NWT

APPROVAL TO DRILL A WELL

National Energy Board | Office national de l'énergie

Exploratory [X] 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 Mount Coty I-02

Operator: Paramount Resources Ltd. Drilling Program No.:

Contractor: Precision Drilling Interest Identifier: EL 383

Drilling Rig or Unit: 379 Estimated Well Cost: $2,750,000.00

Location-Unit: I Section: 02 Grid Area: 60° 20', 123° 30°

Coordinates: Lat.: 60° 11' 34.008" Long.: 123° 30" 18.797"

Area: Fort Liard, NWT Field/Pool: N/A

Elevation-KB/RT: 374.6 m (ASL) GL/Seafloor: 369.1 m

Approx. Spud Date: August 31, 2000 Est. Days on Location: 35

Anticipated Total Depth: 1746 Target Horizons: Chinkeh, Mattson

EVALUATION PROGRAM

Ten-metre sample intervals

Five-metre sample intervals Surface to total depth.

Canned sample intervals Surface to total depth.

Conventional cores at 8m core in Mattson.

Logs and Tests HDIL/GR, MAC/GR/CAL, ZEL/ CNL/GR/ PE/XY CAL, EMT
1 DST in Fantasque, 2 DST's in Mattson

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing Program (m^3)
244.5	53.57	J-55	500	21.83m^3 0:1:0 "G"
177.8	38.69	J-55	1746	24.35m^3 0:1:0 "G"

B.O.P. Equipment 21 mPa Class IV Stack and Manifold with one (1) Flow Diverter, one (1) annular preventer, three rams (1 double gate, and 1 single gate) and double choke manifold.

Other Information: This well was originally approved December 13, 1999 with WID 1884 and UWI 300I02 60 20 12330. Due to constraints the well was not drilled at this time, and is planned to spud August 31, 2000. The two changes to the program are; (a) the 177.8mm csg. will be run to total depth and (b) the well will be drilled with gel-chem mud system only.

Signed: Wayne R. Tomm (Responsible Officer) Title: Sr. Drilling and Completions Engineer

Name: Wayne R. Tomm Company: Paramount REsources Ltd.

Date: July 18, 2000 Phone: (403) 290-3600

APPROVAL

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

Date: October 6, 2000 Signed: T M Baker

File: 9211-P33-16-1 Chief Conservation Officer

WID: 1884

UWI 300I026020123300

APPROVAL TO ALTER CONDITION OF A WELL

National Energy Board | Office national de l'énergie

APPROVAL TO ALTER CONDITION OF A WELL

This application is to be submitted to the Chief Conservation Officer at least 45 days before commencement of operations.

Well Name: Para et al Mount Coty I-02 Area: Fort Liard, NWT

Operator: Paramount Resources Ltd. Contractor: Akita Rig

Drilling Rig or Unit: 51 Depth: 1744

Coordinates: Lat: 60° 11' 34.008" Long: 123° 30' 18.797"

Date ADW Issued: Date of last Operation: December 04, 2000

Elevation-KB/RT: 374.6 (ASL) GL/Seafloor: 369.1

TYPE OF OPERATION

With the drilling rig, complete the well over theMattson formation 1059m to 1067mKB and flow test the zone to obtain reservoir data.

SUMMARY OF PROPOSED OPERATIONS

1. Nipple up tubing spool and 179m BOP Stack.
2. Make a clean out trip with 73mm tubing and casing scrapper.
3. Run Cement Bond Log from PBTD (approximately 1729m) to 1800m.
4. Run in hole with tubing Conveyed Perforating Assembly and log in depth to perforate 1059m to 1067m underbalanced.
5. Land tubing, set packer and nipple up wellhead.
6. Drop bar and perforate.
7. With well shut in, run Static Gradient.
8. Flow test well for 3 days and shut in for build-up.
9. If requierd frac stimulate well and re-test.

Signed: *Wayne R. Tomm* Title: Sr. Drilling and Completions Engineer

Responsible Officer

Name: Wayne R. Tomm Company: Paramount Resources Ltd.

Date: December 5, 2000 Phone: (403) 290-3600

APPROVAL

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

Date: Dec. 6/00 Signed: *D M Baker*

Chief Conservation Officer

File: 9211-P33-N-2-1

WID: 1884
UWI 300I026020123300

Well Status

Suspended ☒

Completed ☐

Abandoned ☐

WELL TERMINATION RECORD (with attachment)

CANADA

WELL TERMINATION RECORD

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

WELL DATA

Well Name: Para et al Mount Coty I-02 Area: Fort Liard, NWT

Grid Area: 60°. 20'. 123°. 30'. Field/Pool: N/A

Permit or Lease No.: EL 383 Final Coordinates: Lat.: 60°. 11'. 34.008" Long: 123°. 30'. 18.797"

Drilling Unit: Akita Rig 51 Elevations-RT(KB) 374.6 SF(GL) 369.1

Spud Date: October 16, 2000 Rig Released: December 4, 2000 Total Depth: 1744

CASING AND CEMENTING

O.D.:	Weight:	Grade:	Depth Set:	Cement and Additives:
244.5	53.57	J55	514	28 Tonnes G:1:0"G" + 1% $CaCl_2$
177.8	38.69	J55	1743	34 Tonnes G:1:0"G" + .8%NFL-2

PLUGGING PROGRAM

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

(person) by means of

on 19 .

Type of Plug:	Interval:	Feet:	Cement and Additives:

Lost Circulation/Overpressure Zones: N/A

Equipment left on Seafloor (Describe): N/A

Provision for Re-entry (Describe and attach sketch): Final down hole diagram attached

Cores: Type: None Intervals:

Other Downhole Completion/Suspension Equipment: N/A

CERTIFICATION

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

Signed: Wayne R. Town, P. Eng. Title: Sr. Drilling and Completions Engineer

Name: Wayne R. Town Date: December 5, 2000

Acknowledged by: W. M. Baker
Engineering Branch

Date: Dec 6/00

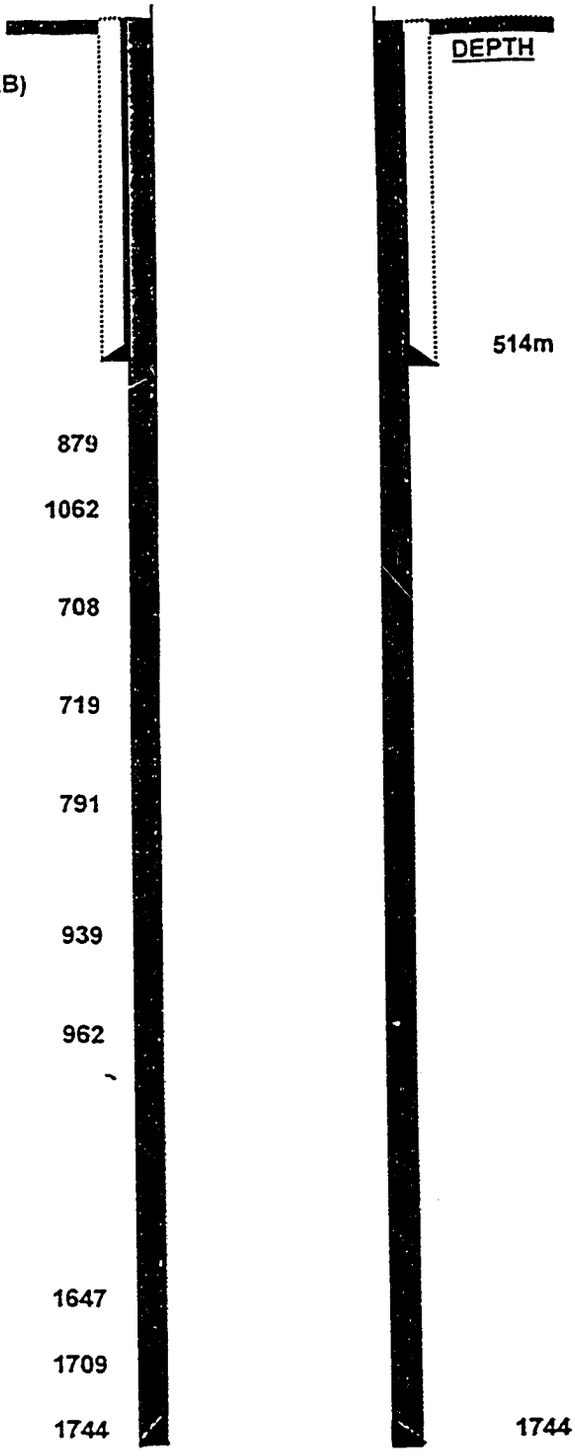
File: WID 1884, GW-333-10-1
UWI 3001026020123300

Well Status
Suspended ☒
Completed ☐
Abandoned ☐

Canada

PARA ET AL MOUNT COTY I-02

(Actual as of December 04, 2000)



ACTUAL TOPS (confirmed log tops mKB)		DEPTH	HOLE SIZES	CASING RUN
			311mm	244.5 mm, 53.6 kg/m J-55 LT&C - cemented to surface O:1:O "G" plus additives
		514m		
			222mm	
SCATTER	879			
GARBUTT	1062			
				177.8 mm, 38.6 kg/m J-55 LT&C - cemented to surface 34 tonnes 0:1:0 "G"+.80% NFL-2
CHINKEH SAND *	708			
TRIASSIC	719			
BELLOY	791			
FANTASQUE **	939			
MATTSON **	962			
GOLATA	1647			
FLETT	1709			
TOTAL DEPTH	1744	1744		

APPROVAL TO ALTER CONDITION OF A WELL

Final Well Report
Paramount Resources Ltd.
Para et al Mount Coty I-02

National Energy Board | Office national de l'énergie

APPROVAL TO ALTER CONDITION OF A WELL

This application is to be submitted to the Chief Conservation Officer at least 45 days before commencement of operations.

Well Name: Para et al Mount Coty I-02 Area: Fort Liard, NWT

Operator: Paramount Resources Ltd. Contractor: Drive Well Servicing

Drilling Rig or Unit: 642 Depth: 1744m

Coordinates: Lat: 60°.11'.34.008" Long: 123°.30'.18.797"

Date ADW Issued: October 06, 2000 Date of last Operation: January 02, 2001

Elevation-KB/RT: 374.6 (ASL) GL/Sealoor: 369.1

TYPE OF OPERATION

To continue operations on well with a service rig, abandoning the Mattson perforations. The Mattson perforations as non productive for hydrocarbons and recompleting the wellin The Fantasque Formation for evaluation.

SUMMARY OF PROPOSED OPERATIONS

1. Move in service rig, kill well and install BOP's.
2. Recover packer and tubing assembly.
3. On wireline run and set Bridge Plug at 1045mKB.
4. Dump bail 8 Liner metrs cement on top of Bridge Plug.
5. Run in on tubing a TCP assembly andperforate the Fantasque 897 - 917m.
6. Frac stimulate the Fantasque perforations.
7. Perform flow evaluations.

Signed: Wayne R. Tomm (Responsible Officer) Title: Sr. Drilling and Completions Engineer

Name: Wayne R. Tomm Company: Paramount Resources Ltd.

Date: February 1, 2001 Phone: (403) 290-3600

APPROVAL

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

Date: Feb 13/01 Signed: T M Bolla

Chief Conservation Officer

File: 9211-P33-12-6 RE

WID: 1884
UWI 300102602012330

Well Status

Suspended ☒

Completed ☐

Abandoned ☐

WELL TERMINATION RECORD (with attachment)

CANADA

WELL TERMINATION RECORD

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

WELL DATA

Well Name: Para et al Mount Coty I-02 Area: Fort Liard, NWT

Grid Area: 60° 20'N 123° 30'W Field/Pool: N/A

Permit or Lease No.: EL383 Final Coordinates: Lat. 60° 11' 34.008" Long: 123° 30' 18.797"

Drilling Unit: Akita #51 Elevations: ~~RT~~/KB: 374.6m ~~MT~~/GL: 369.1m

Spud Date: Oct 16 2000 Rig Released: Dec 4 2000 Total Depth: 1744mKB

RE: Dec 6 2000 (start)
Dec 9 2000 (finish)

CASING AND CEMENTING

O.D:	Weight:	Grade:	Depth Set:	Cement and Additives:
244.5mm	53.57Kg/m	J-55	514mKB	28t 0:1:0 'G' + 1%CaCl2
177.8mm	38.69Kg/m	J-55	1743mKB	34t 0:1:0 'G' + 8% NFL-2

PLUGGING PROGRAM

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

(person) by means of

on 19 .

Type of Plug:	Interval:	Felt:	Cement and Additives:

Lost Circulation/Overpressure Zones: N/A

Equipment left on Seafloor (Describe): N/A

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

Cores: Type: N/A Intervals:

Other Downhole Completion/Suspension Equipment: See attached downhole configuration diegrem:

CERTIFICATION

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

Signed: Dave Block P. Eng. Title: Engineering Consultant

Name: Dave Block Date: Sept 18, 2001

Acknowledged by: T M Baker
Engineering Branch

Date: Oct 23/01

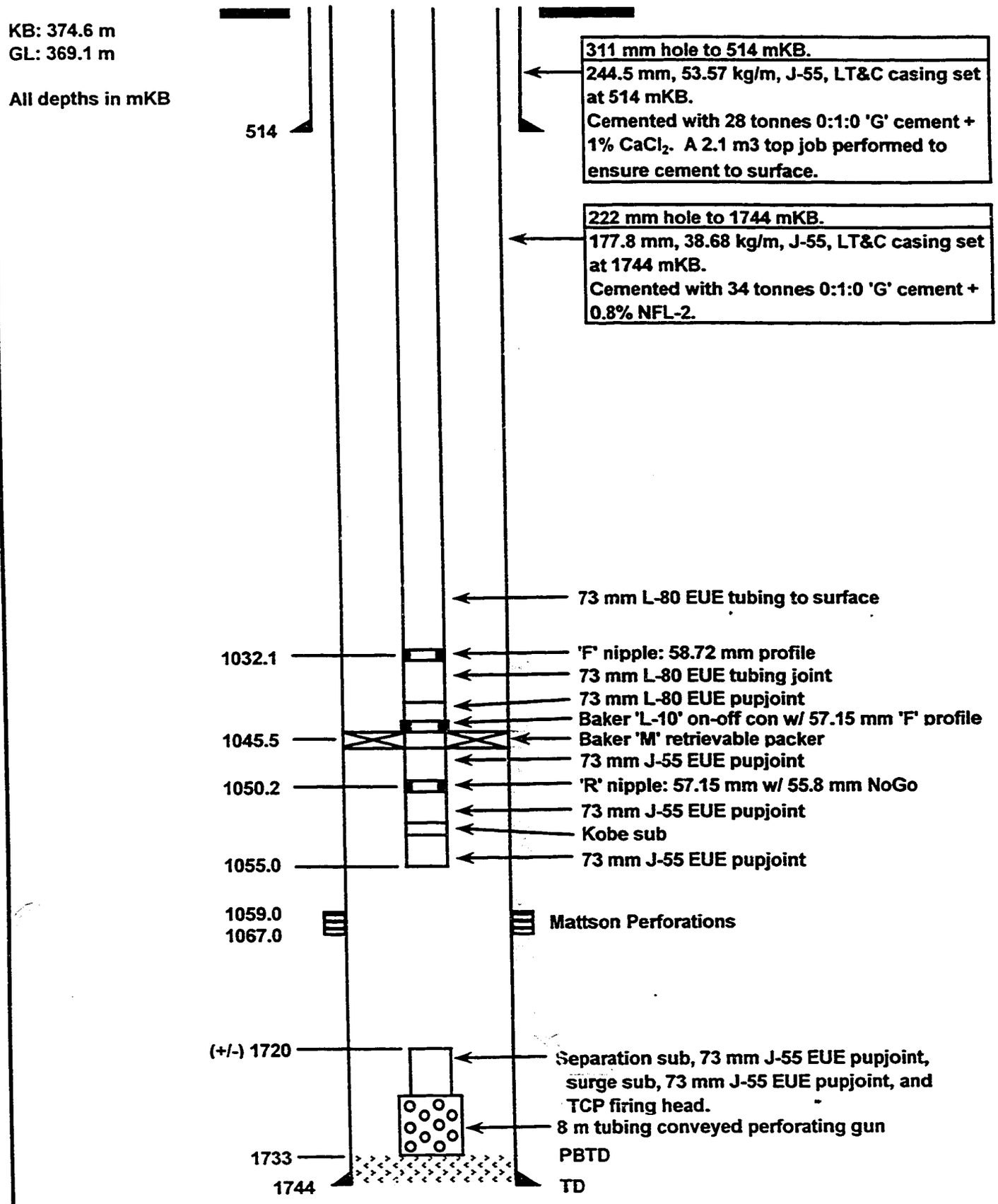
File: 9211-P33-16-1 WID 1884

Well Status
Suspended ☐
Completed ☒
Abandoned ☐

Canada

PARA ET AL MOUNT COTY I-02

Bottom Hole Configuration (as of Dec 8, 2000)



FINAL WELL REPORT

N.E.B. COPY

FINAL WELL REPORT

Paramount Resources Ltd.

Para et al Mount Coty I-02

Grid: 60^0 20', 123^0 30'

DATE: September 18, 2001

COMPANY REPRESENTATIVES:
Wayne Tomm
Dave Block

NATIONAL ENERGY BOARD
OCT 0 5 2001

TABLE OF CONTENTS

A. INTRODUCTION — Page

Summary 1
Locality Map 3

B. GENERAL DATA

Well Name 4
Well Location 4
Unique Well Identifier 4
Operator 4
Contractor 4
Drilling Unit 4
Position Keeping 4
Support Craft 4
Drilling Unit Performance 4
Difficulties and Delays 4
Total Well Cost 4
Horizontal/Deviated Wells Require Bottom Hole Co-ordinates 4

C. SUMMARY OF DRILLING OPERATIONS

Elevations 5
Total Depth 5
Date and Hour Spudded 5
Date Drilling Completed 5
Date of Rig Release 5
Well Status 5
Hole Sizes and Depths 5
Casing and Cementing Record 5
Sidetracked Hole 6
Drilling Fluid 6
Fishing Operations 7
Well Kicks and Well Control Operations 7
Formation Leak Off Tests 7
Time Distribution 7
Deviation Survey 19
Abandonment Plugs 19
Composite Well Record 19
Completion Record 19

D. GEOLOGY

	Page
Geological Summary	21
Tops	21
Sample Descriptions	21
Coring Record	21
Gas Detection Report	21
Drill Stem Tests	22
Well Evaluation	22
Analyses	22
Mud Salinity Record	22
Gas, Oil & Water	22
Formation Stimulation	22
Formation and Test Results	22
Detailed Test Pressure Data Readings	22
E. ENVIRONMENTAL WELL ANALYSIS	22
F. ATTACHMENTS TO WELL HISTORY REPORT	23

1. Geological report.
2. AGAT sidewall core analysis report with phothographs.
3. Geological composite log.
4. Final survey plan.

A. INTRODUCTION

Paramount Resources Ltd. drilled a 1744 meter exploratory well, spudded on October 16, 2000 and finishing setting production casing to 1743 meters on December 4, 2000. The main target of the well was the Mattson at 1046 meters with the secondary targets being the Chinkeh Sand at 786 m, the Fantasque at 871 m, and the Flett at 1666 m.

The well potential was evaluated with the drilling rig over four intervals in the Mattson, two intervals in the Chinkeh, and one interval in the Debolt.

The drilling contractor was Akita Drilling Rig #51 based out of Calgary, Alberta. The rig was rated for 2500 m and had a 60 m^3 mud system.

The well was drilled on Exploration License No.381 in which Paramount Resources Ltd. has a 50 % working interest. Operating License: **Para et al Mount Coty I-02**
WID: 1884
File: 9211-P33-12-6
UWI: 300I026020123300
was issued to Paramount Resources Ltd. on October 6, 2000.

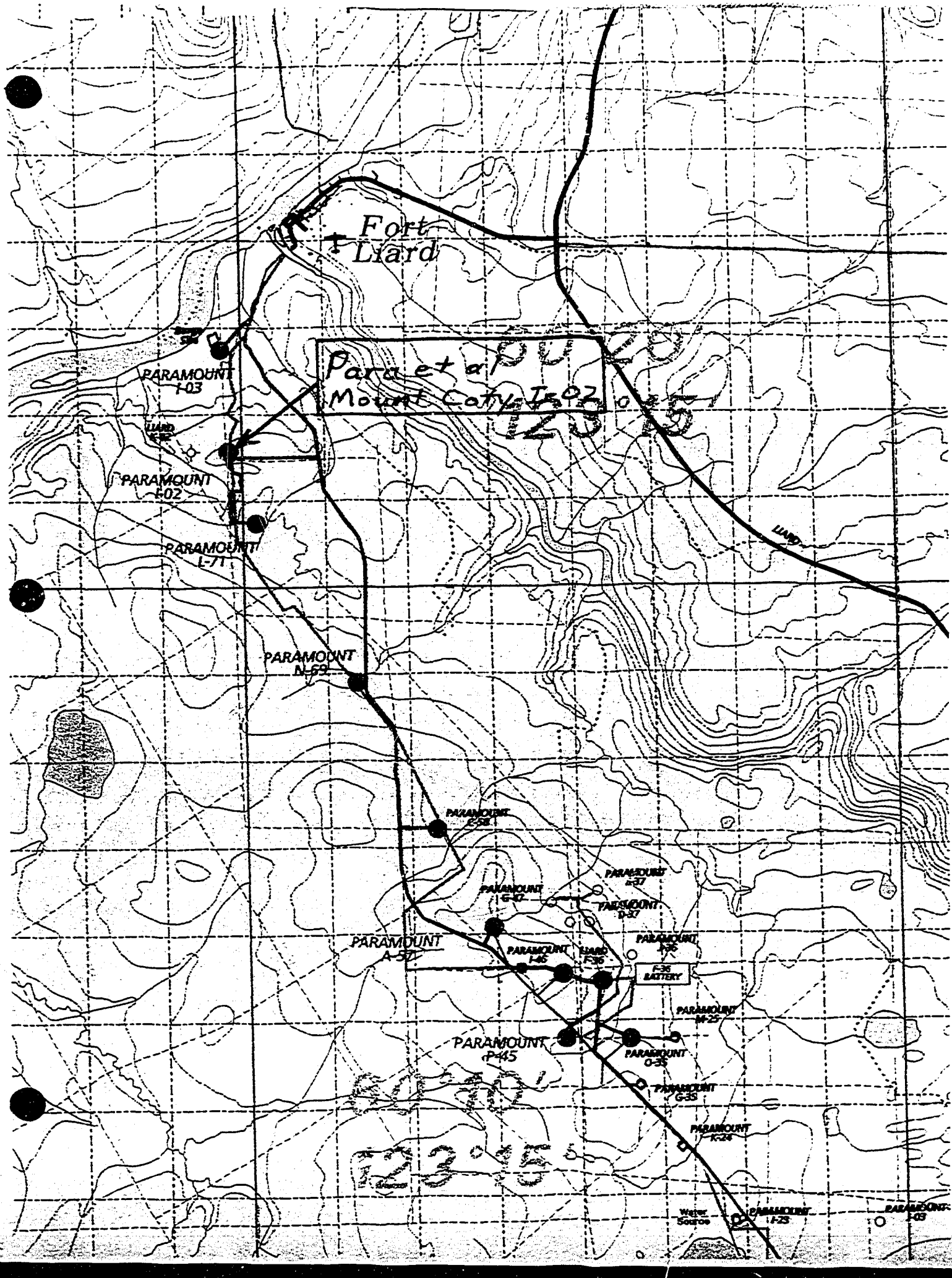
The well which is located approximately 6 km south of Fort Liard, lies along the length of the SE plunging anticline observed at the F-36 Mattson gas discovery. The exact co-ordinates of the well are as follows: Latitude: 60^0 11' 34.008" N
Longitude: 123^0 30' 18.797" W

A Cancor Rathole Inc. rathole rig was moved onto the location on October 9, 2000. The 508 mm conductor hole was drilled to a depth of 23 m. While drilling the conductor hole boulders were encountered to a depth of 10 m. The 406.4 mm heavy walled conductor pipe was set at 23 m and cemented in place.

Equipment for the drilling operations was barged up the Liard River in September and October, 2000. Akita drilling rig number 51 was moved onto the location starting on October 11, 2000. The diverter was nippled up and function tested with the HCR. The well spudded on October 16, 2000 at 22:00 hours. The 311 mm surface hole was drilled to 330 mKB when deviation problems were encountered. Directional drilling equipment was used to drill a 222 mm pilot hole to 514 mKB. The hole was then reamed out to 311 mm to 514 mKB. During the drilling of the surface hole there were mud ring problems encountered at approximately 235 mKB and minor amounts of losses to the formation from 150 – 250 mKB. Surface casing of 244.5 mm, 53.57 kg/m, J-55 LT&C casing was run and set at 514 mKB. The surface casing was cemented with 28 tonnes 0:1:0 'G' cement plus 1% $CaCl_2$. There were initial cement returns but returns were lost in the last 2 m^3 pumped. The plug was bumped with 10,500 kPa and the pressure held. The plug was down at 10:00 hours on October 24, 2000. A 1" pipe was run to 25 m and a 2.1 m^3 top cement job was performed with good cement returns.

The BOP's were installed, function tested, and pressure tested to 1500 kPa and 14000 kPa for 10 minutes each. The float collar and shoe were drilled out on October 25, 2000. A formation leak off test was done and the gradient was taken to 18 kPa/m with no formation breakdown. The 222 mm main hole was drilled with a gel-chemical mud system. Directional tools were utilized to control deviation problems to a depth of 1705 mKB. The remainder of the main hole was drilled conventionally to a total depth of 1743 mKB. After drilling to 1091 mKB DST #1 was run over the Mattson from 1058 – 1068 mKB. After pulling out of the hole with test tool #1 it was discovered that the tools had backed off at the safety sub. The lost tools were recovered and drilling resumed. After reaching total depth the open hole density, sonic, induction, and spectra logs were run from TD to the surface casing shoe. A rotary sidewall coring tool was used to attempt to cut 18 cores with successful recovery of 10 cores. Three additional DST's were run on the Mattson, two DST's were run on the Chinkeh, and one DST was run on the Debolt. A 177.8 mm, 38.69 kg/m, J-55, LT&C production casing was run and set at 1743 mKB. The casing was cemented with 34 tonnes 0:1:0 'G' cement plus 0.8% NFL-2. The plug was bumped with 14,400 kPa and the pressure held. The plug was down at 13:22 hours on December 5, 2000.

The drilling rig was left on the location to be used to complete the well. The completion details will be reported in a separate report.


Fort Liard
Para et al Mount Coty-I-02
PARAMOUNT I-03
PARAMOUNT I-02
PARAMOUNT I-71
PARAMOUNT N-69
PARAMOUNT A-57
PARAMOUNT P-45
PARAMOUNT G-58
PARAMOUNT G-47
PARAMOUNT I-46
PARAMOUNT I-37
PARAMOUNT O-37
PARAMOUNT I-36
F-36 BATTERY
PARAMOUNT M-25
PARAMOUNT O-35
PARAMOUNT G-35
PARAMOUNT K-24
PARAMOUNT I-25
Water Source
LIARD

B. GENERAL DATA

1. Well Name: Paramount et al Mount Coty I-02

Authority to Drill a Well No: 1884 Issued October 6, 2000

Exploration Agreement Number: EL 381

Location Unit: I

Section: 02

Grid Area: 60^0 20', 123^0 30'

Classification: Exploration Well

2. Well Location: I-02 60^0 20' N, 123^0 30' W
Coordinates: Latitude: 60^0 11' 34.008"
Longitude: 123^0 30' 18.797"

3. Unique Well Identifier: 300I026020123301

4. Operator: Paramount Resources Ltd.

5. Contractor: Akita Drilling Ltd.

6. Drilling Unit: Rig #51

7. Support Craft (Helicopter): N/A

8 Drilling Unit Performance: N/A

9. Difficulties and Delays: No major delays or difficulties

10. Total Well Cost: $4.3 mm

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

C. SUMMARY OF DRILLING OPERATIONS

1. Elevations:
   - Ground: 369.1 m
   - KB: 374.6 m
   - KB to Casing Flange: 5.0 m

2. Total Depth:
   - FTD: 1744 mKB
   - PBTD: 1733(+/-) mKB
   - TVD: 1744 mKB

3. Date and Hour Spudded: October 16, 2000 at 22:00 hours

4. Date Drilling Completed: December 5, 2000

5. Date of Rig Release: December 5, 2000 (left on location to complete well)

6. Well status: Suspended

7. Hole Sizes and Depths:

Conductor Hole:	508 mm to 23 mKB
Surface Hole:	311 mm to 514 mKB
Main Hole:	222 mm to 1744 mKB

8. Casing and Cementing Record:

Conductor Hole:

Casing Size:	406 mm
Casing Weight:	Heavy Weight
Depth Set:	23 mKB
Cut Height:	At Surface
Date Set:	October 10, 2000
Cement Volume:	80 sacs
Cement Type:	None reported
Additives:	None reported

Surface Hole:

Casing Size:	244.5 mm
Casing Weight:	53.57 kg/m
Casing Grade:	J-55
Casing Make:	Ipsco
Number of Joints:	39
Thread:	LT&C

Depth Set:	514 mKB
Cut Height:	At Surface
Date Set:	October 25, 2000
Cement Volume:	28 Tonnes
Float Shoe Depth:	514.1 m
Float Collar Depth:	513.8 m
Cut Off Depth:	Surface
Cement Type:	0:1:0 'G' cement
Additives:	1.0% $CaCl_2$
Cement Top:	Surface
Casing Bowl Size:	279 mm X 244.5 mm X 21 MPa
Casing Bowl Make:	Streamflo

Main Hole:

Casing Size:	177.8 mm
Casing Weight:	38.68 kg/m
Casing Grade:	J-55
Casing Make:	Ipsco
Number of Joints:	138
Thread:	LT&C
Depth Set:	1744 mKB
Cut Height:	Surface
Date Set:	December 5, 2000
Cement Volume:	34 Tonnes
Float Shoe Depth:	1744 m
Float Collar Depth:	1733 m
Cut Off Depth:	Surface
Cement Type:	0:1:0 'G' cement
Additives:	0.8 NFL-2
Cement Top:	400(+/-) mKB, by cement bond log
Casing Bowl Size:	279 mm X 244.5 mm X 21 Mpa
Casing Bowl Make:	Streamflo

9. Sidetracked Hole: N/A

10. Drilling Fluid:

Conductor Hole: Water

Surface Hole: Gel - Chemical

Properties:	Viscosity:	40 - 88 sec/L
	Weight:	1080 - 1110 kg/m^3
	PH:	9 - 10
	Water loss:	Not controlled or reported
	Solids:	Not reported

	Gels:	Not reported
	Filter Cake:	Not reported
	PV / YP:	20 / 10

Main: Gel - Chemical

Properties:		
	Viscosity:	40 - 90 sec/L
	Weight:	1090 – 1290 kg/m^3
	PH:	9.5 – 10.5
	Water loss:	6.3 – 10.2 cc
	Solids:	6 - 8
	Gels:	4 – 8 / 10 - 18
	Filter Cake:	2
	PV / YP:	20 – 40 / 7 - 12

11. Fishing Operations: After pulling out of the hole with DST #1 it was discovered that the tools had backed off at the safety sub. An overshot was run and the lost tools were recovered on the first attempt.

12. Well Kicks and Well Control Operations: N/A

13. Formation Leak Off Tests:

At surface casing shoe:

Depth:	525 m
Fluid Density:	1000 kg/m^3
Applied Pressure:	4300 kPa
Hydrostatic Press:	5150 kPa
Mud Weight Equiv:	1830 kg/m^3
Casing Setting Depth:	514 mKB

The leak-off test was taken to a gradient of 18 kPa /m without breaking down the formation.

14. Time Distribution.

Date	Hours	Activity
00/10/11	16.0	Move in, rig up
00/10/12	14.0	Move in, rig up
00/10/13	12.0	Move in, rig up
00/10/14	8.0	Move in, rig up
	4.0	Weld conductor flange
00/10/15	12.0	Install diverter & BOP's, Pressure test BOP's

00/10/16	14.0	Mix mud
	0.25	Survey
	1.5	Drill
00/10/17	0.75	Rig Service
	1.5	Survey
	9.75	Drill
	7.0	Circulate & condition mud
	4.0	Trip
	1.0	Unplug flowline
00/10/18	0.5	Rig service
	1.0	Survey
	7.75	Drill
	3.5	Circulate & condition mud
	11.25	Trip
00/10/19	0.5	Rig service
	0.5	Survey
	18.5	Drill
	4.5	Trip
00/10/20	0.75	Rig service
	1.0	Survey
	0.25	Circulate
	9.0	Ream
	1.75	Pick up tools
	5.75	Drill
	5.5	Trip
00/10/21	0.75	Rig service
	2.75	Survey
	16.25	Drill
	1.5	Pick up tools
	2.75	Trip
00/10/22	0.75	Rig service
	2.25	Survey

	1.25	Handle tools
	9.5	Drill
	5.75	Ream
	0.75	Circulate
	3.75	Trip
00/10/23	0.5	Rig service
	1.25	Survey
	12.5	Drill
	1.5	Circulate
	8.25	Trip
00/10/24	0.5	Handle tools
	0.25	Safety meeting
	9.5	Run & cement surface casing
	1.5	Circulate
	1.5	Tear out diverter
	4.5	Weld on casing bowl
	6.0	Wait on cement
00/10/25	0.5	Drill
	2.25	Trip
	12.75	Nipple up BOP's
	5.25	Pressure test BOP's
	2.5	Handle tools
	0.75	Drill out shoe
00/10/26	0.75	Rig service
	3.0	Survey
	3.75	Trip
	14.25	Drill
	0.5	Circulate
	0.75	Leak off test
	0.5	BOP drill
	0.5	Handle tools
00/10/27	0.75	Rig service

	19.5	Drill
	1.25	Trip
	2.5	Survey
00/10/28	0.75	Rig service
	8.75	Drill
	7.0	Trip
	1.25	Ream
	1.5	Survey
	1.75	Handle tools
	1.0	Test tools
00/10/29	0.75	Rig service
	2.0	Survey
	17.25	Drill
	0.5	Ream
	0.5	Test tools
	1.5	Handle tools
	0.5	Flow check
00/10/30	0.5	Rig service
	13.0	Drill
	0.75	Circulate
	3.75	Trip
	1.0	Survey
	4.5	Handle tools
	0.5	Test tools
00/10/31	1.0	Rig service
	1.25	Survey
	6.25	Drill
	12.75	Circulate & condition mud
	2.25	Trip
	0.5	Ream
00/11/01	0.25	Rig service
	2.75	Circulate & condition mud

	6.0	Drill stem test
	9.5	Trip
	0.25	Safety meeting
	4.25	Handle tools
	0.25	BOP drill
	0.75	Slip & cut drill line
00/11/02	0.5	Rig service
	2.0	Handle tools
	6.75	Circulate & condition mud
	14.75	Trip
00/11/03	6.0	Circulate & condition mud
	9.5	Trip
	0.5	Rig service
	1.0	Fishing
	6.75	Handle tools
	0.25	BOP drill
00/11/04	0.5	Rig service
	0.75	Survey
	15.75	Drill
	1.5	Circulate and condition mud
	3.75	Trip
	1.75	Test tools
00/11/05	0.5	Rig service
	0.75	Survey
	10.75	Drill
	1.25	Circulate
	0.25	Test tools
	1.0	Slip & cut drill line
	6.0	Trip
	3.5	Handle tools
00/11/06	0.5	Rig service
	14.0	Drill

	1.75	Circulate
	0.75	Survey
	6.0	Trip
	0.25	Handle tools
	0.75	Test tools
00/11/07	0.5	Rig service
	14.25	Drill
	1.25	Circulate & condition mud
	5.25	Trip
	0.5	Test tools
	1.0	Survey
	1.25	Handle tools
00/11/08	0.75	Rig service
	0.25	Rig repair
	0.5	Survey
	17.25	Drill
	0.5	BOP drill
	3.25	Trip
	1.0	Circulate and condition mud
	0.5	Handle tools
00/11/09	0.75	Rig service
	0.5	Survey
	15.75	Drill
	1.0	Circulate & condition mud
	1.75	Trip
	0.75	Slip & cut drill line
	0.25	Test tools
	3.25	Handle tools
00/11/10	0.75	Rig service
	10.5	Drill
	2.5	Circulate & condition mud
	7.0	Trip

	0.25	Survey
	2.75	Handle tools
	0.25	Test tools
00/11/11	0.75	Rig service
	14.25	Drill
	0.5	Circulate & condition mud
	1.75	Handle tools
	0.25	Test tools
	1.25	Rig repair
	0.75	Survey
	4.5	Trip
00/11/12	1.0	Rig service
	0.75	Survey
	12.5	Drill
	1.5	Circulate
	7.0	Trip
	1.0	Handle tools
	0.25	Test tools
00/11/13	0.75	Rig service
	8.75	Drill
	2.25	Circulate
	0.75	Slip & cut drill line
	0.5	Survey
	8.75	Trip
	2.0	Handle tools
	0.25	Test tools
00/11/14	0.75	Rig service
	0.5	Survey
	15.75	Drill
	0.75	Circulate
	2.5	Trip
	3.5	Handle tools

	0.25	Test tools
00/11/15	0.75	Rig service
	0.5	Survey
	11.0	Drill
	1.5	Circulate
	6.5	Trip
	1.25	Ream
	2.0	Handle tools
	0.5	BOP drill
00/11/16	0.5	Rig service
	8.5	Drill
	3.75	Circulate
	7.5	Trip
	0.75	Ream
	0.5	Survey
	0.75	Test tools
	1.75	Handle tools
00/11/17	0.5	Rig service
	12.0	Drill
	1.25	Ream
	4.5	Trip
	1.5	Rig repair
	0.75	Slip & cut drill line
	0.75	Survey
	0.25	Test tools
	2.5	Handle tools
00/11/18	0.75	Rig service
	11.5	Drill
	1.5	Circulate & condition mud
	6.75	Trip
	0.5	Test tools
	3.0	Handle tools

00/11/19	0.75	Rig service
	16.0	Drill
	0.75	Circulate & condition mud
	1.0	Survey
	1.5	Handle tools
	4.0	Trip
00/11/20	0.5	Rig service
	18.75	Drill
	0.5	Circulate & condition mud
	2.25	Trip
	0.75	Survey
	0.25	Test tools
	1.0	Handle tools
00/11/21	0.75	Rig service
	1.0	Survey
	1.5	Circulate
	10.0	Drill
	6.25	Trip
	0.5	Slip & cut drill line
	0.25	Test tools
	3.75	Handle tools
00/11/22	0.75	Rig service
	1.0	Survey
	2.25	Trip
	18.5	Drill
	1.0	Circulate & condition mud
	0.5	BOP drill
00/11/23	0.75	Rig service
	16.75	Drill
	3.0	Trip
	0.5	Circulate & condition mud
	0.75	Survey

	0.25	Test tools
	2.0	Handle tools
00/11/24	0.75	Rig service
	1.0	Circulate
	12.5	Drill
	0.75	Survey
	5.75	Trip
	1.5	Repair rig
	0.5	Slip & cut drill line
	1.25	Handle tools
00/11/25	0.75	Rig service
	21.25	Drill
	0.5	Trip
	1.5	Circulate & condition mud
00/11/26	0.25	Rig service
	2.5	Circulate & condition mud
	9.75	Trip
	11.5	Log
00/11/27	0.25	Rig service
	18.5	Log
	3.25	Handle tools
	2.0	Trip
00/11/28	0.25	Rig service
	0.5	Safety meeting
	10.5	DST
	6.5	Trip
	6.25	Handle tools
00/11/29	0.25	Rig service
	11.0	Trip
	6.25	Circulate
	0.25	BOP drill
	1.5	DST

	4.75	Handle tools
00/11/30	0.5	Rig service
	0.5	Rig repair
	0.75	Circulate & condition mud
	8.75	Trip
	6.75	DST
	0.75	Slip & cut drill line
	0.25	BOP drill
	5.75	Handle tools
00/12/01	9.75	Trip
	11.0	DST
	0.25	Safety meeting
	3.0	Handle tools
00/12/02	0.5	Rig service
	8.5	DST
	9.0	Trip
	6.0	Handle tools
00/12/03	0.25	Rig service
	6.25	Circulate & condition mud
	0.25	Safety meting
	13.5	Trip
	3.25	Run & cement casing
	0.5	Handle test tools
00/12/04	0.25	Safety meeting
	4.5	Circulate & condition mud
	8.25	Run & cement casing
	11.0	Rig out
00/12/05	2.0	Rig out

Time Break Down

Activity	Hours
Move in, rig up	35.0
Rig out	13.0
Drilling:	467.25
Surveying:	35.25
Circulating, condition mud	107.0
Running & cementing casing:	21.0
Wait on cement:	6.0
Rig Service:	27.25
Rig Repair:	5.0
Tripping:	269.25
Reaming:	20.25
Nipple up & PT BOP's	30.0
DST's	44.25
Logging	30.0
Flow checks	0.5
Handle tools	96.75
Slip & cut drill line	4.0
Safety meetings	1.5
Weld on conductor flange:	4.0
Unplug flowline:	1.0
Tear out diverter:	1.5
Weld on casing bowl:	4.5
Drill out show:	0.75
Leak off test:	0.75
BOP drills:	3.0
Test tools:	9.0
Fishing:	1.0

15. Deviation Survey: See Attachment section for Survey Calculation Report.

16. Abandonment Plugs: N/A

17. Composite Well Record: See Geological Report in the Attachment section.

18. Completion Record:

Start Date:	December 6, 2000
Finish Date:	December 14, 2000
Contractor:	Akita 51

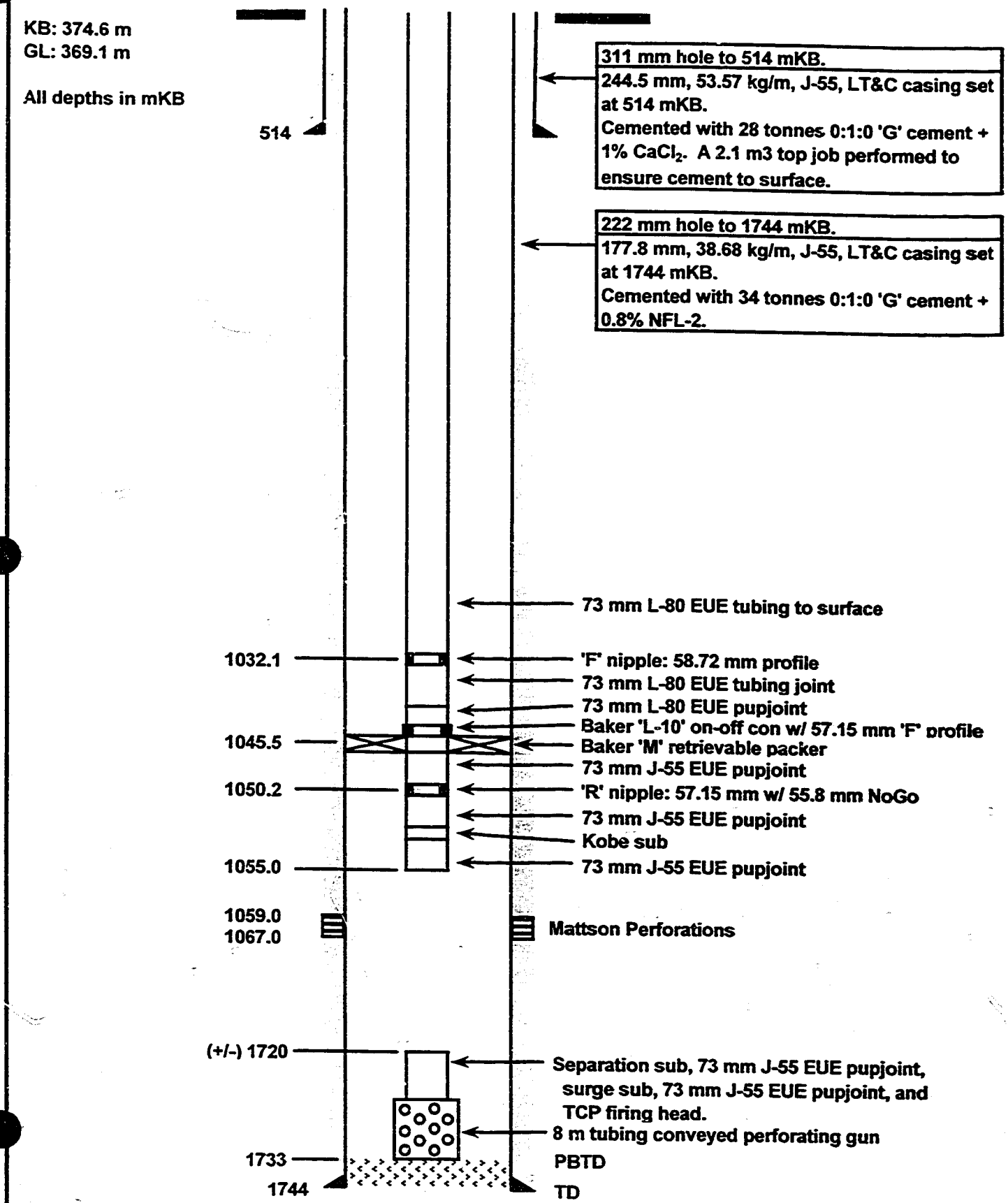
Completion Summary:

Date:	December, 2000
Perf Interval:	1059.0 – 1067.0 mKB.
Swab / Flow	Results:Final gas flow rate of 4.1 $10^3 m^3$/day with 12.1 m^3 water/day.
Stimulation:	Frac'd with a nitrified gelled water syetem, placing 14.7 tonnes of 20/40 mesh sand in the formation.

Final Well Configuration: See Bottom Hole Diagram on next page.

PARA ET AL MOUNT COTY I-02

Bottom Hole Configuration (as of Dec 8, 2000)



D: GEOLOGY

Geological Summary

Tops: See page 2 of the Geological Report in the Attachment Section.

Sample Descriptions: See pages 50 to 100 of the Geological Report in the Attachment Section.

Total Depth: 1744 mKB

Coring Record: No conventional coring done.

Rotary sidewall cores taken as follows:

Depth (mKB)	Formation	Comment
712	Chinkeh	Recovered whole plug
715	Chinkeh	Recovered whole plug
721	Chinkeh	Recovered whole plug
1060	Mattson	Recovered 5 wafers
1062	Mattson	Recd whole plug
1064.5	Mattson	Recovered whole plug
1080	Mattson	Recovered whole plug
1082	Mattson	Recovered whole plug
1136	Mattson	No recovery
1137	Mattson	No recovery
1225	Mattson	No recovery
1227	Mattson	No recovery
1229	Mattson	No recovery
1231	Mattson	No recovery
1233	Mattson	No recovery
1235	Mattson	Recovered trace rubble
1714	Flett/Debolt	Recovered whole plug
1720	Flett/Debolt	Recovered whole plug

See page 15 of the Geological Report in the Attachment Section for core plug descriptions.

GAS DETECTION REPORT

A gas detector was utilized from the drill out of the conductor pipe to total depth. The gas detector readings are included on the composite geological log at the end of the Geological Report in the Appendix Section.

DRILL STEM TESTS: See test reports in the Geological Report in the Attachment Section for details.

DST#1:	Mattson	1058.0 – 1068.0 mKB
DST#2:	Chinkeh	706.0 – 717.0 mKB (Misrun)
DST#3:	Debolt	1709.0 – 1727.0 mKB
DST#4:	Mattson	1216.0 – 1240.0 mKB
DST#5:	Mattson	1134.0 – 1140.0 mKB
DST#6:	Mattson	1075.0 - 1085.0 mKB
DST#7:	Chinkeh	708.0 – 720.0 mKB

WELL EVALUATION

The following logs were run:

High Definition Induction Log:	512 – 1739.0 mKB
Compensated Z-Densilog / Compensated Neutron Log:	512 – 1733.2 mKB
Multipole Array Accoustilog:	512 – 1730.4 mKB
Minilog	512 – 1742.2 mKB
Digital Spectralog	512 – 1725.1 mKB
Cement Volume Log:	512 – 1733.2 mKB

GAS, OIL, & WATER ANALYSES: Water analysis form the swabbing of the perforated section of the Mattson formation are included in the Attachment section.

FORMATION STIMULATION: N/A

FORMATION AND TEST RESULTS: N/A

DETAILED TEST PRESSURE DATA READINGS: N/A

E. ENVIRONMENTAL CONSIDERATIONS

There were no outstanding environmental considerations on this well. The gel-chem mud system used on the hole was treated on site and the solids were disposed of using the mix/bury/cover disposal method. In January 2001 the site was recontoured and there are no plans for any more work until this well is to be abandoned and reclaimed.

D. GEOLOGY

	Page
Geological Summary	21
Tops	21
Sample Descriptions	21
Coring Record	21
Gas Detection Report	21
Drill Stem Tests	22
Well Evaluation	22
Analyses	22
Mud Salinity Record	22
Gas, Oil & Water	22
Formation Stimulation	22
Formation and Test Results	22
Detailed Test Pressure Data Readings	22
E. ENVIRONMENTAL WELL ANALYSIS	22
F. ATTACHMENTS TO WELL HISTORY REPORT	23

1. Geological report.
2. Geological composite log.
3. Final survey plan.

GEOLOGICAL REPORT

ON

PARA ET AL MOUNT COTY I-02
300/I-02-60-20-123-30/00
FORT LIARD AREA, N.W.T.

FOR

PARAMOUNT RESOURCES LTD.

TABLE OF CONTENTS

Well Data Summary 1

Formation Tops 2

Deviation Surveys 3

Survey Sheets 4

Bit Record 9

Sidewall Core Reports 15

Drill Stem Test Reports (#1 - #7) 17

Daily Drilling Summary 30

Logging Report 33

Introduction 34

Formation Evaluations 36

Lithological Descriptions 50

October – November, 2000

Gary Johannson, M.Sc.,
Wellsite Geologist

DECOLLEMENT CONSULTING LTD.

WELL DATA SUMMARY

WELL NAME	Para et al Mount Coty I-02
LEGAL LOCATION	I-02/60-20, 123-30
UNIQUE WELL I.D.	300/I-02-60-20-123-30/00
SURFACE LOCATION	I-02/60-20, 123-30
FIELD/REGION	Fort Liard area, N.W.T.
OPERATOR	Paramount Resources Ltd.

SITE DATA

SURFACE COORDINATES	Lat: 60 deg. 11' 34.008" N Long: 123 deg. 30' 18.797"
SEISMIC LOCATION	Seismic Line: 2-268; 128.9m N of SP 500
WELL CLASSIFICATION	Exploratory WELL LICENSE # WID 1884
AFE NUMBER	00N010052
DRILLING CONTRACTOR	Akita Drilling Rig #51

ELEVATIONS

GROUND LEVEL	367.9 (m)
KELLY BUSHING	373.0 (m)

DRILLING DATES

SPUD DATE	Oct. 16, 2000	**TIME**	22:00hrs
T.D. DATE	Nov. 25, 2000	**TIME**	22:45hrs
RIG RELEASE DATE	n/a		

HOLE SIZE & MUD TYPE

SURFACE	311mm: Gel chem
MAIN	222mm: Gel chem

CASING DATA

SURFACE	39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m
PRODUCTION	n/a

GEOLOGICAL DATA

SAMPLE INTERVAL	Surface to T.D. of 1744m
GAS DETECTION INTERVAL	Surface to T.D. of 1744m
CORES	Sidewall: 18 cores
LOGGING SUITE	HDIL-ZDL-CN-MAC-ML-GR-XYCAL-RCOR
DRILL STEM TESTS	DST #1: 1958-1068m; DST #2: 706-717m (misrun); DST #3:1709-1727m; DST #4: 1216-1240m; DST #5:1134-1140m; DST #6: 1075-1085m; DST #7: 708-720m

WELL STATUS

Cased Potential gas well

FORMATION TOPS

Paramount et al Mount Coty NWT I-02

.L.(m) 367.90 K.B.(m) 372.95

FORMATION	SAMPLE		High	PROGNOSIS			LOGS		Isopach
	MD(m)	SS(m)	Low (-)	MD(m)	SS(m)	Isopach	MD(m)	SS(m)	(m)
Quaternary	23.0	350.0	-23.0			92.5	-	-	
Lepine	92.5	187.2	-	92.5	280.5	284.1	-	-	284.1
Scatter	376.6	-3.7	-	376.6	-3.7	139.9	-	-	139.4
Garbutt	517.0	-144.1	-0.5	516.5	-143.6	125.0	516.0	-143.1	123.5
Garbutt Radioactive Zone	637.2	-264.3	4.3	641.5	-268.6	13.5	639.5	-266.6	10.0
Bullhead	656.5	-283.6	-1.5	655.0	-282.1	57.0	649.5	-276.6	53.0
Chinkeh Siltstone	705.5	-332.6	6.5	712.0	-339.1	3.0	702.5	-329.6	5.7
Chinkeh Sand**	**708.5**	**-335.6**	**6.5**	**715.0**	**-342.1**	**11.5**	**708.2**	**-335.3**	**14.3**
Triassic	719.0	-346.1	7.5	726.5	-353.6	63.0	722.5	-349.6	67.7
Belloy	791.0	-418.1	n/a	np	np	n/a	790.2	-417.3	46.5
Fantasque**	**839.0**	**-466.1**	**-49.5**	**789.5**	**-416.6**	**173.3**	**836.7**	**-463.8**	**82.8**
Lower Kindle	923.5	-550.6		923.5	-550.6	39.3	919.5	-546.6	44.7
Mattson*	**962.8**	**-589.9**		**962.8**	**-589.9**	**120.0**	**964.2**	**-591.3**	**111.8**
M1 Zone	**1080.0**	**-707.1**	**2.8**	**1082.8**	**-709.9**	**24.0**	**1076.0**	**-703.1**	**23.5**
M2 Zone	**1104.0**	**-731.1**	**2.8**	**1106.8**	**-733.9**	**126.0**	**1099.5**	**-726.6**	**117.5**
M3 Zone	**1219.6**	**-846.7**	**13.2**	**1232.8**	**-859.9**	**23.0**	**1217.0**	**-844.1**	**34.0**
M4 Zone	**1252.5**	**-879.6**	**3.3**	**1255.8**	**-882.9**	**30.0**	**1251.0**	**-878.1**	**20.0**
M5 Zone	**1272.8**	**-899.9**	**13.0**	**1285.8**	**-912.9**	**59.2**	**1271.0**	**-898.1**	**75.0**
M6 Zone	**1345.8**	**-972.9**	**-0.8**	**1345.0**	**-972.1**	**75.0**	**1346.0**	**-973.1**	**77.0**
M7 Zone	**1429.0**	**-1056.1**	**-9.0**	**1420.0**	**-1139.6**	**22.0**	**1423.0**	**-1050.1**	**23.0**
M8 Zone	**1448.3**	**-1075.4**	**-6.3**	**1442.0**	**-1069.1**	**70.0**	**1446.0**	**-1073.1**	**76.9**
M9 Zone	**1522.5**	**-1149.6**	**-10.5**	**1512.0**	**-1139.1**	**49.0**	**1522.9**	**-1150.0**	**25.6**
M10 Zone	**1550.0**	**-1177.1**	**11.0**	**1561.0**	**-1188.1**	**80.0**	**1548.5**	**-1175.6**	**95.3**
Golata	1644.6	-1271.7	-3.6	1641.0	-1268.1	55.0	1643.8	-1270.9	65.2
Flett/Upper Debolt**	**1709.0**	**-1336.1**	**-13.0**	**1696.0**	**-1323.1**	**40.0**	**1709.0**	**-1336.1**	**34.2**
T.D.	1744.0	-1371.1	-8.0	1736.0	-1363.0		1743.2	-1370.3	

Primary Target Zone *
Secondary Target Zone **

DEVIATION SURVEYS

Para et al Mount Coty I-02
I-02/60-20, 123-30

Depth	Inclination
31.0	0.750°
60.0	0.880°
88.0	1.000°
114.0	0.750°
146.0	1.000°
170.0	1.000°
199.0	1.500°
226.0	1.250°
See	attached
surveys	from United
Geocom	

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 1
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	71.00	.50	79.20	71.00	.06	.30	.06	.21	.21	0.00
2	145.00	.90	57.30	144.99	.43	1.11	.43	.19	.16	-8.88
3	220.00	1.50	41.00	219.98	1.49	2.25	1.49	.27	.24	-6.52
4	293.00	2.20	29.90	292.94	3.43	3.58	3.43	.32	.29	-4.56
5	315.14	2.50	24.10	315.06	4.24	3.98	4.24	.52	.41	-7.86
6	324.86	2.70	22.60	324.77	4.64	4.16	4.64	.65	.62	-4.63
7	334.24	2.20	17.90	334.14	5.02	4.30	5.02	1.72	-1.60	-15.03
8	343.96	1.60	5.00	343.86	5.33	4.37	5.33	2.26	-1.85	-39.81
9	353.41	1.10	340.60	353.30	5.55	4.35	5.55	2.38	-1.59	-77.46
10	362.72	.70	284.60	362.61	5.65	4.27	5.65	2.95	-1.29	-180.45
11	371.87	.70	241.70	371.76	5.63	4.16	5.63	1.68	0.00	-140.66
12	380.85	.80	218.10	380.74	5.56	4.07	5.56	1.08	.33	-78.84
13	390.42	.80	209.80	390.31	5.45	4.00	5.45	.36	0.00	-26.02
14	409.14	.60	197.50	409.03	5.24	3.91	5.24	.40	-.32	-19.71
15	427.44	.80	313.60	427.33	5.24	3.78	5.24	1.96	.33	190.33
16	436.93	.70	211.00	436.82	5.23	3.71	5.23	3.71	-.32	-324.34
17	455.71	1.60	187.40	455.59	4.87	3.61	4.87	1.60	1.44	-37.70
18	473.50	1.10	180.80	473.38	4.46	3.58	4.46	.88	-.84	-11.13
19	482.88	.80	173.50	482.76	4.30	3.59	4.30	1.03	-.96	-23.35
20	491.89	.40	150.10	491.77	4.21	3.61	4.21	1.54	-1.33	-77.91
21	501.17	.30	100.20	501.05	4.18	3.65	4.18	1.00	-.32	-161.31
	SURFACE CASING SET @ 514 METERS. 513.88m TVD									
22	**514.00**	**.43**	**66.53**	**513.88**	**4.19**	**3.73**	**4.19**	**.57**	**.30**	**-78.73**
23	518.72	.50	59.50	518.60	4.21	3.76	4.21	.57	.45	-44.68
24	528.25	.60	63.70	528.13	4.25	3.84	4.25	.34	.31	13.22
25	537.87	.70	64.40	537.75	4.30	3.94	4.30	.31	.31	2.18
26	547.18	.80	60.90	547.05	4.36	4.05	4.36	.35	.32	-11.28
27	556.83	.90	70.60	556.70	4.42	4.18	4.42	.54	.31	30.16
28	566.39	.90	76.00	566.26	4.46	4.32	4.46	.27	0.00	16.95
29	576.03	.90	102.50	575.90	4.46	4.47	4.46	1.28	0.00	82.47
30	584.89	1.00	113.20	584.76	4.42	4.61	4.42	.69	.34	36.23
31	594.28	1.00	137.00	594.15	4.32	4.74	4.32	1.32	0.00	76.04
32	603.99	1.20	146.60	603.86	4.18	4.85	4.18	.84	.62	29.66
33	613.51	1.10	172.50	613.37	4.00	4.92	4.00	1.65	-.32	81.62

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 2
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Tum
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
34	623.13	1.20	182.20	622.99	3.81	4.93	3.81	.68	.31	30.25
35	632.78	1.10	215.00	632.64	3.63	4.87	3.63	2.04	-.31	101.97
36	642.43	1.30	238.30	642.29	3.50	4.72	3.50	1.62	.62	72.44
37	652.10	1.20	241.60	651.96	3.39	4.54	3.39	.38	-.31	10.24
38	661.13	1.00	234.00	660.99	3.30	4.39	3.30	.82	-.66	-25.25
39	670.60	.90	226.50	670.45	3.20	4.27	3.20	.50	-.32	-23.76
40	680.24	.70	217.40	680.09	3.10	4.18	3.10	.74	-.62	-28.32
41	689.81	.40	204.50	689.66	3.03	4.13	3.03	1.01	-.94	-40.44
42	699.42	.40	191.70	699.27	2.96	4.11	2.96	.28	0.00	-39.96
43	708.99	.20	184.90	708.84	2.91	4.10	2.91	.64	-.63	-21.32
44	718.13	.20	200.70	717.98	2.88	4.10	2.88	.18	0.00	51.86
45	727.07	.10	216.70	726.92	2.86	4.09	2.86	.36	-.34	53.69
46	736.41	.30	210.10	736.26	2.84	4.07	2.84	.65	.64	-21.20
47	745.88	.50	211.10	745.73	2.78	4.04	2.78	.63	.63	3.17
48	755.24	.70	214.30	755.09	2.70	3.98	2.70	.65	.64	10.26
49	764.50	.90	209.90	764.35	2.59	3.92	2.59	.63	.65	-14.25
50	773.89	1.10	176.60	773.74	2.43	3.86	2.43	1.93	.64	-106.39
51	783.51	1.20	178.30	783.36	2.24	3.89	2.24	.33	.31	5.30
52	792.99	.90	213.60	792.84	2.08	3.85	2.08	2.21	-.95	111.71
53	802.62	.60	223.80	802.46	1.98	3.78	1.98	1.02	-.93	31.78
54	812.07	.40	237.60	811.91	1.93	3.72	1.93	.74	-.63	43.81
55	821.63	.40	251.70	821.47	1.90	3.66	1.90	.31	0.00	44.25
56	830.56	.40	260.30	830.40	1.88	3.59	1.88	.20	0.00	28.89
57	839.82	.40	285.80	839.66	1.89	3.53	1.89	.57	0.00	82.61
58	849.37	.30	310.90	849.21	1.91	3.48	1.91	.57	-.31	78.85
59	858.85	.40	351.10	858.69	1.96	3.46	1.96	.82	.32	127.22
60	868.35	.60	47.40	868.19	2.03	3.49	2.03	1.59	.63	177.79
61	877.72	.90	30.10	877.56	2.12	3.56	2.12	1.19	.96	-55.39
62	896.00	1.20	359.90	895.84	2.44	3.63	2.44	1.02	.49	-49.56
63	905.41	1.40	342.60	905.25	2.65	3.60	2.65	1.40	.64	-55.15
64	915.27	1.30	289.80	915.10	2.80	3.46	2.80	3.66	-.30	-160.65
65	923.81	1.50	282.70	923.64	2.86	3.26	2.86	.93	.70	-24.94
66	933.43	1.50	278.50	933.26	2.90	3.01	2.90	.34	0.00	-13.10
67	942.97	1.20	273.40	942.80	2.93	2.79	2.93	1.02	-.94	-16.04

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 3
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
68	952.57	.80	251.70	952.39	2.91	2.62	2.91	1.70	-1.25	-67.81
69	961.68	.80	224.20	961.50	2.85	2.52	2.85	1.25	0.00	-90.56
70	971.29	.80	210.30	971.11	2.74	2.44	2.74	.60	0.00	-43.39
71	980.82	.60	208.80	980.64	2.64	2.38	2.64	.63	-.63	-4.72
72	990.46	.70	201.10	990.28	2.54	2.33	2.54	.41	.31	-23.96
73	1000.10	.60	201.20	999.92	2.44	2.29	2.44	.31	-.31	.31
74	1009.69	.70	199.40	1009.51	2.34	2.26	2.34	.32	.31	-5.63
75	1019.28	.70	188.20	1019.10	2.22	2.23	2.22	.43	0.00	-35.04
76	1028.92	.80	195.10	1028.74	2.10	2.20	2.10	.42	.31	21.47
77	1038.54	1.00	185.60	1038.36	1.95	2.18	1.95	.78	.62	-29.63
78	1047.38	.80	196.70	1047.20	1.82	2.15	1.82	.90	-.68	37.67
79	1057.00	.60	238.00	1056.82	1.73	2.09	1.73	1.65	-.62	128.79
80	1066.59	.80	265.40	1066.40	1.69	1.98	1.69	1.20	.63	85.71
81	1076.24	.90	270.40	1076.05	1.69	1.84	1.69	.39	.31	15.54
82	1087.26	.90	266.30	1087.07	1.68	1.67	1.68	.18	0.00	-11.16
83	1096.98	.90	273.10	1096.79	1.68	1.51	1.68	.33	0.00	20.99
84	1106.60	.90	271.10	1106.41	1.69	1.36	1.69	.10	0.00	-6.24
85	1116.05	.80	279.10	1115.86	1.70	1.22	1.70	.49	-.32	25.40
86	1125.36	.90	289.30	1125.17	1.73	1.09	1.73	.58	.32	32.87
87	1134.76	.60	307.30	1134.57	1.79	.98	1.79	1.21	-.96	57.45
88	1144.38	.80	330.00	1144.19	1.88	.91	1.88	1.05	.62	70.79
89	1153.88	.80	331.90	1153.69	1.99	.84	1.99	.08	0.00	6.00
90	1163.22	.90	344.20	1163.02	2.12	.79	2.12	.67	.32	39.51
91	1172.28	.80	319.90	1172.08	2.24	.73	2.24	1.23	-.33	-80.46
92	1181.81	.70	287.20	1181.61	2.31	.63	2.31	1.36	-.31	-102.94
93	1191.48	.60	203.30	1191.28	2.28	.56	2.28	2.71	-.31	-260.29
94	1233.00	.50	162.90	1232.80	1.90	.52	1.90	.28	-.07	-29.19
95	1239.20	.50	143.00	1239.00	1.86	.55	1.86	.84	0.00	-96.29
96	1248.80	.30	118.90	1248.60	1.81	.60	1.81	.80	-.63	-75.31
97	1258.37	.50	106.80	1258.17	1.79	.66	1.79	.68	.63	-37.93
98	1266.00	.40	92.70	1265.80	1.78	.72	1.78	.58	-.39	-55.44
99	1277.52	.50	87.20	1277.32	1.78	.81	1.78	.28	.26	-14.32
100	1287.14	.70	87.50	1286.94	1.78	.91	1.78	.62	.62	.94
101	1296.70	.50	59.60	1296.50	1.81	1.00	1.81	1.09	-.63	-87.55

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 4
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
102	1305.81	.40	265.00	1305.61	1.82	1.00	1.82	2.89	-.33	-509.11
103	1315.31	.90	262.50	1315.11	1.81	.90	1.81	1.58	1.58	-7.89
104	1324.84	.90	262.90	1324.64	1.79	.75	1.79	.02	0.00	1.26
105	1334.42	.70	288.40	1334.22	1.80	.62	1.80	1.26	-.63	79.85
106	1343.99	.50	290.60	1343.78	1.83	.52	1.83	.63	-.63	6.90
107	1353.06	.60	312.50	1352.85	1.88	.45	1.88	.76	.33	72.44
108	1362.62	.30	336.40	1362.41	1.94	.40	1.94	1.09	-.94	75.00
109	1372.11	.60	197.30	1371.90	1.91	.38	1.91	2.69	.95	-439.73
110	1381.26	.90	201.70	1381.05	1.80	.34	1.80	1.00	.98	14.43
111	1388.78	.90	186.10	1388.57	1.69	.31	1.69	.97	0.00	-62.23
112	1397.91	.80	206.40	1397.70	1.56	.27	1.56	1.04	-.33	66.70
113	1407.55	.40	203.00	1407.34	1.47	.23	1.47	1.25	-1.24	-10.58
114	1416.75	.40	208.10	1416.54	1.41	.20	1.41	.12	0.00	16.63
115	1426.30	.40	172.70	1426.09	1.35	.19	1.35	.76	0.00	-111.20
116	1434.24	.20	159.50	1434.03	1.30	.20	1.30	.79	-.76	-49.87
117	1443.89	.30	135.10	1443.68	1.27	.22	1.27	.45	.31	-75.85
118	1453.40	.30	107.60	1453.19	1.25	.27	1.25	.45	0.00	-86.75
119	1462.66	.40	89.90	1462.45	1.24	.32	1.24	.47	.32	-57.34
120	1472.23	.60	101.40	1472.02	1.23	.40	1.23	.70	.63	36.05
121	1481.82	1.00	97.10	1481.61	1.21	.54	1.21	1.26	1.25	-13.45
122	1491.36	1.30	99.30	1491.15	1.18	.73	1.18	.95	.94	6.92
123	1511.10	1.10	157.00	1510.88	.97	1.02	.97	1.78	-.30	87.69
124	1527.00	1.30	136.90	1526.78	.70	1.20	.70	.87	.38	-37.92
125	1539.00	1.10	113.60	1538.78	.55	1.40	.55	1.31	-.50	-58.25
126	1548.91	1.40	91.40	1548.68	.51	1.61	.51	1.71	.91	-67.20
127	1558.05	1.70	82.20	1557.82	.53	1.86	.53	1.28	.98	-30.20
128	1567.64	1.60	79.50	1567.41	.57	2.13	.57	.40	-.31	-8.45
129	1578.19	1.80	59.60	1577.95	.68	2.42	.68	1.76	.57	-56.59
130	1585.97	2.10	57.00	1585.73	.82	2.64	.82	1.21	1.16	-10.03
131	1595.55	2.90	53.10	1595.30	1.06	2.98	1.06	2.56	2.51	-12.21
132	1605.10	3.30	54.70	1604.84	1.37	3.40	1.37	1.29	1.26	5.03
133	1614.66	3.60	48.10	1614.38	1.73	3.85	1.73	1.56	.94	-20.71
134	1625.15	3.80	53.30	1624.85	2.15	4.37	2.15	1.12	.57	14.87
135	1634.78	2.30	57.60	1634.46	2.45	4.79	2.45	4.72	-4.67	13.40
136	1644.36	.90	35.60	1644.04	2.61	5.00	2.61	4.71	-4.38	-68.89

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 5
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
137	1655.70	.50	36.00	1655.38	2.72	5.08	2.72	1.06	-1.06	1.06
138	1662.61	.20	317.80	1662.29	2.76	5.09	2.76	2.17	-1.30	-339.51
139	1672.18	.70	292.40	1671.86	2.79	5.02	2.79	1.65	1.57	-79.62
140	1681.80	1.80	297.60	1681.47	2.88	4.83	2.88	3.45	3.43	16.22
141	1691.19	2.60	285.50	1690.86	3.01	4.50	3.01	2.94	2.56	-38.66
142	1697.00	3.20	284.90	1696.66	3.09	4.21	3.09	3.10	3.10	-3.10
				EXTRAPOLATED TO THE BIT 1704.64m TVD						
EXT	**1705.00**	**4.03**	**284.07**	**1704.64**	**3.21**	**3.73**	**3.21**	**3.12**	**3.11**	**-3.11**

Bottom Hole Closure 4.92m Along Azimuth 49.24°

WELLSITE BIT RECORD

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

SIZE (mm)	311	311	222	311	222	311
MAKE	Western	Hughes	Hughes	Hughes	Hughes	Hughes
TYPE	GT-S1	GT-C1	GT-S1	GT-C1	GT-S1	GT-C1
SERIAL #	G277H	L71DM	K03ZJ	L71DM	K03ZJ	L71DM
JETS	3x17.5	3x17.5	3x17.5	3x17.5	3x17.5	3x17.5
DEPTH IN	23.00	232.00	257.00	257.00	330.00	330.00
DEPTH OUT	232.00	257.00	330.00	330.00	514.00	448.00
METRES	209.00	25.00	73.00	73.00	184.00	118.00
HOURS	15.25	3.75	18.75	9.00	25.75	9.25
ACC. HRS.	15.25	19.00	37.75	46.75	72.50	81.75
ROP (m/hr)	13.70	6.67	3.89	8.11	7.15	12.76
FOB	6-8daN	3-8daN	3-5daN	3-4daN	5-14daN	6-9daN
RPM	190-195	170-190	190	200	30+motor	170
PP	3000-4500	2200	2300	7100-7700	5500-7200	10900-11600
DEN	1040-1130	1080-1090	1090-1120	1085-1095	1080-1100	1080-1090
VISCOSITY	43-85	54-120	64-90	65-72	70-84	68-90
MAX DEV.°	1.250°	2.000°	3.000°	-	1.600°	-
Condition:	2-2-3-1	2-2-2-1	2-2-2-3	2-2-2-3	2-2-2-3	3-3-8-1
Condition:						
REMARKS	Surface hole	Surface hole	Pilot hole	Ream pilot hole	Pilot hole / mud-motor	Ream pilot hole

WELLSITE BIT RECORD #3

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

SIZE (mm)	222	222	222	222	222	222
MAKE	Hughes	Smith	Smith	Hughes	Hughes	Smith
TYPE	ATJS55RG	F57-OD	F7-OD	ATJ-S77D	ATJ-P88D	F-67P
SERIAL #	L50DL	LY4795	LS5686	G20ZW	Y26XB	LX1789
JETS	3x15.9	3x19.0	3x19.0	3x19.0	3x19.0	3x19.0
DEPTH IN	1091.00	1147.00	1183.00	1248.00	1281.00	1327.00
DEPTH OUT	1147.00	1183.00	1248.00	1281.00	1327.00	1349.00
METRES	56.00	36.00	65.00	33.00	46.00	22.00
HOURS	18.00	14.00	19.50	20.50	19.00	7.25
ACC. HRS.	187.50	201.50	221.00	241.50	260.50	267.75
ROP (m/hr)	3.11	2.57	3.33	1.61	2.42	3.03
FOB	30daN	30daN	30-34daN	30-33daN	30-33daN	30-33daN
RPM	50+motor	50+motor	50+motor	50+motor	50+motor	50+motor
PP	12400	13700	12500	10600	10800	10800
DEN	1290	1310	1280	1280	1270	1290
VISCOSITY	84	71	72	76	77	70
MAX DEV.°	0.900°	0.600°	0.500°	0.500°	0.500°	0.900°
Condition:						
	5-8-3-2	3-8-2-2	3-9-2-2	3-9-2-3	3-9-3-2	3-8-2-2
Condition:						
REMARKS	Main hole	Main hole	Main hole	Main hole	Main hole	Main hole

WELLSITE BIT RECORD #4

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

SIZE (mm)	222	222	222	222	222	222
MAKE	Smith	Smith	Hughes	Hughes	Hughes	Smith
TYPE	F67-OD	F67-OD	ATJ-S77DX	ATJ-P77DX	ATJ-P77DX	F8-ODPS
SERIAL #	MG0013	LY7913	G22ZW	G21ZW	C60ZW	LY6723
JETS	3x19.0	3x19.0	3x19.0	3x19.0	3x19.0	3x19.0
DEPTH IN	1349.00	1396.00	1428.00	1442.00	1471.00	1490.00
DEPTH OUT	1396.00	1428.00	1442.00	1471.00	1490.00	1510.00
METRES	47.00	32.00	14.00	29.00	19.00	20.00
HOURS	14.25	13.25	8.75	19.00	7.75	8.50
ACC. HRS.	282.00	295.25	304.00	323.00	330.75	339.25
ROP (m/hr)	3.30	2.42	1.60	1.53	2.45	2.35
FOB	30-33daN	30-33daN	30-33daN	32daN	32daN	30daN
RPM	50+motor	50+motor	50+motor	50+motor	50+motor	25+motor
PP	10800	10800	12500	10500	10800	11000
DEN	1280	1290	1270	1270	1270	1270
VISCOSITY	65	75	65	64	88	70
MAX DEV.°	0.600°	0.800°	0.400°	0.300°	0.600°	1.300°
Condition:						
	2-9-2-2	4-9-5-4	6-9-3-4	6-9-3-4	4-9-2-4	9-2-0.75
Condition:						
REMARKS	Main hole	Main hole	Main hole	Main hole	Main hole	Main hole

WELLSITE BIT RECORD #5

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

SIZE (mm)	222	222	222	222	222	222
MAKE	Hughes	Hughes	Hughes	Smith	Smith	Smith
TYPE	EP4603	EP4603	EP4603	F570D	F6709	F47H
SERIAL #	D65ZB	C20ZH	C21ZH	LY4791	LY7912	LY4872
JETS	3x10.3	3x10.3	3x10.3	3x19	3x10.3	3x10.3
DEPTH IN	1510.00	1547.00	1587.00	1625.00	1663.00	1705.00
DEPTH OUT	1547.00	1587.00	1625.00	1663.00	1705.00	1744.00
METRES	37.00	40.00	38.00	38.00	42.00	39.00
HOURS	17.50	22.25	20.50	27.00	29.25	21.25
ACC. HRS.	356.75	379.00	399.50	426.50	455.75	477.00
ROP (m/hr)	2.11	1.80	1.85	1.41	1.44	1.84
FOB	20-28daN	25-28daN	25-28daN	24-30daN	28-30daN	25-28daN
RPM	50-60	55-65	55-60	30&65	55-60	55-60
PP	8500	8100	8400	9800	8200	7800-8200
DEN	1275	1275	1285	1275	1280	1270-1280
VISCOSITY	58	70	61	57	63	80
MAX DEV.°	1.300°	1.800°	3.600°	1.300°	3.200°	4.000°
Condition:						
	3-3-In	8-4-3-In	8-4-3-In	8-7-4-5	3-2-In	3-3-3-In
Condition:						
REMARKS	Main hole	Main hole	Main hole	Main hole	Main hole	Main hole

SIDEWALL CORE REPORT

PARA ET AL MOUNT CLAY I-02
300/I-02-60-20-123-30/00

Sidewall coring was conducted on November 27th, 2000. A total of 18 cores were cut: recovery was 10 cores. No cores were recovered from the M3 Zone or the M2 Zone of the Mattson Formation. Lithological descriptions are given below.

