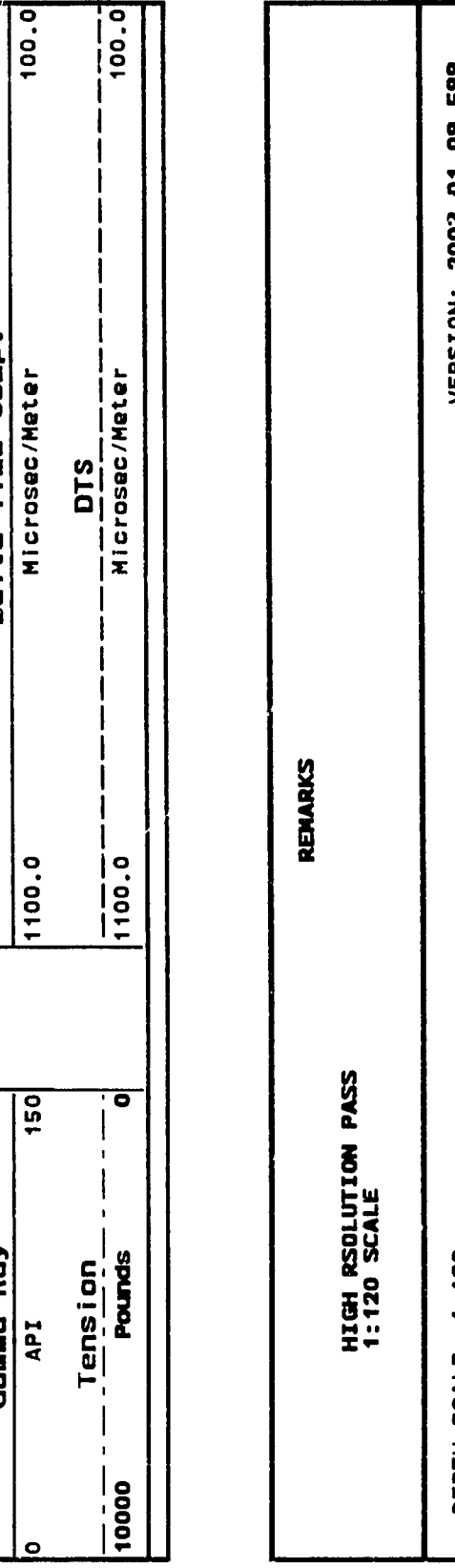
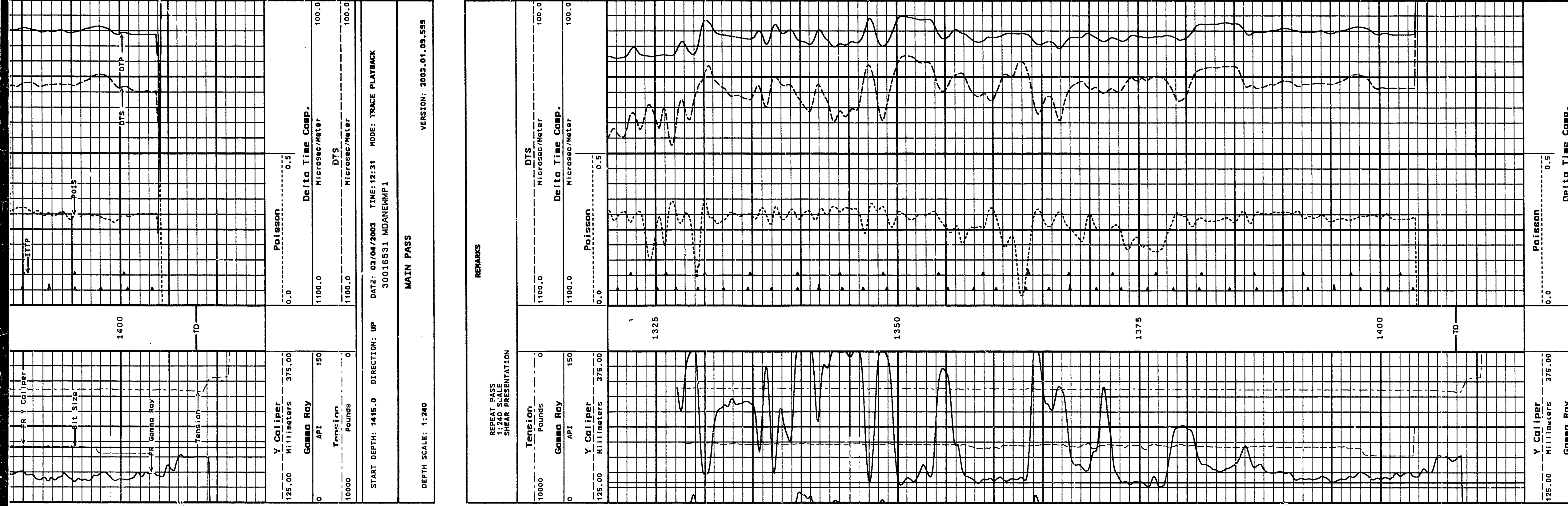
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← Calibrator
1 ft. Size

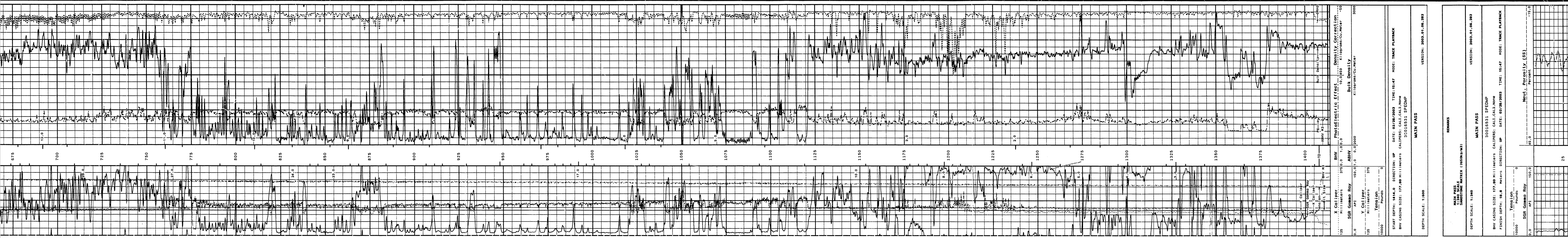


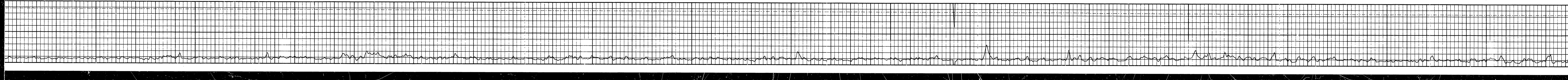
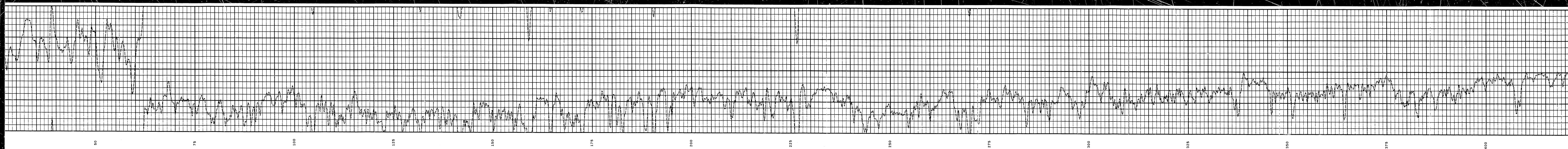


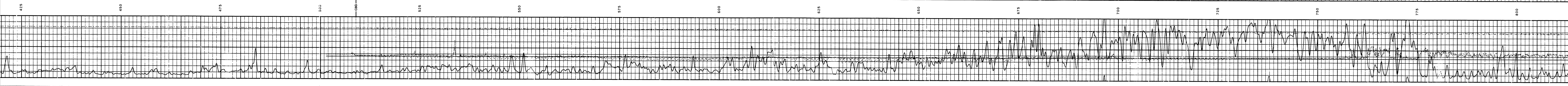
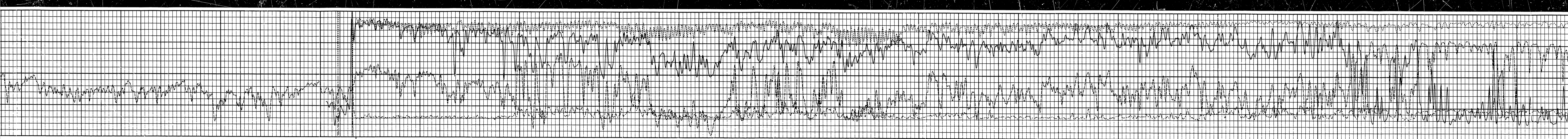


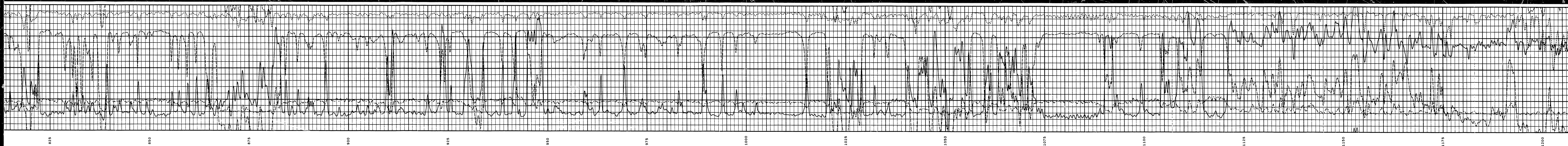


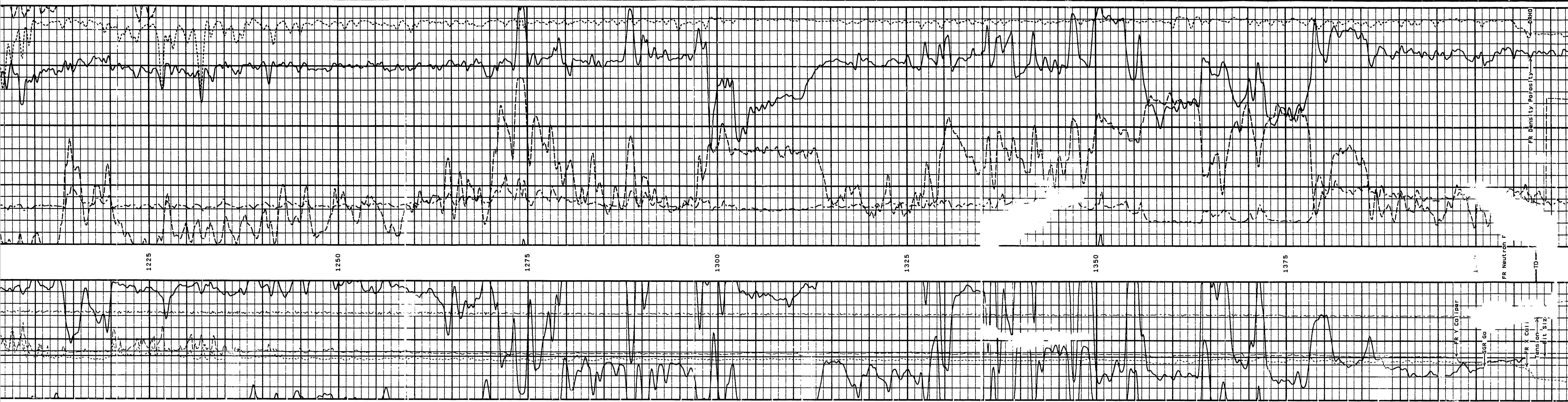
DENSITY











X Caliper	Millimeters	375
Y Caliper	Millimeters	375
SGR Gamma Ray	API	150.0
Tension	Pounds	0

START DEPTH: 1414.0 DIRECTION: UP DATE: 02/26/2003 TIME: 15:47 MODE: TRACE PLAYBACK
BHV CASING SIZE: 177.80 Millimeters CALIPERS: CALI,CAL2,None
30016531 SPEDRP

DEPTH SCALE: 1:240

MAIN PASS

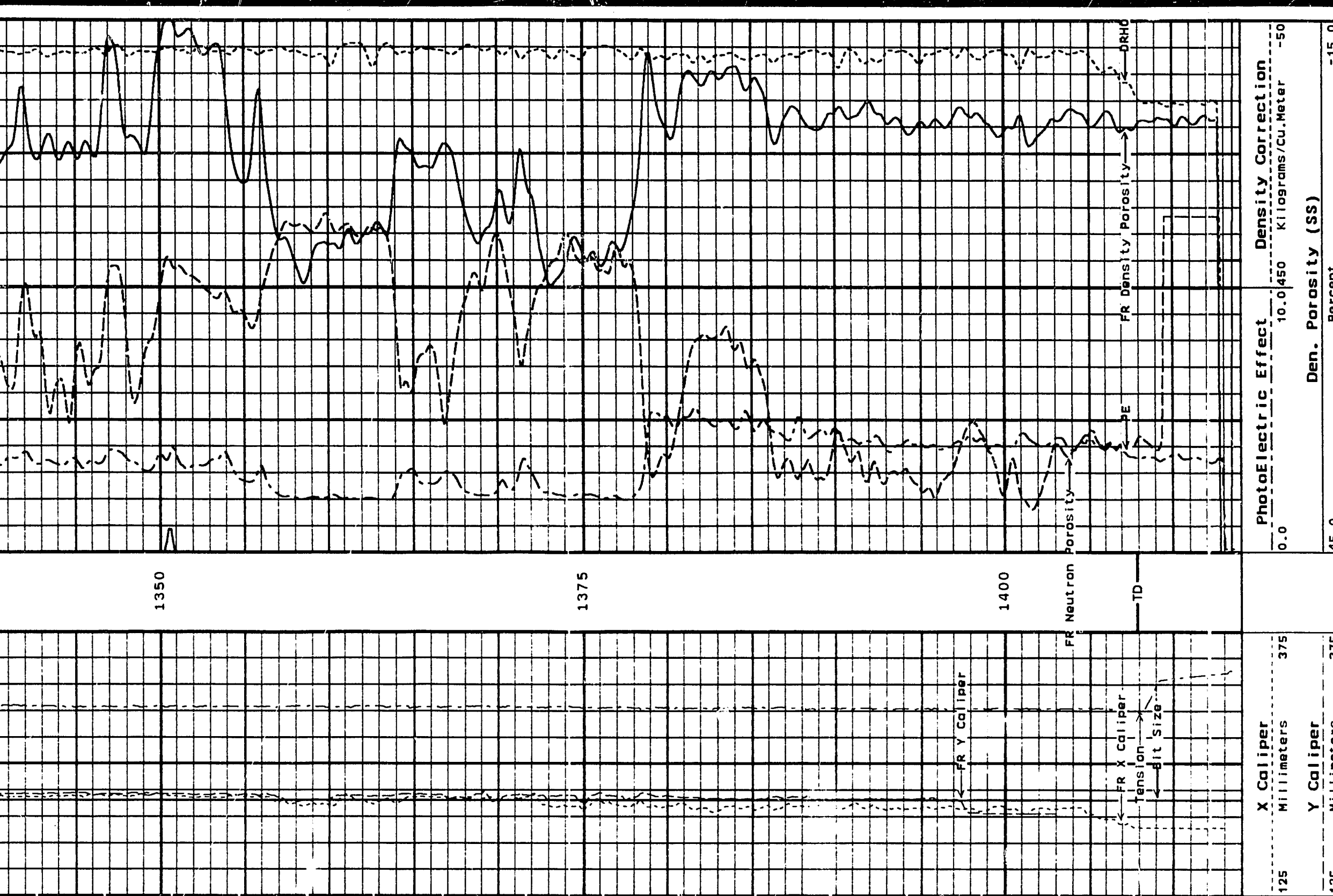
VERSION: 2003.01.06.282

REPEAT PASS
1:240 SCALE
SANDSTONE MATRIX (2850K/m3)

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.06.282



X Caliper	Millimeters	375
Y Caliper	Millimeters	375
Tension	Pounds	0

START DEPTH: 1413.2 DIRECTION: UP DATE: 02/26/2003 TIME: 11:20 MODE: TRACE PLAYBACK
BHV CASING SIZE: 177.80 Millimeters CALIPERS: CALI,CAL2,None
30016531 SPEDRP

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.06.282

REMARKS

MAIN PASS
1:240 SCALE
LIMESTONE MATRIX (2710K/m3)

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.06.282

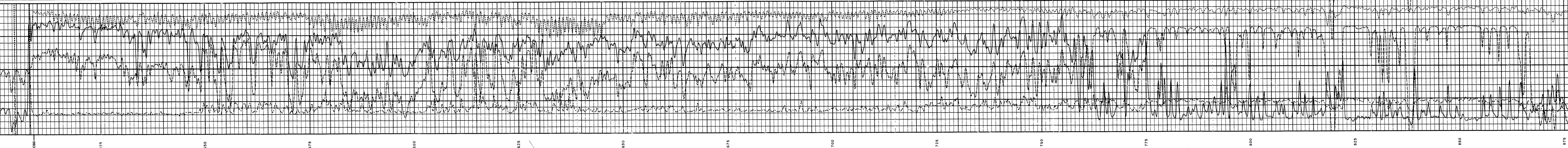
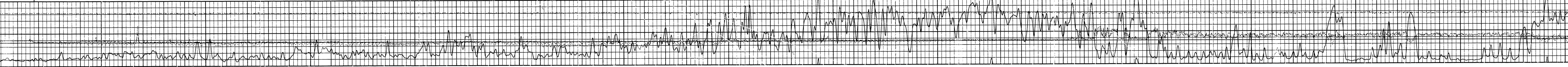
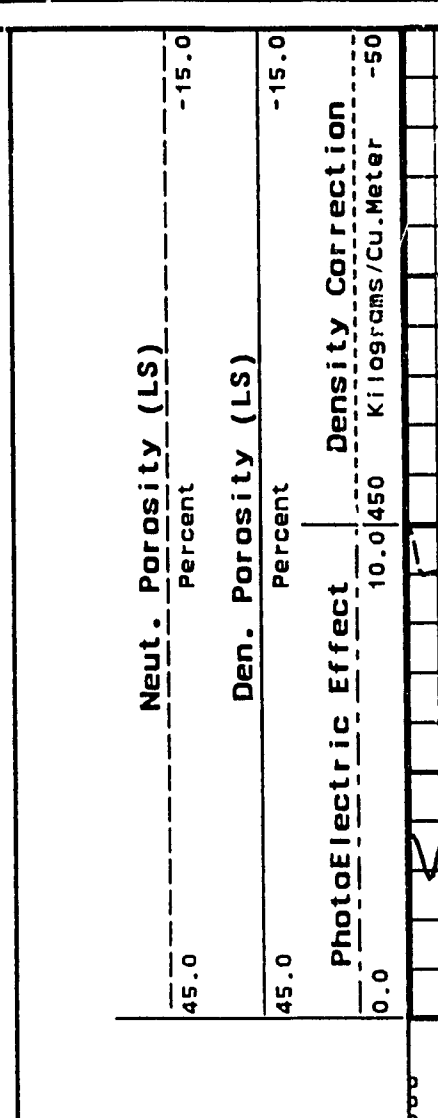
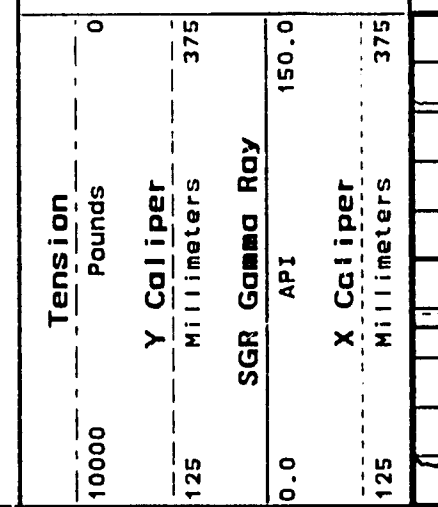
REMARKS

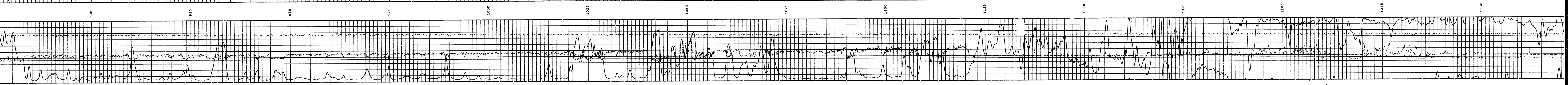
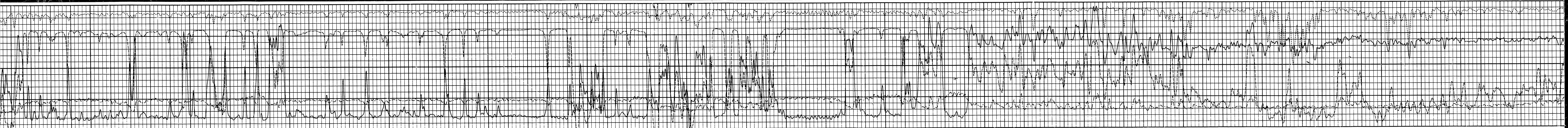
MAIN PASS
1:240 SCALE
LIMESTONE MATRIX (2710K/m3)

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.06.282





900

925

950

975

1000

1025

1050

1075

1100

1125

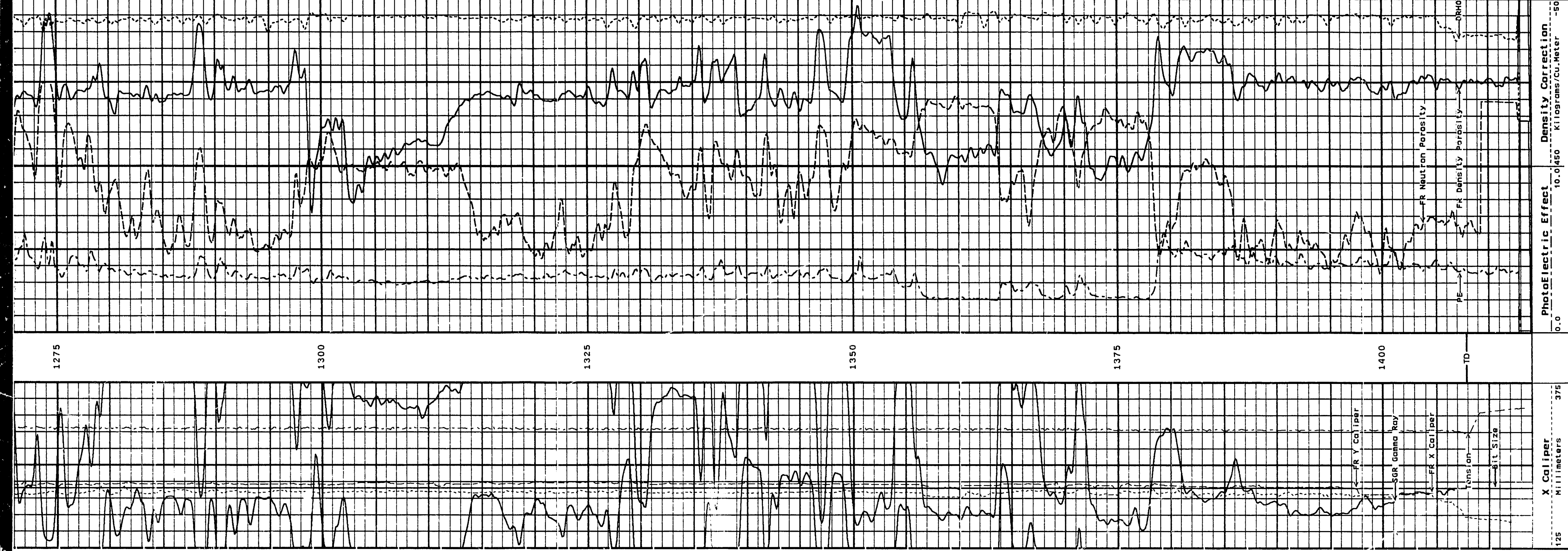
1150

1175

1200

1225

1250



X Caliper
Millimeters
SGR Gamma Ray
API
Y Caliper
Millimeters
Tension
Pounds
Density Correction
Kilograms/Cu. Meter

START DEPTH: 1414.0 DIRECTION: UP DATE: 02/26/2003 TIME: 15:47 NODE: TRACE PLAYBACK
BHV CASING SIZE: 177.80 Millimeters CALIPERS: CALI,CAL2,None
30016531 SPEDMP

DEPTH SCALE: 1:240

MAIN PASS

VERSION: 2003.01.05.282

REMARKS

MAIN PASS

DEPTH SCALE: 1:240

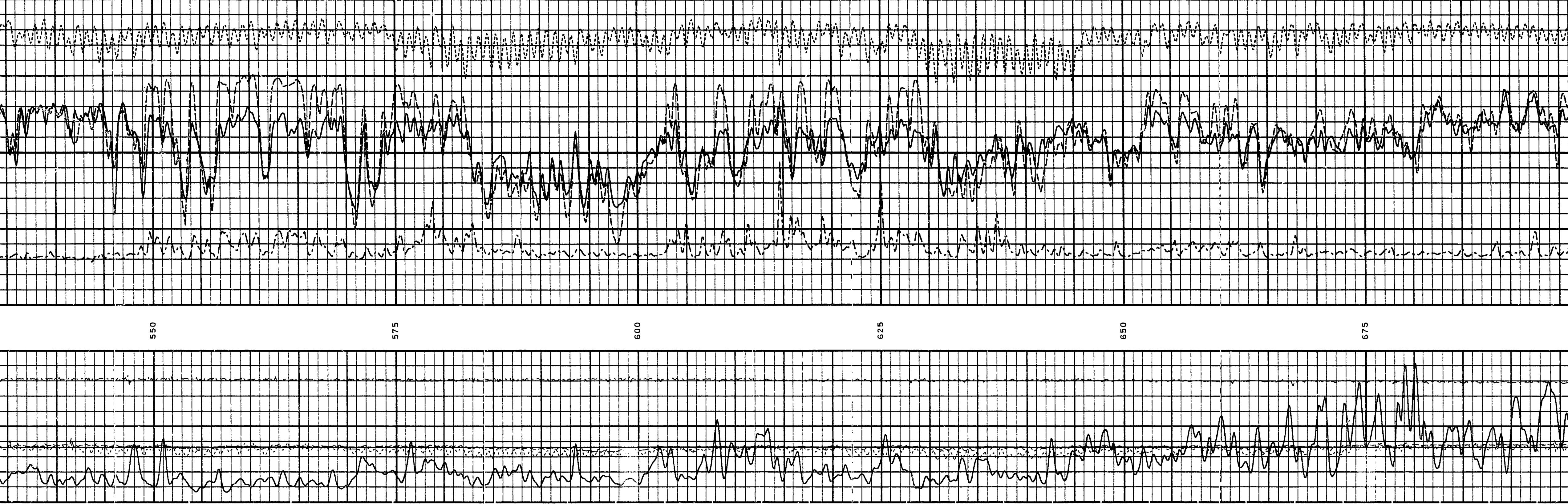
VERSION: 2003.01.05.282

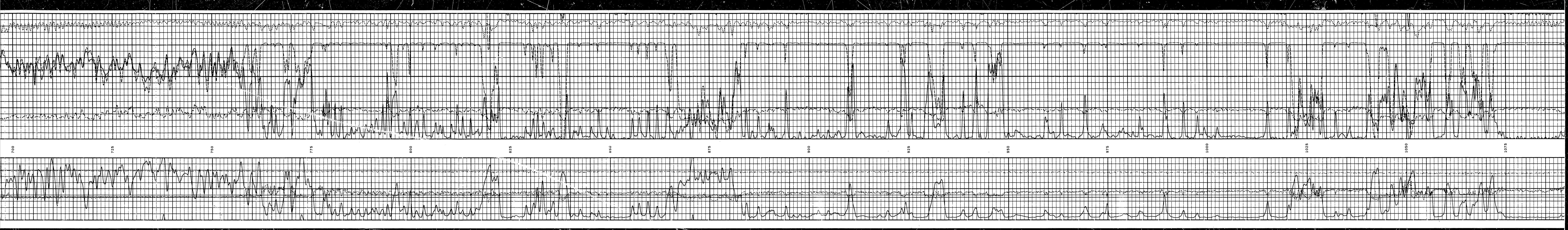
BHV CASING SIZE: 177.80 Millimeters CALIPERS: CALI,CAL2,None

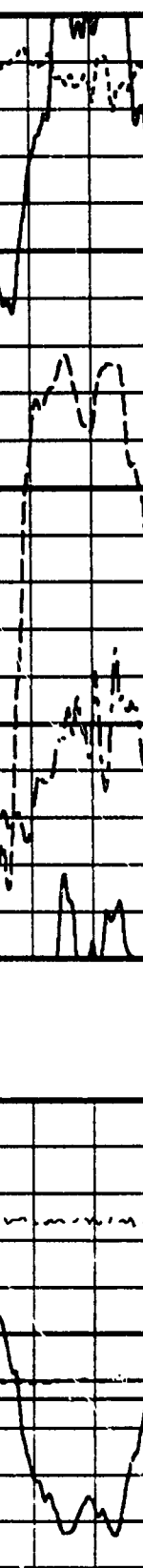
FINISH DEPTH: 18.8 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 15:47 NODE: TRACE PLAYBACK