Chinkeh Formation

1) **721m** - Whole plug: SANDSTONE light grey, very fine to fine grained, quartz arenite grading to sub quartz arenite with clear quartz and trace to minor scattered dark specks and lithic grains, clean, well sorted, angular to subrounded, moderately to well indurated, common siliceous cement, trace quartz overgrowths, trace to locally minor spotty kaolin to illite, common extremely fine to fine discontinuous coaly laminations (pyritic in part), no visible porosity, no shows.
2) **715m** - Whole plug: SANDSTONE medium brown, very fine to fine grained, slightly silty, sublitharenite with abundant clear quartz & minor lithic grains, moderately glauconitic, clean, massive, well sorted, angular to subrounded, moderately well indurated, common siliceous cement, minor spotty kaolin to illite, very poor to poor visible porosity, no shows.
3) **712m** - Whole plug: SANDSTONE light grey, very fine to fine grained, slightly silty, sublitharenite with abundant clear quartz and minor dark lithic grains, moderately glauconitic, clean, well sorted, angular to subrounded, minor to common very fine planar to slightly wispy argillaceous laminations, moderately to well indurated, common siliceous cement, minor quartz overgrowths, tight to poor visible porosity, no shows.

Flett/Debolt Formation

4) **1720m** - Whole plug: DOLOMITE medium brown, slightly mottled, cryptocrystalline to very fine crystalline with minor to common variably recrystallized to dolomitized bioclasts (including crinoids), rare to trace scattered glauconite, hard, dense, minor to common stylolites, minor sub parallel very fine healed fracture with white dolomite fracture fill, no visible porosity, common to abundant dull yellow gold fluorescence.
5) **1714m** - Whole plug: DOLOMITE medium to dark brown, mottled, cryptocrystalline to very fine crystalline matrix with abundant sparry to variably recrystallized bioclasts and indeterminate allochems, (crinoidal packstone), variably moderately to very calcareous, trace pyrite, common to locally abundant stylolites with slickensides, minor to common sub-parallel healed fractures with white calcareous dolomite fracture fill (note; stylolites crosscut fracture fills), no visible porosity, common spotty to patchy dull yellow fluorescence.

Mattson Formation

6) **1235m** - Trace rubble in mud: not examined.
7) **1233m**: No recovery.
8) **1231m**: No recovery.
9) **1229m**: No recovery.
10) **1227m**: No recovery
11) **1225m**: No recovery.

12) **1137m**: No recovery.
13) **1136m**: No recovery.

14) **1082m** - Whole plug: SANDSTONE very light grey, very fine to lower medium grained, slightly silty, quartz arenite grading to subquartzarenite, trace to minor varicolored lithic grains, clean, massive, moderately sorted, angular to subrounded, minor rounded grains, predominantly poorly indurated, abundant calcareous cement, trace quartz overgrowths, rare to trace spotty kaolin to illite, fair to poor visible porosity, minor patchy yellow fluorescence.
15) **1080m** - Whole plug: SANDSTONE light brown, very fine to fine grained, trace to minor lower medium grains, slightly silty, quartz arenite with trace scattered lithic grains, clean, massive, moderately well sorted, angular to subrounded, minor rounded grains, poorly indurated, decreasing common calcareous and minor siliceous cement, minor quartz overgrowths, rare spotty kaolin to illite, fair to poor visible porosity, faint petroliferous odor, even good yellow fluorescence, instant fair thin milky cut.

16) **1064.5m** - Whole plug: SANDSTONE light brown, very fine to fine grained, slightly silty, quartz arenite, clean, massive, well sorted, angular to subrounded, moderately indurated, common calcareous and siliceous cement, common quartz overgrowths, fair porosity, faint petroliferous odor, common spotty to patchy dull to moderate yellow fluorescence.
17) **1062m** - Whole plug: SANDSTONE light brown, very fine to fine grained, quartz arenite, clean, massive, well sorted, angular to subrounded, moderately to well indurated, common siliceous and minor calcareous cement, common quartz overgrowths, fair to poor visible porosity, common patchy dull to moderate yellow green to yellow fluorescence, instant poor to fair thin milky cut.
18) **1060m** - 5 parallel wafers 4-6mm thick: SANDSTONE light grey, very fine to fine grained, quartz arenite, clean, massive, well sorted, angular to subrounded, minor rounded grains, moderately well to well indurated, common siliceous and minor to locally common patchy calcareous cement, minor quartz overgrowths, trace interstitial pyrite, very poor to poor visible porosity, common to abundant patchy to slightly uneven dull to moderate yellow green to yellow fluorescence, instant poor to fair thin milky diffuse and streaming cut. (Note: The uniform thickness and parallel nature of the wafers more likely indicates mechanical breakage by the coring tool, rather than an evenly-spaced parallel fracture system).

A note on the porosity estimates from the sidewall cores; it is difficult to get accurate estimates because the plug sides are polished from the coring & the ends tend to be plugged with mud residue. In most cases above, there were no small fragments present that could be broken open; therefore, porosity estimates are likely to be lower than actual.

ALPINE

Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: **11/01/2000**

Job Ticket #: **D2-8566** DST#: **1**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD.
Job Ticket #: D2-8566 DST#: 1
Test Date: 11/01/2000 1100hrs
Well Name: PARA ET AL MOUNT COT[illegible]2
Contact: AL IRONSIDE
Location: I-02/60-20-123-30

General Information:

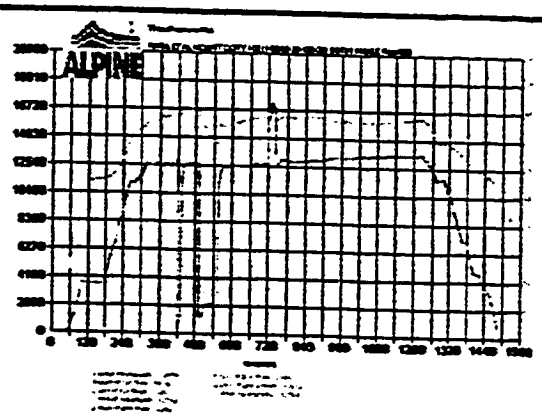
Test Type: INFLATE STRADDLE
Interval: 1058.00m - 1068.00m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1091.00m
Test Mode: Gas

Tester: DANNY ROSS
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: GOOD
Bottom Hole Temperature: 41.00 C

Electronic Recorder Information:

INSIDE	
Recorder #: 066	Recorder #:
Range: 70000 kPag	Range: kPag
Depth: 1040.00 m	Depth: m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	12676.1
B Start of 1st Flow	0.00	1015.1
C End of 1st Flow	8.00	1298.6
D End of 1st Shutin	56.00	12718.9
E Start of 2nd Flow	0.00	1241.9
F End of 2nd Flow	58.00	2045.2
G End of 2nd Shutin	95.00	12832.1
Q Final Hydrostatic	0.00	12764.0



Test Run Information:

Start Time: 1100hrs
Reached Test Depth: 1740hrs
Pull Out Time: 2130hrs
Tool Out Of Hole: 1200hrs

Weight set on Packers: 6000.00daN
Weight to free Packers: 8000.00daN
Initial String Weight: 39000.00daN
Unseated String Weight: 40000.00daN

Tool Chased Dist: 0.00m
Mud Type: GEL CHEMICAL
Mud Weight: 1220.00kg/m³
Amount of fill: 0.00m
Amt of cushion: 0.00
Type of cushion:

Water Loss: 6.50cm³
Mud Drop: NO
VIS: 65.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: YES

General Remarks:

PREFLOW:STRONG BLOW IN 20 SECS, GAS TO SURFACE IN 2MIN, 45SECS. INCREASING THROUGHOUT.2.5M FLARE.
FINAL FLOW:GAS TO SURFACE IMMEDIATELY. STEADY 3M FLARE. SEE GAS CHARTS FOR RATES.

Recovery Description:

TWO SAMPLERS WERE RUN G.P.=36 AND G.P.=51. 2 GAS BOMBS WERE CAUGHT PF=AGAT-00021782 AND MF=AGAT-00021771
REVERSED OUT APPROX. 180 M OF GASIFIED SLIGHTLY OIL STAINED MUD. ONE MUD TANK SAMPLE AND 8 SAMPLES FROM REVERSING.

Gas Bomb: 2 Sampler: 2
Fluid Sample: 9 Sent to: AGAT EDMONTON

Drill Stem Testing - Gas Recovery Measurements

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-8566 DST#: 1
Test Date: 11/01/2000 1100hrs

Contact: AL IRONSIDE Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Gas Measurements for Flow # 1

Gas Recovery Measured With: Willis Choke

Time (min.)	Orifice (mm)	Pressure (kPa)	Rate (m³/d)
10	6.35	600	4278.00

Gas Measurements for Flow # 2

Gas Recovery Measured With: Willis Choke

Time (min.)	Orifice (mm)	Pressure (kPa)	Rate (m³/d)
5	6.35	750	5204.00
10	6.35	1150	7644.00
15	6.35	1400	9159.00
20	6.35	1600	10380.00
30	6.35	1700	11011.00
40	6.35	1700	11011.00
50	6.35	1700	11011.00
60	6.35	1700	11011.00

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-8566 DST#: 1
Test Date: 11/01/2000 1100hrs

Contact: AL IRONSIDE

Well Name: PARA ET AL MOUNT COT[redacted]2
Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	0
Drill Collar Singles:	0
Drill Pipe Stands:	35
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1068.08m
Total Drill Pipe Above K.B.:	10.08m
Total Depth:	1091m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	0.00	mm
Drill Collar Length:	0.00	m
Drill Pipe Inside Diameter:	92.00	mm
Drill Pipe Length:	672.68	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	369.35	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

WELL LIC#1884

A SUCCESSFUL REAL TIME DST ON THE "MATTSON" WAS PREFORMED.



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	[redacted]
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	5.18
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	[redacted]
Drag Spring	2.06
Bullnose	0.60

26.05m

Depth: 1058m

10.02m

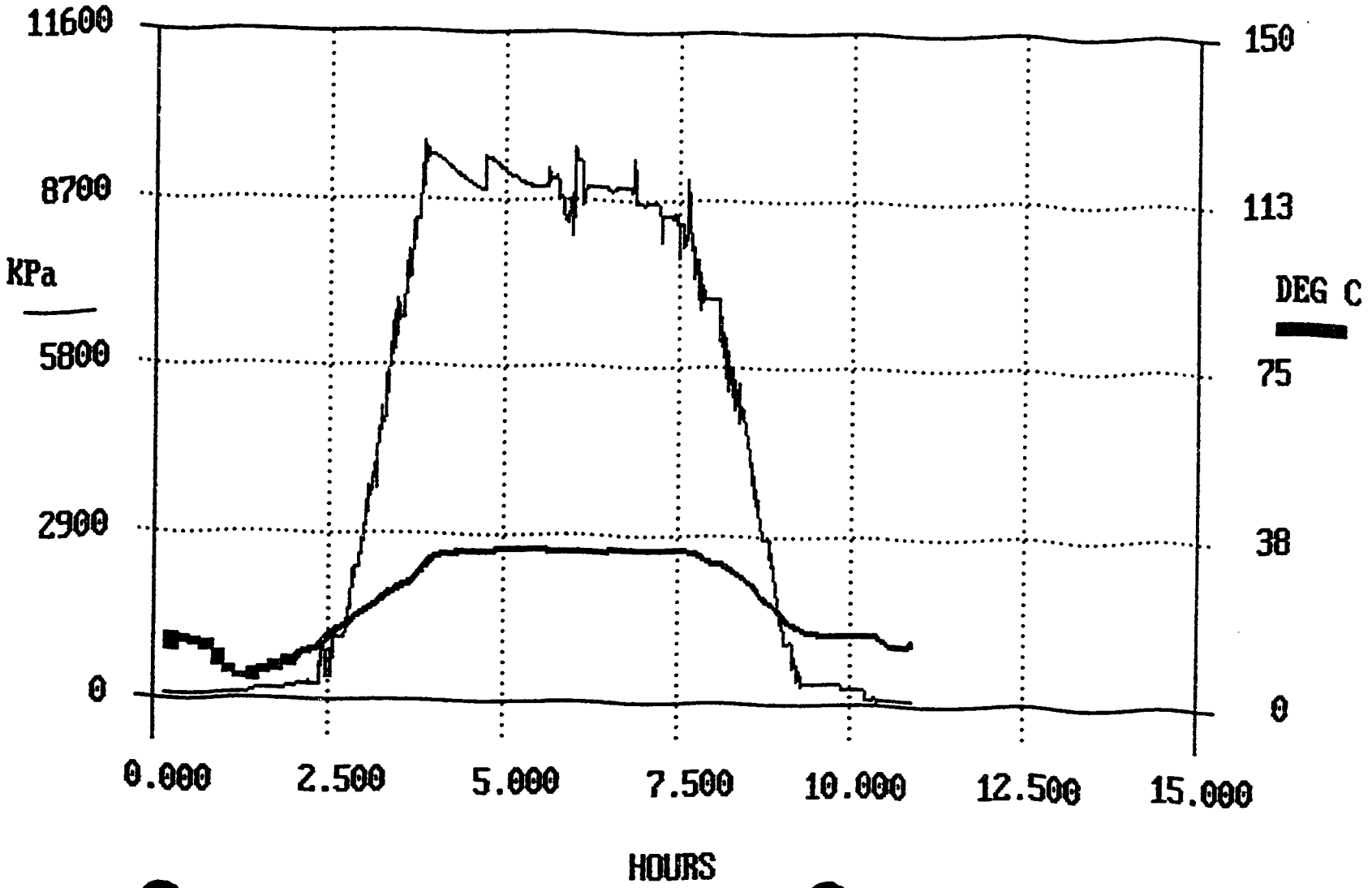
Depth: 1068m

5.18m

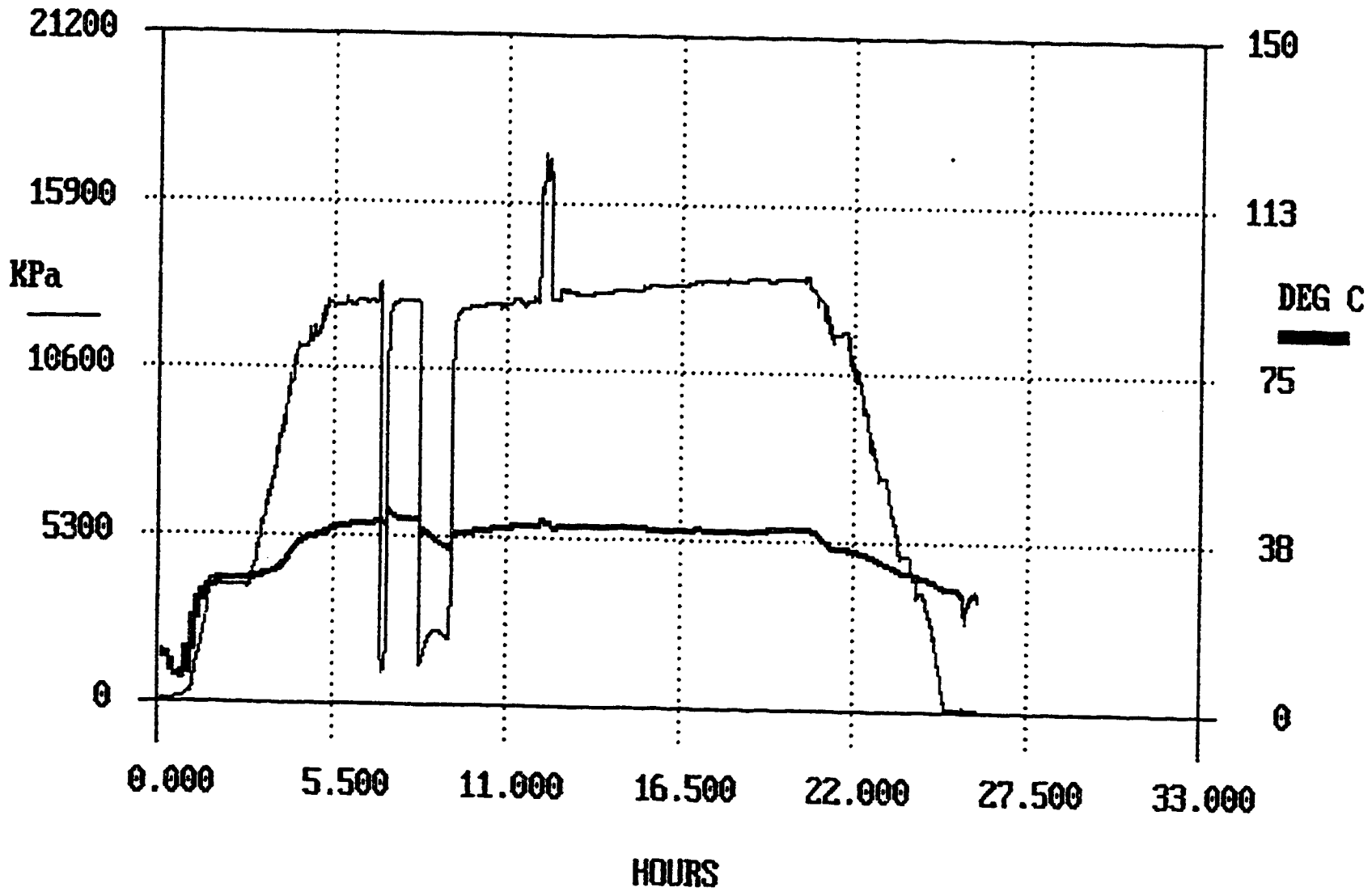
41.25m

Total Depth: 1091.00m

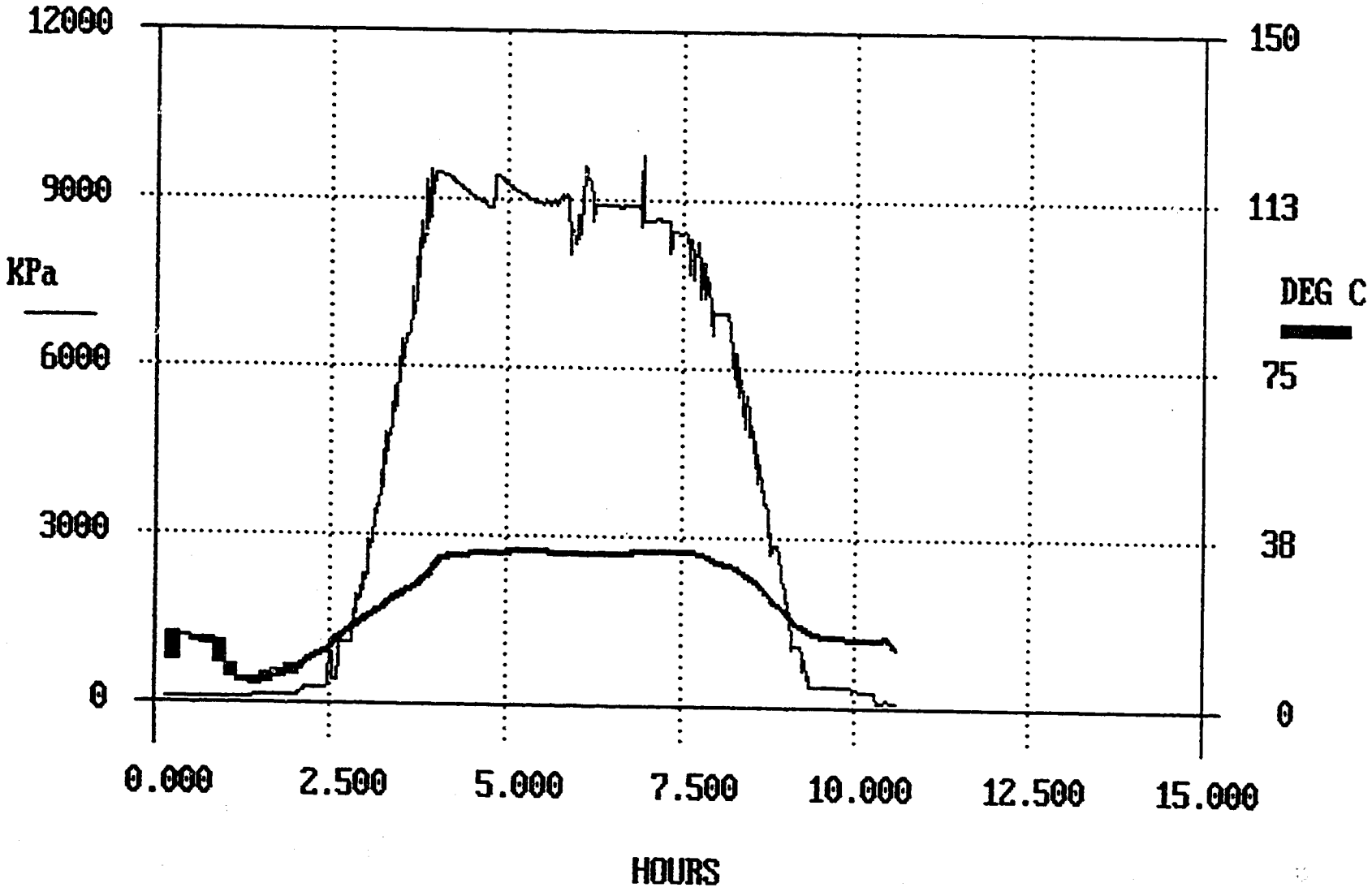
FILE: <C:\ALP_IN\B2702010.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-9997 11/27/00 OUTSIDE



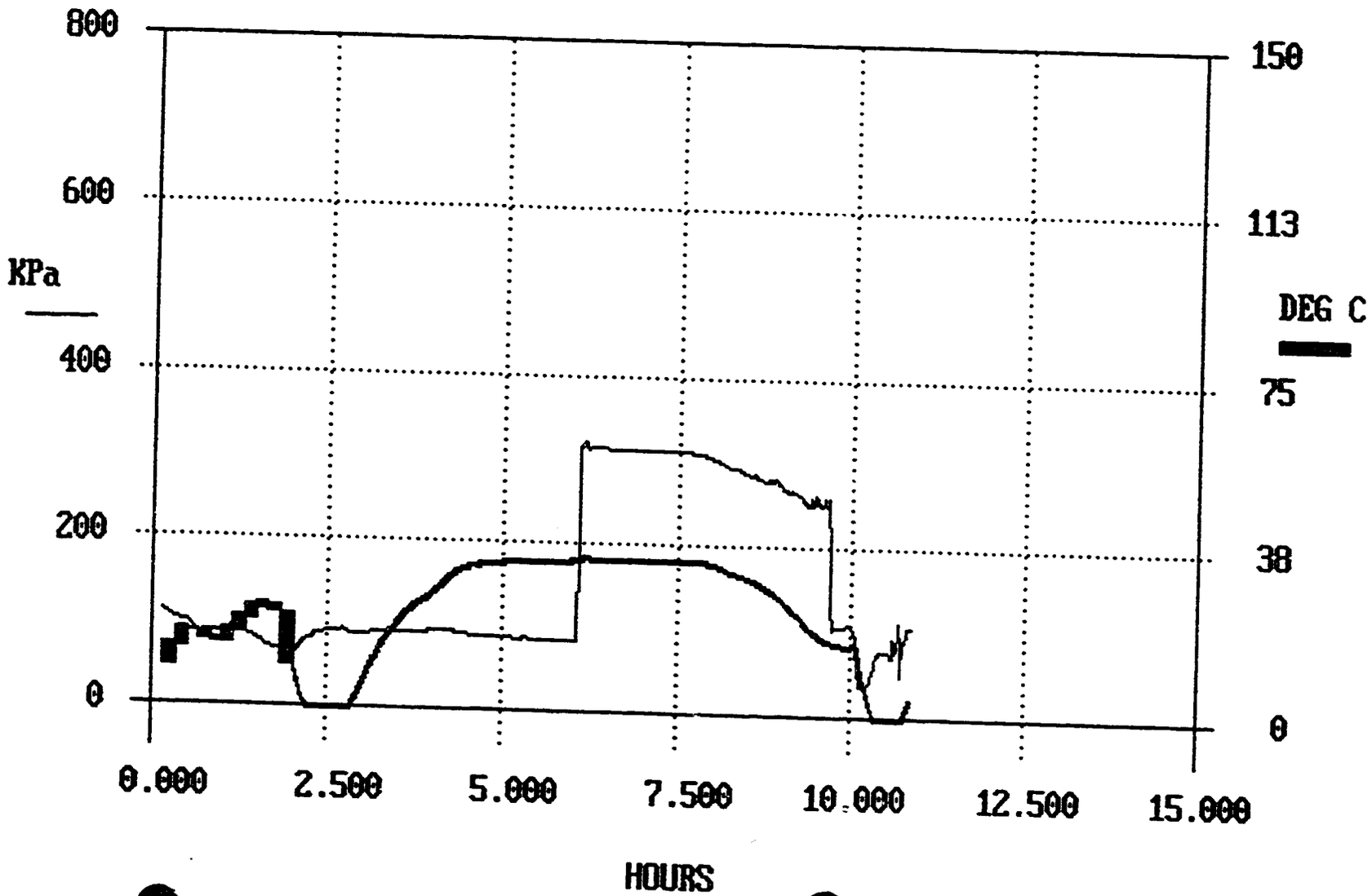
FILE: <C:\ALP_IN\A3102325.066>
s/n 66 PARA ET AL MOUNT COTY I-02 DST#1 TIC#2-8566 REC#66 INSIDE



FILE: <C:\ALP_IN\BZ701836.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T@2-9997 11/27/00 OUTSIDE



FILE: <C:\ALP_IN\BZ701845.065>
s/n 65 PARAMOUNT RES.LTD. 60-20-123-30 T#2-9997 11/27/00 FLUID E





Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **D2-9997** DST#: **2**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9997 DST#: 2

Test Date: 11/28/2000 2230hrs

Well Name: PARA ET AL MOUNT COT

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

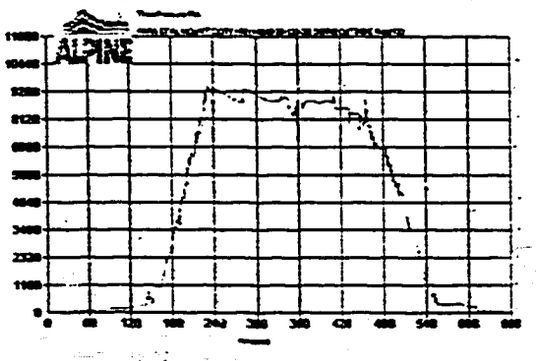
General Information:

Test Type:	INFLATE STRADDLE	Tester:	ALBERTO SCARIONE
Interval:	706.00m - 717.00m	Truck No.:	673 □Ÿ□
Formation:	CHINKEH	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	34.00 C

Electronic Recorder Information:

OUTSIDE		Recorder #:	
Recorder #:	133		
Range:	10000 kPag	Range:	kPag
Depth:	708.00 m	Depth:	m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8907.5
Q Final Hydrostatic	0.00	8887.8



Test Run Information:

Start Time:	2230hrs
Reached Test Depth:	10hrs
Pull Out Time:	320hrs
Tool Out Of Hole:	620hrs
Weight set on Packers:	10000.00daN
Weight to free Packers:	39000.00daN
Initial String Weight:	39000.00daN
Unseated String Weight:	39000.00daN

Tool Chased Dist:	1.00m	Water Loss:	6.50cm³
Mud Type:	GEL CHEMICAL	Mud Drop:	1.00m
Mud Weight:	1270.00kg/m³	VIS:	80.00S/L
Amount of fill:	0.00m	Filter Cake:	2.00mm
Amt of cushion:	0.00	Pump Time:	60min
Type of cushion:	N/A	Reversed Out:	NO

General Remarks:

WELL LIC# 1884

MISRUN- GOT SEAT OPENED TOOL MUD DROPPED. WORKED TOOL MOVED UP 1.5 METERS NO SEAT CAME OUT OF HOLE. PUT TEST BAR IN AND INFLATED TOOL LOOKED GOOD.

Recovery Description:

Gas Bomb: 0 Sampler: 0

Fluid Sample: 0 Sent to: AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9997 DST#: 2
Test Date: 11/28/2000 2230hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	14
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	714.66m
Total Drill Pipe Above K.B.:	8.66m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	56.40	m
Drill Pipe Inside Diameter:	0.00	mm
Drill Pipe Length:	266.11	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.20	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	6.15
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

24.95m

41.12m

Depth: 706.0m

10.99m

Depth: 717.0m

5.18m

Total Depth: 1744.00m



Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **T4-6186** DST#: **2**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD.

Job Ticket #: T4-6186 DST#: 2

Test Date: 11/28/2000 2230hrs

Well Name: PARA ET AL MOUNT COTY

Contact: WILBERT CALLIHOO

Location: I-02/60-20-123-30

General Information:

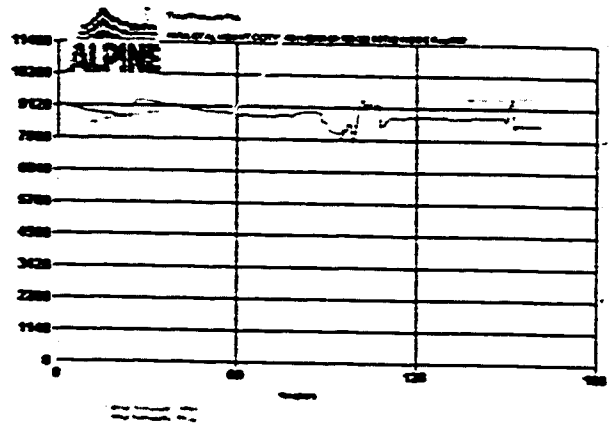
Test Type:	INFLATE STRADDLE	Tester:	KEN PEARSON
Interval:	706m -717m	Truck No.:	673
Formation:	CHINKEH	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	34.00 C

Telemetry Recorder Information:

INSIDE

Recorder #: 002 Depth: 691.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8851.3
Q Final Hydrostatic	0.00	8531.7



Test Run Information:

Start Time:	2230hrs
Reached Test Depth:	10hrs
Pull Out Time:	320hrs
Tool Out Of Hole:	620hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	80.00S/L
Filter Cake:	0.00mm
Pump Time:	60min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1270.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

WELL LIC # 1884

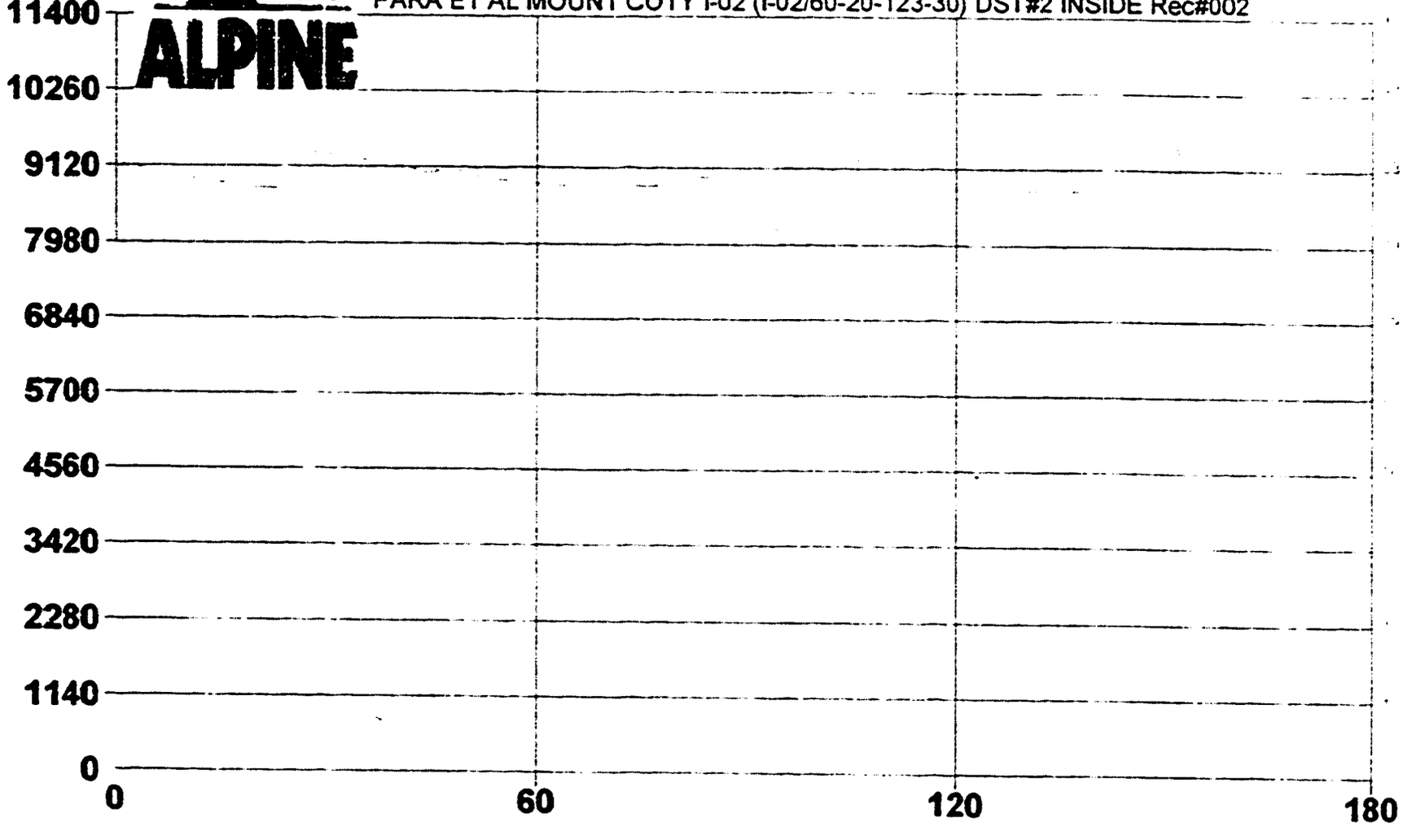
MISRUN-OPEN TOOL MUD DROPPED PUMPED FOR 30 MIN MORE AND
STILL NO SEAT CAME OUT OF HOLE.

Recovery Description:

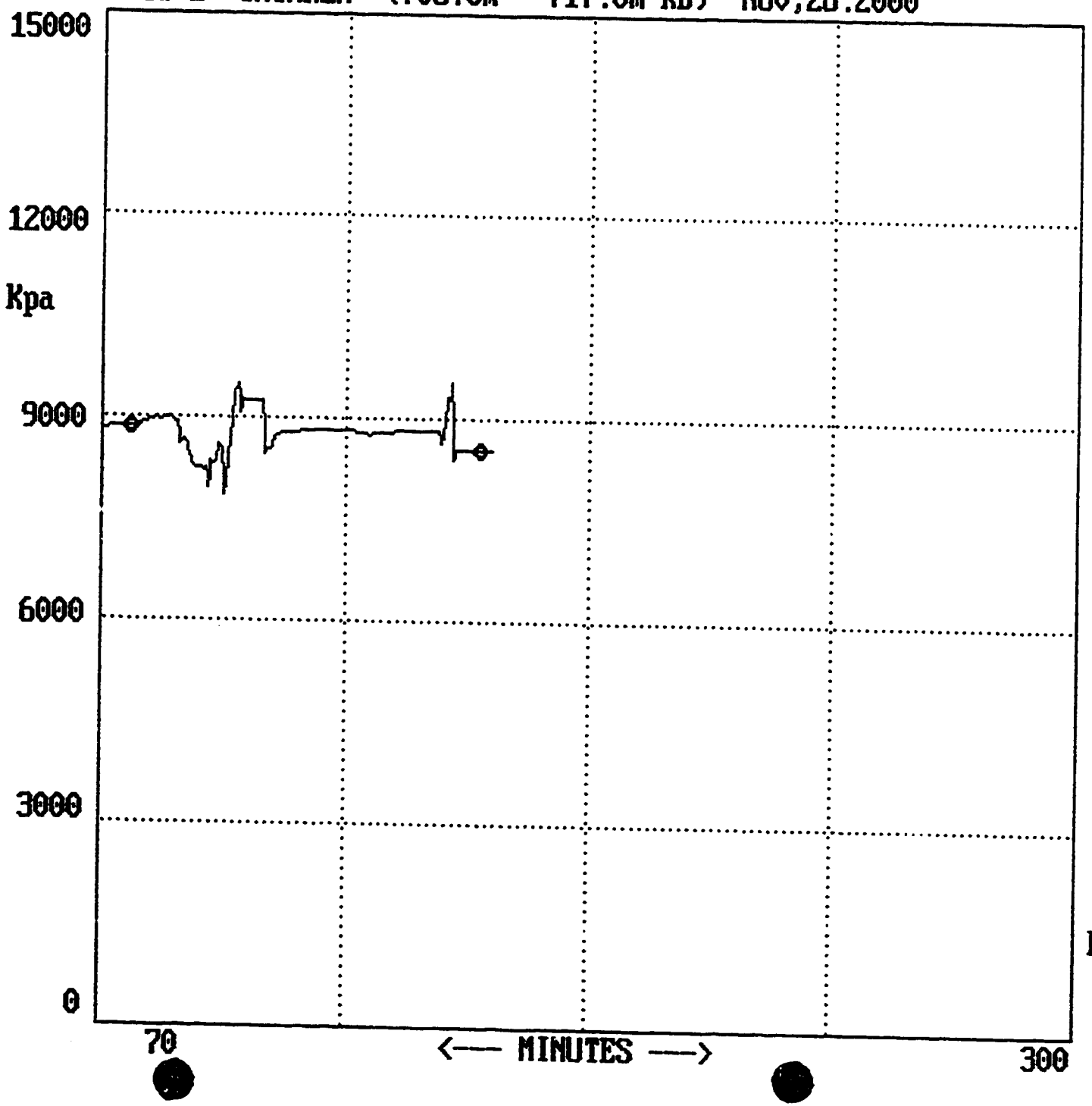
ALPINE

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#2 INSIDE Rec#002



PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30
DST# 2 CHINKEH (706.0m - 717.0m KB) NOV,28.2000



IHP = 8851.3

FHP = 8531.7

ALPINE

Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **D2-9998** DST#: **3**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD.
Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COT
Location: I-02/60-20-123-30

Contact: WILBERT CALLIHOO

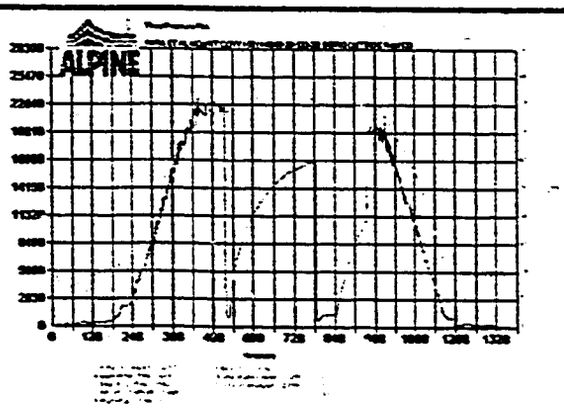
General Information:

Test Type:	INFLATE STRADDLE	Tester:	ALBERTO SCARIONE
Interval:	1709.00m - 1727.00m	Truck No.:	673 □Ŷ□
Formation:	DEBOLT	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	34.00 C

Electronic Recorder Information:

OUTSIDE			
Recorder #:	133	Recorder #:	
Range:	10000 kPag	Range:	kPag
Depth:	1711.00 m	Depth:	m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	22576.7
B Start of 1st Flow	0.00	1971.1
C End of 1st Flow	10.00	1041.7
D End of 1st Shutin	259.00	16996.7
E Start of 2nd Flow	0.00	1116.9
F End of 2nd Flow	56.00	1331.0
G End of 2nd Shutin	93.00	10974.7
Q Final Hydrostatic	0.00	20185.4



Test Run Information:

Start Time:	1200hrs
Reached Test Depth:	1530hrs
Pull Out Time:	45hrs
Tool Out Of Hole:	530hrs
Weight set on Packers:	10000.00daN
Weight to free Packers:	70000.00daN
Initial String Weight:	49000.00daN
Unseated String Weight:	55000.00daN

Tool Chased Dist:	1.00m	Water Loss:	6.50cm³
Mud Type:	GEL CHEMICAL	Mud Drop:	NO
Mud Weight:	1270.00kg/m³	VIS:	80.00S/L
Amount of fill:	0.00m	Filter Cake:	2.00mm
Amt of cushion:	180.00LTS	Pump Time:	30min
Type of cushion:	INHIBITOR & H20	Reversed Out:	NO

General Remarks:

Recovery Description:

Total fluid recovery was 102 meters, consisting of gasified drilling fluid.

GAS BOMB #V0005394

BOTTOM HOLE SAMPLER# GP25

Gas Bomb: 1 Sampler: 1
Fluid Sample: 4 Sent to: AGAT EDMONTON

Drill Stem Testing - Gas Recovery Measurements

Company: PARAMOUNT RESOURCES LTD.

Job Ticket #: D2-9998 DST#: 3

Test Date: 11/28/2000 1200hrs

Contact: WILBERT CALLIHOO

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Gas Measurements for Flow # 2

Gas Recovery Measured With: Willis Choke

Time (min.)	Orifice (mm)	Pressure (kPa)	Rate (m^3/d)
20	3.18	97	284.00
30	3.18	100	304.00
40	3.18	124	324.00
50	3.18	138	344.00
60	3.18	138	344.00

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT CO[redacted]02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	2
Drill Collar Singles:	1
Drill Pipe Stands:	65
Drill Pipe Singles:	4
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1713.02m
Total Drill Pipe Above K.B.:	4.53m
Total Depth:	1744m

Tool / Drill Stem Information:

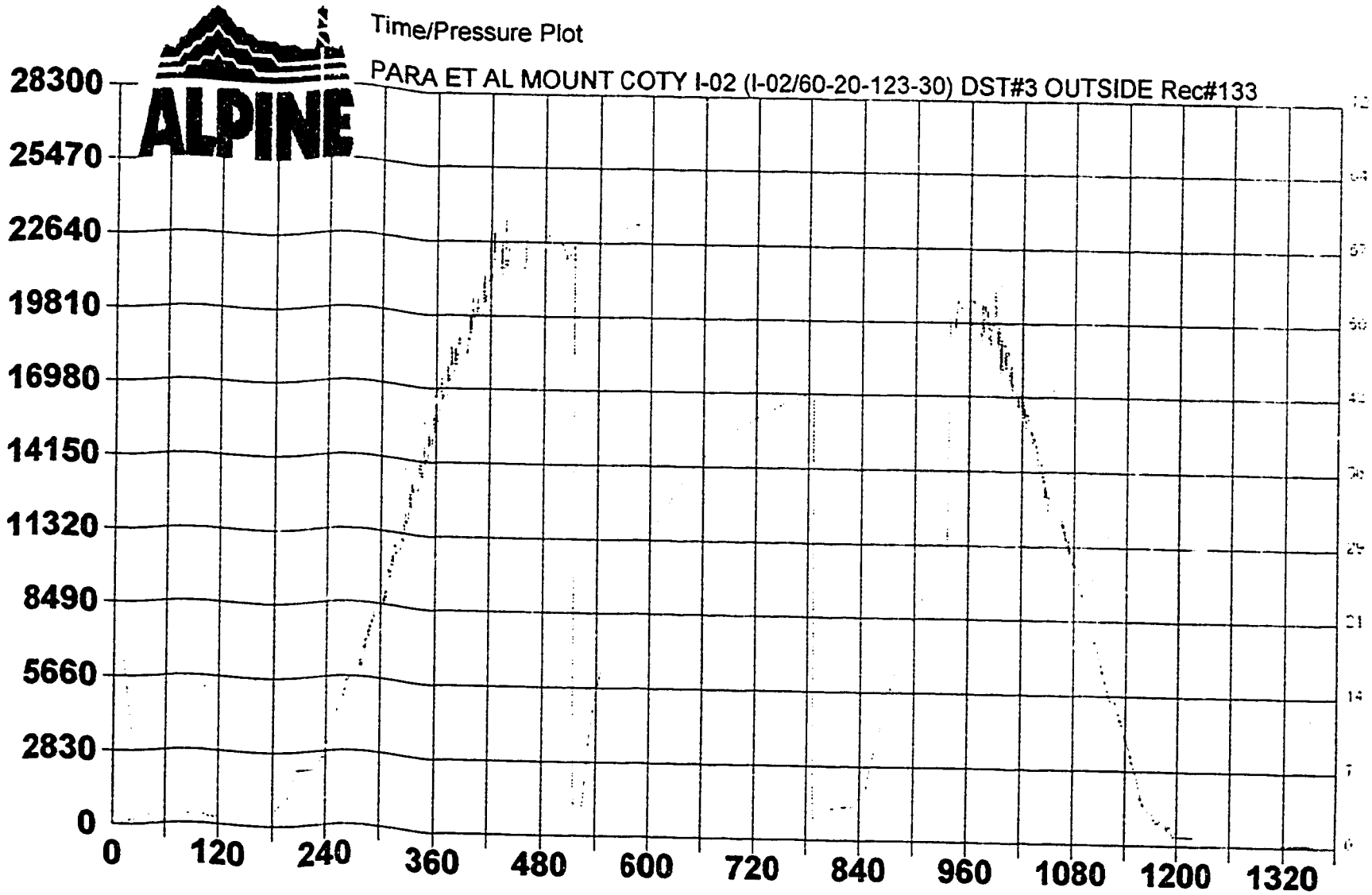
Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	47.92	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	1271.37	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	368.78	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

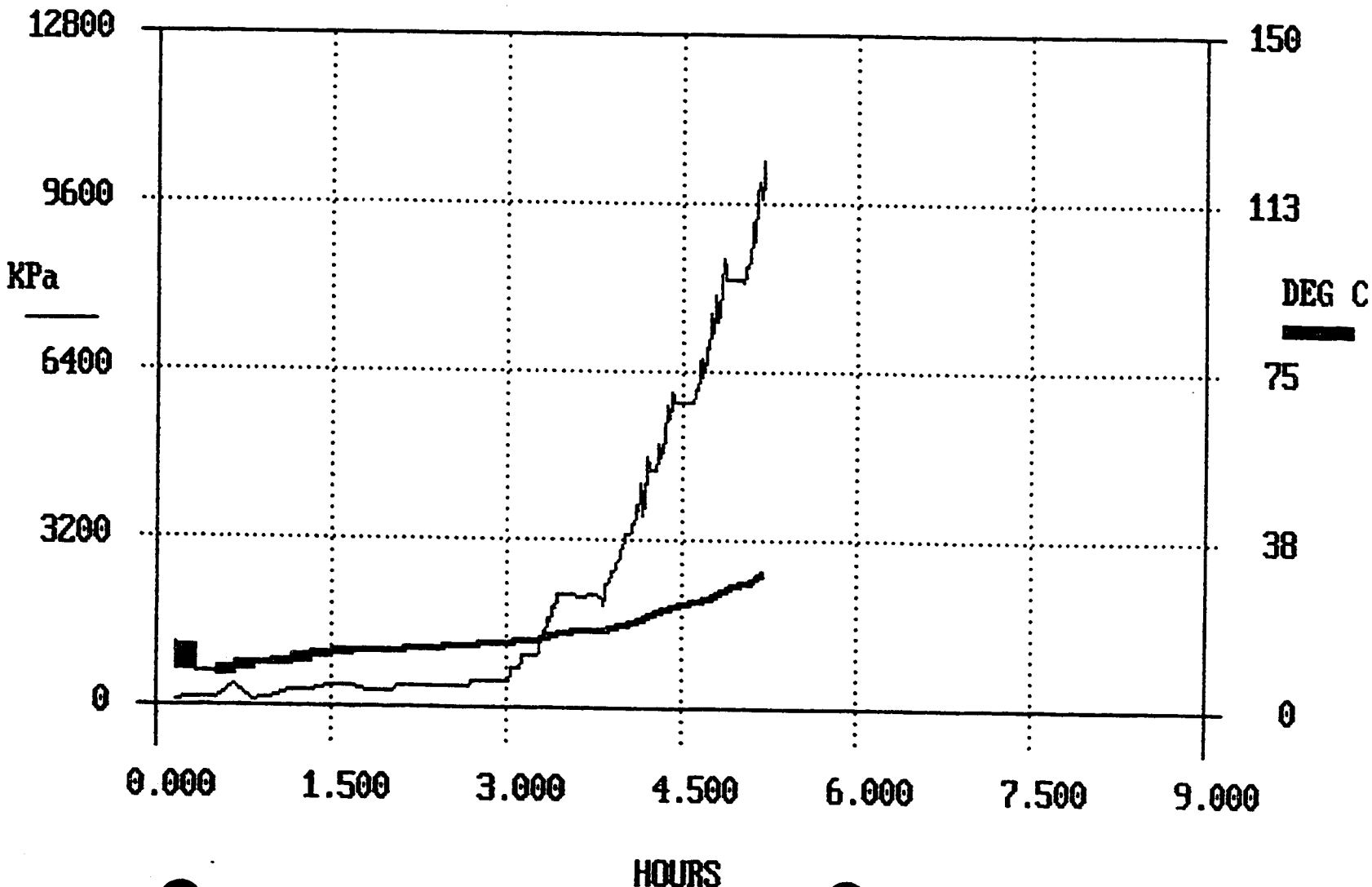
Electronic Rec.# 160 malfunctioned.



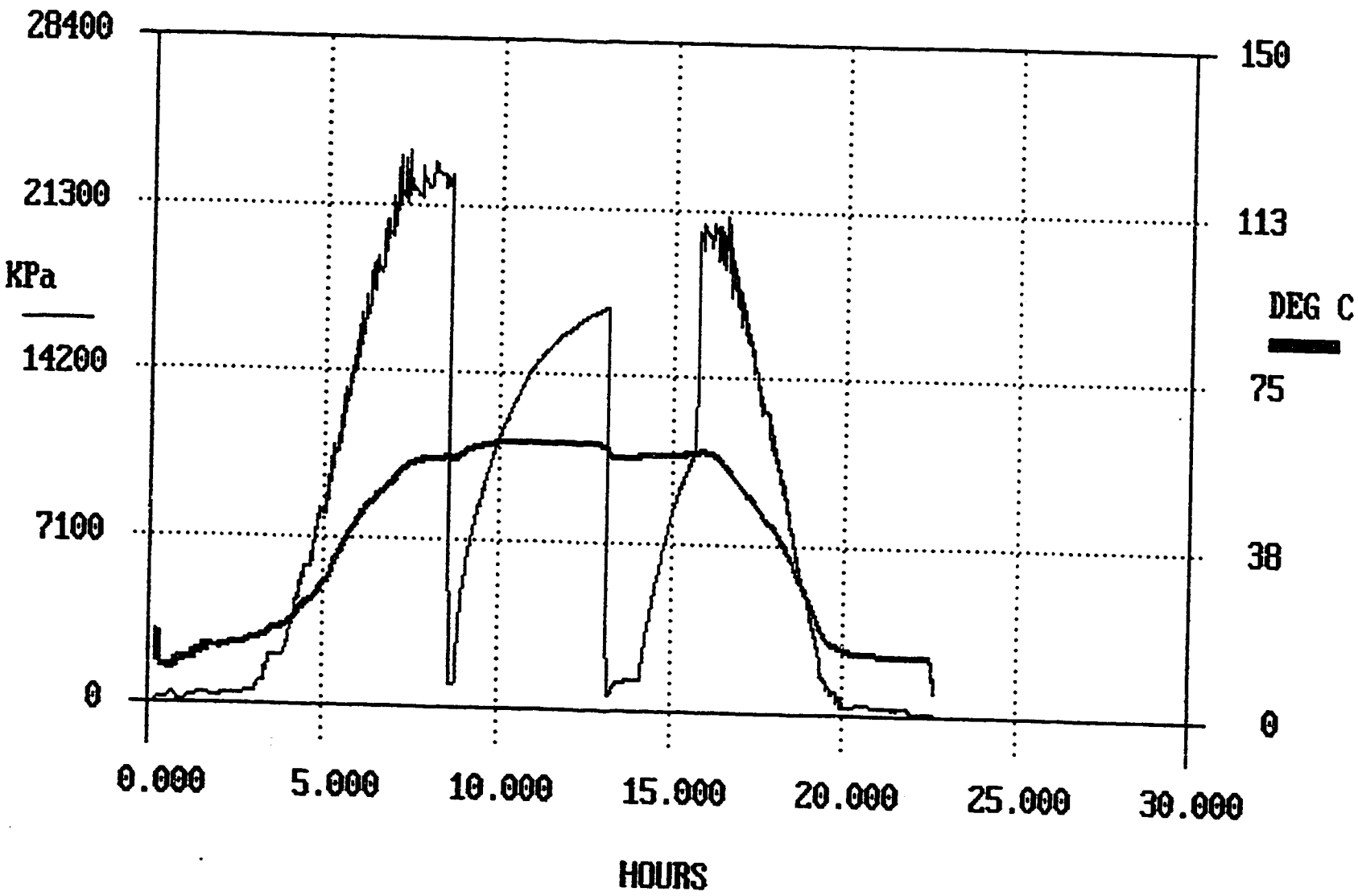
Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
C.O. Sub	0.30
Drill Collar	9.30
C.O. Sub	0.30
Blank Spacing	4.00
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	[redacted]2
Drag Spring	2.08
Bullnose	0.60


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 OUTSIDE Rec#133
28300
25470
22640
19810
16980
14150
11320
8490
5660
2830
0
0
120
240
360
480
600
720
840
960
1080
1200
1320
Time(Min)
A Initial Hydrostatic - 22577
B Start of 1st Flow - 1971
C End of 1st Flow - 1042
D End of 1st Shutin - 18997
E Start of 2nd Flow - 1117
F End of 2nd Flow - 1331
G End of 2nd Shutin - 10975
Q Final Hydrostatic - 20185

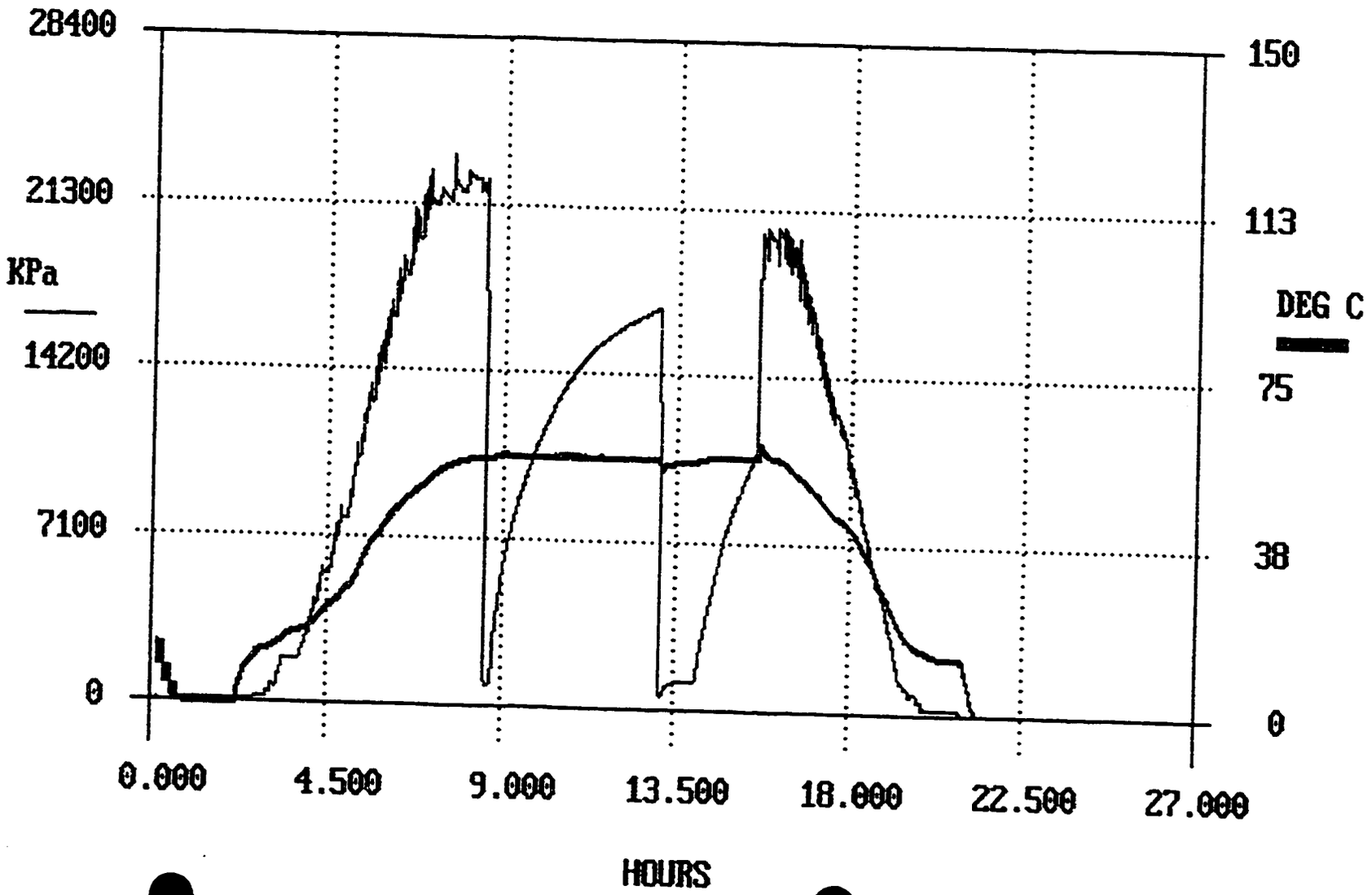
FILE: <C:\ALP_IN\B2800659.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T#2-9998 11/28/00 OUTSIDE



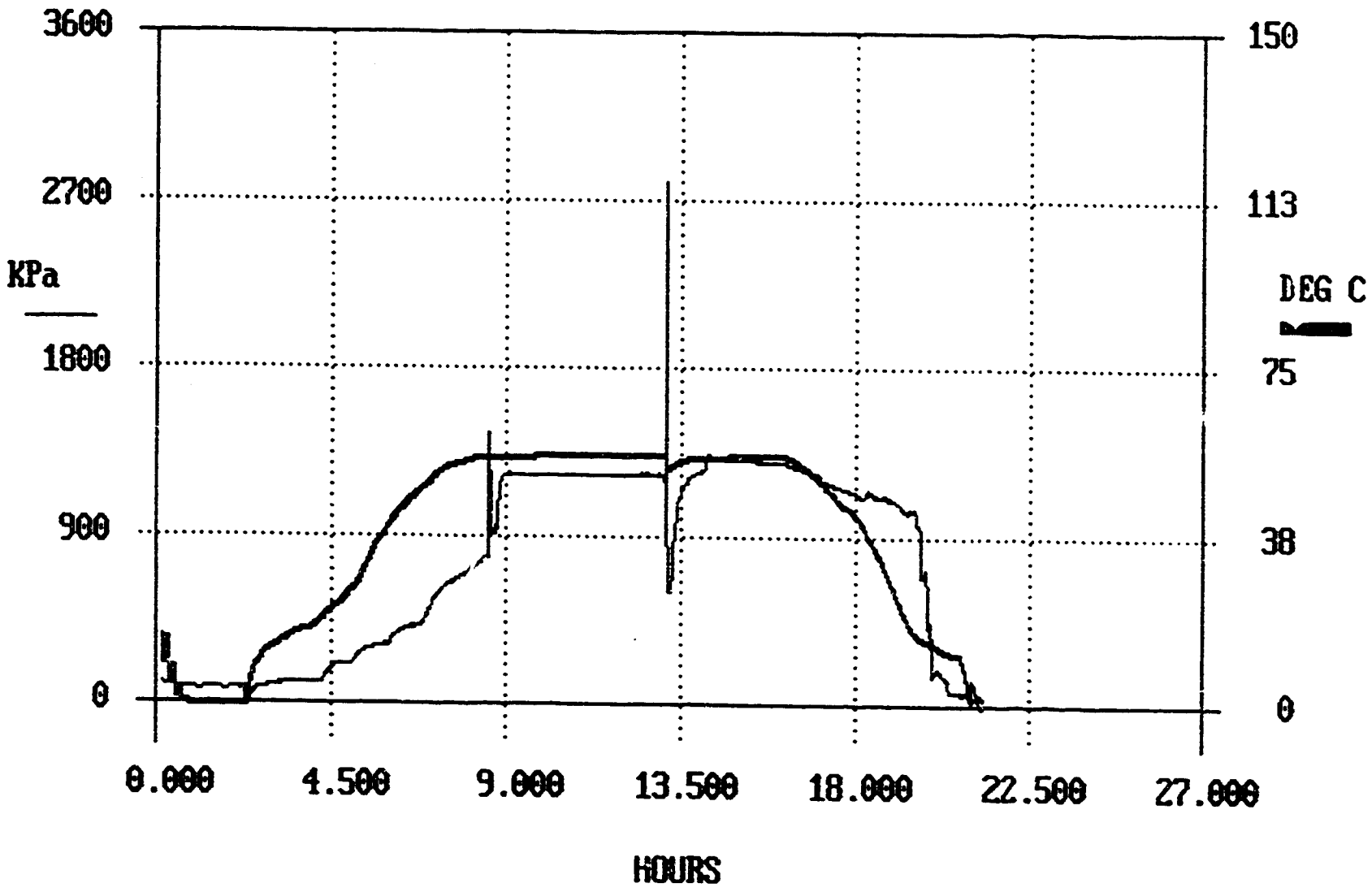
FILE: <C:\ALP_IN\B2800715.133>
s/n 133 PARAMOUNT RES. LTD 60-20-123-30 T#2-9998 11/28/00 OUTSIDE



FILE: <C:\ALP_IN\B2800703.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-9998 11/28/00 INSIDE



FILE: <C:\ALP_IN\B2800759.066>
s/n 66 PARAMOUNT RES.LTD T#2-9998 60-20-123-30 11/28/00 FLUID





Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **T4-6187** DST#: **3**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9998 DST#: 3

Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COT[illegible]2

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

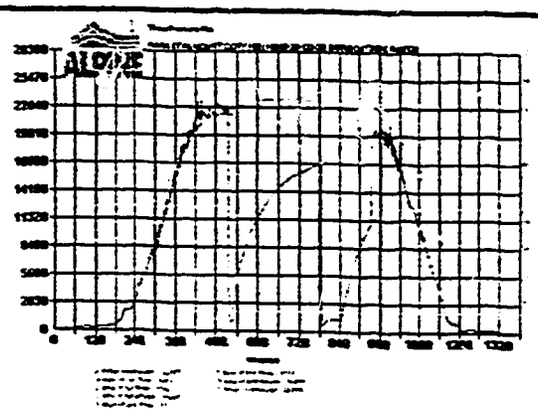
Test Type: INFLATE STRADDLE
Interval: 1709.00m - 1727.00m
Formation: DEBOLT
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 46.00 C

Electronic Recorder Information:

OUTSIDE	
Recorder #: 133	Recorder #:
Range: 10000 kPag	Range: kPag
Depth: 1711.00 m	Depth: m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	22576.7
B Start of 1st Flow	0.00	1971.1
C End of 1st Flow	10.00	1041.7
D End of 1st Shutin	259.00	16996.7
E Start of 2nd Flow	0.00	1116.9
F End of 2nd Flow	56.00	1331.0
G End of 2nd Shutin	93.00	10974.7
Q Final Hydrostatic	0.00	20185.4



Test Run Information:

Start Time: 1200hrs
Reached Test Depth: 1530hrs
Pull Out Time: 45hrs
Tool Out Of Hole: 530hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 70000.00daN
Initial String Weight: 49000.00daN
Unseated String Weight: 55000.00daN

Tool Chased Dist: 1.00m
Water Loss: 6.50cm³
Mud Type: GEL CHEMICAL
Mud Drop: NO
Mud Weight: 1270.00kg/m³
VIS: 80.00S/L
Amount of fill: 0.00m
Filter Cake: 2.00mm
Amt of cushion: 180.00LTS
Pump Time: 30min
Type of cushion: INHIBITOR & H20
Reversed Out: NO

General Remarks:

PREFLOW: Strong air blow immediately. Gas to surface in 5 minutes. Lazy 3 meter flare.

FINAL FLOW: Gas to surface immediately.

Recovery Description:

Total fluid recovery was 102 meters, consisting of gasified drilling fluid.