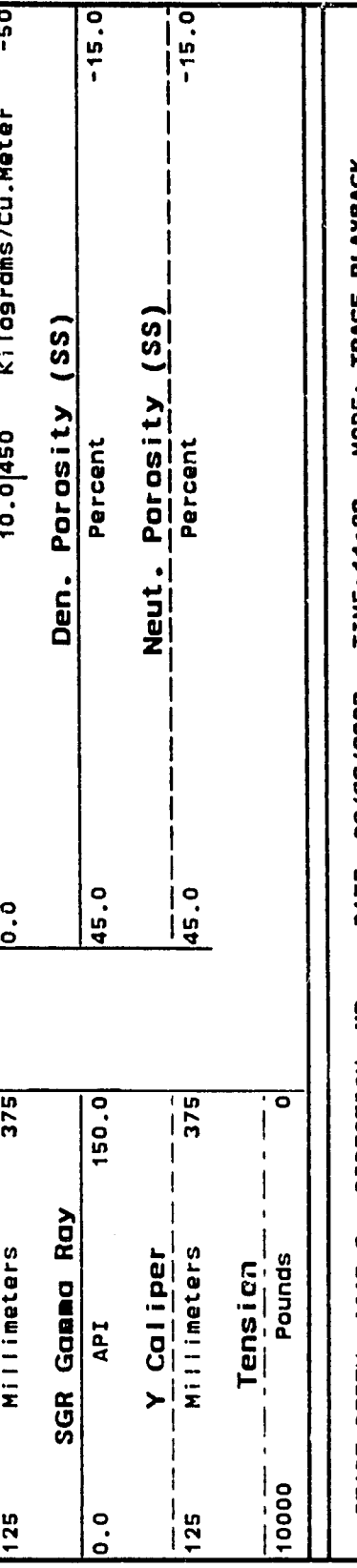
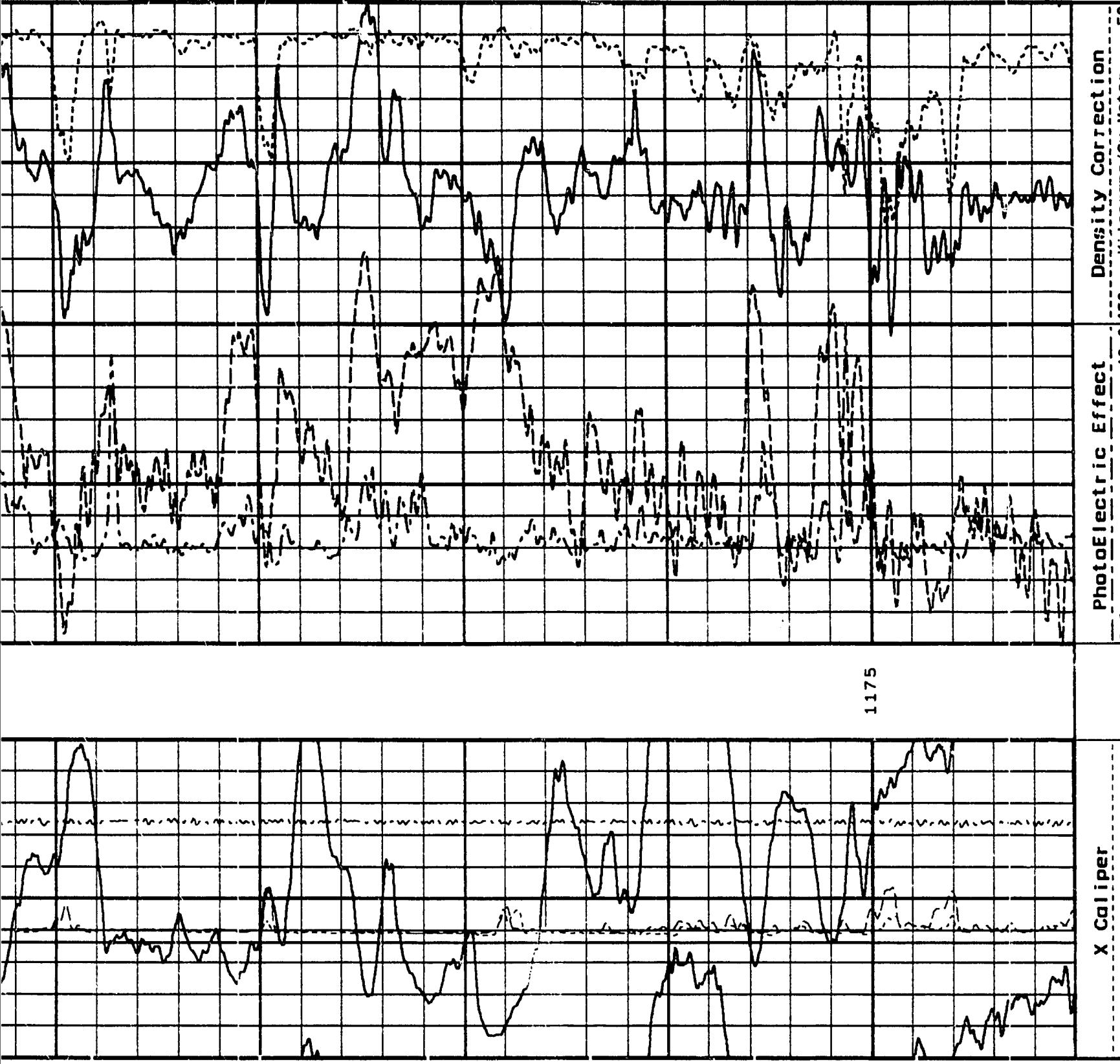
Tension
Pounds
Y Caliper
Millimeters
SGR Gamma Ray
API
X Caliper
Millimeters

Neut. Porosity (DL)
Percent
Den. Porosity (DL)
Percent
PhotoElectric Effect
Kilograms/Cu. Meter
Density Correction
Kilograms/Cu. Meter









125	Millimeters	375
0.0	API	150.0
125	Millimeters	375
10000	Pounds	0

START DEPTH: 1413.2 DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK
BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK
30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK

30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK

30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK

30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK

30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK

30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK

30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

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DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

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HIGH RESOLUTION PASS

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30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK

30016531 SPEDHR

DEPTH SCALE: 1:120

VERSION: 2003.01.06.282

REMARKS

HIGH RESOLUTION PASS

30016531 SPEDHR

BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK

30016531 SPEDHR

0.0	API	150.0	45.0	Percent	-15.0
Y Caliper			Neut. Porosity (SS)		
125	Millimeters	375	45.0	Percent	-15.0
Tension					
10000	Pounds	0			

START DEPTH: 1413.2 DIRECTION: UP DATE: 02/26/2003 TIME: 11:29 MODE: TRACE PLAYBACK
 BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None
 30016531 SPEDHR

HIGH RESOLUTION PASS

DEPTH SCALE: 1:120

VERSION: 2003.01.08.282

02/26/03 06:51 0.0 M Ver 2.0b Job 33016531

Caliper Before Survey Calibration
 Tool Type: CAL-FA Serial No:CALF132

	Measured			Calibrated		
	Small	Large	Units	Small	Large	Units
MCL0	749.1	1413.5	mm	177.8	355.6	mm

02/03/03 15:39 0.0 M Ver 2.0b-2.0b Job shop

Compensated Neutron Shop Calibration

Tool Type: CNT-S Serial No: cnts180
 Verifier No: MSV-203 Source No: N-604
 Tank Type: NCT-AA

	Low Porosity	Med Porosity	High Porosity	Units
Tank Ratio:	0.713	1.457	2.294	SS/LS
Tank Porosity:	-0.76	10.25	25.73	LM-PU
LS Detector:	1396.2	347.2	143.1	CPS
SS Detector:	1028.5	515.2	350.0	CPS
Tool Ratio:	0.737	1.484	2.347	SS/LS
Tool Porosity:	-0.64	10.25	25.96	LM-PU

Tool Constant: 0.982
 Surface Temperature: 21 DegC

SS Detector	LS Detector	Ratio	Porosity
394.0 CPS	218.5 CPS	1.803	15.52

02/26/03 06:55 0.0 M Ver 2.0b-2.0b Job 30016531

Compensated Neutron Before Survey Calibration
 Tool Type: CNT-S Serial No: cnts180
 Verifier No: MSV-203 Source No: N-604

	Verifier Check	Units
LS Detector:	218.5	CPS
SS Detector:	391.0	CPS
Tool Ratio:	1.789	SS/LS
Tool Porosity:	15.54	LM-PU

Tool Constant: 0.982

02/26/03 13:28 0.0 M Ver 2.0b-2.0b Job 30016531

Compensated Neutron After Survey Calibration
 Tool Type: CNT-S Serial No: cnts180
 Verifier No: MSV-203 Source No: N-604

	Verifier Check Before	After	Units
LS Detector:	218.5	219.4	CPS
SS Detector:	391.0	392.6	CPS
Tool Ratio:	1.789	1.789	SS/LS
Tool Porosity:	15.54	15.54	LM-PU

Tool Constant: 0.982

02/03/03 12:06 -7.0 M Ver 2.0b-2.0b Job shop

Spectral Pe Density Shop Calibration

Tool Type: SPS-AB Sonde No: SPSB173
 Firmware Ver: 6.02 Electronics No: SPCB173
 Aluminum Bk No: ALBA109 Source No: 2810-GM
 Magnesium Bk No: MGBA109

	Bkg	Al	Al+Fe	Mg	Units
Cs Pk	111.18	109.90	109.74	111.18	Ch
Gain	0.163	0.166	0.166	0.163	Ch/Kev
Tng Pk	11.61				
Off	0.029				
Res	9.14	9.82	9.80	9.41	%
LLPE	156	1554	1554	11235	cps
LUPE	84	1223	944	7531	cps
LSUC	504	1103	975	6521	cps
LCMP	1017	4374	3805	26090	cps
Cs Pk	110.97	110.05	110.11	111.08	Ch
Gain	0.167	0.166	0.166	0.167	Ch/Kev
Tng Pk	11.92				
Off	0.392				
Res	8.41	8.35	8.55	8.95	%
SLPE	160	3006	2030	4656	cps
SUPE	87	2206	1662	3277	cps
SSUC	462	5230	4595	7535	cps
SCMP	977	12625	10899	19080	cps
Acc	250	250	250	250	Secs

Density Calibration

Spine Angle = Fresh Barite
 Spine Length = 76.98 78.39
 202.20 200.12

Pe Calibration

LS Slope = Fresh
 LS Intercept = 1.6204
 SS Slope = -0.2528
 SS Intercept = 3.5353
 -0.4781

02/26/03 06:53 0.0 M Ver 2.0b-2.0b Job 30016531

Spectral Pe Density Before Survey Tool Check

Tool Type: SPS-AB Sonde No: SPSB173
 Firmware Ver: 6.02 Electronics No: SPCB173
 Aluminum Bk No: ALBA109 Source No: 2810-GM
 Magnesium Bk No: MGBA109

	Shop	Before	Units
Cs Pk	111.18	110.03	Ch
Gain	0.168	0.164	Ch/Kev
Tng Pk	11.61	11.61	Ch
Off	0.029	0.020	Ch
Res	9.14	9.14	%
LLPE	156	159	cps
LUPE	84	86	cps
LSUC	504	505	cps
LCMP	1017	1020	cps
Cs Pk	110.97	109.29	Ch
Gain	0.167	0.166	Ch/Kev
Tng Pk	11.92	11.91	Ch
Off	0.392	0.385	Ch
Res	8.41	8.73	%
SLPE	160	160	cps
SUPE	87	88	cps
SSUC	462	463	cps
SCMP	977	979	cps
Acc	250	250	Secs

02/26/03 13:28 0.0 M Ver 2.0b-2.0b Job 30016531

Spectral Pe Density After Survey Tool Check

Tool Type: SPS-AB Sonde No: SPSB173
 Firmware Ver: 6.02 Electronics No: SPCB173
 Aluminum Bk No: ALBA109 Source No: 2810-GM
 Magnesium Bk No: MGBA109

	Shop	Before	After	Units
Cs Pk	111.18	110.03	108.79	Ch
Gain	0.168	0.164	0.164	Ch/Kev
Tng Pk	11.61	11.61	11.49	Ch
Off	0.029	0.020	0.170	Ch
Res	9.14	9.14	9.03	%
LLPE	156	159	157	cps
LUPE	84	86	87	cps
LSUC	504	505	504	cps
LCMP	1017	1020	1018	cps
Cs Pk	110.97	109.29	109.09	Ch
Gain	0.167	0.166	0.165	Ch/Kev
Tng Pk	11.92	11.91	11.50	Ch
Off	0.392	0.385	0.394	Ch
Res	8.41	8.73	8.58	%
SLPE	160	160	161	cps
SUPE	87	88	89	cps
SSUC	462	463	482	cps
SCMP	977	979	978	cps
Acc	250	250	250	Secs

02/26/03 06:51 0.0 M Ver 2.0b Job 30016531

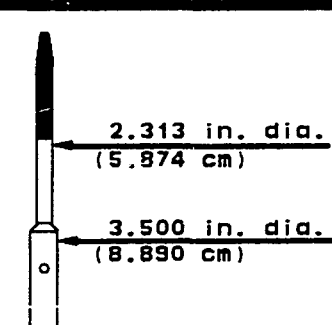
Caliper Before Survey Calibration

Tool Type: SPD-CL Serial No:SPSB173

	Measured			Calibrated		
	Small	Large	Units	Small	Large	Units
MCL2	1800.2	3047.5	mm	177.8	355.6	mm

O.H. Adaptor Head

Weight 18.0 Kg
 Length 0.74 m
 Max. Diameter 8.9 cm
 Total Stack Weight 449.6 Kg in air
 Total Stack Length 15.84 m



Crossover

Weight 6.8 kg
Length 0.27 m

Wireline Communications Cartridge

Weight 53.6 kg
Length 2.31 m
Max. Diameter 8.6 cm

2-Arm Caliper

Weight 79.4 kg
Length 2.40 m
Max. Diameter 10.2 cm

SPeD 400 Electronics

Weight 56.7 kg
Length 2.92 m
Max. Diameter 8.6 cm

Spectral Gamma Ray

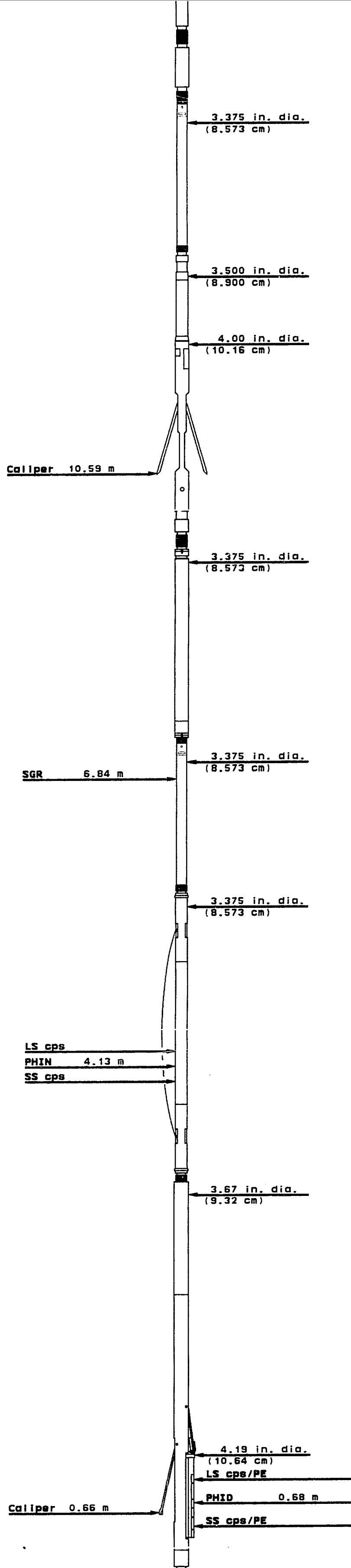
Weight 48.2 kg
Length 1.73 m
Max. Diameter 8.573 cm

Mandrel Neutron

Weight 45.4 kg
Length 2.07 m
Max. Diameter 8.6 cm

SPeD 400 Pad Section

Weight 141.5 kg
Length 3.38 m
Max. Diameter 11.4 cm

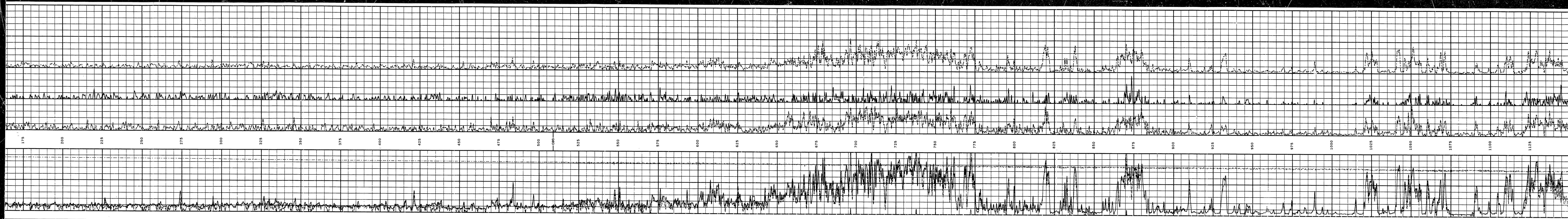


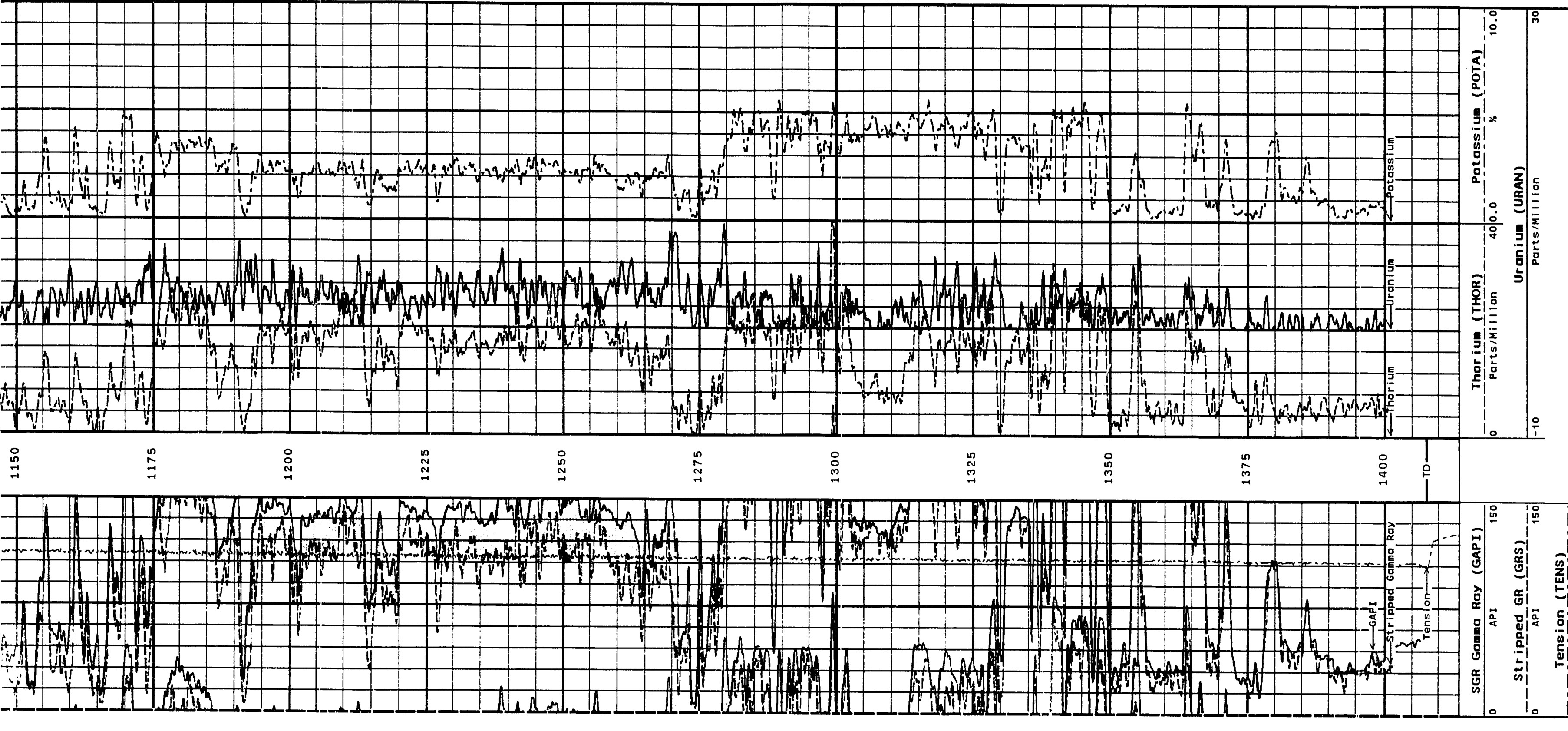
Tool Zero

COMPANY	APACHE CANADA LTD.	COMPUTALOG Wireline Services 
WELL	APACHE PARAMOUNT NOGHA C-49	
FIELD	NOGHA PROVINCE N.W.T.	

**BEST
COPY
ON FILE**

MISCELLANEOUS





START DEPTH: 1414.0 DIRECTION: UP DATE: 02/26/2003 TIME: 15:47 MODE: TRACE PLAYBACK
BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None
FINISH DEPTH: 1400.0 METERS DIRECTION: UP DATE: 02/26/2003 TIME: 15:47 MODE: TRACE PLAYBACK
30016531 SPEDMP

DEPTH SCALE: 1:800

MAIN PASS

VERSION: 2003.01.06.282

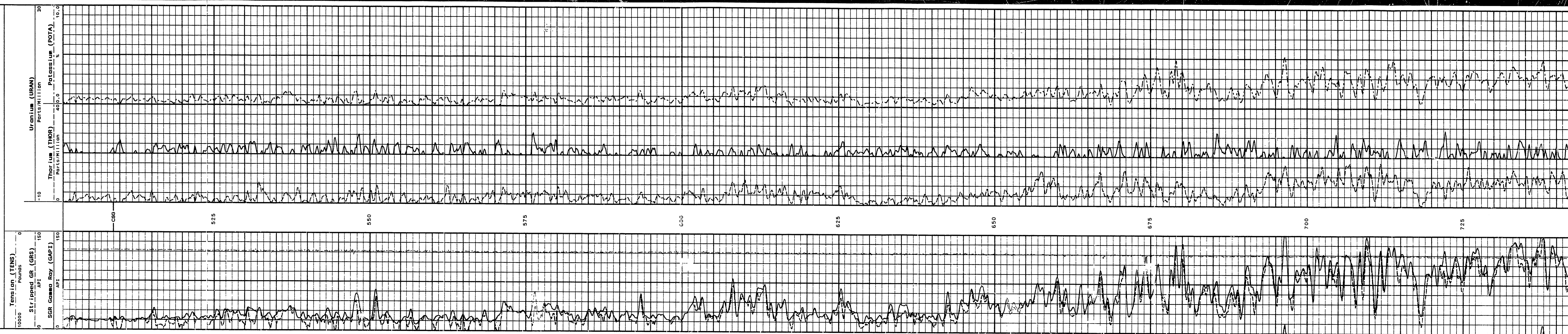
REMARKS

MAIN PASS

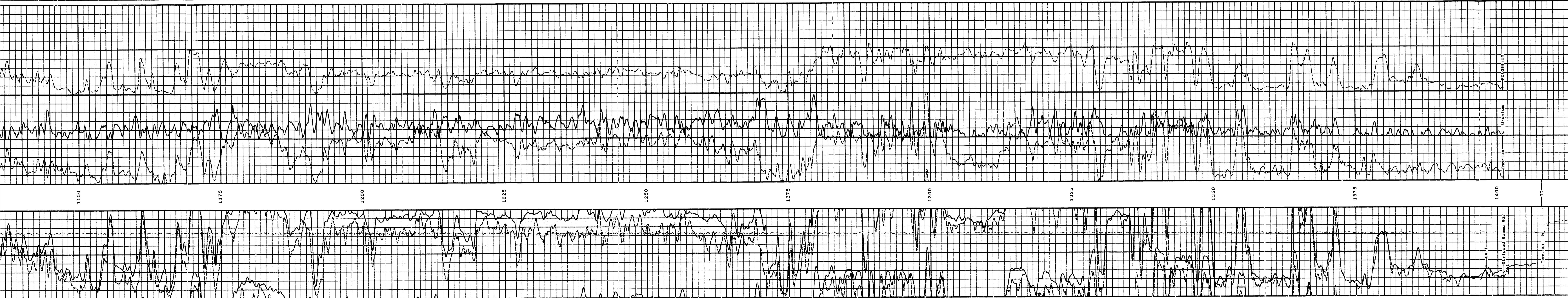
DEPTH SCALE: 1:240

VERSION: 2003.01.06.282

30016531 SPEDMP
BHV CASING SIZE: 177.80 Millimeters CALIPERS: CAL1,CAL2,None
FINISH DEPTH: 1400.0 METERS DIRECTION: UP DATE: 02/26/2003 TIME: 15:47 MODE: TRACE PLAYBACK







SGR Gamma Ray (GAPI) 150
Stripped GR (GRS) 150
Tension (TENS) 10000 Pounds

Thorium (THOR) 40.0.0 Parts/Million
Uranium (URAN) 40.0.0 Parts/Million
Potassium (POTA) 10.0.0 %

START DEPTH: 1414.0 DIRECTION: UP DATE: 02/26/2003 TIME: 15:47 MODE: TRACE PLAYBACK
BHV CASING SIZE: 177.80 Meters CALIPERS: CAL1.CAL2.None
30016531 SPEDMP

DEPTH SCALE: 1:240
MAIN PASS
VERSION: 2003.01.06.282

SYSTEM CONSTANTS
NAME DESCRIPTION VALUE UNITS
TD-Losser 1407.80 Meters
BS Bit Size 216.0 Millimeters
BHT Bottom Hole Temp 25.0 Degrees Celsius
SACC Accumulation Time 100 Seconds
BARI Barite Correction OFF
Mud Weight 1250.0 Kilo grams/CU Meter
Mud Weight Density 2710 Kilo grams/CU Meter
SPED Valve Status 1000
Factorial 0.5
Square Root Angle 0.00 Degrees