GAS BOMB #V0005394

BOTTOM HOLE SAMPLER# GP25

Gas Bomb: 1 Sampler: 1
Fluid Sample: 4 Sent to: AGAT EDMONTON

Drill Stem Testing - Gas Recovery Measurements

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9998 DST#: 3

Test Date: 11/28/2000 1200hrs

Contact: WILBERT CALLIHOO Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Gas Measurements for Flow # 2

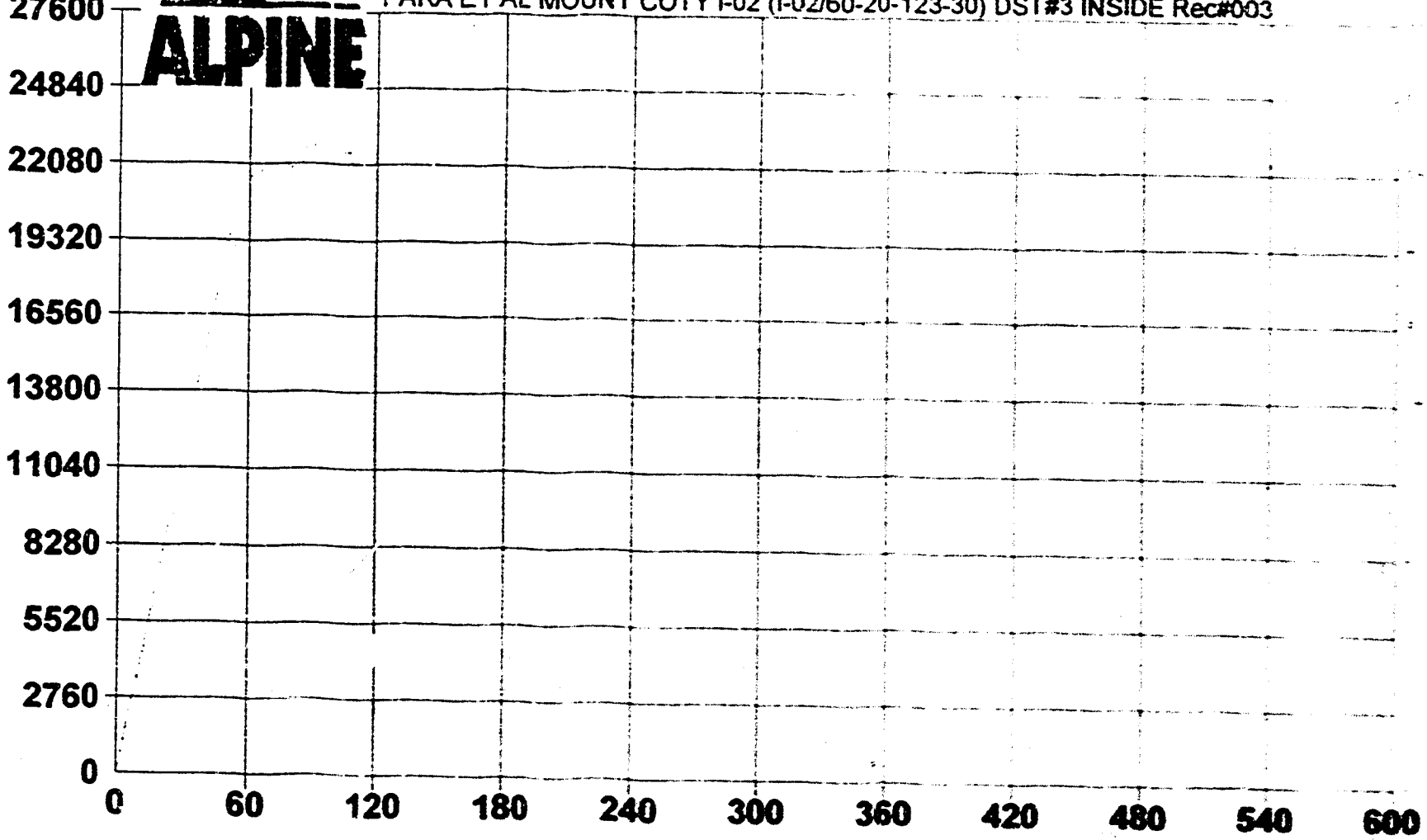
Gas Recovery Measured With: 0

Time (min.)	Orifice (mm)	Pressure(kPa)	Rate (m^3/d)
20	3.[illegible]	97	284.00
30	3.[illegible]	100	304.00
40	3.[illegible]	124	324.00
50	3.18	138	344.00
60	3.18	138	344.00

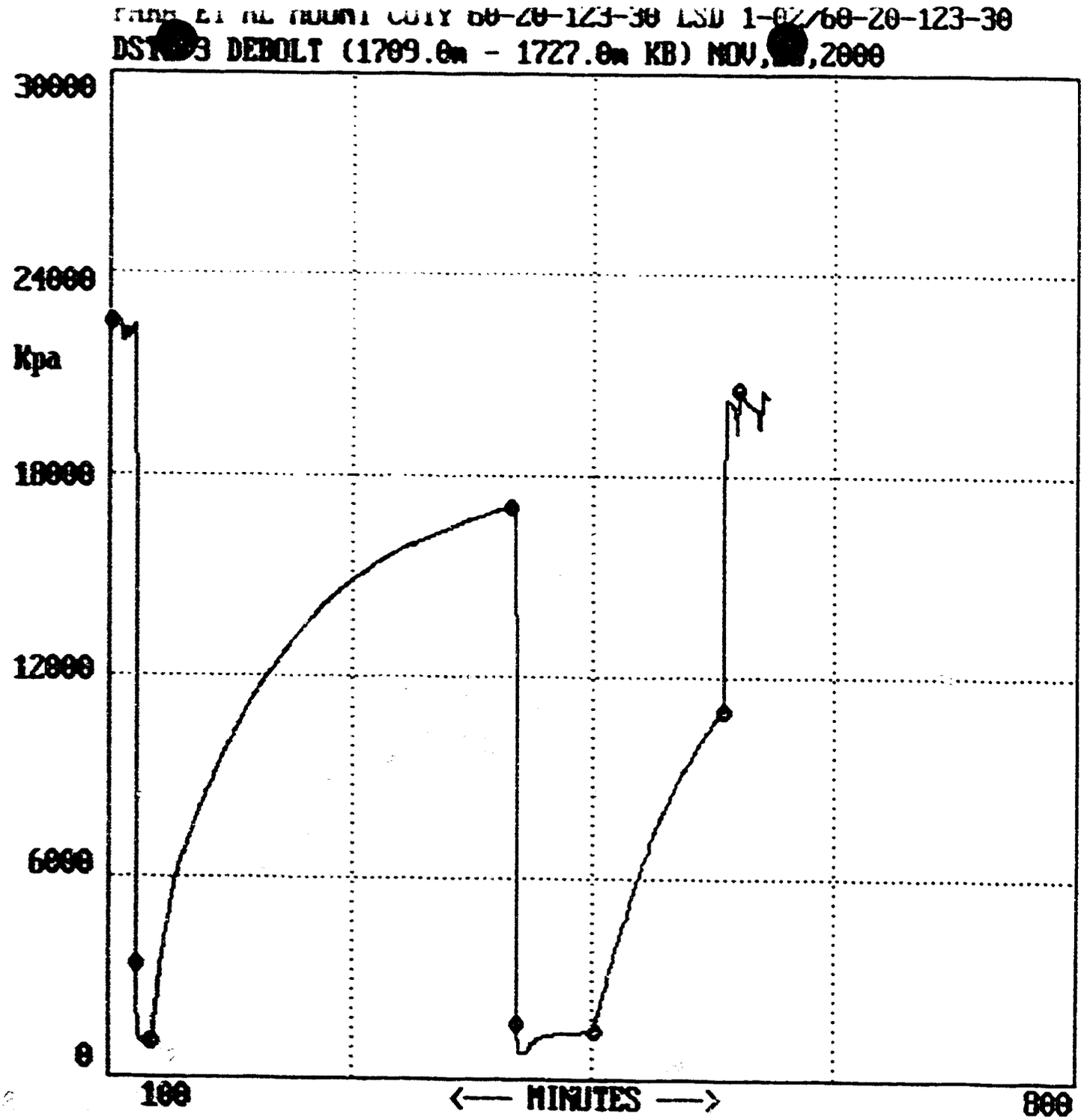
ALPINE

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 INSIDE Rec#003



A Initial Hydrostatic
B Start of 1st Flow
C End of 1st Flow
D End of 1st Shut-in
E Start of 2nd Flow
F Final Hydrostatic



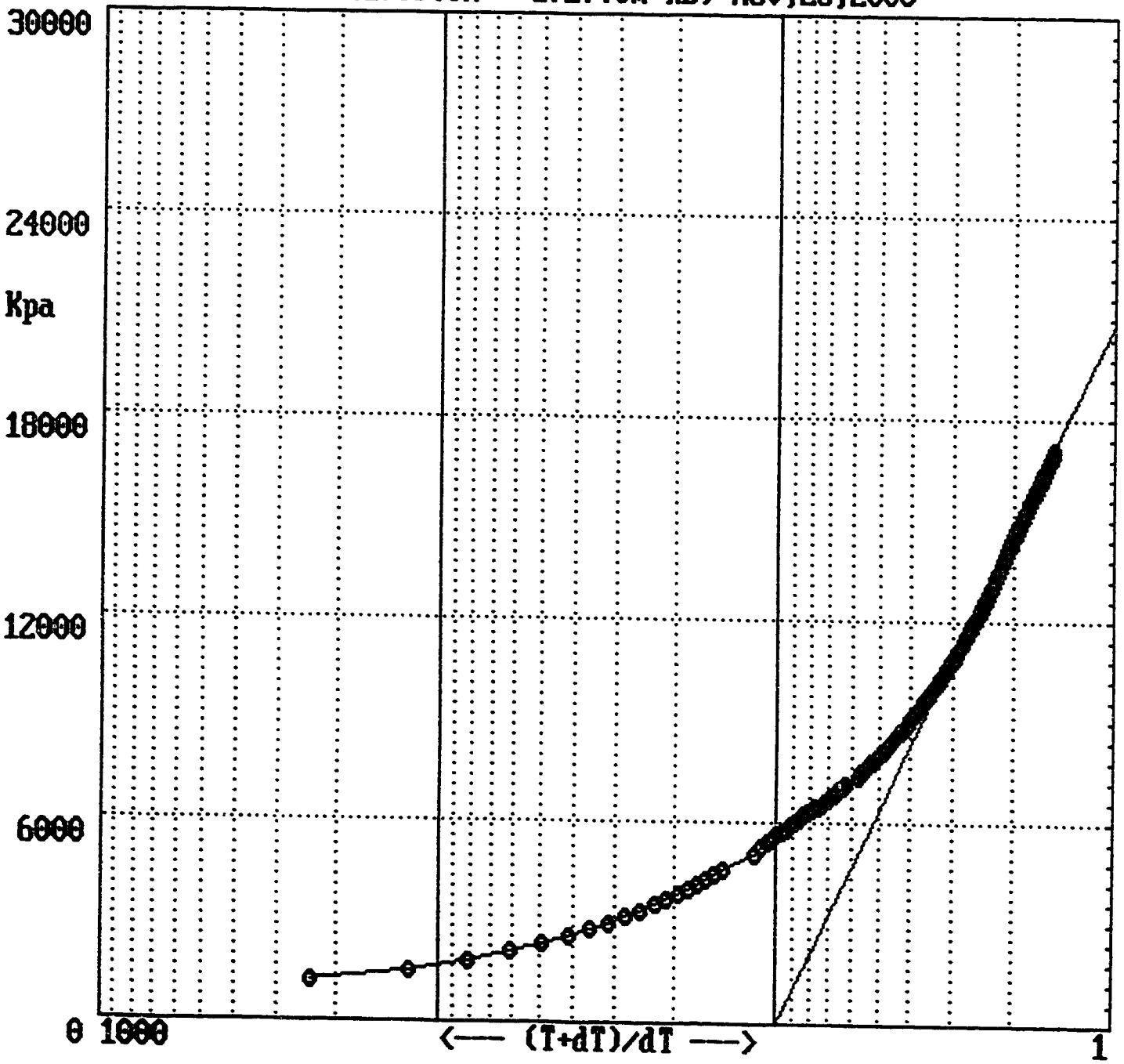
IHP = 22542.6

SF1 = 3367.1
EF1 = 1118.9
ES1 = 17080.4

SF2 = 1679.1
EF2 = 1427.3
ES2 = 10987.0

FHP = 20617.6

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30
DST# 3 DEBOLT (1709.0m - 1727.0m KB) NOV,28,2000

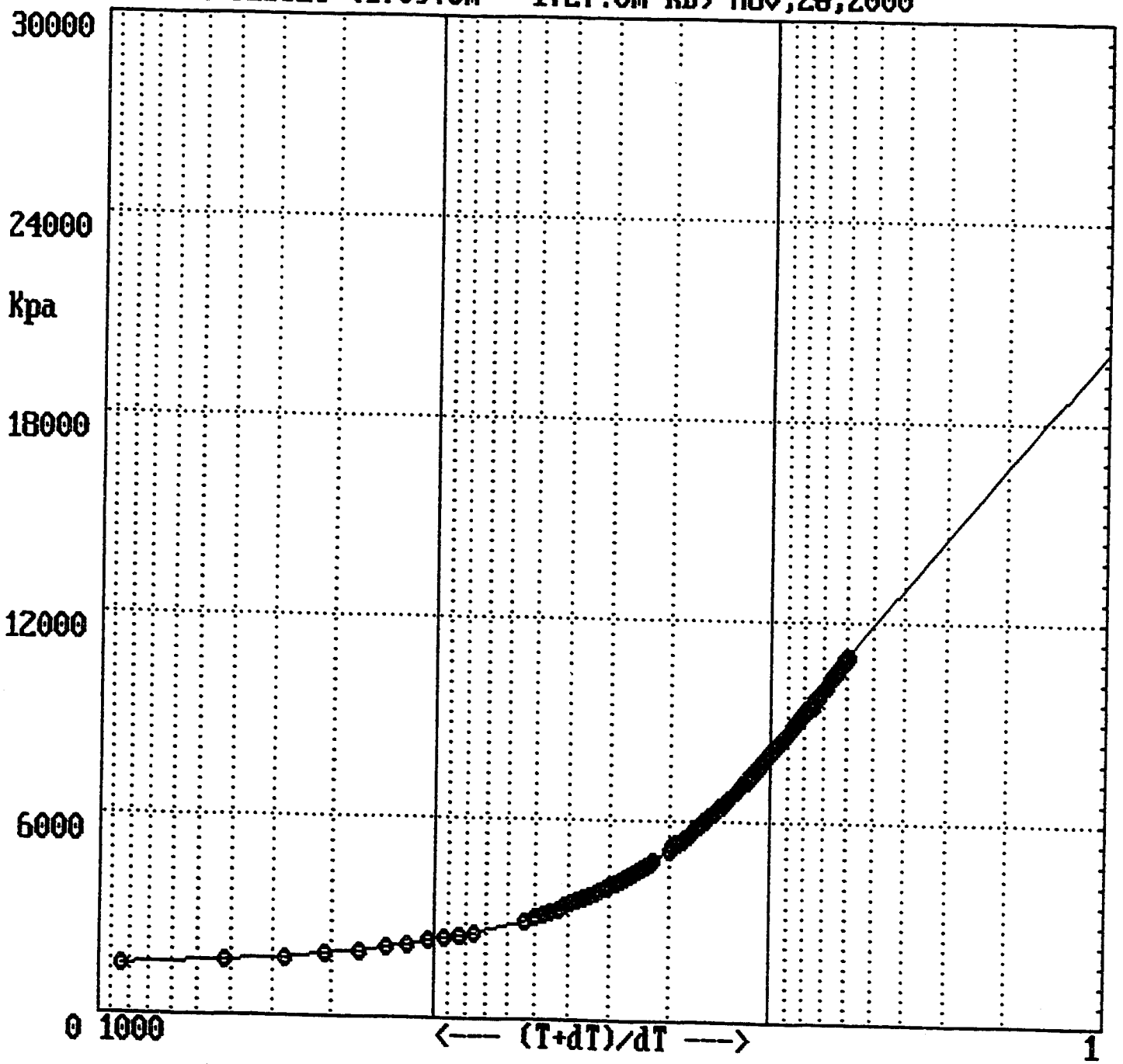


HORNER PLOT
SHUT-IN # 1

SLOPE =
20905.2
kPa/cycle

Extrapolated
Pressure =
20905.2
Kpa

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30
DST# 3 DEBOLT (1709.0m - 1727.0m KB) NOV,28,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
11961.0
kPa/cycle

Extrapolated
Pressure =
20203.7
Kpa

ALPINE

Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/30/2000**

Job Ticket #: **D2-9999** DST#: **4**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9999 DST#: 4

Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COT[illegible]02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

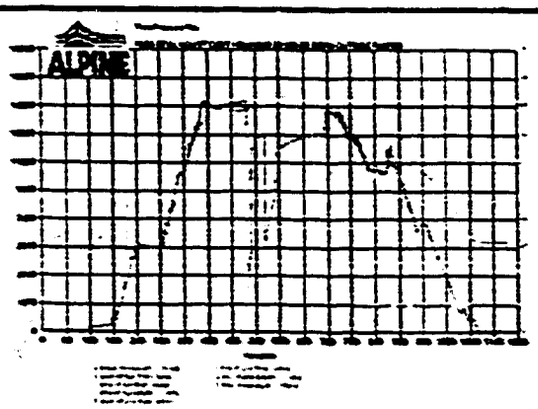
Test Type: INFLATE STRADDLE
Interval: 1216.00m - 1240.00m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 44.00 C

Electronic Recorder Information:

OUTSIDE	
Recorder #: 133	Recorder #:
Range: 10000 kPag	Range: kPag
Depth: 1218.00 m	Depth: m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	15390.2
B Start of 1st Flow	0.00	3986.2
C End of 1st Flow	6.00	5588.0
D End of 1st Shutin	35.00	13176.1
E Start of 2nd Flow	0.00	6031.3
F End of 2nd Flow	28.00	9003.6
G End of 2nd Shutin	122.00	13184.2
Q Final Hydrostatic	0.00	14904.1



Test Run Information:

Start Time: 400hrs
Reached Test Depth: 830hrs
Pull Out Time: 1316hrs
Tool Out Of Hole: 2000hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 62000.00daN
Initial String Weight: 49000.00daN
Unseated String Weight: 52000.00daN

Tool Chased Dist: 0.00m
Water Loss: 6.00cm³
Mud Type: GEL CHEMICAL
Mud Drop: NO
Mud Weight: 1240.00kg/m³
VIS: 61.00S/L
Amount of fill: 0.00m
Filter Cake: 2.00mm
Amt of cushion: 0.00
Pump Time: 30min
Type of cushion:
Reversed Out: YES

General Remarks:

PREFLOW: Weak air blow increasing to strong in 20 seconds. Dead in 6 min.

FINAL FLOW: Strong air blow immediately. Decreasing throughout to Very weak air blow. No gas to surface.

Recovery Description:

well lic# 1884

Total fluid recovery was 711 meters, consisting of fresh water. refractometer reading 1.4

Gas Bomb: 0 Sampler: 1
Fluid Sample: 6 Sent to: AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9999 DST#: 4
Test Date: 11/30/2000 400hrs

Contact: WILBERT CALLIHOO

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	2
Drill Collar Singles:	1
Drill Pipe Stands:	41
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1220.95m
Total Drill Pipe Above K.B.:	3.95m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	38.57	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	789.52	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.91	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

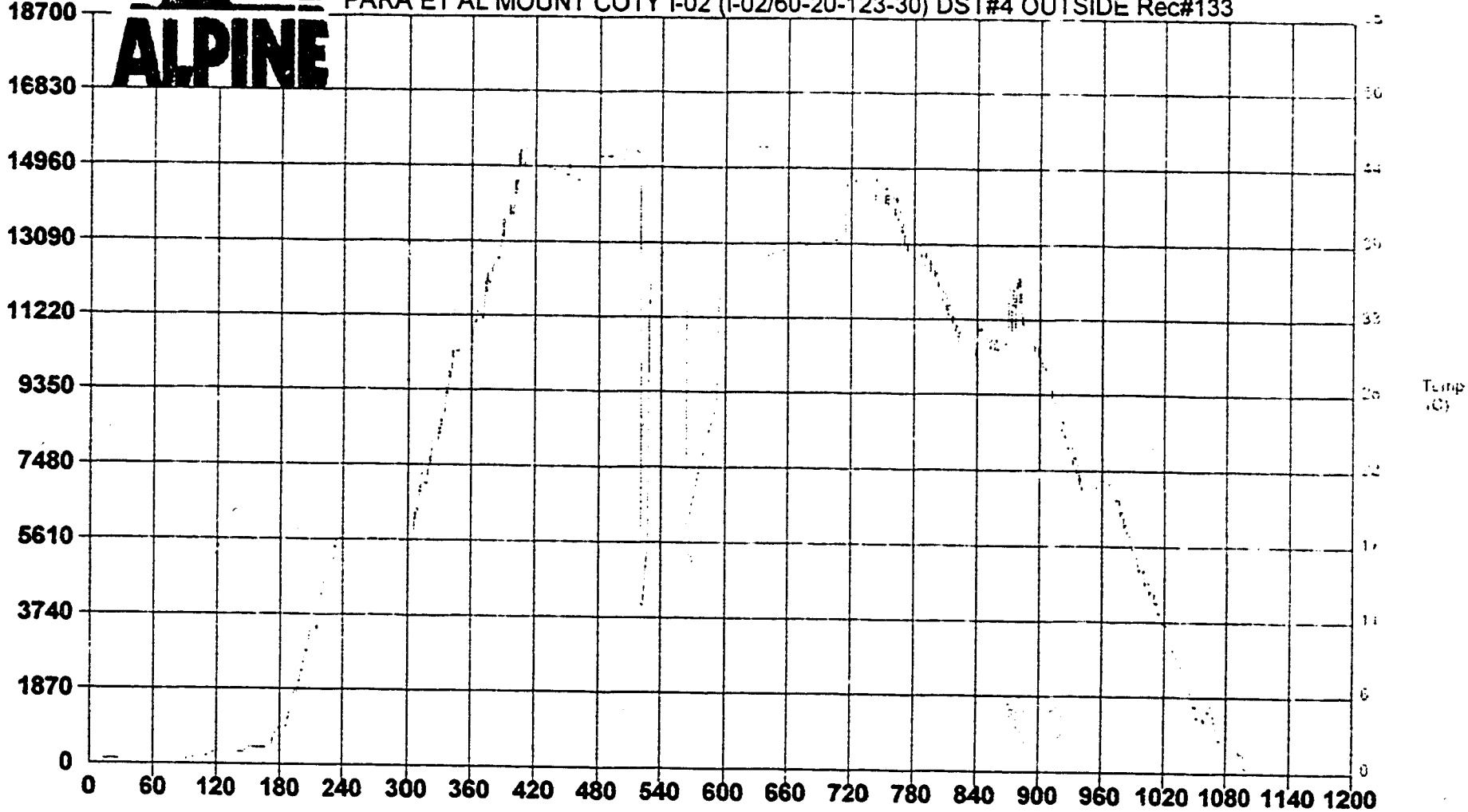


Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
C.O. Sub	0.30
Drill Collar	18.70
C.O. Sub	0.30
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.80

ALPINE

Time/Pressure Plot

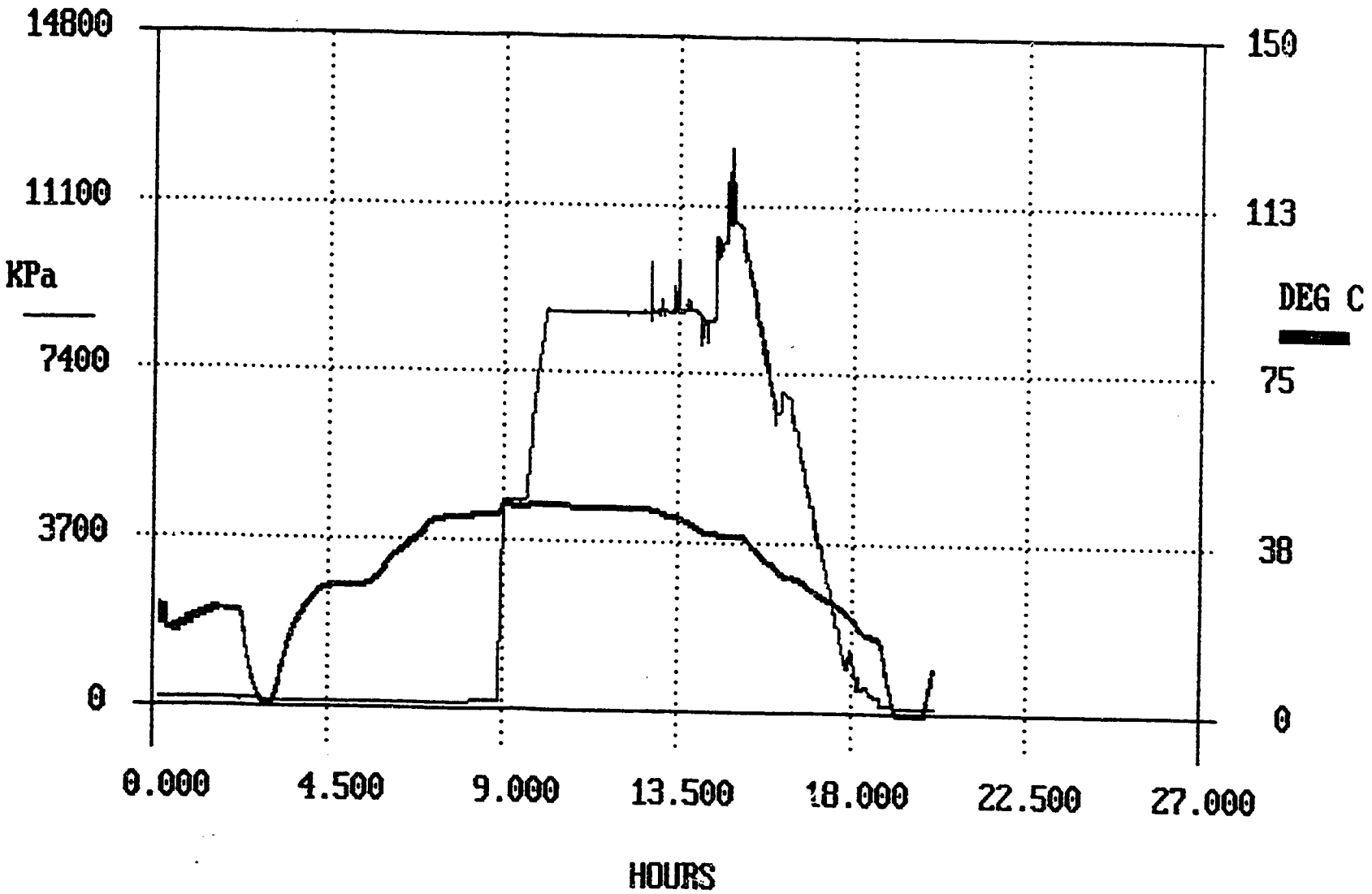
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 OUTSIDE Rec#133



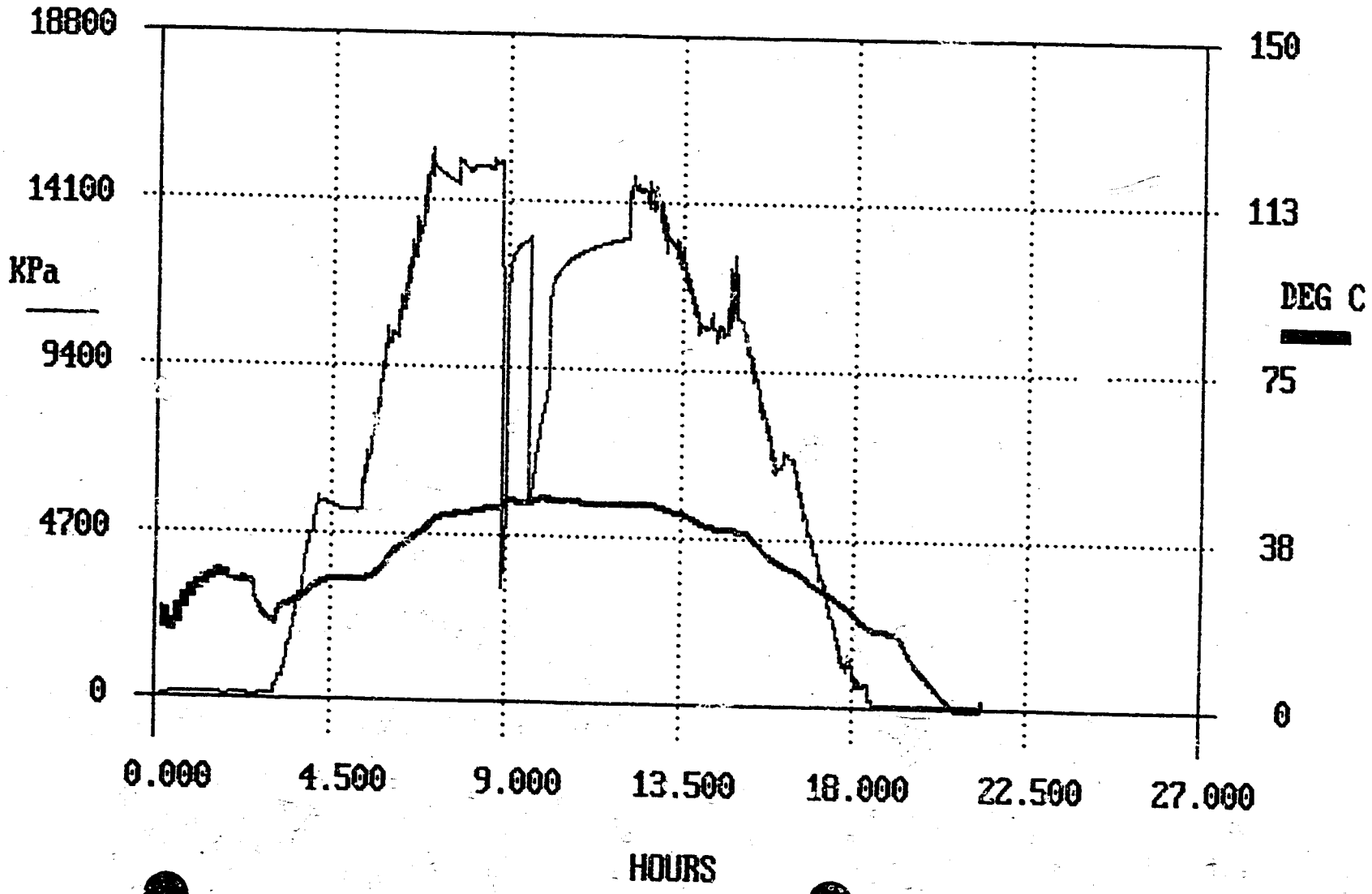
A Initial Hydrostatic - 15390
B Start of 1st Flow - 3366
C End of 1st Flow - 5588
D End of 1st Shutin - 13176
E Start of 2nd Flow - 6031
F End of 2nd Flow - 9004
G End of 2nd Shutin - 13164
O Final Hydrostatic - 14904

FILE: <C:\ALP_IN\BZ900641.066>

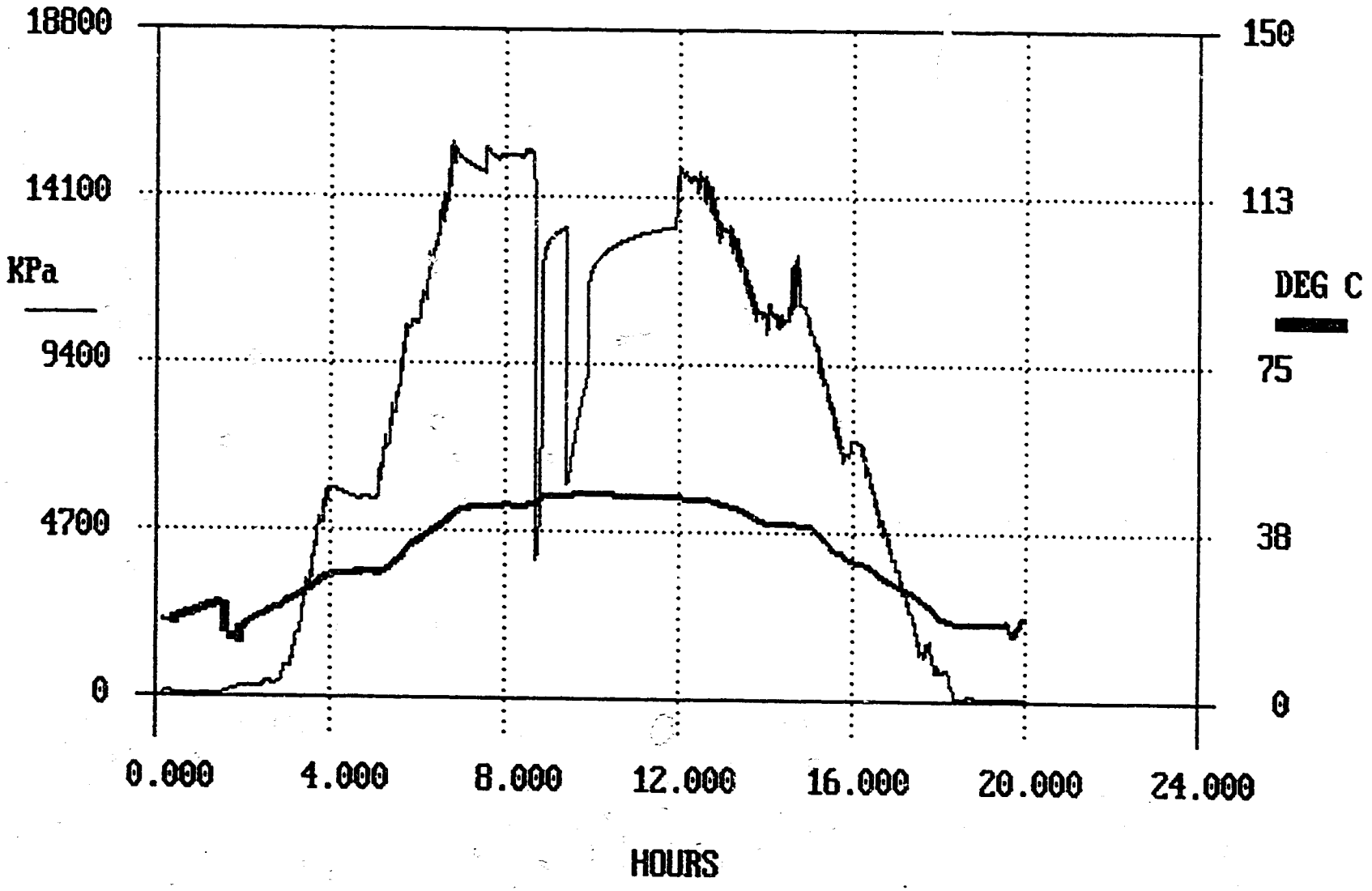
s/n 66 PARAMOUNT RES.LTD T#2-9999 60-20-123-30 11/30/00 FLUID [redacted]DE



FILE: <C:\ALP_IN\B2900636.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-9999 11/30/00 INSIDE



FILE: <C:\ALP_IN\B2900802.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-9999 11/30/00 OUTSIDE



ALPINE

Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: **11/30/2000**

Job Ticket #: **T4-6188** DST#: **4**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD.
Job Ticket #: T4-6188 DST#: 4
Test Date: 11/30/2000 400hrs
Well Name: PARA ET AL MOUNT COTY I-02
Contact: WILBERT CALLIHOO
Location: I-02/60-20-123-30

General Information:

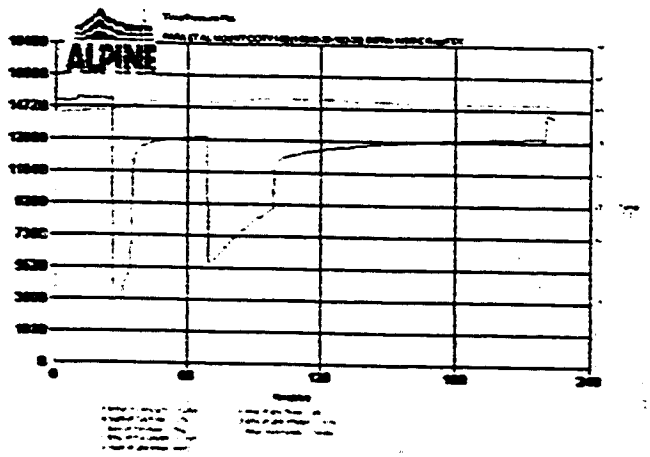
Test Type: INFLATE STRADDLE
Interval: 1216m -1240m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: KEN PEARSON
Truck No.: 673 □Ŷ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 44.00 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 1201.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	15206.6
B Start of 1st Flow	0.00	3570.0
C End of 1st Flow	7.44	5359.3
D End of 1st Shutin	34.08	13107.1
E Start of 2nd Flow	0.00	5811.9
F End of 2nd Flow	28.02	8903.4
G End of 2nd Shutin	122.04	13016.4
Q Final Hydrostatic	0.00	14549.1



Test Run Information:

Start Time: 400hrs
Reached Test Depth: 830hrs
Pull Out Time: 1316hrs
Tool Out Of Hole: 2000hrs
Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 0.00mm
Pump Time: 0min
Reversed Out: NO
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amount of cushion: 0.00
Type of cushion:

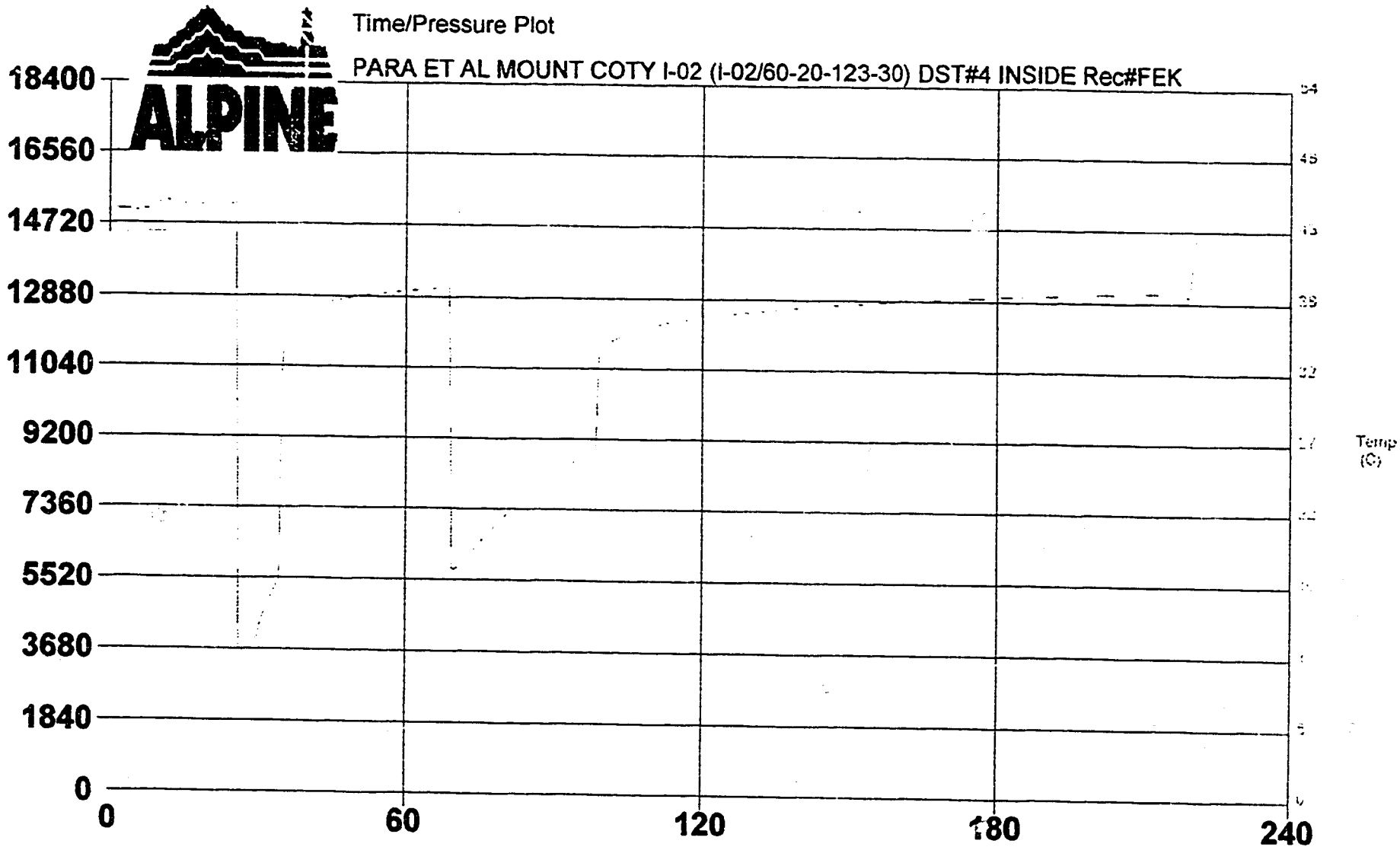
General Remarks:

PREFLOW: Open tool at 10:09 to 10:16 weak air blow increasing to strong in 20 seconds. Dead in 6 min.

FINAL FLOW:Open tool at 10:53 to 11:23 Strong air blow in 4 min. Very weak air blow. No gas to surface.

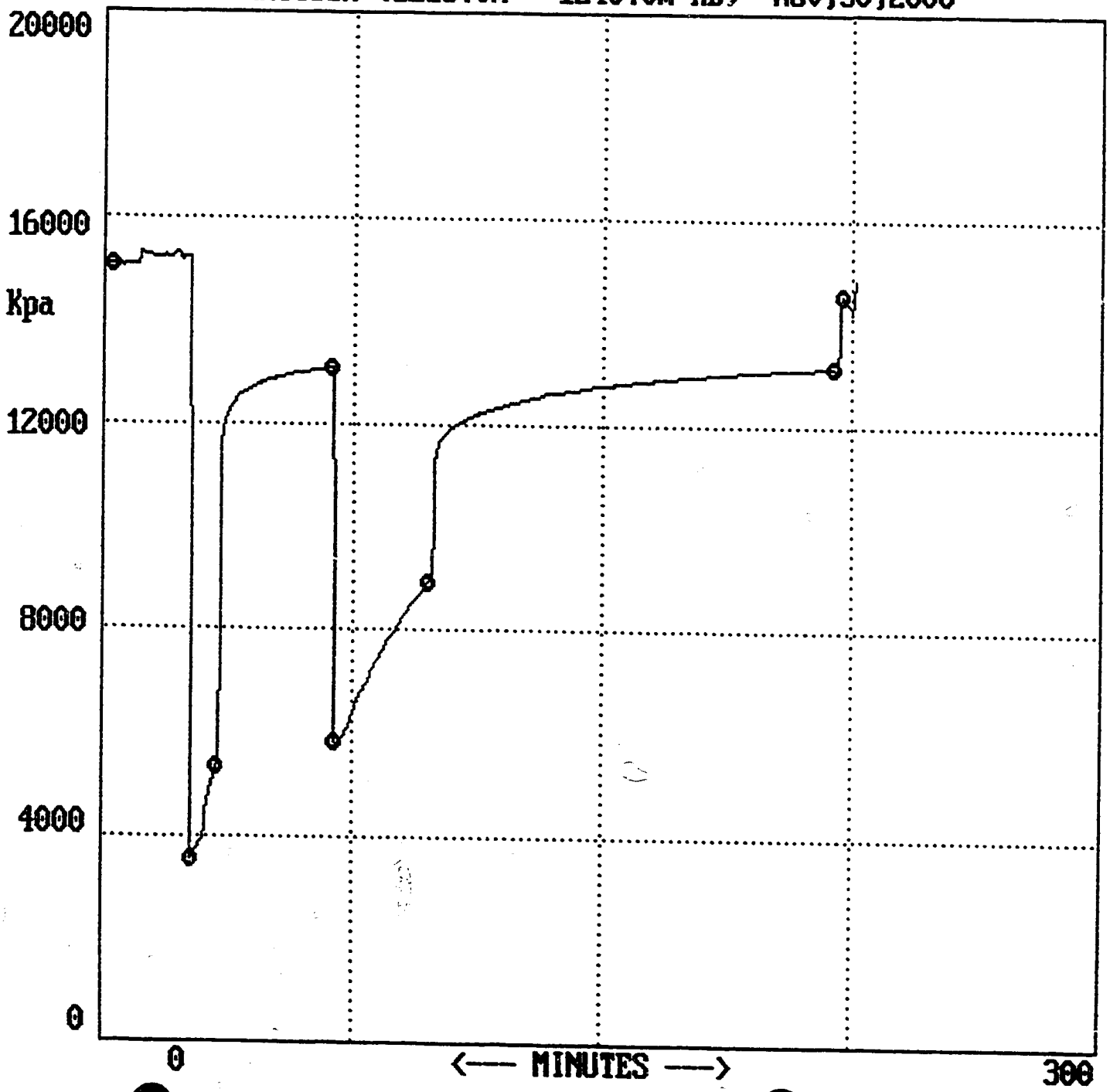
Recovery Description:

Total fluid recovery was 711 meters, consisting of fresh water.



A Initial Hydrostatic - 15207
B Start of 1st Flow - 3570
C End of 1st Flow - 5359
D End of 1st Shutin - 13107
E Start of 2nd Flow - 5812
F End of 2nd Flow - 8903
G End of 2nd Shutin - 13016
O Final Hydrostatic - 14849

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 4 MATTSON (1216.0m - 1240.0m KB) NOV,30,2000

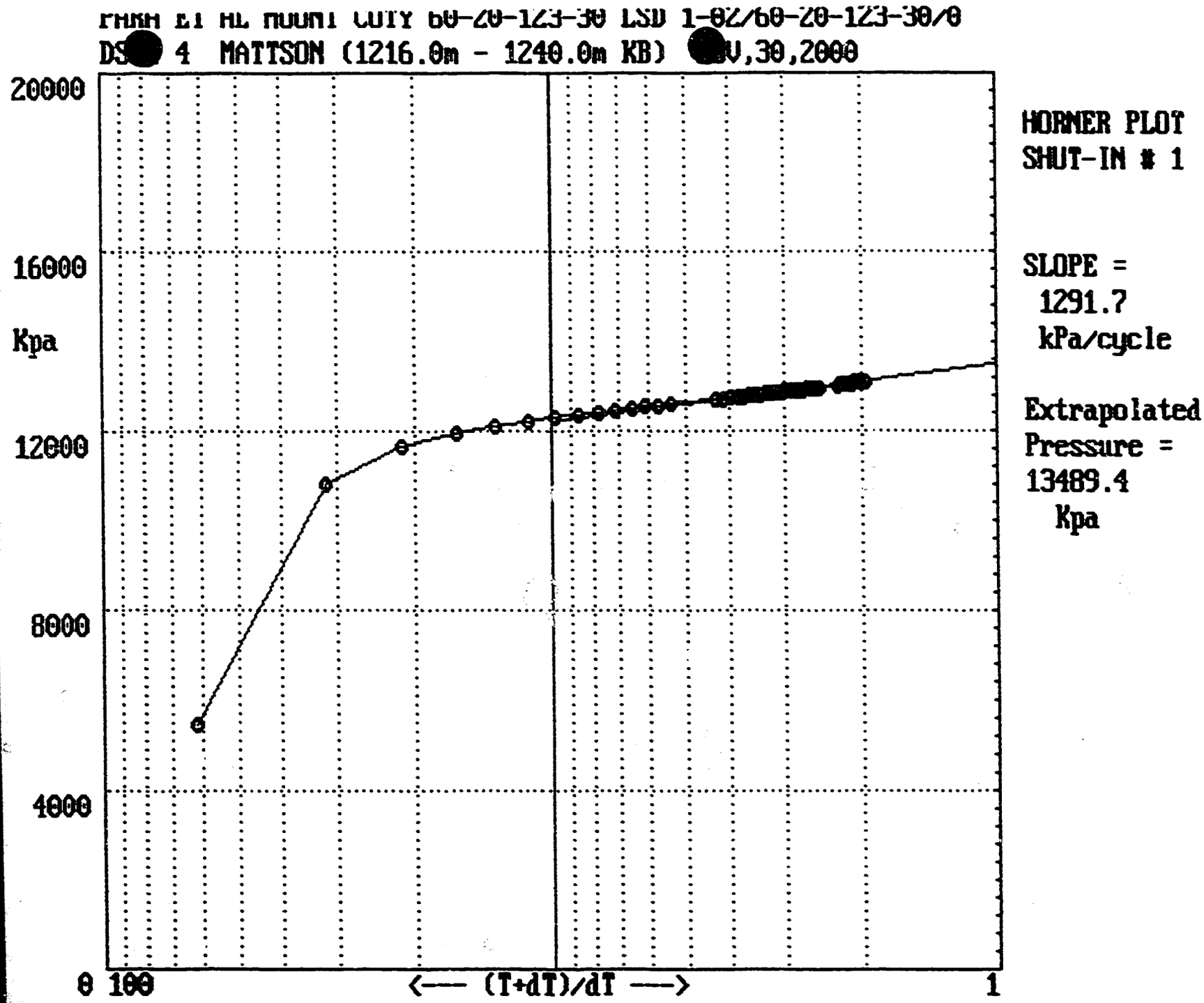


IHP = 15101.6

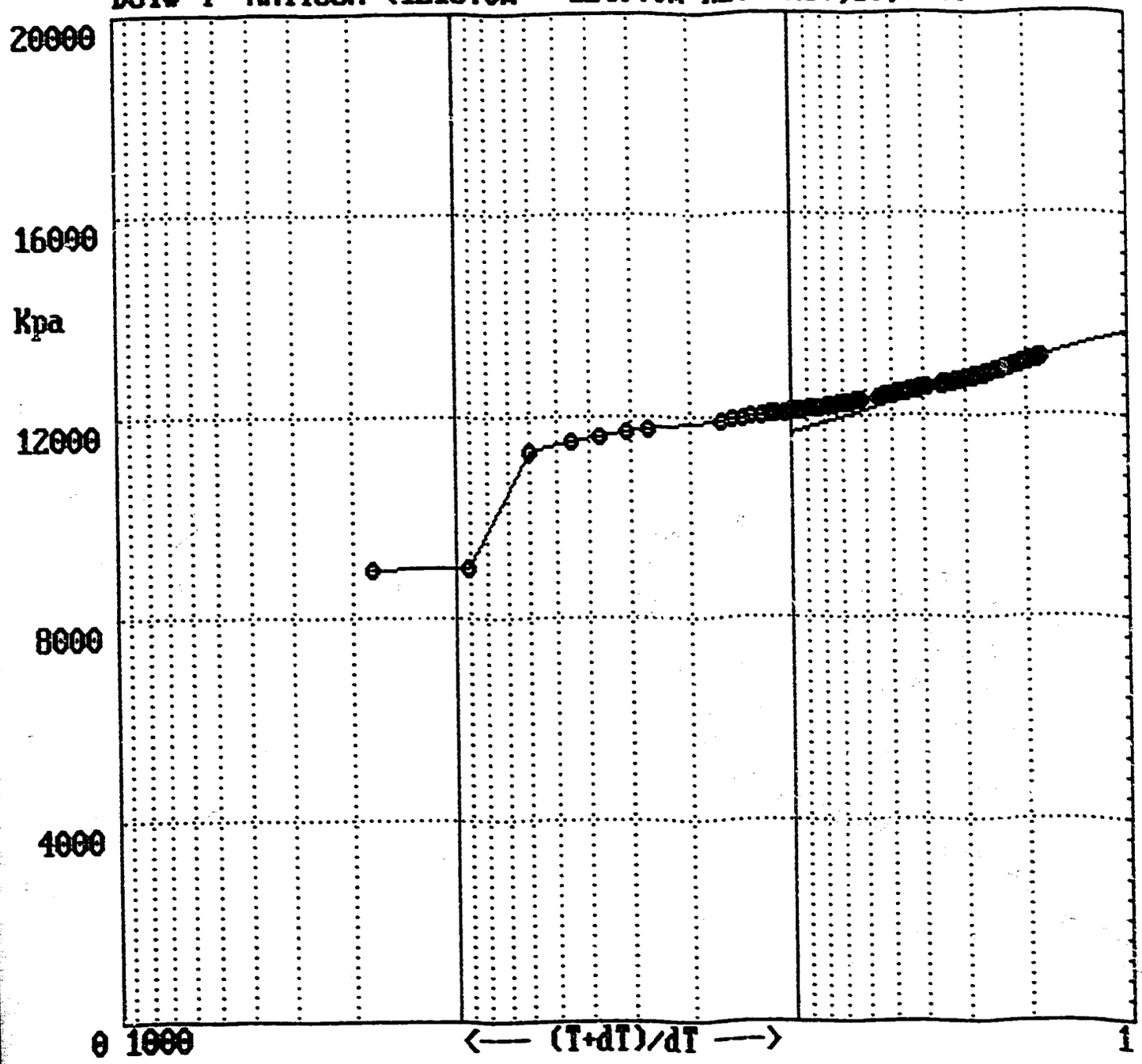
SF1 = 3570.0
EF1 = 5359.3
ES1 = 13109.5

SF2 = 5811.9
EF2 = 8903.4
ES2 = 13154.8

FHP = 14549.1


20000
16000
Kpa
12000
8000
4000
0
100
<— (T+dT)/dT —>
1
HORNER PLOT
SHUT-IN # 1
SLOPE =
1291.7
kPa/cycle
Extrapolated
Pressure =
13489.4
Kpa

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 4 MATTSON (1216.0m - 1240.0m KB) NOV,30,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
2018.8
kPa/cycle

Extrapolated
Pressure =
13669.1
Kpa



Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/01/2000**

Job Ticket #: **D2-10000** DST#: **5**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-10000 DST#: 5

Test Date: 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

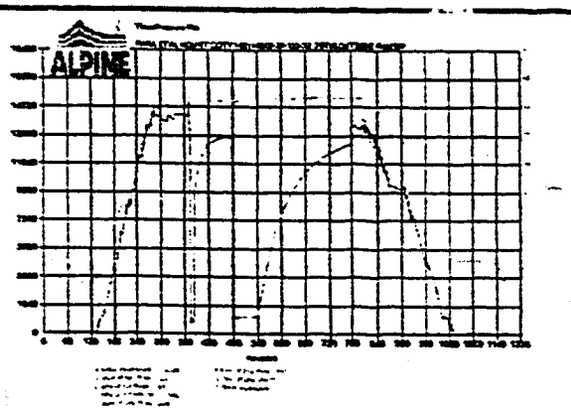
General Information:

Test Type:	INFLATE STRADDLE	Tester:	ALBERTO SCARIONE
Interval:	1134.00m - 1140.00m	Truck No.:	573 □Ÿ□
Formation:	MATTSON	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	43.00 C

Electronic Recorder Information:

OUTSIDE Recorder #: 150		OUTSIDE Recorder #: 066	
Range:	10000 kPag	Range:	10000 kPag
Depth:	1136.00 m	Depth:	1136.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	14226.4
B Start of 1st Flow	0.00	721.6
C End of 1st Flow	7.00	781.2
D End of 1st Shutin	90.00	12846.3
E Start of 2nd Flow	0.00	994.1
F End of 2nd Flow	60.00	1109.9
G End of 2nd Shutin	240.00	12326.1
Q Final Hydrostatic	0.00	13599.7



Test Run Information:

Start Time:	2300hrs
Reached Test Depth:	210hrs
Pull Out Time:	1020hrs
Tool Out Of Hole:	1430hrs
Weight set on Packers:	10000.00daN
Weight to free Packers:	56000.00daN
Initial String Weight:	45000.00daN
Unseated String Weight:	46000.00daN

Tool Chased Dist:	0.00m	Water Loss:	6.50cm³
Mud Type:	GEL CHEMICAL	Mud Drop:	NO
Mud Weight:	1240.00kg/m³	VIS:	61
Amount of fill:	0.00m	Filter Cake:	2.00mm
Amt of cushion:	0.00	Pump Time:	30min
Type of cushion:		Reversed Out:	NO

General Remarks:

PREFLOW: Weak air blow 3 in pail no gas to surface.

FINAL FLOW: Weak air blow. Bottom of pail in 6 minutes. No gas to surface.

Recovery Description:

WELL LIC# 1884

Total fluid recovery was 56 meters, consisting of fresh water and drill mud.

Gas Bomb: 0 Sampler: 1

Fluid Sample: 3 Sent to: AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-10000 DST#: 5
Test Date: 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

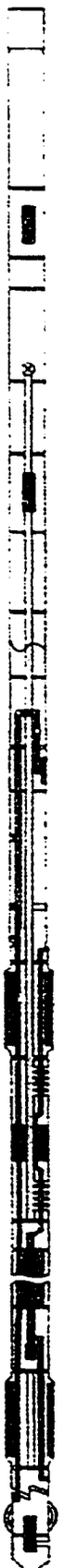
Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	36
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1134.81m
Total Drill Pipe Above K.B.:	0.72m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	56.40	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	685.65	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.81	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	1.52
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

24.95m

36.49m

Depth: 1134m

6.36m

Depth: 1140m

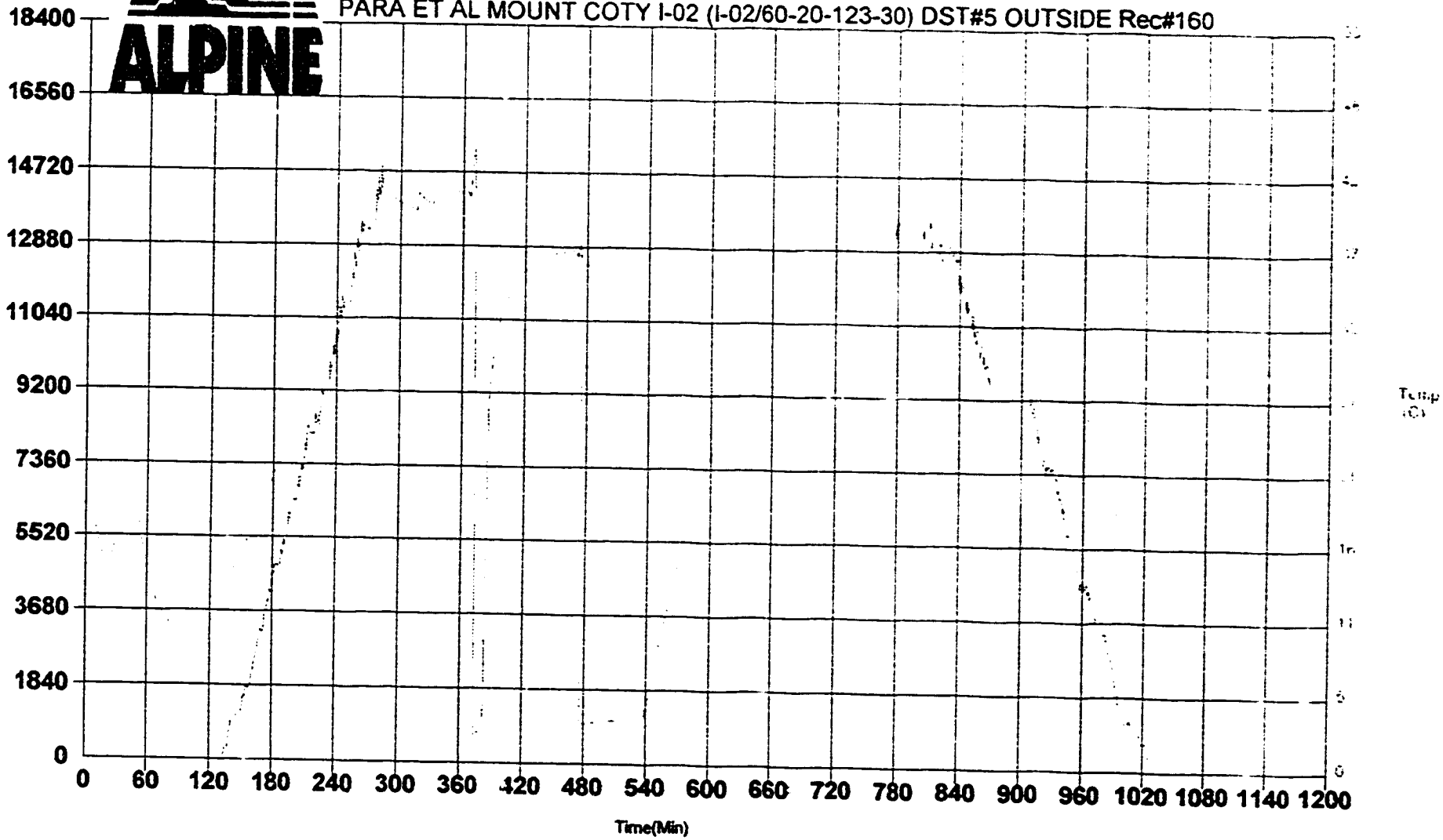
5.18m

Total Depth: 1744.00m

ALPINE

Time/Pressure Plot

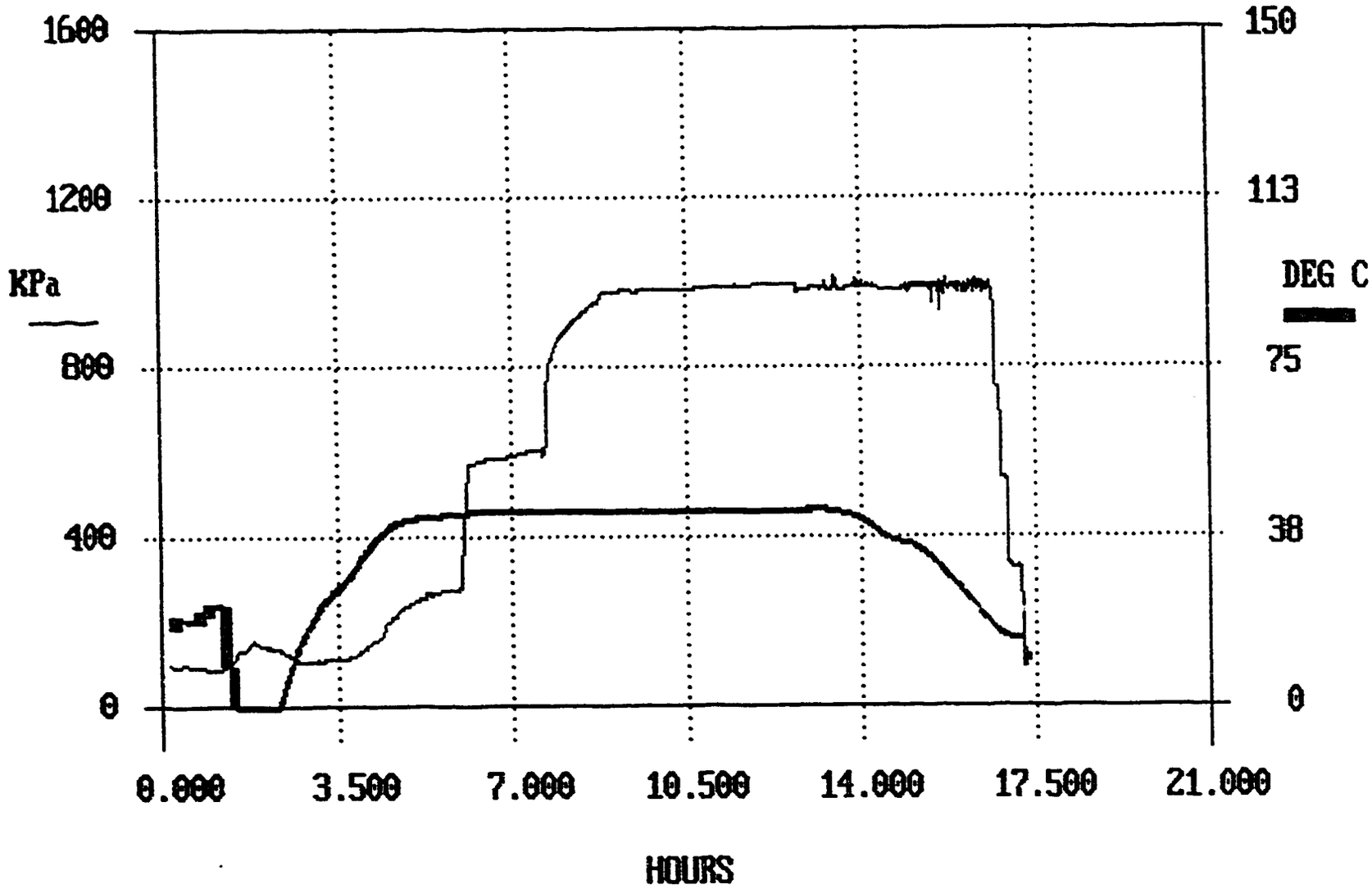
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 OUTSIDE Rec#160



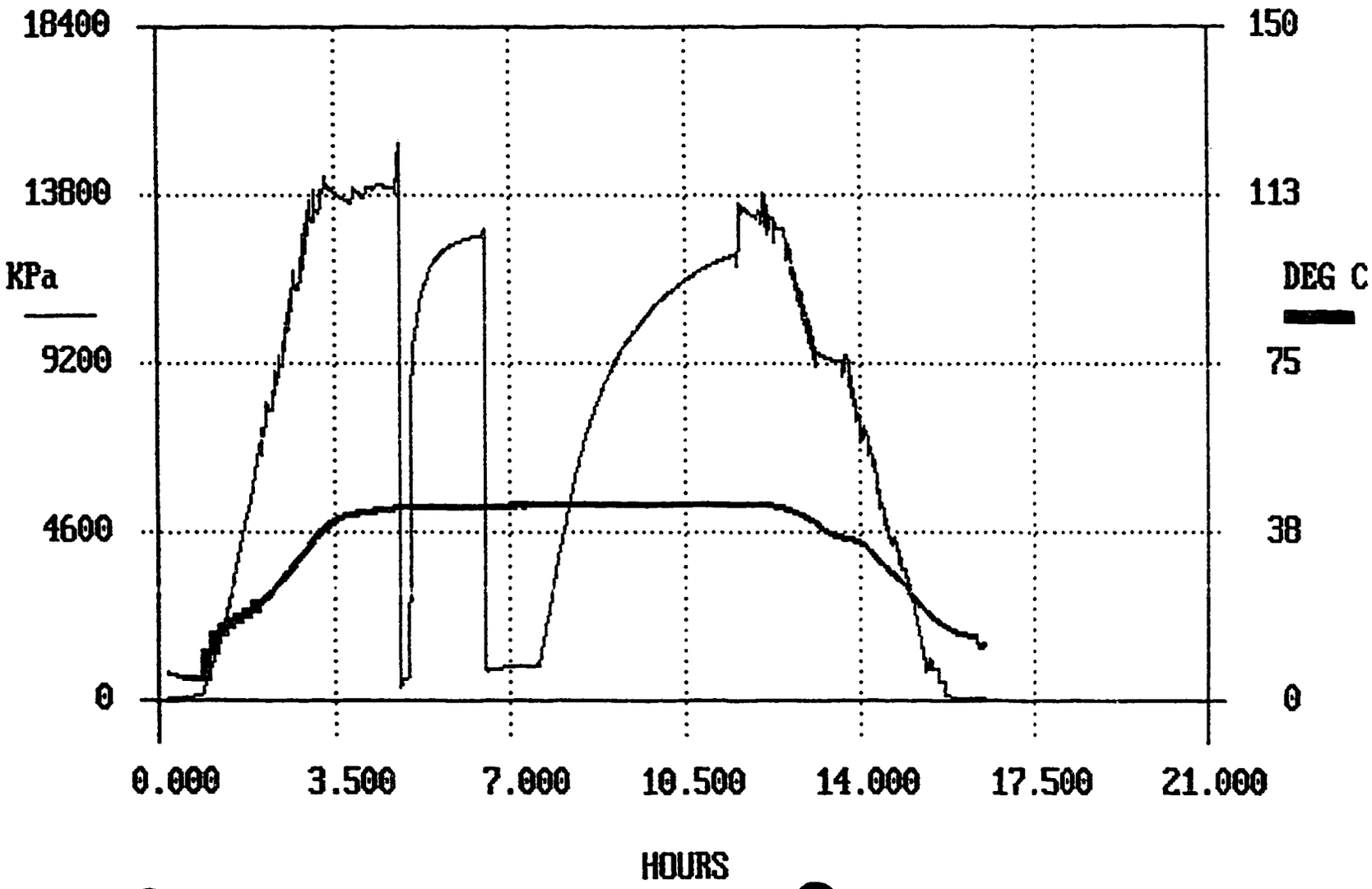
A Initial Hydrostatic - 14226
B Start of 1st Flow - 722
C End of 1st Flow - 781
D End of 1st Shutin - 12545
E Start of 2nd Flow - 994
F End of 2nd Flow - 1116
G End of 2nd Shutin - 12326
O Final Hydrostatic - 13690

FILE: <C:\ALP_IN\B3002136.133>

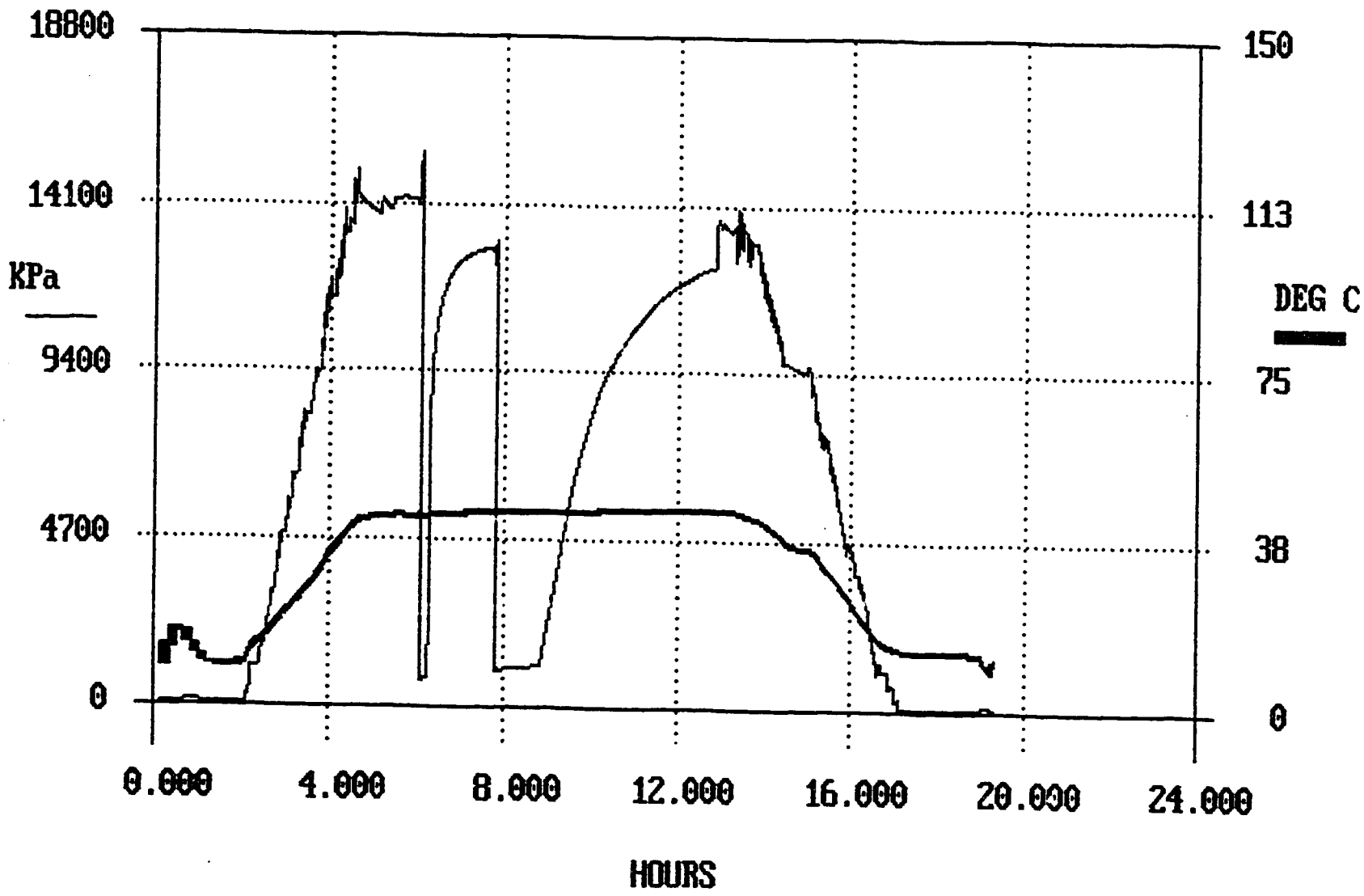
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 FLUID [redacted]



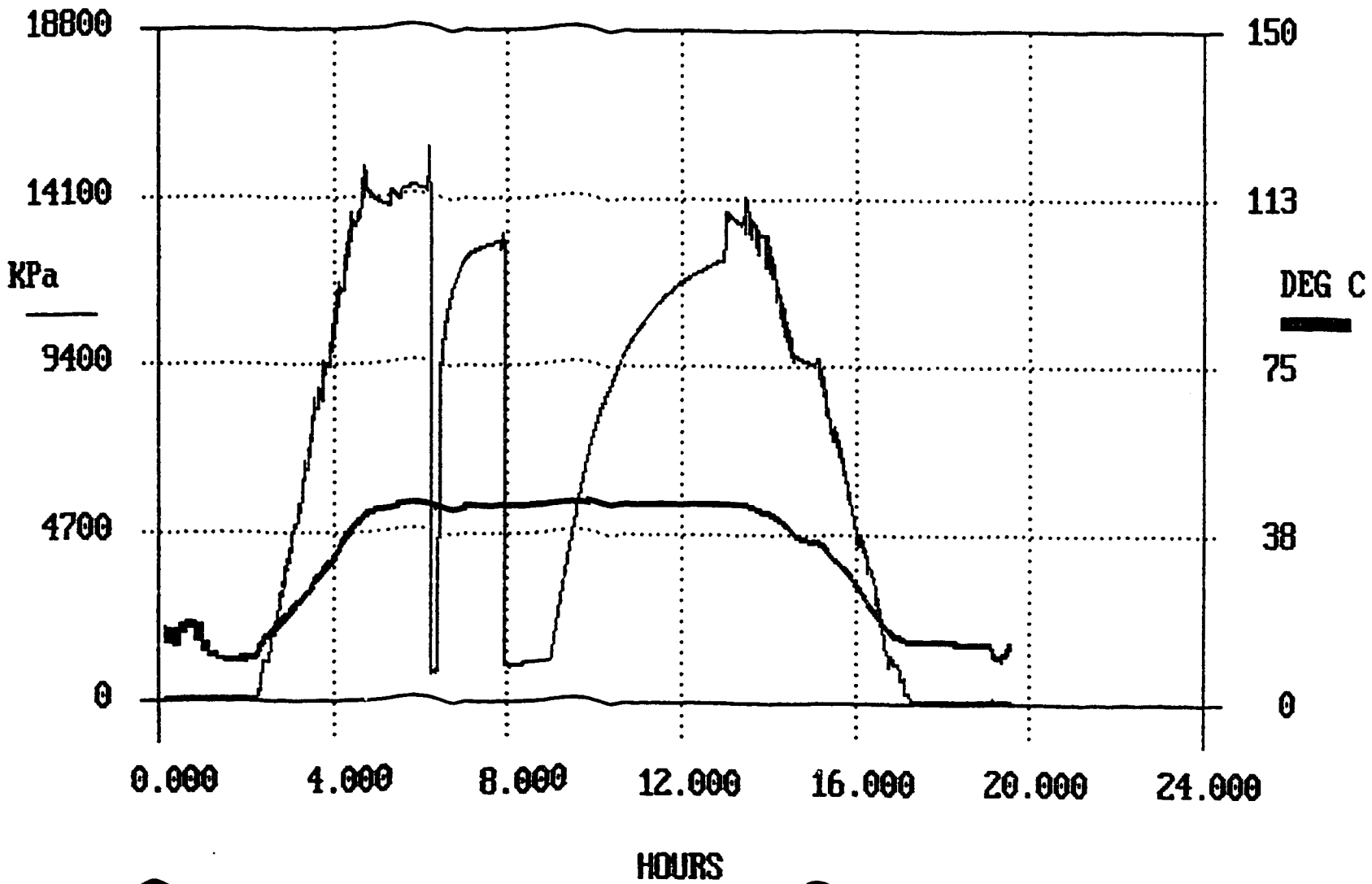
FILE: <C:\ALP_IN\B3002247.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 INSIDE



FILE: <C:\ALP_IN\B3002130.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 OUTSIDE



FILE: <C:\ALP_IN\B3002122.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 OUTSIDE





Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/01/2000**

Job Ticket #: **T4-6189** DST#: **5**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: T4-6189 DST#: 5
Test Date: 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

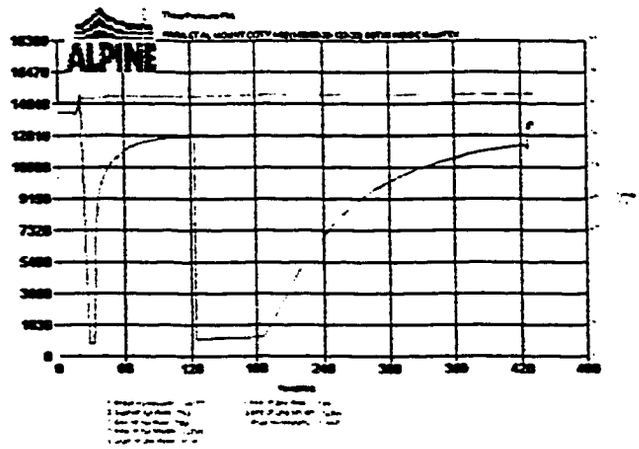
General Information:

Test Type:	INFLATE STRADDLE	Tester:	KEN PEARSON
Interval:	1134m -1140m	Truck No.:	673 □Ÿ□
Formation:	MATTSON	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	43.00 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 1119.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	14177.3
B Start of 1st Flow	0.00	752.8
C End of 1st Flow	3.30	788.6
D End of 1st Shutin	88.50	12789.5
E Start of 2nd Flow	0.00	1035.6
F End of 2nd Flow	60.96	1146.7
G End of 2nd Shutin	239.64	12300.1
Q Final Hydrostatic	0.00	13568.0



Test Run Information:

Start Time:	2300hrs
Reached Test Depth:	210hrs
Pull Out Time:	1020hrs
Tool Out Of Hole:	1430hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	61.00S/L
Filter Cake:	0.00mm
Pump Time:	30min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1240.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

PREFLOW: START 03:33 TO 03:43 Weak air blow 3 inches in pail No gas to surface.

FINAL FLOW: START 05:15 TO 06:15 Weak air blow. Bottom of pail in 6 minutes. No gas to surface.