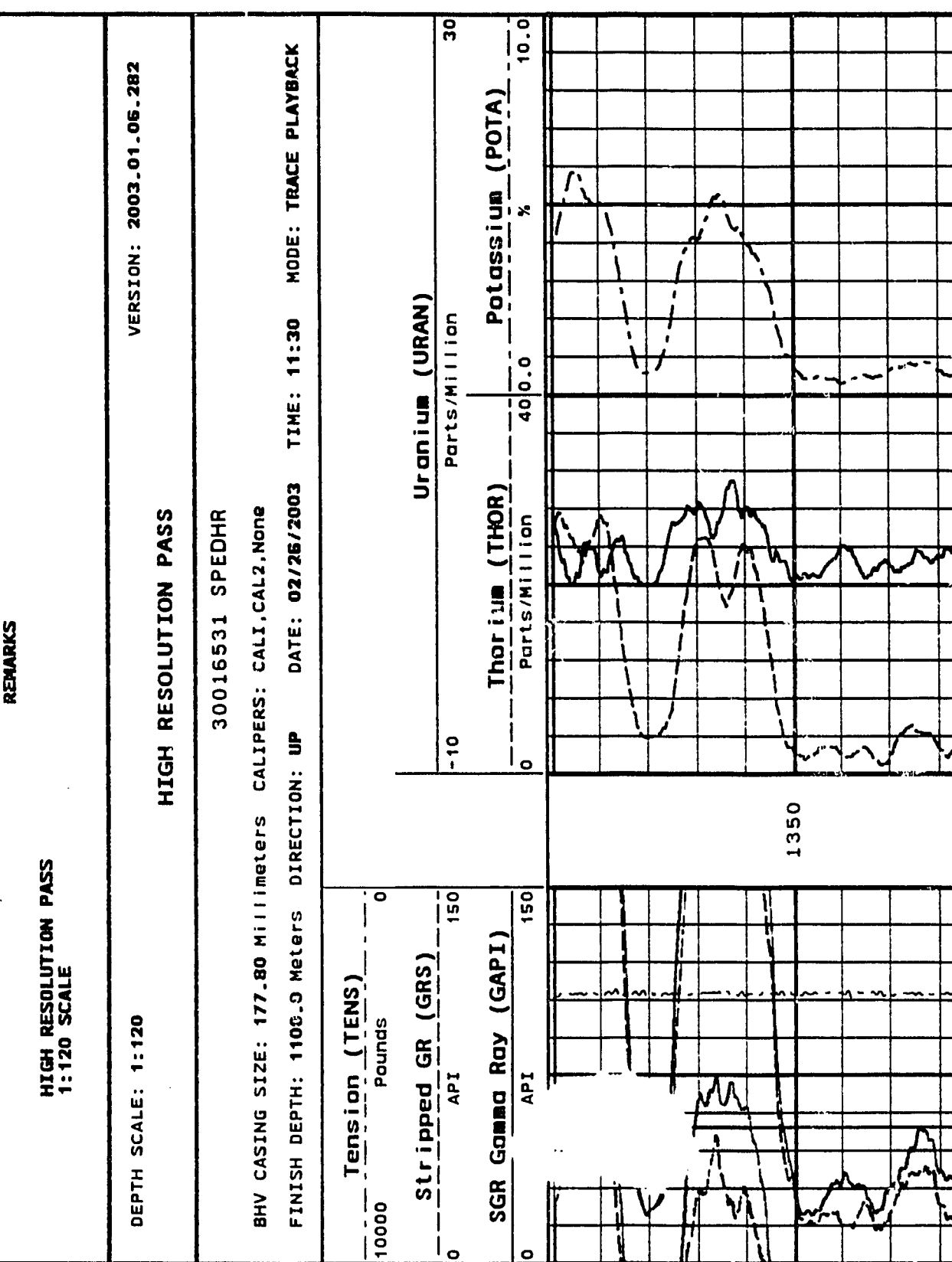
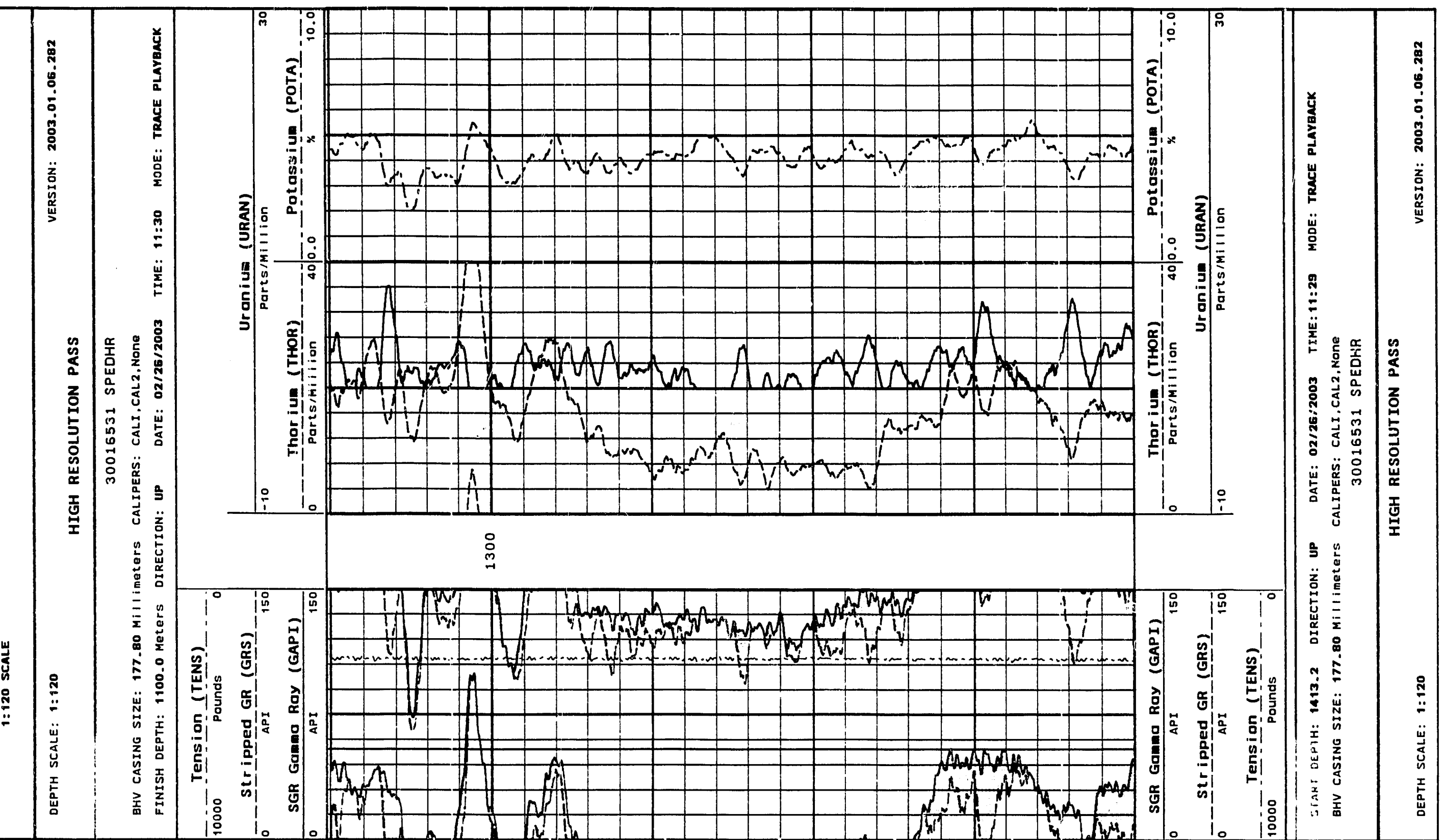
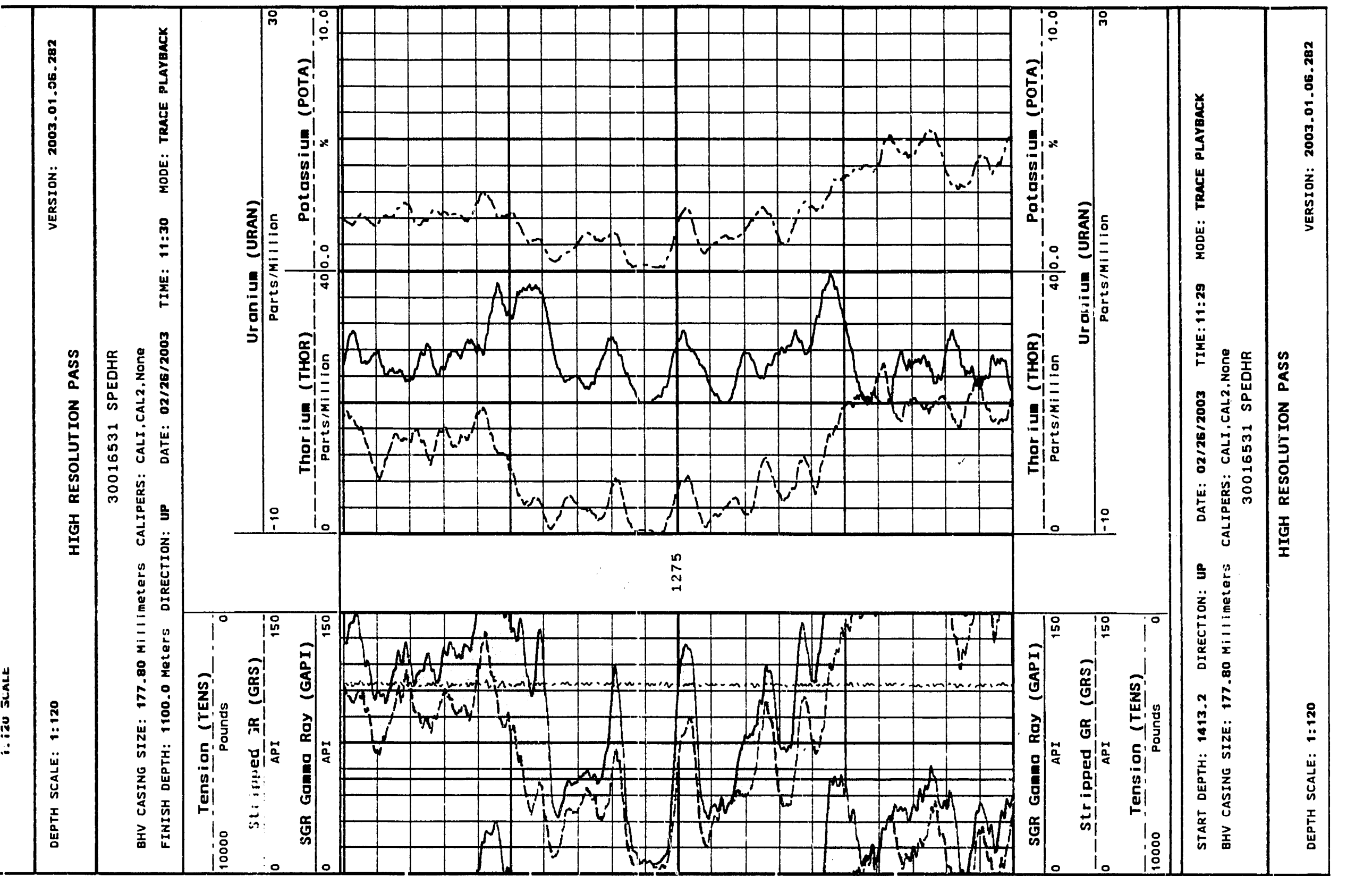
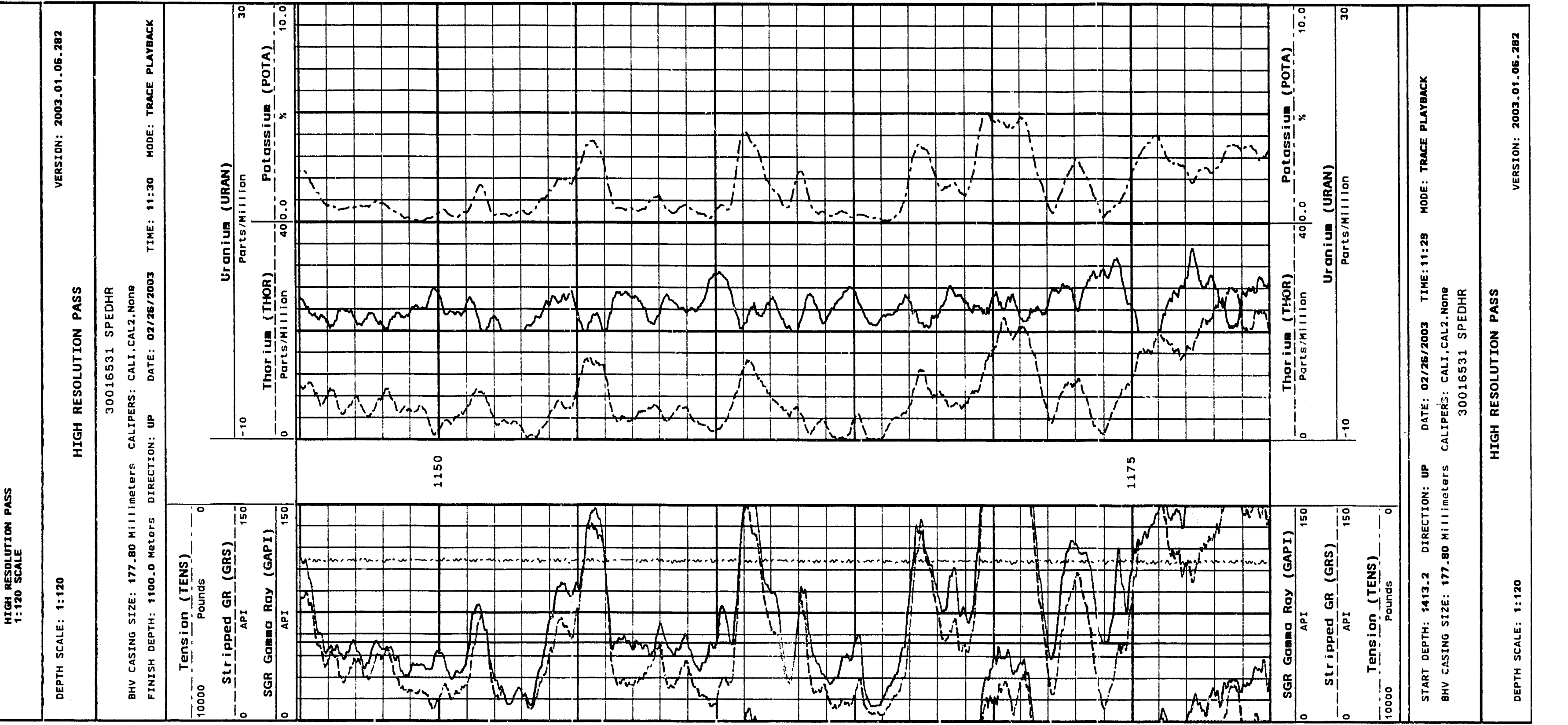
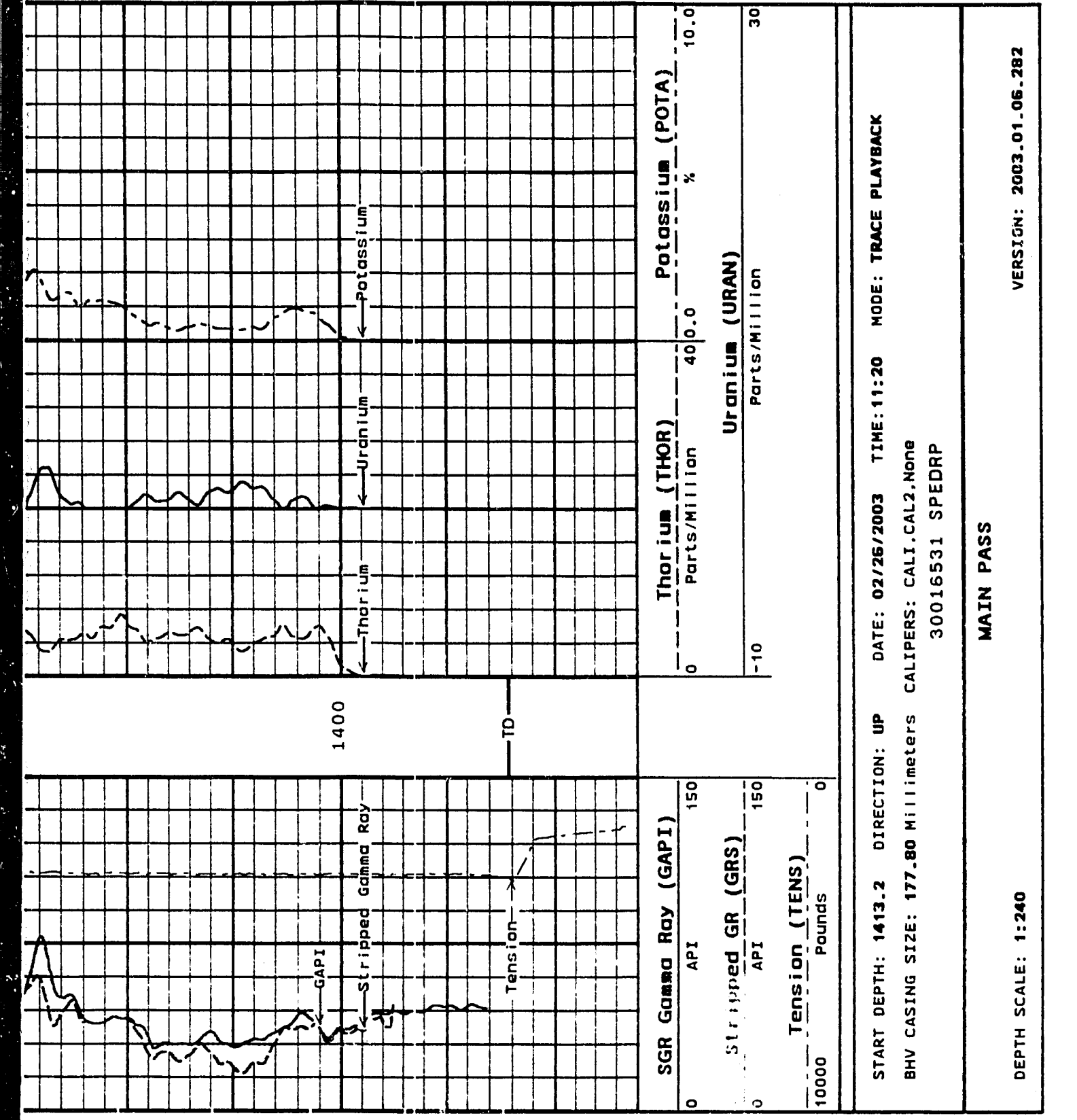
REPEAT PASS 1:240 SCALE
REMARKS
DEPTH SCALE: 1:240
MAIN PASS
VERSION: 2003.01.06.282

BHV CASING SIZE: 177.80 Meters CALIPERS: CAL1.CAL2.None
FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: 02/26/2003 TIME: 11:20 MODE: TRACE PLAYBACK

Tension (TENS) 10000 Pounds
Stripped GR (GRS) 150
SGR Gamma Ray (GAPI) 150

Thorium (THOR) 40.0.0 Parts/Million
Uranium (URAN) 40.0.0 Parts/Million
Potassium (POTA) 10.0.0 %





TOUR SHEETS

DAY SHIFT

LICENSE NO.: WID1934 WELL NAME AND NO.: PARA etal NOGHA

OPERATOR: PARAMOUNT RESOURCES LTD.

CONTRACTOR: WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE I.D.: 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
(2) Detailed Inspection Weekly (Using Check List)
(3) HSE Signs Posted (if Required)
(4) Well Lines & Block Diagrams Posted
(5) Plans Lines Staked
(6) BOP Drills Performed
(7) Visually Inspect BOP's - Flarelines & Degasser Lines
(1) Rig Site Health and Safety Meeting (monthly)
(2) C.A.O.D.C. Rig Safety Inspection Checklist (monthly)
(3) Mast Inspection Before Raising or Lowering
(4) Crown Block Checked
(5) Mast 12th Checked

CM	TEMP	30
CM	WIND	0
CM	WIND DIRECTION	CALM
CM	ROAD CONDITION	ICE
CM	TEMPERATURE	-35
CM	CONDITIONS	OVER CAST
CM	WIND DIRECTION	CALM
CM	ROAD CONDITION	ICE

SAFETY TOPIC

TUBULARS

NO.	SP. SIZE	ICB / IN	GRADE	SEAL ID	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.	SHALE SHAKER(S)			RENTALS / SERVICES													Mon	Tue	Wed																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
											NO.	TYPE	TYPE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

EVENING SHIFT

LICENSE NO.: WID1934		WELL NAME AND NO.: PARA etal NOGHA	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.	
SURFACE LOCATION:		UNIQUE I.D.: 300C496640125450	
OPERATOR'S REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTOR'S REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)	

(1) Daily Walk Around Inspection (2) Detailed Inspection-Weekly (Using Check List) (3) HSE Signs Posted (if Required) (4) Well License & Block Diagram Posted (5) Flare Lines Inspected (6) SCOP Drills Performed (7) Monthly Inspect SCOPs - Personnel & Equipment Lines (8) Rig Site Health and Safety Meeting (weekly/monthly) (9) S.A.D.D.D. Rig Safety Inspection Checklist (weekly/monthly) (10) Must Inspect Before Raising or Lowering (11) Crown Block Checked (12) Motor Kilo Checked		FUEL @ 08:00 HRS. NO. 230 TEMPERATURE -36 CONDITIONS OVER CAST WIND DIRECTION CALM ROAD CONDITION ICE
--	--	--

SAFETY TOPIC															REVIEW	
LAST CHANGING OF LAST																
G.D. mm MIN. LD kg/m MAKE GRADE # OF JOINTS TOTAL (m) ICE TO CBL SET AT (m)																
SHALE SHAKERS NO. 1 TYPE KING TYPE																
CRANE SCREENS TOP 80 MIDDLE 80 BOTTOM 80																
RENTALS / SERVICES																
Mon Day Eve																

SP. SIZE	ES / M	GRADE	WELL ID	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.																TOTAL
20.84	E	84	117	4"FH	250	OILWELL	PT-850	229																	
82.45	H.W.D.	70	158	4.5"KH	20	EMSCO	375	356																	
181.70	D.C.	73	171	4.5"KH	20																				

OPER.	THROAT THROAT	WELL ACTUAL	REASON	COPIES	COPIES & DISC.	TYPE	NO SERVICE	REPAIRS	OUT OF O.D. LINE	WEL SERVICE	WELL LINE	WELL CBL & CEMENT	WELL ON CEMENT	WELL UP & D.P.	WELL S.D.P.	WELL STEER	FLUID BACK	WELL CEMENT	PERIOD	WELL WORK	WELL MECHAN						TOTAL
OPER.																											
NOV21		7.75					0.25																			8.00	
DAY		10.75					0.25																			11.00	
EVE		4.00																								4.00	
TOTAL		22.50					0.50																			23.00	

MUD REPORT										METERS ON SITE										TIME LOG									
WATER BASED										OIL BASED										TIME DETAIL									
1 BIT SUB 311.0 2 D.C. 229 17.83 3 X.O. 158 0.70 4 D.C. 185 8.87 VAREL ETD44-XG 170823 0.00 38.00 34.00										FROM TO LRL/REASON ROTARY R.P.M. WT. ON BIT 23.00 38.00 0 40 12 2000 2400 4.00 2 2400 1300 152.0 85 152.0										FROM TO ELAPSED TIME CODE 2000 2400 4.00 2 2400 1300 152.0 85 152.0									
MUD MATERIALS USED										REDUCED PUMP SPEED										SOLIDS CONTROL EQUIPMENT									
TYPE QTY UNITS										HOURS INTAKE OVERFLOW UNDERFLOW										CENTRIFUGE									
DEVIATION SURVEY										HOURS INTAKE OVERFLOW UNDERFLOW										BOILER									
DEPTH (m) DEVIATION DIRECTION										HOURS RUN PH STACK										Notes: BLOW BOILERS DOWN EX EACH									
DRAG deh										4.00 11.0 400										DAILY WALK AROUND									
TORQUE										MAX HOOKLOAD 12																			
W. OF STRING 14																													
DRILLERS SIGNATURE MIKE STOLTE																													

MORNING SHIFT

LICENCE NO.: **WID1934** WELL NAME AND NO.: **PARA etal NOGHA**

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE I.D.: **66-40FT.X 125-45FT.**

OPERATORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))

CONTRACTORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))

- (1) Daily Work Around Inspection
- (2) Detailed Inspection Checklist (Using Check List)
- (3) HCS Signs Present (if Required)
- (4) Well Licensure & Signage Present
- (5) Plans Licensure
- (6) BOP Drills Performed
- (7) Visually Inspect BOP's - Pressure & Doghouse Lines
- (8) C.A.D.D.C. Rig Safety Inspection Checklist (monthly)
- (9) Mast Inspection Before Raising or Lowering
- (10) Crown Block Checked
- (11) Mast Kibs Checked

RIG NO: 3	
FUEL @ 08:00 HRS.	
RIG 114	BOILER
TEMPERATURE	CONDITION
OVER CAST	
WIND DIRECTION S.E.	
ROAD CONDITION	

SAFETY TOPIC

NO.	TYPE	DATE	TIME	LOCATION	REMARKS
1	KING				
2	CHANGE SCREENS				
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NO.	TYPE	DATE	TIME	LOCATION	REMARKS
1	KING				
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NO.	TYPE	DATE	TIME	LOCATION	REMARKS
1	KING				
2	CHANGE SCREENS				
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LICENCE NO. : WID1934	WELL NAME AND NO. : PARA et al NOGHA
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CONTRACTOR: **WILSON DRILLING LTD.**

UNIQUE I.D. : 66-40FT.X 125-45FT.

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Work Around Inspection
- (2) Detailed Inspection-Weekly (Using Check List)
- (3) HES Signage Present (If Required)
- (4) Wet Lanes & Shift Diagram Present
- (5) Pave Lanes Staked
- (6) SOP Delta Reviewed
- (7) Visually Inspect SOP's - Personnel & Designer Lines
- (8) Rig Site Health and Safety Meeting (Intercompany)
- (9) C.A.O.D.C. Rig Safety Inspection Checklist/Intercompany
- (10) Crane Saver Present Painting or Lowering
- (11) Meter IGIs Checked

TIME	CLASS	UNIT	DATE
REG NO: 3			
FUEL @ 08:00 HR: 3			
REG 114		BOILER	
WEATHER	TEMPERATURE -33		
	CONDITION OVER CAST		
	WIND DIRECTION S E		
	ROAD CONDITION ICE		

HANDLING TUBULARS

ITEM NO.	PUMP DATA										SHALE SHAKERS										RENTALS/SERVICES										Mon	Tue	Wed	Thurs	Fri	Sat	Sun						
	B.C. INCH		MIN. LD		Lg/IN		MAKE		GRADE		# OF JOINTS		TOTAL (IN)		KB TO CBQ		SET AT (IN)		NO. 1		TYPE KING		TYPE																				
1	20.01	E	84	117	4FH	280	OILWELL	PT-850	229																																		
2	62.45	H.W.D.	70	158	4.5"OH	20	EMSCO	375	358																																		
3	151.70	D.C.	73	171	4.5"OH	20																																					
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DRILLERS SIGNATURE MIKE STOLTE

LICENCE NO. :

WELL NAME AND NO.:

PARA et al NOGHA

OPERATOR :

PARAMOUNT RESOURCES LTD.

CONTRACTOR:

WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE ID. :

66-40FT.X 125-45FT.

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection - Monthly (Using Check List)
- (3) 100% Safety Program
- (4) Walkdown & Risk Diagram Posted
- (5) Floor Lines Striped
- (6) SOP Delta Performed
- (7) Visually Inspect SOP's - Floorlines & Organized Lines
- (8) Rig Site Health and Safety Meeting (announced/unannounced)
- (9) C.A.O.B.E. Rig Safety Inspection Checkdown/Weekly
- (10) Must Inspect Before Raising or Lowering
- (11) Driven Bower Checked
- (12) Master Keys Checked

AL	CM	REG NO.	3
AL	CM		
AL	CM		
		FUEL @ 08:00 HRS.	
		REG	142
			SCORER
CM	TEMPERATURE	30	
CM	CONDITIONS	CLEAR	
CM	WIND DIRECTION	CALM	
CM	ROAD CONDITION	ICE	

AL IRONSIDE

CLINT MAYER

SAFETY TOPIC

MAKE UP BIT IN CELL

									SHALE SHAKERS			RENTALS/SERVICES			Month	Day	Year
S.D. NUM	MEN LD	Hght	HAKE	GRADE	# OF JOINTS	TOTAL (sq)	KB TO CBL	SET AT (sq)	NO.	TYPE	TYPE						
NO. OF RIGS	KB / S	GRADE	MEN LD	TOOL JT. S.D.	TYPE THREA	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.	TOP	TOP						
										MIDDLE	MIDDLE						
										BOTTOM	BOTTOM						

[illegible][illegible]

LICENCE NO.:		WELL NAME AND NO.:		PARA etal NOGHA		(2) Detailed Inspection-Weekly (Using Check List) (3) HSS Riggs Postcard & Readcard (4) Well Logarithm & Sketch Diagram Posted (5) Flow Lines Marked (6) SOP Drills Performed (7) Visually Inspect SOP's - Paragraphs & Diagram Lines (8) Rig Site Health and Safety Meeting (once a month) weekly (9) C.A.D.D.C. Rig Safety Inspection Checksheet (as appropriate) (10) Meet Inspection Before Filling or Laying (11) Crown Survey Checked (12) Meter KMs Checked	
OPERATOR:		CONTRACTOR:		PARAMOUNT RESOURCES LTD.		WILSON DRILLING LTD.	
SURFACE LOCATION:		UNIQUE I.D.:		66-40FT.X 125-45FT.		(13) TEMPERATURE - 38 (14) CONDITIONS - CLEAR (15) WIND DIRECTION CAJ M (16) ROAD CONDITION ICE	
OPERATORS REPRESENTATIVE: ((VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))		CONTRACTOR'S REPRESENTATIVE: ((VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))				(17) FUEL @ 08:30 HRS. (18) 142 SOILS	

AL IRONSIDE	CLINT MAYER	SAFETY TO GO	cold weather
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	S.D. (mm)	MEN. LD	hghm	MAKE	GRADE	# OF JOINTS	TOTAL (mm)	KB TO CBL	BET AT (mm)	STATE / SAKER			RENTAL / SERVICE			More	Dig	Ere
										NO.	TYPE	TYPE						
										PUMP MANUFACTURER		1	2	3				
										TOP	TOP							
										MIDDLE	MIDDLE							
										BOTTOM	BOTTOM							
DC - SP SIZE	KB / H	GRADE	SRID	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTL									

[illegible]

GENERAL INFORMATION										LOGGING INFORMATION										DRILLING INFORMATION										GEOTECHNICAL INFORMATION									
HOLE NO.		HOLE NAME		DATE		TIME		DEPTH (m)		DIRECTION		DIP		DIP ANGLE		DIP BEARING		DIP SLIP		DIP SLIP ANGLE		DIP SLIP BEARING		DIP SLIP SLIP		DIP SLIP SLIP ANGLE		DIP SLIP SLIP BEARING		DIP SLIP SLIP SLIP		DIP SLIP SLIP SLIP ANGLE		DIP SLIP SLIP SLIP BEARING					
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945		946		947		948		949		950		951		952		953		954		955		956		957		958		959		960		961		962					
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985		986		987		988		989		990		991		992		993		994		995		996		997		998		999		1000		1001		1002					
1005		1006		1007		1008		1009		1010		1011		1012		1013		1014		1015		1016		1017		1018		1019		1020		1021		1022					
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1065		1066		1067		1068		1069		1070		1071		1072		1073		1074		1075		1076		1077		1078		1079		1080		1081		1082					
1085		1086		1087		1088		1089		1090		1091		1092		1093		1094		1095		1096		1097		1098		1099		1100		1101		1102					
1105		1106		1107		1108		1109		1110		1111		1112		1113		1114		1115		1116		1117		1118		1119		1120		1121		1122					
1125		1126		1127		1128		1129		1130		1131		1132		1133		1134		1135		1136		1137		1138		1139		1140		1141		1142					
1145		1146		1147		1148		1149		1150		1151		1152		1153		1154		1155		1156																	

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ALL IN ONE
PAPER AND PENCILS

WELL NAME & NO.		PARA ET AL FOR CREX 7-31-81-1		WELL NO.		71	
COMPANY				WILSON DRILLING LTD.			
CLIENT NAME				CLINT MAYER			
ALBERTA				WELL DEPTH		3	
MORNING TOUR				DATE		8	
CREW	BOC NO. TEL.	NAME	DOB	YES	NO		
DRILLER	822880-081	MONTIE RUTHERFORD	8.28			MR	
DRILLER NAME	842880-127	BILL GODOU	8.28			BG	
SUPPER NAME	847821-237	DALTON PELKEY	8.28			DP	
FLOOR NAME	847135714	JUD BEAL	8.28			JB	
FLOOR NAME	847880887	ARNOLD MANUAL	8.28			AM	
LEADER NAME							
RATE SCHEDULE							
I		REGULAR		REPAIR		OVERT	
DAY TOUR							
CREW	BOC NO. TEL.	NAME	DOB	YES	NO		
DRILLER	822818288	MICKE STOLTE	12.08			MS	
DRILLER NAME	712882288	BOB PIPER	12.08			BP	
SUPPER NAME	848185477	BRANDEN ZILINSKI	12.08			BZ	
FLOOR NAME	824880218	DANNELL LIND	12.08			DL	
LEADER NAME							
RATE SCHEDULE							
I		REGULAR		REPAIR		OVERT	
EVENING TOUR							
CREW	BOC NO. TEL.	NAME	DOB	YES	NO		
DRILLER	822880-081	MONTIE RUTHERFORD	8.28			MR	
DRILLER NAME	842880-127	BILL GODOU	8.28			BG	
SUPPER NAME	847821-237	DALTON PELKEY	8.28			DP	
FLOOR NAME	847135714	JUD BEAL	8.28			JB	
FLOOR NAME	847880887	ARNOLD MANUAL	8.28			AM	
LEADER NAME							
RATE SCHEDULE							
I		REGULAR		REPAIR		OVERT	

ALL IN VINE
FARMER'S MARKET

ALL IN ONE

PARAMOUNT RESOURCES LTD.
WILSON DRILLING LTD.

AL IRONBIDE
CLINT MAYER

WILSON DRILLING LTD.
CLINT MAYER

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FORM NO. 100-100

PARAMOUNT RESOURCES LTD.
WILSON DRILLING LTD.

AL IRONBIDE
CLINT MAYER

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WILSON DRILLING LTD.
CLINT MAYER

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PARA et al NOGHA P C-49

CONTRACTOR: **WILSON DRILLING LTD.**

UNIQUE ID: 300C496640125450

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
A CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (Using Check List)
- (3) HSE Signage Posted (if Required)
- (4) Walk Licenses & Walk Diagram Posted
- (5) Flare Lines Staked
- (6) BOF Crisps Performed
- (7) Visual Impact SOP's - Flarelines & Degasser

- (1) Pig Site Health and Safety Meeting (weekend)
- (2) C.A.O.D.C. Pig Safety Inspection Checklist (weekend)
- (3) Mast Inspection Before Patching or Lowering
- (4) Crown Cover Checked
- (5) Motor Oil Checked

QGR	R/L	YEAR	2003	MONTH	2	DAY	15
WS	CM	REG NO.	3				
WS	CM	FUEL @ 00.00 HRS.					
WS	CM	REG	131		TOWLER		
WS	CM						
CM	CM	TEMPERATURE	-36				
CM	CM	CONDITIONS	CLEAR				
CM	CM	WIND DIRECTION	CALM				
CM	CM	WIND VELOCITY	CALM				

CLINT MAYER

SAFETY TOPIC

RIG UP SERVICE EQUIPMENT

[illegible][illegible]

LICENSE NO.: WID1934		WELL NAME AND NO.: PARA etal NOGHA P C-49		(2) Drift Inspection Weekly (Long Check List) (3) (G) Signs Posted (If Required) (4) Well Licenses & Well Diagrams Posted (5) Pump Lubric Checked (6) BOP Drills Performed (7) Weekly Impact BOP's - Flared & Diagram Lines	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.		(1) Rig Site Health and Safety Meeting (announcements) (2) C.A.D.D.P. Rig Safety Inspection Checklist (announcements) (3) Most Inspection Before Picking or Lifting (4) Crown Block Checked (5) Mast Ribs Checked	
SURFACE LOCATION:		UNIQUE I.D.: 300C496840125450		FUEL @ 08:00 HRS. SOILER	
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		TEMPERATURE -36 CONDITIONS CLEAR WIND DIRECTION CALM ROAD CONDITION ICE	

- (7) Safety Walk Around Inspection
- (8) D-Offest Inspection-Weekly (Using Check List)
- (9) T-Offest Inspection-Weekly (If Required)
- (10) T-Offest & Walk Diagrams Posted
- (11) Plans Listed Stashed
- (12) SOP Drills Performed
- (13) Visually Inspect DCP's - Personnel & Diagnostic Lines

(1) Rig Site Hazard & Safety Meeting (once/shift/week)

C.A.D.D.G. My Safety Inspection Checklist/Insightfully

- (2) Must Inspect Before Painting or Lining
- (3) Crown Bolter Checked
- (4) Mast Kibs Checked

OW	CM	YEAR	2003	MONTH	2	DAY	15
WA	CM	REG NO.	3				
WA	CM	FUEL @ 08:00 HRS.					
WA	CM	REG	131		BOLTER		
WA	CM	TEMPERATURE	-36				
WA	CM	CONDITIONS	CLEAR				
WA	CM	WIND DIRECTION	CALM				
WA	CM	ROAD CONDITION	ICE				

HANDLING TUBULARS

LAST C-DRILL TUBING CUT DATE	S.D. (mm)	MHL LD	light	BLAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBCL	SET AT (m)	SHALE SHAKER(S)				RENTALS / SERVICES												Mon	Tue	Wed		
										NO.	TYPE	TYPE																		
										1	KING																			
										CHANGE SCREEN		1	3																	
										TOP	80140	TOP	110																	
										MIDDLE	80140	MIDDLE	110																	
DC. DP REG	KB / IN	BT LGE	MHL ID	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE	STROKES LTR																				
	20.84	E	84	117	4"FH	208	OILWELL		ET-950	220																				
	82.45	H.W.D.	70	158	4.5"XH	20	EMSCO		375	358																				
151	151.70	D.C.	73	171	4.5"XH	20																								
												TOP	110	BOTTOM	110															
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL			
OPER.	THROW'S PROVISIONS	SMALL ACTUAL	MASSAGE	CORNER	CORNER BOLD & CORN.	TYPS	RIG SERVICE	REPAREDS	CUT TOP BOLD LINE	DEV. SURVEY	WEIRLINE LOSS	SHR DRILL & CORRECT	MADE ON CORRECT	SHIPLE DP D.A.P.	TEEP S.A.P.	DRILL STEN	FLAME BACK	SPINNING CORRECT	POUNCE	DIRECTIONAL WORK	SAFETY MEASURES	OTHER	INCAPABLE							
MOORE						3.00	0.25							4.00								0.75				8.00				
DAY						11.75	0.25																			12.00				
NVE						2.50																				4.00				
TOTAL						17.25	0.50							4.00							0.75	1.50				24.00				

[illegible]

LICENSE NO.: **WID1934**

WELL NAME AND NO. :

PARA et al NOGHA P C-49

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION :

UNIQUE I.D. :

300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (Using Check List)
- (3) HES Signs Posted (S Required)
- (4) Wall Ladders & Stair Diagrams Posted
- (5) Floor Lines Staked
- (6) SOPs Daily Postmarked
- (7) Visually Inspect SOP's - Flarelines & Dogeater Lines
- (8) Rig 24 Hr Health and Safety Meeting (nonrepresentative)
- (9) C.A. O.D.C. Rig Safety Inspection Ch. Meeting/Weight
- (10) Most Inspection Before Raising or Lowering
- (11) Oxygen Sensor Checked
- (12) Motor Oils Checked

DRG	FILE	YEAR	MONTH	DAY
WS	CM	1003	2	14
WS	CM	ITS NO. 3		
WS	CM	FUEL @ 08.00 HRS.		
WS	CM	REG	156	BOILER
CM	CM	TEMPERATURE -28		
CM	CM	CONDITIONS CLOUDY		
CM	CM	WIND DIRECTION CALM		
CM	CM	WIND CONDITION I/C		

WILF SWAN

CLINT MAYER

SAFETY TOPIC

HANDLING DIVER

LAST CANNED TUBING TO BE USED	O.D. mm						MIN. I.D.						kg/m						MAKE						GRADE						# OF JOINTS						TOTAL (m)						KS TO CSG.						KEY AT (m)						SHALE SHAKER(S)						RENTALS / SERVICES																										Mn	Dy	E																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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LICENCE NO. : **WID1934**

WELL NAME AND NO. :

PARA et al NOGHA P C-49

OPERATOR :

PARAMOUNT RESOURCES LTD.

CONTRACTOR:

WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE I.D. :

00C496640125450

OPERATOR'S REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
 - (2) Detached Inspector-Weekly (Using Check List)
 - (3) H2S Signs Posted (if Required)
 - (4) Well Logbooks & Sketch Diagrams Posted
 - (5) Flare Lines Staked
 - (6) BOF Drills Performed
 - (7) Visually Inspect SOP's - Flarelines & Dragsmen
-
- (1) Rig Site Health and Safety Meeting (Interim)
 - (2) M.A.O.D.C. Rig Safety Inspection Checkpoints
 - (3) C.A.S.I. Inspection Before Raising or Lowering
 - (4) Crown Block Checked
 - (5) Motor Kolls Checked

DR	PL	YEAR	2003	MONTH	2	DAY	13
DR	PL	REG NO.	3				
DR	PL	FUEL @ 08:00 HRS.					
DR	PL	REG			DOLLAR		
DR	PL	TEMPERATURE	-27				
DR	PL	CONDITIONS	CLEAR				
DR	PL	WIND DIRECTION	S E				
DR	PL	ROAD CONDITION	ICE				

YUGON HOPE

CLINT MAYER

SAFETY TOPIC

RUN CSG

LAST CABLE TENSION OR LOSS	O.D. mm		MIN LD	Wght	WAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBQ.	BET AT (m)	SHALE SHAKERS				RENTALS / SERVICES												Mon	Day	Even
											NO. 1	TYPE KING	TYPE																
											CHANGE SCREWS	1	2	3															
												TOP	80140	TOP	110														
DC, BP SIZE	KB / W	GRADE	MIN LD	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKES LTH.		MIDDLE	80140	MIDDLE	110															
	20.84	E	84	117		208	OIL WELL	PT-850	229																				
	62.45	H.W.D.	70	158	4.5"XH	20	EMSCO	375	356																				
	151.70	D.C.	73	171	4.5"XH	20																							
COINTEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL		
OPEN	DRILLER'S TROUSERS	DRILL ACTUAL	REPAIRS	CORING	DRILL DRUG & CEMENT	TUPE	KB SERVICE	REPAIRS	CUT OFF DRILL LINE	DRILL SURVEY	WIRELINE LOSS	DRILL CBL. & CEMENT	WALK ON CEMENT	SHOULDER UP S.O.P.	TUPE S.O.P.	DRILL STUB	PLUG BACK	POWDER CEMENT	FINISH	DIRECTIONAL WORK	SAFETY MEETING	OTHER							
DOWN						1.00	0.25					5.75										1.00				8.00			
DAY					5.75							2.25														8.00			
EVE					5.75							2.00									0.25					8.00			
TOTAL					11.50	1.00	0.25					10.00									0.25	1.00				24.00			

[illegible]

LICENSE NO. WID1934		WELL NAME AND NO. : PARA etal NOGHA P C-49		(2) Defect? Inspection Weekly (Using Check List) (3) HSS Riggs Postcard (If Required) (4) Well Location & Blotch Diagram Posted (5) Flow Lines Studied (6) BOP Drills Performed (7) Visually Inspect BOP's - Pistonless & Degasser Lines (8) Pig Site Health and Safety Meeting (operator/attendant) (9) C.A.O.D.D. Pig Safety Inspection Checklist/Signatory (10) Meet Inspection Pig Safety Riding or Leaving (11) Drawn Slaver Checked (12) Motor K/Ws Checked		(1) YES ☐ NO ☒ 3 FUEL @ 08:00 HRS. YES ☐ NO ☒	
OPERATOR : PARAMOUNT RESOURCES LTD.		CONTRACTOR : WILSON DRILLING LTD.		(1) YES ☐ NO ☒		(1) YES ☐ NO ☒	
SURFACE LOCATION :		UNIQUE I.D. : 300C496640125450		(1) YES ☐ NO ☒		(1) YES ☐ NO ☒	
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		(1) YES ☐ NO ☒		(1) YES ☐ NO ☒	

CLINT MAYER

SAFETY TOPIC

RUNCSG&CEMENT

LOG CORRECTION TYPED IN THIS COLUMN	S.D. NUM.	MEN. I.D.	LGTH	MAKE	GRADE	# OF JOINTS	TOTAL (in)	KB TO CSQ.	SET AT (#)	SHALE SHAKERS				RENTALS / SERVICES				Mon	Day	Eve
										NO. 1	TYPE KING	TYPE								
										CHARACTERISTICS										
													SEA	LOC						
										TOP 80140	TOP 110									
										MIDDLE 80140	MIDDLE 110									
NO. BP SIZE	K.G./IN	GRADE	MEN. ID	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE	STROKE LTH.		BOTTOM 110	BOTTOM 110							
102	20.84	E	84	117	4FH	20R	OILWELL		PT-R50	229										
	82.45	H.W.D.	70	158	4.5XH	20	FMSCO		375	356										
	151.70	D.C.	73	171	4.5XH	20														

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
OPER.	SHOULDER TENDON	SHOULDER ACTUAL	SHOULDER	CORON	SHOULDER & CORON	TRAP	TRAP	TRAP	CUT OFF SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER	TOTAL
MON						1.00	0.25					5.75										1.00					8.00
TUE					5.75							2.25															8.00
WED					5.75							2.00									0.25						8.00
THUR					11.50	1.00	0.25					10.00									0.25	1.00					24.00

[illegible]

LICENCE NO. : WID18934		WELL NAME AND NO. : PARA etal NOGHA P C-49		(2) Detailed Inspection-Severity (Using Check List) (3) HSD Status (Pretest & Posttest) (4) Well Location & Status Diagrams Pretest (5) Flow Lines Sketch (6) BOP Drills Pretest (7) Recently Inspected BOP's - Parameters & Dragsman Lines		(1) Rig Site Health and Safety Meeting (nonattendance) (2) C.A.O.D.C. Rig Safety Inspection Checksheet (nonattendance) (3) Most Inspected Before Raising or Lowering (4) Oil and Gas Leak Checksheet (5) Motor Risk Checksheet	
OPERATOR : PARAMOUNT RESOURCES LTD.		CONTRACTOR : WILSON DRILLING LTD.		(8) HSD Status (Pretest & Posttest) (9) Flow Lines Sketch (10) BOP Drills Pretest (11) Recently Inspected BOP's - Parameters & Dragsman Lines		(12) HSD Status (Pretest & Posttest) (13) Flow Lines Sketch (14) BOP Drills Pretest (15) Recently Inspected BOP's - Parameters & Dragsman Lines	
SURFACE LOCATION :		UNIQUE I.D. : 300C496640125450				(16) HSD Status (Pretest & Posttest) (17) Flow Lines Sketch (18) BOP Drills Pretest (19) Recently Inspected BOP's - Parameters & Dragsman Lines	
OPERATORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))		CONTRACTORS REPRESENTATIVE : ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))				(20) HSD Status (Pretest & Posttest) (21) Flow Lines Sketch (22) BOP Drills Pretest (23) Recently Inspected BOP's - Parameters & Dragsman Lines	

CLINT MAYER

SAFETY TOPIC

CEMENTING

[illegible][illegible]

[illegible]

DAY SHEET

LICENSE NO.: **WID1934** WELL NAME AND NO.: **PARA et al NOGHA P C-49**

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID.: **300C496640125450**

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (Using Check List)
- (3) HSE Signs Posted (if Required)
- (4) Well License & Block Diagrams Posted
- (5) Pore Press. Read
- (6) SGP Drills Performed
- (7) Visually Inspect SGP's - Flarelines & Degasser Lines
- (8) Rig Site Health and Safety Meeting (before/after work)
- (9) C.A.O.D.D. Rig Safety Inspection Checklist (see Highways)
- (10) Mast Inspection Before Raising or Lowering
- (11) Crown Block Checked
- (12) Motor Kils Checked

DATE	YEA: 2003	MONTH: 2	DAY: 12
WELL NO.	3		
FUEL @ 08:00 HRS.			
WELL NO.	214		
TEMPERATURE	-30		
CONDITIONS	CLEAR		
WIND DIRECTION	CALM		
ROAD CONDITION	ICE		

YUGON HOPE

BOB RODGERS

SAFETY TOPIC

ATTITUDE/HOUSEKEEPING

DC, BP SIZE	ED / H	SHAPE	WELL ID	TOOL JT. D.B.	TYPE/THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH	SHALE SHAKERS	RENTALS / SERVICES	Morn	Day	Even
102	20.84	E	84	117	4"EH	208	OILWELL	PT-850	229	NO. 1 KFIG				
	12.45	H.W.D.	70	158	4.5"XH	20	EMSCO	375	358	CHANGESCREENS				
	151.70	D.C.	73	171	4.5"XH	20				TOP 80140				
										TOP 110				
										MIDDLE 80140				
										MIDDLE 110				
										BOTTOM 110				
										BOTTOM 110				

DC, BP SIZE	ED / H	SHAPE	WELL ID	TOOL JT. D.B.	TYPE/THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH	SHALE SHAKERS	RENTALS / SERVICES	Morn	Day	Even
102	20.84	E	84	117	4"EH	208	OILWELL	PT-850	229	NO. 1 KFIG				
	12.45	H.W.D.	70	158	4.5"XH	20	EMSCO	375	358	CHANGESCREENS				
	151.70	D.C.	73	171	4.5"XH	20				TOP 80140				
										TOP 110				
										MIDDLE 80140				
										MIDDLE 110				
										BOTTOM 110				
										BOTTOM 110				

DC, BP SIZE	ED / H	SHAPE	WELL ID	TOOL JT. D.B.	TYPE/THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH	SHALE SHAKERS	RENTALS / SERVICES	Morn	Day	Even
102	20.84	E	84	117	4"EH	208	OILWELL	PT-850	229	NO. 1 KFIG				
	12.45	H.W.D.	70	158	4.5"XH	20	EMSCO	375	358	CHANGESCREENS				
	151.70	D.C.	73	171	4.5"XH	20				TOP 80140				
										TOP 110				
										MIDDLE 80140				
										MIDDLE 110				
										BOTTOM 110				
										BOTTOM 110				

DRILLERS SIGNATURE: **MIKE STOLTE**

LICENSE NO. : WID1834		WELL NAME AND NO. : PARA etal NOGHA P C-49		FUEL @ 08:00 HRS.	
OPERATOR : PARAMOUNT RESOURCES LTD.		CONTRACTOR : WILSON DRILLING LTD.		TEMPERATURE : 30	
SURFACE LOCATION :		UNIQUE ID. : 300C406640125450		CONDITIONS : CLEAR	
OPERATORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		WIND DIRECTION : CALM	
YUGON HOPE		BOB RODGERS		ROAD CONDITION : ICE	
SAFETY TOPIC		TRIPPING			
LAST CASING TO BE USED		SHALE SHAKERS		RENTALS / SERVICES	
NO. 1 KING		NO. 1 TYPE		Morn Day Eve	
CHANGE SCREENS		X 1 2 3			
TOP 80140		TOP 110			
MIDDLE 80140		MIDDLE 110			
BOTTOM 110		BOTTOM 110			
DC, SP, BEE		KG / IS		GRADE	
102.84		E		84	
82.45		H.W.D.		158	
151.70		D.C.		73	
TOOL JT. O.D.		TYPE THREAD		# OF JOINTS	
117		4"FH		208	
158		4.5"OH		20	
171		4.5"OH		20	
PUMP MANUFACTURER		PUMP TYPE		STROKE LTH.	
OILWELL		PT-450		229	
EMSCO		375		350	
1		2		3	
4		5		6	
8		9		10	
11		12		13	
14		15		16	
17		18		19	
20		21		22	
23		24		25	
26		27		28	
TOTAL					
COPR		RIMP & TENSION		DRILL ACTUAL	
4.50					
3.25		0.25			
3.00		8.75		0.25	
1.00		2.25		0.25	
7.25		11.00		0.75	
COND MUD & CIRC		TRIPS		R/S SERVICE	
2000					
1030					
64					
11.0					
MUD MATERIALS USED		TYPE		QTY	
UNITS					
DEPTH (m)		285.00			
DEPTH OUT (m)		509.00			
TOTAL METER		224.00			
TOTAL HOURS		20.50			
DEVIATION SURVEY		DEPTH (m)		DEVIATION	
DIRECTION					
HRS. RUN		4.00		11.0	
STACK		450			
MACP		27			
MAX HOOK LOAD					
DRAG den		70			
TORQUE					
FILL IN					
DRILLERS SIGNATURE		MONTE RUTHERFORD			
W.T. OF STRING		26			
DRILLING SIGNATURE		MONTE RUTHERFORD			
MAX HOOK LOAD		27			
HRS. RUN		4.00		11.0	
STACK		450			
MACP		27			
MAX HOOK LOAD					
DRAG den		70			
TORQUE					
FILL IN					
DRILLERS SIGNATURE		MONTE RUTHERFORD			
W.T. OF STRING		26			
DRILLING SIGNATURE		MONTE RUTHERFORD			
MAX HOOK LOAD		27			
HRS. RUN		4.00		11.0	
STACK		450			
MACP		27			
MAX HOOK LOAD					
DRAG den		70			
TORQUE					
FILL IN					
DRILLERS SIGNATURE		MONTE RUTHERFORD			
W.T. OF STRING		26			
DRILLING SIGNATURE		MONTE RUTHERFORD			
MAX HOOK LOAD		27			
HRS. RUN		4.00		11.0	
STACK		450			
MACP		27			
MAX HOOK LOAD					
DRAG den		70			
TORQUE					
FILL IN					
DRILLERS SIGNATURE		MONTE RUTHERFORD			
W.T. OF STRING		26			
DRILLING SIGNATURE		MONTE RUTHERFORD			
MAX HOOK LOAD		27			
HRS. RUN		4.00		11.0	
STACK		450			
MACP		27			
MAX HOOK LOAD					
DRAG den		70			
TORQUE					
FILL IN					
DRILLERS SIGNATURE		MONTE RUTHERFORD			
W.T. OF STRING		26			
DRILLING SIGNATURE		MONTE RUTHERFORD			
MAX HOOK LOAD		27			
HRS. RUN		4.00		11.0	
STACK		450			
MACP		27			
MAX HOOK LOAD					
DRAG den		70			
TORQUE					
FILL IN					
DRILLERS SIGNATURE					

[illegible]

Notes: DAILY WALK AROUND M/R. CHECK BRAKES & LINKAGE

CHECK & RESET CROWN SAVER

BLOW DOWN BOILERS 4X

[illegible]

WID1934

WELL NAME AND NO. : PARA etal NOGHA P C-49

OPERATOR : PARAMOUNT RESOURCES LTD.

CONTRACTOR : WILSON DRILLING LTD.

SURFACE LOCATION :

UNIQUE I.D. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

YUGON HOPE

BOB ROGERS

SAFETY TOPIC

DRILLING

NO.	SIZE	WELL ID	HTM	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KIS TO CNG.	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	MOB	DEP	EVE
102	20.84	F	84	117	4TH	208	OILWELL	PT-850	229	NO. 1 TYPE KING				
104	82.45	H.W.D	70	158	4.5"X4	20	EMSCO	375	358	CHANGE SCREENS 4-175 MIC				
104	151.70	D.C	73	171	4.5"X4	20				TOP 80140 TOP 175				
										MIDDLE 80140 MIDDLE 175				
										BOTTOM 175 BOTTOM 175				

NO.	SIZE	WELL ID	HTM	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KIS TO CNG.	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	MOB	DEP	EVE
102	20.84	F	84	117	4TH	208	OILWELL	PT-850	229	NO. 1 TYPE KING				
104	82.45	H.W.D	70	158	4.5"X4	20	EMSCO	375	358	CHANGE SCREENS 4-175 MIC				
104	151.70	D.C	73	171	4.5"X4	20				TOP 80140 TOP 175				
										MIDDLE 80140 MIDDLE 175				
										BOTTOM 175 BOTTOM 175				

NO.	SIZE	WELL ID	HTM	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KIS TO CNG.	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	MOB	DEP	EVE
102	20.84	F	84	117	4TH	208	OILWELL	PT-850	229	NO. 1 TYPE KING				
104	82.45	H.W.D	70	158	4.5"X4	20	EMSCO	375	358	CHANGE SCREENS 4-175 MIC				
104	151.70	D.C	73	171	4.5"X4	20				TOP 80140 TOP 175				
										MIDDLE 80140 MIDDLE 175				
										BOTTOM 175 BOTTOM 175				

NO.	SIZE	WELL ID	HTM	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KIS TO CNG.	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	MOB	DEP	EVE
102	20.84	F	84	117	4TH	208	OILWELL	PT-850	229	NO. 1 TYPE KING				
104	82.45	H.W.D	70	158	4.5"X4	20	EMSCO	375	358	CHANGE SCREENS 4-175 MIC				
104	151.70	D.C	73	171	4.5"X4	20				TOP 80140 TOP 175				
										MIDDLE 80140 MIDDLE 175				
										BOTTOM 175 BOTTOM 175				

NO.	SIZE	WELL ID	HTM	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KIS TO CNG.	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	MOB	DEP	EVE
102	20.84	F	84	117	4TH	208	OILWELL	PT-850	229	NO. 1 TYPE KING				
104	82.45	H.W.D	70	158	4.5"X4	20	EMSCO	375	358	CHANGE SCREENS 4-175 MIC				
104	151.70	D.C	73	171	4.5"X4	20				TOP 80140 TOP 175				
										MIDDLE 80140 MIDDLE 175				
										BOTTOM 175 BOTTOM 175				

NO.	SIZE	WELL ID	HTM	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KIS TO CNG.	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	MOB	DEP	EVE
102	20.84	F	84	117	4TH	208	OILWELL	PT-850	229	NO. 1 TYPE KING				
104	82.45	H.W.D	70	158	4.5"X4	20	EMSCO	375	358	CHANGE SCREENS 4-175 MIC				
104	151.70	D.C	73	171	4.5"X4	20				TOP 80140 TOP 175				
										MIDDLE 80140 MIDDLE 175				
										BOTTOM 175 BOTTOM 175				

NO.	SIZE	WELL ID	HTM	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KIS TO CNG.	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	MOB	DEP	EVE
102</														

[illegible]

DAY SHIFT

LICENCE NO.: WID1934	WELL NAME AND NO.: PARA etal NOGHA P C-49	(1) Daily Walk Around Inspection (2) Detailed Inspection-Weekly (Using Check List) (3) HSE Signs Posted (if Required) (4) Well License & Block Diagram Posted (5) Flare Lines Shaded (6) BOP Data Padlocked (7) Visually Inspect BOP's - Flarelines & Degasser Lines (8) Rig Site Health and Safety Meeting (as recommended) (9) C.A.A.O.D.C. Rig Safety Inspection Checksheet/Highways (10) Mast Inspection Before Raising or Lowering (11) Crown Saver Checked (12) Motor Kils Checked
OPERATOR: PARAMOUNT RESOURCES LTD.	CONTRACTOR: WILSON DRILLING LTD.	YEAR 2003 MONTH 2 DAY 10
SURFACE LOCATION:	UNIQUE I.D.: 300C496640125150	FUEL @ 06:00 HRS.
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)	CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)	NO 135
		TEMPERATURE -25
		WIND DIRECTION CALM
		ROAD CONDITION ICE

YUGON HOPE

BOB ROGERS

SAFETY TOPIC

TEAMWORK

LAST	S.D. mm	MIN. LD	TYPE	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBL	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	Mon	Tue	Wed
NO. 1										TYPE KING				
NO. 2										TYPE				
NO. 3										TYPE				
NO. 4										TYPE				
NO. 5										TYPE				
NO. 6										TYPE				
NO. 7										TYPE				
NO. 8										TYPE				
NO. 9										TYPE				
NO. 10										TYPE				
NO. 11										TYPE				
NO. 12										TYPE				
NO. 13										TYPE				
NO. 14										TYPE				
NO. 15										TYPE				
NO. 16										TYPE				
NO. 17										TYPE				
NO. 18										TYPE				
NO. 19										TYPE				
NO. 20										TYPE				
NO. 21										TYPE				
NO. 22										TYPE				
NO. 23										TYPE				
NO. 24										TYPE				
NO. 25										TYPE				
NO. 26										TYPE				
NO. 27										TYPE				
NO. 28										TYPE				
NO. 29										TYPE				
NO. 30										TYPE				
NO. 31										TYPE				
NO. 32										TYPE				
NO. 33										TYPE				
NO. 34										TYPE				
NO. 35										TYPE				
NO. 36										TYPE				
NO. 37										TYPE				
NO. 38										TYPE				
NO. 39										TYPE				
NO. 40										TYPE				
NO. 41										TYPE				
NO. 42										TYPE				
NO. 43										TYPE				
NO. 44										TYPE				
NO. 45										TYPE				
NO. 46										TYPE				
NO. 47										TYPE				
NO. 48										TYPE				
NO. 49										TYPE				
NO. 50										TYPE				
NO. 51										TYPE				
NO. 52										TYPE				
NO. 53										TYPE				
NO. 54										TYPE				
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NO. 58										TYPE				
NO. 59										TYPE				
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NO. 61										TYPE				
NO. 62										TYPE				
NO. 63										TYPE				
NO. 64										TYPE				
NO. 65										TYPE				
NO. 66										TYPE				
NO. 67										TYPE				
NO. 68										TYPE				
NO. 69										TYPE				
NO. 70										TYPE				
NO. 71										TYPE				
NO. 72										TYPE				
NO. 73										TYPE				
NO. 74										TYPE				
NO. 75										TYPE				
NO. 76										TYPE				
NO. 77										TYPE				
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NO. 81										TYPE				
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NO. 83										TYPE				
NO. 84										TYPE				
NO. 85										TYPE				
NO. 86										TYPE				
NO. 87										TYPE				
NO. 88										TYPE				
NO. 89										TYPE				
NO. 90										TYPE				
NO. 91										TYPE				
NO. 92										TYPE				
NO. 93										TYPE				
NO. 94										TYPE				
NO. 95										TYPE				
NO. 96										TYPE				
NO. 97										TYPE				
NO. 98										TYPE				
NO. 99										TYPE				
NO. 100										TYPE				

WELL RECORD										MUD RECORD										METERS DRILLED										TIME LOG									
NO.	DATE	TIME	WELL NO.	WELL NAME	WELL TYPE	WELL STATUS	WELL DEPTH	WELL DIAMETER	WELL LENGTH	NO.	DATE	TIME	MUD NO.	MUD NAME	MUD TYPE	MUD STATUS	MUD DEPTH	MUD DIAMETER	MUD LENGTH	NO.	DATE	TIME	METER NO.	METER NAME	METER TYPE	METER STATUS	METER DEPTH	METER DIAMETER	METER LENGTH	NO.	DATE	TIME	TIME NO.	TIME NAME	TIME TYPE	TIME STATUS	TIME DEPTH	TIME DIAMETER	TIME LENGTH
1	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	1	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	1	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	1	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.
2	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	2	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	2	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	2	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.
3	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	3	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	3	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	3	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.
4	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	4	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	4	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	4	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.
5	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	5	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	5	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	5	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.
6	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	6	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	6	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	6	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.
7	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	7	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	7	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	7	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.
8	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	8	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	8	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	8	2003	08:00	WID1934	PARA etal NOGHA P C-49	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.	WILSON DRILLING LTD.

[illegible]

LICENCE NO. : WID1934	WELL NAME AND NR. : PARA etal NOGHA
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CONTRACTOR: **WILSON DRILLING LTD.**

UNIQUE ID: 300C496640125450

CONTRACTOR'S REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
A CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Wash Around Inspection
- (2) Detailed Inspection-Weekly (Using Check List)
- (3) HES Signs Posted (if Required)
- (4) Wash Linen & Blank Diagram Posted
- (5) Plans Linen Stashed
- (6) SOP Drills Performed
- (7) Visually Inspect BOP's - Personnel & Designer Lines
- (8) Pig Site Health and Safety Meeting (pre/postturnaround)
- (9) C.A.O.D.C. Pig Safety Inspection (Detailed/weekly/monthly)
- (10) Must Inspectors Before Raising or Lowering
- (11) Ocean Bower Checked
- (12) Under KDB Checked

VH	RR	108A	CUALS	BRUNNEN &	SINCE
VH	RR	RHS NO.	3		
VH	RR			FUEL @ 08-00 HRS.	
VH	RR	RHS	162	BOLER	196
VH	RR			TEMPERATURE	-17
	RR			CONDITIONS	
	RR			WIND DIRECTION S E	
	RR			ROAD CONDITION I C	

BOB ROGERS

SAFETY TOPIC

BOILERS

LOG Casing Straddle Log Depth	S.D. INCH	MIN. LD	lg/m	MAJF	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBL	SET AT (m)	SHALE SHAKER(S)			RENTALS / SERVICES			Hour	Day	Year
										NO.	TYPE	TYPE						
										1	KING							
										CHANGE SCREENS			1	2				
										TOP	80140	TOP	140					
										MIDDLE	80140	MIDDLE	140					
DC - BP SIZE	GR / H	GRADE	MIN. LD	TOOL JT. D.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.									
"02	20.84	E	84	117	5FH	206	OILWELL	PT-850	229									
	62.45	H.W.D.	70	158	4.5XH	20	EMSCO	375	356									
	151.70	D.C.	73	171	4.5XH	20				BOTTOM	80	BOTTOM	80140					

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
OPER	DRUM'S TENDERSHIP	DRILL ACTUAL	TRAVELING	CONING	COVER DRUM & CHUCK	TRIPS	DR SERVICE	REPAIRING	CUT OFF DRILL LINE	DRILL SUPPLY	WHEELS' LOSS	REIN CHIL. & CHERRY	WAT ON CHERRY	DRIPPLE UP B.L.P.	WAT B.L.P.	DRILL STEEL	FLARE BACK	DRUMMER CHERRY	FEEDING	INSTRUCTION WORK	SAFETY MEETING	OTHER					
MOON		3.25				1.50	0.25															3.00					8.00
DAY						7.00						2.25	2.50								0.25						12.00
EVE						0.50							3.50														4.00
TOTAL		3.25				9.00	0.25					2.25	6.00								0.25	3.00					24.00

WELL RECORD										METERS DRILLED										TIME LOG										TYPE DETAIL									
NO.		DATE		WELL NO.		DEPTH (m)		DIA. (m)		WATER BARGE		X		Y		Z		FROM		TO		DRI. / REPAIR		ROTARY R.P.M.		WT. ON BIT		FTH (m)		TO		SLIPPER TIME		CODE		TYPE DETAIL			
1	INT. SUB	223	0.35	FT	MT NO.	2B				TIME	200	400	600					486.00	509.00	D	120	10					0	115	1.25	2			DRILL F/ 426M - 434M						
1	SHOCK SUB	223	3.96	FT	223	311.0				DENSITY	1000	1000	1000															115	130	0.25	6			P.O.O.H. TO 423M					
1	BELL SUB	223	0.62	FT	ABC					FUNNEL	28	28	28															130	430	3.00	22			BUILD SURFACE VOLUME					
18	D.C.	185	137.92	FT	CODE					VIS. M																		430	445	0.25	6			R.L.H.					
18	H.W.D.P.	114	75.18	FT	SPR.	WESTERN				W.L. and																		445	500	6.25	7			RQ SERVICE F/T ANNULAR 12 SECS. T/C					
1	L.O.	185	0.39	FT	Type	537MX-30				PH																		2050	165.0	100	0.0								
				FT	SERIAL NO.	V19DC																						500	700	2.00	2			DRILL F/494M - 509M					
				FT	DEPTH (m)	P	H																						700	800	1.00	6			P.O.O.H. (STRAP OUT)				
				FT	DEPTH IN (m)																																		
				FT	DEPTH OUT (m)																																		
				FT	TOTAL DEPTH																																		
				FT	TOTAL HOURS																																		
14	DRILLPIPE	STANDS	271.84	FT																																			
1	DRILLPIPE	BRACKLES	9.74	FT																																			
	KELLY DOWN	8.08		FT																																			
	TOTAL	509.00		FT																																			
	W.D.C.	23	1000	FT	DRAG	dan																																	
	WT. OF STRING	28	1000	FT	TORQUE	220																																	
DRILLERS SIGNATURE MONTE RUTHERFORD										MACP										Notes: DAILY WALK AROUND M.R. CHECK BRAKES & LINKAGE																			
										HRS. RUN PH STACK dgs										CHECK & RESET CROWN SAYER																			
										MAX HOOKLOAD 2R										BLOW DOWN BOILERS 4X																			

DAY SHIFT

LICENCE NO.: WID1934

WELL NAME AND NO.: PARA etal NOGHA

OPERATOR: PARAMOUNT RESOURCES LTD.