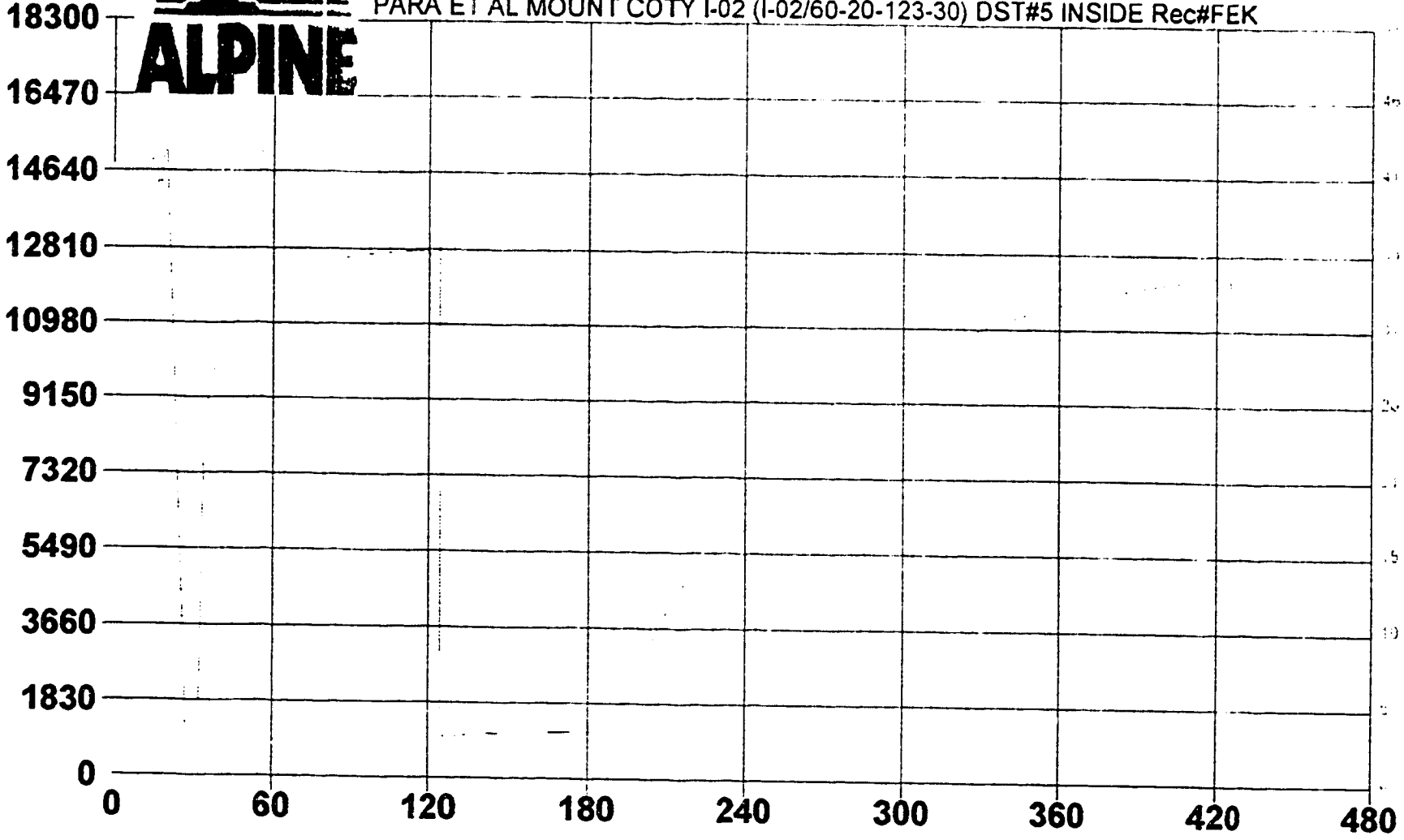
Recovery Description:

WELL LIC# 1884

ALPINE

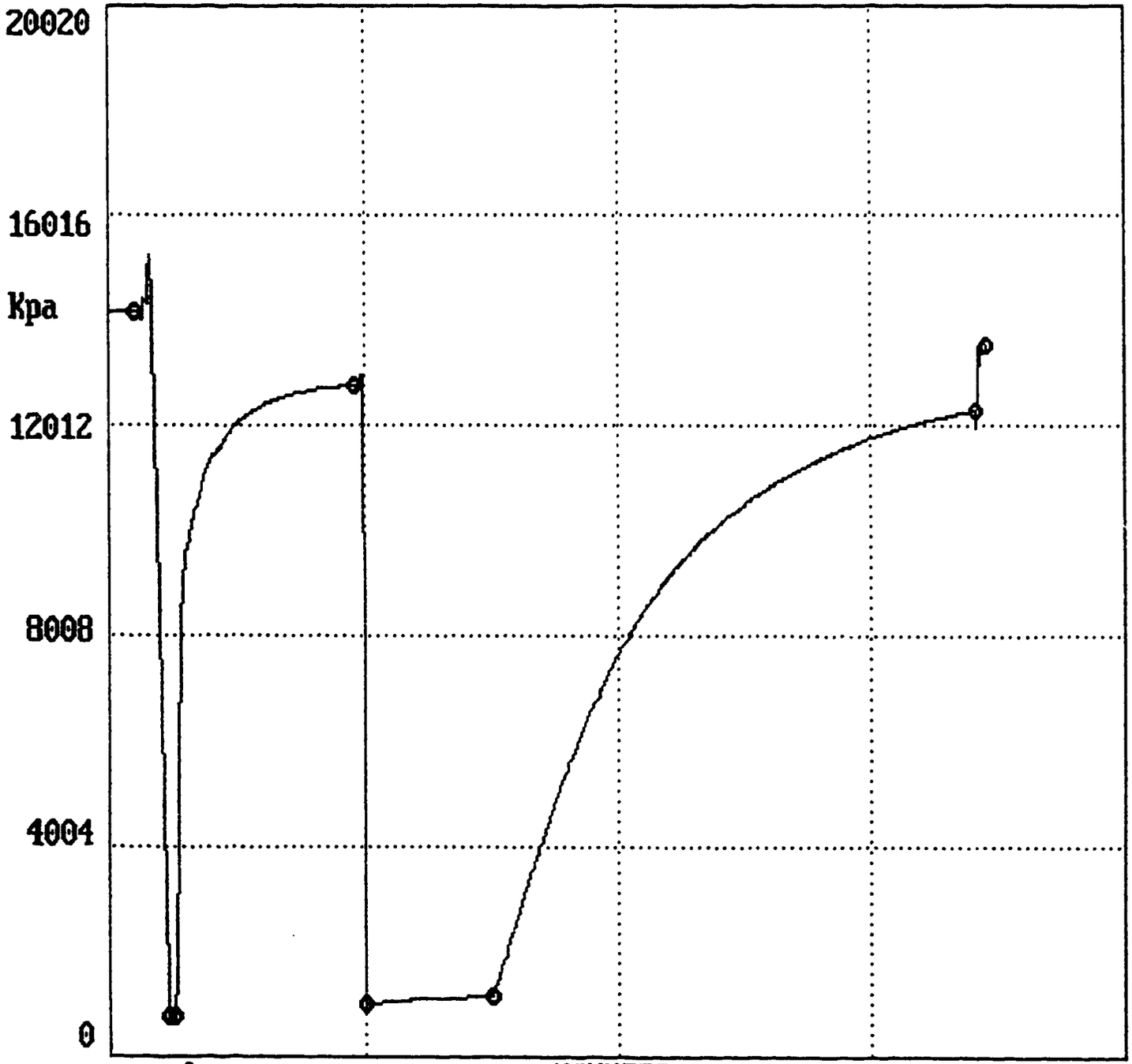
Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 INSIDE Rec#FEK



A Initial Hydrostatic - 14177
B Start of 1st Flow - 753
C End of 1st Flow - 789
D End of 1st Shut-in - 12790
E Start of 2nd Flow - 1025
F End of 2nd Flow - 1145
G End of 2nd Shut-in - 12790
H Final Hydrostatic - 13566

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 5 MATTSON (1134.0m - 1140.0m KB) DEC,01,2000

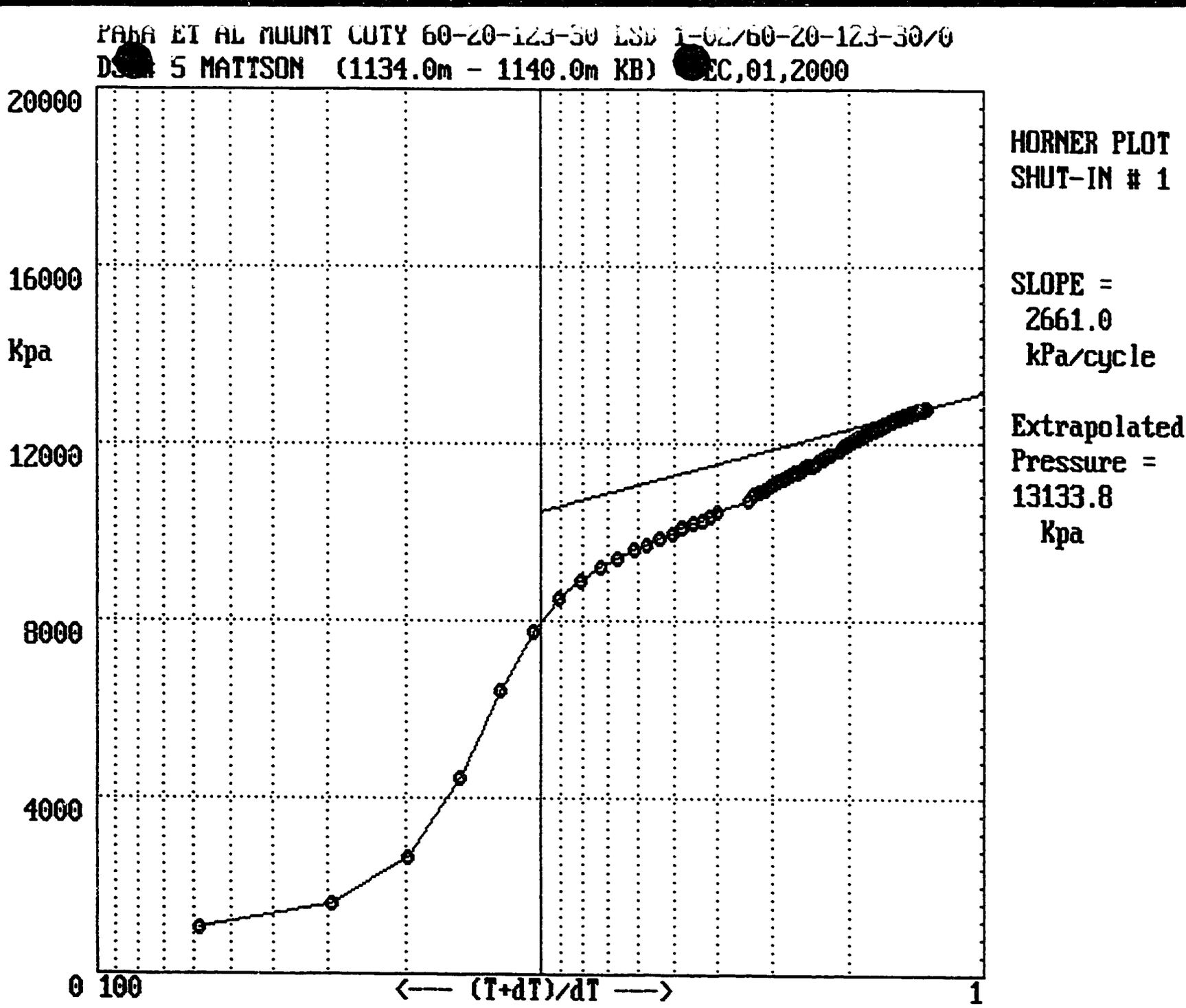


IHP = 14177.3

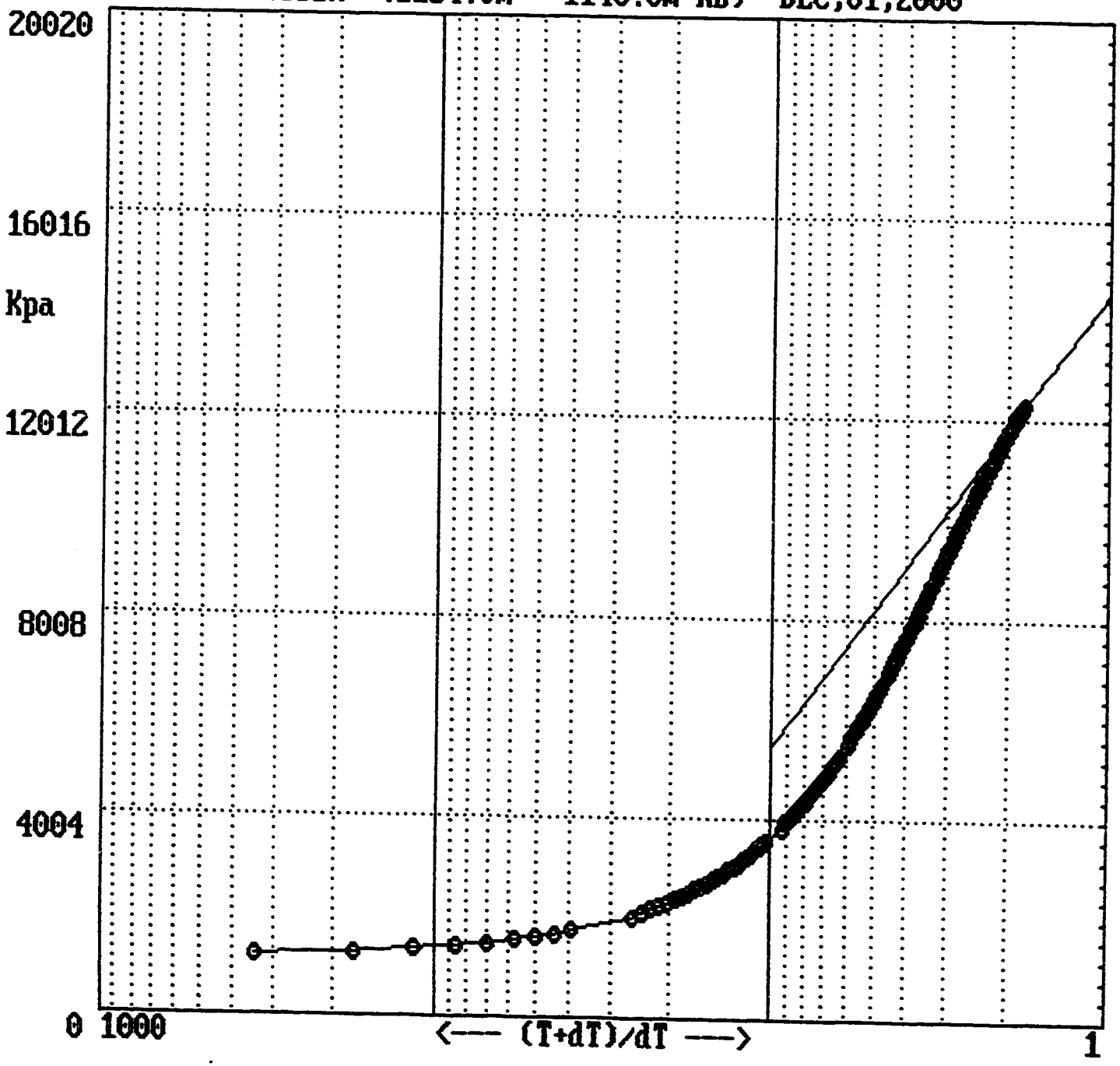
SF1 = 752.8
EF1 = 788.6
ES1 = 12789.5

SF2 = 1035.6
EF2 = 1145.8
ES2 = 12300.1

FHP = 13534.5


PADA ET AL MOUNT CUTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST 5 MATTSON (1134.0m - 1140.0m KB) DEC,01,2000
20000
16000
Kpa
12000
8000
4000
0
100
<— (T+dT)/dT —>
1
HORNER PLOT
SHUT-IN # 1
SLOPE =
2661.0
kPa/cycle
Extrapolated
Pressure =
13133.8
Kpa

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 5 MATTSON (1134.0m - 1140.0m KB) DEC,01,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
9135.7
kPa/cycle

Extrapolated
Pressure =
14589.4
Kpa



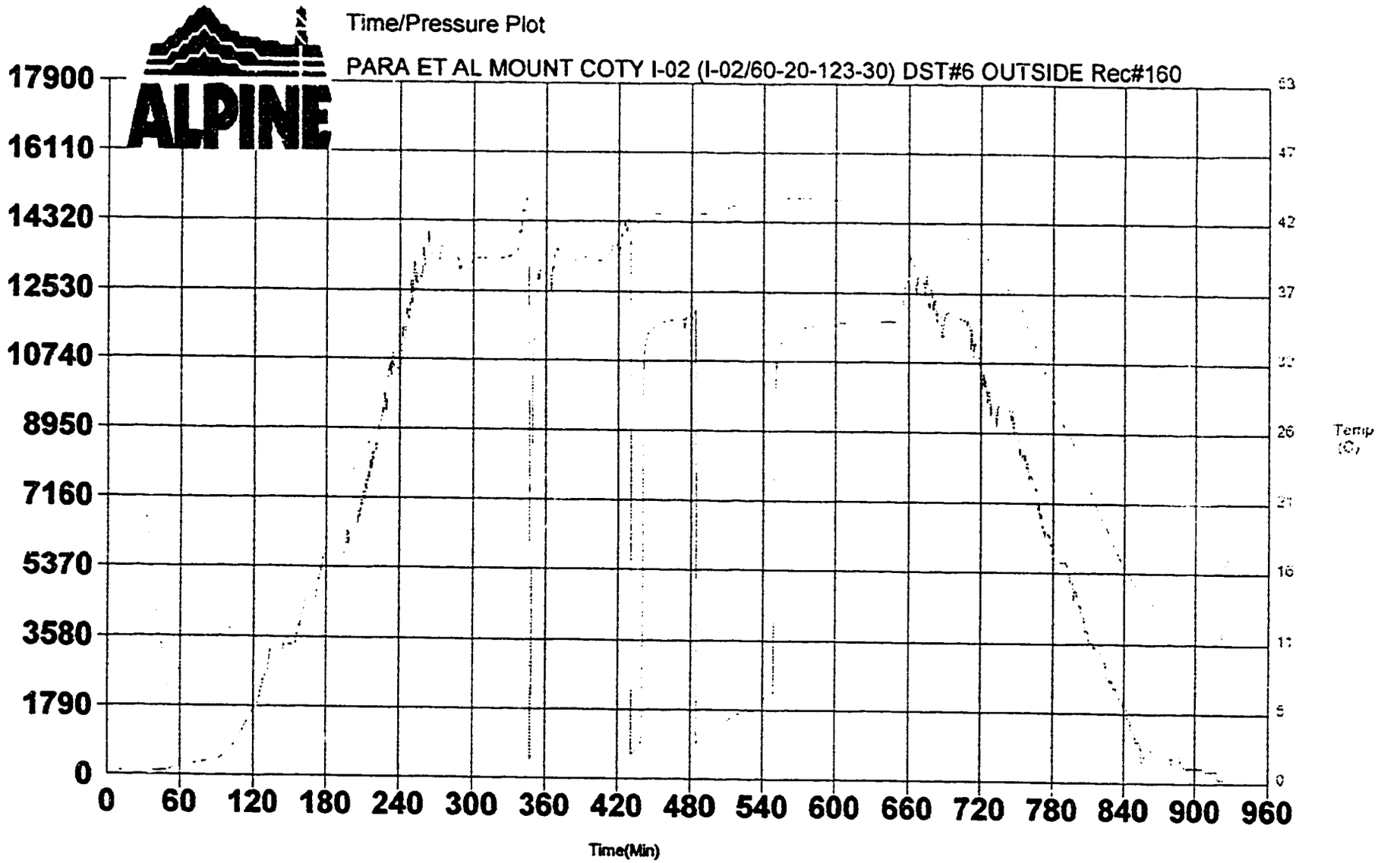
Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

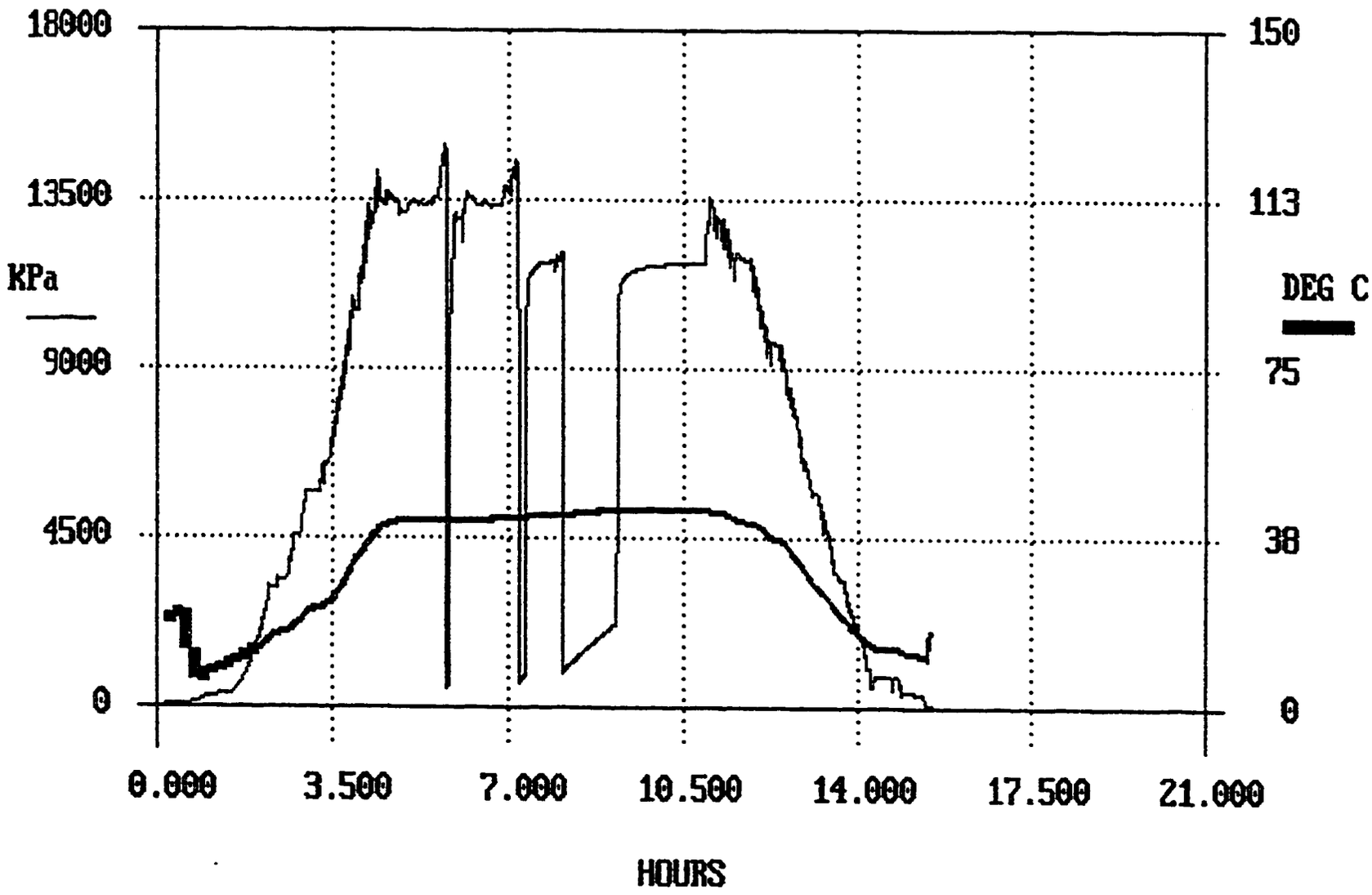
Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/01/2000**

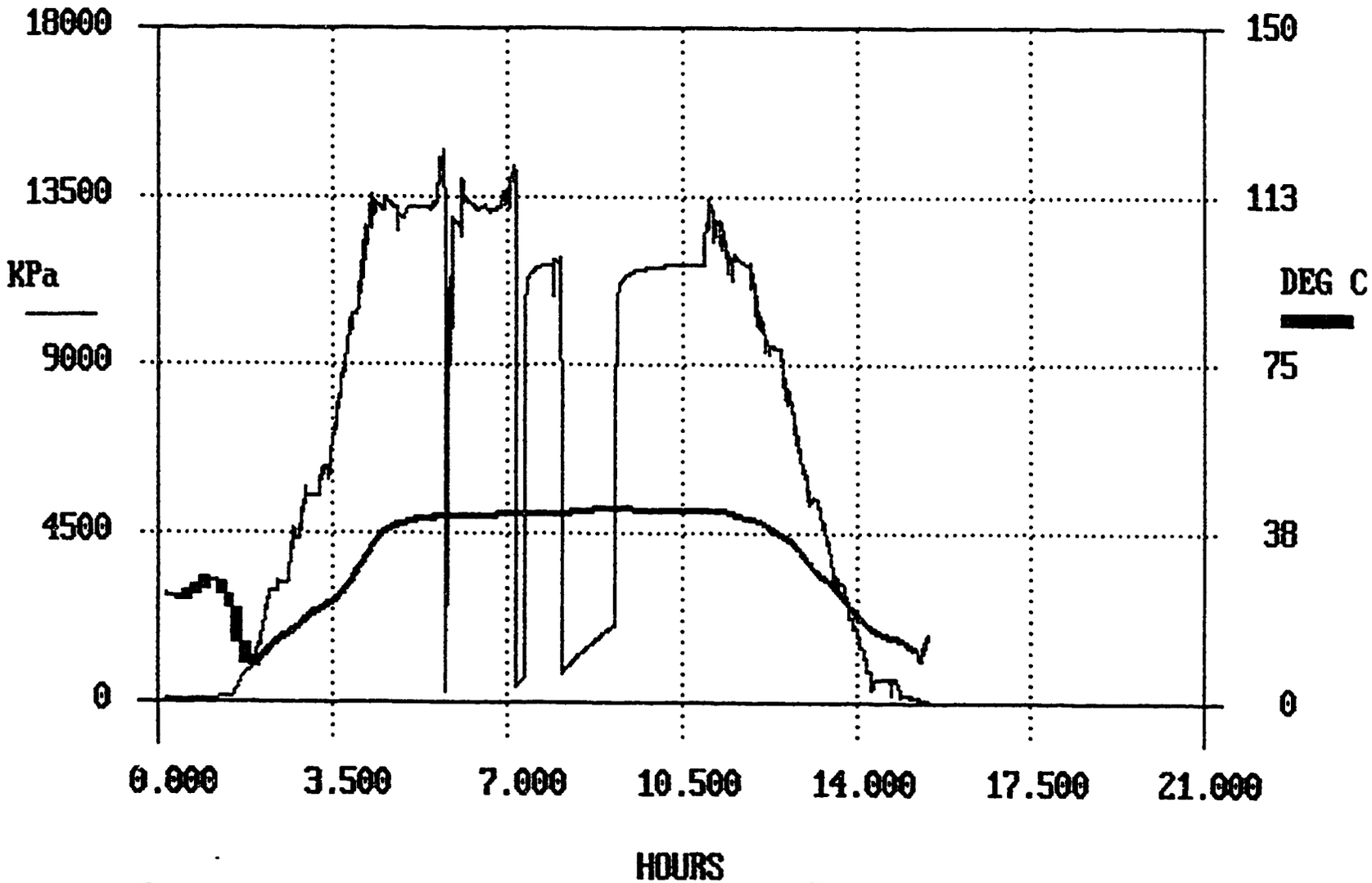
Job Ticket #: **T4-6190** DST#: **6**


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 OUTSIDE Rec#160
17900
16110
14320
12530
10740
8950
7160
5370
3580
1790
0
0 60 120 180 240 300 360 420 480 540 600 660 720 780 840 900 960
Time(Min)
Temp (C)
26
16
5
0

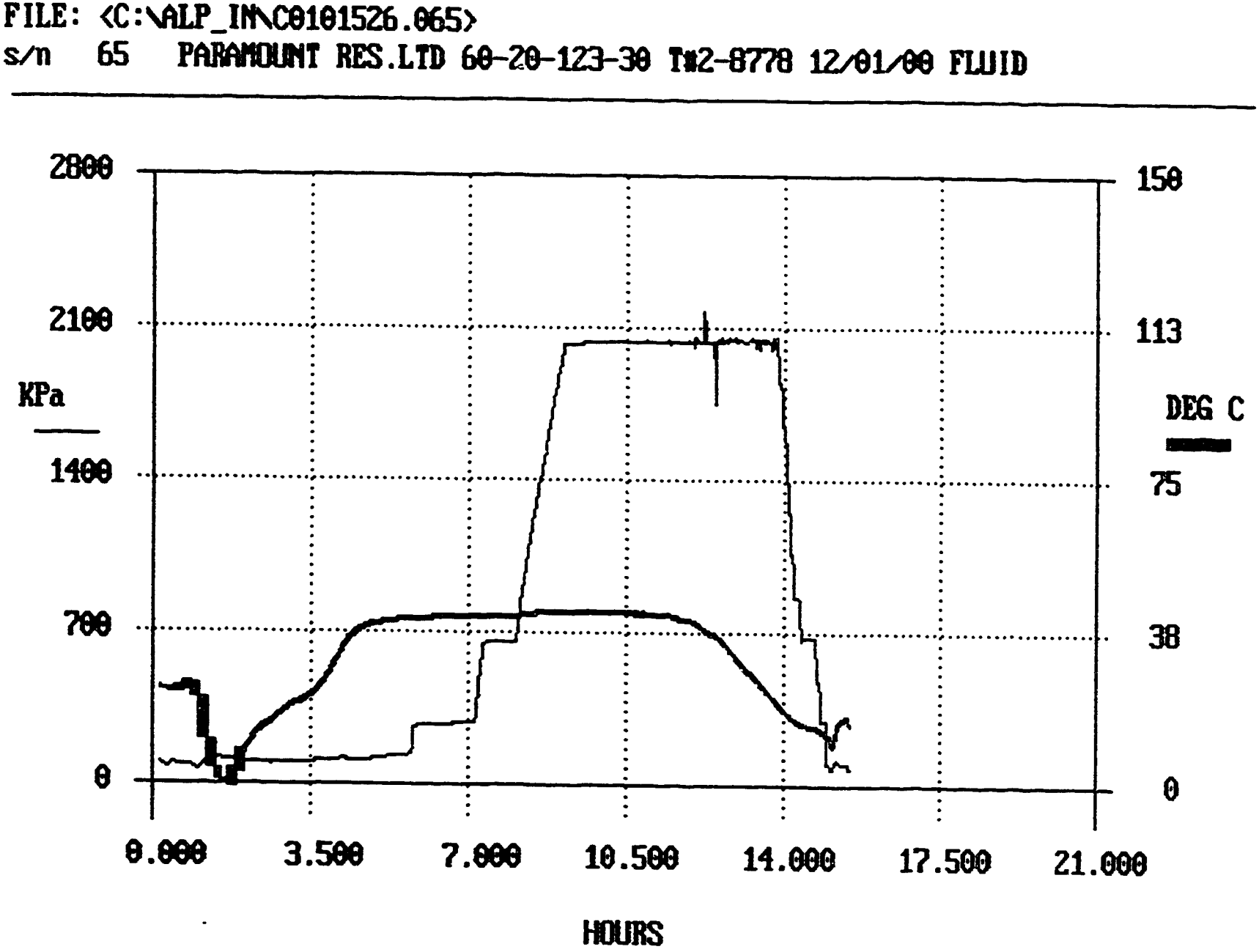
FILE: <C:\ALP_IN\C0101700.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 OUTSIDE



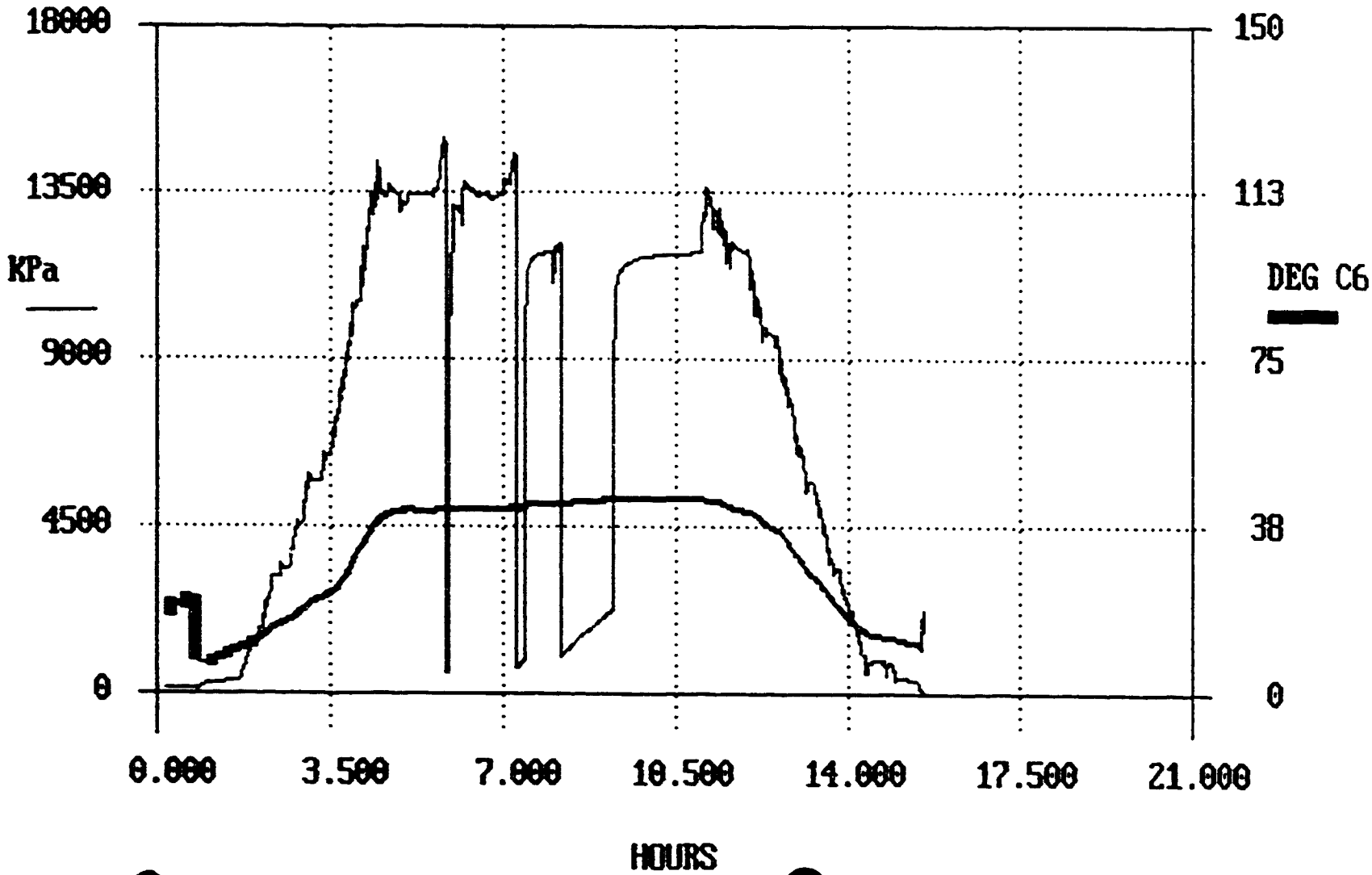
FILE: <C:\ALP_IN\C0101503.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 INSIDE

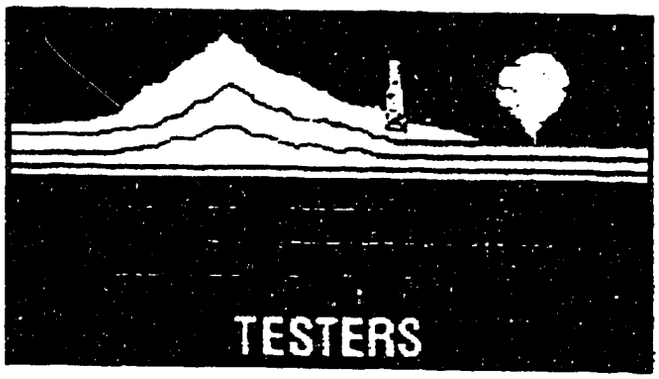


FILE: <C:\ALP_IN\C0101526.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 FLUID



FILE: <C:\ALP_IN\C0101654.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 OUTSIDE





Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/02/2000**

Job Ticket #: **D2-08779** DST#: **7**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-08779 DST# 7
Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

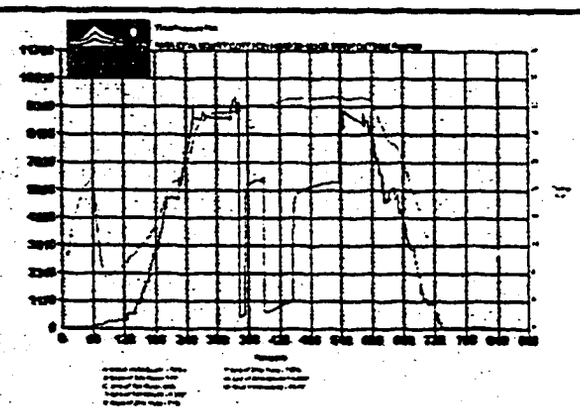
Test Type: INFLATE STRADDLE
Interval: 708.00m - 720.00m
Formation: CHINKEH
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 33.00 C

Electronic Recorder Information:

OUTSIDE			
Recorder #: 160		Recorder #:	
Range: 10000 kPag		Range:	kPag
Depth: 710.00 m		Depth:	m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8901.0
B Start of 1st Flow	0.00	516.7
C End of 1st Flow	11.00	655.0
D End of 1st Shutin	36.00	6386.7
E Start of 2nd Flow	0.00	714.6
F End of 2nd Flow	56.00	1173.5
G End of 2nd Shutin	91.00	6206.7
Q Final Hydrostatic	0.00	8616.3



Test Run Information:

Start Time: 1030hrs
Reached Test Depth: 1330hrs
Pull Out Time: 1745hrs
Tool Out Of Hole: 2130hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 55000.00daN
Initial String Weight: 45000.00daN
Unseated String Weight: 46000.00daN

Tool Chased Dist: 0.00m
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amt of cushion: 0.00
Type of cushion:

Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: NO

General Remarks:

PREFLOW: Weak air blow. No gas to surface.

FINAL FLOW: Very weak air blow. No gas to surface.

Recovery Description:

WELL LIC# 1884

Total fluid recovery was 75 meters, consisting of fresh water.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to: AGAT EDMONTON

TESTERS

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-08779 DST#: 7

Test Date: 12/02/2000 1030hrs

Contact: WILBERT CALLIHOO

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	23
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	10
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	710.51m
Total Drill Pipe Above K.B.:	2.51m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	55.62	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	446.32	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	183.62	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	7.45
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

24.95m

42.42m

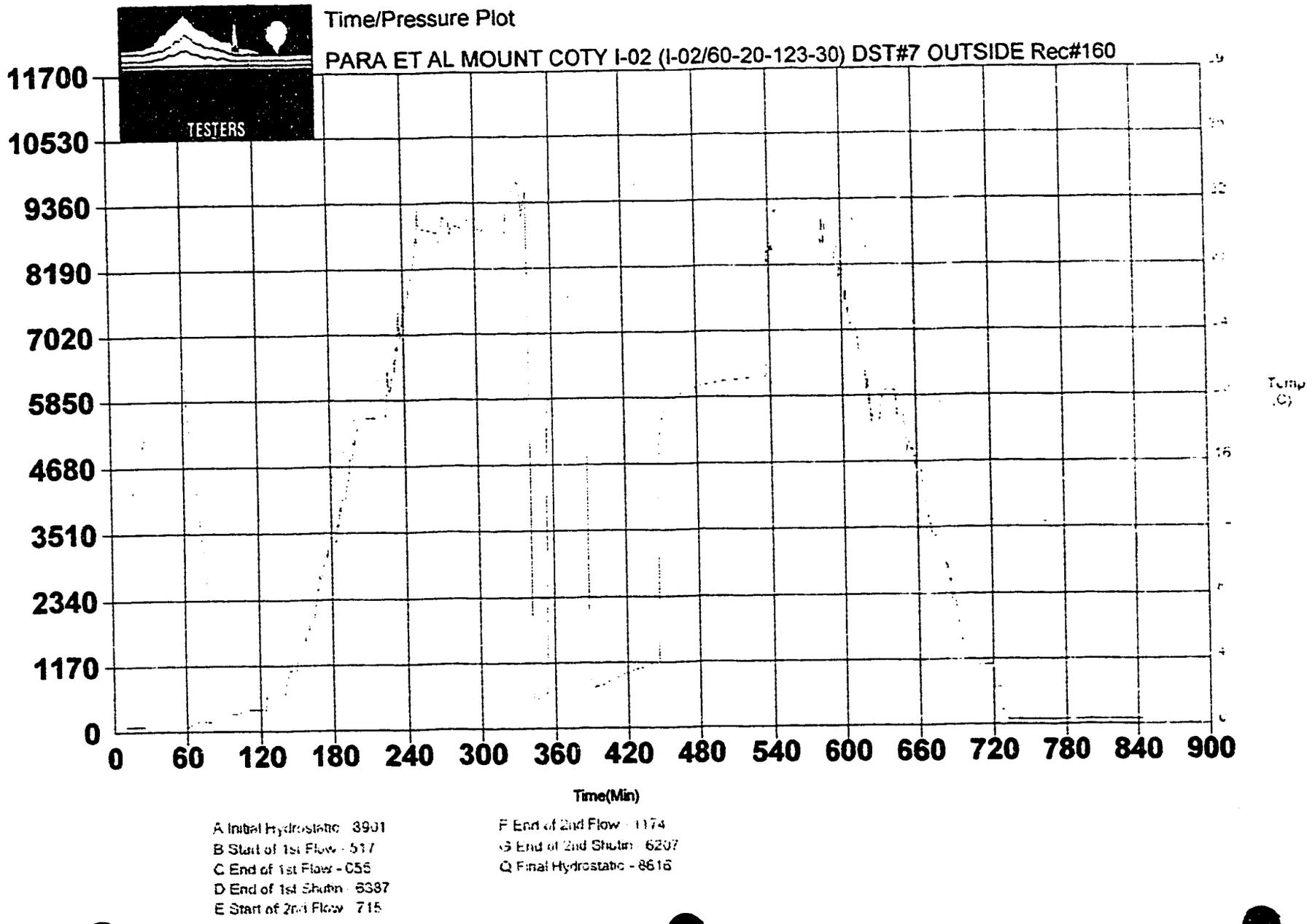
Depth: 708.0m

12.29m

Depth: 720.0m

5.18m

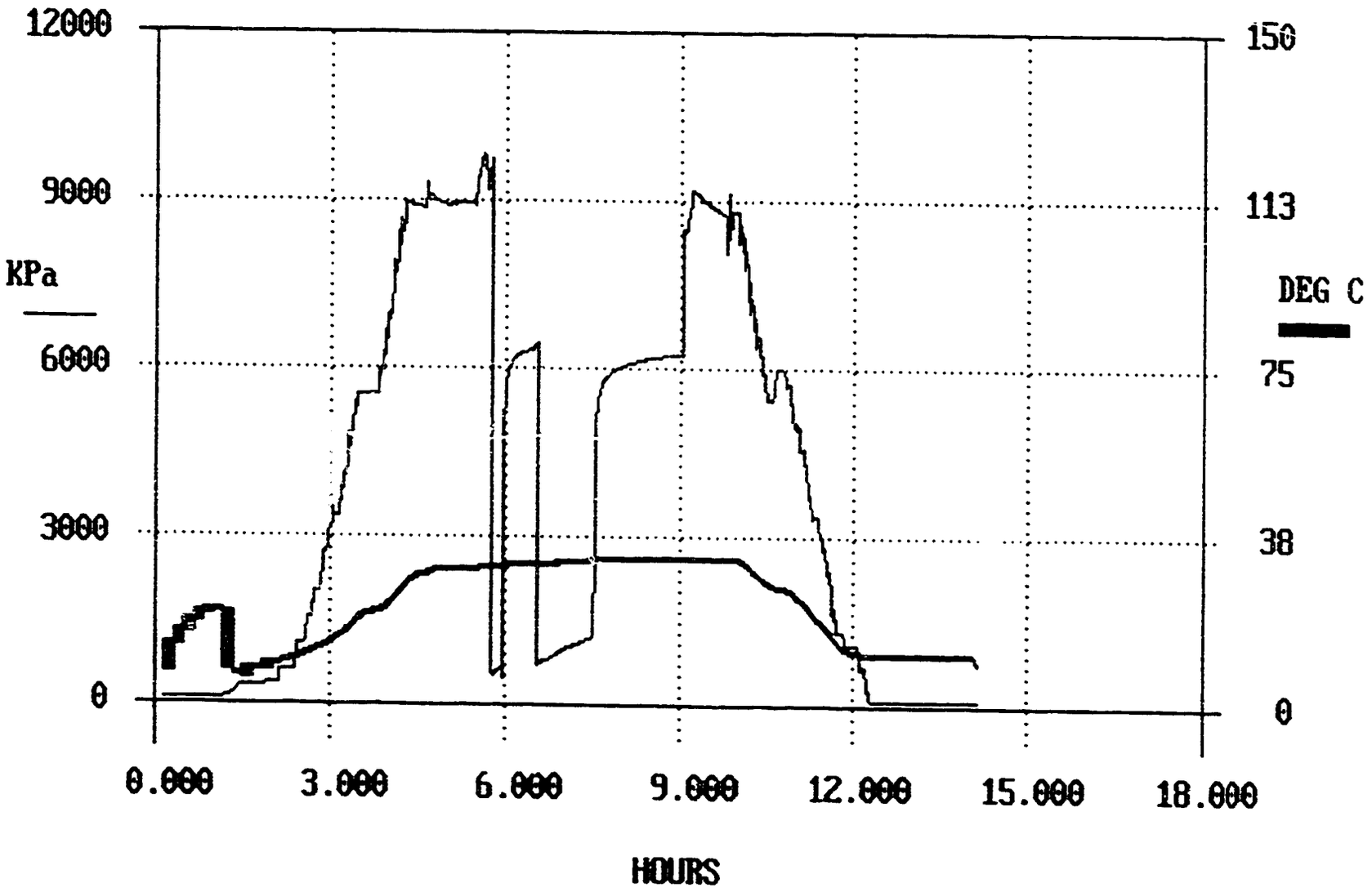
Total Depth: 1744.00m


Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 OUTSIDE Rec#160
TESTERS
11700
10530
9360
8190
7020
5850
4680
3510
2340
1170
0
0
60
120
180
240
300
360
420
480
540
600
660
720
780
840
900
Time(Min)
Temp (C)
A Initial Hydrostatic - 3901
B Start of 1st Flow - 517
C End of 1st Flow - 655
D End of 1st Shutin - 5387
E Start of 2nd Flow - 715
F End of 2nd Flow - 1174
G End of 2nd Shutin - 6207
Q Final Hydrostatic - 8616

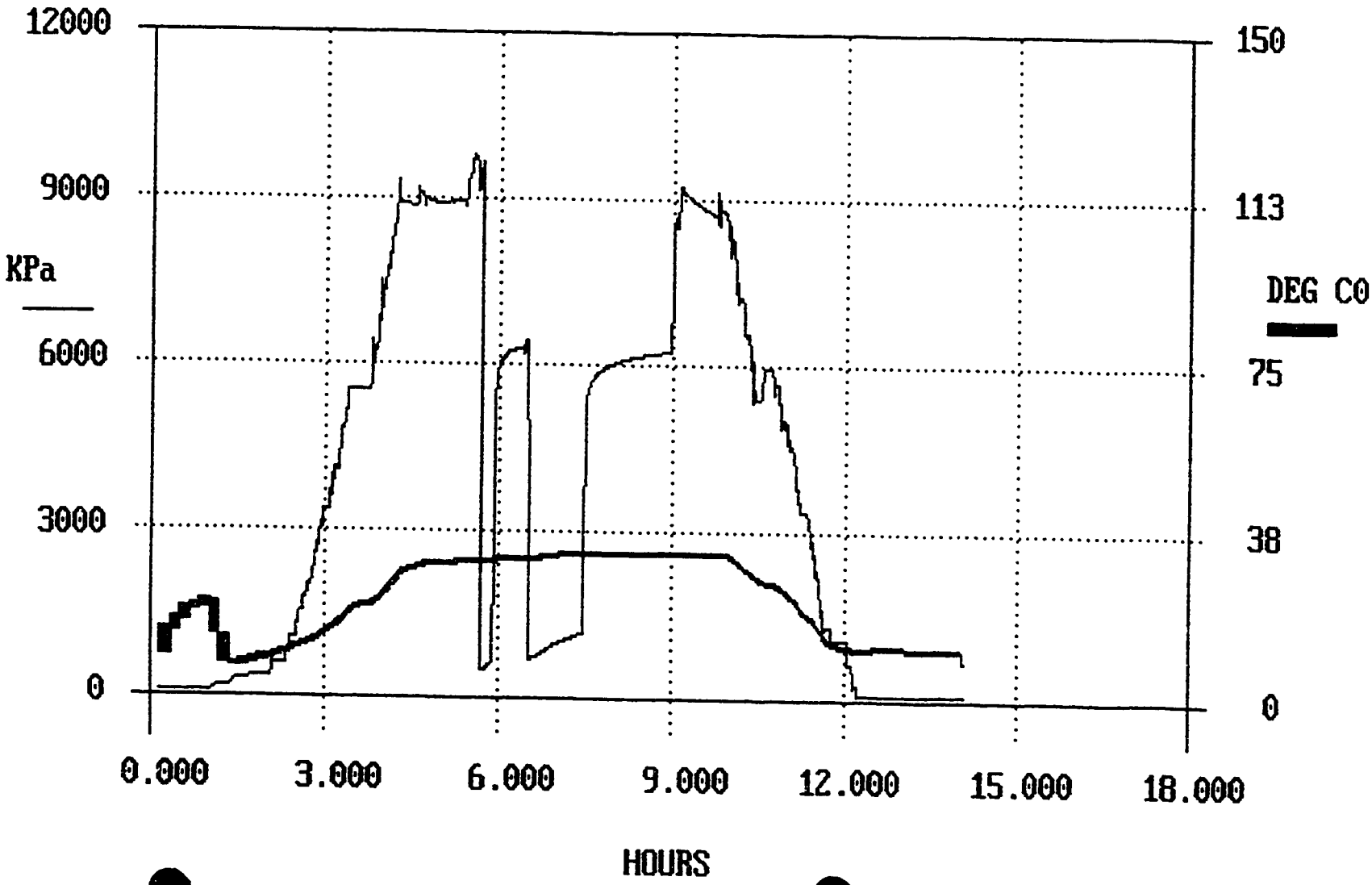
FILE: <C:\ALP_IM\C0200845.065>

s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-8779 12/02/00 [redacted]

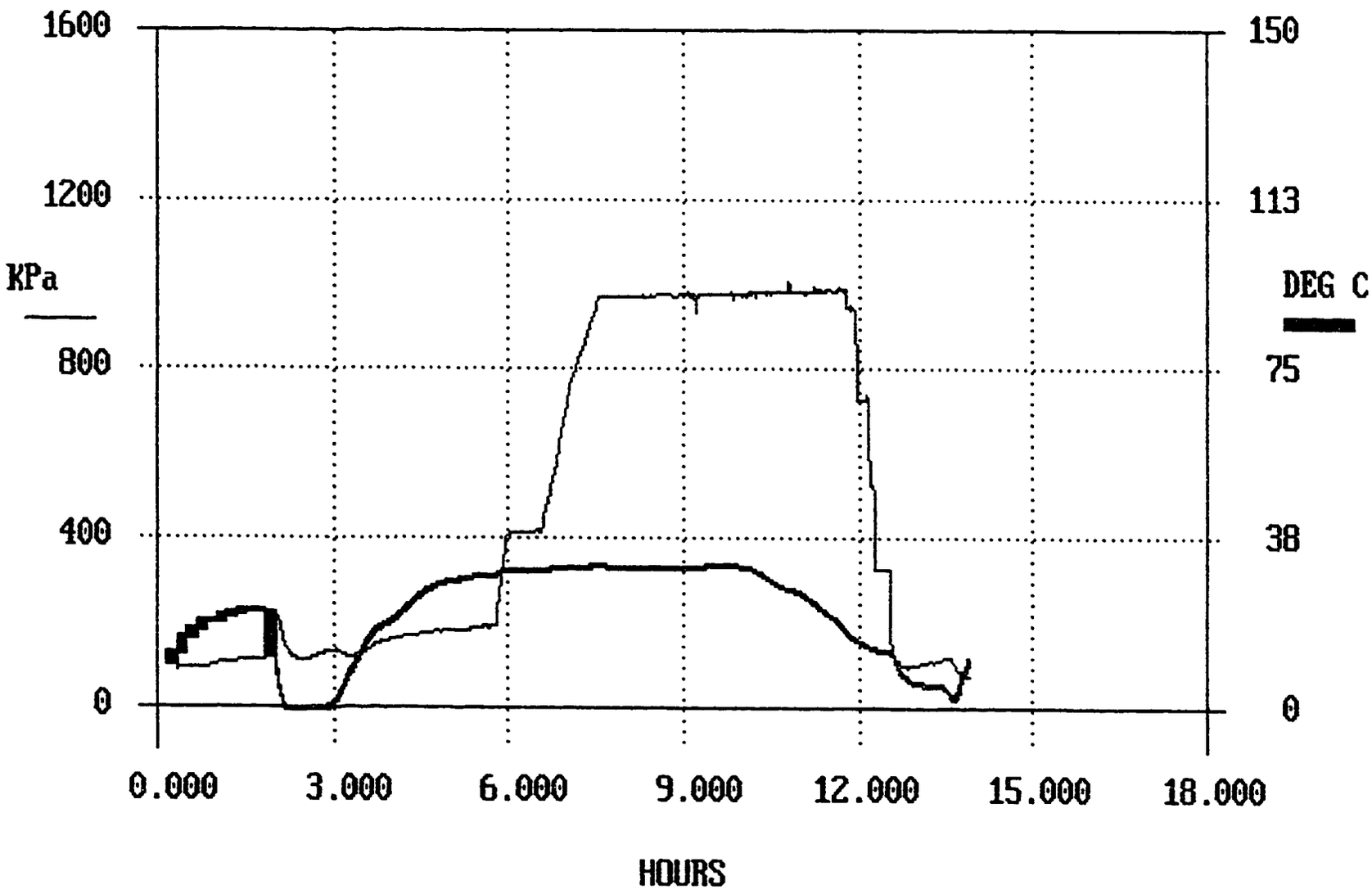
OUTSIDE



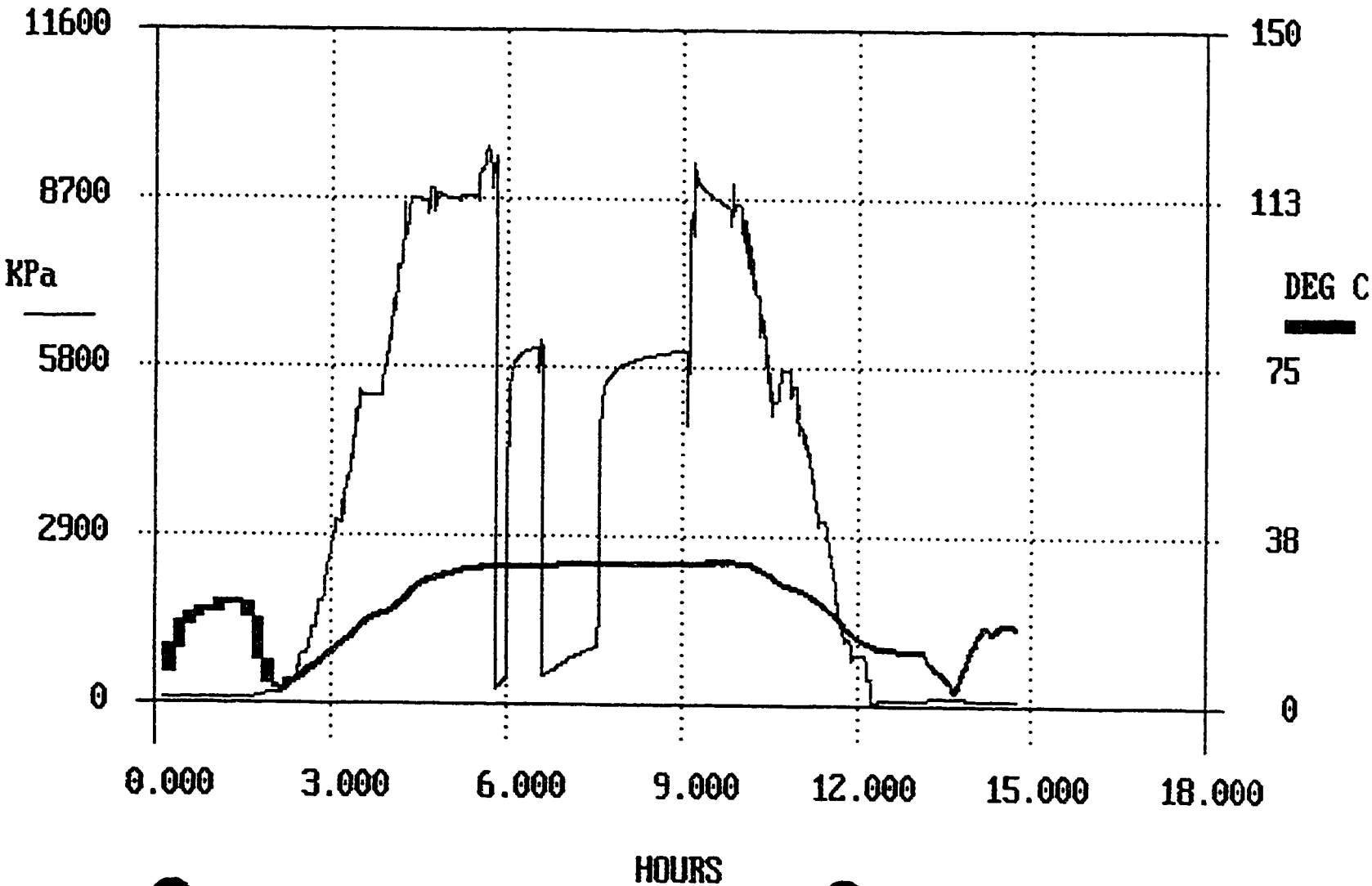
FILE: <C:\ALP_IN\C0200848.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T@-8779 12/02/00 OUTSIDE



FILE: <C:\ALP_IN\C0200833.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 T#2-8779 12/02/00 FLUID E



FILE: <C:\ALP_IN\C0200837.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-8779 12/02/00 INSIDE



ALPINE

Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/02/2000**

Job Ticket #: **T4-6191** DST#: **7**

TELEMETRY SERVICES

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: T4-6191 DST #: 7

Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

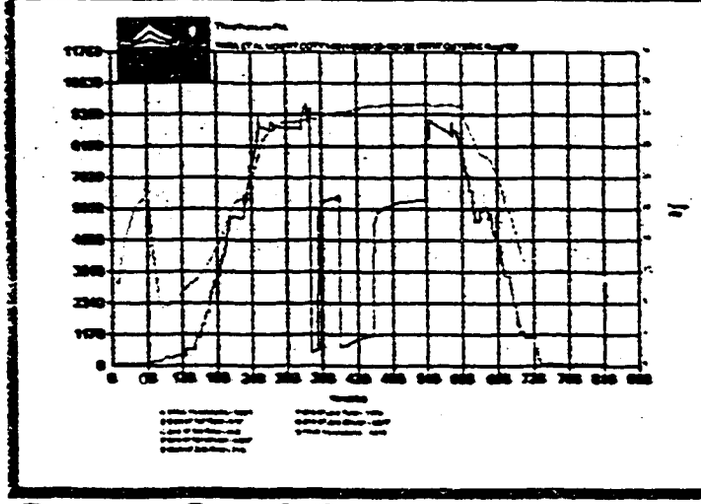
Test Type:	INFLATE STRADDLE	Tester:	KEN PEARSON
Interval:	708m -720m	Truck No.:	673
Formation:	CHINKEH	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	34.00 C

Telemetry Recorder Information:

INSIDE

Recorder #: FEK Depth: 693.00 m

Flag Points:	Time:	Pressure:



Test Run Information:

Start Time:	1030hrs
Reached Test Depth:	1330hrs
Pull Out Time:	1745hrs
Tool Out Of Hole:	2130hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	61.00S/L
Filter Cake:	0.00mm
Pump Time:	0min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1240.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

PREFLOW: Weak air blow. No gas to surface.Start 14:28 to 14:38

FINAL FLOW: Weak air blow. No gas to surface. Start 15:08 to 16:08

Recovery Description:

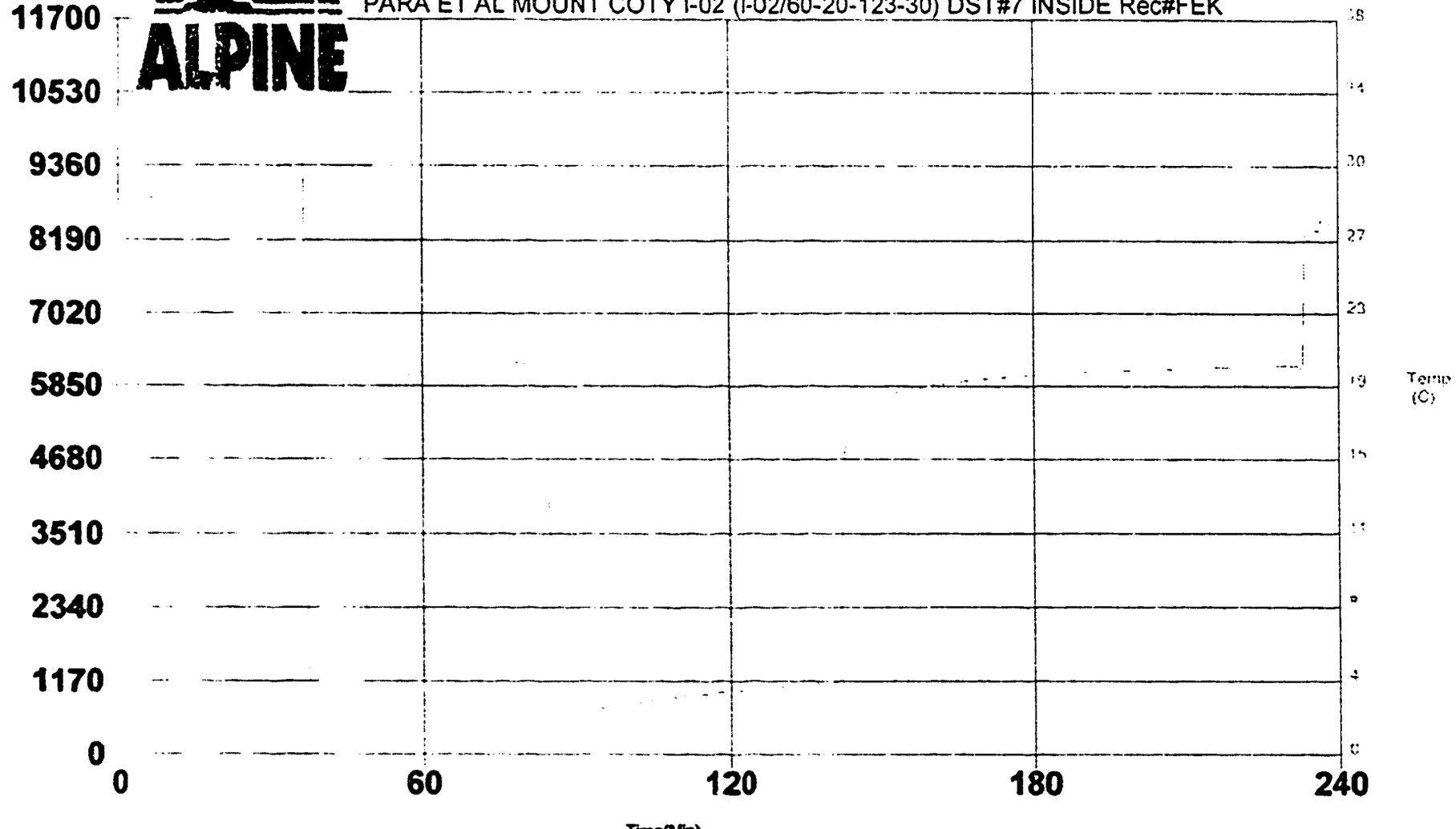
WELL LIC# 1884

Total fluid recovery was meters, consisting of fresh water.

ALPINE

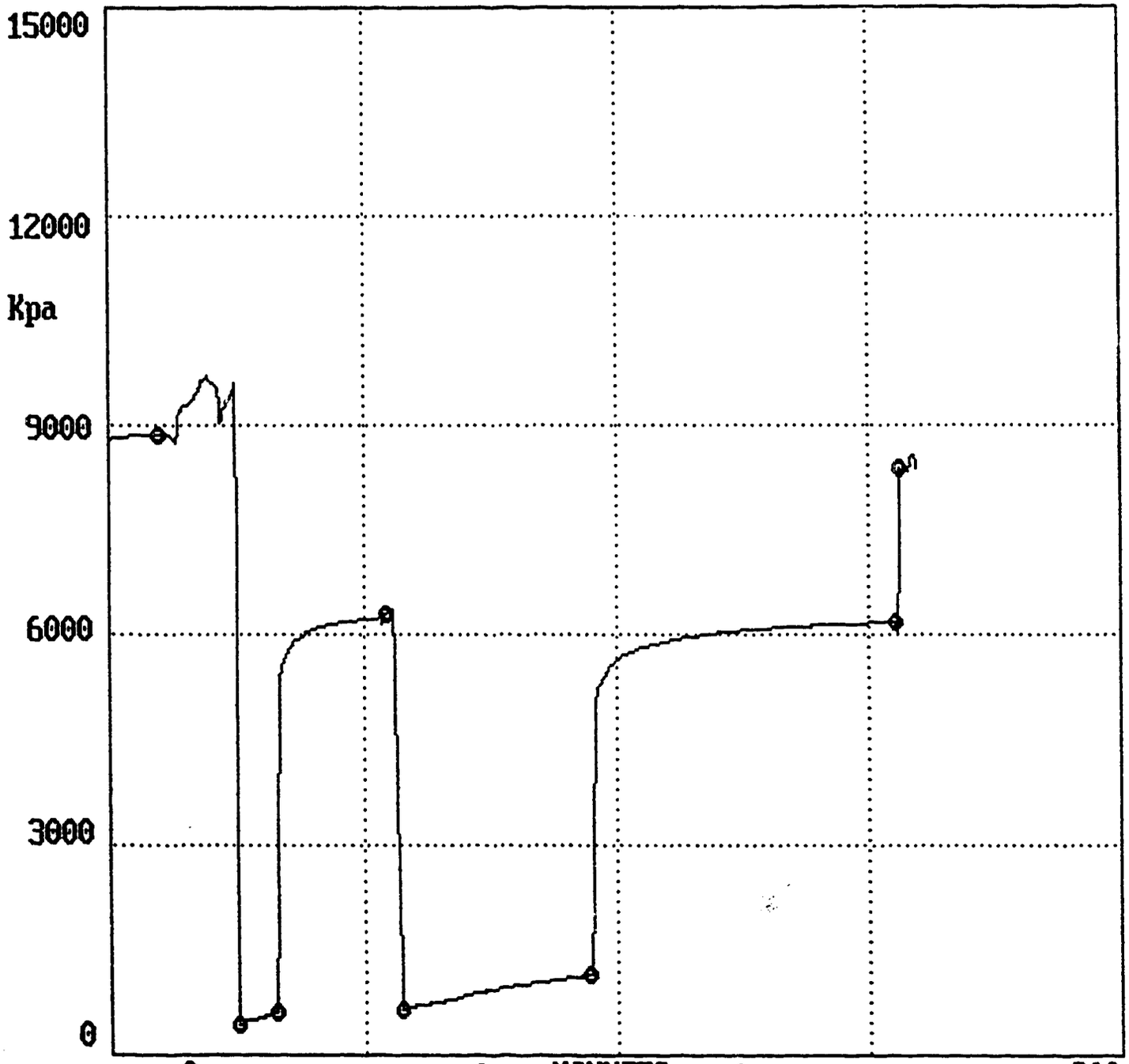
Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 INSIDE Rec#FEK



A - Initial Hydrostatic (1960)
B - Start of 1st Flow (61)
C - End of 1st Flow (61)
D - Start of 1st Shut-in (120)
E - Start of 2nd Flow (120)
F - End of 2nd Flow (155)
G - Start of 2nd Shut-in (6120)
H - Final Hydrostatic - 1937

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 7 CHINKEH (708.0m - 720.0m KB) DEC ,02,2000



IHP = 8860.3

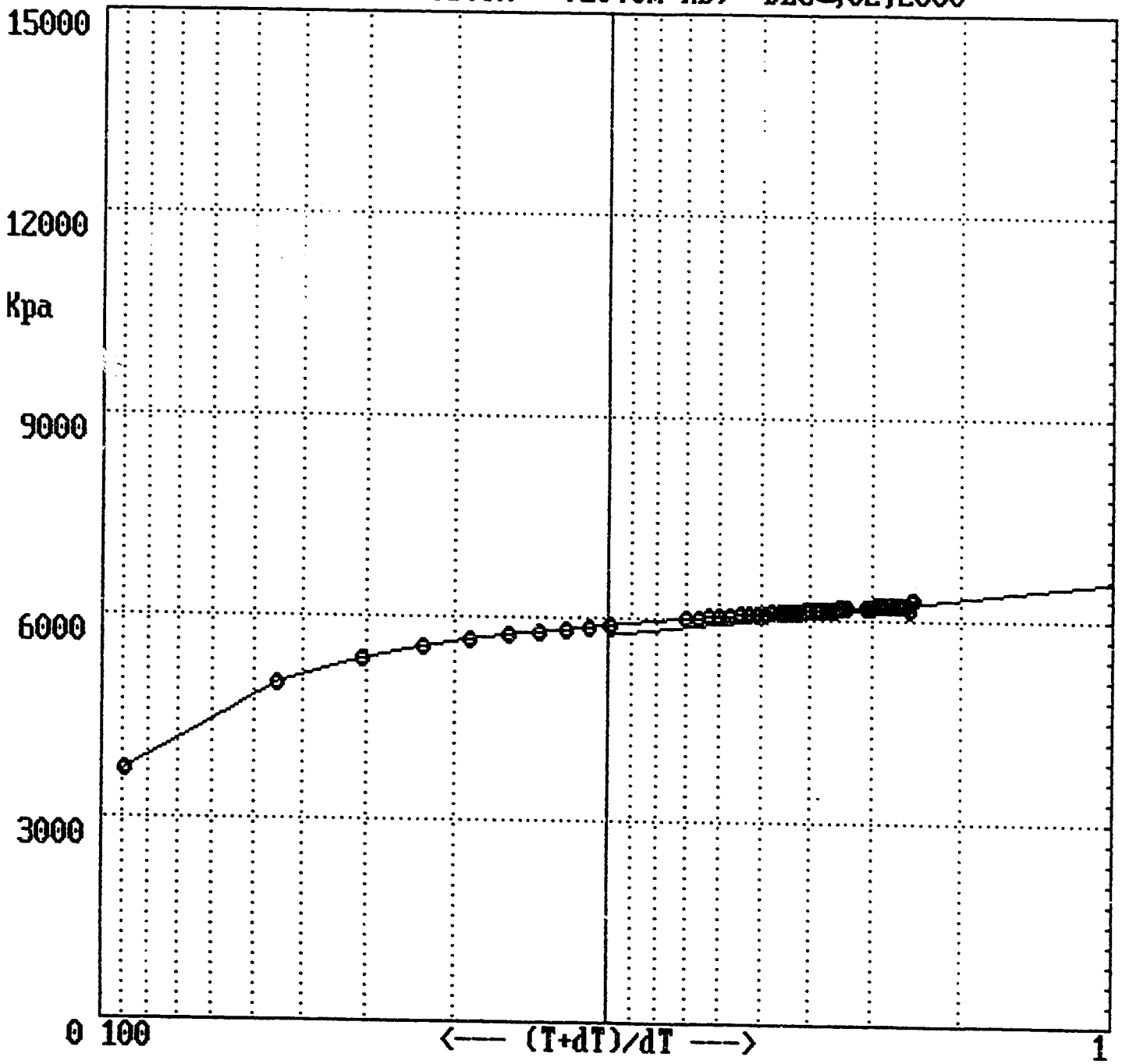
SF1 = 430.6
EF1 = 615.5
ES1 = 6293.0

SF2 = 650.3
EF2 = 1154.6
ES2 = 6179.4

FHP = 8371.3

PAKA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0

DST# CHINKEH (708.0m - 720.0m KB) DEC 02,2000

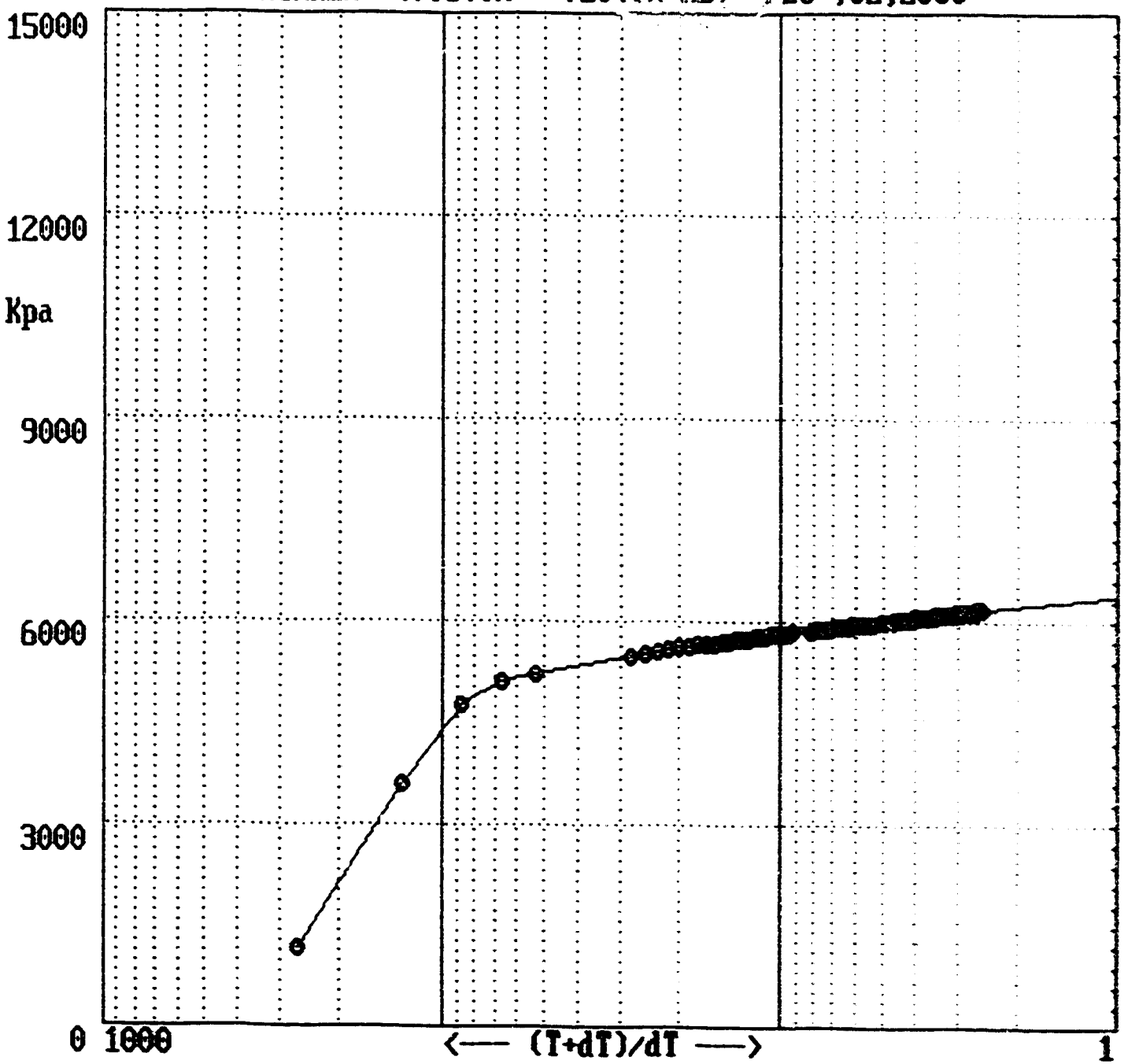


HORNER PLOT
SHUT-IN # 1

SLOPE =
840.5
kPa/cycle

Extrapolated
Pressure =
6579.2
Kpa

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 7 CHINKEH (708.0m - 726.0m KB) DEC ,02,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
496.5
kPa/cycle

Extrapolated
Pressure =
6379.5
Kpa

DAILY DRILLING SUMMARY

Para et al Mount Coty 1-02

1-02/60-20, 123-30

00-Oct-16	53	30	1.50	20.00	1000	43	-	8.5	Wait on water, rig in Continental mud-logging equipment, spud well @ 22:00hrs, drill 23-53m.
00-Oct-17	195	142	9.75	14.56	110-113	22-33	5.4-6.3	9.0-10.0	Drill 53-132m, circ. & cond. mud, drill 132-154m, lose circulation, cond. mud, mix & pump LCM pill, drill 154-164m, cond. mud & circ., POOH, mix LCM, RIH, drill 164-195m.
00-Oct-18	257	62	7.75	8.00	070-113	78-85	-	9.5-10.5	Drill from 195-208m, mix & pump LCM, drill from 208-232m, POOH for bit, RIH with Bit #2A, drill from 232-235m, trip for mud-ring, condition mud & circulate, drill from 235-257, run survey.
00-Oct-19	315	58	7.75	7.48	090-111	63-84	-	8.5-9.5	POOH for 222mm bit (pilot hole), RIH, drill 257-315m.
00-Oct-20	330	15	5.25	2.86	1070	75	-	9.0	Drill from 315-330m, POOH to pick up 311mm bit, RIH, ream pilot hole from 257-330m, POOH to pick-up directional tools.
00-Oct-21	453	123	16.25	7.57	080-109	74-78	-	8.5-9.0	Pick-up directional tools, RIH & test MWD tool, drill from 330-453m.
00-Oct-22	514	61	9.50	6.42	095-110	70-78	-	9.0-9.5	Drill 453m to stc. csg. pt. @ 514m, POOH, lay down directional tools, pick up 311mm bit, RIH, ream pilot hole from 330-423m.
00-Oct-23	514	0	0.00		-	-	-	-	Ream from 423-448m, POOH for bit, RIH, ream 448-514m, wiper trip, circulate & condition mud, POOH to run surface casing.
00-Oct-24	514	0	0.00		-	-	-	-	Run surface casing, cond. mud & circ., cement casing, WOC, tear out diverter, cut casing & conductor, cement casing, cut casing, weld on bowl.
00-Oct-25	516	2	0.50	4.00	-	-	-	-	Nipple up BOP, pressure test, pick up dir. tools, RIH, drill out cement, drill 514-516m.
00-Oct-26	720	204	13.75	14.84	000-105	28-42	11.0	8.0-10.5	Drill from 516-523m, LOT, drill from 523-720m, POOH for bit, RIH.
00-Oct-27	858	138	19.50	7.08	070-110	36-43	7.5-8.5	9.5-10.0	RIH, drill from 720-858m.
00-Oct-28	923	65	8.50	7.65	090-109	39-46	8.5	9.0-9.5	Drill from 858-876m, POOH for bit, RIH, ream 860-876m, drill from 876-923m, POOH for bit.
00-Oct-29	1007	84	17.25	4.87	080-110	41-51	0-11.	8.5-10.0	Change bit, RIH, ream 910-923m, drill from 923-
00-Oct-30	1052	45	13.00	3.46	090-111	48-51	7.5-8.0	10.0	Drill from 1007-1052m, POOH for bit, change out bit, test MWD tool.
00-Oct-31	1091	39	6.25	6.24	110-119	42-69	6.5-7.5	10.0	RIH, ream, drill 1052-1066, shut in well & circulate out gas kick, build mud wt., drill 1066-1069, shut in well, circ. out gas, build mud wt., drill 1069-1091m, commence POOH for DST, well flowing - return to bottom, build mud wt., POOH.