CONTRACTOR: WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE I.D.: 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection Weekly (Using Check List)
 (3) HSE Signs Posted (if Required)
 (4) Well Location & Block Diagram Posted
 (5) Flare Lines Shutoff
 (6) BOP Cells Protected
 (7) Weekly Inspect BOP's - Flarelines & Depressur Lines
 (1) Rig Site Health and Safety Inspections (In accordance with)
 C.A.L.D.O.G. Rig Safety Inspection Checklist (see Highway)
 (2) Must Inspect Before Raising or Lowering
 (3) Drift Sensor Checked
 (4) Meter Kils Checked

YEAR	2003	MONTH	2	DAY	9
FOR NO.	3				
FUEL @	08:00 HRS.				
RIG	162	BOILER	196		
TEMPERATURE	-17				
CONDITIONS					
WIND DIRECTION	S.E.				
ROAD CONDITION	ICE				

YUGON HOPE

BOB ROGERS

SAFETY TOPIC:

PICK UP SNGLS R/H

LAST	S.D. mm	MIN. LD	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBQ	SET AT (m)	SHALES (AKERS)	RENTALS/SERVICES	Mon	Tue	Wed
NO. 1										KING				
CHANGE SCREENS														
TOP										80140	140			
MIDDLE										80140	140			
BOTTOM										80	80140			
DC. DP. INCH	20.84	E	84	117	4TH	208								
	82.45	HWD	70	158	4.5XH	20								
	151.70	O.C	73	171	4.5XH	20								
OPER.														
MORN														
DAY														
EVE														
TOTAL														

NO.	DATE	TIME	BT RECORD	MUD RECORD	METERS DRILLED	TIME LOG	TIME DETAIL
BT NO.	2B						
BT SIZE (mm)	311.0						
BT CODE							
BT MFG.	WESTERN						
BT Type	537MX-30						
BT SERIAL NO.	V19DC						
BT JETS (mm)							
BT DEPTH IN (m)	166.00						
BT DEPTH OUT (m)	509.00						
BT TOTAL METER	343.00						
BT TOTAL HOURS	69.75						
DRILLPIPE STANDS							
DRILLPIPE SINGLES	505.35						
KELLY DOWN							
TOTAL	505.35						
# D.C.							
WT. OF STRING							
DRILLERS SIGNATURE	MIKE STOLTE						

Notes: BLOW BOILERS 3X EACH

DAILY WALK AROUND

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA et al NOGHA
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OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID: 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (Using Check List)
- (3) HES Signs Posted (If Required)
- (4) Wall Lenses and Stalk Diagram Posted
- (5) Floor Lines Striked
- (6) SOPs Daily Performed
- (7) Visually Inspect SOPs - Flarelines & Depressors

(1) Rig Site Health and Safety Meeting (one/crownsouth)
(2) C.A.D.D.C. Rig Safety Inspection Checklist (one/crownsouth)
(3) Mast Inspector: Before Raising or Lowering
(4) Crown Silver Checked
(5) Mast 101s Checked

USE	NUM	YEAR 2003	MONTH 2	DAY 9
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FWG NO.:

FUEL @ 08:00 HRS.

59

INDEX

TEMPERATURE

1	CONDITIONS
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WIND DIRECTION

1	ROAD CONDITION
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YUGON HOPE

BOB ROGERS

SAFETY TOPIC

[illegible][illegible]

BIT RECORD										MUD RECORD										METERS DRILLED										TIME LOG				TIME DETAIL	
DATE		TIME		WELL NO.		WATER BASED		OIL BASED		FROM		TO		DRILL/REAMING		ROTARY R.P.M.		WT. ON BIT		FROM		TO		SLIPPED TIME		CODE		TIME DETAIL							

LICENCE NO. : **WJD1934**

PARA et al NOGHA

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
A CORRECT TO THE BEST OF MY ABILITY

- (1) Daily Wash Around Inspection
- (2) Daily Wash Around, Weekly (Using Check List)
- (3) HSE Signs Posted (if Required)
- (4) Wash Urinals & Sink Diagram Posted
- (5) Floor Urine Stained
- (6) SOP Drills Performed
- (7) Visually Inspect SOP's - Personnel & Dogueer Lives
- (1) Pig Site Health and Safety Meeting (environmentally)
- (2) C.A.O.D.C. Pig Safety Inspection Checklist (environmentally)
- (3) Medical Inspection - Before Raising or Lowering
- (4) Clean Sewer Checked
- (5) Meter K15 Checked

YEAR	2003	MONTH	2	DAY	9
REG NO.	3				
FUEL @ 06:00 HRS.					
REG	162			SOLAR 196	
TEMPERATURE	-17				
CONDITION					
WIND DIRECTION	S E				
WIND COMET/ION ICE					

YUGON HOPE

BOB ROGERS

SAFETY TOPIC

HANDLE TUBULARS

	S.D. (in)	MIN. LD	EgIn	MAKE	GRADE	# OF JOINTS	TOTAL (in)	KB TO CBQ.	BET AT (in)	SHAKE SHAKERS			RENTALS / SERVICES			Mon	Day	Eve	
										NO.	TYPE	TYPE							
											CHANGE SCHEDULE								
											TOP	80140	TOP	140					
DO - BP SIZE	KG / M	GRADE	MIN. SP	TOL. FT. D.S.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE	STROKE LTN.				MIDDLE	80140	MIDDLE	140		
	20.84	F	84	117	4"FH	208	OILWELL		PT-850	220				BOTTOM	80	BOTTOM	80140		
	82.45	H.W.D.	70	158	4.5"H	20	EMSCO		375	356									
	151.70	D.C.	73	171	4.5"H	20													

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
	OPER'S TEAMWORK	DRILL ACTUAL	CLAMING	CORING	DRILL BOND & CUL.	TYPE	NO SERVICE	REPAIRING	CUT OFF DELA LINE	DRILL SHOVEL	UNDERLINE LOSS	DRILL CHG. & CEMENT	WAIT ON CEMENT	SHOVEL SPEEDUP	TURN S.D.P.	DRILL DOWN	FLARE BACK	DRILLER CEMENT	FINISH	DIRECTIONAL WORK	DRIFT METER	OTHER					
UJIAN		3.25				1.50	0.25															3.00					8.00
DAY						7.00						2.25	2.50								0.25						12.00
EVE						0.50							3.50														4.00
TOTAL		3.25				9.00	0.25					2.25	6.00								0.25	3.00					24.00

[illegible]

MUD PUMP

[illegible]

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA et al NOGHA
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OPERATOR: **PARAMOUNT RESOURCES LTD.**

SURFACE LOCATION :

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTOR: **WILSON DRILLING LTD.**

UNIQUE ID: 200C406640125450

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Monthly (Using Check List)
- (3) HES Signs Posted (If Required)
- (4) Walk Ladders & Stair Diagram Posted
- (5) Floor Livers "Washed"
- (6) BOP Drift Protected
- (7) Visually "Inspect" BOP's - Parallels & Dogeared Lines
- (8) Rig Site Health and Safety Meeting (once/week/monthly)
- (9) C.A.O.D.D. Rig Safety Inspection (once/week/monthly)
- (10) M.A.D.D. Rig Safety Inspection (once/week/monthly)
- (11) Crew: Saver Checked
- (12) Meter Jills Checked

VE	RD	TIME	0445	DATE	12	UNIT	U
VE	RD	RIS NO. 3					
VE	RD	FUEL @ 08:00 HRS.					
VE	RD	RIS		SOLER			
VE	RD						
RD	RD	TEMPERATURE -20					
RD	RD	CONDITIONS CLEAR					
RD	RD	WIND DIRECTION S E					
RD	RD	ROAD CONDITION ICE					

YUGON HOPE

BOB ROGERS

SAFETY TOPIC

ADDING ANTIFREEZE

LOG CAMP WELL LOG	S.D. INCH		INCH LD	INCH	MAJOR	GRADE	# OF JOINTS	TOTAL (in)	KB TO CBQ	SET AT (in)	SHALE SHAKER(S)				RENTALS / SERVICES												Mon	Day	Even
											NO. 1	TYPE KING	TYPE																
											CHANGE SCREEN	1	2	3															
	NO. OF SIZE	KB / IN	GRADE	INCH LD	TOOL JT. D.B.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE		STROKE LTH																	
	20.84	E	84	117	4"FH	200	OIL WELL		PT-250		220																		
	82.45	W.D.	70	158	4.5"GH	20	EMSCO		375		356																		
105	151.70	D.C.	75	171	4.5"GH	20																							
COMP. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL		
OPER.	DRIP'S TENSURE	WELL ACTUAL	REMARKS	CORRECTION	DRIP'S INCH & COR.	WIPS	NO SERVICE	REPAIRING	CUT OFF S.D.A. LINE	DRILL SURVEY	WIRELINE LOSS	REEL CUP & CURRENT	WIRE ON CURRENT	WIPPLE UP S.D.P.	TYPE S.D.P.	DRILL FEED	PLUG BACK	REVERSE CORRECTION	FORWARD	DIRECTIONAL WORK	SAFETY MEASURES	OTHER							
WORK		3.00				0.50	0.25															4.25				8.00			
DAY		5.25					0.25			0.25												6.25				12.00			
NVE		1.00					0.25	0.25														2.50				4.00			
TOTAL		9.25				0.75	0.75			0.25												13.00				24.00			

[illegible]

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA etal NOGHA
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OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Wash Around Inspection
- (2) Detailed Inspection - Monthly (Using Check List)
- (3) HSE Signs Posted (If Required)
- (4) Wall Luminance & Sign Diagrams Posted
- (5) Floor Lamps Shaded
- (6) SCOP Deltas Performed
- (7) Visually Inspect BOPs - Personnel & Degasser Lines
- (8) Rig Site Health and Safety Meeting (weekly/monthly)
- (9) C.A.O.D.S. Rig Safety Inspection Checklist (weekly/monthly)
- (10) Most Impression Before Raising or Lowering
- (11) Crown Block Checked
- (12) Motor Kibs Checked

YH	RA	REPORT	CLASS	MESSAGE NO.	DATE
RA	RA	REG NO. 3			
YH	RA	FUEL @ 08:00 HRS.			
RA	RA	RWS		BOLIER	
YH	RA	WEATHER			
RA	RA	TEMPERATURE -20			
RA	RA	CONDITIONS CLEAR			
RA	RA	WIND DIRECTION S E			
RA	RA	ROAD CONDITION I F			

YUGON HOPE

BOB ROGERS

SAFETY TOPIC

AIR SYSTEM

LAST COST THROW ON LINES	O.D. mm	MIN. I.D.	Hght	SAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBQ.	SET AT (m)	SHALE SPINNERS			RENTALS / SERVICES			Mon	Day	Eve
										NO.	TYPE	TYPE						
										1	KING							
										CHANGE SPINNERS								
										TOP	80140	TOP	140					
NO. / MP SIZE	KB / M	GRADE	MIN. ID	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE	STROKE LTH.	SHOUL	80140	SHOUL	148				
102	20.84	E	84	117	4"FH	20	OILWELL		PT-550	229								
	62.45	H.W.D.	70	158	4.5"XH	20	EMSCO		375	356								
	151.70	D.C.	73	171	4.5"XH	20					BOTTOM	80	BOTTOM	80140				

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
OPER.	DRILL & TRANSDUCER	DRILL ACTUAL	FEEDING	CORING	CORING DRILL & COR.	TRIPS	NO. REPAIRS	REPAIRING	CUT OFF DRILL LINE	DRILL ENERGY	WIRELINE LOSS	DRILL CORAL & CORRENT	TEST ON CORRENT	APPLE SP.LAP	TEST S.L.P.	DRILL STOP	PLUG BACK	DRENCH CORRENT	FEEDING	INSTRUMENTAL WORK	SAFETY CORRENT	OTHER					
MORN		3.00				0.50	0.25															4.25				8.00	
DAY		5.25					0.25			0.25												6.25				12.00	
EVE		1.00				0.25	0.25															2.50				4.00	
TOTAL		9.25				0.75	0.75			0.25												13.00				24.00	

[illegible]

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA etal NOGHA
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OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE I.D. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Work Area Inspection
- (2) Daily Inspection (Using Check List)
- (3) HSE Signage Posted (If Required)
- (4) Wall Lenses & Sign Diagram Posted
- (5) Pave Lines Striped
- (6) SOP Delta Reviewed
- (7) Visually Inspect SOP's - Personnel & Designer Lines
- (8) PPE Site Health and Safety Meeting (on-site/remote)
- (9) C.A.S.D.C. PPE Safety Inspection (on-site/remote)
- (10) Meet Inspection Before Flaring or Lumping
- (11) Crown Saver Checked
- (12) Meter H&S Checked

DE	NO	STATION	CLASS	STATION	CLASS	STATION	CLASS
DE	NO	RFB NO. 3					
DE	NO	FUEL @ 08:00 HRS.					
DE	NO	RFB			SOILER		
DE	NO	WEATHER					
DE	NO	TEMPERATURE -21					
DE	NO	CONDITIONS CLEAR					
DE	NO	WIND DIRECTION S E					
DE	NO	ROAD CONDITION ICE					

MILES PYRET

BOB ROGERS

SAFETY TOPIC

SLIP & CUT

[illegible][illegible]

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA steel NOGHA
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OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID. : 300C496640125450

OPERATOR'S REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON/ TO/ FROM SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection on Safety (Using Check List)
- (3) HSE Signs Properly Displayed
- (4) Wall Ladders & Stair Diagram Posted
- (5) PPE Lanes Studied
- (6) SOP Delta Performed
- (7) Visually Inspect SOP's - Procedures & Diagram Lines
- (8) Rig Site Health and Safety Meeting (weekly/monthly)
- (9) C.A.L.D.C Rig Safety Inspection Checklist (weekly/monthly)
- (10) All Inspection Before Parking or Leaving
- (11) Crown Saver Checked
- (12) Master Mills Checked

TIME	DATE	YEAR 2003	MONTH 2	DAY 7
LOC	RR	RIG NO.: 3		
LOC	RR	FUEL @ 08:00 HRS.		
LOC	RR			
LOC	RR	RIG	SOLAR	
LOC	RR	TEMPERATURE -21 CONDITIONS CLEAR WIND DIRECTION S E ROAD CONDITION ICE		
LOC	RR			
LOC	RR			
LOC	RR			

MILES PYRET

BOB ROGERS

SAFETY TOPIC

SURFACE GAS

LAST CARRIED TOWARD OR FROM									SHAPE SHAKERS			RENTALS / SERVICES			Mon	Day	Eve	
	O.D. mm	MM LD	Light	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CP-1	SET AT (m)	NO.	TYPE	TYPE						
										1	KING							
										CHANGE SCHEDULE			1	5				
										TOP	80140	TOP	140					
NO.	OD / IN	GRADE	MM LD	TOOL FT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE	STROKE LTK	MIDDLE	80140	MIDDLE	140				
102	20.84	E	84	117	4"FH	20	OIL WELL		PT-250	229								
	82.45	H.W.D.	70	158	4.5"XH	20	EMSCO		375	156								
	154.70	D.C.	73	171	4.5"XH	20					BOTTOM	80	BOTTOM	80140				

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
	OPER. & TENDERS	DRILL ACTUAL	REPAIRS	CORING	CORAL DRILL & COR.	TWINS	NO. SURFACE	REPAIRS	CUT OFF DRILL LINE	DRILL SURVEY	WIRELINE LOGS	RAIL DRILL & CEMENT	WATER CEMENT	APPLE UP S.D.P.	TUFF S.D.P.	DRILL STEEL	PLUG BACK	REVERSE CEMENT	PERMANENT	FUNCTIONAL WORK	SAFETY MEETING	BUILD YOU					
BROWN		5.00			0.25	1.25	0.25		1.25																		8.00
DAY		4.25					0.25			0.25												7.25					12.00
EVE		3.25					0.25	0.25		0.25																	4.00
TOTAL		12.50			0.25	1.50	0.75		1.25	0.50												7.25					24.00

[illegible]

LICENSE NO. : WID1834		WELL NAME AND NO. : PARA etal NOGHA	
OPERATOR : PARAMOUNT RESOURCES LTD.			
SURFACE LOCATION :			
OPERATORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)			
MILES PYRET		BOB ROGERS	
CONTRACTOR : WILSON DRILLING LTD.		UNIQUE I.D. : 300C496640125450	
CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)			
SAFETY TOPIC		LOADER	
SHALE SHAKER(S)		RENTALS / SERVICES	
NO. 1 TYPE KING TYPE		Morn Day Eve	
CHANGES SCREENS			
TOP 80140 TOP 140			
MIDDLE 80140 MIDDLE 140			
BOTTOM 80 BOTTOM 80140			
DR. OF SIZE CB / M GRADE HLL ID TOOL JT. O.D. TYPE THREAD # OF JOINTS PUMP MANUFACTURER PUMP TYPE STROKE LTH.			
20.84 E 84 117 4"FH 200 OILWELL PT-R50 229			
82.45 H.W.D 70 158 4.5"XH 20 EMSCO 375 350			
151.70 D.G 73 171 4.5"XH 20			
11			
OPER. HOURS THERMISTOR HELL ACTUAL REAPER COVER CORN. MIN & CORN. TYPE RIG SERVICE REPAIRS D/T OFF D.H.A. LINE DRY SERVICE WIRELINE LOSS RIG COR. & CEMENT WIRE ON CEMENT HOPS UP & D.P. TYPE & D.P. DRILL STEPS PUMP BACK POWER CEMENT PERMS DIRECTIONAL WORK SAFETY MEETING BUILD VOL		TOTAL	
BORN 5.00 0.25 1.25 0.25 1.25		8.00	
DAY 4.25 0.25 0.25 0.25		12.00	
EVE 3.25 0.25 0.25 0.25		4.00	
TOTAL 12.50 0.25 1.50 0.75 1.25 0.50		7.25 7.25 24.00	
MUD RECORD		METERS DRILLED	
TIME		TIME LOG	
WATER BASED X OIL BASED		TIME DETAIL	
1 BIT SUB 223 0.35 2B		FROM TO DRILL / REAMER ROTARY R.P.M. WT. OF BIT	
2 SHOCK SUB 223 0.90 311.0		428.00 445.00 0 120 10	
3 BELL SUB 223 3.98		2000 2315 3.25 2	
4 O.C. 185 137.82		2315 2330 0.25 10	
5 M.W.D.P. 114 75.18		2330 2345 0.25 7	
6 X.O. 165 0.39		2345 2400 0.25 6	
7		2400	
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[illegible]

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA etal NOGHA
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CONTRACTOR: **WILSON DRILLING LTD.**

UNIQUE I.D. : 300C496640125450

CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
CORRECT TO THE BEST OF MY ABILITY)

BOB ROGERS

HYDRAULICS SYSTEM

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
OPER.	REPAIR & TENDRINGS	WELL ACTUAL	REPAIRING	CORING	DRILLING & CHNG.	TRIPS	ENG. SERVICE	EXPENSURE	DRIFT OFF DRILL LINE	DRILL SHOOTY	WIRELINE LOGS	PAID CHRG. & CEMENT	WALF ON CEMENT	WIPPLE UP S.D.P.	TEST S.D.P.	DRILL STEEL	FLUG SACK	CHARGE CEMENT	PERFORM	DIRECTIONAL WORK	SAFETY MEETING	OTHER					
NOV		7.50					0.25			0.25																	8.00
DAY		5.00				0.25	0.25			0.25												2.25					8.00
EVE						7.75	0.25																				8.00
TOTAL		12.50				8.00	0.75			0.50												2.25					24.00

[illegible]

[illegible]

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA etal NOGHA
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OPERATOR : **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE I.D. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Daily Visual Safety (Using Check List)
- (3) HES Signage Program (if Required)
- (4) Walk Lines w/ 2" x 2" Orange Painted
- (5) Floor Lines Striped
- (6) SOP Drills Performed
- (7) Visually Inspect SOP's - Personnel & Designer Lines
- (8) Rig Site Health and Safety Meeting (on a bi-weekly basis)
- (9) C.A.O.D.C. Rig Safety Inspection Checklist (on a bi-monthly basis)
- (10) Meet Inspection Before Picking up Lumber
- (11) Crown Riser Checked
- (12) Motor Mills Checked

DOY	PLS	YEAR	2003	MONTH	2	DAY	5
MO	02	REG NO. 3					
HR	22	FUEL @ 06:00 HRS.					
MIN	04	REG		172	BOILER		
SEC	00	WEATHER		TEMPERATURE -15			
COND	00			CONDITIONS CLEAR			
WIND	00			WIND DIRECTION SE			
WAVE	00			ROAD CONDITION ICE			

MILES PYRET

CLINT MAYER

SAFETY TOPIC

LOSS CIRCULATION

[illegible]

DRILLING APPROVAL NO. DATE				BIT RECORD				MUD RECORD				METERS DRILLED				TIME LOG				TIME DETAIL			
ID	HOLE NO.	D.B.H. (in)	CASED (ft)	BT NO.	2B			WATER BASED		OIL BASED			FROM	TO	SHELL PERCENT	ROTARY R.P.M.	WT. ON BIT	FROM	TO	LAPPED TIME	CODE		
1	BELL HUB	223	0.33	BT NO.	2B			TIME	300	700			537.00					0	200	2.00	22	PUMP LCM PILL DOWN OPEN HOLE / LET STABILIZE	
1	B.T. SUB	185	0.53	RCD (mm)	311.0			DENSITY	1040	1020								200	330	1.50	22	BUILD VOLUME / MIX PILL / MONITOR FLUID LEVEL IN HOLE	
16	G.C.	185	137.92	IADC CODE				FUNNEL VS M	200	35								330	615	2.75	6	MAKE UP BHA //RH W /#11MMBIT / NO JETS / PU 3 SINGLES / TAG BOTTOM	
5	H.W.D.F.	114	75.18	BT NO.				W.L. and FILCK										615	800	1.75	22	BUILD VOLUME IN MUD TANKS	
1	X.Q.	105	0.39	BT NO.	WESTERN			PH	10.0	9.5								800					
				Type	537MX-30																		
				Serial No.	V19DC																		
				JTS (mm)																			
				DEPTH IN (m)	166.00																		
				DEPTH OUT (m)																			
				TOTAL DEPTH	171.00																		
				TOTAL TIME	28.00																		
5	DRILLPIPE STANDS	116.72																					
	DRILLPIPE SINGLES																						
KELLY DOWH	5.65																						
TOTAL	337.37																						
W O.C.		1000																					
WT. OF STRING	25	1000																					
DRILLERS SIGNATURE MYLES LOW																Notes:							
																REQ WALK AROUND							
																BOILER #1-185, BOILER#2-178							

[illegible]

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Monthly (Using Check List)
- (3) HSE Signs Posted (If Required)
- (4) Wall Ladders & Work Diagram Posted
- (5) Plans Lined & Dated
- (6) SOP Drills Performed
- (7) Visually Inspect SOP's - Personnel & Degreaser Lines
- (8) Rig Site Health & Safety Meeting (approximately monthly)
- (9) C.A.D.D.C. Rig Safety Inspection (approximately monthly)
- (10) Meet Inspectors Before Picking or Lowering
- (11) Drawn Crew Checked
- (12) Meter KIDs Checked

YEAR	2003	MONTH	2	DAY	3
PUR NO.	3				
FUEL @ 08.00 HRS.					
PUR	172	BOILER			
TEMPERATURE	-15				
CONDITIONS	CLEAR				
WIND DIRECTION	SE				
ROAD CONDITION	ICE				

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA etal NOGHA
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OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Monthly (Using Check List)
- (3) HES Signa Protocol (If Required)
- (4) Walk Ladders & Work Diagrams Protocol
- (5) Power Lines Stashed
- (6) SOP Delta Performed
- (7) Visually Impact SOP's - Flarelines & Degasser Lines
- (8) Rig Site Health and Safety Meeting (non-attendance)
- (9) C.A.D.D.G. Rig Safety Inspection Checked/with priority
- (10) Must Inspection Before Flaring or Lowering
- (11) Ocean Bower Checked
- (12) Motor Kils Checked

MP	CM	REG NO. 1	FUEL @ 08:00 HRS.
MP	CM		
MP	CM		
MP	CM		
MP	CM	REG 172	SOLER
CM	WEATHER	TEMPERATURE	-15
CM		COM STIONS	CLEAR
CM		WIND DIRECTION	S.E
CM		ROAD CONDITION	ICE

MILES PYRET

CLINT MAYER

SAFETY TOPIC

LOSS CIRC.

LAST CAMPING THROWING OUT LIMB										SHALE SHAKER(S)				RENTALS / SERVICES																	Mon	Day	Eve							
										NO.	TYPE		TYPE																											
										1	KING																													
										CHANGE SCREENS:			1	2	3																									
										TOP	80140		TOP	140																										
										MIDDLE	80140		MIDDLE	140																										
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[illegible]

LICENCE NO. : **WID1934**

WELL NAME AND NO. :

PARA et al NOGHA

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

MILES PYRET

CLINT MAYER

SAFETY TOPIC

HOT LINES

LAST CABLE THREADED ON LIFT	S.D. mm	MIN. L.D.	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CSQ.	SET AT (m)	SHALE SHAKER(S)			RENTALS / SERVICES			Mon	Tue	Wed	
										NO. 1	TYPE KING	TYPE							
										CHANGE CABLES			1	2	3				
										TOP	80140	TOP	140						
										MIDDLE	80140	MIDDLE	140						
										BOTTOM	80	BOTTOM	80140						

CODING NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
OPER.	REMP & TERRACING	DRAW ACTUAL	RELINING	CORING	CORNG. DRG & CING.	TRIPS	RIP SURFACE	REPAVING	CUT OFF DRAIN LINE	DRI. SURVEY	WIRELINE LOGS	TEST CBL. & CORRECT	WALK ON CORRECT	HOPPLE SP. S.O.P.	TEST S.O.P.	DRAW STON	PUMP BACK	POURCE CORRECT	FILLING	DIRECTIONAL WORK	SAFETY MEETING						
BORN		6.75					0.25			1.00																	8.00
DAY		9.50					0.25			1.00													1.00				12.00
EVE							1.50			0.25										2.25							4.00
TOTAL		16.25					1.75			0.75										2.25			1.00				24.00

NO. 1										NO. 2										NO. 3										NO. 4										NO. 5										NO. 6										NO. 7										NO. 8										NO. 9										NO. 10										NO. 11										NO. 12										NO. 13										NO. 14										NO. 15										NO. 16										NO. 17										NO. 18										NO. 19										NO. 20										NO. 21										NO. 22										NO. 23										NO. 24										NO. 25										NO. 26										NO. 27										NO. 28										NO. 29										NO. 30										NO. 31										NO. 32										NO. 33										NO. 34										NO. 35										NO. 36										NO. 37										NO. 38										NO. 39										NO. 40										NO. 41										NO. 42										NO. 43										NO. 44										NO. 45										NO. 46										NO. 47										NO. 48										NO. 49										NO. 50										NO. 51										NO. 52										NO. 53										NO. 54										NO. 55										NO. 56										NO. 57										NO. 58										NO. 59										NO. 60										NO. 61										NO. 62										NO. 63										NO. 64										NO. 65										NO. 66										NO. 67										NO. 68										NO. 69										NO. 70										NO. 71										NO. 72										NO. 73										NO. 74										NO. 75										NO. 76										NO. 77										NO. 78										NO. 79										NO. 80										NO. 81										NO. 82										NO. 83										NO. 84										NO. 85										NO. 86										NO. 87										NO. 88										NO. 89										NO. 90										NO. 91										NO. 92										NO. 93										NO. 94										NO. 95										NO. 96										NO. 97										NO. 98										NO. 99										NO. 100									
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DAY SHIFT

LICENCE NO.: WID1934		WELL NAME AND NO.: PARA etal NOGHA		(1) Daily Walk Around Inspection (2) Detailed Inspection Weekly (Using Check List) (3) HES (Sign Posted) (1 Required) (4) Well License & Block Diagram Posted (5) Flare Lines Staked (6) BOP Drills Protected (7) Visually Inspect BOP's - Parallels & Degasser Lines (8) Rig Site Health and Safety Meeting (non/annually) (9) C.A.O.D.C. Rig Safety Inspection Check (annually) (10) Mast Inspection Safety Raising at Lifting (11) Crown Block Checked (12) Motor Vibs Checked		YEAR 2013 MONTH 6 NO. 3 FUEL @ 08:00 HRS. NO. 212 BOILER 103 TEMPERATURE -19 CONDITIONS CLOUDY WIND DIRECTION S.E. ROAD CONDITION ICE	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.		UNIQUE I.D.: 300C496640125450			
SURFACE LOCATION:		CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)			
MILES PYRET		CLINT MAYER		SAFETY TOPIC		MIXING CHEMICALS	
LAST CHANGING LOG NO. 100		C.D. mm		MIN. LD		lgth	
MAKE		GRADE		# OF JOINTS		TOTAL (m)	
KB TO CBQ		SET AT (m)		SHALES/SHAKERS		RENTALS / SERVICES	
NO. 1		TYPE KING		TYPE		More Day Eve	
CHANGE SCREENS		1		5			
TOP 80140		TOP 140					
MIDDLE 80140		MIDDLE 140					
BOTTOM 80		BOTTOM 80140					
B.P. SP. SIZE		CB / M		GRADE		MIN. LD	
TOOL JT. O.D.		TYPE THREAD		# OF JOINTS		PUMP MANUFACTURER	
PUMP TYPE		STROKE LTR.					
20.84		E		R4		117	
62.45		H.W.D.		70		158	
151.70		D.C.		73		171	
4.5"XH		20		EMSCO		375	
4.5"XH		20				358	
1		2		3		4	
5		6		7		8	
9		10		11		12	
13		14		15		16	
17		18		19		20	
21		22		23		24	
25		26		27		28	
29		30		31		32	
33		34		35		36	
37		38		39		40	
41		42		43		44	
45		46		47		48	
49		50		51		52	
53		54		55		56	
57		58		59		60	
61		62		63		64	
65		66		67		68	
69		70		71		72	
73		74		75		76	
77		78		79		80	
81		82		83		84	
85		86		87		88	
89		90		91		92	
93		94		95		96	
97		98		99		100	
101		102		103		104	
105		106		107		108	
109		110		111		112	
113		114		115		116	
117		118		119		120	
121		122		123		124	
125		126		127		128	
129		130		131		132	
133		134		135		136	
137		138		139		140	
141		142		143		144	
145		146		147		148	
149		150		151		152	
153		154		155		156	
157		158		159		160	
161		162		163		164	
165		166		167		168	
169		170		171		172	
173		174		175		176	
177		178		179		180	
181		182		183		184	
185		186		187		188	
189		190		191		192	
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197		198		199		200	
201		202		203		204	
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209		210		211		212	
213		214		215		216	
217		218		219		220	
221		222		223		224	
225		226		227		228	
229		230		231		232	
233		234		235		236	
237		238		239		240	
241		242		243		244	
245		246		247		248	
249		250		251		252	
253		254		255		256	
257		258		259		260	
261		262		263		264	
265		266		267		268	
269		270		271		272	
273		274		275		276	
277		278		279		280	
281		282		283		284	
285		286		287		288	
289		290		291		292	
293		294		295		296	
297		298		299		300	
301		302		303		304	
305		306		307		308	
309		310		311		312	
313		314		315		316	
317		318		319		320	
321		322		323		324	
325		326		327		328	
329		330		331		332	
333		334		335		336	
337		338		339		340	
341		342		343		344	
345		346		347		348	
349		350		351		352	
353		354		355		356	
357		358		359		360	
361		362		363		364	
365		366		367		368	
369		370		371		372	
373		374		375		376	
377		378		379		380	
381		382		383		384	
385		386		387		388	
389		390		391		392	
393		394		395		396	
397		398		399		400	
401		402		403		404	
405		406		407		408	
409		410		411		412	
413		414		415		416	
417		418		419		420	
421		422		423		424	
425		426		427		428	
429		430		431		432	
433		434		435		436	
437		438		439		440	
441		442		443		444	
445		446		447		448	
449		450		451		452	
453		454		455		456	
457		458		459		460	
461		462		463		464	
465		466		467		468	
469		470		471		472	
473		474		475		476	
477		478		479		480	
481		482		483		484	
485		486		487		488	
489		490		491		492	
493		494		495		496	
497		498		499		500	
501		502		503		504	
505		506		507		508	
509		510		511		512	
513		514		515		516	
517		518		519		520	
521		522		523		524	
525		526		527		528	
529		530		531		532	
533		534		535		536	
537		538		539		540	
541		542		543		544	
545		546		547		548	
549		550		551		552	
553		554		555		556	
557		558		559		560	
561		562		563		564	
565		566		567		568	
569		570		571		572	
573		574		575		576	
577		578		579		580	
581		582		583		584	
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605		606		607		608	
609		610		611		612	
613		614		615		616	
617		618		619		620	
621		622		623		624	
625		626		627		628	
629		630		631		632	
633		634		635		636	
637		638		639		640	
641		642		643		644	
645		646		647		648	
649		650		651		652	
653		654		655		656	
657		658		659		660	
661		662		663		664	
665		666		667		668	
669		670		671		672	
673		674		675		676	
677		678		679		680	
681		682		683		684	
685		686		687		688	
689		690		691		692	
693		694		695		696	
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701		702		703		704	
705		706		707		708	
709		710		711		712	
713		714		715		716	
717		718		719		720	
721		722		723		724	
725		726		727		728	
729		730		731		732	
733		734		735		736	
737		738		739		740	
741		742		743		744	
745		746		747		748	
749		750		751		752	
753		754		755		756	
757		758		759		760	
761		762		763		764	
765		766		767		768	
769		770		771		772	
773		774		775		776	
777		778		779		780	
781		782		783		784	
785		786		787		788	
789		790		791		792	
793		794		795		796	

LICENCE NO.: WID1934		WELL NAME AND NO.: PARA etal NOGHA	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.	
SURFACE LOCATION:		UNIQUE ID: 300C496840125450	
OPERATORS REPRESENTATIVE: ((VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))		CONTRACTORS REPRESENTATIVE: ((VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))	
MILES PYRET		CLINT MAYER	
		SAFETY TOPIC	
		DIR. WORK	

NO. 1		TYPE KING		TYPE		RENTALS / SERVICES		Mon		Day		Eve	
CHANGE SCREERS		1		8									
TOP		80140		140									
MIDDLE		80140		140									
BOTTOM		80		80140									

NO. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
CPREL	DEPTH	WELL	REMARKS	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	COPIES	
	6.75								0.25																8.00	
	9.50								0.25																12.00	
									1.50																4.00	
	16.25								1.75																24.00	

BIT RECORD		MUD RECORD		METERS DRILLED		TIME LOG	
1. MOTOR 203 9.73 311.0 2. D.C. 229 9.41 311.0 3. HANG OFF 229 1.96 311.0 4. D.C. 229 9.41 311.0 5. BELL SUB 219 0.70 311.0 6. D.C. 185 137.92 311.0 7. H.W.D.P. 158 75.18 311.0 8. D.C. 152 0.39 311.0		1. TIME 2. DENSITY 3. VISCOSITY 4. W.L. OF 5. PH		1. FROM TO 2. FROM TO 3. FROM TO 4. FROM TO 5. FROM TO 6. FROM TO 7. FROM TO 8. FROM TO 9. FROM TO 10. FROM TO		1. FROM TO 2. FROM TO 3. FROM TO 4. FROM TO 5. FROM TO 6. FROM TO 7. FROM TO 8. FROM TO 9. FROM TO 10. FROM TO	
MUD MATERIALS USED		REDUCED PUMP SPEED		SOLIDS CONTROL EQUIPMENT		CENTRIFUGE	
TYPE QTY UNITS 1. 165.00 2. 171.00 3. 28.00		1. 165.0 2. 165.0		1. 165.0 2. 165.0		1. 165.0 2. 165.0	
DEVIATION SURVEY		BOILER		Notes:			
DEPTH (m) DEVIATION DIRECTION 1. 28 1000 450		HRS. RUN PH STACK deg 1. 8.00 10.0 450		1. 8.00 10.0 450		1. 8.00 10.0 450	
DRILLERS SIGNATURE MYLES LOW		MAX HOOKLOAD 28					

LICENCE NO. : WID1934	WELL NAME AND NO. : PARA etal NOGHA
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OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE I.D. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Visually (Using Check List)
- (3) HSB Inborn Process (if Required)
- (4) Walk Liveness & Walk Diagram Posted
- (5) Floor Lanes Strained
- (6) BOP Drifts Prevented
- (7) Monthly Inspect BOP's - Plasterboard & Degreaser Lines
- (8) Pig Site Health and Safety Meeting (non-attendance)
- (9) C.A.O.D.C. Pig Safety Inspection Checklist (non-attendance)
- (10) M.A.O.D.C. Pig Safety Inspection Checklist (non-attendance)
- (11) Drums Sealed
- (12) Motor Kites Checked

TSR	TSR	YEAR	CLASS	SECTION	UNIT
CM	CM	FIRE NO. 3			
CM	CM	FUEL @ 08:00 HRS.			
CM	CM	FIRE	84	BOILER	
CM	CM	TEMPERATURE	-28		
CM	CM	CONDITIONS	CLEAR		
CM	CM	WIND DIRECTION	S.E.		
CM	CM	ROAD CONDITION	I.C.F.		

MILES PYRET

CLINT MAYER

SAFETY TOPIC

LAST CARRIED THROUGH ON LEADER	PUMP DATA									SHALE SHAKERS			RENTALS / SERVICES			Mon	Day	Eve
	S.D. mm	MIN. LD	lgth	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CSQ.	SET AT (m)	NO.	TYPE	TYPE						
										1	KING							
										CHANGE SCREENS								
										TOP	80140	TOP	140					
NO.	DP	SIZE	ICB / IN	GRADE	MIN. LD	TOOL JT. O.D.	TYPE	THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE	STROKE LTN.					
			20.84	E	84	117	4"FH	280		OILWELL		PT-850	229					
			82.45	H.W.F.	70	158	4.5"XH	20		EMSCO		375	358					
			154.70	D.O.	72	123	4.625X4	20										

CODE	DATE																										TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
COPER	BURR'S LABORERS	DILL ACTUAL	MILANO	CONCRETE	CONC. MISC. & CONC.	TIMES	R/S SERVICE	REPAIRING	CUT OFF CHALK LINE	CER. SURVEY	WIRELINE LOSS	PIPE COIL & CORRECT	WASH ON CORRECT	HOPPLE SP S.O.P.	TEST S.O.P.	DILL STICK	PLUM BACK	SERVICE CORRECT	FENCES	INSTRUCTIONAL WORK	SAFETY MEETING	OTHER					
BOON					1.00	2.75														4.25							8.00
DAY		9.50					0.25			1.75												0.50					12.00
EVE		3.25								0.75																	4.00
TOTAL		12.75			1.00	2.75	0.25			2.50										4.25		0.50					24.00

[illegible]

DAY SHIFT

LICENCE NO.: WID1934		WELL NAME AND NO.: PARA etal NOGHA	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.	
SURFACE LOCATION:		UNIQUE I.D.: 300C496640125450	
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)	
MILES PYRET		CLINT MAYER	
SAFETY TOPIC		DIRECTIONAL TOOLS	
SHALES SHAKER(S)		RENTALS / SERVICES	
NO. 1 TYPE KING TYPE		Morn Day Eve	
CHANGE SCREENS			
TOP 80140 TOP 140			
MIDDLE 80140 MIDDLE 140			
BOTTOM 80 BOTTOM 80140			
PUMP MANUFACTURER		PUMP TYPE	
STROKE LTH			
PUMP NO. 1		PUMP NO. 2	
PUMP NO. 3		PUMP NO. 4	
PUMP NO. 5		PUMP NO. 6	
PUMP NO. 7		PUMP NO. 8	
PUMP NO. 9		PUMP NO. 10	
PUMP NO. 11		PUMP NO. 12	
PUMP NO. 13		PUMP NO. 14	
PUMP NO. 15		PUMP NO. 16	
PUMP NO. 17		PUMP NO. 18	
PUMP NO. 19		PUMP NO. 20	
PUMP NO. 21		PUMP NO. 22	
PUMP NO. 23		PUMP NO. 24	
PUMP NO. 25		PUMP NO. 26	
PUMP NO. 27		PUMP NO. 28	
PUMP NO. 29		PUMP NO. 30	
PUMP NO. 31		PUMP NO. 32	
PUMP NO. 33		PUMP NO. 34	
PUMP NO. 35		PUMP NO. 36	
PUMP NO. 37		PUMP NO. 38	
PUMP NO. 39		PUMP NO. 40	
PUMP NO. 41		PUMP NO. 42	
PUMP NO. 43		PUMP NO. 44	
PUMP NO. 45		PUMP NO. 46	
PUMP NO. 47		PUMP NO. 48	
PUMP NO. 49		PUMP NO. 50	
PUMP NO. 51		PUMP NO. 52	
PUMP NO. 53		PUMP NO. 54	
PUMP NO. 55		PUMP NO. 56	
PUMP NO. 57		PUMP NO. 58	
PUMP NO. 59		PUMP NO. 60	
PUMP NO. 61		PUMP NO. 62	
PUMP NO. 63		PUMP NO. 64	
PUMP NO. 65		PUMP NO. 66	
PUMP NO. 67		PUMP NO. 68	
PUMP NO. 69		PUMP NO. 70	
PUMP NO. 71		PUMP NO. 72	
PUMP NO. 73		PUMP NO. 74	
PUMP NO. 75		PUMP NO. 76	
PUMP NO. 77		PUMP NO. 78	
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PUMP NO. 91		PUMP NO. 92	
PUMP NO. 93		PUMP NO. 94	
PUMP NO. 95		PUMP NO. 96	
PUMP NO. 97		PUMP NO. 98	
PUMP NO. 99		PUMP NO. 100	
PUMP NO. 101		PUMP NO. 102	
PUMP NO. 103		PUMP NO. 104	
PUMP NO. 105		PUMP NO. 106	
PUMP NO. 107		PUMP NO. 108	
PUMP NO. 109		PUMP NO. 110	
PUMP NO. 111		PUMP NO. 112	
PUMP NO. 113		PUMP NO. 114	
PUMP NO. 115		PUMP NO. 116	
PUMP NO. 117		PUMP NO. 118	
PUMP NO. 119		PUMP NO. 120	
PUMP NO. 121		PUMP NO. 122	
PUMP NO. 123		PUMP NO. 124	
PUMP NO. 125		PUMP NO. 126	
PUMP NO. 127		PUMP NO. 128	
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LICENCE NO. : **WID1934** WE... NAME AND NO. : **PARA etal NOGHA**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE I.D. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON YOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

MILES PYRET

CLINT MAYER

SAFETY TOPIC

DIR. WORK

LAST CANNED TURNING OF LINE	O.D. mm	MIN. LD	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CSG.	SET AT (m)	SHALE SHAKER(S)			RENTALS / SERVICES			Mon	Day	Eve
										NO.	TYPE	TYPE						
											1	KING						
											CHANGE SCREENS			1	1	5		
											TOP	80140	TOP	140				
											MIDDLE	80140	MIDDLE	140				
											BOTTOM	80	BOTTOM	80140				

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL
	DUR'S TEAMWORK	SHELL ACTUAL	MEASURING	CONCRETE	CONC. SUB. & CONC.	TRIPS	R/S SERVICE	REPAIRING	CUT OFF S.A.L. LINE	DEL. BATTERY	WIRELINE LOSS	PUR CONG. & CEMENT	WAR ON CEMENT	APPLE UP S.D.P.	TERT S.D.P.	SHELL STEM	PLUG BACK	SOURCE CEMENT	POWER	DIRECTIONAL WORK	SAFETY MEETING	OTHER					
BORN					1.00	2.75														4.25							8.00
DAY		9.50					0.25			1.75												0.50					12.00
EVE		3.25								0.75																	4.00
TOTAL		12.75			1.00	2.75	0.25			2.50										4.25		0.50					24.00

[illegible]

MORNING SHIP 1										TEAM CLASS										DATE									
LICENSE NO. WID1934										WELL NAME AND NO. PARA etai NOGHA										REG NO. 3									
OPERATOR: PARAMOUNT RESOURCES LTD.										CONTRACTOR: WILSON DRILLING LTD.										FUEL @ 08:00 HRS.									
SURFACE LOCATION:										UNIQUE I.D. 300C496640125450										REG 110									
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)										CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)										TEMPERATURE -30 CONDITIONS CLOUDY WIND DIRECTION S E ROAD CONDITION ICE									
MILES PYRET										CLINT MAYER										SAFETY TOPIC									
LAST CORRECTION										SHALE SHAKERS										RENTALS / SERVICES									
NO. 1 TYPE KING										NO. 2 TYPE KING										NO. 3 TYPE KING									
CHANGE SCREENS										CHANGE SCREENS										CHANGE SCREENS									
TOP 80140										TOP 140										TOP 140									
MIDDLE 80140										MIDDLE 140										MIDDLE 140									
BOTTOM 80										BOTTOM 80140										BOTTOM 80140									
NO. 1 TYPE KING										NO. 2 TYPE KING										NO. 3 TYPE KING									
NO. 4 TYPE KING										NO. 5 TYPE KING										NO. 6 TYPE KING									
NO. 7 TYPE KING										NO. 8 TYPE KING										NO. 9 TYPE KING									
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LICENCE NO. : **WID1934** WELL NAME AND NO. : **PARA etal NOGHA P C-49**

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE I.D. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

YUGON HOPE

CLINT MAYER

TEAR OUT

G.D. CODE	MIN. LD	LGTH	MAKE	GRADE	# OF JOINTS	TOTAL (m)	K3 TO CSQ.	SET AT (m)
244.5	224.4	59.53	Isoco	1-80	38	509.38	5.00	509.00

IC, SP SIZE	IC / IN	GRADE	MRK. ID	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTR.
102	20.84	E	R4	117	4"FH	208	OILWELL	PT-R50	229
14	82.45	H.W.D.	70	158	4.5"XH	20	FMSCO	375	358
95	151.70	D.C	73	171	4.5"XH	20			

[illegible][illegible]

PARA et al NOGHA P C-49

CONTRACTOR: **WILSON DRILLING LTD.**

UNIQUE I.D. : 300C496640125450

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
A CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Monthly (Using Check List)
- (3) HSE Signet Protocol (If Required)
- (4) Walk Downstream & Walk Diagrams Posted
- (5) PPE Lines Staked
- (6) BOP Data Performed
- (7) Visually Inspect BOP's - Parallels & Doghouse Lines
- (8) Pig Site Health and Safety Meeting (weekly/monthly)
- (9) C.A.D.D.E. Pig Safety Inspection Checklist (monthly/weekly)
- (10) Must Inspect Before Raising or Lowering
- (11) Crown Saver Checked
- (12) Motor Oil Checked

W	1	TEMP	220	WIND	3	WIND DIR	SE
V	2	RWS NO: 3					
V	3	RWS NO: 220					
V	4	RWS NO: 220				SOILER	
V	5	TEMPERATURE -31					
V	6	CONDITIONS OVER CAST					
V	7	WIND DIRECTION SE					
V	8	WIND CONDITION ICE					

CLINT MAYER

TRIPPING

	O.D. mm	MIN. LD	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBQ	SET AT (m)				
	244.5	224.4	59.53	ipasco	1-80	38	509.38	5.00	509.00	NO. 1	TYPE KING COBRA		
NO. OF BPS	ICR / 10	GRADE	WELD	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MAKE/FABRICATOR	PUMP TYPE	STROKE LTH.	TOP	TOP	MIDDLE	MIDDLE
102	20.84	E	84	117	4"FH	208	OILWELL	PT-R50	229	80140	110	80140	110
	62.45	H.W.D.	70	158	4.5"XH	20	EMSCO	375	350				
	151.70	D.C.	73	171	4.5"XH	20				BOTTOM 110	BOTTOM 175		

	OPER	DRIP'S TEARDROPS	SHILL ACTUAL	LEAKERS	CORING	CORING HRS & CMC	TRIPS	HS SERVICE	SPRINGS	CUT OFF SHILL LINE	SHILL SURVEY	SHOULDER LOSS	HS COR. & CEMENT	TIME ON CEMENT	SHOULDER UP B.S.P.	TIME B.S.P.	SHILL STOPS	FLAME BACK	SHOULDER CEMENT	POURING	DIRECTIONAL WORK	SAFETY MEETINGS	OTHER						
NOON						3.75	3.75	0.25															0.25						8.00
DAY							6.75	0.25															1.00						8.00
EVE								0.25					2.00									0.25	5.50						8.00
TOTAL						3.75	10.50	0.75					2.00									0.25	6.75						24.00

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LICENCE NO. : WID1934		WELL NAME AND NO. : PARA etal NOGHA P C-49		(2) Detailed Inspection-Weekly (Lifting Check List) (3) HES Signs Posted, if Required (4) Well Licenss & Silted Diagram Posted (5) Flare Lines Staked (6) SOP Data Forwarded (7) Visually Inspect SOP's - Procedures & Degasser Lines	
OPERATOR : PARAMOUNT RESOURCES LTD.		CONTRACTOR : WILSON DRILLING LTD.		(1) Rig Site Health and Safety Meeting (before/after/weekly) (2) C.A.D.D.C. Rig Safety Inspection Checklist (before/after/weekly) (3) Must Inspect before Raising or Lowering (4) Crown Saver Checked (5) Motor Oil's Checked	
SURFACE LOCATION :		UNIQUE I.D. : 300C496640125450		TEMPERATURE : -31 CONDITIONS : OVER CAST WIND DIRECTION : S E ROAD/ CONDITION : ICE	
OPERATORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON YOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))		CONTRACTORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON YOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))			

CLINT MAYER

	S.D. mm	MIN. LD	Legth	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CSGL	DET AT (m)				
	244.5	224.4	59.53	ipsco	I-80	38	509.38	5.00	509.00	NO.	TYPE	DATE	
										1	KING CORP		
SC. BP SECT	KB / M	GRADE	MIN. LD	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.	TOP	80140	TOP	110
102	20.84	E	84	117	4"FH	208	OIL WELL	PT-850	228	MIDDLE	80140	MIDDLE	110
74	82.45	H.W.D.	70	158	4.5"XH	20	EMSCO	375	358	BOTTOM	110	BOTTOM	175
5	151.70	D.C	73	171	4.5"XH	20							

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LICENCE NO.: WID1934		WELL NAME AND NO.: PARA etal NOGHA P C-49		(2) Labeled Impression-Weekly (Using Check List) (3) HSB Sign Post(s) if Required (4) Well Location & Block Diagram Posted (5) Flow Lines Sketched (6) BOP Data Preliminary (7) Visually Inspect BOP's - Flarelines & Degreaser Urns		REQ NO.: 3	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.		(1) Rig Site Health and Safety Meeting (non-environmental) (2) C.A.D.D.C. Rig Safety Meeting (Chemical/environmental) (3) Must Inspect: Safety, Raising or Lowering (4) Crown Block Checked (5) Meter Rigs Checked		REQ 220 BOILER	
SURFACE LOCATION:		UNIQUE I.D.: 300C496640125450		TEMPERATURE -31		CONDITIONS OVER CAST	
OPERATORS REPRESENTATIVE: ((VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))		CONTRACTORS REPRESENTATIVE: ((VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))		WIND DIRECTION S E		ROAD CONDITION J E	

CLINT MAYER

2 RUN CASING

B.P. mm	MFL LD	Hghm	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CSQ.	SET AT (m)
244.5	224.4	59.53	Ipsco	I-80	38	509.38	5.00	509.00

DIG. BIP SIZE	KG / M	GRADE	MFL ID	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.
102	20.64	E	R4	117	4"FH	208	OILWELL	PT-350	229
	82.45	H.W.D.	70	158	4.5"FH	20	EMSCO	375	356
	151.70	D.C.	73	171	4.5"OH	20			

NO.	TYPE	TYPE
1	KING COBRA	

TOP	TOP
80140	110
MIDDLE	MIDDLE
80140	110
BOTTOM	BOTTOM
110	175

OPER.	WORK & TRANSPORT	DRILL FANAL	REASING	CORING	COAL DRILL & CHC.	TRIPS	DR SERVICE	REPAIRING	CUT OFF DRILL LINE	DRILL SERVICE	WIRELINE LOSS	REEL DRILL & CEMENT	WATER CEMENT	WIPPLE W.P.L.O.P	TEST S.D.P.	DRILL STOPS	PLUG BACK	REVERSE CEMENT	POWER	DIRECTIONAL WORK	SAFETY MEETING	OTHER						
MORNING					3.75	3.75	0.25															0.25						8.00
DAY						6.75	0.25															1.00						8.00
EVE							0.25					2.00										0.25	5.50					8.00
TOTAL					3.75	10.50	0.75					2.00										0.25	6.75					24.00

ITEM NO.										ITEM										FROM TO DRILL/REAMER ROTARY R.P.M. WT. ON LCT										FROM TO ELAPSED TIME CODE									
TYPE										TIME										1600 1615 0.25 7										RIG SERVICE/ GREASE DRIVE LINES									
DENSITY										DENSITY										1615 2145 5.50 22										WAIT ON TONGHAND									
FUEL										FUEL										2145 2200 0.25 21										SAFETY MTG. PRIOR TO RUNNING CASING.									
W.L. and										W.L. and										2200 2400 2.00 12										RUN CASING.									
PH										PH																													
TYPE										TYPE																													
DEPTH (in)										DEPTH (in)																													
DEPTH (in)										DEPTH (in)																													
TOTAL										TOTAL																													
TOTAL										TOTAL																													
DRILLPIPE STANDS										DRILLPIPE STANDS																													
DRILLPIPE BUCKLES										DRILLPIPE BUCKLES																													
KELLY DOWN										KELLY DOWN																													
TOTAL										TOTAL																													
W.D.C.										W.D.C.																													
WT. OF STRING										WT. OF STRING																													
MURE MIKE STOLTE										MURE MIKE STOLTE																													

LICENCE NO. : WID1934		WELL NAME AND NO. : PARA etal NOGHA P C-49		(2) Detailed Inspection-Weekly (Using Check List) (3) HES Signs Posted(if Required) (4) Well Licenses & Well Diagrams Posted (5) Flare Lines Checked (6) BOP Dalls Inspected (7) Visually Inspect BOP's - Annulus & Degasser Lines	
OPERATOR : PARAMOUNT RESOURCES LTD.		CONTRACTOR : WILSON DRILLING LTD.		(1) Pig Site Health and Safety Meeting (before start/ month) (2) C.A. D.D.C. Pig Safety Inspection Checksheet (weekly/ monthly) (3) Mast Inspection Batters Paving or Lining (4) Crown Block Checked (5) Master Kils Checked	
SURFACE LOCATION :		UNIQUE I.D. : 300C496640125450		(1) TEMPERATURE - 32 (2) CONDITIONS CLOUDY (3) WIND DIRECTION S E (4) ROAD CONDITION ICE	
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)			

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PARA etal NOGHA P C-49

PARAMOUNT RESOURCES LTD.

WILSON DRILLING LTD.

UNIQUE I.D. :

300C496640125450

CONTRACTORS REPRESENTATIVE: (I) VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY

- (1) Daily Walk Around Inspection
- (2) Confined Space Entry (Using Check List)
- (3) HSE Signs Posted (If Required)
- (4) Walk Upman & Walk Downman Posted
- (5) Flare Lines Staked
- (6) SGP Delta Performed
- (7) Visually Inspect BOP's - Parallels & Depression Lines
- (8) Rig Site Health and Safety Meeting (week/monthly)
- (9) A.A.O.R.C. Rig Safety Meeting (checklist every 3 months)
- (10) Coast Inspection Before Raising or Lowering
- (11) Crossover Check
- (12) Meter I/Os Checked

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YUGON HOPE

CLINT MAYER

LOGGING

	G.D. mm	MIN. LD	kg/cm	MAKES	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBG.	SET AT (m)				
	244.5	224.4	59.53	1pcsc	I-80	38	509.38	5.00	509.00	NO. 1	TYPE KING COBRA	TYPE	
BO. BP BZT	KB / #	GRADE	MIN. LD	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTR.	TOP	80140	TOP	110
102	20.84	E	84	117	4"FH	208	OILWELL	PT-850	229	NEEDLE	80140	NEEDLE	110
14	62.45	H.W.D.	70	151	4.6"XH	20	EMSCO	375	350	BOTTOM	110	BOTTOM	175
E	151.70	D.C.	73	171	4.6"XH	20							

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LICENCE NO.: WID1934	WELL NAME AND NO.: PARA etal NOGHA P C-49	(2) Detailed Inspection Weekly (Using Check List) (3) H2S Signs Posted(If Required) (4) Well Location & Block Diagrams Posted (5) Flow Lines Stashed (6) SOP Drills Practised (7) Visually Inspect BOF's - Personnel & Degasser Lines	RIG NO.: 3
OPERATOR : PARAMOUNT RESOURCES LTD.	CONTRACTOR : WILSON DRILLING LTD.		
SURFACE LOCATION :	UNIQUE I.D. : 300C496640125450	(1) Rig Site Health and Safety Meeting (on-site/remote) (2) C.A.O.D.C. Rig Safety Inspection Checklist(on-site/remote) (3) Mast Inspection Safety Posting or Lanyarding (4) Oxygen Sensor Checked (5) Motor KVs Checked	RIG 178
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)	CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		TEMPERATURE -32 CONDITIONS CLOUDY WIND DIRECTION S E ROAD CONDITION I F

CLINT MAYER

	S.D. mm	REN LD	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CPG	SET AT (m)				
	244.5	224.4	59.53	Ipcco	480	38	509.38	5.00	509.00	NO. 1	TYPE KING COBRA		
DC. SP SIZE	KB / M	GRADE	REN LD	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH	TOP	80140	TOP	110
1/2	20.84	E	84	117	4"FH	208	OILWELL	PT-850	228	MIDDLE	80140	MIDDLE	110
1	82.45	H.W.D.	70	158	4.5"FH	20	EMSCO	375	356	BOTTOM	110	BOTTOM	175
1.5	151.70	D.C	73	171	4.5"FH	20							

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WIRE LINE LOG										WIRE LINE LOG																			
DATE		WELL NO.		21T		TIME		FROM		TO		DRIEL/		ROTARY		WT. ON BT		FROM		TO		ELAPSED		CODE		REMARKS			
1	BIT SUB	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53	185	0.53
2	D.C.	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36	184	34.36
3	JAR	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20	180	5.20
4	D.C.	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85	184	103.85
5	H.W.D.P.	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18	114	75.18
6	X.O.	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39	182	0.39
7	TYPE	ETD34MS		171573																									
8	DEPTH (m)	1409.00																											
9	DEPTH OUT (m)	1409.00																											
10	TOTAL DEPTH	0.00																											
11	TOTAL HOURS																												
12	DRILLPIPE STANDS	1185.33																											
13	DRILLPIPE SINGLES																												
14	KELLY DOWN	3.51																											
15	TOTAL	1409.00																											
16	W.D.C.	16																											
17	WT. OF STRIPS	41																											
18	SIGNATURE	MYLES LOW																											
19	TIME																												
20	DENSITY																												
21	FUNNEL																												
22	W.L. cm/																												
23	FLICK																												
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MORNING SHIFT

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LICENCE NO. : **WID1934**

WELL NAME AND NO.:

PARA et al NOGHA P C-49

OPERATOR:

PARAMOUNT RESOURCES LTD.