00-Nov-01	1091	0	0.00	-	1230	95	6.0	9.0	POOH, well flowing, build mud wt., POOH for DST, lay down tools, make up DST tool, RIH, run DST #1 (1058-1068m), circulate & condition mud (build wt.).
00-Nov-02	1091	0	0.00	-	1260	90	6.5	10.0	Circ. & cond. mud (build wt.) POOH, recorders not recovered, RIH & attempt to screw onto fish, POOH - no recovery, RIH with bit, circulate & WO fisherman.
00-Nov-03	1091	0	0.00	-	-	-	-	-	Circulate & condition mud while WO fisherman, POOH, pick up fishing tools, RIH, recover fish, POOH, lay down fish, pick up bit & directional tools, RIH.
00-Nov-04	1142	51	15.75	3.24	1300	82	5.5	10.5	RIH, work on directional tools, RIH, condition mud & circulate, RIH, drill from 1091-1142m.
00-Nov-05	1173	31	10.75	2.88	1300	73	6.0	10.5	Drill 1142-1147m, POOH for bit, RIH, slip & cut, RIH, break circulation & clean to bottom, drill 1147-1173m.
00-Nov-06	1207	34	14.00	2.43	1300	72-75	6.0	10-10.5	Drill 1173-1183, POOH for bit, RIH, break circultion & clean to bottom, drill 1183-1207m.
00-Nov-07	1254	47	14.25	3.30	300-132	70-75	6.0-6.2	10.5	Drill 1207-1248m, POOH for bit, RIH, break circulation & clean to bottom, drill 1248-1254m.
00-Nov-08	1281	27	17.25	1.57	290-134	75	6.0-6.5	9.5-10.5	Drill 1254-1281m, cond. mud & circ., POOH for bit.
00-Nov-09	1320	39	15.75	2.48	285-129	75	7.0-8.0	10-10.5	Change bit, RIH, slip & cut, RIH, ream to bottom, drill from 1281-1320m.
00-Nov-10	1350	30	10.50	2.86	270-128	73	7.5	10.0	Drill 1320-1327m, POOH for bit, RIH, break circulation & wash to bottom, drill 1327-1350m, POOH for bit.
00-Nov-11	1396	46	14.25	3.23	280-130	69-73	6.9-8.2	10.0	POOH for bit, change bit, RIH, break circulation & wash to bottom, drill 1350-1396m, run survey.
00-Nov-12	1428	32	12.75	2.51	280-130	74	7.0-7.5	10-10.5	POOH for bit, change bit, RIH, break circulation & wash to bottom, drill 1396-1428m.
00-Nov-13	1442	14	8.75	1.60	1280	75	7.5	10.0	Drill 1428-1428.8m, POOH for bit, change bit, RIH, slip & cut, RIH, break circulation & wash to bottom, drill 1428.8-1442m, POOH for bit.
00-Nov-14	1467	25	15.75	1.59	270-127	60-65	7.5-7.9	10.0	Change bit, RIH, cond. mud & circ., drill 1442-1467m.
00-Nov-15	1490	23	11.25	2.04	1270	80-11	8.0	10.0	Drill 1467-1471m, POOH for bit, change bit, RIH, ream 1448-1471m, drill 1471-1490m.
00-Nov-16	1510	20	8.50	2.35	260-128	65-70	8.0	10.0	POOH for bit, change bit, RIH, ream 1479-1490m, drill from 1490-1510m, cond. mud & circ., POOH for bit.
00-Nov-17	1535	25	14.00	1.79	260-127	60-70	7.5	10.0	Change bit, RIH, cond. mud & circ., drill 1510-1535 m
00-Nov-18	1556	21	6.50	3.23	260-127	57-60	7.5	10.0	RIH, drill from 1547-1556 m
00-Nov-19	1587	31	17.50	1.77	270-127	65-70	7.4	10.5	Change bit, RIH, cond. mud & circ., drill 11556-1587 m
00-Nov-20	1625	38	20.50	1.85	280-128	61-62	7.7	10.0	Drill 1587-1625m, cond. mud & circ., POOH for bit.
00-Nov-21	1640	15	9.00	1.67	270-127	57-60	7.2	10.5	POOH for bit, change bit, RIH, break circulation & wash to bottom, drill 1625-1640 m.
00-Nov-22	1663	23	20.00	1.15	275-128	57-59	7.0	9.5	Drill from 1640-1663m. POOH for bit.
00-Nov-23	1689	26	17.50	1.49	1280	68-69	7.0	10.5	Change bit, RIH, cond. mud & circ., drill 1663-1689 m.
00-Nov-24	1705	16	12.50	1.28	1280	63-66	7.0	10.5	Drill 1689-1705m, POOH for bit, lay down MWD tools, rig repair, RIH, slip & cut, RIH.
00-Nov-25	1744	39	20.75	1.88	270-128	80	6.0-6.5	10.5	RIH, drill from 1705 to FTD of 1744m, circulate bottoms up, condition mud.
00-Nov-26	1744	0	0.00	n.a	1275	80	6.5	10.5	Wiper trip to sfc. csg., condition mud & circulate, POOH, rig to & log Run #1, commence Run #2.

00-Nov-27	1744	0	0.00	n/a	-	-	-	-	Complete Run #2, log Run #3 (RCOR), make up DST tool, RIH to run DST #2 (706-717m).
00-Nov-28	1744	0	0.00	n/a	-	-	-	-	RIH to run DST #2 - misrun, POOH, breakdown tool, makeup DST #3, RIH, run DST #3.
00-Nov-29	1744	0	0.00	n/a	1270	65	7.0	10.5	Run DST #3, POOH, breakdown & layout test tool, RIH with bit, break circulation, cond. mud & circ., RIH to bottom, cond. mud & circ., POOH.
00-Nov-30	1744	0	0.00	n/a	-	-	-	-	POOH, make up test tool, RIH, slip & cut, RIH, run DST#4, hoist DST #4, reverse circulate, POOH, lay down recorders, make up DST #5, RIH.
00-Dec-01	1744	0	0.00	n/a	-	-	-	-	RIH, run DST#5, POOH, make up DST #6, RIH, commence DST #6.
00-Dec-02	1744	0	0.00	n/a	-	-	-	-	Run DST#6, POOH, make up DST #7, RIH, run DST #7, POOH, handle test tool.
00-Dec-03	1744	0	0.00	n/a	-	-	-	-	Lay down test tool, RIH, condition mud & circulate, POOH sideways, rig to & run casing.
00-Dec-04	1744	0	0.00	n/a	-	-	-	-	Run casing, circ. & cond. mud, rig to & cmt. casing, geologist released and off location @ 1400hrs.

WELLSITE LOGGING REPORT

Para et al Mount Coty I-02
I-02/60-20, 123-30

HOLE DATA	MUD DATA	LOGGING COMPANY
Hole Size: 222mm		**Logging Co.:** Baker Hughes
TD Driller: 1744.0m	**Type:** Gel-chem	**Engineer:** C. Butler
Strap: 1744.8m	**Density:** 1275	**Truck No.:** HL6577
TD Logger: 1743.2m	**Viscosity:** 80	**Start Date:** Nov. 26, 2000
Casing Driller: 514.0m	**W.L.:** 6.5	**Start Time:** 12:45hrs
Casing Logger: 512.0m	**pH:** 10.5	**End Date:** Nov. 27, 2000
Hole Condition: Good		**End Time:** 18:00hrs

LOGGING SEQUENCE

Run Number	Logged Interval From	To	Hours	Logs	Remarks
1	TD	Sfc. Csg.	8.25	HDIL-ZDL-CN-GR-XYCAL	
2	TD	Sfc. Csg.	5.5	ML-MAC-GR-XYCAL	
3	1720	712	15.5	RCOR	18 plugs
	Total Hours:		29.25		

LOGGING OPERATIONS SUMMARY

Date	From	To	Description of Operation
26 Nov 00	1245	2100	HDIL-ZDL-CN-GR-XYCAL
26 Nov 00	2100	0230	ML-MAC-GR-XYCAL
27 Nov 00	0230	1800	RCOR

REMARKS & COMMENTS

No problems on Runs #1 & 2 though there were some problems with repeatibility on the SP curve in the bottom ~100m. This was likely due to poor or no filtercake on this section with some flow from the formatio
There were 18 sidewall cores cut with 10 recovered.

INTRODUCTION

The Paramount et al Mount Coty I-02 well is located approximately 6 kilometres from the village of Fort Liard. This vertical exploration well was spudded on October 16, 2000 by Akita Drilling Rig #51 @ 22:00 hours. A Continental total gas detector and chromatograph was rigged up and running from surface to T.D. Samples were collected in 5 metre intervals from surface to F.T.D. The well reached F.T.D. at 1744 metres in carbonate of the Flett/Debolt November 25, 2000 at 22:45 hours. Sample quality was variable, ranging from generally adequate to periodically poor, due to a combination of factors which includes some inconsistent and improper sample-catching by rig personnel, as well as occasional problems with the mud-system and shakers.

The primary zone of interest was the Mississippian Mattson Formation, a predominantly clastic succession representing 5 different depositional environments of near shore marine to coastal plain systems. There were multiple zones within the succession occurring primarily in the coastal dune complex. Secondary targets in the well were the basal Cretaceous Chinkeh Formation, the Permian Fantasque Formation, and the Mississippian Flett/Debolt Formation. All zones of interest were gas targets.

A number of operational difficulties were encountered during the drilling of this well. Problems with hole deviation on the 311mm surface section necessitated drilling with relatively low FOB, slowing the progress of the well. At 257m a decision was taken to come out of the hole to change bits to 222mm in order to drill pilot hole to surface casing TD @ 514 metres. Initially the pilot hole was rotary-drilled but increasing deviation problems necessitated bringing in directional personnel. Directional tools were picked up at 330m and the remainder of the surface section was drilled with a mud-motor. Two days of reaming with the 311mm bit were required to complete the surface section which was completed on November 18. The main section from 514m to 1510m was drilled with a mud-motor to ensure control of potential deviation problems. At ~1510m a decision was taken to lay down the mud-motor and rotary-drill to FTD, which was completed with no problems on November 25.

One intermediate DST in the upper Mattson (i.e., DST #1: 1058-1068m) was conducted by Weatherford/Alpine Testing, commencing on November 1st and completed on November 2nd. Problems were encountered on this DST run. Upon pulling out of the hole after a successful test, it was discovered that part of the DST had been left in the hole (i.e., ~24m of the test tool from the safety joint down). An attempt to screw onto the safety joint was unsuccessful and a fishing operation was successfully conducted the following day.

A significant portion of the middle and lower sections of the Mattson Formation proved to be very hard drilling and resulted in extreme wear and short bit life. A total of 18 bits were required to drill ~681m of the Mattson, some of which were badly worn after as little as 8 hours of drilling. Problematically, the rocks in samples often did not appear hard enough to produce such extreme wear. The higher RPM involved with drilling with a mud-motor is one factor which likely contributed to shorter bit life. This theory appears to be supported by a significant increase in bit hours over the last few bits run in the lower Mattson after laying down the mud-motor and rotary-drilling to FTD.

Three logging runs were conducted upon reaching FTD, commencing on November 26th and completed on November 27th. The first two logging runs were conventional (i.e., #1: HDIL-ZDL-CN-GR-XYCAL; #2: ML-MAC-GR-XYCAL) and the third run was a sidewall core (i.e., #3: RCOR). A total of 18 sidewall cores were cut in three formations (i.e., 2 in the Flett/Debolt; 13 in the Mattson; 3 in the Chinkeh) with 10 cores recovered; 8 of the 13 cut in the Mattson were not recovered (see sidewall core report for details). After completion of logging a total of six DST's were run, commencing on November 27th and completed on December 2nd. Two DSTs were run in the Chinkeh (i.e., DST #2 (mis-run) & DST #7), three in the Mattson (i.e., DSTs #4-6) and one in the Flett/Debolt (i.e., DST #3). There were no significant problems encountered on the DST runs, excepting the mis-run on DST #2 when no packer seat was obtained (see attached DST reports for details). Production casing was run upon completion of the testing program.

FORMATION EVALUATIONS

PARAMOUNT ET AL MOUNT COTY I-02
300/I-02-60-20-123-30/00

LEPINE FORMATION

An erosionally-truncated Lepine Formation, overlain by ~92 metres of Quaternary glacial sands, comprises 284 metres of shale and siltstone at this locality. Two informal subdivisions are apparent; 1) an upper section ~177 metres thick consisting of shale with interbedded siltstone, and, 2) a lower section ~107 metres thick consisting of predominantly shale with minor interbedded siltstone. The upper shale is typically dark grey, firm, sub-blocky to sub-platy, sub-fissile, variably silty in part, and contains trace to minor glauconite. The lower shale is similar to that upsection but also contains trace to minor sideritic siltstone and siderite stringers. The siltstone is typically light to dark grey, very quartzose with trace to minor glauconite, trace to minor dark specks and rare to trace mica flakes. The siltstone is predominantly variably argillaceous with common to locally abundant silty argillaceous laminations and very thinly interbedded shale. The siltstone is variably indurated, ranging from poorly to very well indurated; however, they are typically moderately indurated. The predominant cement is silica with trace to minor locally abundant streaky calcareous cement. The siltstone is tight and without hydrocarbon shows. There are no rocks of economic interest in this formation.

CONCLUSION: The Lepine Formation has no economic potential at this locality.

SCATTER FORMATION

The Scatter at this locality comprises ~140 metres of sandstone with minor interbedded shale and siltstone. The shales are typically dark grey, firm to very firm, sub-blocky to sub-platy, commonly variably silty grading to argillaceous siltstone in part, and generally slightly glauconitic. The sandstone is typically light to medium grey, very fine grained & silty, quartzose, variably glauconitic, and commonly variably argillaceous to locally clean. Trace to minor siderite and sideritic-siliceous sandstone laminations are scattered through most of the section. The sandstone is typically moderately to well indurated with siliceous cement. These rocks are generally tight with minor streaky poor to occasionally fair porosity, which increases downsection.

Hydrocarbon shows were generally absent with the exception of the basal section from ~478-516m where shows consisted of slightly patchy to even, partly dead oil staining, minor spotty to patchy very dull fluorescence, and common poor to locally fair thin streaming and diffuse cut. There was minor gas response through this section but there is insufficient reservoir quality present to be of interest.

CONCLUSION: The Scatter Formation has no economic potential at this locality.

GARBUTT FORMATION

The Garbutt at this locality comprises ~145 metres of shale with interbedded siltstone & minor sandstone. Two basic divisions are apparent at this locality; an upper ~90 metre section which is dominated by siltstone with interbedded shale and minor sandstone, and the lower ~40m of the formation which comprises shale with minor interbedded siltstone.

The siltstone is very similar to the overlying basal Scatter sandstone. The siltstone is typically dark to medium brown, predominantly variably argillaceous to locally clean with abundant quartz, trace to minor glauconite and minor dark lithic grains. There are common to abundant argillaceous partings and laminations and it is variably sandy in part locally grading to silty sandstone. The rocks are moderately to well indurated with siliceous cement. There was predominantly no visible porosity in these rocks. Minor streaky poor porosity was occasionally observed. Hydrocarbon shows were generally very poor and consisted of minor to locally common poor slow streaming and diffuse cut with no fluorescence in the uppermost ~10 metres decreasing to trace in the underlying ~20 metres. There were no significant gas shows in this section.

The shale is typically dark grey, platy to sub-platy, fissile and commonly brittle. The shale is slightly to moderately silty in part with siltstone laminations and locally variably carbonaceous. The Radioactive Zone is not well-developed at this locality; bentonite is rare in samples and the strong radioactive kick that is characteristic of the zone on e-logs is absent, suggesting that this locality is at or near the limit of regional correlation for this unit. The shale through the Radioactive Zone is very similar to the overlying shale but becomes predominantly non-silty.

CONCLUSION: The Garbutt Formation has no economic potential.

BULLHEAD FORMATION

The Bullhead consists of ~53m of shale. The shale is quite similar to the overlying Garbutt shales but becomes carbonaceous in minor part. Bentonite increases slightly to a trace occurrence and is dominantly white to cream coloured and slightly tuffaceous. Trace to minor siltstone laminations/stringers were observed and trace siderite & sideritic siltstone occur in the basal section.

CONCLUSION: The Bullhead has no economic potential.

CHINKEH FORMATION

The Chinkeh Sand at this locality comprises ~14 metres of sandstone with minor interbedded shale. There is a thin Chinkeh Silt zone (i.e., ~2.5 metres) at the top of the section. The sandstone is typically light grey to light brown, very fine to fine-grained, clean and variably silty in part. The composition is very quartzose with trace dark lithic grains and ranges from non-glauconitic to moderately glauconitic, comprising sublitharenite to quartzarenite. The rocks are variably indurated, ranging from commonly poorly indurated and crumbly to moderately to locally well indurated. Cements consist of common siliceous, minor dolomitic cement and trace to minor spotty kaolin/illite. Subhedral quartz overgrowths range from minor to common. Visible porosity was variable in samples; typically fair to good with tight streaks in the upper section with minor to common poor to marginally fair porosity (i.e., 4-7%). Hydrocarbon shows were generally absent and consisted of traces of spotty dead oil stain. There was no gas response in this formation.

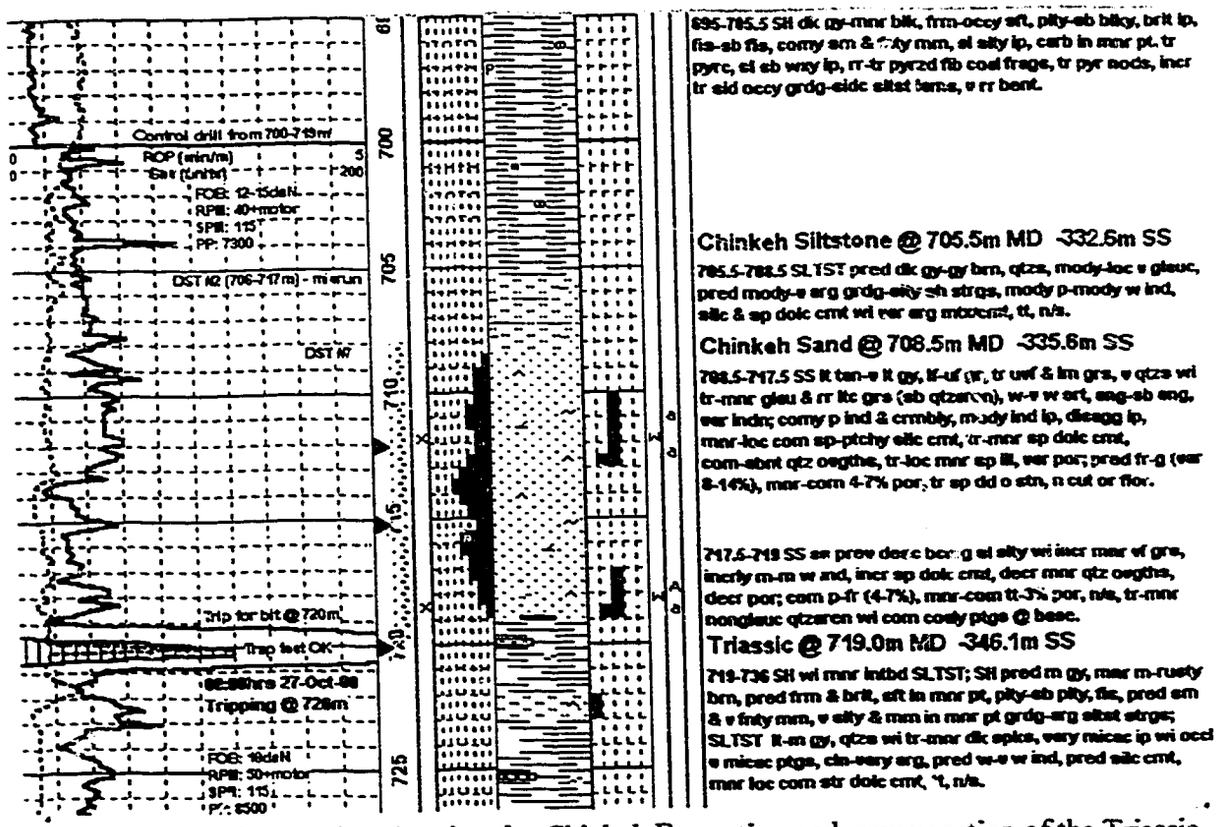


Figure 1. [illegible]-log section showing the Chinkeh Formation and upper section of the Triassic. Note the absence of gas response.

CONCLUSION: The Chinkeh Sand has some fair to good reservoir-quality intervals at this locality; however, hydrocarbon shows & gas response were absent and indicate that the zone is

CONCLUSION: The Chinkeh Sand has some fair to good reservoir-quality intervals at this locality; however, hydrocarbon shows & gas response were absent and indicate that the zone is wet, confirmed by induction logs and DST #7. This interval has no economic potential at this locality.

TRIASSIC (TOAD/GRAYLING FORMATIONS)

The Triassic comprises ~67 metres of shale with minor interbedded siltstone. The siltstone occurs mainly in the upper section (i.e., 719-740m MD) and is light to medium grey, quartzose, and variably micaceous. The rocks are predominantly well indurated with common siliceous and locally common dolomitic cement. There was no visible porosity or hydrocarbon shows in these rocks.

The shales consist of two basic types; 1) medium to dark grey, and 2) maroon to rusty red. These two types are interbedded with the minor interbedded siltstone more common in the grey shale sections. The grey shale is typically firm to hard, sub-fissile and variably silty with minor argillaceous siltstone laminations and stringers. This shale becomes slightly to moderately dolomitic from about 740m downsection. The maroon to red shale is typically firm to hard (becoming locally soft in the basal section), fissile and significantly less silty than the grey variety. This shale is variably dolomitic except in the basal section where it becomes non-dolomitic. A particular feature of note in the oxidized shale units is the variable content of 'bentonitic' clays (i.e., smectitic swelling clays) which increase downsection, as manifested by common to abundant mud clay in the wash with a significant loss of sample volume.

Both these shales are mainly interbedded and interlaminated in part, most likely at the transitions between the two facies which appear to represent subaqueous (grey shale & minor siltstone) and periodically or wholly subaerial (oxidized shale) depositional environments.

CONCLUSION: The Triassic has no economic potential at this locality.

BELLOY FORMATION

The Belloy Formation comprises ~47 metres of predominantly chert with interbedded sandstone and minor thin shale. This formation was interpreted to be absent at this locality. Three informal subdivisions can be made at this locality; 1) an upper division from ~791-806m consisting of predominantly chert with minor interbedded sandstone, 2) a middle division from ~806-825m comprised of argillaceous to slightly phosphatic lithic wacke with interbedded glauconitic chert and variably phosphatic to cherty to hematitic mudstone, and 3) a lower division from ~825-839 consisting of sublitharenite to subwacke with a basal chert unit.

The chert ranges in colour from very pale to dark brown & brownish grey. The chert is typically moderately to very glauconitic and commonly variably sandy to silty locally grading to cherty sandstone. The upper chert is characterized by a common granular texture on cuttings, locally crumbly nature and a variable argillaceous content that locally grades to minor cherty glauconitic mudstone with trace pyritized spicules and worm burrows. The chert is generally tight with trace to minor poor to rarely fair microvug to vug porosity. There is inferred local fair fracture porosity in the upper section. The lower chert is similar in many respects but is generally very glauconitic and includes an unusual hematitic component that grades to cherty mudstone.

The sandstone consists of two basic types; 1) upper sand - dark grey, quartzose lithic wacke composed of common to abundant clear to varicoloured quartz, minor to common varicoloured lithic grains. Texturally, the sandstone is moderately poorly sorted, upper very fine to lower medium grained with common to abundant argillaceous to slightly phosphatic matrix and locally grades to sandy mudstone. The sandstone is variably silicified in part and contains unusual common to locally abundant apatite (?) blebs and rare crystals. The rock is tight with no shows, 2) lower sand – predominantly well-sorted, fine grained sublitharenite locally grading to quartzose lithic wacke and has a similar composition to the overlying sand with the addition of trace to minor glauconite. The sandstone is predominantly disaggregated with minor consolidated cutting with tight siliceous cement and minor to common dolomitic cement. Unusual minor spotty to patchy limonitic(?) cement/matrix was observed. Common poor to fair porosity was inferred. There were no hydrocarbon shows in these rocks.

There was a significant increase in gas readings upon penetration of the formation and a few minor thin gas shows in the section; however, the gas response is generally poor. Other hydrocarbon shows consist of minor to common dull to moderate yellow green fluorescence with common poor slow streaming and very thin diffuse cut in the upper chert section (i.e., ~791-805m).

CONCLUSION: There is some localized fair fracture porosity in the upper Belloy and common fair to poor porosity in the lower sand; however, poor hydrocarbon shows & gas response indicate the Belloy has no economic potential at this location. The Belloy is of potential economic interest in the area if fracture systems and/or sandstone porosity are sufficiently developed and gas-charged.

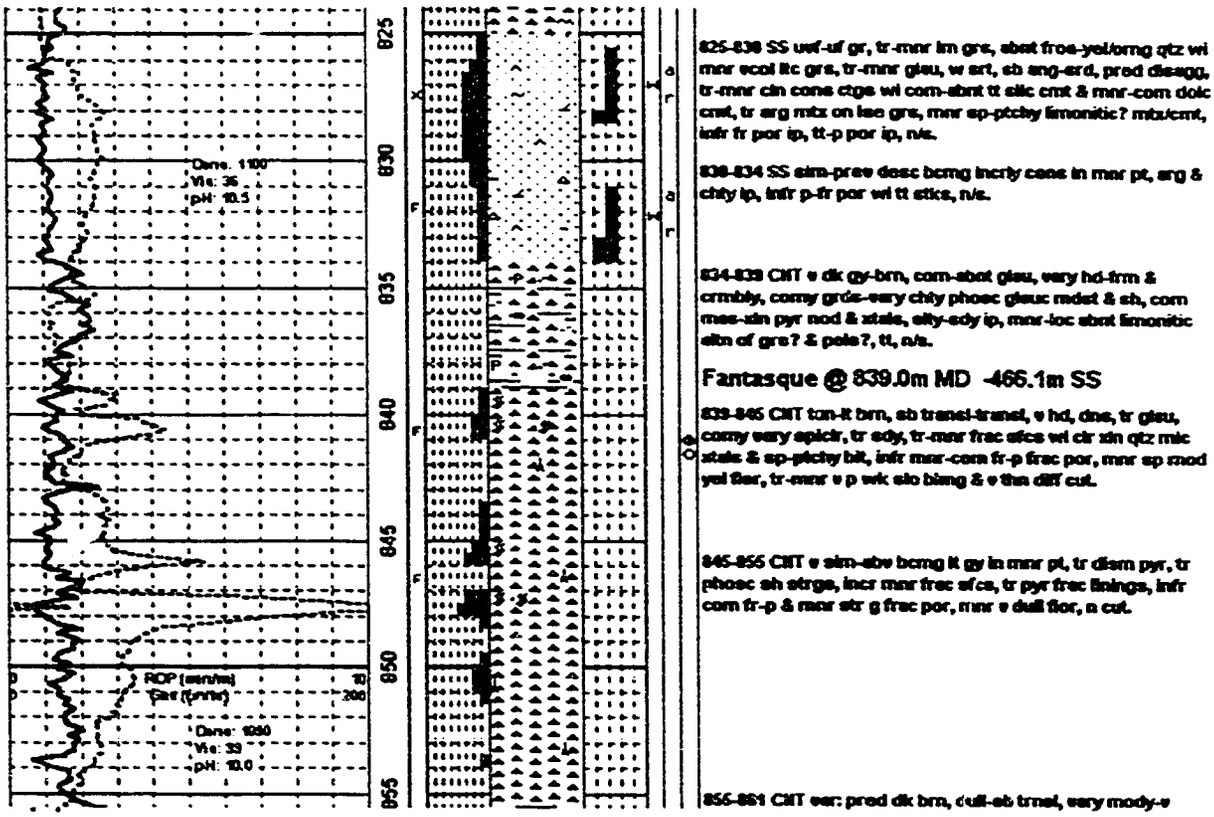
FANTASQUE FORMATION

The Fantasque Formation consists of ~83 metres of bedded chert with very minor shale. The chert is variable with three basic types apparent. The first type (from ~837-855m) is generally light brown to light grey, commonly translucent, very hard & dense, and commonly variably spicular. The second variety (from ~855-864m) is commonly dark brown, sub-translucent to non-translucent, variably glauconitic and ranges from hard & dense to variably firm & crumbly with a common granular texture. This chert variety is commonly argillaceous and locally grades to cherty phosphatic mudstone. The third and most uniform variety (from ~894-920m) is typically light grey to pale brown, translucent, and commonly pelletal to mottled. It is distinct by virtue of the common dark brown pellets and mottles which are ubiquitous. This chert shows the most evidence of hydrothermal silicification (discussed below) and fracturing which increases downsection. The section from ~864-894m is comprised of variable amounts of all three varieties.

Planar fracture surfaces are ubiquitous throughout the section, though generally minor except in the basal Fantasque, and are often lined with different varieties of quartz, discussed below. Locally, pyrite was also observed coating fracture surfaces. Porosity consists of localized fractures which are inferred to range from good to poor and increase downsection to become common in the basal section. There is rare to trace scattered poor moldic & microvug porosity.

The chert has numerous fractures throughout the section and there are a number of features related to the fractures that are worthy of note. Silica-saturated hydrothermal fluids have moved through the fracture systems in at least two stages. The first and primary episode of silica precipitation is manifested in the form of locally common finely laminated chalcedonic and milky quartz fracture linings and 'heals'. The chalcedony occasionally has a colloform habit. The second, apparently minor, stage takes the form of clear subhedral to euhedral quartz crystal linings that are often precipitated on top of chalcedonic or milky quartz fracture linings. The chalcedonic and milky quartz become increasingly common downsection (i.e., ~898-920m) where the chert shows evidence of variable degrees of hydrothermal silicification, manifested by the ubiquitous presence of random to localized chalcedonic to milky quartz mottles and 'blebs' in addition to the fracture heals, fillings and linings by the same material. The boundaries are typically diffuse, even with the obvious fracture-related fills, underlining the locally pervasive nature of the alteration. This diagenetic artifact in the lower Fantasque was also noted on the I-46/60-10-123-15 and b-43-K/94-O-14 wells and confirms the regional scale of this hydrothermal event.

Figure 2. Strip-log section showing lower Belloy & upper Fantasque Formations. Note fracture zone in upper Fantasque with gas show.



Hydrocarbon shows were typically absent to locally very poor and consisted of rare to trace spotty oil stain or bitumen, trace to minor spotty dull fluorescence with traces of questionable cut, excepting the uppermost interval where there was minor spotty moderate yellow fluorescence with trace to minor very poor, slow blooming and very thin diffuse cut. There was a fair thin gas show at the top of the formation and some minor gas response scattered throughout the section; however, there was no gas crossover on logs.

CONCLUSION: The Fantasque at this locality has some fair localized fracture porosity; however, poor gas response & e-log characteristics indicate that the Fantasque has no economic potential at this location but is of economic interest in the area.

KINDLE FORMATION

The Kindle Formation comprises ~45 metres of siltstone with minor interbedded limestone & dolomite at this locality. The siltstone is typically medium to dark brown, quartzose, and slightly to locally moderately argillaceous with trace argillaceous partings. The siltstone is generally very dolomitic locally grading to very silty dolostone. The rocks are generally moderately to well indurated and tight with abundant dolomitic cement upsection grading downsection to abundant calcareous cement. The basal Kindle grades to silty limestone. The limestone is very dark brown to grey, cryptocrystalline to microcrystalline, variably dolomitic, and very silty and argillaceous grading to calcareous siltstone.

Hydrocarbon shows generally consisted of locally common very dull yellow green fluorescence with variably minor to common poor thin yellow white streaming and diffuse cut which decreases downsection. An unusual hydrocarbon show consisted of condensate and minor light oil over the shaker in the basal section which appears to be derived from a fracture zone at 953m. There is a minor lithological change at ~945m to a very quartzose, very well indurated, dense siltstone. Rare to trace fracture surfaces and sparry calcite fracture-fill were observed in this interval.

CONCLUSION: The Kindle Formation has no reservoir-quality intervals and hence, no economic potential at this locality.

MATTSON FORMATION

The Mattson Formation comprises 681m of sandstone with minor interbedded shale and carbonate. The section is strongly sand-dominated with generally minor carbonate & shale. Locally, carbonate becomes an important subordinate to dominant lithology (i.e., 1150-1205m). There are two basic types of sandstone in the Mattson succession that are generally representative of their respective environments; 1) very fine to fine grained quartzarenite to minor sublitharenite of shoreface affinity, 2) upper very fine to lower medium grained quartzarenite to sublitharenite of eolian origin. A third variable type of sandstone consists of very fine to medium grained quartzarenite to quartzose subwackes of transitional facies but are generally of no economic interest. It seems reasonable to assume various degrees of reworking of both eolian and shoreface deposits during subsequent transgressions and regressions, making distinction between the two types sometimes unclear.

Five separate lithofacies have been identified in the Mattson succession in this area; 1) storm-reworked shoreface, 2) muddy shoreface or lagoon & tidal flat, 3)) wave-reworked shoreface, foreshore and backshore, 4) coastal dune complex, and 5) interdune swamp & paleosoil. All five of these lithofacies appear to be represented at this location. The Mattson Formation at this locality correlates well with the UCEL Liard K-02 well, although some degree of stratigraphic thinning is apparent at I-02.

The Mattson succession can be broadly subdivided into two lithostratigraphic 'megasequences' at this locality; 1) a mixed marginal-marine/eolian section, generally dominated by shoreface deposits of Lithofacies #1 and Lithofacies #3 from 963-1423m (i.e., middle & upper Mattson), and 2) a terrestrial section dominated by eolian deposits and associated lithofacies from 1423-1644m (i.e., lower Mattson).

Shoreface Sandstone

The shoreface sandstone represents two different depositional controls in similar environments; 1) storm-reworked shoreface with associated minor carbonate interbeds, and 2) wave-reworked shoreface, foreshore and backshore. The primary distinction between the two appears to be the presence or absence of minor carbonate interbeds.

The shoreface sandstone is a typically very light grey to light brown, well-sorted quartzarenite with trace amounts of dark lithic grains which can occasionally be identified as chert. The quartz is predominantly clear and angular to sub-rounded. Variable degrees of reworking and input from eolian sources is apparent where there is a minor frosted quartz component. These sandstones are predominantly very fine to fine grained with the very fine grained fraction typically dominant. The sandstones are generally variably silty, ranging from trace to common, and locally grade to sandy siltstone in minor part. Argillaceous content is typically nil in these clean quartzarenites. Locally, the sandstone becomes slightly to moderately argillaceous and usually has argillaceous partings and laminae associated with it. Upsection (i.e., ~1273-1290m), some sandstone has a variably trace to minor component of outsized (i.e., medium to fine) unusual blue, partly tripolitic chert grains and grades to sublitharenite. This appears to be a regional provenance marker, as noted on previous wells (i.e., I-46/60-20-123-15 & b-43-K/94-O-14). Locally, the sandstone becomes a sublitharenite with an added minor component of carbonate grains and skeletal debris.

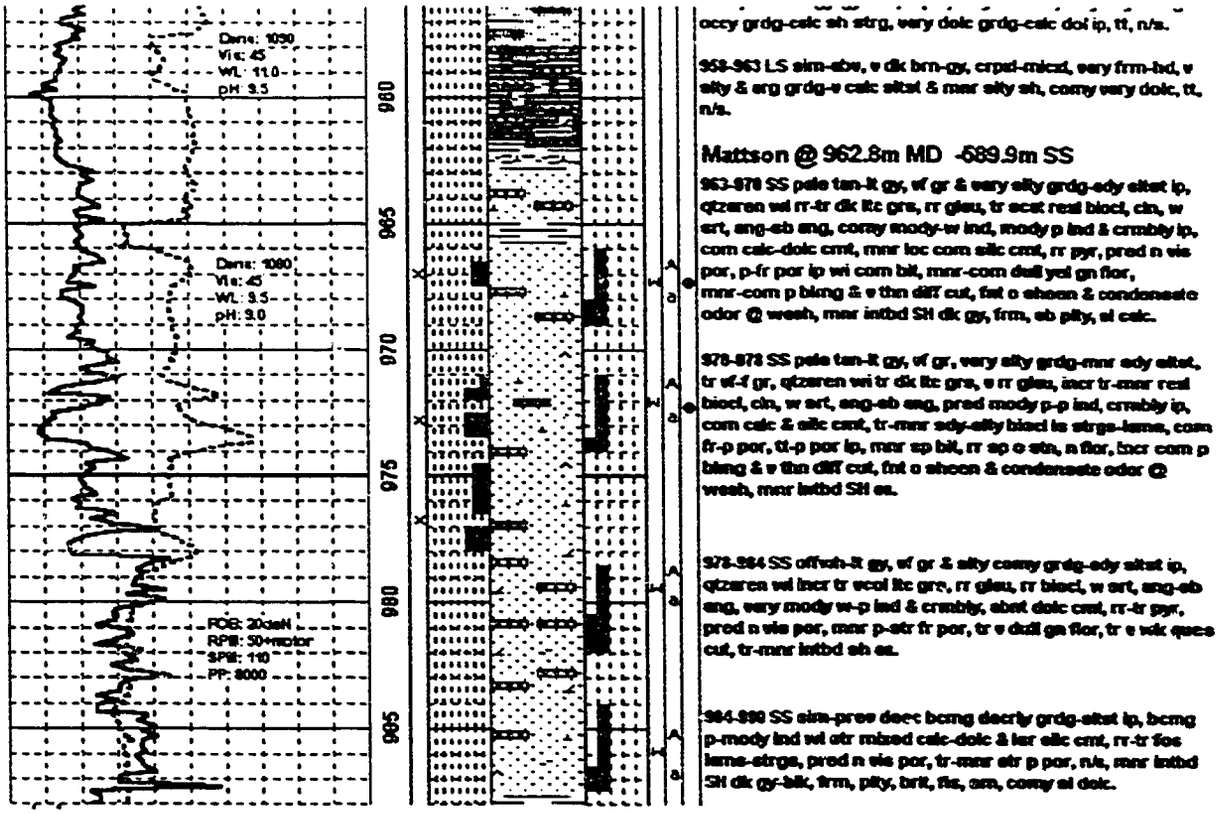


Figure 3. Striplog section showing typical Lithofacies #1 interval (shoreface) in the upper Mattson Formation. Note minor thin gas shows between 971-979 metres.

The shoreface sandstone is variably indurated throughout the succession, ranging from moderately well to poorly indurated & friable to crumbly. Visible porosity was commonly poor (i.e., tight to 3%), even in some poorly indurated sandstone where matrix porosity is likely to be at least a few percent. Sections with poor to fair and occasionally good porosity were observed; however, this better porosity was a generally minor component in consolidated cuttings. Samples often contained a variable disaggregated fraction, including sandstone that is generally tight in the writer's opinion, making porosity estimates somewhat problematic. To some degree at least, porosity distribution appears to be of a streaky to patchy nature, given the variability of visible porosity in cutting of the same sandstone. Cements are generally of mixed carbonate-siliceous type and locally wholly carbonate; upsection the carbonate cement is entirely calcareous (with one exception @ 978-984m) and is replaced by dolomitic cement at ~1140m. Permeability is estimated to be generally poor in much of this lithofacies, given the very fine-grained, silty nature of the sandstone and the typically common to abundant cements.

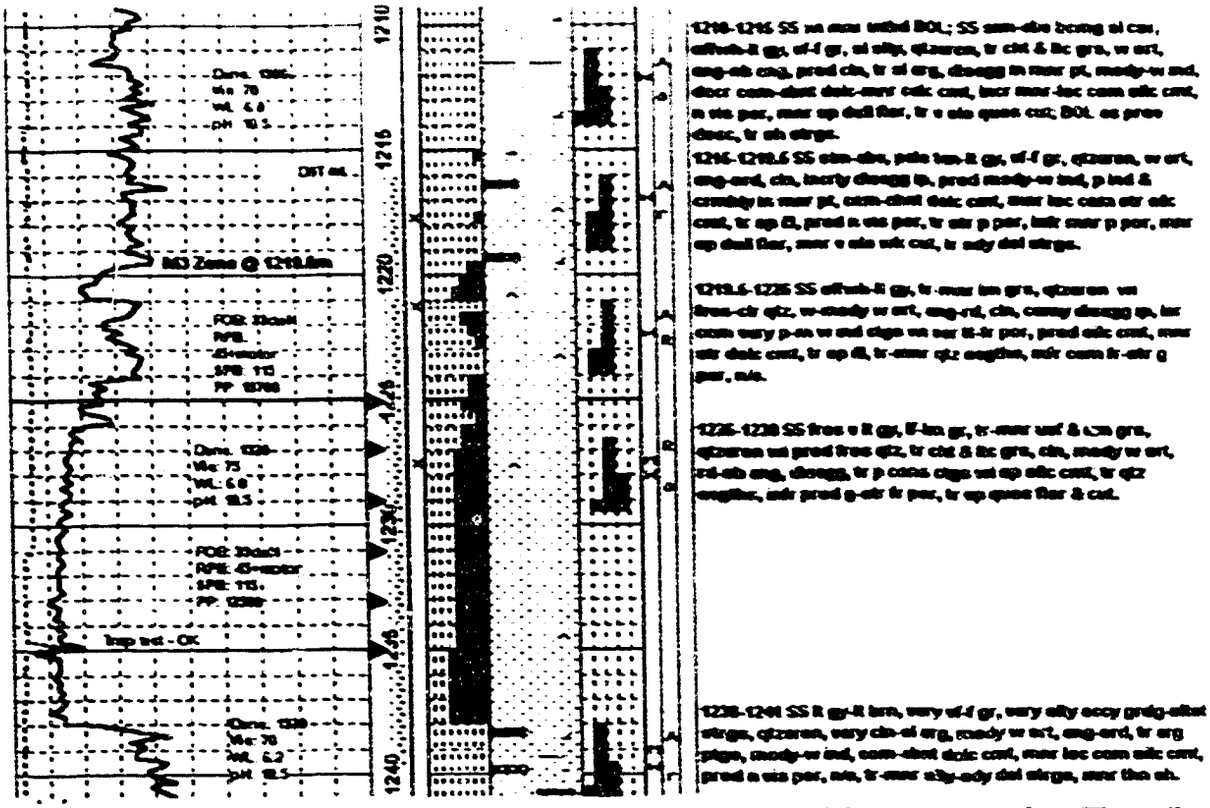


Figure 4. Striplog section showing typical Lithofacies #4 in the Mattson Formation. The eolian facies is overlain & underlain by shoreface sandstone & minor carbonate of Lithofacies #1.

Eolian Sandstone

Eolian sandstone can be usually distinguished from the shoreface quartzarenite by virtue of its coarser grain size and the presence of frosted quartz grains. The sandstone is typically very light grey to light brown, moderately to moderately well sorted with angular to rounded grains. A much greater degree of rounding than is seen in shoreface sandstone is apparent where grain surfaces have not been modified by quartz overgrowths. These sandstones tend to have less compositional maturity than shoreface sandstone due to a generally higher minor chert fraction. Compositionally, the sandstone consists of abundant quartz with a variably minor to common frosted component and trace to minor predominantly dark varicoloured chert and lithic grains, comprising quartzarenite to minor sublitharenite. These sandstones are typically very fine to lower medium grained with a fine median grain size. Trace to minor coarse grains are often present. The eolian sandstone tends to be poorly to very poorly indurated and very friable. They are commonly variably to wholly disaggregated in samples. Cements are generally minor and typically siliceous with a spotty to patchy distribution. Locally, spotty to patchy calcareous/dolomitic cement is a minor occurrence. Quartz overgrowths range from minor to common to locally abundant. Rare to trace interstitial pyrite was also commonly observed.

calcareous dolomitic cement is a minor occurrence. Quartz overgrowths range from minor to common to locally abundant. Rare to trace interstitial pyrite was also commonly observed.

The best porosity in the Mattson appears to be largely lithofacies-dependant and typically confined to eolian deposits. Porosity was variable in the generally minor consolidated fraction and ranged from typically fair to locally poor to good. Porosity was inferred to be predominantly fair to good in most eolian sandstone.

Diagenesis

Some general diagenetic associations are apparent with regard to the different lithofacies and are as follows; 1) Siliceous cementation is wholly or strongly dominant in eolian and related depositional environments (i.e., transitional sandstone in interdune swamp & paleosol environments), 2) Dolomitic-calcareous cementation appears to be largely confined to shoreface environments. Mixed siliceous-carbonate cements appears to be more common in shoreface environments downsection than purely carbonate cements which dominate the upper Mattson, indicating at least two stages of authigenic cementation.

There is a significant change in cement type at ~1423m, where dolomitic cement becomes a trace to minor component of the cements. This corresponds to the top of the M7 Zone which is an eolian deposit. Some of the very-fine to fine grained quartzarenite of apparent shoreface origin likely represents coastal plain environments for part or all of its depositional and diagenetic history, given the frequency of transgressive/regressive episodes. Consequently, some of the shoreface sandstone has likely had a mixed marine-terrestrial early diagenetic history which may account for the different diagenetic associations observed downsection (i.e., ~1423m onward), where sandstone is predominantly to wholly silica-cemented.

Common to locally abundant subhedral to euhedral quartz overgrowths are typically associated with the best porosity, primarily in eolian deposits. Traces of spotty kaolin/illite were observed in predominantly terrestrial deposits. Pyrite cements and nodules are commonly associated with Lithofacies #5 (terrestrial) where it occurs in massive, crystalline and disseminated forms. The presence of unusual very bituminous claystone and coaly to bituminous shale is a typical co-association.

Stylolitic networks observed in quartzarenite in the lower Mattson on the b-43-K/94-O-14 well (i.e., ~2250-2255m) were also found to occur at this locality. Traces of possible stylolites were first observed at ~1460m and common unequivocal stylolites were noted in the 1510m sample. The stylolites appear to occur sporadically throughout the remainder of the section.

Hydrocarbon Shows & DST Results

Hydrocarbon shows were generally very poor, typically consisting of variably minor to abundant, patchy to even, dull to bright yellow to yellow white to yellow green fluorescence and trace to minor thin, faint yellow white diffuse to streaming cut to questionable or no cut. Exceptions to the above occur in a number of intervals in the upper and middle Mattson, where shows were poor to fair; 1) 1015-1035m: minor to common oil at the wash, minor to common spotty to patchy dull yellow green fluorescence, minor to common poor slow streaming & thin diffuse cut; 2) 1059-1065m: common to abundant slightly patchy pale green to yellow green fluorescence, common fair, milky diffuse & streaming cut (minor oil sheen and strong condensate odour noted at wash); 3) 1080-1085m: traces of spotty bitumen, abundant moderate to bright pale yellow green fluorescence, common poor, thin diffuse cut; 4) 1275-1280m: minor to locally common spotty bitumen, common dull green fluorescence, common slow blooming & diffuse cut; 5) 1300-1305m: common dull green fluorescence with common poor thin diffuse & streaming cut (in a tight dolomite); and 6) 1383-1390m: common to abundant bitumen, common spotty dull to moderate fluorescence, common poor to fair streaming & diffuse cut.

A number of fair to good gas shows were recorded during the drilling of the Mattson; however, all of these were thin (i.e., 1-3 metres) An intermediate DST (#1) was run on the 1058-1068m interval; the preflow produced a strong air blow in 20 seconds with gas to surface in 1.75 minutes increasing throughout with a 2.5m flare. The VO had GTS immediately with a steady 3m flare. Flow rates indicate ~11,011 m^3/day from this zone. Liquid recovery was 180 metres of slightly oil-stained gasified mud. Three other DSTs were run in the Mattson with poor results; 1) DST #4 (1216-1240m – M3 Zone): weak air blow increasing to strong in 20 seconds becoming dead in 6 minutes (no GTS). The final flow had a strong blow immediately decreasing throughout to very weak air blow with no GTS. The liquid recovery was 711 metres of fresh water; 2) DST #5 (1134-1140m – M2 Zone): weak air blow 8cm into pail with no GTS. The final flow had a weak air blow to the bottom of the pail in 6 minutes with no GTS. The liquid recovery was 56 metres of fresh water; and 3) DST #6 (1075-1085m – M1 Zone): very weak air blow which remained throughout and no GTS. The final flow had a very weak air blow to the bottom of the pail in 15 minutes with no GTS. The liquid recovery was 197 metres of fresh water.

CONCLUSION: The Mattson has numerous fair to good reservoir-quality intervals at this locality and a number fair gas responses; however, most of the significant reservoir intervals either appear wet on induction logs or lack significant gas crossover. DSTs #4-6 showed the M1, M2 & M3 Zones (respectively) to be water-bearing. Despite these negative indicators, there are still some gas-bearing intervals present of commercial interest. This formation has fair economic potential at this location and good to excellent potential in the region.

GOLATA FORMATION

The Golata consists of ~65 metres of interbedded shale, sandstone and dolomite at this locality. The shales are varicoloured and range from black to very dark brown to rusty red/brown to grey green. The shale is typically platy and fissile and is variably dolomitic/calcareous in part to bituminous to carbonaceous in part. The dolomite is tight and ranges from very sandy to silty grading to dolomitic sand/siltstone to cryptocrystalline and variably cherty. Most of the sandstone consists of thin very fine grained & silty, tight subquartzarenite to quartzarenite that locally grades to siltstone. Downsection, the sandstone grades to sublitharenite with an added minor component of dolomitic grains. An unusually thick sandstone unit for the Golata in this region is found in the 1656-1664m interval. This unit had common poor to marginally fair porosity in the lower section of the unit. There were no hydrocarbon shows or significant gas response in the formation.

CONCLUSION: The Golata has no economic potential at this locality. The presence of a thick clastic unit with marginally fair reservoir characteristics suggests possible economic potential in the region.

DEBOLT FORMATION

Approximately 34 metres of the upper Debolt were penetrated at this location. The carbonate consisted of interbedded limestone and dolomite which are gradational in part. Textures are dominantly bioclastic packstone locally gradational to wackestone with some interbedded dolomite of indeterminate texture. Much of the calcareous dolomite has preserved a packstone to wackestone texture. Crinoid ossicles are the most common identifiable bioclast in both carbonate types and, locally at least, form the dominant bioclast (i.e., crinoidal packstone). Other minor to rare bioclasts include ostracodes & fusulinids.

Visible porosity was predominantly nil in these rocks; however, some fracture porosity was encountered in this section. Hydrocarbon shows in the section were typically very poor, consisting of minor to common dull yellow fluorescence with traces of very weak cut. One exception occurred in the ~1730-1740m interval where shows were slightly better with increasing minor poor thin diffuse cut. A DST (i.e., #3: 1709-1727m) was run across a fractured interval that had a very good, thin gas show of 3287 units. The preflow had a strong air blow immediately with GTS in 5 minutes and a lazy 3m flare. The VO had GTS immediately. Liquid recovery was 102m of gasified mud. Measured flow rates were low; 344m^3/day.

CONCLUSION: The upper Debolt has no commercial reservoir at this locality. The fractured gas unit is considered to have low potential for commercial production and is a poor candidate for reservoir enhancement.

LITHOLOGICAL DESCRIPTIONS

PARAMOUNT ET AL MOUNT COTY I-02
NWT I-02-60-20-123-30

311mm Surface Section

23-31 **TILL:** unconsolidated sand, very fine to lower medium grained, trace to minor upper medium grains, clear to frosted quartz with minor varicolored lithic grains, minor rusty quartz and K-spar grains, moderately well sorted, angular to subrounded, clean, **infer good porosity.**

31-40 **TILL:** unconsolidated sand, fine to coarse grained, trace to minor very coarse grains, quartzose as above with increasing common to abundant varicolored lithic grains (i.e., heterolithic grains including common granite), trace shale grains, moderately sorted, sub angular to rounded, clean, **infer good porosity.**

40-45 **TILL:** unconsolidated sand as previously described with increasing minor upper very coarse grains and occasional fine pebbles.

5-55 **TILL:** unconsolidated sand, predominantly fine to upper coarse grained, common very coarse grains and fine pebbles, pebbly to conglomeratic in part, quartzose as above, pebbles increasingly very heterolithic (including common granite), poorly sorted, sub angular to rounded, clean, **infer good porosity.**

55-63 **TILL:** unconsolidated sand, as previously described becoming slightly coarser, quartzose as above, pebbly to conglomeratic in part, trace argillaceous matrix, **infer decreasing good to streaky fair porosity.**

63-75 **TILL:** unconsolidated sand, upper fine to very coarse grained, trace fine pebbles, frosted to clear quartz (+ minor feldspar) with common varicolored lithic grains as above, moderately to moderately poorly sorted, angular to rounded, predominantly clean, trace argillaceous matrix, **infer predominantly good porosity.**

75-85 **TILL:** unconsolidated sand, medium to very coarse grained, minor fine grains, increasing common pebbles, conglomeratic, quartzose as above with polymict lithic clasts, poorly sorted, angular to rounded, predominantly clean, trace argillaceous matrix, **infer good to fair porosity.**

85-90.5 **TILL:** unconsolidated gravel, fine pebble, clast supported, medium to coarse grained sand matrix as above, very polymictic (abundant granitoid clasts, common siliciclastics, minor carbonates), poorly sorted, sub angular to rounded, **infer good to fair porosity.**

90.5-92.5 **TILL:** unconsolidated sand, fine to very coarse grained, frosted to clear quartz (+ minor feldspar) with common varicolored lithic grains as above, moderately to moderately poorly sorted, angular to rounded, **infer good porosity.**

LEPINE 92.5 m MD 280.5 m SS

92.5-102 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: light to medium grey, quartzose with minor scattered glauconite, trace dark specks, sandy in part occasionally grading to very fine sandstone laminations, **predominantly no visible porosity, trace scattered poor to rare fair porosity, rare to trace dead oil stain, minor oil sheen in wash, no fluorescence or cut;**

SHALE: dark grey, variably firm, sub blocky, minor sub platy, faintly micromicaceous, predominantly variably silty, common argillaceous to locally clean siltstone laminations and stringers, trace to locally minor glauconite.

102-110 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: as previously described;

SILTSTONE: medium to light grey, quartzose, variably glauconitic, trace dark specks, predominantly variably argillaceous, clean in minor part, well indurated with predominantly siliceous cement, minor streaky calcareous cement, common argillaceous partings, locally variably sandy occasionally grading to very fine sandstone laminations, **predominantly no visible porosity, no shows.**

110-115 **SHALE:** dark grey, variably firm, sub blocky, minor sub platy, faintly micromicaceous, predominantly variably silty, common argillaceous to locally clean siltstone laminations and stringers, trace to locally minor glauconite.

115-127 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: as previously described, medium to light grey, quartzose, variably glauconitic, trace dark specks, predominantly variably argillaceous, clean in minor part, well indurated with predominantly siliceous cement, minor streaky calcareous cement, common argillaceous partings, locally variably sandy occasionally grading to very fine sandstone laminations, **predominantly no visible porosity, no shows;**

SHALE: as previously described.

127-138 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, faintly micromicaceous, predominantly slightly to moderate silty, locally very silty in part grading to argillaceous siltstone laminations and stringers;

SILTSTONE: as previously described.

138-146 **SHALE:** dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, faintly micromicaceous, predominantly slightly to moderate silty, locally very silty in part grading to argillaceous siltstone laminations and stringers, minor interbedded siltstone as previously described.

146-151 **SHALE:** dark grey, moderately to very firm, sub blocky, minor sub platy, sub fissile in part, micromicaceous, commonly slightly to moderately silty, locally very silty with argillaceous siltstone laminations, trace scattered glauconite.

151-160 **SILTSTONE:** light to dark grey, quartzose, variably glauconitic, trace to minor scattered dark specks, occasional mica flake, moderately to well indurated, common siliceous cement, minor spotty to patchy calcareous cement, clean in part, commonly variably argillaceous, minor to common argillaceous partings and laminations, slightly sandy in part, predominantly no visible porosity, no shows, minor thin shale interbeds and stringers as above.

160-165 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: similar to previously described becoming predominantly variably argillaceous, clean in minor part, **no visible porosity, no shows;**

SHALE: as previously described becoming increasingly silty.

Shaker bypassed from 164 to 184m; samples of suspect quality.

165-180 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: dark grey, moderately to very firm, sub blocky, minor sub platy, sub fissile in part, micromicaceous, predominantly moderately silty, locally very silty with argillaceous siltstone laminations, trace scattered glauconite;

SILTSTONE: very similar to previously described, dark to light grey, quartzose, variably glauconitic, trace to minor scattered dark specks, moderately to well indurated, common siliceous cement, minor spotty calcareous cement, predominantly variably argillaceous, common argillaceous partings and laminations, clean in minor part, **no visible porosity, no shows.**

180-195 **SHALE AND SILTSTONE:** Inferred lithology, >95% Quaternary sand cavings in samples 185, 190 and 195m.

195-203 **SHALE:** dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, micromicaceous, predominantly moderately to very silty grading to argillaceous siltstone laminations and stringers in part, trace to minor scattered glauconite; minor very thin siltstone interbeds and stringers, dark to light grey, quartzose, variably glauconitic, trace to minor scattered dark specks, moderately to well indurated, common siliceous cement, minor spotty calcareous cement, predominantly variably argillaceous, common argillaceous partings and laminations, clean in minor part, **no visible porosity, no shows,** abundant Quaternary sand cavings in sample.

203-210 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: as previously described;

SILTSTONE: similar to previously described, light to dark grey, quartzose with minor dark specks, predominantly slightly to moderately glauconitic, moderately to well indurated, common streaky to patchy siliceous and lesser calcareous cement, predominantly variably argillaceous, clean in minor part, common argillaceous partings and laminations, rare to trace pyrite, **predominantly no visible porosity, no shows.**

210-221 **SHALE:** as previously described, dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, micromicaceous, predominantly moderately to very silty grading to argillaceous siltstone laminations and stringers in part, trace to minor scattered glauconite, minor thin siltstone interbeds and stringers as above.

221-225 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: as previously described;

SILTSTONE: as previously described becoming increasingly clean in part with decreasing trace to minor scattered glauconite, **no visible porosity, no shows.**

225-240 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: very similar to previously described becoming increasingly very silty in part, dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, micromicaceous, predominantly moderately to very silty increasingly grading to argillaceous siltstone laminations and stringers in part, trace to minor scattered glauconite;

SILTSTONE: dark to light grey, quartzose with minor dark specks, predominantly slightly to moderately glauconitic, moderately to well indurated, common siliceous and lesser streaky to patchy calcareous cement, predominantly variably argillaceous, clean in minor part, common argillaceous partings and laminations, **predominantly no visible porosity, no shows.**

Shaker bypassed from 235 to 248m; samples of suspect quality.

240-247 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: dark grey, very firm to locally hard, sub blocky, minor sub platy, micromicaceous, variably silty, commonly variably silty grading to argillaceous siltstone, trace scattered glauconite;

SILTSTONE: light to dark grey, quartzose with trace dark specks, slightly to moderately glauconite, occasional mica flake, predominantly variably argillaceous grading from above in part, clean in minor part, trace slightly sandy, moderately to well indurated, common siliceous and minor to locally common streaky calcareous cement, **no visible porosity, no shows.**

247-255 **SHALE:** dark grey, very firm to hard, sub blocky to sub platy, micromicaceous, moderately to very silty with minor to common argillaceous to occasionally clean siltstone laminations and stringers, trace scattered glauconite, rare sideritic siltstone laminations.

255-270 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: dark grey, moderately to very firm, sub blocky to sub platy, micromicaceous, predominantly moderately to very silty grading to argiliaceous siltstone in part, common argillaceous to occasionally clean siltstone laminations and stringers, trace to minor scattered glauconite;

SILTSTONE: dark to light grey, commonly grading from shale above, quartzose with trace dark specks, variably glauconitic, occasional mica flake, predominantly variably argillaceous, common argillaceous partings, moderately to well indurated with common siliceous and minor calcareous cement, **no visible porosity, no shows.**

270-275 **SHALE:** dark grey, variably firm, sub platy to sub blocky, sub fissile, faintly micromicaceous, commonly slightly silty, variably moderately to very silty in part with minor argillaceous to occasionally clean siltstone laminations and stringers, decreasing trace scattered glauconite.

275-285 **SHALE:** dark grey, variably firm, sub blocky to sub platy, sub fissile in part, micromicaceous, commonly moderately to very silty grading to argillaceous siltstone laminations and stringers in part, slightly silty in minor part, trace scattered glauconite, trace siderite stringers; minor very thin siltstone interbeds and stringers, commonly variably argillaceous grading from shale above, light to medium grey to brown in part and clean with abundant tight calcareous cement, quartzose and variably glauconitic as above, **tight, no shows.**

285-295 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: as previously described with minor siderite medium to dark brown, very hard, dense, slightly silty in part, fractured with calcite fracture fill;

SILTSTONE: very similar to above, dark to light grey, commonly grading from shale above, quartzose with trace dark specks, variably glauconitic, occasional mica flake, predominantly variably argillaceous, clean in minor part, common argillaceous partings, moderately to well indurated with siliceous and minor spotty to streaky calcareous cement, **no visible porosity, no shows.**

295-300 **SHALE:** dark grey, variably firm to locally hard, sub blocky to sub platy, sub fissile in part, faintly to moderately micromicaceous, brittle in part, variably silty with minor argillaceous siltstone laminations and stringers, slightly silty in minor part, decreasing trace scattered glauconite, decreasing rare to trace siderite stringers.

300-310 **SHALE:** very similar to previously described, dark grey, variably firm to locally hard, sub platy to sub blocky, sub fissile, micromicaceous, brittle in part, predominantly variably moderate to very silty with common argillaceous to occasionally clean siltstone laminations and stringers, slightly silty in part, trace scattered glauconite, slightly increasing trace siderite as above.

310-317 **SHALE:** as previously described with increasing trace to minor fractured Siderite as described above.

317-330 **SHALE:** similar to previous description, dark grey, variably firm to locally hard, sub platy to sub blocky, sub fissile, micromicaceous, brittle in part, predominantly variably moderately to very silty with common argillaceous to occasionally clean siltstone laminations and stringers, slightly silty in part, decreasing trace scattered glauconite, decreasing trace siderite as above becoming increasingly silty and rarely fractured, grades to sideritic siltstone laminations to stringers, rare ferruginous laminations.

330-340 **SHALE:** dark grey, variably firm, sub platy to sub blocky, brittle in part, sub fissile, micromicaceous, predominantly slightly to moderately silty, locally very silty in minor part, trace to minor argillaceous siltstone laminations, decreasing rare to trace glauconite, rare framboidal pyrite.

340-350 **SHALE:** as previously described with slightly increasing argillaceous siltstone laminations, dark grey, variably firm, sub platy to sub blocky, brittle in part, sub fissile, micromicaceous, predominantly slightly to moderately silty, locally very silty in minor part, slightly increasing trace to minor argillaceous siltstone laminations, rare to trace glauconite.

350-357 **SHALE:** dark grey to black, variably firm, sub platy to sub blocky, brittle in part, sub fissile to fissile, micromicaceous, predominantly slightly to moderately silty, decreasing trace to minor variably argillaceous siltstone laminations, variably carbonaceous in part, decreasing rare scattered glauconite.

357-365 **SHALE:** dark grey, firm, predominantly sub platy, minor sub blocky, commonly brittle, sub fissile to fissile, faintly to moderately micromicaceous, commonly slightly silty, moderately to very silty in part with increasing minor variably argillaceous slightly glauconitic siltstone laminations and stringers, rare glauconite.

365-376.6 **SHALE:** as previously described, dark grey, firm, predominantly sub platy, minor sub blocky, commonly brittle, sub fissile to fissile, faintly to moderately micromicaceous, commonly slightly silty, moderately to very silty in part with increasing minor variably argillaceous slightly glauconitic siltstone laminations and stringers, rare glauconite.

SCATTER 376.6 m MD (-3.7 m SS)

376.6-390 **SANDSTONE:** light grey, very fine grained and variably silty grading to siltstone in part, quartzose with common black and dark brown specks, moderately glauconitic, well sorted, angular to sub angular, predominantly clean, variably argillaceous in minor part, minor to locally common argillaceous laminations and partings, predominantly moderately to moderately well indurated, moderately poorly indurated in part, predominantly siliceous cement, trace spotty calcareous cement, **predominantly no visible porosity, no shows;** minor very thin shale interbeds and stringers, dark grey variably firm to occasionally soft, sub platy to platy, brittle in part, fissile to sub fissile, faintly to moderately micromicaceous, predominantly slightly silty.

390-400 **SANDSTONE:** light grey, very fine grained, quartzose with minor to common black to brown specks and lithic grains, moderately glauconitic, trace mica flake, well sorted, angular to sub angular, predominantly moderately to moderately well indurated, poorly to moderately poorly indurated and crumbly in part, siliceous and trace spotty calcareous cement, trace quartz overgrowths, variably silty occasionally grading to sandy siltstone laminations to stringers, predominantly clean, slightly to moderately argillaceous in part, minor argillaceous laminations and partings, **common tight to 2% porosity, minor to common scattered 3 to 5% porosity, no shows, trace medium brown very fine sandstone with tight siliceous cement and very dull fluorescence with rare spotty streaming cut,** trace shale stringers as above.

400-405 **SANDSTONE:** similar to previous description, **predominantly tight to 2% porosity, trace very well indurated brown sandstone stringers with abundant tight siliceous cement and trace dull fluorescence, no cut.**

405-415 No samples caught.

415-420 **SANDSTONE:** very similar to above, light grey, quartzose with minor to common dark specks and lithic grains, moderately glauconitic, rare to trace mica flakes, well sorted, angular to sub angular, predominantly moderately indurated, variably moderately poorly to moderately well indurated in part, variably crumbly in minor part, siliceous and trace spotty to patchy calcareous cement, trace quartz overgrowths, predominantly clean, variably silty, slightly to moderately argillaceous in part, minor argillaceous laminations and partings, **predominantly tight to 2% porosity, minor scattered 3 to 5% porosity, no shows,** trace shale laminations to stringers as above.

420-428 **SANDSTONE:** as previously described becoming increasingly argillaceous in minor part, increasing minor argillaceous laminations, **predominantly tight to 2% porosity, rare very dull fluorescence, no cut,** trace to minor medium brown very fine grained tight sandstone with abundant siliceous to sideritic cement, trace medium brown hard dense siderite.

428-438 **SANDSTONE:** predominantly light grey, trace to minor light brown, quartzose with minor to common dark specks and lithic grains, moderately glauconitic, rare mica flake, well sorted, angular to sub angular, commonly moderately to moderately well indurated, moderately poorly indurated in part, siliceous and trace spotty calcareous cement, rare quartz overgrowths, predominantly clean, slightly to moderately silty, occasional siltstone laminations, slightly to moderately argillaceous in minor part, increasing minor argillaceous laminations and partings, **predominantly tight to 2% porosity, minor scattered 3 to 5% porosity, rare to trace very dull fluorescence, trace very weak very questionable cut,** increasing minor medium brown very fine grained tight sandstone with abundant siliceous to sideritic cement, increasing trace to minor hard dense siderite with rare fracture, trace shale laminations to stringers as above.

438-445 **SANDSTONE:** very similar to previous description becoming increasingly silty grading to siltstone in part, increasingly variably argillaceous in part, increasing minor siliceous to sideritic sandstone and siderite as above, **predominantly tight to 2% porosity, no shows,** minor thin interbedded shale dark grey, platy, fissile, brittle, slightly silty and faintly micromicaceous.

445-450 **SANDSTONE:** light grey, trace light brown, quartzose and moderately glauconitic as above, rare mica flake, well sorted, angular to sub angular, commonly moderately to moderately well indurated, moderately poorly indurated in part, siliceous and trace spotty calcareous cement, predominantly clean, slightly to moderately silty locally grading to minor siltstone, slightly to moderately argillaceous in minor part, increasing minor argillaceous laminations and partings, **predominantly tight to 2% porosity, trace scattered 3 to 5% porosity, no shows,** decreasing trace medium brown siliceous to sideritic sandstone and siderite as above, trace shale laminations to stringers as above.

450-466 **SANDSTONE:** predominantly light grey, medium grey and variably argillaceous in part, trace light brown, quartzose with minor to common dark specks and lithic grains, moderately glauconitic, rare to trace mica flakes, well sorted, angular to sub angular, slightly to moderately silty, occasional silty laminations, increasing minor argillaceous partings and laminations, commonly moderately to moderately well indurated, moderately poorly indurated and variably crumbly in part, siliceous cement, decreasing rare to trace spotty calcareous cement, **tight to 2% porosity,** decreasing trace siliceous to sideritic sandstone and siderite laminations to stringers, trace to minor shale as above.

466-478 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: medium to light grey, very fine grained and variably silty grading to siltstone in part, quartzose as above, moderately to locally very glauconitic, well sorted, angular to sub angular, commonly variably argillaceous, clean in minor part, common to abundant argillaceous partings and laminations, predominantly moderately to moderately well indurated, siliceous cement, **tight to 2% porosity, rare to trace scattered poor porosity, no shows,** increasing trace siliceous to sideritic sandstone and siderite laminations to stringers as above;

SHALE: dark grey, firm, sub platy to sub blocky, faintly to moderately micromicaceous, slightly to very silty grading to very argillaceous siltstone stringers, trace to locally abundant glauconite.