CONTRACTOR:

WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE I.D. :

300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

YUGON HOPE

CLINT MAYER

SAFETY TOPIC

TRIPPING

[illegible][illegible]

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- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (Using Check List)
- (3) HSB Sign to Postcard (if Required)
- (4) Walk Through & Check Diagram Posted
- (5) Floor Lanes Marked
- (6) BOP Drift Postmarked
- (7) Visually Inspect BOP's - Flareless & Degasser Lines
- (8) Night Shift Health & Safety Meeting (mandatory/weekly)
- (9) A.A. O.D.C. Rig Safety Inspection Checklist (mandatory/weekly)
- (10) Meet Inspection Safety Planning or Learning
- (11) Crown Driver Checked
- (12) Meter KIDs Checked

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YUGON HOPE

CLINT MAYER

WINTER CONDITIONS

	S.D. INCH	MIN. I.D.	HTG.	MAKE	GRADE	# OF JOINTS	TOTAL (in)	KB TO CSG.	SET AT (in)	PUMP DATA			
	244.5	224.4	59.53	ipaco	1-80	38	509.38	5.00	509.00	NO. 1	TYPE KING COB	SIZE	
SC. BP INCH	KB / IN	GRADE	MIN. IN	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PLUG MANUFACTURER	PUMP TYPE	STROKE LTH.	TOP	80140	TOP	110
102	20.84	E	84	117	4"FH	208	OILWELL	PT-850	229				
114	52.45	H.W.D.	70	168	4.5"XH	20	EMSCO	375	358	MIDDLE	80140	MIDDLE	110
	151.70	D.C.	73	171	4.5"XH	20				BOTTOM	110	BOTTOM	175

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1										2										X										FROM										TO										DRI/REAR/ROTARY										WT. ON BT										FROM										TO										SLIPPED TIME										CODE									
MOTOR 159 8.10										SIZE (mm) 218.0										TIME 1000 1400 1800										1344.00 1392.00 D 25 18										1360.00 1345.00 D 40 17										800 1545 7.75 2										DRILL F/1344M - 1370M																																																	
FLOAT SUB 185 0.20																				DENSITY 1255 1255 1250																				1545 1600 0.25 7										RIG SERVICE F/T PIPE RAMS 4 SECS. T/C 4 SECS. T/O																																																											
MONEL 184 9.47										LADC CODES										FURNEL YBL 55 53 58																				1600 1930 3.50 2										DRILL F/1370M - 1385M																																																											
TRANSMIT 159 1.80										VAREL										W.L. and PLCK 10.0 9.5 10.0																				1930 2000 0.50 10										ACC. DEVIATION SURVEYS																																																											
MONEL 184 9.47																				PH 12.0 10.5 11.0																																																																																									
X.Q. 185 0.70										Type ETD34MS										PVT 45.80 45.30 50.30																				12500 152.0 110 152.0																																																																					
D.Q. 184 34.36																														3840 51 1300																																																																															
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K.W.D.P. 114 75.18										11/11/11																																																																																																			
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DRILL PIPE STANDS 1126.83																																																																																																													
DRILL PIPE BRIGLES																																																																																																													
KELLY DOWN 8.38																				DEPTH (m) DEVIATION DIRECTION																																																																																									
TOTAL 1385.00																				1334.00 2.00 259.2																																																																																									
W. D.C. 18										1-3 UP 1-3 DV										1359.00 2.10 248.4																																																																																									
WT. G. J. IRING 44										200										1369.00 2.20 242.6										12.00 11.0 430																																																																															
NATURE MONTE RUTHERFORD																				1378.00 1.90 235										2662																																																																															
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Notes: DAILY WALK AROUND M/R. CHECK BRAKES & LINKAGE

CHECK & RESET CROWN SAVIR F/T REMOTE CHOKE

BLOW DOWN BOILERS 4X

REPAIR HYD. LEAK ON PIPE TUB

REPAIR HYD. LEAK ON ACCUMULATOR (STEM ON BOTTLE)

LICENCE NO. : **WID1934**

WELL NAME AND NO. :

PARA et al NOGHA P C-49

OPERATOR

PARAMOUNT RESOURCES LTD.

CONTRACTOR:

WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE I.D. :

300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Work Amount Inspection
- (2) Detailed Inspection-Weekly (Using Check List)
- (3) HSE Signage Posted (If Required)
- (4) Wall Ladders & Walk Diagrams Posted
- (5) Floor Lines Staked
- (6) SOPs Daily Performed
- (7) Visually Inspect SOP's - Procedures & Degraded Lines
- (8) Pig Site Health and Safety Meeting (before/after work)
- (9) C.A.D.S.C. Pig Safety Inspection Checklist (monthly/weekly)
- (10) Check for Obvious Pipeline Failure or Leaking
- (11) Observe Saver Checked
- (12) Meter IDs Checked

1048	2243	20418	2	001	24
RWS NO. 3					
RWS 114		SOLER			
TEMPERATURE		-22			
CONDITIONS		CLOUDY			
WIND DIRECTION		N S E			
WIND VELOCITY		10 K			

YUGON HOPE

CLINT MAYER

	S.D. MM	MIN. LD	LGTH	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBQ	NET AT (m)				
	244.5	224.4	59.53	ipasco	I-80	38	509.38	5.00	509.00	NO. 1	TYPE KING COBRA		
NO. / BP SIZE	KG / M	GRADE	MIN. LD	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.	TOP	80140	TOP	110
102	20.84	E	84	117	4"EH	208	OLWELL	PT-850	229	MIDDLE	80140	MID / LB	110
114	62.45	H.W.D.	70	158	4.5"XH	20	EMSCO	375	350	BOTTOM	110	BOT / DB	175
	165.70	D.C.	73	174	4.5"XH	20							

[illegible]

		0.25		BT NO.		2				FROM		TO		DRILL / MEASURES		ROTARY S.P.S.		WT. ON BIT		FROM		TO		SLIPS / YRS		CODE				
MOTOR		159	8.10	BT NO.		216.0				TIME		2000	2300			1385.00		1391.00	0	40	17		2000	2230	2.50	2	DRILL F71385M - 1399			
FLOAT SUB		185	0.80	BT NO.						DENSITY		1250	1250									2230	2245	0.25	10	DEV. SURVEY				
X.O.		186	0.22	BT NO.						FURNEL		57	57									2245	2300	0.25	7	RIG SERVICE				
MONEL		184	9.47	BT NO.						YRS at		10.0	10.0									2300	2400	1.00	2	DRILL 216 MM HOLE 1399 - 1391				
TRANSMIT		159	1.80	BT NO.		VAREL				W.L. and		11.0	11.0									2400								
MONEL		184	9.47	BT NO.						PH		11.0	11.0																	
X.O.		185	0.70	BT NO.																										
D.C.		184	34.36	BT NO.		ETD34MS																								
JAR		180	5.20	BT NO.		171573																								
D.C.		184	103.85	BT NO.																										
H.W.D.P.		114	75.18	BT NO.																										
X.O.		152	0.39	BT NO.																										
				DEPTH IN (m)		1204.00				TYPE		QTY	UNITS																	
				DEPTH OUT (m)																										
				TOTAL DEPTH		187.00																								
				TOTAL HOURS		49.25																								
DRILLPIPE		STANDS	1136.60	BT NO.																										
DRILLPIPE		BRIGLES		BT NO.																										
KELLY DOWN		4.62		BT NO.																										
TOTAL		1391.01		BT NO.						DEPTH (m)		1373.54	2.30	DIRECTION		234.6														
WT. OF D.C.		18		BT NO.		3000																								
WT. C / RING		44		BT NO.		200																								
SIGNATURE		MYLES LOW		BT NO.																										
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REGISTRATION OFFICE

LICENCE NO.: **WID1934** WELL NAME AND NO.: **PARA etal NOGHA P C-49**

OPERATOR: **PARAMOUNT RESOURCES LTD.** CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION: UNIQUE I.D.: **300C496640125450**

OPERATORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)) CONTRACTORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))

- (1) Daily Well Around Inspection
- (2) Detailed Inspection Weekly (Using Check List)
- (3) HSE Signs Posted (If Required)
- (4) Well License & BHA Diagram Posted
- (5) Flare Lines Staked
- (6) BOP Drills Performed
- (7) Visually Inspect BOP's - Flarelines & Depressure Lines
- (8) Rig Site Health and Safety Meeting (Announcement)
- (9) C.A.D.D.C. Rig Safety Inspection Checklist (monthly)
- (10) Mast Inspection Before Raising or Lowering
- (11) Crown Block Checked
- (12) Mast Ribs Checked

YEAR 2003 MONTH 2 DAY 23

RIG NO.: **3**

FUEL @ 08:00 HRS.

RIG 110 BOILER

TEMPERATURE -25

CONDITIONS CLOUDY

WIND DIRECTION CALM

ROAD CONDITION ICE

YUGON HOPE CLINT MAYER SAFETY TOPIC

LAST CANNED TIME	Q.D. mm	MDL LD	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBL	SET AT (m)	SHALE SHAKERS	RENTALS / SERVICES	MAN	W	EN
	244.5	224.4	59.53	DECO	1-80	33	509.38	5.00	509.00	NO. 1 TYPE KING				
										CHANGE SCREENS				
										TOP 80140 110				
										MIDDLE 80140 110				
										BOTTOM 110 175				

BO. BP. SIZE		KB / M		GRADE		MDL LD		TOOL JT. Q.D.		TYPE THREADED		# OF JOINTS		PUMP MANUFACTURER		PUMP TYPE		STROKE LTH.		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		TOTAL																																																																																																																																																																																																																																																																																																																																														
OPER.	DEEP & TRAVELERS	DRILL ACTUAL	REARERS	CONCRE	CONCRE DRILL & CONCRE	TYPE	NO SERVICE	REPAIRMENT	DRY OFF LUBR. LINE	DRILL DEPTH	WIRELINE LOSS	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL CYCL & CONCRE	WIRE CYCL CONCRE	DRILL 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WELL RECORD

MUD RECORD

METERS DRILLED

TIME LOG

TIME DETAIL

WATER BASED

TIME

DRILLER'S SIGNATURE MYLES LOW

DRILLERS SIGNATURE MYLES LOW

[illegible]

EVENING SHIFT

LICENSE NO.: WID1934

WELL NAME AND NO.:

PARA etal NOGHA P C-49

OPERATOR: PARAMOUNT RESOURCES LTD.

CONTRACTOR: WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE I.D.: 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Well Around Inspection
 (2) Drilled Inspection Weekly (Using Check List)
 (3) HSE Signs Posted (If Required)
 (4) Well Location & Block Diagram Posted
 (5) Plans Lines Staked
 (6) BOP Drills Performed
 (7) Visually Inspect BOP's - Flarelines & Dogear Lines
 (8) Rig Site Health and Safety Meeting (on-site/weekly)
 (9) C.A.D.D. Rig Safety Inspection Checklist (weekly/monthly)
 (10) Mast Inspection Before Raising or Lowering
 (11) Crown Saver Checked
 (12) Motor Oil Checked

YEAR	2013	MONTH	1	DAY	1
RIG NO.	3				
FUEL	6:50 HRS.				
RIG	110				
TEMPERATURE	-25				
CONDITIONS	CLOUDY				
WIND DIRECTION	CALM				
ROAD CONDITION	ICE				

YUGON HOPE

CLINT MAYER

SAFETY TOPIC

LOG NO.	O.D. (mm)	MIN. LD	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CBL	SET AT (m)	SHALE SHAKER(S)				RENTALS / SERVICES														Mon	Day	Est					
										NO.	TYPE	KING	TYPE																						
CHARGE SCREENS										1	2	3																							
TOP										80140				TOP				110																	
MIDDLE										80140				MIDDLE				110																	
BOTTOM										110				BOT/TOP				175																	
DC	SP	SIZE	ICB / SE	GRADE	MIN. LD	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE		STROKE LTH.																						
		20.84	E	84	117	4"FH	208	OILWELL			PT-550		229																						
		82.45	H.W.D.	70	158	4.5"XH	20	EMSCO			375		350																						
		181.70	D.C.	73	171	4.5"XH	20																												
LOG NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL								
OPER.	DRILL & TENSIONING	DRILL ACTUAL	PLEASING	CORING	CORER DRILL & CORER	TRIPS	DR. SERVICE	REPAIRING	CUT OFF DRILL LINE	DRILL DRIFT	WIRELINE LOGS	CUTS DRILL & CEMENT	WATT DR. CURRENT	SHOULDER UP/SLAP	TRIP S.D.P.	DRILL STOPS	PLUG BACK	SHOULDER CEMENT	FORMING	INJECTION WORK	SAFETY SERVICES														
WORK		7.00					0.25				0.50										0.25					8.00									
TRAV		11.00				0.25	0.25				0.50															12.00									
EXP		3.50					0.25				0.25															4.00									
TOTAL		21.50				0.25	0.75				1.25										0.25					24.00									

[illegible]

[illegible]

EVENING SHIFT

LICENCE NO.: WID1934

WELL NAME AND NO.:

PARA etal NOGHA P C-49

OPERATOR:

PARAMOUNT RESOURCES LTD.

CONTRACTOR:

WILSON DRILLING LTD.

SURFACE LOCATION:

UNIQUE ID.:

300C496640125450

OPERATOR'S REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTOR'S REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection-Weekly (Using Check List)
 (3) HES Sign Posted (if Required)
 (4) Well Licensure & BSH Diagram Posted
 (5) Flare Lines Staked
 (6) BOP Data Reviewed
 (7) Visually Inspect BOP's - Paddles & Depressur Lines
 (8) Rig Site Health and Safety Meeting (nearby)
 (9) C.A.D.D. Rig Safety Inspection Checklist (nearby)
 (10) Mast Inspection Before Raising or Lowering
 (11) Crown Block Checked
 (12) Motor Oil Checked

QTY	UNIT	YEAR	2003	MONTH	2	DAY	22
CM	CM	RHS NO.	3				
CM	CM	FUEL @ 08:00 HRS.					
CM	CM	RHS	216	BOILER			
CM	CM	TEMPERATURE	-30				
CM	CM	CONDITIONS	CLEAR				
CM	CM	WIND DIRECTION	CALM				
CM	CM	ROAD CONDITION	ICE				

YUGON HOPE

CLINT MAYER

SAFETY TOPIC

TUBULARS

LAST	S.D. mm	MIN. LD	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KG TO CBL	SET AT (m)	SHALE SHAKER(S)	RENTALS / SERVICES	Mon	Day	Ev
1										NO. 1 KING TYPE				
2										CHANGE SCREENS				
3										TOP 80140 110				
4										MIDDLE 80140 110				
5										BOTTOM 110 175				
PS. DP. SIZE	KG / M	GRADE	MIN. LD	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.					
20.84	F	84	117	4TH	208	OLWELL	PT-850	229						
82.45	H.W.D.	70	150	4.5" XH	20	EMSCO	375	358						
151.70	D.C.	73	171	4.5" XH	20									
OPBL	REPAIR	SHILL	REPAIR	CORRE	SOCK. DRP	TYPE	REPAIR	OUT OF	SOCK. DRP	WIRELINE	WIRELINE	WIRELINE	WIRELINE	TOTAL
		2.25			0.75	4.75	0.25							8.00
		2.50			0.75	5.00	0.25	1.00						12.00
		3.25					0.25		0.50					4.00
		8.00			1.50	9.75	0.75	1.00	0.50					24.00

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LICENSOR NO.: WID1934	WELL NAME AND NO.: PARA etal NOGHA P C-49	(2) Detailed Inspection Weekly (Using Check List) (3) HSE Signs Posted (if Required) (4) Well Loggers & Shift Diagram Posted (5) Flare Limit Station (6) SCOP Drills Performed (7) Monthly Inspect SCOP's - Personnel & Degraded Lines	YES NO CM ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐	HSE REQ. 3	FUEL @ 08:00 HRS.
OPERATOR: PARAMOUNT RESOURCES LTD.	CONTRACTOR: WILSON DRILLING LTD.	(1) Rig Site Health and Safety Meeting (Inspector/Foreman) (2) C.A.D.D.E. Rig Safety Inspection Checklist/Insightfully (3) Meet Inspector Safety Rating or Licensing (4) Crown Cover Checked (5) Motor Oil Checked	YES NO CM ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐	RE 175	SOLAR
SURFACE LOCATION:	UNIQUE I.D.: 300C496640125450		WEATHER: TEMPERATURE -30 CONDITIONS CLOUDY WIND DIRECTION S E ROAD CONDITION ICE		
OPERATORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))		CONTRACTORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))			

CLINT MAYER

SAFETY TOPIC

DEICING PROCEDURES

[illegible]

NO. 1										NO. 2										NO. 3										NO. 4										NO. 5										NO. 6										NO. 7										NO. 8										NO. 9										NO. 10										NO. 11										NO. 12										NO. 13										NO. 14										NO. 15										NO. 16										NO. 17										NO. 18										NO. 19										NO. 20										NO. 21										NO. 22										NO. 23										NO. 24										NO. 25										NO. 26										NO. 27										NO. 28										NO. 29										NO. 30										NO. 31										NO. 32										NO. 33										NO. 34										NO. 35										NO. 36										NO. 37										NO. 38										NO. 39										NO. 40										NO. 41										NO. 42										NO. 43										NO. 44										NO. 45										NO. 46										NO. 47										NO. 48										NO. 49										NO. 50										NO. 51										NO. 52										NO. 53										NO. 54										NO. 55										NO. 56										NO. 57										NO. 58										NO. 59										NO. 60										NO. 61										NO. 62										NO. 63										NO. 64										NO. 65										NO. 66										NO. 67										NO. 68										NO. 69										NO. 70										NO. 71										NO. 72										NO. 73										NO. 74										NO. 75										NO. 76										NO. 77										NO. 78										NO. 79										NO. 80										NO. 81										NO. 82										NO. 83										NO. 84										NO. 85										NO. 86										NO. 87										NO. 88										NO. 89										NO. 90										NO. 91										NO. 92										NO. 93										NO. 94										NO. 95										NO. 96										NO. 97										NO. 98										NO. 99										NO. 100									
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LICENCE NO.: WID1834		WELL NAME AND NO.: PARA etal NOGHA P C-49		(2) Detailed Inspection-Weekly (Lifting Check List) (3) HSE Signs Permit(If Required) (4) Well Logbook & Sketch Diagram Filled (5) Flow Lines Studied (6) BOP Drills Practised (7) Weekly Inspect BOP's - Procedures & Diagrams Lines		HSE NO.: 3 FUEL @ 08:00 HRS. NO. SOLID	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.					
SURFACE LOCATION:		UNIQUE I.D.: 300C496640125450				(1) Rig Site Health and Safety Meeting (once-in-a-month) (2) C.A.O.D.C. Rig Safety Inspection Check list (once-in-a-month) (3) Mast Inspection Safety Raising or Lowering (4) Crown Block Checked (5) Mast Kibs Checked	
OPERATORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))		CONTRACTORS REPRESENTATIVE: ((I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY))				WEATHER: TEMPERATURE: CONDITIONS: WIND DIRECTION: ROAD CONDITION:	

SAFETY TOPIC

Last Change Updated On User	PUMP DATA										SHALE SHAKERS			RENTALS / SERVICES			Mon	Day	Eve
	O.D. INCH	INCH I.D.	LGTH	MAKE	GRADE	# OF JOINTS	TOTAL (in)	KB TO CSGL	SET AT (in)	NO.	TYPE	TYPE							
										CHARGE SCREENS	1	2	3						
	HP SIZE	KB / IN	GRADE	INCH I.D.	TOOL JT. O.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.	TOP	TOP							
											MIDDLE	MIDDLE							
											BOTTOM	BOTTOM							

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EVENING SHIFT

LICENSE NO. WID1934		WELL NAME AND NO. PARA etal NOGHA P C-49		(1) Dr Ry With Around Inspection (2) Detailed Inspection Weekly (Using Check List) (3) HSE Signs Posted (if Required) (4) Well Licensure & Status Diagrams Posted (5) Plans Licensure Status (6) SOP Drills Performed (7) Visually Inspect SOP's - Flarelines & Dogear Lines (8) Rig Site Health and Safety Meeting (before/after work) (9) C.A.O.D.C. Rig Safety Inspection Check/Signatures/Notes (10) Mast Inspection Before Raising or Lowering (11) Crown Saver Checked (12) Mast Kibs Checked		YEAR 2003 MONTH 2 DAY 21 FUEL @ 08:00 HRS. TEMPERATURE -30 CONDITIONS CLOUDY WIND DIRECTION S.E. ROAD CONDITION ICE																																																																																	
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WELL NAME AND NO. : PARA etal NOGHA P C-49

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE I.D. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

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- (7) Daily Walk Around Inspection
- (8) Detailed Inspection-Weekly (Using Check List)
- (9) HES Signs Firmed (if required)
- (10) Walk Ladders & Crib Diagram Posted
- (11) Power Lines Staked
- (12) SOP Drills Performed
- (13) Visually Inspect SOP's - Personnel & Equipment Lines
- (14) Rig Site Health and Safety Meeting (Interim/weekly)
- (15) C.A.O.D.C. Rig Safety Inspection Checklists/weekly/monthly
- (16) Meet Inspection Bureau Filing or Lining
- (17) Driven Saver Checked
- (18) Motor Oils Checked

01	01	YEAR	2003	MONTH	2	DAY	10
02	01	REG NO.	3				
03	01	FUEL @ 06:00 HRS.					
04	01	REG	76	BOILER			
05	01	TEMPERATURE	-37				
06	01	CONDITIONS	CLEAR				
07	01	WIND DIRECTION	CALM				
08	01	SEA CONDITION	ICE				

WILF SWAN

CLINT MAYER

SAFETY TOPIC

CAMP FIRE DRILL

[illegible][illegible]

[illegible]

[illegible]

[illegible]

LICENCE NO.: **WID1934**

WELL NAME AND NO.:

PARA et al NOGHA P C-49

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID. : 300C496840125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO USE
TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Walky (Using Check List)
- (3) HSE Signs Posted (If Required)
- (4) Wet Lanes & Slab Diagrams Posted
- (5) Pave Lane Staked
- (6) BOP Drills Performed
- (7) Visually Inspect BOP's - Personnel & Doghouse Lines
- (8) Rig Site Health and Safety Meeting (afternoon meeting)
- (9) C.A.O.D.C. Rig Safety Inspection Checklist completed
- (10) Meet Inspection before Paving or Laying-6
- (11) Crown 2 over Checked
- (12) Master Wits Checked

09	21	YEAR 2003	MONTH 2	DAY 18
08	22	RIS NO.: 3		
07	23	FUEL @ 06:00 HRS.		
06	24	RIS 143	SOLAR	
05	25	TEMPERATURE -34		
04	26	CONDITIONS CLEAR		
03	27	WIND DIRECTION CALM		
02	28	SEA CONDITION CE		

WILF SWAN

CLINT MAYER

SAFETY TOPIC

MIXING CHEMICALS

[illegible][illegible]

LICENSE NO.: WID1934		WELL NAME AND NO.: PARA etal NOGHA P C-49		(2) Detailed Inspection Weekly (Using Check List) (3) HES Signs Posted (if Required) (4) Well License & Well Diagram Posted (5) Pore Loss Record (6) BOP Colls Performed (7) Visually Inspect BOP's - Flarlines & Degasser Lines		WBS NO.: 3	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.		(8) Rig Site Health and Safety Meeting (Announcement) (9) C.A.D.D.C. Rig Safety Inspection Checksheet (Announcement) (10) Mast Inspection Barrels Raising or Lowering (11) Crown Block Checked (12) Motor Kils Checked		FUEL @ 06:00 HRS. NO. 188	
SURFACE LOCATION:		UNIQUE I.D.: 300C496640125450		TEMPERATURE -40 CONDITIONS CLEAR WIND DIRECTION CALM ROAD CONDITION ICE		SOILER	
OPERATORS REPRESENTATIVE: (I) VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY		CONTRACTORS REPRESENTATIVE: (I) VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY					

DIRECTIONAL TOOLS

LAST CHANGE THREADED OR LINED	O.D. mm		MIN. I.D.		height		MAKE		GRADE		# OF JOINTS		TOTAL (m)		KB TO CBL		SET AT (m)		SHALE SHAKER(S)				RENTALS / SERVICES										Mon	Tue	Wed
																			NO. 1 TYPE KING TYPE																
																			CHANGE # FEEDER		A B														
																			TOP 80140 TOP 110																
NO.	NO. OF SIZES		ICB / IN		GRADE		MIN. I.D.		TOOL J.T. O.D.		TYPE THREAD		# OF JOINTS		PUMP MANUFACTURER		PUMP TYPE		STROKE LTN.		MIDDLE 80140 MIDDLE 110														
	20.84		E		84		117		4TH		208		OIL WELL		PT-650		229				BOTTOM 80140 BOTTOM 110														
	82.45		H.W.D.		70		158		4.5"X4"		20		EMSCO		375		358																		
	151.70		D.C.		73		171		4.5"X4"		20										110														
JOINTS NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL								
OFFER	SHOULDER REPAIRING	DRILL ACTUAL	REPAIRING	CORROD	TOOL JOINT & CONC.	TRIPS	NO REPAIRS	REPAIRING	OFF OFF DRLS. LINE	DEV. SURVEY	WELL-LOG LOSS	REIN DRILL & CEMENT	WALL OR CEMENT	SHOULDER UP S.D.P.	TYPE S.D.P.	DRILL STEM	PLUG BACK	SPRINGER CEMENT	POSSIBLE	DIRECTIONAL WORK	SAFETY REPAIRS	OTHER													
WEEK		5.00			2.25		0.25								0.50											8.00									
DAY		7.00			2.75		0.25			0.75										0.50	0.25	0.50				12.00									
EVE		3.75					0.25																			4.00									
TOTAL		15.75			5.00		0.75			0.75					0.50					0.50	0.25	0.50				24.00									

[illegible]

LICENCE NO. : **WID1934** WELL NAME AND NO. : **PARA eta| NOCHA P C-49**

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE ID: 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTOR'S REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Daily Visual Inspection (Lifting Check List)
- (3) Hoist Signs Present (if Required)
- (4) Work Licenses & Work Diagram Present
- (5) Floor Lines Staked
- (6) SP Drills Performed
- (7) Visually Inspect BOP's - Flarelines & Dragger Lines
- (8) Rig Site Health and Safety Meeting (morning/evening)
- (9) C.A.O.D.C. Rig Safety Inspection Checklist (morning/evening)
- (10) Most Inspections Before Raising or Lowering
- (11) Crown Block Checked
- (12) Motor Kils Checked

DRG.	PLM	YEAR	2003	MONTH	2	DAY	17
		REG NO.	3				
		FUEL @ 06:00 HRS.					
		REG	BOILER				
		GENERAL REMARKS	TEMPERATURE				
			CONDITIONS				
			WIND DIRECTION				
			ROAD CONDITION				

WILF SWAN

CLINT MAYER

SAFETY TOPIC

[illegible][illegible]

B-1 RECORD										MUD RECORD				METERS DRILLED					TIME LOG				TIME DETAIL						
WATER BASED										OIL BASED				FROM					TO				BLASSED TIME	CODE					
DRILL NO. 1										TIME				DENSITY					FROM				TO				BLASSED TIME	CODE	
DRILL NO. 2										TIME				DENSITY					FROM				TO				BLASSED TIME	CODE	
DRILL NO. 3										TIME				DENSITY					FROM				TO				BLASSED TIME	CODE	
DRILL NO. 4										TIME				DENSITY					FROM				TO				BLASSED TIME	CODE	
DRILL NO. 5										TIME				DENSITY					FROM				TO				BLASSED TIME	CODE	
DRILL NO. 6										TIME				DENSITY					FROM				TO				BLASSED TIME	CODE	
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DRILL NO. 142										TIME				DENSITY					FROM				TO				BLASSED TIME	CODE	
DRILL NO. 143										TIME				DENSITY					FROM				TO				BLASSED TIME	CODE	
DRILL NO. 144										TIME				DENSITY					FROM				TO						

LICESE NO. : WD1934		WELL NAME AND NO. : PARA etal NOGHA P C-49	
OPERATOR : PARAMOUNT RESOURCES LTD.		CONTRACTOR : WILSON DRILLING LTD.	
SURFACE LOCATION :		UNIQUE ID. : 300C496640125450	
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)	
WILF SWAN		CLINT MAYER	
SAFETY TOPIC		STEAMING ICE	
LAST CANNING TURNING OF LINES		SHALE SHAKER(S)	
DC, DP SIZE		RENTALS / SERVICES	
EG / M		NO. 1 TYPE KING TYPE	
MIX ID		CHANGES/SCREENS	
TOOL JT. O.D.		TOP 80140 TOP 110	
TYPE THREAD		MIDDLE 80140 MIDDLE 110	
# OF JOINTS		BOTTOM 110 BOTTOM 110	
PUMP MANUFACTURER			
PUMP TYPE			
STROKE LTH			
EG / M			
MIX ID			
TOOL JT. O.D.			
TYPE THREAD			
# OF JOINTS			
PUMP MANUFACTURER			
PUMP TYPE			
STROKE LTH			
EG / M			
MIX ID			
TOOL JT. O.D.			
TYPE THREAD			
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TOOL JT. O.D.			
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PUMP MANUFACTURER			
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TOOL JT. O.D.			
TYPE THREAD			
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TOOL JT. O.D.			
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TOOL JT. O.D.			
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EG / M			
MIX ID			
TOOL JT. O.D.			
TYPE THREAD			
# OF JOINTS			
PUMP MANUFACTURER			
PUMP TYPE			
STROKE LTH			
EG / M			
MIX ID			
TOOL JT. O.D.			
TYPE THREAD			
# OF JOINTS			
PUMP MANUFACTURER			
PUMP TYPE			
STROKE LTH			
EG / M			
MIX ID			
TOOL JT. O.D.			
TYPE THREAD			
# OF JOINTS			
PUMP MANUFACTURER			
PUMP TYPE			
STROKE LTH			
EG / M			
MIX ID			
TOOL JT. O.D.			
TYPE THREAD			
# OF JOINTS			
PUMP MANUFACTURER			
PUMP TYPE			
STROKE LTH			
EG / M			
MIX ID			
TOOL JT. O.D.			
TYPE THREAD			
# OF JOINTS			
PUMP MANUFACTURER			
PUMP TYPE			
STROKE LTH			
EG / M			

EVENING SHIFT

LICENCE NO. : WID1934		WELL NAME AND NO. : PARA etal NOGHA P C-49		(1) Daily Walk Around Inspection (2) Detailed Inspection Monthly (Using Check List) (3) HCS Signs Posted (1 Required) (4) Well License & Block Diagram Posted (5) Plans Lines Blasted (6) BOP Drills Performed (7) Visually Inspect BOP's - Parallels & Degasser Lines		YEAR 2003 MONTH 2 DAY 17	
OPERATOR : PARAMOUNT RESOURCES LTD.		CONTRACTOR : WILSON DRILLING LTD.				RIG NO. : 3	
SURFACE LOCATION :		UNIQUE I.D. : 300C496640125450				FUEL @ 02:00 HRS.	
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)				RIG 188 BOILER	