548-561 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: similar to above, medium to dark grey brown, quartzose with minor to common dark specks, slightly to moderately glauconitic, trace mica flakes, rare to trace carbonaceous debris, predominantly variably argillaceous occasionally grading to very silty shale laminations and stringers, common to abundant argillaceous partings, trace sandy, moderately to well indurated, siliceous cement and argillaceous matrix/cement, **predominantly tight to 2% porosity, no fluorescence, decreasing rare very poor slow cut as above;**

SHALE: as previously described.

561-570 **SILTSTONE AND SHALE:**

SILTSTONE: dark to medium grey and grey brown, quartzose with minor to common dark specks, decreasingly slightly to moderately glauconitic, trace mica flakes, rare carbonaceous debris, predominantly variably argillaceous, trace clean, common to abundant argillaceous partings and laminations, moderately to well indurated, siliceous cement and argillaceous matrix/cement, **tight to 2% porosity, no shows;**

interbedded and interlaminated SHALE: similar to above, dark grey, variably firm, sub platy to platy, minor sub blocky, fissile to sub fissile, variably silty and micromicaceous grading to very argillaceous siltstone in part.

570-580 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: as previously described, dark to medium grey and grey brown, quartzose with minor to common dark specks, decreasingly slightly to moderately glauconitic, trace mica flakes, rare carbonaceous debris, predominantly variably argillaceous, trace clean, common to abundant argillaceous partings and laminations, moderately to well indurated, siliceous cement and argillaceous matrix/cement, **tight to 2% porosity, no shows;**

interbedded and interlaminated SHALE: as above.

580-586 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: similar to above, dark grey, variably firm, sub platy to platy, fissile to sub fissile, micromicaceous, slightly to very silty commonly grading to and interlaminated with argillaceous siltstone;

SILTSTONE: predominantly dark grey, quartzose, minor dark specks, predominantly slightly glauconitic, variably slightly to very argillaceous grading from shale in part, abundant argillaceous partings and laminations, moderately to well indurated, siliceous and argillaceous matrix to cement, rare spotty calcareous cement, **tight to 2% porosity, no shows.**

586-595 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: as previously described becoming decreasingly argillaceous in part, **tight to 2% porosity, no shows;**

SHALE: as previously described.

595-604 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: dark grey, variably firm to locally hard, brittle in part, platy to sub platy, micromicaceous, fissile to sub fissile, smooth and non-silty in part, slightly to very silty in part with argillaceous siltstone laminations, rare framboidal pyrite;

SILTSTONE: dark to medium grey and grey brown, quartzose with minor to common dark specks, predominantly slightly glauconitic, trace mica flakes, predominantly slightly to moderately argillaceous, abundant argillaceous partings, trace sandy, variably moderately poor to very well indurated, predominantly siliceous and variable argillaceous matrix/cement, trace to locally minor streaky calcareous cement, **tight with streaky poor porosity, no fluorescence, trace to minor very poor slow blooming cut.**

604-616 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: as previously described;

SILTSTONE: **as previously described becoming tight with no shows.**

616-625 SHALE: dark grey, variably firm, brittle in part, platy to sub platy, fissile, commonly smooth and faintly micromicaceous, variably silty in part with minor siltstone laminations, minor thin siltstone interbeds and stringers to laminations as above.

625-637 SHALE: as previously described, dark grey, variably firm, brittle in part, platy to sub platy, fissile, commonly smooth and faintly micromicaceous, variably silty in part with minor siltstone laminations, minor thin siltstone interbeds and stringers to laminations as above.

GARBUTT RADIOACTIVE ZONE 537.2 m MD (-264.3 m SS)

637-656 **SHALE:** dark grey, firm, brittle in part, platy to sub platy, minor sub blocky, fissile to sub fissile, predominantly smooth and faintly micromicaceous, slightly to moderately silty in minor part, trace siltstone laminations and stringers, rare cream to light grey slightly tuffaceous bentonite.

BULLHEAD 656.5 m MD (-283.6 m SS)

656-666 **SHALE:** similar to above, dark grey, minor black, variably firm to locally soft, platy, brittle in part, fissile, predominantly smooth and faintly micromicaceous, slightly silty in minor part with trace argillaceous siltstone laminations, carbonaceous in part, rare to trace carbonaceous to coaly debris, very rare root cast, increasing rare to trace cream to tan bentonite, slightly tuffaceous in part.

666-675 **SHALE:** dark grey, firm to locally soft, platy to sub platy, minor sub blocky, brittle in part, fissile to sub fissile, predominantly smooth and faintly micromicaceous, slightly silty in minor part with trace argillaceous siltstone laminations, decreasingly carbonaceous in minor part, decreasing rare bentonite as above.

675-683 **SHALE:** similar to above, dark grey, variably firm to locally soft, platy to sub platy, minor sub blocky, brittle in minor part, fissile to sub fissile, commonly smooth and faintly micromicaceous, slightly silty in part, increasing trace argillaceous siltstone laminations, increasingly variably carbonaceous in minor part, increasing trace cream to light grey slightly tuffaceous bentonite as above, rare pyrite, rare to trace siderite.

683-695 **SHALE:** dark grey to black, variably firm to occasionally soft, commonly brittle, platy to sub platy, fissile, predominantly smooth and faintly micromicaceous, slightly silty in part, variably carbonaceous in part, trace scattered carbonaceous to coaly debris, trace pyrite nodules, trace bentonite as above, increasing rare to trace siderite.

695-705.5 **SHALE:** dark grey to minor black, firm to occasionally soft, platy to sub blocky, brittle in part, fissile to sub fissile, commonly smooth and faintly micromicaceous, slightly silty in part, carbonaceous in minor part, trace pyritic, slightly sub waxy in part, rare to trace pyritized fibrous coal fragments, trace pyrite nodules, increasing trace siderite occasionally grading to sideritic siltstone laminations, very rare bentonite.

CHINKEH SILTSTONE 705.5 m MD (-332.6 m SS)

705.5-708.5 **SILTSTONE:** predominantly dark grey to grey brown, quartzose, moderately to locally very glauconitic, predominantly moderately to very argillaceous grading to silty shale stringers, moderately poor to moderately well indurated, siliceous and spotty dolomitic cement with variable argillaceous matrix/cement, **tight, no shows.**

CHINKEH SAND 708.5 m MD (-335.6 m SS)

708.5-717.5 **SANDSTONE:** light tan to very light grey, lower fine to upper fine grained, trace upper very fine and lower medium grains, very quartzose with trace to minor glauconite and rare lithic grains (sub-quartzarenite), well to very well sorted, angular to sub angular, variable induration; commonly poor indurated and crumbly, moderately indurated in part, disaggregated in part, minor to locally common spotty to patchy siliceous cement, trace to minor spotty dolomitic cement, common to abundant quartz overgrowths, trace to locally minor spotty illite, **variable porosity; predominantly fair to good (variable 8 to 14%), minor to common 4 to 7% porosity, trace spotty dead oil stain, no cut or fluorescence.**

717.5-719 **SANDSTONE:** as previously described becoming slightly silty with increasing minor very fine grains, increasingly moderately to moderately well indurated, increasing spotty dolomitic cement, decreasing minor quartz overgrowths, **decreasing porosity; common poor to fair (4 to 7%), minor to common tight to 3% porosity, no shows,** trace to minor non-glauconitic quartzarenite with common coaly partings at base.

TRIASSIC 719.0 m MD (-346.1 m SS)

719-736 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: predominantly medium grey, minor medium to rusty brown, predominantly firm and brittle, soft in minor part, platy to sub platy, fissile, predominantly smooth and very faintly micromicaceous, very silty and micromicaceous in minor part grading to argillaceous siltstone stringers;

SILTSTONE: light to medium grey, quartzose with trace to minor dark specks, variably micaceous in part with occasional very micaceous partings, clean to variably argillaceous, predominantly well to very well indurated, predominantly siliceous cement, minor locally common streaky dolomitic cement, **tight, no shows.**

736-741 **SHALE:** medium grey, variably hard to soft, platy to sub platy, fissile, brittle in part, predominantly smooth and faintly micromicaceous, locally variably silty with argillaceous siltstone laminations and stringers, slightly sub waxy in part, trace scattered carbonaceous debris;

minor interbedded SILTSTONE: light to medium grey, quartzose with trace to minor carbonaceous specks, slightly to moderately micaceous, occasional very micaceous partings, predominantly moderately to very well indurated, common to abundant dolomitic cement, minor siliceous cement, **tight/no shows.**

741-750 **SHALE:** mixed; common medium grey as above becoming slightly dolomitic in minor part, interbedded and interlaminated with common red brown to maroon shale firm, locally hard to soft, platy to sub blocky, commonly fissile to sub fissile, brittle in part, predominantly smooth and faintly micromicaceous, slightly to moderately silty in minor part, slightly sub waxy, slightly bentonitic in part, commonly slightly to moderately dolomitic.

750-757 **SHALE:** predominantly medium to dark grey to brown grey, minor red brown as above, predominantly firm, locally hard to soft, variably platy to sub blocky, brittle in part, commonly fissile to sub fissile, carbonaceous in part, smooth and sub waxy in part, commonly variably silty in part with increasing minor to common argillaceous siltstone stringers, variably faintly to moderately micromicaceous, trace to minor slightly dolomitic, trace to minor siltstone as above.

757-770 **SHALE:** mixed; rusty red to brown, maroon, commonly firm to hard, slightly to moderately soft in part, brittle in part, commonly platy to sub platy and fissile, predominantly smooth and faintly micromicaceous, variably silty in minor part, commonly moderately to very dolomitic, variably bentonitic in part with common red clay at wash, interbedded and interlaminated with ~25% light to medium grey shale firm to hard, platy to sub blocky, commonly brittle, commonly fissile, commonly variably silty with common argillaceous to clean siltstone stringers as above, smooth and faintly micromicaceous in part, slightly to locally moderately dolomitic in part.

770-780 **SHALE:** very similar to above becoming 90% rusty red to brown, decreasingly dolomitic in part and commonly non-dolomitic, increasingly variably bentonitic in part with abundant red clay at wash, decreasing minor light to medium grey shale interbeds as above.

780-785 **SHALE:** rusty red to brown, maroon, commonly firm to hard, slightly to moderately soft in part, brittle in part, commonly platy to sub platy and fissile, predominantly smooth and faintly micromicaceous, variably silty in minor part, predominantly non-dolomitic, variably bentonitic in part with common red clay at wash, rare to trace variably tuffaceous cream bentonite, trace to minor medium grey shale stringers as above.

785-791 **SHALE:** mixed; predominantly as previously described with ~20% medium grey shale similar to above, firm to hard, platy, commonly brittle, fissile, predominantly smooth and faintly micromicaceous, slightly sub waxy, very rare slickensides.

BELLOY 791.0 m MD (-418.1 m SS)

791-800 **CHERT:** predominantly dark brown to brown grey, commonly hard and dense, variably firm to soft and crumbly in part, trace translucent, slightly to moderately glauconitic, faintly spicular in minor part, variably silty to sandy in part occasionally grading to very cherty sandstone, common granular texture on cuttings, variably argillaceous in part grading to cherty glauconitic to slightly phosphatic shale, slightly dolomitic in part, trace soft black phosphatic glauconitic shale stringers, trace locally abundant pyritized spicules and worm burrows, rare to trace sandy pyrite nodules, infer minor poor to fair locally fracture porosity, trace fracture surfaces with bitumen linings, rare to trace poor micro vugs with spotty bitumen, **trace to minor dull yellow fluorescence, minor to common poor slow yellow white streaming cut.**

800-806 **CHERT:** tan to light grey, predominantly variably silicified siltstone and very fine grained sandstone, slightly to moderately glauconitic, very hard dense and translucent in part, commonly variably hard to firm and slightly crumbly, locally slightly to moderately spicular in minor part, predominantly very silty to sandy grading to very cherty siltstone to sandstone, common granular texture, slightly dolomitic in part, moderately to very dolomitic in minor part, increasing trace fracture surfaces with bitumen linings, **minor poor microvug porosity with common bitumen, common moderate yellow green fluorescence, common weak slow streaming and very thin diffuse cut.**

806-810 **SANDSTONE:** dark grey, lower fine to lower medium grained, trace upper very fine grains, lithic wacke with common clear to yellow to orange quartz and minor to common varicolored lithic grains, common to abundant argillaceous to slightly phosphatic matrix, grades to variably sandy slightly to moderately phosphatic to cherty mudstone in part, moderately poorly sorted, sub angular to sub rounded, variably disaggregated in part, very well to moderately poorly indurated, variably silicified in part, siliceous cement, minor dolomitic cement, common to locally abundant epidote? blebs to microvug linings and rare crystals, **predominantly tight, minor locally poor to fair predominantly ineffective microvug porosity, rare to trace fracture, no shows.**

810-815 **SANDSTONE:** predominantly as above increasingly grading to minor to common variably cherty mudstone and chert, slightly increasing glauconitic and decreasing epidote?, trace to minor dark grey to black platy phosphatic to bituminous shale stringers, **predominantly tight, no shows.**

815-820 **CHERT:** variable: dark brown to grey, rusty red/orange, common to very abundant glauconite, commonly variably hard to slightly soft, crumbly in part, hard and dense in minor part, common granular texture, commonly silty to locally sandy in part, variably silicified in part grading to variably cherty phosphatic and hematitic mudstone, variably dolomitic in part with minor locally common dolomite rhombs, trace to minor black variably phosphate shale, **tight, no shows.**

820-825 **CHERT:** predominantly as above with decreasing trace to minor hematitic mudstone to chert, minor light grey dense silty to sandy chert grading to cherty siltstone to sandstone, minor medium to dark grey variably silicified fine grained glauconitic lithic wacke grading to sandy chert in part, rare to trace fracture surfaces with bitumen, rare sparry calcite fracture fill, **no shows.**

825-830 **SANDSTONE:** upper very fine to upper fine grained, trace to minor lower medium grains, abundant frosted to yellow/orange quartz with minor varicolored lithic grains, trace to minor glauconite, well sorted, sub angular to subrounded, predominantly disaggregated, trace to minor clean consolidated cuttings with common to abundant tight siliceous cement and minor to common dolomitic cement, trace argillaceous matrix on loose grains, minor spotty to patchy limonitic? matrix/cement, **infer fair porosity in part, tight to poor porosity in part, no shows.**

830-834 **SANDSTONE:** similar to previously described becoming increasingly consolidated in minor part, argillaceous and cherty in part, **infer poor to fair porosity with tight streaks, no shows.**

834-839 **CHERT:** very dark grey to brown, common to abundant glauconite, variably hard to firm and crumbly, commonly grades to variably cherty phosphatic glauconitic mudstone and shale, common massive to crystalline pyrite nodules and crystals, silty to sandy in part, minor to locally abundant limonitic alteration of grains? and pellets?, **tight, no shows.**

FANTASQUE 839.0 m MD (-466.1 m SS)

839-845 **CHERT:** tan to light brown, sub translucent to translucent, very hard, dense, trace glauconite, commonly variably spicular, trace sandy, trace to minor fracture surfaces with clear crystalline quartz micro crystals and spotty to patchy bitumen, **infer minor to common fair to poor fracture porosity, minor spotty moderate yellow fluorescence, trace to minor very poor weak slow blooming and very thin diffuse cut.**

845-855 **CHERT:** very similar to above becoming light grey in minor part, trace disseminated pyrite, trace phosphatic shale stringers, increasing minor fracture surfaces, trace pyrite fracture linings, **infer common fair to poor and minor streaky good fracture porosity, minor very dull fluorescence, no cut.**

855-861 **CHERT:** variable: predominantly dark brown, dull to sub translucent, variably moderately to very glauconitic, commonly variably hard and dense, variably firm and crumbly in part, minor to common granular texture, argillaceous locally grading to cherty phosphatic mudstone and trace shale in part, variably sandy to silty in part, trace to locally minor disseminated pyrite, minor light to dark brown translucent to sub translucent chert with slightly resinous lustre, rare to trace fracture surfaces with crystalline quartz and pyrite linings, rare bitumen, **infer trace poor fracture porosity, no shows.**

861-868.5 **CHERT:** predominantly as above becoming decreasingly slightly to moderately glauconitic, predominantly dull and variably hard to firm with common granular texture, very hard and dense in part, crumbly in part, slightly silty to occasionally sandy in part, argillaceous as above, rare fracture surfaces as above, **rare to trace poor fracture porosity, no shows.**

868.5-875 **CHERT:** tan to light grey, slightly mottled in minor part, predominantly very hard and dense, translucent to sub translucent, variably spicular in part, trace to locally minor scattered glauconite, variably silty in part, trace disseminated pyrite, rare fracture surfaces as previously described, rare bitumen, **predominantly tight, infer trace to minor poor fracture porosity, trace spotty moderate to dull yellow fluorescence with very weak questionable cut.**

875-880 **CHERT:** predominantly as above becoming increasingly silty and slightly argillaceous in part, increasing trace fracture surfaces with occasional quartz crystals and bitumen, trace massive pyrite nodules, increasing trace to minor phosphatic to variably cherty glauconitic shale stringers, minor medium to dark brown variably glauconitic argillaceous chert with dull lustre and common granular texture, trace to minor thin clean to argillaceous variably cherty fine grained sandstone as above, trace quartzose glauconitic siltstone stringers, **infer trace to minor poor fracture porosity, trace spotty dull fluorescence, no shows.**

880-888 **CHERT:** light to medium brown, predominantly translucent to sub translucent, very hard and dense, slightly mottled in minor part, trace to locally minor pellet, slightly to moderately spicular in part, decreasing trace disseminated pyrite, decreasing trace shale laminations to stringers as above, rare to trace milky to occasionally chalcedonic quartz blebs to mottles and fracture heals, increasing trace to minor fracture surfaces with crystalline quartz and spotty oil stain and bitumen, rare micro vugs, **infer increasing minor to common poor to fair fracture porosity, minor spotty dull fluorescence, trace poor thin diffuse and streaming cut.**

888-898.5 **CHERT:** predominantly medium to dark brown with dull to resinous lustre, minor medium to light brown to brown grey and sub translucent in minor part, predominantly hard and dense, slightly mottled in part, predominantly argillaceous grading to trace cherty mudstone, trace milky to occasionally chalcedonic quartz blebs to mottles and fracture heals, decreasing trace fracture surfaces as above, very rare micro vugs, **infer trace to minor poor fracture porosity, no shows.**

898.5-905 **CHERT:** variably light to medium brown and light grey, common brown pellet and minor mottles, variably slightly to locally very spicular in part, very hard and dense, sub translucent to translucent, variably silicified in part with increasing minor milky to occasionally chalcedonic quartz blebs to mottles and fracture heals, infer commonly variably fractured, increasing common planar fracture surfaces with drusy quartz crystals and **rare spotty to patchy oil stain and bitumen, infer common variable poor to streaky good fracture porosity, trace spotty fluorescence, rare poor blooming and diffuse cut.**

905-910 **CHERT:** similar to above becoming predominantly light to medium grey, common brown pellet and minor mottles, very hard and dense, sub translucent, variably spicular in part, variably silicified with minor milky quartz as above, increasing common to abundant planar fracture surface with decreasing minor drusy quartz, **infer common to abundant variable poor to locally good fracture porosity, trace spotty poor shows as above.**

910-915 **CHERT:** as previously described becoming predominantly light to very light grey, pelletal and mottled as above, increasingly silicified in part with minor to common milky to occasionally chalcedonic quartz blebs to mottles and fracture heals, decreasing minor to common fracture surfaces with minor drusy quartz, **infer decreasing common variably poor to locally good fracture porosity, rare spotty bitumen and oil stain, minor spotty very dull fluorescence, trace to minor very poor weak cut,** trace dark grey brown argillaceous dolomitic siltstone stringers.

915-919 **CHERT:** similar to above becoming darker with increasingly abundant brown pellet and common mottles, variably silicified with milky to chalcedonic quartz as above, increasing common fracture surfaces with increasing drusy quartz, **infer increasing common to abundant variable fracture porosity as above, rare spotty fluorescence, rare to trace very weak questionable cut.**

919-923.5 **CHERT:** as above becoming mottled dark grey to brown in part, increasingly silicified with common milky quartz blebs to mottles and occasional fracture heals, **increasing common fracture surfaces with drusy quartz and minor oil stain, minor to locally common poor to fair micro vug porosity, infer common poor to fair fracture porosity, minor dull yellow fluorescence, common poor to fair milky cut.**

KINDLE 923.5 m MD (-550.6 m SS)

923.5-930 **SILTSTONE:** predominantly medium to dark brown, quartzose, predominantly moderate to slightly argillaceous, trace slightly sandy, variably poorly to well indurated, very dolomitic locally grading to silty dolostone, trace spotty to patchy pyrite, **no visible porosity, rare spotty bitumen, no fluorescence, trace very weak questionable cut,** minor shale, black, soft to firm, sub platy, phosphatic, glauconitic in part, silty.

930-937 **SILTSTONE:** medium to dark brown, quartzose, rare glauconite, decreasingly slightly to moderately argillaceous, trace argillaceous partings, variably moderately to well indurated, poorly indurated and crumbly in minor part, abundant dolomitic cement and common scattered rhombs, increasingly grading to silty dolostone stringers in minor part, trace slightly cherty, **no visible porosity, common to abundant very dull green fluorescence, minor to common poor thin yellow white streaming and diffuse cut.**

937-945 **SILTSTONE:** similar to above, dark to medium brown, quartzose, decreasing very rare glauconite, increasingly moderately to slightly argillaceous, commonly moderately well to well indurated, moderately to poorly indurated and crumbly in minor part, abundant calcareous to dolomitic cement, locally grades to silty dolostone to limestone stringers, very argillaceous in minor part grading to minor very calcareous to dolomitic shale stringers, **no visible porosity, no fluorescence, minor very weak very thin diffuse and trace streaming cut.**

945-952 **SILTSTONE:** medium to dark brown, very quartzose with rare dark specks and scattered glauconite, predominantly clean, predominantly well to very well indurated, moderately to occasionally poorly indurated and crumbly in part, abundant calcareous to dolomitic cement, occasional sparry inclusion (recrystallized bioclast?), occasionally grades to very silty limestone to dolomite stringers, slightly argillaceous in minor part, trace argillaceous partings, **no visible porosity, rare to trace spotty bitumen, trace very dull questionable fluorescence, common poor thin yellow white streaming and diffuse cut.**

952-958 **SILTSTONE WITH MINOR INTERBEDDED LIMESTONE:**

SILTSTONE: light to medium grey, quartzose with trace dark specks, clean, commonly dense and very well indurated, poorly indurated and crumbly in minor part, abundant calcareous cement, occasionally grades to silty limestone stringers, trace very silty marly laminations to stringers, rare to trace fracture surfaces, rare sparry calcite fracture fill, **no visible porosity, infer locally fair to good fracture porosity, no fluorescence, rare questionable cut, faint oil sheen at wash, condensate odor;** limestone very dark grey to grey brown, cryptocrystalline, variably firm to hard, variably silty and argillaceous occasionally grading to calcareous shale stringers, variably dolomitic grading to calcareous dolomite in part, **tight, no shows.**

958-963 **LIMESTONE:** similar to above, very dark brown to grey, cryptocrystalline to microcrystalline, variably firm to hard, very silty and argillaceous grading to very calcareous siltstone and minor silty shale, commonly variably dolomitic, **tight, no shows.**

MATTSON 962.8 m MD (-589.9 m SS)

963-970 **SANDSTONE:** pale tan to light grey, very fine grained and variably silty grading to sandy siltstone in part, quartz arenite with rare to trace dark lithic grains, rare glauconite, trace scattered recrystallized bioclasts, clean, well sorted, angular to sub angular, commonly moderately to well indurated, moderately poor indurated and crumbly in part, common calcareous to dolomitic cement, minor locally common siliceous cement, rare pyrite, **predominantly no visible porosity, poor to fair porosity in part with common bitumen, minor to common dull yellow green fluorescence, minor to common poor blooming and very thin diffuse cut, faint oil sheen and condensate odor at wash,** minor interbedded shale dark grey, firm, sub platy, slightly calcareous.

970-978 **SANDSTONE:** pale tan to light grey, very fine grained, variably silty grading to minor sandy siltstone, trace very fine to fine grained, quartz arenite with trace dark lithic grains, very rare glauconite, increasing trace to minor recrystallized bioclasts, clean, well sorted, angular to sub angular, predominantly moderately poorly to poorly indurated, crumbly in part, common calcareous and siliceous cement, trace to minor sandy to silty bioclastic limestone stringers to laminations, **common fair to poor porosity, tight to poor porosity in part, minor spotty bitumen, rare spotty oil stain, no fluorescence, increasing common poor blooming and very thin diffuse cut, faint oil sheen and condensate odor at wash,** minor interbedded shale, as above.

978-984 **SANDSTONE:** off-white to light grey, very fine grained and silty commonly grading to sandy siltstone in part, quartz arenite with increasing trace varicolored lithic grains, rare glauconite, rare bioclasts, well sorted, angular to sub angular, variably moderately well to poor indurated and crumbly, abundant dolomitic cement, rare to trace pyrite, **predominantly no visible porosity, minor poor to streaky fair porosity, trace very dull green fluorescence, trace very weak questionable cut,** trace to minor interbedded shale as above.

984-990 **SANDSTONE:** similar to previously described becoming decreasingly grading to siltstone in part, becoming poor to moderately indurated with streaky mixed calcareous to dolomitic and lesser siliceous cement, rare to trace fossiliferous laminations to stringers, **predominantly no visible porosity, trace to minor streaky poor porosity, no shows,** minor interbedded shale, dark grey to black, firm, platy, brittle, fissile, smooth, commonly slightly dolomitic.

990-1002 **SANDSTONE WITH MINOR INTERBEDDED SILTSTONE AND SHALE:**

SANDSTONE: similar to above, predominantly off-white to light grey, light tan in part, very fine grained, variably silty in part grading to sandy siltstone, quartz arenite with trace varicolored lithic grains, rare bioclasts, well sorted, angular to sub angular, commonly variably disaggregated in part with inferred very poor to poor induration, moderately to poorly indurated in part, abundant calcareous cement, rare to trace pyrite, **predominantly no visible porosity in consolidated cuttings, infer poor to fair porosity in part, no fluorescence, rare to trace very weak questionable cut;**

SILTSTONE: medium brown to grey, quartzose, variably argillaceous in part, very calcareous to dolomitic grading to silty limestone and dolomite stringers, **tight, no shows;**

SHALE: black, soft to firm, sub platy to platy, fissile, very carbonaceous to bituminous.

1002-1009 **SANDSTONE:** pale brown to light grey, very fine grained and variably silty grading to minor siltstone, medium brown and very silty in minor part commonly grading to siltstone, quartz arenite, trace lithic grains, rare recrystallized bioclast, well sorted, angular to sub angular, predominantly clean, minor slightly to moderately argillaceous, predominantly poorly to moderately indurated, well to very well indurated in minor part, abundant calcareous cement, minor patchy to streaky siliceous cement, **predominantly no visible porosity, trace to minor poor to rarely fair porosity, rare to trace spotty fluorescence, minor poor slow streaming and blooming cut,** minor interbedded shale and siltstone as above.

1009-1014 **SANDSTONE WITH INTERBEDDED SHALE:**

SANDSTONE: as above becoming increasingly medium to dark brown and silty to argillaceous commonly grading to siltstone, **predominantly tight, decreasing shows as above;**

SHALE: as above becoming brittle in part and locally silty.

1014-1019 **SANDSTONE:** light tan, very fine grained, predominantly variably silty locally grading to sandy siltstone, trace to minor very fine to fine grained, quartz arenite, trace dark lithic grains, rare glauconite, rare to trace recrystallized bioclasts, clean, well sorted, angular to sub angular, poor to moderately indurated, commonly variably crumbly, abundant calcareous cement, **commonly no visible porosity, minor to common variable poor 2 to 5% porosity, trace bitumen, rare oil stain, minor to common spotty dull fluorescence, minor to common poor slow streaming and thin diffuse cut, minor to common oil at wash,** minor interbedded shale and argillaceous siltstone as above.

1019-1026 **SHALE WITH INTERBEDDED SANDSTONE AND LIMESTONE:**

SHALE: black, soft to firm, sub platy to platy, fissile, carbonaceous to phosphatic/bitumen, locally glauconitic in minor part, increasingly silty in part grading to argillaceous siltstone stringers;

SANDSTONE: as above becoming increasingly calcareous occasionally grading to limestone, buff, variably firm to soft, cryptocrystalline to microcrystalline, commonly bioclastic wackestone grading to packstone, variably chalky micritic matrix, commonly variably sandy, **no visible porosity, common dull spotty fluorescence, minor to common very poor slow streaming cut, minor to common oil at wash.**

1026-1029 **SANDSTONE:** light tan to brown, very fine grained, silty in part, very quartzose with trace to locally minor lithic grains, trace to minor limestone grains, quartz arenite to sublitharenite, well sorted, angular to subrounded, predominantly poorly indurated and crumbly, predominantly very calcareous grading to sandy limestone in part, **no visible porosity, minor to common dull yellow green fluorescence, minor to common poor very slow streaming and diffuse cut;** decreasing minor limestone as above becoming decreasingly bioclastic in minor part and predominantly variably sandy grading from sandstone above, **porosity and shows as above.**

1029-1035 **SHALE WITH INTERBEDDED SANDSTONE:**

SHALE: black, firm to soft, sub platy to platy, fissile to sub fissile, faintly micromicaceous and slightly silty in part, phosphatic to bituminous with **poor cut;**

SANDSTONE: as above with minor variably argillaceous siltstone as above.

1035-1039 SANDSTONE: off-white to light grey, very fine grained, predominantly variably silty grading to minor sandy siltstone, quartz arenite, well sorted, angular to sub angular, clean, trace slightly argillaceous, predominantly poorly to moderately indurated and crumbly, decreasing common to abundant calcareous cement, trace siliceous cement, **predominantly no visible porosity, minor streaky poor porosity, no fluorescence, trace very poor questionable cut.**

1039-1046 SANDSTONE: off-white to light grey, lower very fine to lower fine grained, slightly to moderately silty, quartz arenite with clear to frosted quartz, well sorted, angular to subrounded, rare well rounded blue grey tripolitic chert grains, clean, commonly variably disaggregated, **common poorly consolidated cuttings with tight to poor porosity and variably minor to abundant calcareous cement, minor siliceous cement, minor quartz overgrowths, infer common fair to poor porosity, minor very dull fluorescence, minor to common weak streaming and very thin diffuse cut,** trace to minor shale stringers as above.

1046-1052 **SANDSTONE WITH MINOR INTERBEDDED SHAL:**

SANDSTONE: very similar to above, off-white to light grey, predominantly very fine grained, minor fine grains, increasingly silty in part, quartz arenite as above, clean, well sorted, angular to sub angular, minor subrounded grains, predominantly moderately to poorly indurated, variably crumbly in part, variably disaggregated in minor part, decreasing common calcareous cement, minor siliceous cement, minor quartz overgrowths, **predominantly no visible porosity, minor streaky poor porosity, no fluorescence, trace very weak questionable cut;**

SHALE: black, variably firm to locally soft, commonly brittle, platy, fissile, carbonaceous to slightly phosphatic/bituminous.

1052-1059 **SHALE WITH MINOR INTERBEDDED SANDSTONE AND SILTSTONE:**

SHALE: very dark brown to black, dark grey in part, variably firm to slightly soft, variably platy to sub blocky, commonly fissile to sub fissile, smooth and faintly micromicaceous in part, commonly sub waxy, commonly very slightly dolomitic, variably silty in part locally grading to minor argillaceous siltstone laminations, variably bituminous to slightly phosphatic with common **very poor cut,** trace pyrite nodules;

SANDSTONE AND SILTSTONE: dark brown to grey, argillaceous, siliceous to calcareous, **tight, no shows.**

1059-1065 **SANDSTONE:** pale tan to very light grey, fine to very fine grained, quartz arenite with clear to frosted quartz, trace to minor yellow quartz grains, well sorted, angular to subrounded, minor rounded grains, clean, commonly disaggregated in part, common consolidated cuttings with variably very poor to moderate induration, minor spotty to patchy siliceous and calcareous cement, trace interstitial pyrite, rare to trace spotty illite, common quartz overgrowths, **consolidated cuttings with variable streaky fair to poor porosity, occasional good and tight streaks, infer common fair to good porosity, very faint oil stain, common to abundant pale green to yellow green fluorescence, common fair milky streaming and diffuse cut,** minor oil sheen at wash, strong condensate odor.

1065-1070 **SANDSTONE:** predominantly disaggregated as above becoming slightly finer, slightly silty in part, infer fair to good porosity, ~20% consolidated cuttings: poor to moderately indurated and crumbly to friable, abundant calcareous cement, minor siliceous cement, **predominantly no visible porosity with minor streaky poor to fair porosity, trace spotty fluorescence, trace to minor very poor cut,** minor dark grey to black platy fissile, slightly bituminous shale.

1070-1075 **SANDSTONE:** very light grey to pale tan, very fine grained, trace fine grains, variably silty in part, quartz arenite with trace lithic grains, very rare recrystallized bioclast, well sorted, angular to sub angular, trace rounded grains, predominantly clean, trace slightly argillaceous, rare to trace argillaceous partings, predominantly poorly to moderately indurated and crumbly to variably friable, well indurated in part, abundant calcareous cement, minor to locally common streaky to patchy siliceous cement, **predominantly no visible porosity, no shows.**

1075-1080 **SHALE WITH INTERBEDDED SANDSTONE AND MINOR SILTSTONE:**

SHALE: similar to above, very dark brown to dark grey, variably firm to slightly soft, platy to sub blocky, fissile to sub fissile, smooth and slightly sub waxy in part, slightly silty and faintly micromicaceous in part, **slightly bituminous with very poor cut;**

SILTSTONE: medium to dark brown, quartzose, moderately to well indurated, common to abundant calcareous to dolomitic cement, argillaceous in part, variably sandy in part grading to silty sandstone stringers, **tight, no fluorescence, minor very slow blooming and streaming cut;**

SANDSTONE: predominantly as previously described.

1080-1085 **SANDSTONE:** predominantly disaggregated, fine to very fine grained, trace to minor lower medium grains, quartz arenite with predominantly frosted quartz, well to moderately well sorted, sub angular to rounded, clean, **infer fair to good porosity, no shows, ~20% consolidated cuttings:** pale brown to light grey, well sorted, angular to subrounded, minor rounded, poorly to very poorly indurated and moderately to very friable, minor calcareous and siliceous cement, **predominantly fair to poor porosity,** trace spotty bitumen, **abundant slightly patchy very faint oil stain, abundant moderate to bright pale yellow green fluorescence, common poor thin diffuse cut,** minor thin shale interbeds and stringers as above.

1085-1092 **SANDSTONE:** very similar to above, disaggregated, fine to very fine grained, quartz arenite with predominantly frosted quartz, well to moderately well sorted, sub angular to rounded, **trace very friable consolidated cuttings with predominantly fair porosity and decreasing cements as above, infer fair to good porosity, no shows.**

1092-1095 Trip sample with abundant cavings.

1095-1098 **SANDSTONE WITH INTERBEDDED SHALE:**

SANDSTONE: off-white to light grey, predominantly very fine to fine grained and slightly silty, very fine grained and silty in part occasionally grading to siltstone, quartz arenite with trace to minor dark lithic grains, well sorted, angular to subrounded, poorly to moderately indurated, crumbly to friable in part, abundant calcareous cement, commonly disaggregated, **predominantly no visible porosity in consolidated cuttings, infer streaky poor to fair porosity in part, no shows.**

1098-1104 **SANDSTONE WITH INTERBEDDED SHALE:**

SANDSTONE: predominantly light brown, very fine to fine grained, slightly to moderately silty, quartz arenite with trace dark lithic grains, well sorted, angular to subrounded, poorly to moderately indurated, crumbly to friable in part, predominantly clean, slightly argillaceous in part, abundant calcareous cement, **no visible porosity, minor very dull fluorescence, minor to common poor thin diffuse cut;**

SHALE: black to dark grey, firm to locally hard, brittle in part, sub platy to sub fissile, smooth in part, variably silty in part with trace argillaceous siltstone laminations, **variably bituminous with poor cut.**

1104-1109 **SANDSTONE:** pale tan to very light grey, predominantly very fine to fine grained, trace lower medium grains, slightly silty, quartz arenite with frosted to clear quartz and trace dark lithic grains, well sorted, angular to subrounded, minor rounded grains, clean, trace slightly argillaceous, rare argillaceous partings, variably poorly to well indurated, crumbly to friable in part, decreasing common calcareous cement, minor siliceous cement, commonly variably disaggregated, **variable tight to streaky fair porosity in consolidated cuttings, infer common poor to fair porosity, minor spotty yellow green fluorescence, minor very weak cut.**

1109-1113.5 **SANDSTONE WITH INTERBEDDED SHALE:**

SANDSTONE: light to medium brown, very fine grained and variably silty grading to sandy siltstone in part, very quartzose, trace to minor dark lithic grains, clean to variably argillaceous, minor argillaceous partings and laminations, well sorted, angular to sub angular, commonly moderately to well indurated, poorly indurated and crumbly in part, common to abundant calcareous cement, minor siliceous cement, variable argillaceous matrix/cement, **no visible porosity, no shows;**

SHALE: as above.

1113.5-1120 **SANDSTONE:** offwhite to very pale tan, very fine to fine grained, trace lower medium grains, slightly to moderately silty, quartz arenite, trace to minor dark lithic grains, rare recrystallized bioclast, well sorted, angular to subrounded, clean, predominantly poorly to moderately indurated and variably crumbly to friable, abundant calcareous cement, disaggregated in minor part, predominantly no visible porosity with minor streaky poor to fair porosity in consolidated cuttings, **infer minor poor to fair porosity, trace to minor dull fluorescence, minor weak thin streaming and diffuse cut,** trace to minor thin shale interbeds as above.

1120-1131 **SANDSTONE:** very similar to above, offwhite to very pale tan, very fine to fine grained, trace lower medium grains, slightly to moderately silty, quartz arenite, trace to minor dark lithic grains, rare recrystallized bioclast, well sorted, angular to sub-angular, clean, predominantly poorly to moderately indurated and variably crumbly to friable, abundant calcareous cement, decreasingly disaggregated in minor part, **predominantly no visible porosity, infer minor streaky poor to fair porosity, no shows,** decreasing trace thin shale interbeds as above.

1131-1136 **INTERBEDDED SANDSTONE, SILTSTONE AND SHALE:** very poor quality sample with common to abundant cavings;

SANDSTONE: as above, siltstone, medium to dark brown, quartzose, calcareous to dolomitic, **tight,** shale as above.

1136-1139 **SANDSTONE:** offwhite to pale brown, predominantly lower fine to upper medium grained, minor upper very fine and lower coarse grains, quartz arenite with predominantly frosted quartz, increasing minor chert and lithic grains, moderately sorted, sub angular to rounded, clean, commonly disaggregated, common poorly to moderately consolidated cuttings with common siliceous and minor spotty calcareous cement, trace spotty illite, trace to minor quartz overgrowths, **variably fair to very poor porosity in consolidated cuttings, infer predominantly fair porosity, trace spotty bitumen, no fluorescence, minor to common weak slow cut.**

1139-1145 **SANDSTONE:** mixed; as above in part, predominantly **SANDSTONE:** #2 offwhite, very fine grained and variably silty occasionally grading to siltstone stringers, trace to minor fine grains, quartz arenite, well sorted, angular to subrounded, clean, predominantly moderately to well indurated, abundant calcareous to dolomitic cement, no visible porosity, no shows, trace light brown to grey cryptocrystalline limestone stringers variably bioclast to sandy, **tight, no shows.**

1145-1150 **SANDSTONE:** similar to above, offwhite to light grey, very fine to fine grained, slightly to moderately silty, quartz arenite with trace chert and lithic grains, well sorted, angular to subrounded, predominantly clean, slightly argillaceous in part, trace argillaceous partings, poorly indurated and crumbly to friable in part, medium to well indurated in part, abundant dolomitic to calcareous cement, **predominantly no visible porosity, no shows;**

minor interbedded SILTSTONE: medium brown, quartzose, well indurated, abundant calcareous to dolomitic cement, sandy occasionally grading to sandstone, **tight, no shows.**

1150-1155 **DOLOMITE WITH INTERBEDDED CHERT:**

DOLOMITE: buff, commonly cryptocrystalline to microcrystalline, locally microcrystalline to very fine crystalline and slightly microsucrosic, predominantly firm to hard and variably dense, variably cherty in part occasionally grading to dolomitic chert stringers to nodules, locally silty to sandy in minor part, **tight, trace to minor dull yellow fluorescence, no cut;**

CHERT: light to medium grey, predominantly hard and dense, opaque to sub translucent, commonly variably dolomitic occasionally grading to cherty dolomite stringers, rare to trace fracture surfaces, **infer locally poor to fair fracture porosity, no shows,** minor thin sandstone stringers as above.

1155-1161 **DOLOMITE:** similar to above, buff to light brown, cryptocrystalline to microcrystalline, predominantly hard and dense, predominantly variably cherty grading to minor chert stringers and nodules, silty to sandy in minor part, slightly calcareous in part, **tight, questionable shows as above;**

minor interbedded SILTSTONE: medium to dark brown, quartzose, slightly to moderately argillaceous, well indurated, abundant dolomitic to calcareous cement, variably sandy occasionally grading to sandstone stringers, **tight, no fluorescence, minor very weak thin cut,** trace sandstone and shale stringers.

1161-1165 **SANDSTONE:** buff to pale tan, very fine to fine grained, slightly silty, quartz arenite with trace chert and lithic grains, well sorted, angular to subrounded, clean, moderately to poor indurated, abundant dolomitic cement, trace quartz overgrowths, disaggregated in part, **no visible porosity in consolidated cuttings, infer minor fair porosity, trace to minor very dull fluorescence, no cut.**

1165-1170 **SANDSTONE:** very similar to above becoming slightly coarser, fine to very fine grained, quartz arenite with predominantly frosted quartz, trace chert and lithic grains, well sorted, angular to rounded, clean, commonly poorly to moderately indurated and variably crumbly to friable, well indurated in part, abundant dolomitic to calcareous cement, minor locally siliceous cement, trace quartz overgrowths, disaggregated in minor part, **predominantly no visible porosity, no shows.**

1170-1173 **SANDSTONE:** as above becoming slightly coarser, predominantly fine grained, quartz arenite as above, sub angular to rounded, commonly disaggregated, common variably poorly to well consolidated cuttings with abundant dolomitic cement, minor locally common streaky siliceous cement, **trace to minor streaky poor porosity in consolidated cuttings, infer minor poor to fair porosity, trace spotty bitumen, trace to minor spotty dull fluorescence, trace to minor poor slow streaming cut.**

1173-1179 **DOLOMITE:** dark brown, cryptocrystalline to microcrystalline, hard, dense, variably cherty with minor chert nodules and stringers, locally silty to sandy in part, argillaceous in part, **tight, no shows.**

1179-1183 **SANDSTONE WITH INTERBEDDED DOLOMITE:**

SANDSTONE: buff to light grey, fine to very fine grained, quartz arenite, well sorted, angular to rounded, clean, moderately to well indurated, abundant dolomitic cement, minor siliceous cement, disaggregated in minor part, rare fracture surfaces with pyrobituminous to pyritic residue, **no visible porosity, no shows;**

DOLOMITE: medium brown to grey, slightly mottled, cryptocrystalline to microcrystalline, hard, common recrystallized bioclasts, variably sandy in part occasionally grading to dolomitic sandstone, cherty in part, rare fracture surfaces as above, very rare slickensides, **tight, no shows.**

1183-1191.5 **DOLOMITE WITH INTERBEDDED SANDSTONE:**

DOLOMITE: light to medium grey and buff brown, mottled in part, bioclastic in part, predominantly variably sandy grading to dolomitic sandstone in part, variably silicified in part with trace to minor milky quartz blebs to mottles, common disseminated and nodular pyrite, cherty in part, trace chert nodules, increasing trace to minor fracture surfaces as above, **predominantly tight, infer minor poor fracture porosity, no shows;**

SANDSTONE: buff to light grey, predominantly fine to very fine grained, minor medium grains, quartz arenite locally grading to sub litharenite, abundant clear to frosted quartz, locally minor dolomite grains, moderately to well indurated, abundant dolomitic cement, minor siliceous cement, **no visible porosity, minor to common very dull fluorescence, trace questionable cut.**

1191.5-1199 **SANDSTONE WITH INTERBEDDED DOLOMITE:**

DOLOMITE: as previously described becoming variably sandy commonly grading to sandstone buff to light brown, variably very fine to fine grained, minor medium grains, sublitharenite locally grading to quartz arenite, abundant clear to frosted quartz with minor to locally common dolomite grains, trace chert and lithic grains, clean, well to moderately well sorted, angular to subrounded, disaggregated in minor part, predominantly well to very well indurated, abundant dolomitic to minor calcareous cement, minor siliceous cement, **no visible porosity, common dull yellow green fluorescence, minor very weak very thin cut.**

1199-1205 **DOLOMITE WITH INTERBEDDED SANDSTONE AND MINOR SILTSTONE:**

DOLOMITE: as previously described commonly grading to dolomitic sandstone as above;

SANDSTONE #2: offwhite to light grey, very fine to fine grained, slightly silty, quartz arenite, trace chert and lithic grains, well sorted, angular to sub angular, clean, moderately to well indurated, abundant dolomitic cement, minor siliceous cement, **no visible porosity, no shows;**

SILTSTONE: medium brown, very quartzose, moderately to poorly indurated, abundant dolomitic cement, **no visible porosity, minor very dull fluorescence, minor weak slow cut.**

1205-1215 m **SANDSTONE WITH MINOR DOLOMITE:**

SANDSTONE: similar to above becoming slightly coarser, offwhite to light grey, very fine to fine grained, slightly silty, quartz arenite, trace chert and lithic grains, well sorted, angular to sub angular, predominantly clean, trace slightly argillaceous, disaggregated in minor part, moderately to well indurated, decreasing common to abundant dolomitic to minor calcareous cement, increasing minor to locally common siliceous cement, **no visible porosity, minor spotty dull fluorescence, trace very slow questionable cut;**

DOLOMITE: as previously described, trace shale stringers.

1215-1219.5 **SANDSTONE:** similar to above, pale tan to light grey, very fine to fine grained, quartz arenite, well sorted, angular to subrounded, clean, increasingly disaggregated in part, predominantly moderately to well indurated, poorly indurated and crumbly in minor part, common to abundant dolomitic cement, minor locally common streaky siliceous cement, trace spotty illite, **predominantly no visible porosity, trace streaky poor porosity, infer minor poor porosity, minor spotty dull fluorescence, minor very slow weak cut,** trace sandy dolomite stringers.

1219.5-1226 **SANDSTONE:** offwhite to light grey, trace to minor lower medium grains, quartz arenite with frosted to clear quartz, well to moderately well sorted, angular to rounded, clean, commonly disaggregated in part, lesser common variably poorly to moderately well indurated cuttings with variable tight to fair porosity, predominantly siliceous cement, minor streaky dolomitic cement, trace spotty illite, trace to minor quartz overgrowths, **infer common fair to streaky good porosity, no shows.**

1226-1238 **SANDSTONE:** frosted very light grey, lower fine to lower medium grained, trace to minor upper very fine and upper medium grains, quartz arenite with predominantly frosted quartz, trace chert and lithic grains, clean, moderately well sorted, rounded to sub angular, disaggregated, trace poorly consolidated cuttings with spotty siliceous cement, trace quartz overgrowths, **infer predominantly good to streaky fair porosity, trace very poor questionable fluorescence and cut.**

1238-1241 **SANDSTONE:** light grey to light brown, variably very fine to fine grained, variably silty occasionally grading to siltstone stringers, quartz arenite, variably clean to slightly argillaceous, moderately well sorted, angular to subrounded, trace argillaceous partings, moderately to well indurated, common to abundant dolomitic cement, minor locally common siliceous cement, **predominantly no visible porosity, no shows,** trace to minor silty to sandy dolomite stringers, minor thin shale.

1241-1245 **SANDSTONE:** light grey to pale tan, very fine to fine grained, variably silty in part, quartz arenite, well to moderately well sorted, angular to subrounded, predominantly clean, slightly argillaceous in part with trace argillaceous partings, predominantly well to moderately indurated, predominantly abundant dolomitic cement, minor siliceous cement, **no visible porosity, common very dull questionable fluorescence, trace questionable cut;** trace to minor thin shale interbeds to stringers, trace silty to sandy dolomite stringers.

1245-1252.5 **SANDSTONE:** predominantly as above becoming slightly finer in part, disaggregated in minor part, **infer minor poor to fair porosity, no shows;** minor thin shale interbeds to stringers dark grey, firm, brittle, sub platy, fissile, slightly sub waxy in part, variably silty in part, trace silty to sandy dolomite stringers, trace light grey bentonitic claystone stringers.

1252.5-1259 **SANDSTONE:** offwhite to light grey, fine to very fine grained, trace to minor lower medium grains, slightly silty, quartz arenite with predominantly frosted quartz, well sorted, sub angular to rounded, clean, commonly variably disaggregated, common poorly to moderately indurated variably friable consolidated cuttings with predominantly siliceous cement, trace to minor quartz overgrowths, **variable tight to minor fair porosity in consolidated cuttings, infer common fair porosity, no shows.**

1259-1264 **SANDSTONE:** offwhite to light grey, light brown in part, very fine to fine grained, slightly to moderately silty, quartz arenite, well sorted, angular to subrounded, clean, commonly moderately to well indurated, poorly indurated and crumbly to friable in part, predominantly siliceous cement, **increasing minor to locally common streaky dolomitic cement, predominantly no visible porosity, minor streaky poor to fair porosity, trace spotty dull fluorescence, trace questionable cut;**

minor interbedded SHALE: dark grey to black, firm, brittle, platy to sub platy, fissile, slightly silty, carbonaceous to bituminous, trace dolomite stringers.

1264-1273 **SANDSTONE WITH MINOR INTERBEDDED SHALE AND SILTSTONE:**

SANDSTONE: as above in part, predominantly tan to light grey, very fine grained, minor fine grains, variably silty occasionally grading to siltstone, quartz arenite, well sorted, angular to sub angular, predominantly clean to slightly argillaceous, trace argillaceous partings, variably poorly to well indurated, siliceous and minor dolomitic cement, **no visible porosity, no shows;**

SILTSTONE: medium to dark brown, quartzose, poorly to moderately indurated, abundant dolomitic cement and minor to locally abundant dolomite rhombs, grades to dolsiltite in part, variably sandy in part, slightly to moderately argillaceous, **no visible porosity,** minor to locally common bitumen, **minor to common weak thin cut,** trace dolomite stringers; SHALE: as above with minor soft light brown faintly laminated marl stringers.

1273-1281 SANDSTONE: mixed;

SANDSTONE #1: tan to light grey, very fine to fine grained, quartz arenite, well sorted, angular to sub angular, clean, abundant dolomitic cement, **tight, no shows;**

SANDSTONE #2: light grey, lower fine to upper coarse grained, trace to minor upper very fine and very coarse grains, litharenite grading to sub litharenite, abundant frosted to clear quartz, common blue grey to minor light to dark varicolored chert grains, moderately poorly sorted, rounded to sub angular, clean, commonly variably disaggregated, common consolidated cuttings with siliceous and minor dolomitic cement, trace to minor quartz overgrowths, **variable tight to fair porosity in consolidated cuttings, infer common fair porosity, minor locally common spotty bitumen, common dull green fluorescence, common slow blooming and diffuse cut.**

1281-1290 SANDSTONE: mixed similar to above; predominantly SANDSTONE: #2 light grey, upper very fine to upper medium grained, trace to minor lower coarse grains, sub litharenite locally grading to litharenite, abundant frosted to minor clear quartz with common dark to light varicolored chert and lithic grains, moderately poorly to poorly sorted, rounded to sub angular, clean, predominantly disaggregated, minor consolidated cuttings with mixed dolomitic and siliceous cement, trace to minor quartz overgrowths, **infer common poor to fair porosity, minor spotty bitumen, trace spotty fluorescence, trace poor cut;** SANDSTONE: #1 light grey to tan, fine to very fine grained, quartz arenite, trace to locally minor chert and lithic grains, moderately well to well sorted, angular to subrounded, clean, poorly to moderately indurated, common siliceous and dolomitic cement, **variable tight to minor streaky fair porosity, no fluorescence, trace poor slow cut.**

1290-1295 SANDSTONE: light grey, fine to very fine grained, slightly to moderately silty, quartz arenite, trace chert and lithic grains, well sorted, angular to subrounded, clean, predominantly poorly to moderately indurated and crumbly to friable, predominantly siliceous and minor dolomitic cement, trace quartz overgrowths, trace pyrite, **predominantly no visible porosity, trace spotty very dull fluorescence, trace very weak questionable cut.**

1295-1300 **SANDSTONE:** offwhite to light grey, fine to very fine grained, minor scattered medium and trace lower coarse grains, silty in part, quartz arenite, well to moderately well sorted, angular to subrounded, clean to trace slightly argillaceous, very silty in minor part grading to siltstone laminations to stringers with common argillaceous partings, well indurated in part, poorly to moderately indurated and crumbly to friable in part, predominantly siliceous with minor dolomitic cement, trace pyrite, **minor streaky poor porosity, trace spotty bitumen, common very dull green fluorescence, no cut,** minor shale stringers to thin interbeds.

1300-1303.5 **DOLOMITE:** variable: dark to light brown, predominantly common to very abundant very fine rhombs in variable trace to abundant argillaceous matrix, grades to dolarenite in part, trace to minor recrystallized allochems, silty to sandy in part grading to dolomitic sandstone, **hard dense and cryptocrystalline to microcrystalline in minor part, no visible porosity, common very dull green fluorescence, common poor thin diffuse and streaming cut.**

1303.5-1306 **SANDSTONE:** tan to light grey, predominantly fine grained, quartz arenite, frosted to minor clear quartz, predominantly disaggregated, minor poorly to moderately consolidated cuttings with siliceous and lesser dolomitic cement, **tight to poor porosity in consolidated cuttings, infer common poor to fair porosity, no fluorescence, trace questionable cut.**

1306-1314 **SANDSTONE:** offwhite to light grey, very fine to fine grained, quartz arenite, trace dark lithic grains, well sorted, angular to subrounded, clean, moderately to poorly indurated, variably crumbly to slightly friable, siliceous cement, trace quartz overgrowths, disaggregated in minor part, **tight to streaky poor porosity, minor dull fluorescence, minor weak thin slow cut,** trace shale stringers.

1314-1316 **DOLOMITE:** very similar to above, common to very abundant very fine rhombs in variable trace to abundant argillaceous matrix, grades to dolarenite in part, commonly soft to firm and crumbly, silty to sandy in part grading to dolomitic sandstone stringers, **no visible porosity, minor very dull green fluorescence, minor poor thin diffuse and streaming cut.**

1316-1323.5 **SANDSTONE:** as above in minor part, predominantly upper very fine to lower medium grained, quartz arenite with abundant frosted quartz, trace chert and lithic grains, moderately well sorted, sub angular to rounded, predominantly disaggregated, minor poorly consolidated cuttings with dolomitic and minor siliceous cement, trace quartz overgrowths, trace pyrite, **tight to streaky fair porosity in consolidated cuttings, infer common poor to streaky fair porosity, trace spotty bitumen minor to common fair spotty yellow green fluorescence, minor to common poor to fair streaming and diffuse cut.**

1323.5-1329 **SANDSTONE:** offwhite to light grey, fine to very fine grained, slightly silty, quartz arenite, well sorted, angular to subrounded, clean, predominantly poor to moderately indurated with common to abundant dolomitic and lesser siliceous cement, disaggregated in minor part, **predominantly no visible porosity, trace questionable cut and fluorescence.**

1329-1334 **SANDSTONE:** pale tan to light grey, fine to very fine grained, trace lower medium grains, quartz arenite, rare dolomitic grains, moderately well sorted, sub angular to rounded, clean, disaggregated in part, poor to moderately indurated, common to abundant dolomitic to minor calcareous cement, minor siliceous cement, trace interstitial pyrite, **predominantly no visible porosity, no shows,** trace buff cryptocrystalline dolomite stringers, rare to trace ironstone laminations, trace variably argillaceous siltstone laminations to stringers.

1334-1346 **SANDSTONE:** similar to above, pale tan to light grey, fine to very fine grained, trace lower medium grains, quartz arenite, increasing rare to trace dolomitic grains, moderately well sorted, sub angular to rounded, clean, commonly variably disaggregated, poorly to moderately indurated, common to abundant dolomitic to minor calcareous cement, minor siliceous cement, trace to locally minor quartz overgrowths, trace interstitial pyrite, **commonly no visible porosity in consolidated cuttings, minor to locally common streaky poor to fair porosity with common spotty bitumen, minor to locally common spotty yellow fluorescence, minor poor to fair streaming and diffuse cut,** minor buff to brown cryptocrystalline to microcrystalline dolomite stringers.

1346-1350 **SANDSTONE:** frosted light grey, predominantly fine grained, trace to minor upper very fine and lower medium grains, quartz arenite, predominantly frosted to minor clear quartz, well sorted, sub angular to rounded, clean, predominantly disaggregated, trace consolidated cuttings with dolomitic and siliceous cement, trace quartz overgrowths, **infer common fair to good porosity, minor dull fluorescence, trace questionable cut,** trace to minor dolomite stringers as above.

1350-1356 **SANDSTONE WITH MINOR INTERBEDDED DOLOMITE AND SHALE:**

SANDSTONE: light grey to minor tan, fine to very fine grained, increasing minor lower medium grains, quartz arenite, predominantly frosted quartz, clean, trace argillaceous partings, moderately well sorted, sub angular to rounded, commonly disaggregated, common poorly to moderately consolidated cuttings with common to abundant dolomitic cement, minor siliceous cement, **predominantly no visible porosity in consolidated cuttings, infer minor to common poor to fair porosity, trace dull fluorescence and questionable cut;**

DOLOMITE: medium to dark brown, predominantly cryptocrystalline to microcrystalline, hard dense and variably cherty grading to chert, **tight, no shows;**

SHALE: very dark brown, slightly to very silty and micromicaceous, slightly phosphatic to bituminous.

1356-1365 **SANDSTONE:** very pale tan to light grey, upper very fine to upper fine grained, trace lower medium grains, quartz arenite with frosted to clear quartz, rare bioclastic grains, well sorted, angular to rounded, clean, predominantly disaggregated, minor to common poorly to moderately consolidated cuttings with common to abundant dolomitic cement in part, common to abundant siliceous cement in part, trace to minor quartz overgrowths, **predominantly tight to poor porosity with minor streaky poor to fair porosity in consolidated cuttings, infer common fair porosity, trace to minor spotty bitumen, minor to common spotty dull yellow green fluorescence, minor very poor very slow cut,** trace dolomite stringers.

1365-1370 **SANDSTONE:** offwhite to light grey, very fine to fine grained, slightly silty in part, quartz arenite, frosted to clear quartz, well sorted, angular to rounded, clean, disaggregated in part, commonly moderately to well indurated, poorly indurated in part, predominantly common to abundant dolomitic cement, minor siliceous cement, trace interstitial pyrite, **predominantly no visible porosity, trace streaky poor porosity, infer minor poor to fair porosity, no shows.**

1370-1377 **SANDSTONE:** very similar to above becoming slightly coarser, decreasingly indurated, commonly to predominantly disaggregated, minor to common poorly to moderately indurated and crumbly to friable consolidated cuttings, cements as above, trace quartz overgrowths, trace interstitial pyrite, **predominantly no visible porosity in consolidated cuttings, infer common poor to streaky fair porosity, trace dull fluorescence, no cut.**

1377-1383 **SANDSTONE:** pale brown to light grey, very fine to fine grained, variably silty in part, quartz arenite, frosted to clear quartz, well sorted, angular to rounded, clean, disaggregated in minor part, predominantly moderately to well indurated, abundant dolomitic cement, minor siliceous cement, trace interstitial pyrite, **predominantly no visible porosity, trace streaky poor porosity, no shows,** minor interbedded shale.

[illegible] **SANDSTONE:** mixed: predominantly **SANDSTONE:** #1 lower fine to upper medium grained, quartz arenite with predominantly frosted quartz, moderately to moderately well sorted, rounded to sub angular, disaggregated, trace consolidated cuttings with spotty dolomitic and siliceous cement, minor patchy pyrite, **infer predominantly fair to streaky good porosity, trace to minor spotty bitumen, minor fluorescence and cut as below;** **SANDSTONE:** #2 very fine to fine grained, quartz arenite, well sorted, angular to rounded, disaggregated in part, poorly to moderately indurated with spotty siliceous and dolomitic cement, trace pyrite, **variable very poor to fair porosity with common to abundant bitumen, common spotty dull to moderate fluorescence, common poor to fair streaming and diffuse cut.**

1390-1395.5 **SANDSTONE:** offwhite to light grey, predominantly fine grained, minor upper very fine and lower medium grains, quartz arenite with frosted to minor clear quartz, well sorted, angular to rounded, slightly silty, predominantly poorly indurated and variably crumbly to friable, moderately indurated in part, predominantly siliceous cement, minor dolomitic cement, trace spotty illite, trace to minor quartz overgrowths, decreasing trace pyrite, disaggregated in part, **predominantly poor to streaky fair porosity with tight streaks, trace dull fluore..cence, trace weak questionable cut.**

1395.5-1400 **INTERBEDDED DOLOMITE, SHALE AND SANDSTONE:**

DOLOMITE: light to dark brown, mottled in part, cryptocrystalline, hard, dense, variably cherty with common chert nodules, clean to argillaceous, silty in part, **tight, no shows;**

SHALE: medium to dark green in part, platy sub platy, fissile, sub waxy, locally silty with siltstone stringers, trace anhydrite stringers;

SANDSTONE: light grey, fine to very fine grained, quartz arenite, well sorted, angular to subrounded, variably silty in part, clean to trace argillaceous, trace argillaceous partings, disaggregated in part, poorly to moderately indurated, common to abundant dolomitic cement, **predominantly no visible porosity, infer minor poor to fair porosity, no shows.**

1400-1405 **SANDSTONE:** pale buff to light grey, predominantly lower fine to lower medium grained, trace upper very fine grains, quartz arenite, predominantly frosted quartz, well sorted, rounded to sub angular, clean, predominantly disaggregated, minor poorly consolidated cuttings with siliceous and dolomitic cement, well indurated in part with locally common patchy pyrite, **tight to poor porosity in consolidated cuttings, infer predominantly fair to good porosity, no shows.**

1405-1408 **SANDSTONE:** light grey, very fine to fine grained, slightly silty, quartz arenite, well sorted, angular to subrounded, clean to trace argillaceous, trace argillaceous partings, variably poorly to well indurated, common to abundant dolomitic cement, minor streaky siliceous cement, trace spotty to patchy pyrite, **predominantly no visible porosity, no shows,** trace to minor cryptocrystalline to sandy dolomite stringers, trace light grey marl stringers.

1408-1412 **SANDSTONE:** light grey, predominantly lower fine to lower medium grained, trace upper very fine and upper medium grains, quartz arenite, predominantly frosted quartz, well sorted, rounded to sub angular, clean, predominantly disaggregated, minor poorly consolidated cuttings with siliceous and dolomitic cement, well indurated in part with locally common patchy pyrite, **tight to poor porosity in consolidated cuttings infer predominantly fair to good porosity, no shows.**

1412-1415 **SANDSTONE:** light grey to light brown, very fine to fine grained, slightly silty, quartz arenite, well sorted, angular to subrounded, clean to trace argillaceous, trace argillaceous partings, variably poorly to well indurated, common to abundant dolomitic cement, minor streaky siliceous cement, trace spotty to patchy pyrite, **predominantly no visible porosity, no shows.**

1415-1420.5 **SANDSTONE WITH INTERBEDDED DOLOMITE AND SILTSTONE:**

SANDSTONE: buff to light grey, very fine to fine grained, variably silty occasionally grading to siltstone laminations, quartz arenite, well sorted, angular to sub angular, clean to slightly argillaceous, moderately to well indurated, predominantly siliceous cement, minor dolomitic cement, **no visible porosity, no shows;**

DOLOMITE: buff to medium brown, cryptocrystalline to microcrystalline, hard dense and variably cherty in part, very silty in part grading to siltstone, light brown, quartzose, poorly to well indurated, abundant dolomitic cement, sandy in part occasionally grading to silty sandstone, **common poor to fair yellow fluorescence, no cut.**

1420.5-1425 **SANDSTONE:** light grey, upper very fine to lower medium grained, trace upper medium grains, quartz arenite with predominantly frosted quartz, moderately well sorted, angular to rounded, clean, commonly poorly to moderately indurated and variably crumbly to friable, well indurated in part, predominantly siliceous cement, minor to locally common quartz overgrowths, trace interstitial pyrite, disaggregated in part, **common tight to 2% porosity, minor to common streaky 4 to 7% porosity, no shows.**

1425-1429 **SANDSTONE:** as above with increasing trace spotty to patchy pyrite, increasing minor to common poor to fair porosity locally with common to abundant bitumen, **minor poor to fair fluorescence and cut.**

1429-1436 **SANDSTONE:** pale buff to light grey, upper very fine to lower medium grained, quartz arenite with predominantly frosted quartz, moderately well sorted, rounded to sub angular, clean, commonly disaggregated, minor poorly to moderately consolidated cuttings, variably crumbly to friable, predominantly siliceous cement with minor spotty to streaky dolomitic cement, increasing minor quartz overgrowths, **common poor to fair porosity with tight streaks in consolidated cuttings, infer common poor to fair porosity, no shows.**

1436-1441.5 **SANDSTONE:** offwhite to light grey, predominantly fine grained, minor upper very fine and lower medium grains, quartz arenite with clear to frosted quartz, well sorted, angular to subrounded, minor rounded grains, clean, commonly poorly indurated and crumbly to friable, moderately to occasionally well indurated in part, siliceous cement, increasing minor to common quartz overgrowths, commonly variably disaggregated in part, **common tight to 3% porosity, minor streaky 4 to 6% porosity, no shows.**

1441.5-1448 **SHALE WITH INTERBEDDED SANDSTONE AND MINOR DOLOMITE:**

SHALE: mixed: predominantly #1 black to very dark brown, firm, blocky to sub platy, predominantly variably silty to locally very sandy with minor variably dolomitic sandstone laminations to stringers, commonly sub waxy to waxy, phosphatic to bituminous with poor cut, trace slickensides, #2 medium green to green grey, platy to sub blocky, sub waxy, pyritic in part with trace to locally abundant disseminated pyrite, minor to common massive to crystalline pyrite nodules;

SANDSTONE: buff to tan, very fine grained and variably silty, very fine to fine grained in part, quartz arenite, angular to sub angular, poorly to moderately indurated, abundant dolomitic cement, **no visible porosity, no shows;**

DOLOMITE: medium to dark brown, cryptocrystalline, hard, cherty in part, argillaceous, silty to sandy in part grading to dolomitic sandstone, **tight, no shows.**

1448-1454.5 **SANDSTONE:** pale buff, fine to very fine grained, trace lower medium grains, quartz arenite with frosted to clear quartz, moderately well sorted, angular to rounded, clean, predominantly poorly indurated and crumbly to friable, moderate to occasionally well indurated in minor part, siliceous cement, minor to common quartz overgrowths, disaggregated in part, **variable porosity in consolidated cuttings: common tight to 3%, less common 4 to 7% porosity, infer common poor to fair porosity, rare spotty pyrobitumen to bitumen, trace very dull questionable fluorescence and cut.**

1454.5-1459 **SANDSTONE:** variable: light brown to light grey, very fine grained and silty in part occasionally grading to siltstone stringers, variably fine to very fine grained in part, moderately well to well sorted, angular to subrounded, predominantly clean, slightly argillaceous in part, trace argillaceous partings, moderately to well indurated, predominantly siliceous cement, minor streaky dolomitic cement, disaggregated in part, **no visible porosity, infer minor poor to fair porosity, rare to trace pyrobitumen, no fluorescence or cut,** minor thin shale stringers.

1459-1466.5 **SANDSTONE:** offwhite to light grey, fine to very fine grained, slightly silty in part, quartz arenite with clear to frosted quartz, well sorted, angular to subrounded, minor rounded grains, clean, poorly indurated and crumbly to friable in part, moderately to well indurated in part, disaggregated in part, predominantly siliceous cement, minor streaky dolomitic cement, minor to locally common quartz overgrowths, rare fracture surface and trace stylolites?, **variable porosity in consolidated cuttings: common tight to 3%, less common 4 to 8%, no shows.**

1466.5-1472 **SANDSTONE:** buff commonly very fine grained and variably silty occasionally grading to siltstone laminations, variably very fine to fine grained in part, well to moderately well sorted, angular to subrounded, clean to slightly argillaceous, predominantly moderately to well indurated, predominantly common to abundant siliceous cement, minor locally common dolomitic cement, minor to locally common argillaceous partings, pyrobituminous to bituminous to occasionally pyritic partings in part (possible stylolites to fractures), trace to minor pyrite nodules, **trace to minor poor porosity, predominantly no visible porosity, no fluorescence, trace to minor very poor cut;**

MINOR SHALE: black to very dark brown, platy to sub blocky, micromicaceous in part, slightly to moderately silty, fissile in part, very carbonaceous to bituminous with poor cut, trace soft very bituminous claystone stringers.

1472-1478 **SANDSTONE:** pale buff, upper very fine to upper fine grained, trace to minor lower medium grains, quartz arenite with frosted to clear quartz, moderately well sorted, angular to subrounded, minor rounded grains, predominantly disaggregated, minor to common poorly to moderately consolidated cuttings with siliceous and trace spotty dolomitic cement, common to abundant quartz overgrowths, **common variable 4 to 9% porosity with tight streaks in consolidated cuttings, infer predominantly fair to poor porosity, no shows,** minor interbedded shale as above becoming very carbonaceous to coaly, very micaceous in part, trace to minor anhydrite stringers to laminations.

1478-1485 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: buff to light grey, very fine grained and silty in part grading to minor to common tight siliceous siltstone laminations with common argillaceous partings, quartz arenite, well sorted, angular to subrounded, clean to slightly argillaceous, moderately to well indurated, siliceous cement, **predominantly no visible porosity, no shows;**

SHALE: dark grey to black, firm to locally soft, platy to sub blocky, commonly fissile, smooth and faintly and micromicaceous, variably silty in part, predominantly variably carbonaceous, locally very coaly to bituminous, minor grey green sub waxy shale stringers.

1485-1490 **SANDSTONE:** pale buff, predominantly fine grained, minor lower medium and trace upper very fine grains, quartz arenite with clear to frosted quartz, well sorted, angular to subrounded, minor rounded grains, predominantly disaggregated, minor to common poorly to moderately consolidated cuttings with siliceous cement, common quartz overgrowths, trace spotty to streaky dolomitic cement, **variable tight to streaky fair porosity in consolidated cuttings, infer common fair to poor porosity, no shows.**

1490-1495.5 **SANDSTONE:** pale buff to light grey, variably fine to very fine grained, slightly silty in part, quartz arenite with clear to frosted quartz, rare coaly grains, well sorted, angular to subrounded, minor rounded grains, clean, trace argillaceous partings, poorly indurated and crumbly to friable in part, moderately to very well indurated in part, predominantly siliceous cement, minor locally common streaky dolomitic cement, minor quartz overgrowths, disaggregated in part, **predominantly tight to 3% with minor streaky 4 to 7% porosity in consolidated cuttings, infer common poor to streaky fair porosity, no shows,** trace black platy very carbonaceous to bituminous shale stringers.

1495.5-1500 **SANDSTONE:** similar to above becoming coarser, pale buff, predominantly fine grained, minor lower medium grains, quartz arenite with frosted to clear quartz, moderately well sorted, angular to subrounded, increasing minor rounded grains, clean, predominantly disaggregated, minor poorly to moderately indurated and crumbly to friable consolidated cuttings with siliceous cement, increasing minor to common quartz overgrowths, **predominantly variable poor to streaky fair porosity with tight streaks in consolidated cuttings, infer increasing common fair to poor porosity, minor spotty dull yellow green fluorescence, no cut.**

1500-1505 **SANDSTONE:** similar to above becoming slightly finer, pale buff, fine to very fine grained, trace to minor lower medium grains, quartz arenite with clear to minor frosted quartz, moderately well sorted, angular to subrounded, clean, predominantly disaggregated, minor poorly to moderately consolidated cuttings with siliceous cement, minor to common quartz overgrowths, trace interstitial pyrite, **tight to minor streaky poor porosity in consolidated cuttings, infer comp to streaky fair porosity, no shows.**

1505-1510 **SANDSTONE:** buff, fine to very fine grained, variably silty in part, quartz arenite, well sorted, angular to sub angular, minor subrounded grains, clean, predominantly moderately to very well indurated, poorly indurated in minor part, disaggregated in part, common to abundant siliceous cement, trace quartz overgrowths, minor to common stylolite surfaces with pyrobituminous residue, **no visible porosity, no shows,** trace shale stringers.