WILF SWAN

CLINT MAYER

SAFETY TOPIC

HOUSEKEEPING

LAST CASING JOINTING OR LINES	O.D. mm		MIN. LD	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CSQ.	SET AT (m)	SHALE SHAKER(S)							RENTALS / SERVICES											Mon	Tue	Wed
											NO.	TYPE	TYPE																		
											1	KING																			
											CHANGE SCREENS			1	2																
											TOP	80140	TOP	110																	
DC, DP SIZE		KB / M	GRADE	MIN. LD	TOOL JT. O.D.	TYPE & THREAD	# OF JOINTS	PUMP MANUFACTURER	PUMP TYPE	STROKE LTH.	MIDDLE	80140	MIDDLE	110																	
	20.84	E	84	117	4TH	208	OILWELL	PT-850	229																						
	82.45	H.W.D.	70	158	4.5XH	20	EMSCO	375	356																						
165	151.70	D.C.	73	171	4.5XH	20					BOTTOM	110	BOTTOM	110																	
CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL				
OPER.	WELLP & TEARDOWN	DRILL ACTUAL	REARING	CORING	CONC. WBS & CONC.	TRIPS	R/S SERVICE	REPAIRS	CUT OFF DRILL LHS	DEV. SURVEY	WIRELINE LOGS	RUN CBL & CEMENT	WAT ON CEMENT	WIPPLE UP S.D.P.	TEST S.D.P.	DRILL STEEL	PLUG BACK	DOWNHOLE CEMENT	PERFORM	DICTIONAL WORK	SAFETY MEETING	OTHER									
WORN		5.00			2.25		0.25			0.75					0.50					0.50	0.25	0.50				8.00					
DAY		7.00			2.75		0.25													0.50						12.00					
EYE		3.75					0.25																			4.00					
TOTAL		15.75			5.00		0.75			0.75					0.50					0.50	0.25	0.50				24.00					

CHILLING ASSEMBLY										BIT RECORD										MUD RECORD										METERS DRILLED										TIME LOG																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
1. PREPARE & INSPECT										2. 0.25 IN										3. 216.0										4. 1030										5. 1040										6. 85										7. 43										8. 11.5										9. 11.5										10. 11.5										11. 11.5										12. 11.5										13. 11.5										14. 11.5										15. 11.5										16. 11.5										17. 11.5										18. 11.5										19. 11.5										20. 11.5										21. 11.5										22. 11.5										23. 11.5										24. 11.5										25. 11.5										26. 11.5										27. 11.5										28. 11.5										29. 11.5										30. 11.5										31. 11.5										32. 11.5										33. 11.5										34. 11.5										35. 11.5										36. 11.5										37. 11.5										38. 11.5										39. 11.5										40. 11.5										41. 11.5										42. 11.5										43. 11.5										44. 11.5										45. 11.5										46. 11.5										47. 11.5										48. 11.5										49. 11.5										50. 11.5										51. 11.5										52. 11.5										53. 11.5										54. 11.5										55. 11.5										56. 11.5										57. 11.5										58. 11.5										59. 11.5										60. 11.5										61. 11.5										62. 11.5										63. 11.5										64. 11.5										65. 11.5										66. 11.5										67. 11.5										68. 11.5										69. 11.5										70. 11.5										71. 11.5										72. 11.5										73. 11.5										74. 11.5										75. 11.5										76. 11.5										77. 11.5										78. 11.5										79. 11.5										80. 11.5										81. 11.5										82. 11.5										83. 11.5										84. 11.5										85. 11.5										86. 11.5										87. 11.5										88. 11.5										89. 11.5										90. 11.5										91. 11.5										92. 11.5										93. 11.5										94. 11.5										95. 11.5										96. 11.5										97. 11.5										98. 11.5										99. 11.5										100. 11.5										101. 11.5										102. 11.5										103. 11.5										104. 11.5										105. 11.5										106. 11.5										107. 11.5										108. 11.5										109. 11.5										110. 11.5										111. 11.5										112. 11.5										113. 11.5										114. 11.5										115. 11.5										116. 11.5										117. 11.5										118. 11.5										119. 11.5										120. 11.5										121. 11.5										122. 11.5										123. 11.5										124. 11.5										125. 11.5										126. 11.5										127. 11.5										128. 11.5										129. 11.5										130. 11.5										131. 11.5										132. 11.5										133. 11.5										134. 11.5										135. 11.5										136. 11.5										137. 11.5										138. 11.5										139. 11.5										140. 11.5										141. 11.5										142. 11.5										143. 11.5										144. 11.5										145. 11.5										146. 11.5										147. 11.5										148. 11.5										149. 11.5										150. 11.5										151. 11.5										152. 11.5										153. 11.5										154. 11.5										155. 11.5										156. 11.5										157. 11.5										158. 11.5										159. 11.5										160. 11.5										161. 11.5										162. 11.5										163. 11.5										164. 11.5										165. 11.5										166. 11.5										167. 11.5										168. 11.5										169. 11.5										170. 11.5										171. 11.5										172. 11.5										173. 11.5										174. 11.5										175. 11.5										176. 11.5										177. 11.5										178. 11.5										179. 11.5										180. 11.5										181. 11.5										182. 11.5										183. 11.5										184. 11.5										185. 11.5										186. 11.5										187. 11.5										188. 11.5										189. 11.5										190. 11.5										191. 11.5										192. 11.5										193. 11.5										194. 11.5										195. 11.5										196. 11.5										197. 11.5										198. 11.5										199. 11.5										200. 11.5										201. 11.5										202. 11.5										203. 11.5										204. 11.5										205. 11.5										206. 11.5										207. 11.5										208. 11.5										209. 11.5										210. 11.5										211. 11.5										212. 11.5										213. 11.5										214. 11.5										215. 11.5										216. 11.5										217. 11.5										218. 11.5										219. 11.5										220. 11.5										221. 11.5										222. 11.5										223. 11.5										224. 11.5										225. 11.5										226. 11.5										227. 11.5										228. 11.5										229. 11.5										230. 11.5										231. 11.5										232. 11.5										233. 11.5										234. 11.5										235. 11.5										236. 11.5										237. 11.5										238. 11.5										239. 11.5										240. 11.5										241. 11.5										242. 11.5										243. 11.5										244. 11.5										245. 11.5										246. 11.5										247. 11.5										248. 11.5										249. 11.5										250. 11.5										251. 11.5										252. 11.5										253. 11.5										254. 11.5										255. 11.5										256. 11.5										257. 11.5										258. 11.5										259. 11.5										260. 11.5										261. 11.5										262. 11.5										263. 11.5										264. 11.5										265. 11.5										266. 11.5										267. 11.5										268. 11.5										269. 11.5										270. 11.5										271. 11.5										272. 11.5										273. 11.5										274. 11.5										275. 11.5										276. 11.5										277. 11.5										278. 11.5										279. 11.5										280. 11.5										281. 11.5										282. 11.5										283. 11.5										284. 11.5										285. 11.5										286. 11.5										287. 11.5										288. 11.5										289. 11.5										290. 11.5										291. 11.5										292. 11.5										293. 11.5										294. 11.5										295. 11.5										296. 11.5										297. 11.5										298. 11.5										299. 11.5										300. 11.5										301. 11.5										302. 11.5										303. 11.5										304. 11.5										305. 11.5										306. 11.5										307. 11.5										308. 11.5										309. 11.5										310. 11.5										311. 11.5										312. 11.5										313. 11.5										314. 11.5										315. 11.5										316. 11.5										317. 11.5										318. 11.5										319. 11.5										320. 11.5										321. 11.5										322. 11.5										323. 11.5										324. 11.5										325. 11.5										326. 11.5										327. 11.5										328. 11.5										329. 11.5										330. 11.5										331. 11.5										332. 11.5										333. 11.5										334. 11.5										335. 11.5										336. 11.5										337. 11.5										338. 11.5										339. 11.5										340. 11.5										341. 11.5										342. 11.5										343. 11.5										344. 11.5										345. 11.5										346. 11.5										347. 11.5										348. 11.5										349. 11.5										350. 11.5										351. 11.5										352. 11.5										353. 11.5										354. 11.5										355. 11.5										356. 11.5										357. 11.5										358. 11.5										359. 11.5										360. 11.5										361. 11.5										362. 11.5										363. 11.5										364. 11.5										365. 11.5										366. 11.5										367. 11.5										368. 11.5										369. 11.5										370. 11.5										371. 11.5										372. 11.5										373. 11.5										374. 11.5										375. 11.5										376. 11.5										377. 11.5										378. 11.5										379. 11.5										380. 11.5										381. 11.5										382. 11.5										383. 11.5										384. 11.5										385. 11.5										386. 11.5										387. 11.5										388. 11.5										389. 11.5										390. 11.5										391. 11.5										392. 11.5										393. 11.5										394. 11.5										395. 11.5										396. 11.5										397. 11.5										398. 11.5										399. 11.5										400. 11.5										401. 11.5										402. 11.5										403. 11.5										404. 11.5										405. 11.5										406. 11.5										407. 11.5										408. 11.5										409. 11.5										410. 11.5										411. 11.5										412. 11.5										413. 11.5										414. 11.5										415. 11.5										416. 11.5										417. 11.5										418. 11.5										419. 11.5										420. 11.5										421. 11.5										422. 11.5										423. 11.5										424. 11.5										425. 11.5										426. 11.5										427. 11.5										42									

LICENCE NO.: WID1034		WELL NAME AND NO.: PARA et al NOGHA P C-49		(2) Detailed Inspection Weekly (Using Check List) (3) H2S Signs Posted(if Required) (4) Well Logariths & Sketch Diagrams Posted (5) Plans Lines Studied (6) BOP Drills, Preformed (7) Monthly Inspect BOP's, P-Slides & Degasser Lines		W/S CM W/S CM W/S CM W/S CM		RIG NO.: 3 FUEL @ 08:00 HRS.	
OPERATOR: PARAMOUNT RESOURCES LTD.		CONTRACTOR: WILSON DRILLING LTD.				W/S CM W/S CM		RIG 88 BOXER	
SURFACE LOCATION:		UNIQUE ID.: 300C496640125450				CH CH CH		WEATHER TEMPERATURE -35 CONDITIONS CLEAR WIND DIRECTION S.E ROAD CONDITION C	
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)							

CLINT MAYER

SAFETY TOPIC

STEAM KELLY

LAST CASINO TURNED OR LATER	O.D. INCH		BEN. LD.	Kg/m	MAKES	GRADE	# OF JOINTS	TOTAL (m)		KB TO CS-1	SET AT (m)	SHALE SHAKER(S)				RENTALS / SERVICES												Morn	Dgn	Eve		
												NO. 1	TYPE KING	TYPE																		
												CHANGE SCREENS				NEW	OLD															
												TOP	80140	TOP	110																	
												MIDDLE	80140	MIDDLE	110																	
											BOTTOM	110	BOTTOM	110																		

[illegible]

LICENCE NO. : WID1934		WELL NAME AND NO. : PARA etal NOGHA P C-49		(2) Detailed Inspection Weekly (Using Check List) (3) HSE Signs Posted (if Required) (4) Well License & Status Diagram Posted (5) Plans Lined Stashed (6) BOP Drills Performed (7) Visually Inspect BOP's, Pannlines & Degasser Lines		W/S CM W/S CM W/S CM W/S CM W/S CM		3 FUEL @ 08:00 HRS. NO 88 SPOOLER	
OPERATOR : PARAMOUNT RESOURCES LTD.		CONTRACTOR : WILSON DRILLING LTD.							
SURFACE LOCATION :		UNIQUE I.D. : 300C496640125450		(1) Rig Site Health and Safety Meeting (weekly/monthly) (2) C.A.O.D.C. Rig Safety Inspection Checklist (monthly/monthly) (3) Meest Inspection Before Raising or Lowering (4) Crown Seaver Checked (5) Motor Kils Checked		CM CM CM CM		TEMPERATURE -30 CONDITIONS CLEAR WIND DIRECTION S E ROAD CONDITION F	
OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)		CONTRACTORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)							

LAST CARRIED TUBING OR LOGS	G.D. (mm)	MIN. I.D.	kg/m	MAKE	GRADE	# OF JOINTS	TOTAL (m)	KB TO CSQ.	SET AT (m)	SHALE SHAKER(S)			RENTALS / SERVICES			Mon	Tue	Wed	
										NO.	TYPE	TYPE							
										1	KING								
										CHANGE SCREENS		1	8						
										TOP	80140	TOP	110						
										MIDDLE	80140	MIDDLE	110						
										BOTTOM	110	BOTTOM	110						

[illegible]

LICENCE NO. : **WID1934**

PARA et al NOGHA P C-49

OPERATOR: **PARAMOUNT RESOURCES LTD.**

CONTRACTOR: **WILSON DRILLING LTD.**

SURFACE LOCATION:

UNIQUE I.D. : 300C496640125450

OPERATORS REPRESENTATIVE: (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE & CORRECT TO THE BEST OF MY ABILITY)

CONTRACTOR'S REPRESENTATIVE : (I VERIFY AND ACCEPT INFORMATION ON TOUR SHEET TO BE TRUE
& CORRECT TO THE BEST OF MY ABILITY)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection - Walkdown (Using Check List)
- (3) H2S Safety Protocol, if Required
- (4) Walk Downscale & Block Diagrams Posted
- (5) Plans Room Stashed
- (6) SOP Drills Performed
- (7) Visually inspect BOF's - Flarelines & Degasser Lines
- (8) Rig Site Health and Safety Meeting (morning/evening)
- (9) C.A.O.D.C. Rig Safety Inspection Checklist (morning/evening)
- (10) Inspect Inspection Safety Raising or Lowering
- (11) Drawn Sewer Check
- (12) Motor Kills Check

CY	RJA	YEAR	2003	MONTH	2	DAY	16
WS	CM	FIR NO.	3				
WS	CM	FUEL @ 08:00 HRS.					
WS	CM	RQ	B8	BOLER			
WS	CM	WEATHER	TEMPERATURE	-38			
	CM		CONDITIONS	CLEAR			
	CM		WIND DIRECTION	S E			
			ROAD CONDITION	I/C			

WILF SWAN

CLINT MAYER

SAFETY TOPIC

BOP DRILL

LAST CHANGE TUBING LOG LEVER	SHALE SHAKER(S)								RENTALS / SERVICES																Morn	Day	Eve								
DC, DP BEZEL	KG / M	GRA/WE	SEAL ED	TOOL JT. D.D.	TYPE THREAD	# OF JOINTS	PUMP MANUFACTURER		PUMP TYPE		STROKE LTH.																								
20.84	E	84	117	4"FH	208		OILWELL		PT-850		229																								
62.45	H.W.D.	70	158	4.5"XH	20		EMSCO		375		358																								
151.70	D.C	73	171	4.5"XH	20																														
NO. 1	TYPE KING	TYPE																																	
CHANGE SCREENS		2	5																																
TOP	80140		TOP	110																															
MIDDLE	80140		MIDDLE	110																															
BOTTOM	110		BOTTOM	110																															
DOCKY WELL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL								
OPER.	SEMP'S TEARDROP	WELL ACTUAL	REALTIME	CORING	CORING IN & CIRC.	TYPE	WEL SERVICE	REPAIRS	CHG OFF DRA. LINE	SEAL INJECT	WIRELINE LOSS	REEL CING. & CEMENT	WAF OR CEMENT	IMPLE SP & D.P	TIERT S.D.P.	DRILL STEM	PLUG BACK	POURCE CEMENT	PERING	DIRECTIONAL WORK	SAFETY MEETING	LEVEL ING	EXCAPER	DRILL OUT											
WORK							0.25																7.75			8.00									
DAY							0.25																11.75			12.00									
EVE						1.25	0.25														0.50	0.25	1.00	0.75		4.00									
TOTAL						1.25	0.75														0.50	0.25	1.00	19.50	0.75		24.00								

DRILL LOG				BHT RECORD				BUD RECORD				METERS DRILLED				TIME LOG				TIME DETAIL			
NO. 1 WATER DETAIL				NO. 2 WATER DETAIL				NO. 3 WATER DETAIL				NO. 4 WATER DETAIL				NO. 5 WATER DETAIL				NO. 6 WATER DETAIL			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
PUMP NO. 1				PUMP NO. 2				PUMP NO. 3				PUMP NO. 4				PUMP NO. 5				PUMP NO. 6			
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ADDITIONAL INFORMATION

**FINAL
COMPLETION
WELL REPORT**

DRAFT

FINAL COMPLETION WELL REPORT

Note: This completion report was generated at the request of the NEB and is a more detailed version of the Completion Section of the Final Well Report previously submitted for the C-49 well.

APACHE CANADA LTD.

PARA ET AL NOGHA C-49

Grid Area 66 deg 40 ' , 125 deg 45 ' .

DATE: Feb 15, 2005

COMPANY REPRESENTATIVE: Greg D. Hladun

TABLE OF CONTENTS

Include page numbers.

A.	INTRODUCTION	Page
	Summary.....	1
	Locality Map.....	1
B.	GENERAL DATA	
	Well Name.....	2
	Well Location	3
	Unique Well Identifier.....	3
	Operator.....	3
	Contractor	3
	Drilling Unit	3
	Total Completion Cost.....	3
C.	SUMMARY OF COMPLETION OPERATIONS	
	Elevations	3
	Total Depth.....	3
	Date and Hour Spudded.....	3
	Date Drilling Completed.....	4
	Date of Rig Release	4
	Well Status	4
	Casing and Cementing Record	4
	Time Distribution	6
	Wellhead Details.....	11
	Bottom hole Assembly.....	11

Formation Stimulation	12
Test Results	12
Detailed Test Pressure Data Readings	12

D. APPENDICES TO WELL HISTORY REPORT 14

1. Oil, gas and water analysis.
2. Details of production testing.
3. Completion data such as perforated intervals, down hole equipment, tubing and stimulation records.

A. INTRODUCTION

Apache Canada Ltd. In partnership with Paramount Resources Ltd drilled a 1409 meter exploratory well spudded on January 25, 2003 and finished on March 1, 2003 to evaluate gas potential in the Mt. Clarke formation at a depth of 1142 to 1369 mKB.

The well which is located approximately 27 km south of Colville Lake. The exact co-ordinates of the well are as follows:

Latitude: 66 deg 38 min, 05.420 sec
Longitude: 125 deg, 53 min, 35.733 sec.

The well was cased and the drilling rig was moved off. The Shehteh #14 service rig was moved onto the location March 4, 2003. The Clarke Lake formation was perforated at 1373.0 -1376.0. The interval was hydraulically fractured with 10 tonnes of 20/40 sand placed in 19.6 m³ My-T Oil V fluid using Petro-Canada Rimbey Platinum frac oil as the base fluid. The interval was flowed at 88.96 10³m³/d @ 10218 kPa FTP through a 7.94 mm choke with no water production. The zone was suspended with a sand plug and the Clarke Lake was then perforated at 1357.0 – 1360.0 m KB. The interval was hydraulically fractured with 7.5 tonnes of 20/40 sand in 16.2 m³ My-T-Oil V fluid using Petro-Canada Rimbey Platinum frac oil as the base fluid. The interval was flowed at Gas 88.6 10³m³/d at FTP of 10205 kPa through a 9.35 mm choke with no water production.. The sand between the two intervals was then cleaned out with a coiled tubing unit and both intervals were produced together. The resulting flow rate was Gas rate = 108 10³m³/d at 10501 kPa through a 8.73 mm choke. Recorders were then run at @1340 m KB. The well was then flowed for a total of = 48.3 hours. The final rate was 141.86 10³m³/d at 10501 kPa through a 10.32 mm choke.

B. GENERAL DATA

1. Well Name: Para et al Nogha C-49

Authority to Drill a Well No: 1934

Exploration Agreement Number: Sahtu Settlement Lands Block C-49

Location : Unit: C Section: 49

Grid Area: 66 deg 40' 125 deg 45 '

Classification: Exploration

2. Well Location Area: Nohga
Coordinates: Latitude: 66 deg 38' 5.420"
Longitude: 125 deg 53' 35.733 "
3. Unique Well Identifier: 300-C-49-66-40-125-45-0
4. Operator: Paramount Resources Ltd. in conjunction with Apache Canada Ltd.
5. Completion s Rig Contractor:Shehtah
6. Service Rig # 14
8. Support Craft: Trucking via Winter Road from Norman Wells / Fort Good Hope

C. SUMMARY OF COMPLETION OPERATIONS

1. Elevations:
Ground: 354.1 m above sea level
KB: 359.43 m above sea level
KB To Casing Flange: 4.8 m
2. Total Depth:
FTD: 1409.0 mKB
PBSD: 1390 m KB
TVD: 1409.0 mKB
3. Perforated Depth
1373.0 – 1376.0 m KB
1357.0 – 1360.0 m KB

Both sets of perforations are open for production.

4. Date and Hour Spudded: Jan 25, 2003, 12:00 hrs
5. Date Drilling Completed: Feb 25, 2003, 6:00 hrs
6. Date of Rig Release: March 1, 2003, 22:00 hrs
7. Date of Service Rig Move-on: March 4, 2003
8. Date of Service Rig Move-off: March 10, 2003
9. Well status: Suspended
10. Casing and Cementing Record:
 - Conductor Hole:
 - Hole Size: 444.5mm
 - Casing Size: 339.7 mm
 - Casing Weight: 101kg/m
 - Casing Grade: K-55
 - Casing Make: Ipsco
 - Number of Joints: 6
 - Thread: BT&C
 - Depth Set: 60 m (KB)
 - Cut Height: At Surface
 - Cut off Depth: At Surface
 - Date Set: January 30, 2003
 - Cement Volume: 7 Tonnes
 - Cement Type: Class G Cement
 - Additives: 2.0 % CaCl₂

Surface Hole:

Hole Size:	311.0mm
Casing Size:	244.5 mm
Casing Weight:	59.53 kg/m
Casing Grade:	L-80
Casing Make:	Ipsco
Number of Joints:	36
Thread:	LT&C
Depth Set:	509.0 m (KB)
Cut Height:	At Surface
Date Set:	Feb 13, 2003
Cement Volume:	21.7 m ³

Float Shoe Depth: 509.0 m
Cut Off Depth: Surface
Cement Type: 5.9 m3 Arctic Set Cement followed by 15.8 m3
Class G cement
Additives: Arctic Set
0.5% D-56 TIC
0.2% D-13

Class G
2.0% CaCl₂

Cement Top: Surface (m KB)
Casing Bowl Size: 279 mm X 244.5 mm X 21 MPa
Casing Bowl Make: Cameron

Production Hole:
Hole Size: 216.0mm
Casing Size: 177.8 mm
Casing Weight: 43.16 kg/m
Casing Grade: L-80
Casing Make: Ipsco
Number of Joints: 99
Thread: LT&C
Depth Set: 1409.0 m (KB)
Cut Height: At Surface
Date Set: Feb 28, 2003
Cement Volume: 23.9 m3
Float Shoe Depth: 1409.0 m
Float Collar Depth: (Top) 1393.8
Cut Off Depth: Surface
Cement Type: 23.9 m3 Class G Cement
Additives:
0.5% D-65
0.3% D-167

Cement Top: Surface

11. Tubing Head Details:

A 279.4 mm x 244.5 mm, 21,000 kPa casing bowl is welded onto the 244.5 mm casing. A string of 178 mm casing is packed off in the casing bowl. On top of the casing bowl is a 279.4 mm, 21 MPa x 179.4 mm, 21 MPa ABB Vetco Gray tubing head. A set of secondary seals packs off the 178 mm casing against the base of the tubing head. The Christmas trees consists of two 2-7/16" 34,500 kPa valves. The side outlet on the tubing head are 2-7/16, 34,500 kPa.

12. Time Distribution:

Nohga C-49		
Date	Time	Activity
March 4, 2003	13:00-20:30	Spotted service rig and Northland Testers Equip. Rigged in boiler and tarped-in well. Rigged up derrick.
March 5	7:30-19:30 hrs	Installed ABB Vetco tubing head. Pressure tested. Installed BOP's. Rigged in floor and Equip.
March 6	7:30-19:30 hrs	Rigged in Plains perforating. Ran in with gauge rings. Unable to get past 1360 m with 146.0 mm gauge ring. Waited on rock bit.
March 7	7:30 – 22:30 hrs	Ran in hole with 152.4 mm bit and scrapper. Tagged at 1385.5 m KB. Rigged in swivel and drilled down to 1391.65 m.
March 8	7:30 – 21:00 hrs	Pulled out with bit and scraper. Rigged in Plains Perforating. Ran in and correlated to BR/CND log dated Feb 25, 2003. Ran in to 1390 m and displaced well to nitrogen with Halliburton N2 pumper. Pulled out with tubing.
March 9	7:30 – 17:30 hrs	Rigged in Plains Perforating. Run in with a 127 mm, ERHSC 60 degree phased, 17 DPM, 39 gram DP casing gun. Pressured up on casing to 5000 kPa. Correlated to Plains CBL dated March 7, 2003. Perforated Mount Clark at 1373.0 – 1376 m KB. No change in pressure upon perforating. Bled casing down to 500 kPa. Ran tandem recorders to 1375 mcf.
March 10	7:30 – 20:30	Pulled recorders BHP indicated as 2868 kPa (too tight or damaged to get complete build-up). BHT = 18 C. SICP = 1510 kPa. Ran in with gauge ring to PBTD. Tagged fluid @1255 m KB. Ran in with wireline- set retrievable packer. Packer jammed at 223 m KB. Came out and found shear pins sheared. Ran in with re-pinned packer. Set center element at 1335 m KB. Tail pipe @1341.1 m KB. Turned well over to testers to bleed off casing. SICP = 1900 kPa. Gas rate TSTM. Burnable gas to surface. Casing dead.
March 11	7:30 – 23:30 hrs	Ran in with tubing and on/off connector. Latched onto packer at 1334.3 m KB. Landed tubing hanger with 7900 daN compression. Ran in with slickline and pulled prong and plug from on/off tool. Fluid level noted at 1220 m KB. SITP after plug was pulled = 6100 kPa. Rigged in Halliburton. Pressured casing up to 7.0 MPa with N2. Frac'd well with 10 tonnes of 20/40 sand placed in 19.6 m3 My-T Oil V fluid using Petro-Canada Rimbey Platinum frac oil as the base fluid. Pad volume was 12.2 m3. Two

		mini-fracs were done, the first being 10.2 m3 frac oil, the 2 nd being 10.0 m3 My-T-Oil V. ISIP = 20.1 MPa. Let sit 15 min. SITP = 12.9 MPa. Left well shut in for 4 hours for break out. Opened well on clean up.
	23:30 - 24:00 hrs	Opened well to flow.
March 12	00:00 - 07:00	Continue to flow well. Gas rate = $88.96 \times 10^3 \text{ m}^3/\text{d}$ @ 10218 kPa FTP. Choke = 7.94 mm. Temp = -2 C. Recovered 16.1 m3 frac oil.. 43.68 m3 load fluid left. Water cut = 0%. Gas flared = 11756 kPa. Shut in well at 07:00 hrs.
	7:00 - 24:00hr	Installed wellhead on top of BOP's. Rigged in wireline. Tagged at 1376 m KB. Rigged in Halliburton CTU. Coiled not get into tubing hanger. Rigged out CTU. Rigged in Plains perforating. Run in hole with through- tubing perforating gun, 20 spm, 60 degree phasing. Perforated Mount Clark interval 1357.0 - 1360 m KB. Run in with 2 nd gun at 0 degree phasing and perforated 1357.0 - 1360.0 m KB. No change in pressure after perforating.
March 13	00:00 - 04:00 hrs	Ran in and set plug in on/off tool at 1333.65 m KB.
	4:00 - 23:30 hrs	Removed BOP's and installed wellhead. Pressured up on tubing and removed prong and plug. Rigged in CTU. Ran in to 1374.0 m. Spotted a sand plug over the 1373.0 - 1376.0 m perms. Tagged plug at 1373.0 m. After two hours, ran in hole with 1.86" gauge ring. Tagged at 1375 m.
March 14	7:30 - 24:00 hrs	Ran in with 1.86" blind box. Tagged at 1375 m. Ran gradient. BHT = 18.7 C. BHP = 14764 kPa. SITP = 11300 kPa. Fluid level at 1200 m. Ran another sand plug. Top of plug tagged with wireline at 1369 m. Prepared for frac. Pressure casing with N2 to 7.0 MPa. Frac'ed well with 7.5 tonnes of 20/40 sand in 16.2 m3 My-T-Oil V fluid with same base fluid as the lower frac. Pad volume was 20.7 m3 including 2 sand slugs totaling 0.5 tonnes 20/40 sand. Two mini-fracs were done. The first was 6.2 m3 frac oil and the second was 5.3 m3 My-T-Oil V. ISIP = 22 MPa. Left well shut in for 4 hours for break out. Opened well on clean up.
	22:00-24:00 hrs	Flowed well for cleanup.
March 15	00:00 - 7:30 hrs	Flowed well. Gas rate = $88.6 \times 10^3 \text{ m}^3/\text{d}$ at FTP of 10205 kPa. Choke = 9.35 mm. Temp = -3C. Recovered 21.56 m3 frac fluid. Left 87.3 m3 in formation. Water cut = 0%. Gas flared = $5.4 \times 10^3 \text{ m}^3$.
March 15	7:30 hrs - 16:00 hrs	Ran in with blind box and tagged at 1369 m KB. Ran in with coiled tubing and cleaned out to PBTD at 1390 m KB. Ran in with 2.18 " dart and landed in RN nipple @1340 m KB. Ran in hole with tandem recorders and set on top of dart. SITP = 12652 kPa.

	16:00 hrs – 24:00 hrs	Opened well to testers and flowed well. Gas rate = 108 10 ³ m ³ /d at 10501 kPa. Choke = 8.73 mm. Temp = -1C. Recovered 7.9 m ³ frac oil. 79.4 m ³ left in formation. Water cut = 0%. Gas flared = 67.4 10 ³ m ³ .
March 16	0-24:00 hrs	Continued to flow well.
March 17	0-16:30 hrs	Shut well in. Total hours of test = 48.3 hours. Left 74.4 m ³ of frac oil in formation. FTP @ 16:30 = 9887 kPa. Gas rate = 141.86 10 ³ m ³ /d. Choke = 10.32 mm. Temp = 1 C. Water cut = 0 to 25%.
May 22		Ran in hole with helicopter transported slickline and recovered recorders. SITP = 12739 kPa. SICP = 6650 kPa. BHP = 14810 kPa. BHT = 18.8 C.
May 26, 2003	0-05:15 hrs	Ran BPV into tubing hanger. Secured wellhead and moved off.

18. Completion Record:
 Start Date: March 3, 2003
 Finish Date: March 14, 2003
 Contractor: Shehtah

Final Well Configuration: See attached Diagram