1510-1515 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, fine grained, occasional medium grains, well sorted, sub rounded to sub angular, minor rounded grains, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, trace shale stringers, **poor to streaky fair visible porosity, no shows.**

15-1520 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, fine grained, occasional medium grains, well sorted, sub rounded to sub angular, minor rounded grained, trace pyrite, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, spotted light brown oil stain, trace shale stringers, **poor visible porosity, minor spotty dull yellow green fluorescence, no shows.**

1520-1525 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, very fine to fine grained, well sorted, sub rounded to sub angular, minor rounded grains, trace pyrite, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, **spotted light brown oil stain, trace shale stringers, poor visible porosity, minor spotty dull yellow green fluorescence, no shows.**

1525-1530 **SANDSTONE:** similar to above becoming coarser, pale buff, predominantly fine grained, minor lower medium grains, quartz arenite with frosted to clear quartz, moderately well sorted, angular to subrounded, increasing minor rounded grains, clean, predominantly disaggregated, minor poorly to moderately indurated and crumbly to friable consolidated cuttings with siliceous cement, increasing minor to common quartz overgrowths, **predominantly variable poor to streaky fair porosity with tight streaks in consolidated cuttings, infer increasing common fair to poor porosity, minor spotty dull yellow green fluorescence, no shows.**

1530-1535 **SANDSTONE:** similar to above becoming slightly finer, pale buff, fine to very fine grained, trace to minor lower medium grains, quartz arenite with clear to minor frosted quartz, moderately well sorted, angular to subrounded, clean, predominantly disaggregated, minor poorly to moderately consolidated cuttings with siliceous cement, minor to common quartz overgrowths, trace interstitial pyrite, **tight to minor streaky poor porosity in consolidated cuttings, infer common poor to streaky fair porosity, no shows.**

1535-1540 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, very fine to fine grained, well sorted, sub rounded to sub angular, minor rounded grains, trace pyrite, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, spotted light brown oil stain, trace shale stringers, **poor visible porosity, minor spotty dull yellow green fluorescence, no shows.**

1540-1545 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, fine grained, occasional medium grains, well sorted, sub rounded to sub angular, minor rounded grains, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, trace shale stringers, **poor visible porosity, no shows.**

1545-1550 **SANDSTONE:** light to medium brown, predominantly very fine grained, minor fine grains, moderately to locally very silty grading to occasional siltstone stringers, minor very fine to fine grained slightly silty sandstone with poor to fair porosity, quartz arenite, predominantly clear quartz, moderately well sorted, angular to subrounded, predominantly clean, locally slightly to moderately argillaceous, increasing minor to common argillaceous partings and laminations, predominantly moderately to well indurated, common to abundant siliceous cement, minor spotty kaolin to illite, trace to locally minor quartz overgrowths, **predominantly tight to 3% porosity, minor streaky poor porosity, minor very dull fluorescence, trace very faint questionable cut;** minor interbedded very coaly to bituminous shale.

1550 1553 **SANDSTONE:** light grey to light brown, predominantly very fine to fine grained, very fine grained and silty in part occasionally grading to siltstone stringers, predominantly clean to locally slightly argillaceous quartz arenite, well sorted, angular to subrounded, trace to minor argillaceous partings and laminations, predominantly poorly to moderately indurated and variably crumbly to friable, disaggregated in minor part, common siliceous cement, trace pyrite, rare to trace spotty kaolin to illite, **predominantly tight, minor streaky poor to fair porosity, trace to minor very dull fluorescence, trace very faint questionable cut;** minor interbedded shale as above.

1553-1566 **SANDSTONE:** offwhite to very light grey, very fine to lower medium grained, quartz arenite with clear to frosted quartz, clean, moderately well sorted, angular to subrounded, predominantly disaggregated, trace to minor poorly consolidated and friable cuttings with spotty to patchy siliceous cement, increasing common to abundant quartz overgrowths, **predominantly fair to streaky poor porosity in consolidated cuttings, infer predominantly fair to streaky good porosity, shows as above.**

1566-1575 **SANDSTONE:** light to medium brown, predominantly very fine grained and moderately silty, minor very fine to fine grained, quartz arenite, predominantly clear quartz, well to moderately well sorted, angular to subrounded, predominantly clean, minor slightly argillaceous, minor argillaceous partings, variably very well to moderately poorly indurated, common to abundant siliceous cement, trace quartz overgrowths, **predominantly tight to 3% porosity, minor streaky 4 to 8% porosity, minor dull to moderate fluorescence, no cut;**

CLAYSTONE AND SHALE: as above, trace pyrite nodules.

1575-1587 **SANDSTONE:** similar to above, light to medium brown, very fine grained with trace to minor fine grains, moderately silty, locally very fine to fine grained in minor part, predominantly clean quartz arenite, variably argillaceous in part occasionally grading to wacke, well sorted, angular to subrounded, common argillaceous partings and laminations, trace siltstone stringers, predominantly very well to moderately indurated, poorly indurated in minor part, common to abundant siliceous cement, trace spotty kaolin to illite, trace patchy pyrite, trace locally minor quartz overgrowths, **predominantly tight to 2% porosity, minor streaky poor to fair porosity, common to abundant very dull yellow green fluorescence, trace very faint questionable cut;**

minor interbedded CLAYSTONE: as above with increasing minor anhydritic mottles and laminations becoming predominantly very bituminous, increasing trace to minor siderite stringers, trace slightly bentonitic, trace shale, as above.

1587-1595 **SANDSTONE WITH INTERBEDDED CLAYSTONE AND SHALE:**

SANDSTONE: as above in part becoming increasingly argillaceous in part grading to minor wacke, very fine to fine grained in part, slightly to moderately silty, quartz arenite as above, moderately well sorted, angular to subrounded to minor rounded, predominantly clean, variably disaggregated in part, poorly to moderately indurated, crumbly to slightly friable, increasing minor to locally common quartz overgrowths, decreasing minor spotty kaolin to illite, **minor to common variable poor to trace streaky fair porosity, shows as above;** increasing claystone and decreasing shale as above.

1595-1600 **SANDSTONE:** light to medium brown to grey brown, predominantly very fine grained with trace to minor fine grains, moderately to locally very silty occasionally grading to siltstone stringers, minor very fine to fine grained, predominantly clean to slightly argillaceous quartz arenite, locally moderately argillaceous grading to wacke, common argillaceous partings and laminations, commonly well to very well indurated, moderately to poorly indurated in minor part, common to abundant siliceous cement, increasing trace to minor spotty to patchy pyrite, decreasing trace spotty kaolin/illite, **predominantly tight, minor streaky poor to fair porosity, minor very dull fluorescence, trace very faint questionable cut;** minor interbedded claystone and shale as above.

1600-1605 **SANDSTONE:** as previously described with slightly increasing fine grains becoming commonly poorly to moderately indurated, variably disaggregated in minor part, decreasing common to abundant siliceous cement, increasing trace spotty kaolin/illite, increasing trace to minor quartz overgrowths, decreasing minor to common argillaceous partings, **increasing minor to common poor to streaky fair porosity, shows as above;** minor claystone and shale as above.

1605-1615 **SANDSTONE:**, as previously described with slightly increasing minor fine grains, trace lower medium frosted quartz grains, predominantly poorly to moderately indurated, **commonly tight to 3% porosity, minor to common poor to increasing streaky fair porosity, shows as above;**

minor interbedded CLAYSTONE: similar to above becoming commonly variably bentonitic, trace slightly marly, increasing pyritic in minor part, trace siderite stringers, decreasing trace to minor shale as above.

1615-1625 **SANDSTONE WITH INTERBEDDED CLAYSTONE AND SHALE:**

SANDSTONE: light to medium brown, predominantly very fine grained, trace to locally minor fine grains, moderately to very silty, predominantly clean to slightly argillaceous quartz arenite, increasingly moderately to very argillaceous wacke in part, common argillaceous partings, predominantly well to very well indurated, moderately to moderately poorly indurated in part, increasing common to abundant siliceous cement, increasing trace spotty kaolin/illite, trace spotty to patchy pyrite, **predominantly tight to 2% porosity, minor streaky poor to trace fair porosity, common to abundant dull yellow green fluorescence, minor poor slow streaming and thin diffuse cut;**

CLAYSTONE: similar to above, medium to dark brown and brown grey, soft, trace white anhydritic mottles and streaky laminations, variably moderately to very bituminous, commonly slightly to moderately bentonitic, increasing minor siderite stringers, minor interbedded shale as above.

1625-1635

SANDSTONE: light to medium brown, very fine grained with trace to minor fine grains, moderately silty, locally very fine to fine grained in minor part, predominantly quartz arenite, commonly clean to variably argillaceous in part grading to minor wacke, well to moderately well sorted, angular to subrounded, common argillaceous partings, variably poorly to well indurated, common to locally abundant siliceous cement, minor streaky to spotty dolomitic cement, trace spotty kaolin/illite, trace patchy pyrite, trace quartz overgrowths, **predominantly tight to 3% porosity, minor streaky poor to fair porosity, minor to common very dull fluorescence, trace faint questionable cut;**

INTERBEDDED CLAYSTONE: medium brown to grey, soft, trace anhydritic to dolomitic mottles to streaks, variably bituminous in part, slightly to moderately bentonitic in part, trace siderite nodules, locally very pyritic, minor black coaly shale grading to bituminous coal.

1635-1644.6

SANDSTONE: similar to above, light to medium brown, very fine grained with trace to minor fine grains, moderately silty, locally very fine to fine grained in minor part, predominantly clean quartz arenite, variably argillaceous in part occasionally grading to wacke, well sorted, angular to subrounded, common argillaceous partings and laminations, trace siltstone stringers, predominantly very well to moderately indurated, poorly indurated in minor part, common to abundant siliceous cement, trace spotty kaolin/illite, trace patchy pyrite, trace locally minor quartz overgrowths, **predominantly tight to 2% porosity, minor streaky poor to fair porosity, common to abundant very dull yellow green fluorescence, trace very faint questionable cut;**

minor interbedded CLAYSTONE: as above with increasing minor anhydritic mottles and laminations becoming predominantly very bituminous, increasing trace to minor siderite stringers, trace slightly bentonitic, trace shale as above.

GOLATA 1644.6 m MD (-1271.7 m SS)

1644.6-1660

SHALE WITH MINOR INTERBEDDED DOLOMITE:

SHALE: black to very dark brown, rusty red to brown, minor grey green, firm, brittle, locally variably hard to soft, brittle in part, platy to sub platy, fissile to sub fissile, slightly sub waxy in part, variably silty and dolomitic in minor part, slightly to moderately micromicaceous, variably carbonaceous to bituminous in part, slightly dolomitic to calcareous in part, minor quartzose argillaceous variably sandy tight siltstone stringers;

DOLOMITE: light to medium brown, slightly mottled, cryptocrystalline to microcrystalline, firm to hard, predominantly dense, variably cherty in minor part, trace to minor scattered sparry inclusions, rare to trace scattered glauconite, **tight, no shows.**

1660-1665 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: as above in part becoming increasingly argillaceous in part grading to minor wacke, very fine to fine grained in part, slightly to moderately silty, quartz arenite as above, moderately well sorted, angular to subrounded to minor rounded, predominantly clean, variably disaggregated in part, poorly to moderately indurated, crumbly to slightly friable, increasing minor to locally common quartz overgrowths, decreasing minor spotty kaolin/illite, **minor to common variable poor to trace streaky fair porosity, shows as above;**

SHALE: as above.

1665-1670 **SHALE:** dark grey to very dark brown, minor black, predominantly variably firm, locally slightly soft to hard, platy to sub blocky, brittle in part, fissile to sub fissile, commonly smooth and faintly micromicaceous, sandstone stringers as above, slightly to moderately silty in part, commonly slightly sub waxy, minor pyrite nodules, slightly bituminous, trace marly bituminous claystone stringers.

1670-1675 **SHALE WITH INTERBEDDED SANDSTONE:**

SHALE: very dark brown, firm to soft, sub platy to sub blocky, sub fissile, very faintly micromicaceous, slightly to very silty grading to very argillaceous siltstone in part, slightly to moderately dolomitic, quartzose, very hard, dense, slightly to moderately argillaceous, slightly sandy, moderately to very dolomitic grading to silty dolomite stringers in part, **tight, no shows.**

1675-1685 **SHALE:** dark grey to very dark brown, minor black, predominantly variably firm, locally slightly soft to hard, platy to sub blocky, brittle in part, fissile to sub fissile, commonly smooth and faintly micromicaceous, slightly to moderately silty in part, commonly slightly sub waxy, minor pyrite nodules, slightly bituminous, trace marly bituminous claystone stringers, sandstone stringers as above, minor thin dolomite as above.

1685-1693 **SHALE WITH INTERBEDDED SANDSTONE:**

SHALE: very dark brown, firm to soft, sub platy to sub blocky, sub fissile, very faintly micromicaceous, slightly to very silty grading to very argillaceous siltstone in part, slightly to moderately dolomitic, quartzose, very hard, dense, slightly to moderately argillaceous, slightly sandy, moderately to very dolomitic grading to silty dolomite in part, **tight, no shows.**

1693-1698.5 **INTERBEDDED SANDSTONE, DOLOMITE AND SHALE:**

DOLOMITE: medium brown, cryptocrystalline to microcrystalline, variably glauconitic, predominantly variably silty grading to dolomitic siltstone stringers, minor sparry inclusions, variably calcareous grading to dolomitic limestone in part, minor ostracodes and rare crinoids, **no visible porosity, common dull yellow fluorescence, trace questionable cut;**

SANDSTONE: off white to medium grey, predominantly very fine grained and variably silty, very quartzose with variable dolomitic grains (sub litharenite), clean to variably argillaceous, moderately well sorted, angular to subrounded, commonly disaggregated, variably poorly to well indurated, common siliceous cement, minor streaky dolomitic cement, **trace poor porosity, minor spotty fluorescence, no cut;**

SHALE: dark grey to black, platy to sub blocky, variably carbonaceous to coaly, minor framboidal pyrite.

1698.5-1705 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: predominantly light to medium brown, minor light grey, predominantly very fine to fine grained, very fine grained and silty in part, sub-quartzarenite with variable trace to minor dolomitic grains locally grading to sub litharenite, moderately well sorted, angular to rounded, clean to slightly argillaceous, variably well to moderately poorly indurated, disaggregated in part, common siliceous and minor to common spotty to streaky dolomitic cement, **predominantly tight to 2% porosity, minor to common variable poor to trace streaky fair intergranular to trace dissolution porosity, common patchy bitumen to oil stain, common spotty to patchy dull to moderate yellow fluorescence, minor thin poor to fair milky cut;**

SHALE: as above, trace to minor dolomite stringers as above.

1705-1709 **SHALE WITH INTERBEDDED SANDSTONE:**

SHALE: dark grey to black, variably firm, platy to sub platy, fissile, variably silty and micromicaceous in part, variably carbonaceous to coaly with minor coaly laminations, trace marl stringers;

SANDSTONE: light grey to light brown, predominantly very fine grained and silty, very quartzose grading to quartz arenite, clean to variably argillaceous, minor argillaceous partings, well sorted, angular to subrounded, moderately to well indurated, abundant dolomitic to calcareous cement, **no visible porosity, minor to common spotty fluorescence, no cut.**

FLETT/DEBOLT 1709 m MD (-1336.1 m SS)

1709-1714 **LIMESTONE:** variable: medium to dark brown, light to medium grey in part, mottled in part, cryptocrystalline to microcrystalline and dense in part (mudstone), microcrystalline with common to abundant sparry bioclasts to allochems (common crinoid, rare to trace fusulinids)(packstone to wackestone), locally variably dolomitic, argillaceous in part, **no visible porosity, minor to common dull yellow fluorescence, trace weak questionable cut;**

DOLOMITE: predominantly as above, trace to minor recrystallized bioclast **packstone to wackestone, tight, no shows,** minor thin shale stringers.

1714-1719 **LIMESTONE:** light to medium brown, minor brown grey, slightly mottled in part, predominantly packstone to wackestone with micro to extremely fine crystalline matrix and common to abundant recrystallized sparry to micritized indeterminate bioclasts to allochems (minor crinoid, rare ostracodes), commonly variably dolomitic grading to calcareous dolomite in part, **no visible porosity, trace clear to white calcite spar fracture fill, infer minor poor fracture porosity, common dull yellow fluorescence, trace very weak very thin cut.**

1719-1725 **DOLOMITE:** light brown, slightly mottled, predominantly firm to hard and brittle, indeterminate texture (probably recrystallized packstone to wackestone), cryptocrystalline to extremely fine crystalline, common sparry bioclasts to allochems (crinoidal in part), trace micro sucrosic, variably calcareous grading to minor dolomitic limestone, common fracture surfaces with white calcite spar and dolomite fracture fill, trace stylolites, **infer common poor to fair fracture porosity, abundant dull to moderate yellow fluorescence, trace very weak cut.**

[redacted]725-1730.5 **DOLOMITE:** as previously described becoming medium to dark brown and argillaceous in minor part, increasingly grading to dolomitic limestone stringers in minor part, trace buff to light grey bioclastic limestone stringers, trace fracture surfaces with calcite to dolomite fill as above, **no visible porosity, infer trace to minor poor fracture porosity, fluorescence and cut as above.**

1730.5-1740 **LIMESTONE WITH INTERBEDDED DOLOMITE:**

LIMESTONE: predominantly buff to light brown, medium to dark brown to grey in part, mottled in part, predominantly packstone with microcrystalline matrix and abundant sparry to micritized bioclasts to allochems, common crinoids and indeterminate bioclasts, locally grades to wackestone, commonly variably firm to locally crumbly, hard dense and variably cherty in part with minor chert nodules, variably dolomitic in part grading to minor calcareous dolomite, **no visible porosity, common dull to moderate yellow fluorescence, minor poor very thin diffuse cut;**

DOLOMITE: light grey to light brown, predominantly cryptocrystalline to microcrystalline, micro to very fine crystalline and slightly micro sucrosic in minor part, predominantly indeterminate texture, minor locally common sparry inclusions, variably calcareous grading to dolomitic limestone in part, **no visible porosity, minor to common fluorescence and trace weak cut.**

[redacted]740-1744 **LIMESTONE WITH INTERBEDDED DOLOMITE: as above with decreasing minor to common fluorescence and decreasing trace weak cut.**

[redacted]

AGAT® Laboratories

SIDEWALL ANALYSIS REPORT

PARA et al MOUNT COTY I-02
I-02-060-20-123-30

Prepared for:

PARAMOUNT RESOURCES LTD.

RC9102

December, 2000

"In Pursuit of Excellence"

- AIHA Accredited
- CAEAL Accredited
- Registered with APEGGA

TABLE OF CONTENTS

PAGE

Final Core Analysis Data 1

Porosity – Permeability (Kmax) Correlation ..... Figure 1

General Information

Sample Handling and Analysis Information

Abbreviations

CORE ANALYSIS DATA

PARA et al MOUNT COTY I-02
I-02-060-20-123-30

COMPANY : PARAMOUNT RESOURCES LTD.
WELL NAME : PARA et al MOUNT COTY I-02
LOCATION : I-02-060-20-123-30
FORMATION :
DRILLING FLUID : WATER BASE MUD

DATE 12-13-2000
W/O No RC9102

CORE ANALYSIS - SIDEWALL REPORT

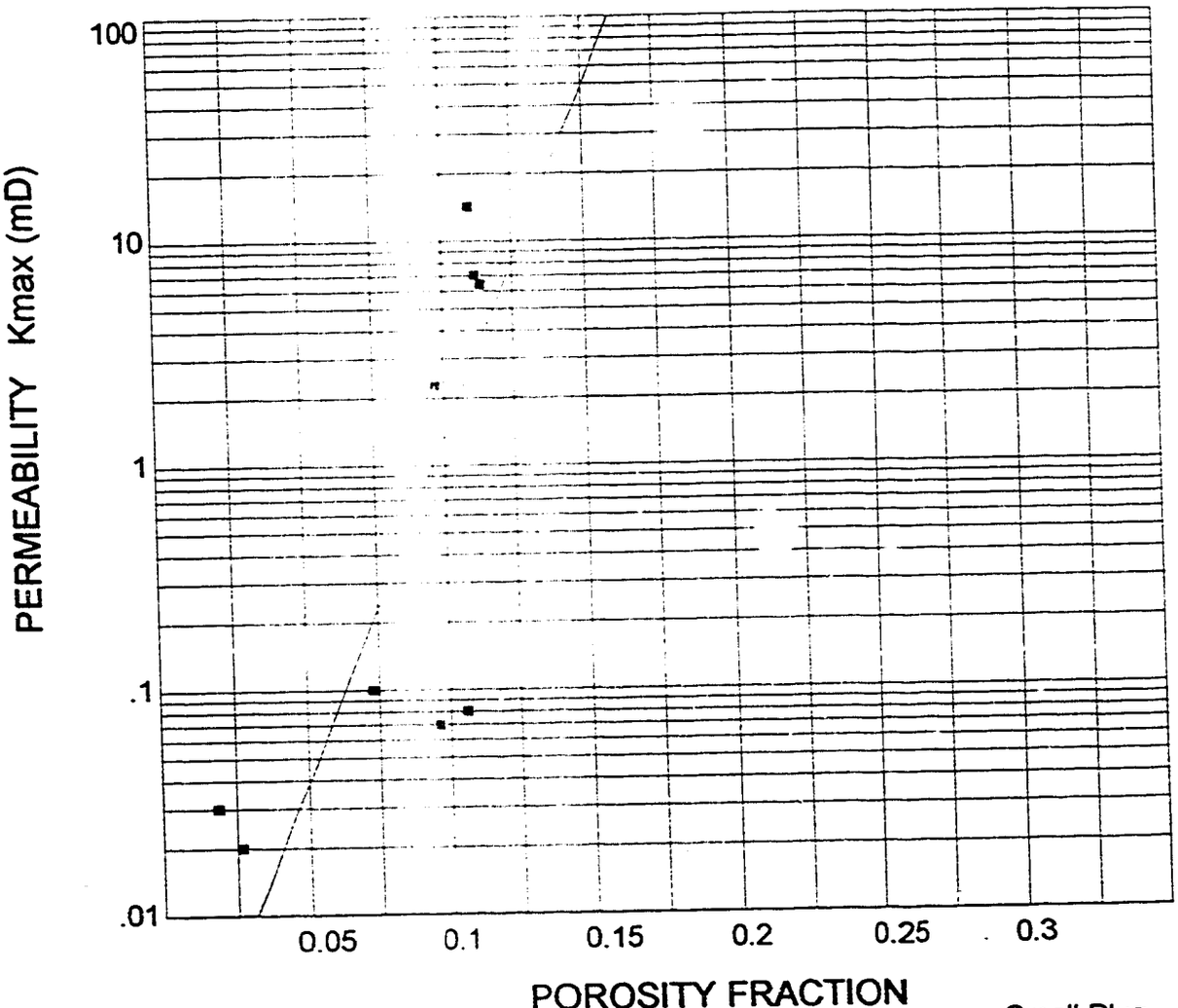
Sample	Interval (m) Top	Base	Rep Thick (m)	Sample Length (m)	Gas Permeability Kmax (mD)	K90 (mD)	Kv (mD)	Capacity Kmax mD m	Porosity	Capacity Ø m	Density (Kg/m³) Bulk	Grain	Residual Saturation Oil	Water	Remarks
SP001	721.00	-	-	-	0.10	-		-	0.073	-	2390	2590			ss vf-fgr carblam pyr fracs
SP002	715.00	-	-	-	0.07	-	-	-	0.096	-	2750	3040	-		ss vf-fgr dol sid
SP003	712.00	-	-	-	0.08	-	-	-	0.105	-	2380	2660	-		ss vf-fgr carbptg
SP004	1720.10	-	-	-	0.03	-	-	-	0.019	-	2760	2820	-		dol vf-fxln calc
SP005	1714.00	-	-	-	0.02	-	-	-	0.027	-	2740	2810	-		dol vf-fxln carblam calc pyr
SP006	1235.00	-	-	-	-	-		-	-	-	-		-		insufficient sample
SP014	1082.00	-	-	-	2.28	-	-	-	0.097	-	2390	2650			ss vf-fgr
SP015	1080.00	-	-	-	6.40	-	-	-	0.114	-	2340	2640			ss vf-fgr
SP016	1064.50	-	-	-	7.05	-	-	-	0.112	-	2360	2650	-		ss vf-fgr
SP017	1062.50	-	-	-	14.2	-	-	-	0.110	-	2340	2630			ss vf-fgr
SP018	1060.00	-	-	-	-	-	-	-	-	-	-		-		insufficient sample

AGAT Laboratories

Company	PARAMOUNT RESOURCES LTD.		
Location	I-02 060-20-123-30	FIGURE :	1
Interval	SIDEWALLS	W/O :	RC9102
Formation		Date :	12-13-2000

AGAT Laboratories

POROSITY-PERMEABILITY CORRELATION



× - Full Diameter ■ - Small Plug

Equation of Line :	Log (Kmax) = -2.97 + 31.02* Porosity
Correlation Coefficient	r = 0.75

SAMPLE HANDLING

AGAT LABORATORIES CORE SERVICES

SAMPLE HANDLING AND ANALYSIS INFORMATION

Company : PARAMOUNT RESOURCES LTD.
Well : PARA et al MOUNT COTY I-02
Location : I-02-060-20-123-30

Coring Equipment : Diamond
Coring Fluid : Water Base Mud

W/O Number : RC9102
Date : 12-13-2000

HANDLING

Core Transported in : Boxes
Cutting Solution : Water
Cleaning Solvent : Toluene
Extraction : Vapour Phase
Cleaning Time : 144 hours
Drying Equipment : Convection oven
Drying Time/Temp : 48 hours @ 108°C

ANALYSIS

Grain volume measured by Boyle's Law using helium
Bulk volume measured by calipering on right-cylindrical samples
Permeability measured on 25.4mm diameter drilled plugs

REMARKS

SIDEWALL PLUG SAMPLES
FIVE (5) SETS OF COLOR PHOTOS

AGAT Laboratories

ABBREVIATIONS

COMMON ABBREVIATIONS

abnt	Abundant
abv	Above
Alg	Algae (al)
alt	Altered (ing)
amor	Amorphous
Amph	Amphipora
ang	Angular
anhy	Anhydrite (ic)
app	Appear
apr	Apparent
aprox	Approximate (ly)
arg	Argillaceous
ark	Arkose (ic)
asph	Asphalt (ic)
AST	Assigned similar to (no actual sample taken)
apha	Aphanitic
bcm	Become (ing)
bd	Bed
bdd	Bedded
bdg	Bedding
Belm	Belemnites
bent	Bentonite (ic)
bf	Buff
biocl	Bioclastic
bioturb	Bioturbated
bit	Bitumen (inous)
bl	Blue (ish)
blk	Black
blky	Blocky
bnd	Band (ed)
Brac	Brachiopod
brec	Breccia (ted)
bri	Bright
brit	Brittle
brn	Brown
Bry	Bryozoa
bulb	Bulbous
bur	Burrowed
C	Coarse (ly)
calc	Calcite (areous)
carb	Carbonaceous
cbl	Cobble (64-256 mm)
Ceph	Cephalopod
cgl	Conglomerate
chk	Chalk (y)
chlor	Chlorite
cht	Chert
chty	Cherty
cl	Clastic
cln	Clean
clr	Clear
cly	Clay (ey)
com	Common
coq	Coquina
Cor	Coral
crbnt	Carbonate
Crin	Crinoid (al)
crm	Cream
crpxl	Cryptocrystalline
ctc	Contact
deb	Debris
decr	Decrease (ing)
desi	Desiccation
dism	Disseminated
dk	Dark (er)
dns	Dense (er)
dol	Dolomite (ic)
drsy	Drusy
dtrl	Detrital (us)
elg	Elongate
euhed	Euhedral
f	Fine (ly)
fau	Fauna
Fe	Iron-Ferruginous
Fe-mag	Feromagnesian
fenst	Fenestral
fis	Fissile
fl	Fill (ed)
fld	Feldspar (thic)
flk	Flake
flky	Flaky
flor	Fluorescence
flt	Fault (ed)
fltg	Floating
foram	Foraminifera
fos	Fossil (iferous)
fr	Fair
frac	Fracture (ed)
frag	Fragment (al)
fri	Friable
frmwk	Framework
fros	Frosted
g	Good
Gast	Gastropod
gl	Glass (y)
glau	Glauconite (ic)
gn	Green
gr	Grain (ed)
gran	Granular
grd	Grade (ed)
grnl	Granule (2-4 mm)
gy	Grey
gyp	Gypsum (iferous)

AGAT Laboratories

COMMON ABBREVIATIONS (CONTINUED)

hd	Hard
hfrac	Horizontal Fracture
hi	High
hrtl	Horizontal
hvy	Heavy
hydc	Hydrocarbon
ig	Igneous
imbed	Imbedded
imp	Impression
incl	Included (sion)
incr	Increase
indst	Indistinct
intbd	Interbedded
intcl	Intraclast (s)
intfrag	Interfragmental
intgran	Intergranular
intlam	Interlaminated
intr	Intrusion (ive)
intv	Interval
intxl	Intercrystalline
ireg	Irregular
ird	Iridescent
intrsk	Intraskeletal
kao	Kaolin
lam	Laminated
lchd	Leached
len	Lentil (cular)
lith	Lithographic
lmy	Limy
lrg	Large (er)
ls	Limestone
lse	Loose
lstr	Lustre
lt	Light (er)
m	Medium
mar	Maroon
mas	Massive
mat	Material, matter
mica	Mica (ceous)
mic	Micro
mky	Milky
mnr	Minor
mnrl	Mineral (ized)
mnut	Minute
Mol	Mollusca
mot	Mottled
mrly	Marly
mtx	Matrix
n	No,none,non
nod	Nodule
num	Numerous
o	Oil
occ	Occasional
od	Odor
ool	Oolite (ic)
op	Opaque
org	Organic
orng	Orange
orth	Orthoclase
Ost	Ostracod
ovgth	Overgrowth
ox	Oxidized
p	Preliminary (as suffix)
pbl	Pebble (4-64 mm)
pel	Pellet
perm	permeability
pet	Petroleum (iferous)
phos	Phosphate (ic)
pk	Pink
plag	Plagioclase
plcy	Pelecypod
pl	Plant
plty	Platy
por	Porous (sity)
pos	Possible (ility)
p-p	Pin-Point
pred	Predominant (ly)
prim	Primary
prob	Probable (ly)
prom	Prominent (ly)
pt	Part (ly)
ptch	Patch (es)
ptg	Parting
purp	Purple
pyr	Pyrite (ic) (ized)
pyrbit	Pyrobitumen
qtz	Quartz
qtzc	Quartzitic
qtzs	Quartzose
rd	Round (ed)
repl	Replaced (ing) (ment)
rexl	Recrystallized
rmn	Remains (nant)
rr	Rare
rsns	Resinous
rthy	Earthy
s	Small
sa	Salt (y)
S	Sulphur
s&p	Salt & Pepper
sat	Saturated
sb	Sub

AGAT Laboratories

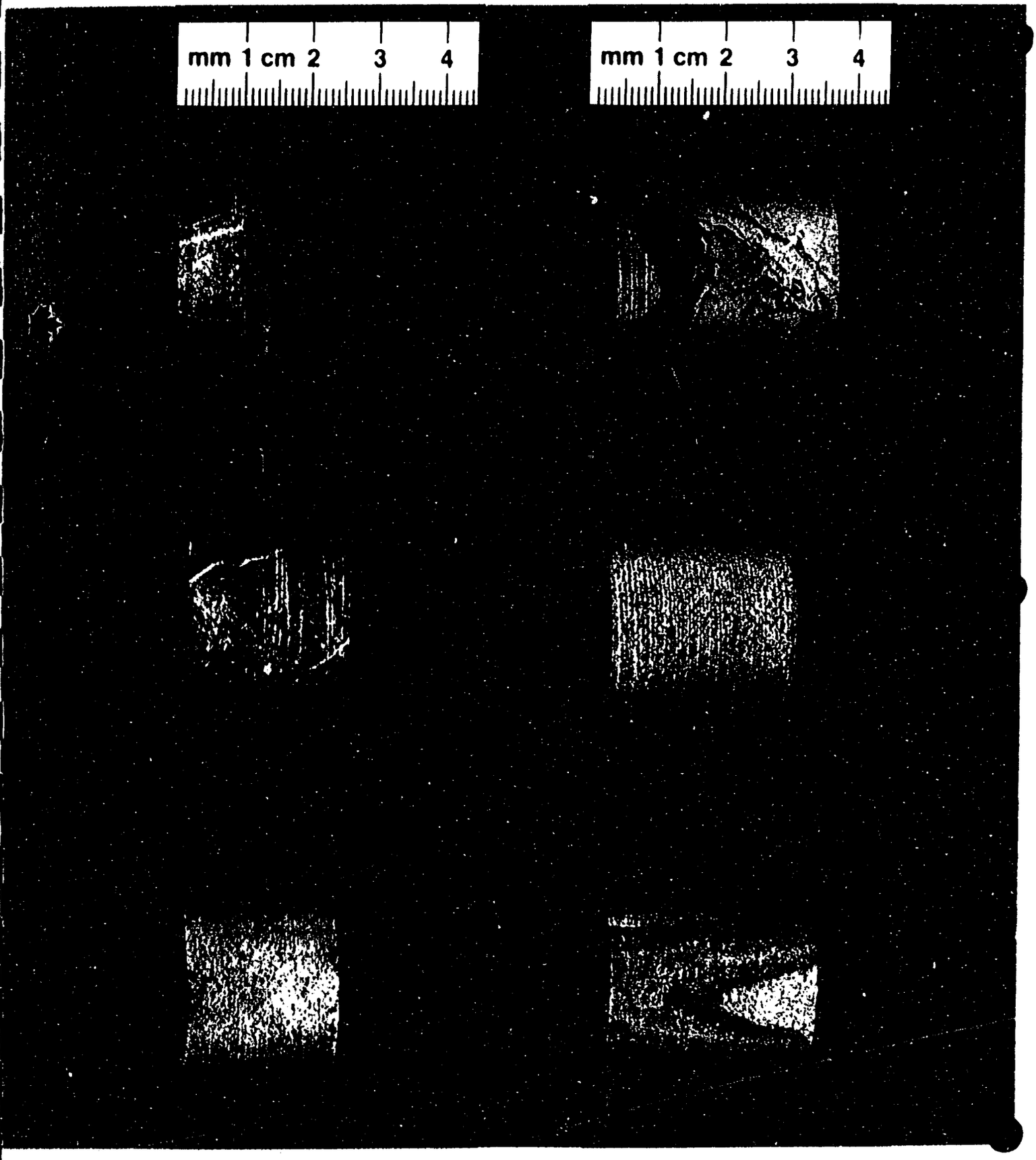
COMMON ABBREVIATIONS (CONTINUED)

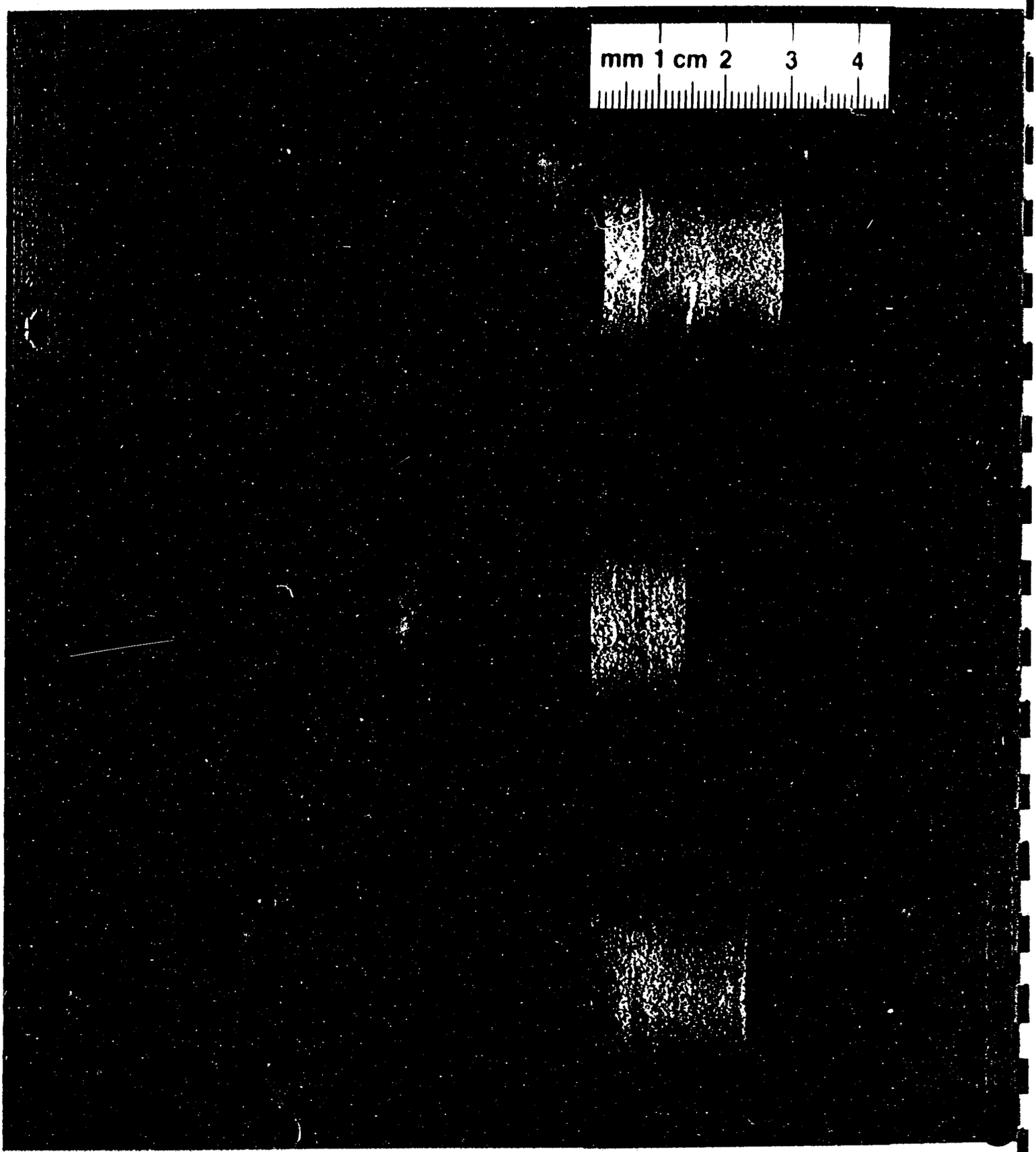
sc	Scales
scat	Scattered
sd	Sand (1/16 - 2mm)
sdy	Sandy
sec	Secondary
sed	Sediment (ary)
sft	Soft
sh	Shale
shad	Shadow
shy	Shaly
sid	Siderite (ic)
sil	Silica
sks	Slickensided
sl	Slight (ly)
sln	Solution
slt	Silt
sltst	Siltstone
slty	Silty
sm	Smooth
SP	Small Plug (as prefix)
sp	Spot (ted) (ty)
spec	Speck (led)
spl	Sample
srt	Sort (ed) (ing)
strg	Stringer
Strom	Stromatoporoid
stromlt	Stromatolite
struc	Structure
styl	Stylolite (ic)
suc	Sucrosic
sug	Sugary
sup	Supported
surf	Surface
sz	Size

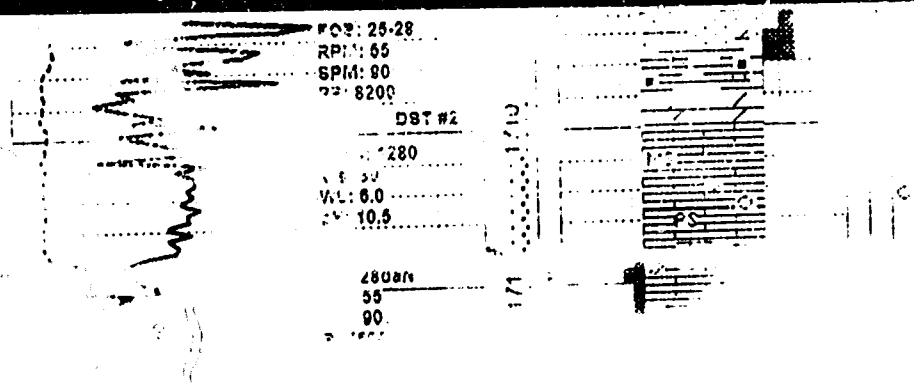
tab	Tabular
tex	Texture
Tham	Thamnopora
thk	Thick
thn	Thin
thru	Throughout
tr	Trace
trnsl	Translucent
trnsp	Transparent
tt	Tight
tub	Tubular
uncons	Unconsolidated
unident	Unidentifiable
up	Upper
v	Very
var	Variable
vcol	Varicolored
vfrac	Vertical Fracture
vgt	Varigated
vn	Vein
vrtl	Vertical
vug	Vug (gy) (ular)
w	Well
wh	White
wk	Weak
wthrd	Weathered
wtr	Water
wvy	Wavy
wxy	Waxy
wsrt	Well sorted

xbd	Cross-bedded
xbdg	Cross-bedding
xl	Crystal (line)
xlam	Cross-laminated
yel	Yellow
zn	Zone
*	Broken core
/	With
>10000	Permeability over 10000 mD
<0.01	Permeability less than 0.01 mD
CC	Cracked Core
DR	Drilled
LC	Lost Core
RU	Rubble
mD	milliDarcy

AGAT Laboratories


mm 1 cm 2 3 4
mm 1 cm 2 3 4


mm 1 cm 2 3 4



Fleet/Debolt

OVERSIZED

DOCUMENT

FILMED

ON

35mm

GEOLOGICAL REPORT

PARAMOUNT RESOURCES LTD.

PARA ET AL MOUNT COTY I-02

300/I-02-60-20-123-30/00
FORT LIARD AREA, N.W.T.

PARAMOUNT RESOURCES LTD.

PARA ET AL MOUNT COTY I-02

300/I-02-60-20-123-30/00
FORT LIARD AREA, N.W.T.

E.B. COPY

PERMIT TO PRACTICE
DECOLLEMENT CONSULTING LTD.
Signature
Date
PE[illegible]
[illegible] engineers.
[illegible]

[illegible]
ENG[illegible]
JAN - 2 2001

GEOLOGICAL REPORT

ON

PARA ET AL MOUNT COTY I-02
300/I-02-60-20-123-30/00
FORT LIARD AREA, N.W.T.

FOR

PARAMOUNT RESOURCES LTD.

TABLE OF CONTENTS

Well Data Summary 1

Formation Tops 2

Deviation Surveys 3

Survey Sheets 4

Bit Record 9

Sidewall Core Reports 15

Drill Stem Test Reports (#1 - #7) 17

Daily Drilling Summary 30

Logging Report 33

Introduction 34

Formation Evaluations 36

Lithological Descriptions 50

October – November, 2000

Gary Johannson, M.Sc.,
Wellsite Geologist

DECOLLEMENT CONSULTING LTD.

WELL DATA SUMMARY

WELL NAME	Para et al Mount Coty I-02
LEGAL LOCATION	I-02/60-20, 123-30
UNIQUE WELL I.D.	300/I-02-60-20-123-30/00
SURFACE LOCATION	I-02/60-20, 123-30
FIELD/REGION	Fort Liard area, N.W.T.
OPERATOR	Paramount Resources Ltd.

SITE DATA

SURFACE COORDINATES	Lat: 60 deg. 11' 34.008" N Long: 123 deg. 30' 18.797"
SEISMIC LOCATION	Seismic Line: 2-268; 128.9m N of SP 500
WELL CLASSIFICATION	Exploratory WELL LICENSE # WID 1884
AFE NUMBER	0GN010052
DRILLING CONTRACTOR	Akita Drilling Rig #51

ELEVATIONS

GROUND LEVEL	367.9 (m)
KELLY BUSHING	373.0 (m)

DRILLING DATES

SPUD DATE	Oct. 16, 2000	**TIME**	22:00hrs
T.D. DATE	Nov. 25, 2000	**TIME**	22:45hrs
RIG RELEASE DATE	n/a		

HOLE SIZE & MUD TYPE

SURFACE	311mm: Gel chem
MAIN	222mm: Gel chem

CASING DATA

SURFACE	39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m
PRODUCTION	n/a

GEOLOGICAL DATA

SAMPLE INTERVAL	Surface to T.D. of 1744m
GAS DETECTION INTERVAL	Surface to T.D. of 1744m
CORES	Sidewall: 18 cores
LOGGING SUITE	HDIL-ZDL-CN-MAC-ML-GR-XYCAL-RCOR
DRILL STEM TESTS	DST #1: 1958-1068m; DST #2: 706-717m (misrun);
	DST #3:1709-1727m; DST #4: 1216-1240m;
	DST #5:1134-1140m; DST #6: 1075-1085m;
	DST #7: 708-720m

WELL STATUS

Cased Potential gas well

FORMATION TOPS

Paramount et al Mount Coty NWT I-02

.L.(m) 367.90 **K.B.(m)** 372.95

FORMATION	SAMPLE		High	PROGNOSIS			LOGS		Isopach
	MD(m)	SS(m)	Low (-)	MD(m)	SS(m)	Isopach	MD(m)	SS(m)	(m)
Quaternary	23.0	350.0	-23.0			92.5	-	-	
Lepine	92.5	187.2	-	92.5	280.5	284.1	-	-	284.1
Scatter	376.6	-3.7	-	376.6	-3.7	139.9	-	-	139.4
Garbutt	517.0	-144.1	-0.5	516.5	-143.6	125.0	516.0	-143.1	123.5
Garbutt Radioactive Zone	637.2	-264.3	4.3	641.5	-268.6	13.5	639.5	-266.6	10.0
Bullhead	656.5	-283.6	-1.5	655.0	-282.1	57.0	649.5	-276.6	53.0
Chinkeh Siltstone	705.5	-332.6	6.5	712.0	-339.1	3.0	702.5	-329.6	5.7
Chinkeh Sand**	**708.5**	**-335.6**	**6.5**	**715.0**	**-342.1**	**11.5**	**708.2**	**-335.3**	**14.3**
Triassic	719.0	-346.1	7.5	726.5	-353.6	63.0	722.5	-349.6	67.7
Belloy	791.0	-418.1	n/a	np	np	n/a	790.2	-417.3	46.5
Fantasque**	**839.0**	**-466.1**	**-49.5**	**789.5**	**-416.6**	**173.3**	**836.7**	**-463.8**	**82.8**
Lower Kindle	923.5	-550.6		923.5	-550.6	39.3	919.5	-546.6	44.7
Mattson*	**962.8**	**-589.9**		**962.8**	**-589.9**	**120.0**	**964.2**	**-591.3**	**111.8**
M1 Zone	**1080.0**	**-707.1**	**2.8**	**1082.8**	**-709.9**	**24.0**	**1076.0**	**-703.1**	**23.5**
M2 Zone	**1104.0**	**-731.1**	**2.8**	**1106.8**	**-733.9**	**126.0**	**1099.5**	**-726.6**	**117.5**
M3 Zone	**1219.6**	**-846.7**	**13.2**	**1232.8**	**-859.9**	**23.0**	**1217.0**	**-844.1**	**34.0**
M4 Zone	**1252.5**	**-879.6**	**3.3**	**1255.8**	**-882.9**	**30.0**	**1251.0**	**-878.1**	**20.0**
M5 Zone	**1272.8**	**-899.9**	**13.0**	**1285.8**	**-912.9**	**59.2**	**1271.0**	**-898.1**	**75.0**
M6 Zone	**1345.8**	**-972.9**	**-0.8**	**1345.0**	**-972.1**	**75.0**	**1346.0**	**-973.1**	**77.0**
M7 Zone	**1429.0**	**-1056.1**	**-9.0**	**1420.0**	**-1139.6**	**22.0**	**1423.0**	**-1050.1**	**23.0**
M8 Zone	**1448.3**	**-1075.4**	**-6.3**	**1442.0**	**-1069.1**	**70.0**	**1446.0**	**-1073.1**	**76.9**
M9 Zone	**1522.5**	**-1149.6**	**-10.5**	**1512.0**	**-1139.1**	**49.0**	**1522.9**	**-1150.0**	**25.6**
M10 Zone	**1550.0**	**-1177.1**	**11.0**	**1561.0**	**-1188.1**	**80.0**	**1548.5**	**-1175.6**	**95.3**
Golata	1644.6	-1271.7	-3.6	1641.0	-1268.1	55.0	1643.8	-1270.9	65.2
Flett/Upper Debolt**	**1709.0**	**-1336.1**	**-13.0**	**1696.0**	**-1323.1**	**40.0**	**1709.0**	**-1336.1**	**34.2**
T.D.	1744.0	-1371.1	-8.0	1736.0	-1363.0		1743.2	-1370.3	

Primary Target Zone *

Secondary Target Zone **

DEVIATION SURVEYS

Para et al Mount Coty I-02

I-02/60-20, 123-30

[redacted]	[redacted]
31.0	0.750°
60.0	0.880°
88.0	1.000°
114.0	0.750°
146.0	1.000°
170.0	1.000°
199.0	1.500°
226.0	1.250°
See	attached
surveys	from United
Geocom	

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 1
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	71.00	.50	79.20	71.00	.06	.30	.06	.21	.21	0.00
2	145.00	.90	57.30	144.99	.43	1.11	.43	.19	.16	-8.88
3	220.00	1.50	41.00	219.98	1.49	2.25	1.49	.27	.24	-6.52
4	293.00	2.20	29.90	292.94	3.43	3.58	3.43	.32	.29	-4.56
5	315.14	2.50	24.10	315.06	4.24	3.98	4.24	.52	.41	-7.86
6	324.86	2.70	22.60	324.77	4.64	4.16	4.64	.65	.62	-4.63
7	334.24	2.20	17.90	334.14	5.02	4.30	5.02	1.72	-1.60	-15.03
8	343.96	1.60	5.00	343.86	5.33	4.37	5.33	2.26	-1.85	-39.81
9	353.41	1.10	340.60	353.30	5.55	4.35	5.55	2.38	-1.59	-77.46
10	362.72	.70	284.60	362.61	5.65	4.27	5.65	2.95	-1.29	-180.45
11	371.87	.70	241.70	371.76	5.63	4.16	5.63	1.68	0.00	-140.66
12	380.85	.80	218.10	380.74	5.56	4.07	5.56	1.08	.33	-78.84
13	390.42	.80	209.80	390.31	5.45	4.00	5.45	.36	0.00	-26.02
14	409.14	.60	197.50	409.03	5.24	3.91	5.24	.40	-.32	-19.71
15	427.44	.80	313.60	427.33	5.24	3.78	5.24	1.96	.33	190.33
16	436.93	.70	211.00	436.82	5.23	3.71	5.23	3.71	-.32	-324.34
17	455.71	1.60	187.40	455.59	4.87	3.61	4.87	1.60	1.44	-37.70
18	473.50	1.10	180.80	473.38	4.46	3.58	4.46	.88	-.84	-11.13
19	482.80	.80	173.50	482.76	4.30	3.59	4.30	1.03	-.96	-23.35
20	491.89	.40	150.10	491.77	4.21	3.61	4.21	1.54	-1.33	-77.91
21	501.17	.30	100.20	501.05	4.18	3.65	4.18	1.00	-.32	-161.31
	SURFACE CASING SET @ 514 METERS. 513.88m TVD									
22	**514.00**	**.43**	**66.53**	**513.88**	**4.19**	**3.73**	**4.19**	**.57**	**.30**	**-78.73**
23	518.72	.50	59.50	518.60	4.21	3.76	4.21	.57	.45	-44.68
24	528.25	.60	63.70	528.13	4.25	3.84	4.25	.34	.31	13.22
25	537.87	.70	64.40	537.75	4.30	3.94	4.30	.31	.31	2.18
26	547.18	.80	60.90	547.05	4.36	4.05	4.36	.35	.32	-11.28
27	556.83	.90	70.60	556.70	4.42	4.18	4.42	.54	.31	30.16
28	566.39	.90	76.00	566.26	4.46	4.32	4.46	.27	0.00	16.95
29	576.03	.90	102.50	575.90	4.46	4.47	4.46	1.28	0.00	82.47
30	584.89	1.00	113.20	584.76	4.42	4.61	4.42	.69	.34	36.23
31	594.28	1.00	137.00	594.15	4.32	4.74	4.32	1.32	0.00	76.04
32	603.99	1.20	146.60	603.86	4.18	4.85	4.18	.84	.62	29.66
33	613.51	1.10	172.50	613.37	4.00	4.92	4.00	1.65	-.32	81.62

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 2
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
34	623.13	1.20	182.20	622.99	3.81	4.93	3.81	.68	.31	30.25
35	632.78	1.10	215.00	632.64	3.63	4.87	3.63	2.04	-.31	101.97
36	642.43	1.30	238.30	642.29	3.50	4.72	3.50	1.62	.62	72.44
37	652.10	1.20	241.60	651.96	3.39	4.54	3.39	.38	-.31	10.24
38	661.13	1.00	234.00	660.99	3.30	4.39	3.30	.82	-.66	-25.25
39	670.60	.90	226.50	670.45	3.20	4.27	3.20	.50	-.32	-23.76
40	680.24	.70	217.40	680.09	3.10	4.18	3.10	.74	-.62	-28.32
41	689.81	.40	204.50	689.66	3.03	4.13	3.03	1.01	-.94	-40.44
42	699.42	.40	191.70	699.27	2.96	4.11	2.96	.28	0.00	-39.96
43	708.99	.20	184.90	708.84	2.91	4.10	2.91	.64	-.63	-21.32
44	718.13	.20	200.70	717.98	2.88	4.10	2.88	.18	0.00	51.86
45	727.07	.10	216.70	726.92	2.86	4.09	2.86	.36	-.34	53.69
46	736.41	.30	210.10	736.26	2.84	4.07	2.84	.65	.64	-21.20
47	745.88	.50	211.10	745.73	2.78	4.04	2.78	.63	.63	3.17
48	755.24	.70	214.30	755.09	2.70	3.98	2.70	.65	.64	10.26
49	764.50	.90	209.90	764.35	2.59	3.92	2.59	.68	.65	-14.25
50	773.89	1.10	176.60	773.74	2.43	3.88	2.43	1.93	.64	-106.39
51	783.51	1.20	178.30	783.36	2.24	3.89	2.24	.33	.31	5.30
52	792.99	.90	213.60	792.84	2.08	3.85	2.08	2.21	-.95	111.71
53	802.62	.60	223.80	802.46	1.98	3.78	1.98	1.02	-.93	31.78
54	812.07	.40	237.60	811.91	1.93	3.72	1.93	.74	-.63	43.81
55	821.63	.40	251.70	821.47	1.90	3.66	1.90	.31	0.00	44.25
56	830.56	.40	260.30	830.40	1.88	3.59	1.88	.20	0.00	28.89
57	839.82	.40	95.80	839.66	1.89	3.53	1.89	.57	0.00	82.61
58	849.37	.30	310.90	849.21	1.91	3.48	1.91	.57	-.31	78.85
59	858.85	.40	351.10	858.69	1.96	3.46	1.96	.82	.32	127.22
60	868.35	.60	47.40	868.19	2.03	3.49	2.03	1.59	.63	177.79
61	877.72	.90	30.10	877.56	2.12	3.56	2.12	1.19	.96	-55.39
62	896.00	1.20	359.90	895.84	2.44	3.63	2.44	1.02	.49	-49.56
63	905.41	1.40	342.60	905.25	2.65	3.60	2.65	1.40	.64	-55.15
64	915.27	1.30	289.80	915.10	2.80	3.46	2.80	3.66	-.30	-160.65
65	923.81	1.50	282.70	923.64	2.86	3.26	2.86	.93	.70	-24.94
66	933.43	1.50	278.50	933.26	2.90	3.01	2.90	.34	0.00	-13.10
67	942.97	1.20	273.40	942.80	2.93	2.79	2.93	1.02	-.94	-16.04

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 3
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
68	952.57	.80	251.70	952.39	2.91	2.62	2.91	1.70	-1.25	-67.81
69	961.68	.80	224.20	961.50	2.85	2.52	2.85	1.25	0.00	-90.56
70	971.29	.80	210.30	971.11	2.74	2.44	2.74	.60	0.00	-43.39
71	980.82	.60	208.80	980.64	2.64	2.38	2.64	.63	-.63	-4.72
72	990.46	.70	201.10	990.28	2.54	2.33	2.54	.41	.31	-23.96
73	1000.10	.60	201.20	999.92	2.44	2.29	2.44	.31	-.31	.31
74	1009.69	.70	199.40	1009.51	2.34	2.26	2.34	.32	.31	-5.63
75	1019.28	.70	188.20	1019.10	2.22	2.23	2.22	.43	0.00	-35.04
76	1028.92	.80	195.10	1028.74	2.10	2.20	2.10	.42	.31	21.47
77	1038.54	1.00	185.60	1038.36	1.95	2.18	1.95	.78	.62	-29.63
78	1047.38	.80	196.70	1047.20	1.82	2.15	1.82	.90	-.68	37.67
79	1057.00	.60	238.00	1056.82	1.73	2.09	1.73	1.65	-.62	128.79
80	1066.59	.80	265.40	1066.40	1.69	1.98	1.69	1.20	.63	85.71
81	1076.24	.90	270.40	1076.05	1.69	1.84	1.69	.39	.31	15.54
82	1087.26	.90	266.30	1087.07	1.68	1.67	1.68	.18	0.00	-11.16
83	1096.98	.90	273.10	1096.79	1.68	1.51	1.68	.33	0.00	20.99
84	1106.60	.90	271.10	1106.41	1.69	1.36	1.69	.10	0.00	-6.24
85	1116.05	.80	279.10	1115.86	1.70	1.22	1.70	.49	-.32	25.40
86	1125.36	.90	289.30	1125.17	1.73	1.09	1.73	.58	.32	32.87
87	1134.76	.60	307.30	1134.57	1.79	.98	1.79	1.21	-.96	57.45
88	1144.38	.80	330.00	1144.19	1.88	.91	1.88	1.05	.62	70.79
89	1153.88	.80	331.90	1153.69	1.99	.84	1.99	.08	0.00	6.00
90	1163.22	.90	344.20	1163.02	2.12	.79	2.12	.67	.32	39.51
91	1172.28	.80	319.90	1172.08	2.24	.73	2.24	1.23	-.33	-80.46
92	1181.81	.70	287.20	1181.61	2.31	.63	2.31	1.36	-.31	-102.94
93	1191.48	.60	203.30	1191.28	2.28	.56	2.28	2.71	-.31	-260.29
94	1233.00	.50	162.90	1232.80	1.90	.52	1.90	.28	-.07	-29.19
95	1239.20	.50	143.00	1239.00	1.86	.55	1.86	.84	0.00	-96.29
96	1248.80	.30	118.90	1248.60	1.81	.60	1.81	.80	-.63	-75.31
97	1258.37	.50	106.80	1258.17	1.79	.66	1.79	.68	.63	-37.93
98	1266.00	.40	92.70	1265.80	1.78	.72	1.78	.58	-.39	-55.44
99	1277.52	.50	87.20	1277.32	1.78	.81	1.78	.28	.26	-14.32
100	1287.14	.70	87.50	1286.94	1.78	.91	1.78	.62	.62	.94
101	1296.70	.50	59.60	1296.50	1.81	1.00	1.81	1.09	-.63	-87.55

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 4
Date : 11/24/00
File : 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
102	1305.81	.40	265.00	1305.61	1.82	1.00	1.82	2.89	-.33	-509.11
103	1315.31	.90	262.50	1315.11	1.81	.90	1.81	1.58	1.58	-7.89
104	1324.84	.90	262.90	1324.64	1.79	.75	1.79	.02	0.00	1.26
105	1334.42	.70	288.40	1334.22	1.80	.62	1.80	1.26	-.63	79.85
106	1343.99	.50	290.60	1343.78	1.83	.52	1.83	.63	-.63	6.90
107	1353.06	.60	312.50	1352.85	1.88	.45	1.88	.76	.33	72.44
108	1362.62	.30	336.40	1362.41	1.94	.40	1.94	1.09	-.94	75.00
109	1372.11	.60	197.30	1371.90	1.91	.38	1.91	2.69	.95	-439.73
110	1381.26	.90	201.70	1381.05	1.80	.34	1.80	1.00	.98	14.43
111	1388.78	.90	186.10	1388.57	1.69	.31	1.69	.97	0.00	-62.23
112	1397.91	.80	206.40	1397.70	1.56	.27	1.56	1.04	-.33	66.70
113	1407.55	.40	203.00	1407.34	1.47	.23	1.47	1.25	-1.24	-10.58
114	1416.75	.40	208.10	1416.54	1.41	.20	1.41	.12	0.00	16.63
115	1426.30	.40	172.70	1426.09	1.35	.19	1.35	.76	0.00	-111.20
116	1434.24	.20	159.50	1434.03	1.30	.20	1.30	.79	-.76	-49.87
117	1443.89	.30	135.10	1443.68	1.27	.22	1.27	.45	.31	-75.85
118	1453.40	.30	107.60	1453.19	1.25	.27	1.25	.45	0.00	-86.75
119	1462.66	.40	89.90	1462.45	1.24	.32	1.24	.47	.32	-57.34
120	1472.23	.60	101.40	1472.02	1.23	.40	1.23	.70	.63	36.05
121	1481.82	1.00	97.10	1481.61	1.21	.54	1.21	1.26	1.25	-13.45
122	1491.36	1.30	99.30	1491.15	1.18	.73	1.18	.95	.94	6.92
123	1511.10	1.10	157.00	1510.88	.97	1.02	.97	1.78	-.30	87.69
124	1527.00	1.30	136.90	1526.78	.70	1.20	.70	.87	.38	-37.92
125	1539.00	1.10	113.60	1538.78	.55	1.40	.55	1.31	-.50	-58.25
126	1548.91	1.00	91.40	1548.68	.51	1.61	.51	1.71	.91	-67.20
127	1558.05	1.70	82.20	1557.82	.53	1.86	.53	1.28	.98	-30.20
128	1567.64	1.60	79.50	1567.41	.57	2.13	.57	.40	-.31	-8.45
129	1578.19	1.80	59.60	1577.95	.68	2.42	.68	1.76	.57	-56.59
130	1585.97	2.10	57.00	1585.73	.82	2.64	.82	1.21	1.16	-10.03
131	1595.55	2.90	53.10	1595.30	1.06	2.98	1.06	2.56	2.51	-12.21
132	1605.10	3.30	54.70	1604.84	1.37	3.40	1.37	1.29	1.26	5.03
133	1614.66	3.60	48.10	1614.38	1.73	3.85	1.73	1.56	.94	-20.71
134	1625.15	3.80	53.30	1624.85	2.15	4.37	2.15	1.12	.57	14.87
135	1634.78	2.30	57.60	1634.46	2.45	4.79	2.45	4.72	-4.67	13.40
136	1644.36	.90	35.60	1644.04	2.61	5.00	2.61	4.71	-4.38	-68.89

Computalog Drilling Services

Client : Paramount Resources Ltd
Well : Para et al Mount Coty I-02
Location: I-02 / 60-20-123-30

Page: 5
Date : 11/24/00
File . 11040

Vertical Section Calculated Along Azimuth 0.00°
GR. Elevation = 367.90m KB Elevation = 372.95m

	MD	Inc	Azi	TVD	Lat	Dep	V'Sect	D'Leg	Build	Turn
	m	deg	deg	m	m	m	m	°/30	°/30	°/30
137	1655.70	.50	36.00	1655.38	2.72	5.08	2.72	1.06	-1.06	1.06
138	1662.61	.20	317.80	1662.29	2.76	5.09	2.76	2.17	-1.30	-339.51
139	1672.18	.70	292.40	1671.86	2.79	5.02	2.79	1.65	1.57	-79.62
140	1681.80	1.80	297.60	1681.47	2.88	4.83	2.88	3.45	3.43	16.22
141	1691.19	2.60	285.50	1690.86	3.01	4.50	3.01	2.94	2.56	-38.66
142	1697.00	3.20	284.90	1696.66	3.09	4.21	3.09	3.10	3.10	-3.10
				EXTRAPOLATED TO THE BIT 1704.64m TVD						
EXT	**1705.00**	**4.03**	**284.07**	**1704.64**	**3.21**	**3.73**	**3.21**	**3.12**	**3.11**	**-3.11**

Bottom Hole Closure 4.92m Along Azimuth 49.24°

WELLSITE BIT RECORD

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

BIT #	1A	2A	3A	2ARR	3ARR	2ARR
SIZE (mm)	311	311	222	311	222	311
MAKE	Western	Hughes	Hughes	Hughes	Hughes	Hughes
TYPE	GT-S1	GT-C1	GT-S1	GT-C1	GT-S1	GT-C1
SERIAL #	G277H	L71DM	K03ZJ	L71DM	K03ZJ	L71DM
JETS	3x17.5	3x17.5	3x17.5	3x17.5	3x17.5	3x17.5
DEPTH IN	23.00	232.00	257.00	257.00	330.00	330.00
DEPTH OUT	232.00	257.00	330.00	330.00	514.00	448.00
METRES	209.00	25.00	73.00	73.00	184.00	118.00
HOURS	15.25	3.75	18.75	9.00	25.75	9.25
ACC. HRS.	15.25	19.00	37.75	46.75	72.50	81.75
ROP (m/hr)	13.70	6.67	3.89	8.11	7.15	12.76
FOB	6-8daN	3-8daN	3-5daN	3-4daN	5-14daN	6-9daN
RPM	190-195	170-190	190	200	30+motor	170
PP	3000-4500	2200	2300	7100-7700	5500-7200	10900-11600
DEN	1040-1130	1080-1090	1090-1120	1085-1095	1080-1100	1080-1090
VISCOSITY	43-85	54-120	64-90	65-72	70-84	68-90
MAX DEV.°	1.250°	2.000°	3.000°	-	1.600°	-
Condition:	T/B/G	T/B/G	T/B/G	T/B/G	T/B/G	T/B/G
	2-2-3-1	2-2-2-1	2-2-2-3	2-2-2-3	2-2-2-3	3-3-8-1
Condition:	I/O/D/L	I/O/D/L	I/O/D/L	I/O/D/L	I/O/D/L	I/O/D/L
	G/O/R	G/O/R	G/O/R	G/O/R	G/O/R	G/O/R
REMARKS	Surface hole	Surface hole	Pilot hole	Ream pilot hole	Pilot hole / mud-motor	Ream pilot hole

WELLSITE BIT RECORD #2

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

BIT #	TARR	1	2	3	4	5
SIZE (mm)	311	222	222	222	222	222
MAKE	Western	Hughes	Smith	Hughes	Hughes	Hughes
TYPE	GT-S1	GT-S1	F-35	ATJS44G	ATJS55RG	ATJS55RG
SERIAL #	G277H	W31ZY	LW4060	K38DK	L51DL	K78DV
JETS	3x17.5	3x15.9	3x15.9	3x15.9	3x15.9	3x15.9
DEPTH IN	448.00	514.00	720.00	876.00	923.00	1052.00
DEPTH OUT	514.00	720.00	876.00	923.00	1052.00	1091.00
METRES	66.00	206.00	156.00	47.00	129.00	39.00
HOURS	9.00	14.25	22.00	6.00	30.25	6.25
ACC. HRS.	90.75	105.00	127.00	133.00	163.25	169.50
ROP (m/hr)	7.33	14.46	7.09	7.83	4.26	6.24
FOB	6-10daN	25daN	25daN	15-20daN	20-30daN	15-30daN
RPM	170	40+motor	50+motor	50+motor	50+motor	50+motor
PP	11500	9100	9800	8700	7200	7800
DEN	1085-1120	1090	1090	1090	1110	1220
VISCOSITY	72-94	44	40	44	42	71
MAX DEV.°	-	0.400°	0.400°	1.400°	0.800°	0.900°
Condition:	T/B/G	T/B/G	T/B/G	T/B/G	T/B/G	T/B/G
		7-9-3-1	8-7-6-5	4-3-2-3	7-5-2-1	7-4-2-1
Condition:	I/O/D/L	I/O/D/L	I/O/D/L	I/O/D/L	I/O/D/L	I/O/D/L
	G/O/R	G/O/R	G/O/R	G/O/R	G/O/R	G/O/R
REMARKS	Ream pilot hole	Main hole	Main hole	Main hole	Main hole	Main hole

WELLSITE BIT RECORD

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

BIT #	6	7	8	9	10	11
SIZE (mm)	222	222	222	222	222	222
MAKE	Hughes	Smith	Smith	Hughes	Hughes	Smith
TYPE	ATJS55RG	F57-OD	F7-OD	ATJ-S77D	ATJ-P88D	F-67P
SERIAL #	L50DL	LY4795	LS5686	G20ZW	Y26XB	LX1789
JETS	3x15.9	3x19.0	3x19.0	3x19.0	3x19.0	3x19.0
DEPTH IN	1091.00	1147.00	1183.00	1248.00	1281.00	1327.00
DEPTH OUT	1147.00	1183.00	1248.00	1281.00	1327.00	1349.00
METRES	56.00	36.00	65.00	33.00	46.00	22.00
HOURS	18.00	14.00	19.50	20.50	19.00	7.25
ACC. HRS.	187.50	201.50	221.00	241.50	260.50	267.75
ROP (m/hr)	3.11	2.57	3.33	1.61	2.42	3.03
FOB	30daN	30daN	30-34daN	30-33daN	30-33daN	30-33daN
RPM	50+motor	50+motor	50+motor	50+motor	50+motor	50+motor
PP	12400	13700	12500	10600	10800	10800
DEN	1290	1310	1280	1280	1270	1290
VISCOSITY	84	71	72	76	77	70
MAX DEV.°	0.900°	0.600°	0.500°	0.500°	0.500°	0.900°
Condition:	T/B/G	T/B/G	T/B/G	T/B/G	T/B/G	T/B/G
	5-8-3-2	3-8-2-2	3-9-2-2	3-9-2-3	3-9-3-2	3-8-2-2
Condition:	IR/OR/DL	IR/OR/DL	IR/OR/DL	IR/OR/DL	IR/OR/DL	IR/OR/DL
	B/G/O/R/P	B/G/O/R/P	B/G/O/R/P	B/G/O/R/P	B/G/O/R/P	B/G/O/R/P
REMARKS	Main hole	Main hole	Main hole	Main hole	Main hole	Main hole

WELLSITE BIT RECORD #3

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

BIT #	6	7	8	9	10	11
SIZE (mm)	222	222	222	222	222	222
MAKE	Hughes	Smith	Smith	Hughes	Hughes	Smith
TYPE	ATJS55RG	F57-OD	F7-OD	ATJ-S77D	ATJ-P88D	F-67P
SERIAL #	L50DL	LY4795	LS5686	G20ZW	Y26XB	LX1789
JETS	3x15.9	3x19.0	3x19.0	3x19.0	3x19.0	3x19.0
DEPTH IN	1091.00	1147.00	1183.00	1248.00	1281.00	1327.00
DEPTH OUT	1147.00	1183.00	1248.00	1281.00	1327.00	1349.00
METRES	56.00	36.00	65.00	33.00	46.00	22.00
HOURS	18.00	14.00	19.50	20.50	19.00	7.25
ACC. HRS.	187.50	201.50	221.00	241.50	260.50	267.75
ROP (m/hr)	3.11	2.57	3.33	1.61	2.42	3.03
FOB	30daN	30daN	30-34daN	30-33daN	30-33daN	30-33daN
RPM	50+motor	50+motor	50+motor	50+motor	50+motor	50+motor
PP	12400	13700	12500	10600	10800	10800
DEN	1290	1310	1280	1280	1270	1290
VISCOSITY	84	71	72	76	77	70
MAX DEV.°	0.900°	0.600°	0.500°	0.500°	0.500°	0.900°
Condition:	T/B/G	T/B/G	T/B/G	T/B/G	T/B/G	T/B/G
	5-8-3-2	3-8-2-2	3-9-2-2	3-9-2-3	3-9-3-2	3-8-2-2
Condition:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
REMARKS	Main hole	Main hole	Main hole	Main hole	Main hole	Main hole

WELLSITE BIT RECORD #4

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

BIT #	12	13	14	15	16	17
SIZE (mm)	222	222	222	222	222	222
MAKE	Smith	Smith	Hughes	Hughes	Hughes	Smith
TYPE	F67-OD	F67-OD	ATJ-S77DX	ATJ-P77DX	ATJ-P77DX	F8-ODPS
SERIAL #	MG0013	LY7913	G22ZW	G21ZW	C60ZW	LY6723
JETS	3x19.0	3x19.0	3x19.0	3x19.0	3x19.0	3x19.0
DEPTH IN	1349.00	1396.00	1428.00	1442.00	1471.00	1490.00
DEPTH OUT	1396.00	1428.00	1442.00	1471.00	1490.00	1510.00
METRES	47.00	32.00	14.00	29.00	19.00	20.00
HOURS	14.25	13.25	8.75	19.00	7.75	8.50
ACC. HRS.	282.00	295.25	304.00	323.00	330.75	339.25
ROP (m/hr)	3.30	2.42	1.60	1.53	2.45	2.35
FOB	30-33daN	30-33daN	30-33daN	32daN	32daN	30daN
RPM	50+motor	50+motor	50+motor	50+motor	50+motor	25+motor
PP	10800	10800	12500	10500	10800	11000
DEN	1280	1290	1270	1270	1270	1270
VISCOSITY	65	75	65	64	88	70
MAX DEV.°	0.600°	0.800°	0.400°	0.300°	0.600°	1.300°
Condition:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	2-9-2-2	4-9-5-4	6-9-3-4	6-9-3-4	4-9-2-4	9-2-0.75
Condition:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
REMARKS	Main hole	Main hole	Main hole	Main hole	Main hole	Main hole

WELLSITE BIT RECORD #5

Para et al Mount Coty I-02
I-02/60-20, 123-30

SPUD DATE: Oct. 16, 2000
T.D. DATE: Nov. 25, 2000

SURFACE CASING: 39 jts. of 244.5mm, J-55, 53.6kg/m set @ 514.0m

BIT #	18	19	20	21	22	23
SIZE (mm)	222	222	222	222	222	222
MAKE	Hughes	Hughes	Hughes	Smith	Smith	Smith
TYPE	EP4603	EP4603	EP4603	F570D	F6709	F47H
SERIAL #	D65ZB	C20ZH	C21ZH	LY4791	LY7912	LY4872
JETS	3x10.3	3x10.3	3x10.3	3x19	3x10.3	3x10.3
DEPTH IN	1510.00	1547.00	1587.00	1625.00	1663.00	1705.00
DEPTH OUT	1547.00	1587.00	1625.00	1663.00	1705.00	1744.00
METRES	37.00	40.00	38.00	38.00	42.00	39.00
HOURS	17.50	22.25	20.50	27.00	29.25	21.25
ACC. HRS.	356.75	379.00	399.50	426.50	455.75	477.00
ROP (m/hr)	2.11	1.80	1.85	1.41	1.44	1.84
FOB	20-28daN	25-28daN	25-28daN	24-30daN	28-30daN	25-28daN
RPM	50-60	55-65	55-60	30&65	55-60	55-60
PP	8500	8100	8400	9800	8200	7800-8200
DEN	1275	1275	1285	1275	1280	1270-1280
VISCOSITY	58	70	61	57	63	80
MAX DEV.°	1.300°	1.800°	3.600°	1.300°	3.200°	4.000°
Condition:	1/BG	7/BG	7/BG	1/BG	2/BG	1/NO
	3-3-In	8-4-3-In	8-4-3-In	8-7-4-5	3-2-In	3-3-3-In
Condition:	1/OC/DL	1/OC/DL	1/OC/DL	1/OC/DL	1/OC/DL	1/OC/DL
	1/GC/RG	1/GC/RG	1/GC/RG	1/GC/RG	1/GC/RG	1/GC/RG
REMARKS	Main hole	Main hole	Main hole	Main hole	Main hole	Main hole

SIDEWALL CORE REPORT

PARA ET AL MOUNT CLAY I-02
300/I-02-60-20-123-30/00

Sidewall coring was conducted on November 27th, 2000. A total of 18 cores were cut: recovery was 10 cores. No cores were recovered from the M3 Zone or the M2 Zone of the Mattson Formation. Lithological descriptions are given below.

Chinkeh Formation

1) **721m** - Whole plug: SANDSTONE light grey, very fine to fine grained, quartz arenite grading to sub quartz arenite with clear quartz and trace to minor scattered dark specks and lithic grains, clean, well sorted, angular to subrounded, moderately to well indurated, common siliceous cement, trace quartz overgrowths, trace to locally minor spotty kaolin to illite, common extremely fine to fine discontinuous coaly laminations (pyritic in part), no visible porosity, no shows.
2) **715m** - Whole plug: SANDSTONE medium brown, very fine to fine grained, slightly silty, sublitharenite with abundant clear quartz & minor lithic grains, moderately glauconitic, clean, massive, well sorted, angular to subrounded, moderately well indurated, common siliceous cement, minor spotty kaolin to illite, very poor to poor visible porosity, no shows.
3) **712m** - Whole plug: SANDSTONE light grey, very fine to fine grained, slightly silty, sublitharenite with abundant clear quartz and minor dark lithic grains, moderately glauconitic, clean, well sorted, angular to subrounded, minor to common very fine planar to slightly wispy argillaceous laminations, moderately to well indurated, common siliceous cement, minor quartz overgrowths, tight to poor visible porosity, no shows.

Flett/Debolt Formation

4) **1720m** - Whole plug: DOLOMITE medium brown, slightly mottled, cryptocrystalline to very fine crystalline with minor to common variably recrystallized to dolomitized bioclasts (including crinoids), rare to trace scattered glauconite, hard, dense, minor to common stylolites, minor sub parallel very fine healed fracture with white dolomite fracture fill. no visible porosity, common to abundant dull yellow gold fluorescence.
5) **1714m** - Whole plug: DOLOMITE medium to dark brown, mottled, cryptocrystalline to very fine crystalline matrix with abundant sparry to variably recrystallized bioclasts and indeterminate allochems, (crinoidal packstone), variably moderately to very calcareous, trace pyrite, common to locally abundant stylolites with slickensides, minor to common sub-parallel healed fractures with white calcareous dolomite fracture fill (note; stylolites crosscut fracture fills), no visible porosity, common spotty to patchy dull yellow fluorescence.

Mattson Formation

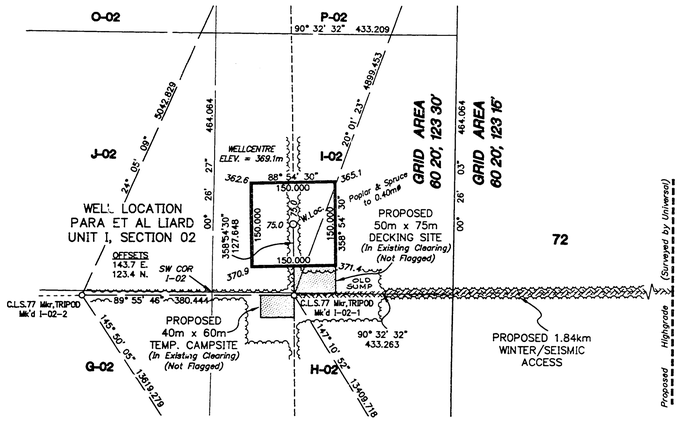
6) **1235m** - Trace rubble in mud: not examined.
7) **1233m**: No recovery.
8) **1231m**: No recovery.
9) **1229m**: No recovery.
10) **1227m**: No recovery
11) **1225m**: No recovery.

12) **1137m**: No recovery.
13) **1136m**: No recovery.

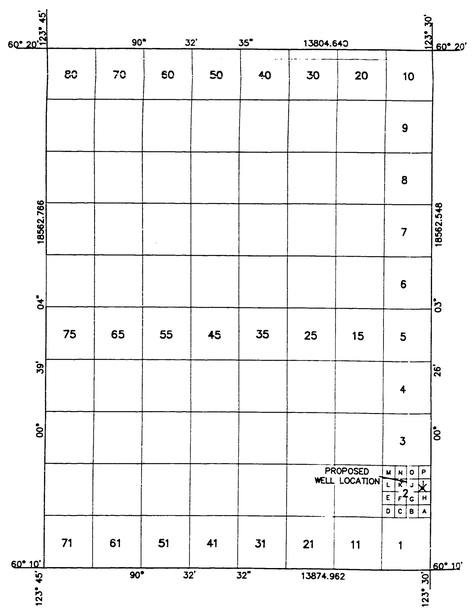
14) **1082m** - Whole plug: SANDSTONE very light grey, very fine to lower medium grained, slightly silty, quartz arenite grading to subquartzarenite, trace to minor varicolored lithic grains, clean, massive, moderately sorted, angular to subrounded, minor rounded grains, predominantly poorly indurated, abundant calcareous cement, trace quartz overgrowths, rare to trace spotty kaolin to illite, fair to poor visible porosity, minor patchy yellow fluorescence.
15) **1080m** - Whole plug: SANDSTONE light brown, very fine to fine grained, trace to minor lower medium grains, slightly silty, quartz arenite with trace scattered lithic grains, clean, massive, moderately well sorted, angular to subrounded, minor rounded grains, poorly indurated, decreasing common calcareous and minor siliceous cement, minor quartz overgrowths, rare spotty kaolin to illite, fair to poor visible porosity, faint petroliferous odor, even good yellow fluorescence, instant fair thin milky cut.

16) **1064.5m** - Whole plug: SANDSTONE light brown, very fine to fine grained, slightly silty, quartz arenite, clean, massive, well sorted, angular to subrounded, moderately indurated, common calcareous and siliceous cement, common quartz overgrowths, fair porosity, faint petroliferous odor, common spotty to patchy dull to moderate yellow fluorescence.
17) **1062m** - Whole plug: SANDSTONE light brown, very fine to fine grained, quartz arenite, clean, massive, well sorted, angular to subrounded, moderately to well indurated, common siliceous and minor calcareous cement, common quartz overgrowths, fair to poor visible porosity, common patchy dull to moderate yellow green to yellow fluorescence, instant poor to fair thin milky cut.
18) **1060m** - 5 parallel wafers 4-6mm thick: SANDSTONE light grey, very fine to fine grained, quartz arenite, clean, massive, well sorted, angular to subrounded, minor rounded grains, moderately well to well indurated, common siliceous and minor to locally common patchy calcareous cement, minor quartz overgrowths, trace interstitial pyrite, very poor to poor visible porosity, common to abundant patchy to slightly uneven dull to moderate yellow green to yellow fluorescence, instant poor to fair thin milky diffuse and streaming cut. (Note: The uniform thickness and parallel nature of the wafers more likely indicates mechanical br[illegible] by the coring tool, rather than an evenly-spaced parallel fracture system).

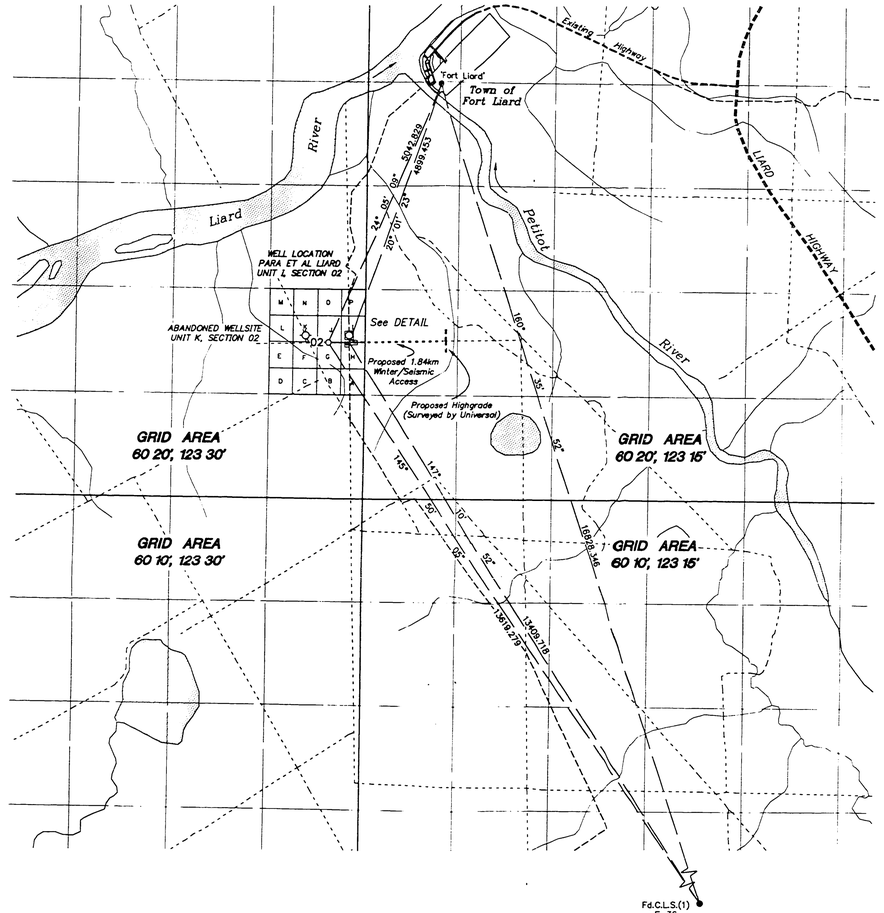
A note on the porosity estimates from the sidewall cores; it is difficult to get accurate estimates because the plug sides are polished from the coring & the ends tend to be p[illegible]gged with mud residue. In most cases above, there were no small fragments present that could be broken open; therefore, p[illegible]osity estimates are likely to be lower than actual.



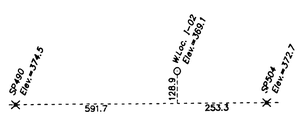
DETAIL
UNIT I, SECTION 02
SCALE 1:5,000



GRID AREA 60°20', 123°30'
SCALE 1:100,000



SHOT POINT DETAIL
NOT TO SCALE



AREAS REQUIRED:

WELLSITE:	150mx150m =	2.25 ha.
DECKING SITE:	50mx75m =	0.38 ha.
TEMP. CAMPSITE:	40mx60m =	0.24 ha.
TOTAL:		2.87 ha.

All coordinates shown are on 1927 North American Datum.
Wellsite control established using differentially corrected GPS observations.
Final coordinate values for control were transformed from NAD83 datum to NAD27 datum using National Transformation Version 2 program.
Geodetic Survey of Canada published coordinate values for monument "Fort Liard" were held fixed. Adjusted values for Fd.CLS(1) F-36 Grid Area 60°10', 123°15' and comparison to published coordinates are shown below.

GEOGRAPHIC AND UTM COORDINATES, (1927 NAD)

Station	Latitude	Longitude(W)	Northings	Eastings
CONTROL MONUMENTS				
Fort Liard(Publ. & Fixed)	60°13'59.011"	123°28'31.881"	6677255.686	473662.363
Fd.CLS(1) F-36 (Adj.)	60°05'27.349"	123°22'22.874"	6661390.140	479250.165
CLS(1) F-36 (Pub.)	60°05'27.349"	123°22'22.878"	6661390.164	479250.101
GRID AREA				
NE	60° 20' 00"	123° 30' 00"	6688433.574	472391.290
NW	60° 20' 00"	123° 45' 00"	6688564.420	458587.270
SE	60° 10' 00"	123° 30' 00"	6669871.559	472250.652
SW	60° 10' 00"	123° 45' 00"	6670002.853	458376.311
I-02, NE	60°11'45.001"	123°29'59.999"	6673119.912	472275.264
I-02, NW	60°11'45.027"	123°30'28.124"	6673124.007	471842.074
I-02, SE	60°11'30.001"	123°29'59.999"	6672655.861	472271.748
I-02, SW	60°11'30.027"	123°30'28.124"	6672659.962	471838.504
TRAVERSE STATIONS				
I-02-1	60°11'29.885"	123°30'18.576"	6672654.446	471985.553
I-02-2	60°11'29.775"	123°30'43.260"	6672653.978	471605.280
PROPOSED WELL				
I-02	60°11'34.008"	123°30'18.797"	6672782.014	471983.122

PLAN AND FIELD NOTES
OF SURVEY OF
PROPOSED EXPLORATORY WELL
PARA ET AL LIARD
IN UNIT I, SECTION 02
GRID AREA 60° 20' , 123° 30'
NORTHWEST TERRITORIES
CANADA OIL AND GAS LAND REGULATIONS

SCALE 1:50,000
0m 500m 1000m 2000m 3000m 4000m 5000m

SURVEYED FOR
PARAMOUNT RESOURCES LTD.

BY : R.O. BLACKALL, CLS
JULY, 1999.

LEGEND
UTM coordinates are computed for Zone 10, central meridian 123° W.
Bearings were derived from differentially corrected GPS Observations and are referred to Meridian 123° W.
Distances are expressed in metres and decimals thereof.
Distances shown in traverse are measured distances reduced to the horizontal at general ground level.
For the computation of coordinates measured distances have been reduced to the UTM plane by multiplying them by an average combined scale factor of 0.9995511. Coordinates were then adjusted to fit the control.
Distances shown on grid area subdivisions are UTM plane.
Authorized control monuments found ..... ●
Monuments placed ..... ○
Mkr. denotes metal marker post 2.0m long placed 0.30m N.
Elevations were derived from Geodetic Survey of Canada Monument "Fort Liard" Elev. = 216.299m

Survey was completed prior to drilling; therefore well as drilled may not necessarily agree with proposed location.

"Certified Correct and completed on the 03rd day of July, 1999.

R.O.Blackall Canada Land Surveyor

Date: July 9, 1999

R.O'Brien Blackall
Comm. No. 1248

PARAMOUNT RESOURCES LIMITED

Wayne R. Dunn

WITNESS

July 18, 2000
DATE

REV.No.	DESCRIPTION	DATE

McELHANNEY LAND SURVEYS LTD.
10014 - 97th Ave., Suite 202
Fort St. John, British Columbia
Phone:(250)787-0356, Fax:(250)787-0310

DATE : 99/07/08 JOB No.: 3111-07285WS LA BRC

24X

18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/01/2000**

Job Ticket #: **D2-8566** DST#: **1**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-8566 DST# 1

Test Date: 11/01/2000 1100hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: AL IRONSIDE Location: I-02/60-20-123-30

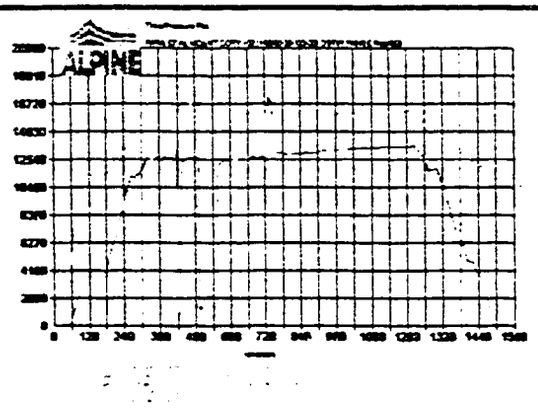
General Information:

Test Type:	INFLATE STRADDLE	Tester:	DANNY ROSS
Interval:	1058.00m - 1068.00m	Truck No.:	673
Formation:	MATTSON	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1091.00m	Hole Condition:	GOOD
Test Mode:	Gas	Bottom Hole Temperature:	41.00 C

Electronic Recorder Information:

INSIDE		Recorder #:	
Recorder #:	066		
Range:	70000 kPag	Range:	kPag
Depth:	1040.00 m	Depth:	m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	12676.1
B Start of 1st Flow	0.00	1015.1
C End of 1st Flow	8.00	1298.6
D End of 1st Shutin	56.00	12718.9
E Start of 2nd Flow	0.00	1241.9
F End of 2nd Flow	58.00	2045.2
G End of 2nd Shutin	95.00	12632.1
Q Final Hydrostatic	0.00	12764.0



Test Run Information:

Start Time:	1100hrs
Reached Test Depth:	1740hrs
Pull Out Time:	2130hrs
Tool Out Of Hole:	1200hrs
Weight set on Packers:	6000.00daN
Weight to free Packers:	8000.00daN
Initial String Weight:	39000.00daN
Unseated String Weight:	40000.00daN

Tool Chased Dist:	0.00m	Water Loss:	6.50cm³
Mud Type:	GEL CHEMICAL	Mud Drop:	NO
Mud Weight:	1220.00kg/m³	VIS:	65.00S/L
Amount of fill:	0.00m	Filter Cake:	2.00mm
Amt of cushion:	0.00	Pump Time:	30min
Type of cushion:		Reversed Out:	YES

General Remarks:

PREFLOW:STRONG BLOW IN 20 SECS, GAS TO SURFACE IN 2MIN, 45SECS. INCREASING THROUGHOUT.2.5M FLARE.
FINAL FLOW:GAS TO SURFACE IMMEDIATELY. STEADY 3M FLARE. SEE GAS CHARTS FOR RATES.

Recovery Description:

TWO SAMPLERS WERE RUN G.P.=36 AND G.P.=51. 2 GAS BOMBS WERE CAUGHT PF=AGAT-00021782 AND MF=AGAT-00021771
REVERSED OUT APPROX. 180 M OF GASIFIED SLIGHTLY OIL STAINED MUD. ONE MUD TANK SAMPLE AND 8 SAMPLES FROM REVERSING.

Gas Bomb: 2 Sampler: 2

Fluid Sample: 9 Sent to: AGAT EDMONTON

Drill Stem Testing - Gas Recovery Measurements

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-8566 DST# 1

Test Date: 11/01/2000 1100hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: AL IRONSIDE Location: I-02/60-20-123-30

Gas Measurements for Flow # 1

Gas Recovery Measured With: Willis Choke

Time (min.)	Orifice (mm)	Pressure (kPa)	Rate (m^3/d)
10	6.35	600	4278.00

Gas Measurements for Flow # 2

Gas Recovery Measured With: Willis Choke

Time (min.)	Orifice (mm)	Pressure (kPa)	Rate (m^3/d)
5	6.35	750	5204.00
10	6.35	1150	7644.00
15	6.35	1400	9159.00
20	6.35	1600	10380.00
30	6.35	1700	11011.00
40	6.35	1700	11011.00
50	6.35	1700	11011.00
60	6.35	1700	11011.00

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-8566 DST# 1
Test Date: 11/01/2000 1100hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: AL IRONSIDE Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	0
Drill Collar Singles:	0
Drill Pipe Stands:	35
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1068.08m
Total Drill Pipe Above K.B.:	10.08m
Total Depth:	1091m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	0.00	mm
Drill Collar Length:	0.00	m
Drill Pipe Inside Diameter:	92.00	mm
Drill Pipe Length:	672.68	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	369.35	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

WELL LIC#1884

A SUCCESSFUL REAL TIME DST ON THE "MATTSON" WAS PREFORMED.



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
Sampler	1.10
REC INSIDE#65	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	5.18
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

26.05m

41.25m

Depth: 1058m

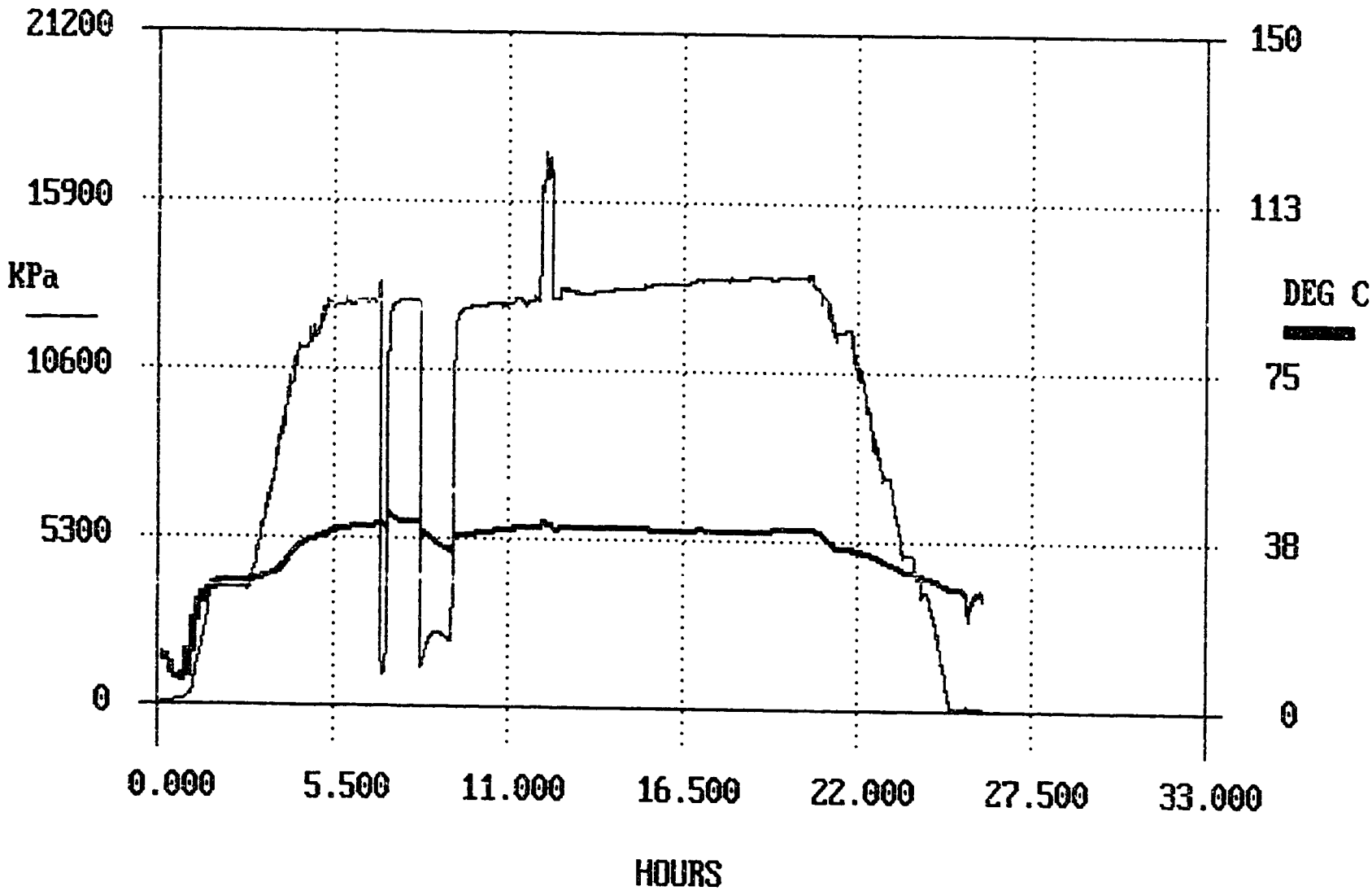
10.02m

Depth: 1068m

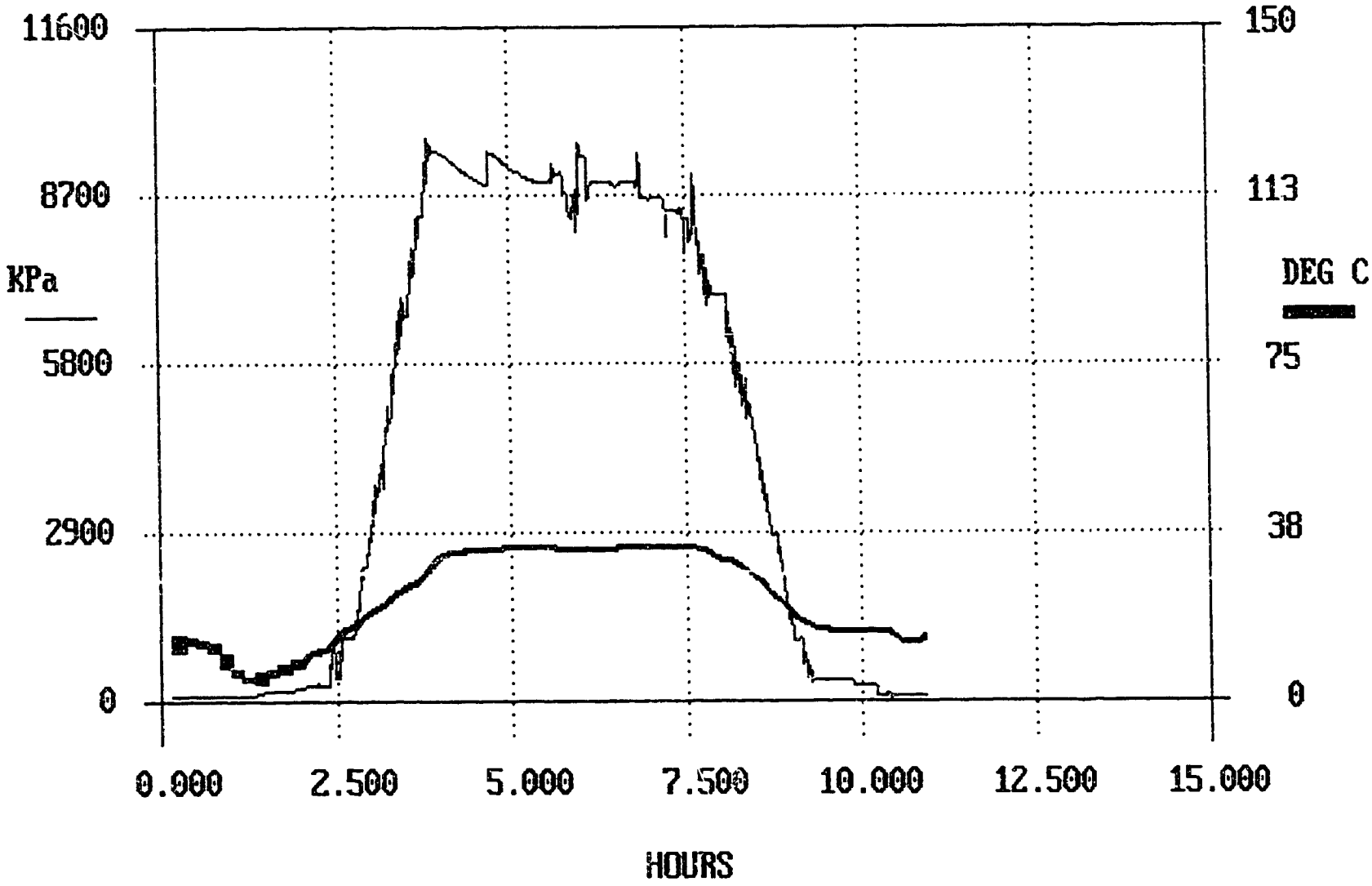
5.18m

Total Depth: 1091.00m

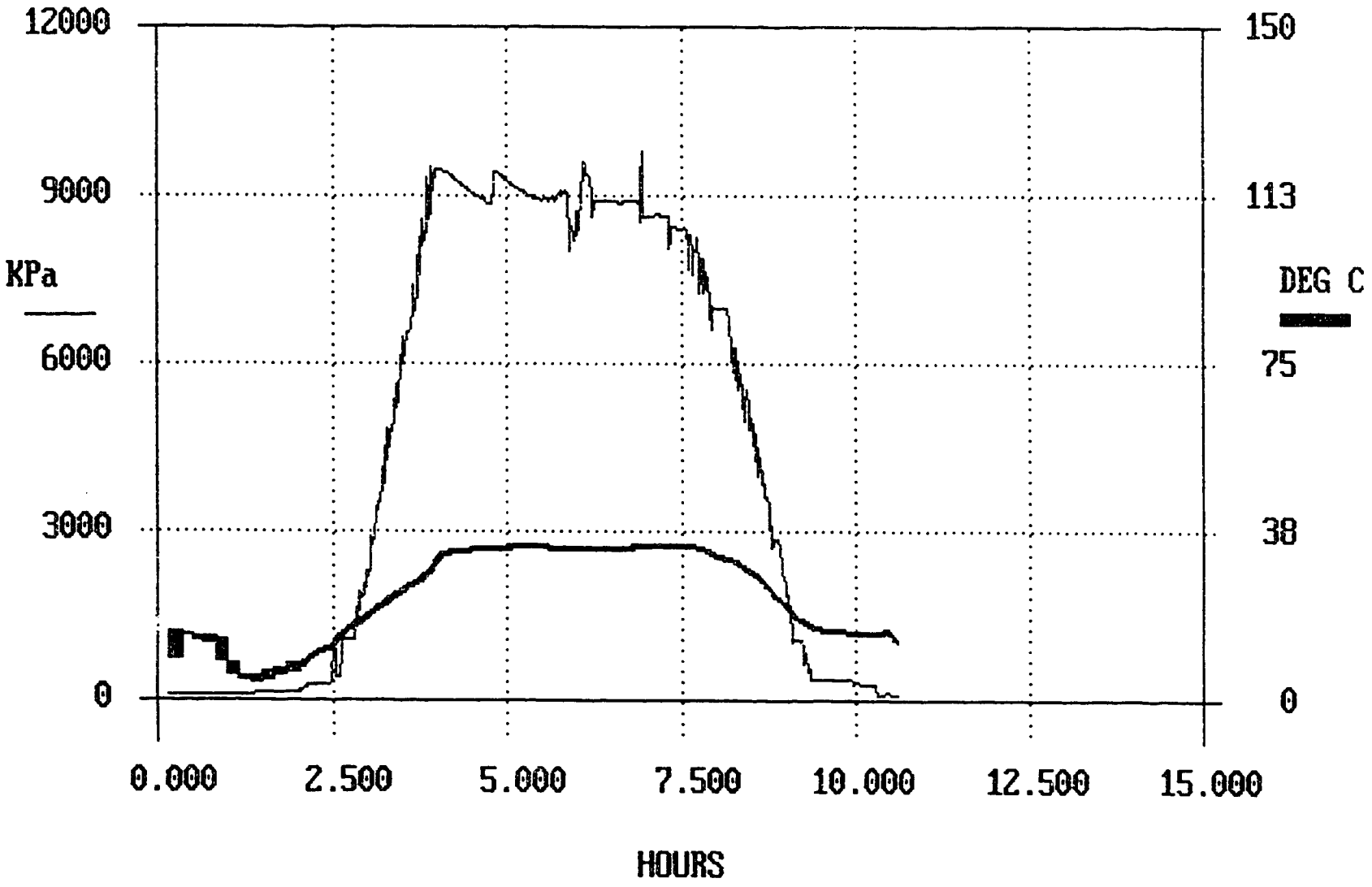
FILE: <C:\ALP_IN\A3102325.066>
s/n 66 PARA ET AL MOUNT COTY I-02 DST#1 TIC#2-8566 REC#66 INSIDE



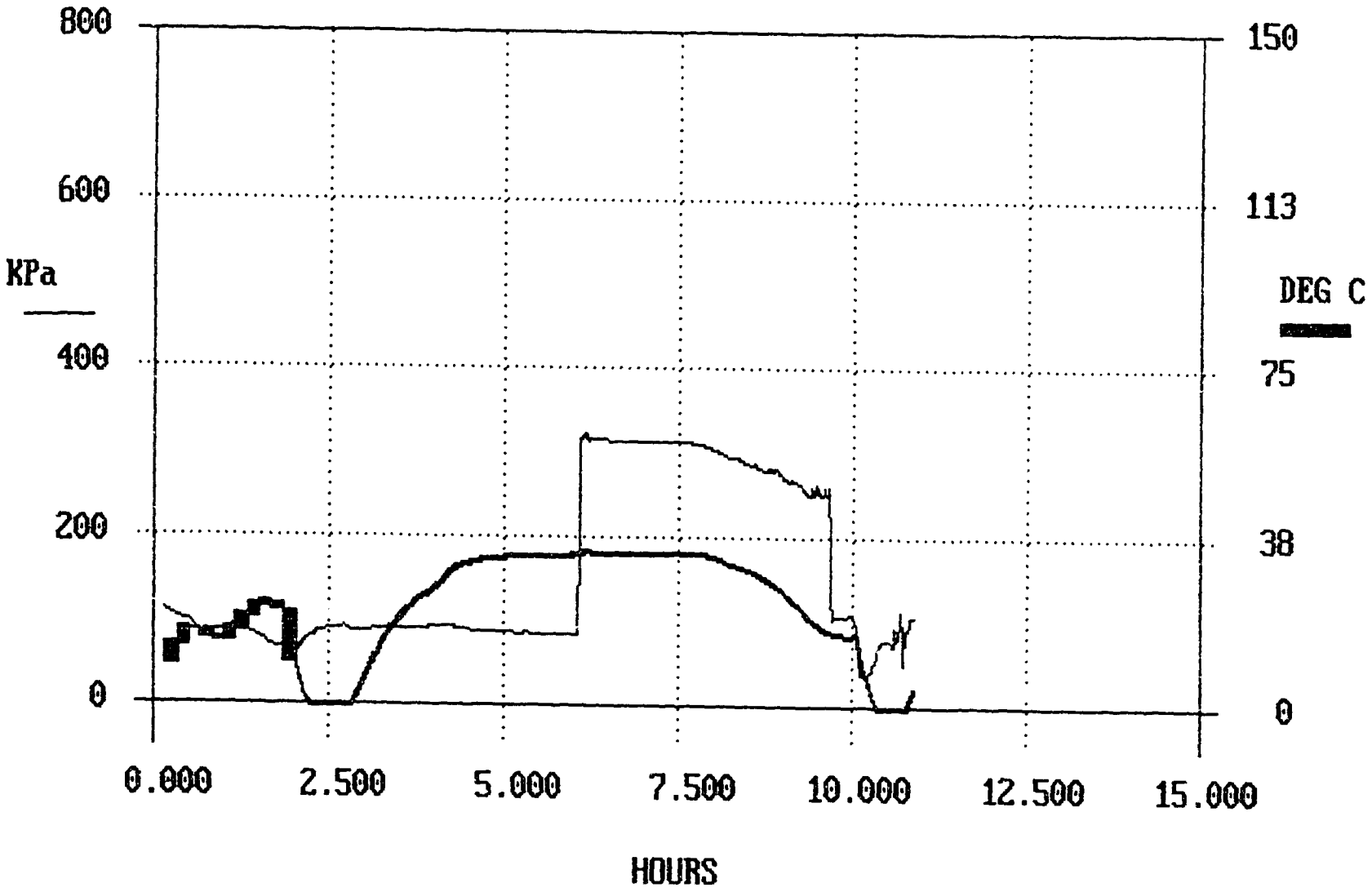
FILE: <C:\ALP_IN\BZ702010.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-9997 11/27/00 OUTSIDE



FILE: <C:\ALP_IN\B2701836.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T@2-9997 11/27/00 OUTSIDE



FILE: <C:\ALP_IN\B2701845.065>
s/n 65 PARAMOUNT RES.LTD. 60-20-123-30 T#2-9997 11/27/00 FLUID E





Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **D2-9997** DST#: **2**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD Job Ticket #: D2-9997 DST#: 2

Test Date: 11/28/2000 2230hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

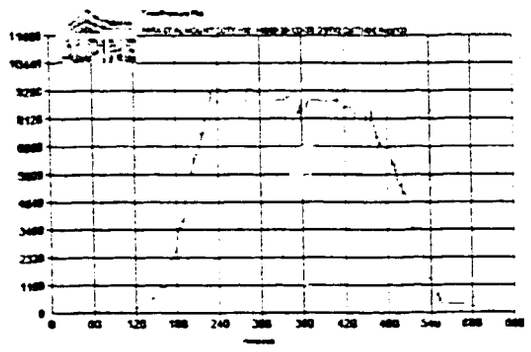
General Information:

Test Type:	INFLATE STRADDLE	Tester:	ALBERTO SCARIONE
Interval:	706.00m - 717.00m	Truck No.:	673
Formation:	CHINKEH	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	34.00 C

Electronic Recorder Information:

OUTSIDE			
Recorder #:	133	Recorder #:	
Range:	10000 kPag	Range:	kPag
Depth:	708.00 m	Depth:	m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8907.5
Q Final Hydrostatic	0.00	8887.8



Test Run Information:

Start Time:	2230hrs
Reached Test Depth:	10hrs
Pull Out Time:	320hrs
Tool Out Of Hole:	620hrs
Weight set on Packers:	10000.00daN
Weight to free Packers:	39000.00daN
Initial String Weight:	39000.00daN
Unseated String Weight:	39000.00daN

Tool Chased Dist:	1.00m	Water Loss:	6.50cm³
Mud Type:	GEL CHEMICAL	Mud Drop:	1.00m
Mud Weight:	1270.00kg/m³	VIS:	80.00S/L
Amount of fill:	0.00m	Filter Cake:	2.00mm
Amt of cushion:	0.00	Pump Time:	60min
Type of cushion:	N/A	Reversed Out:	NO

General Remarks:

WELL LIC# 1884

MISRUN- GOT SEAT OPENED TOOL MUD DROPPED. WORKED TOOL MOVED UP 1.5 METERS NO SEAT CAME OUT OF HOLE. PUT TEST BAR IN AND INFLATED TOOL LOOKED GOOD.

Recovery Description:

Gas Bomb: 0 Sampler: 0

Fluid Sample: 0 Sent to: AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9997 DST#: 2
Test Date: 11/28/2000 2230hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

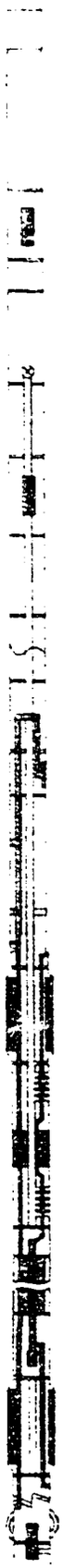
Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	14
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	714.66m
Total Drill Pipe Above K.B.:	8.66m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	56.40	m
Drill Pipe Inside Diameter:	0.00	mm
Drill Pipe Length:	266.11	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.20	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	6.15
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

24.95m

41.12m

Depth: 706.0m

10.99m

Depth: 717.0m

5.18m

Total Depth: 1744.00m



Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **T4-6186** DST#: **2**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: T4-6186 DST# 2

Test Date: 11/28/2000 2230hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

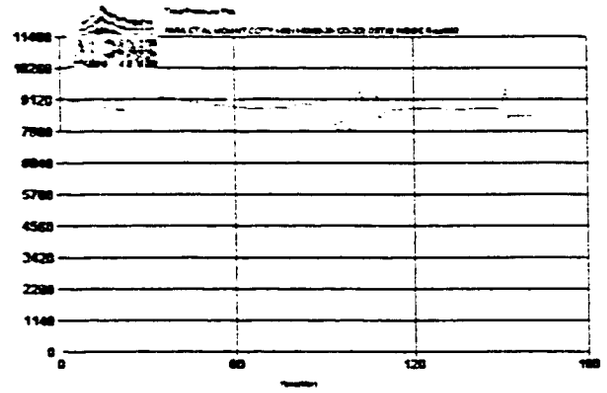
Test Type:	INFLATE STRADDLE	Tester:	KEN PEARSON
Interval:	706m -717m	Truck No.:	673 □Ÿ□
Formation:	CHINKEH	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	34.00 C

Telemetry Recorder Information:

INSIDE

Recorder #: 002 Depth: 691.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8851.3
Q Final Hydrostatic	0.00	8531.7



Test Run Information:

Start Time:	2230hrs
Reached Test Depth:	10hrs
Pull Out Time:	320hrs
Tool Out Of Hole:	620hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	80.00S/L
Filter Cake:	0.00mm
Pump Time:	60min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1270.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

WELL LIC # 1884

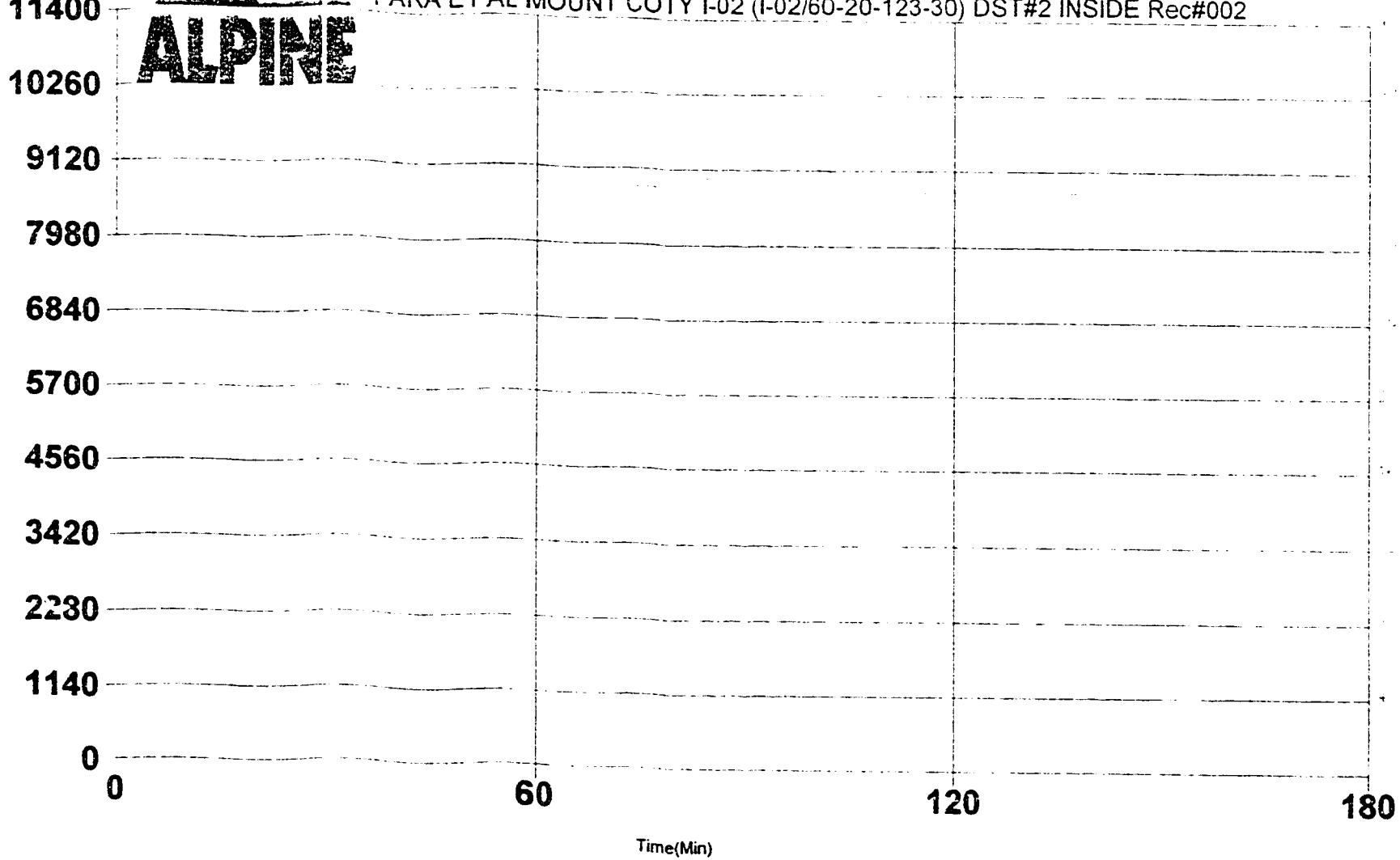
MISRUN-OPEN TOOL MUD DROPPED PUMPED FOR 30 MIN MORE AND
STILL NO SEAT CAME OUT OF HOLE.

Recovery Description:

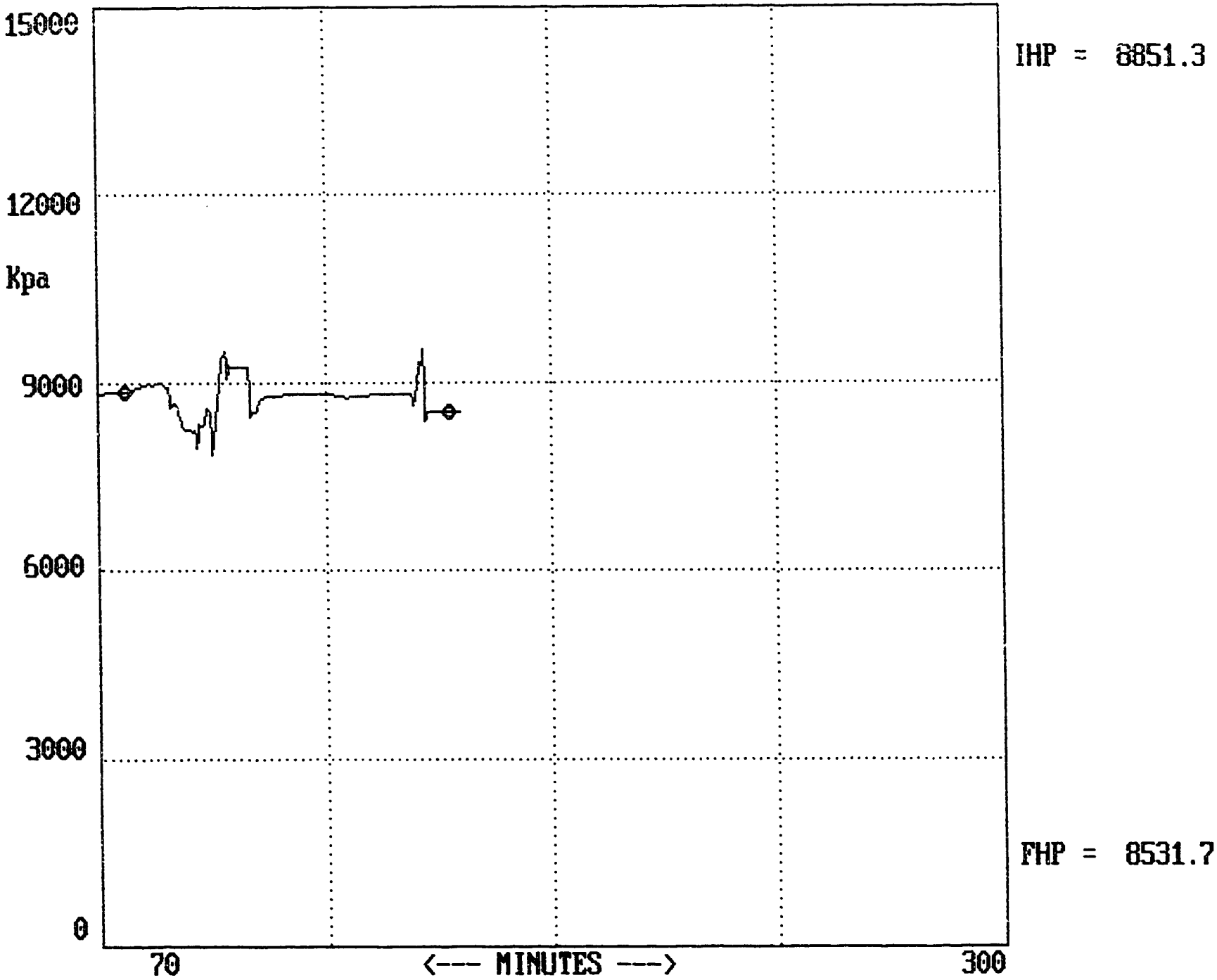
ALPINE

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#2 INSIDE Rec#002



PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30
DST# 2 CHINKEH (706.0m - 717.0m KB) NOV,28.2000



IHP = 8851.3

FHP = 8531.7



Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **T4-6187** DST#: **3**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD Job Ticket #: D2-9998 DST#: 3

Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

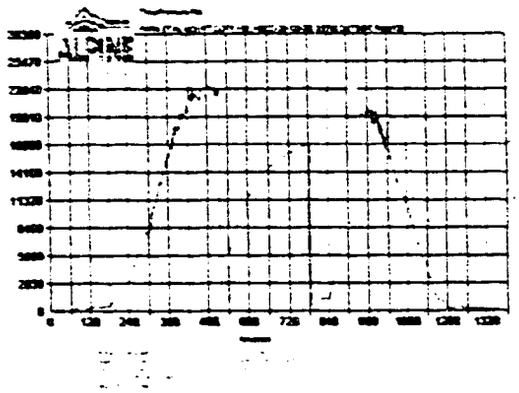
Test Type: INFLATE STRADDLE
Interval: 1709.00m - 1727.00m
Formation: DEBOLT
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 46.00 C

Electronic Recorder Information:

OUTSIDE	
Recorder #: 133	Recorder #:
Range: 10000 kPag	Range: kPag
Depth: 1711.00 m	Depth: m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	22576.7
B Start of 1st Flow	0.00	1971.1
C End of 1st Flow	10.00	1041.7
D End of 1st Shutin	259.00	16996.7
E Start of 2nd Flow	0.00	1116.9
F End of 2nd Flow	56.00	1331.0
G End of 2nd Shutin	93.00	10974.7
Q Final Hydrostatic	0.00	20185.4



Test Run Information:

Start Time: 1200hrs
Reached Test Depth: 1530hrs
Pull Out Time: 45hrs
Tool Out Of Hole: 530hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 70000.00daN
Initial String Weight: 49000.00daN
Unseated String Weight: 55000.00daN

Tool Chased Dist: 1.00m Water Loss: 6.50cm³
Mud Type: GEL CHEMICAL Mud Drop: NO
Mud Weight: 1270.00kg/m³ VIS: 80.00S/L
Amount of fill: 0.00m Filter Cake: 2.00mm
Amt of cushion: 180.00LTS Pump Time: 30min
Type of cushion: INHIBITOR & H20 Reversed Out: NO

General Remarks:

PREFLOW: Strong air blow immediately. Gas to surface in 5 minutes. Lazy 3 meter flare.

FINAL FLOW: Gas to surface immediately.

Recovery Description:

Total fluid recovery was 102 meters, consisting of gasified drilling fluid.

GAS BOMB #VOOC5394

BOTTOM HOLE SAMPLER# GP25

Gas Bomb: 1 Sampler: 1
Fluid Sample: 4 Sent to: AGAT EDMONTON

Drill Stem Testing - Gas Recovery Measurements

Company PARAMOUNT RESOURCES LTD Job Ticket # 02-9998 DST# 3

Test Date 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact WILBERT CALLIHOO Location: I-02/60-20-123-30

Gas Measurements for Flow # 2

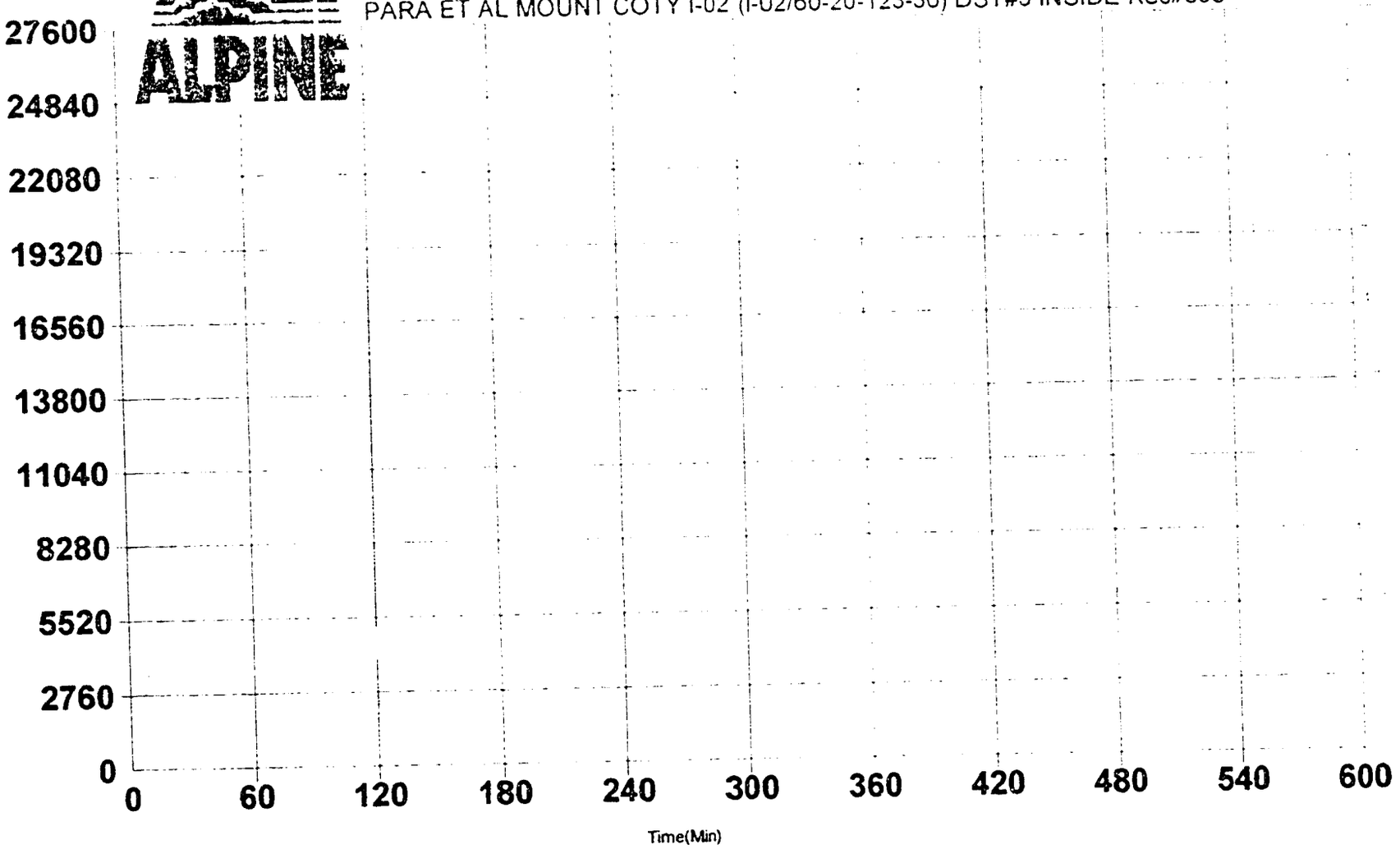
Gas Recovery Measured With: 0

Time (min.)	Orifice (mm)	Pressure (kPa)	Rate (m^3/d)
20	3.18	97	284.00
30	3.18	100	304.00
40	3.18	124	324.00
50	3.18	138	344.00
60	3.18	138	344.00

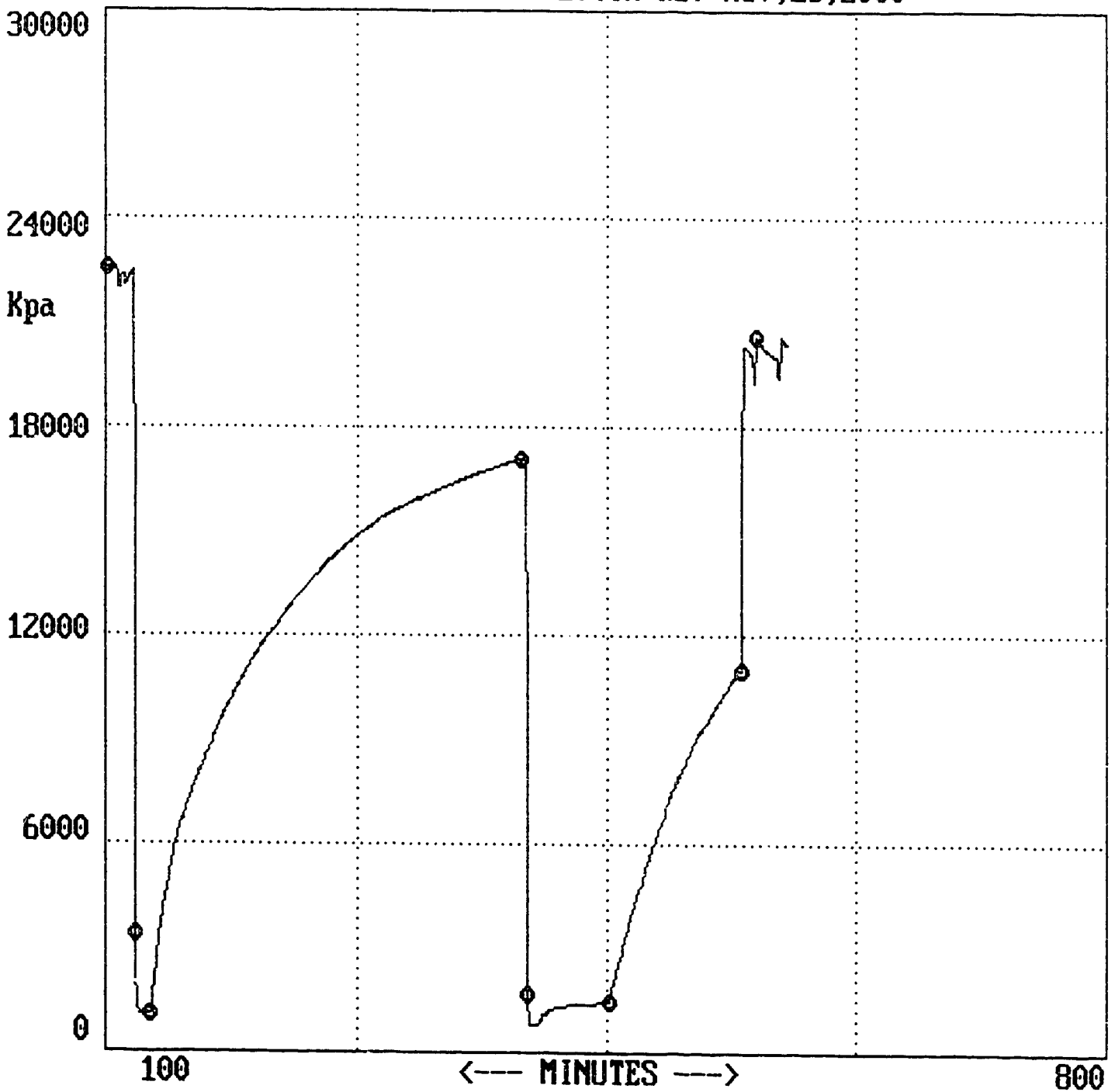
ALPINE

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 INSIDE Rec#003



PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30
DST# 3 DEBOLT (1709.0m - 1727.0m KB) NOV,28,2000



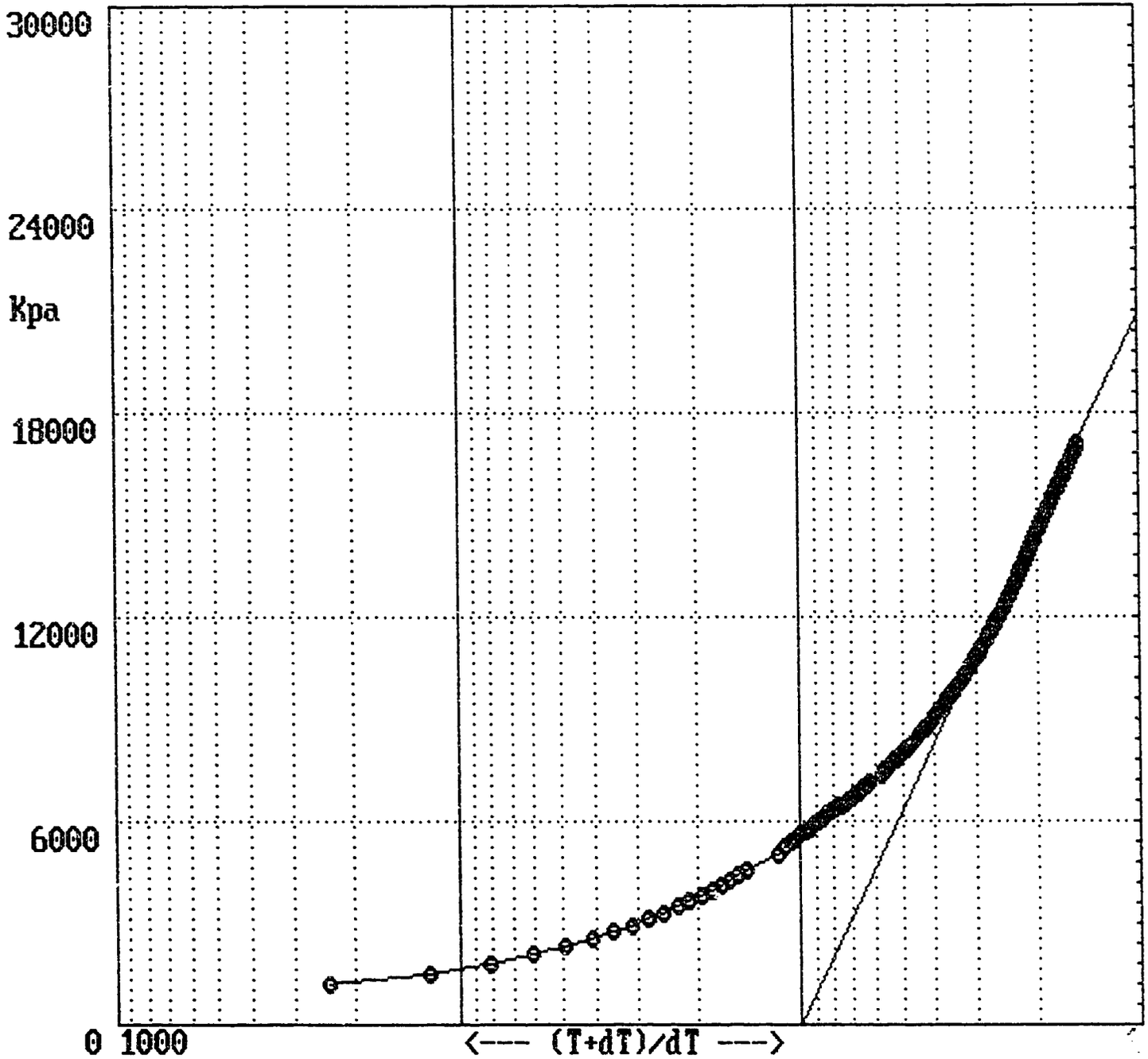
IHP = 22542.6

SF1 = 3367.1
EF1 = 1118.9
ES1 = 17080.4

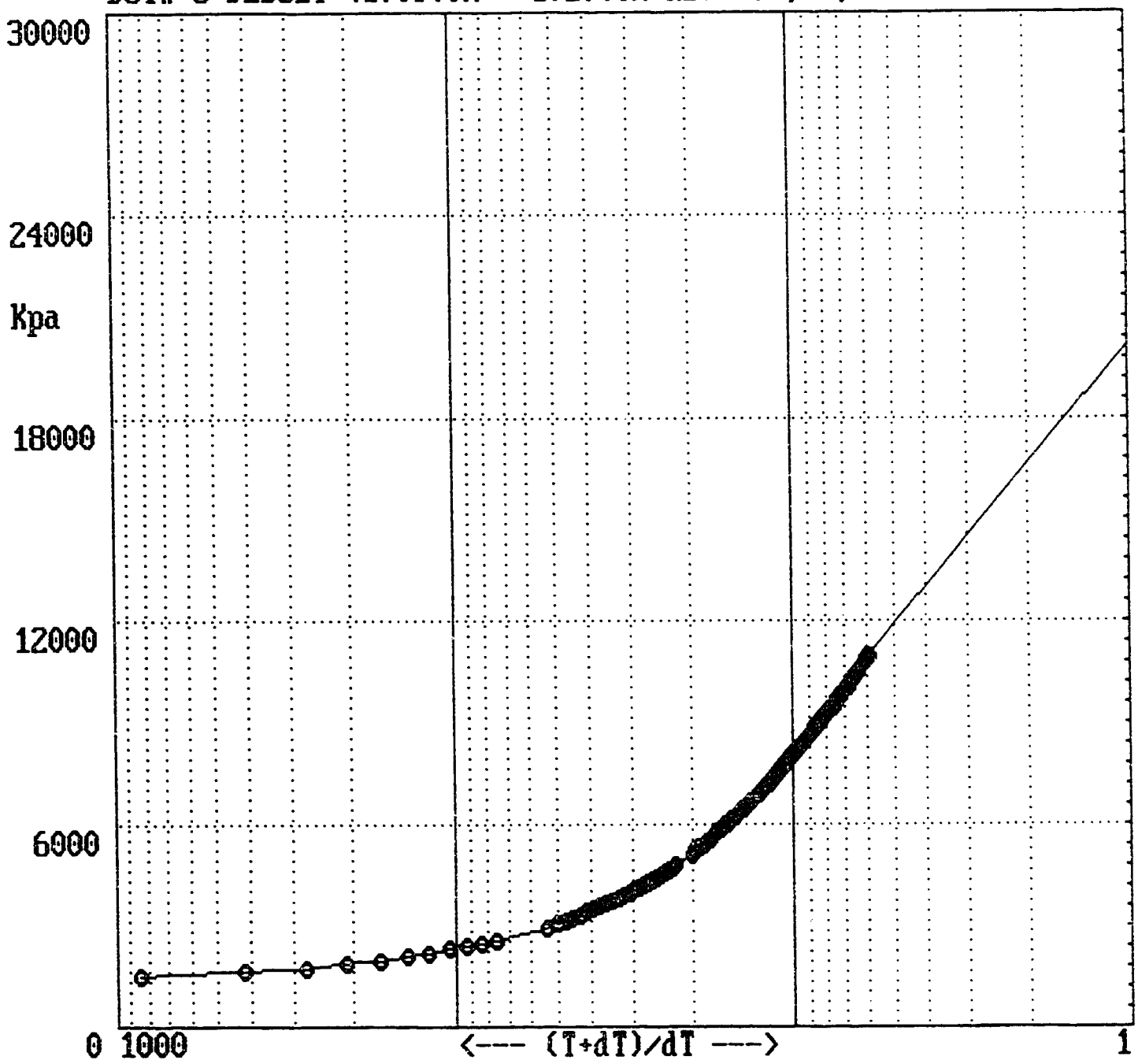
SF2 = 1679.1
EF2 = 1427.3
ES2 = 10987.0

FHP = 20617.6

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30
DST# 3 DEBOLT (1709.0m - 1727.0m KB) NOV,28,2000



PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30
DST# 3 DEBOLT (1709.0m - 1727.0m KB) NOV,28,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
11961.0
kPa/cycle

Extrapolated
Pressure =
20203.7
Kpa



Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **D2-9998** DST#: **3**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9998 DST#: 3

Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

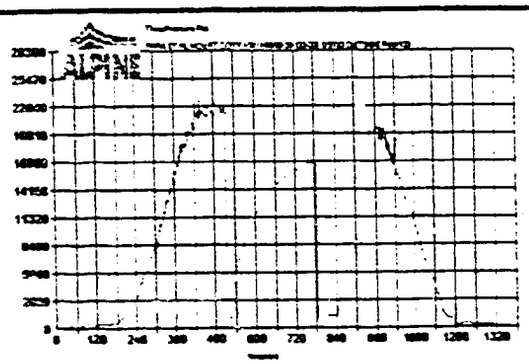
Test Type: INFLATE STRADDLE
Interval: 1709.00m - 1727.00m
Formation: DEBOLT
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 34.00 C

Electronic Recorder Information:

OUTSIDE	
Recorder #: 133	Recorder #:
Range: 10000 kPag	Range: kPag
Depth: 1711.00 m	Depth: m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	22576.7
B Start of 1st Flow	0.00	1971.1
C End of 1st Flow	10.00	1041.7
D End of 1st Shutin	259.00	16996.7
E Start of 2nd Flow	0.00	1116.9
F End of 2nd Flow	56.00	1331.0
G End of 2nd Shutin	93.00	10974.7
Q Final Hydrostatic	0.00	20185.4



Test Run Information:

Start Time: 1200hrs
Reached Test Depth: 1530hrs
Pull Out Time: 45hrs
Tool Out Of Hole: 530hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 70000.00daN
Initial String Weight: 49000.00daN
Unseated String Weight: 55000.00daN

Tool Chased Dist: 1.00m Water Loss: 6.50cm³
Mud Type: GEL CHEMICAL Mud Drop: NO
Mud Weight: 1270.00kg/m³ VIS: 60.00S/L
Amount of fill: 0.00m Filter Cake: 2.00mm
Amt of cushion: 180.00LTS Pump Time: 30min
Type of cushion: INHIBITOR & H20 Reversed Out: NO

General Remarks:

Recovery Description:

Total fluid recovery was 102 meters, consisting of gasified drilling fluid.

GAS BOMB #V0005394

BOTTOM HOLE SAMPLER# GP25

Gas Bomb: 1 Sampler: 1
Fluid Sample: 4 Sent to: AGAT EDMONTON

Drill Stem Testing - Gas Recovery Measurements

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9998 DST# 3

Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

Gas Measurements for Flow # 2

Gas Recovery Measured With: Willis Choke

Time (min.)	Orifice (mm)	Pressure (kPa)	Rate (m^3/d)
20	3.18	97	284.00
30	3.18	100	304.00
40	3.18	124	324.00
50	3.18	138	344.00
60	3.18	138	344.00

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

Inflate Straddle

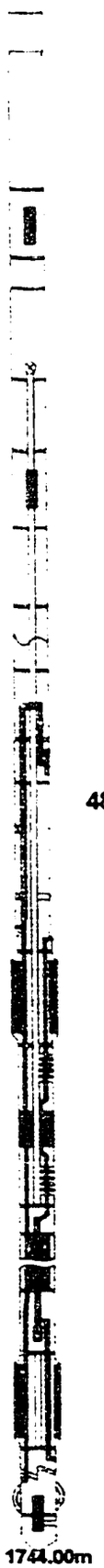
Drill Collar Stands:	2
Drill Collar Singles:	1
Drill Pipe Stands:	65
Drill Pipe Singles:	4
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1713.02m
Total Drill Pipe Above K.B.:	4.53m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	47.92	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	1271.37	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	368.78	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

Electronic Rec.# 160 malfunctioned.



Depth: 1709m

Depth: 1727m

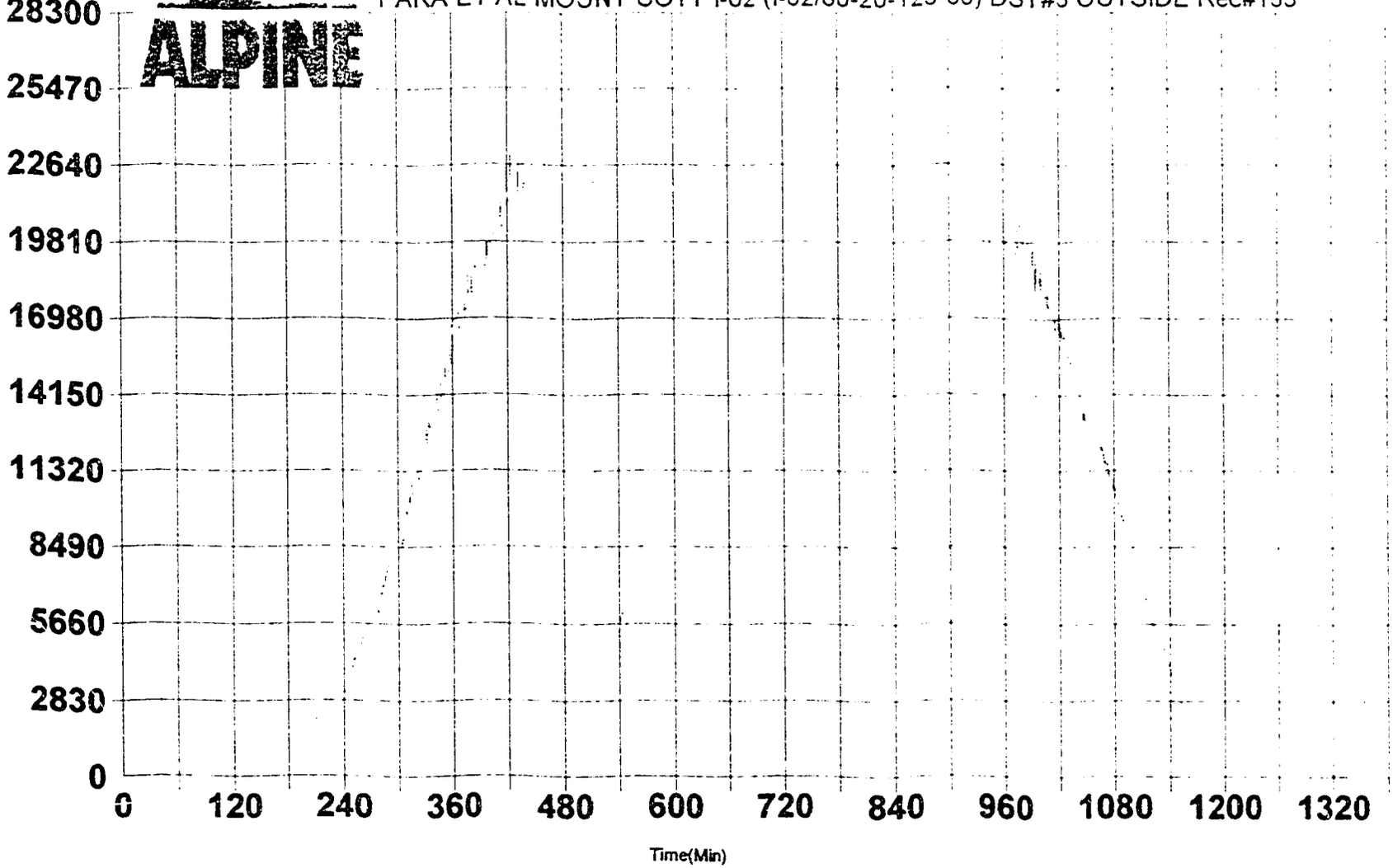
Total Depth: 1744.00m

Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
C.O. Sub	0.30
Drill Collar	9.30
C.O. Sub	0.30
Blank Spacing	4.00
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

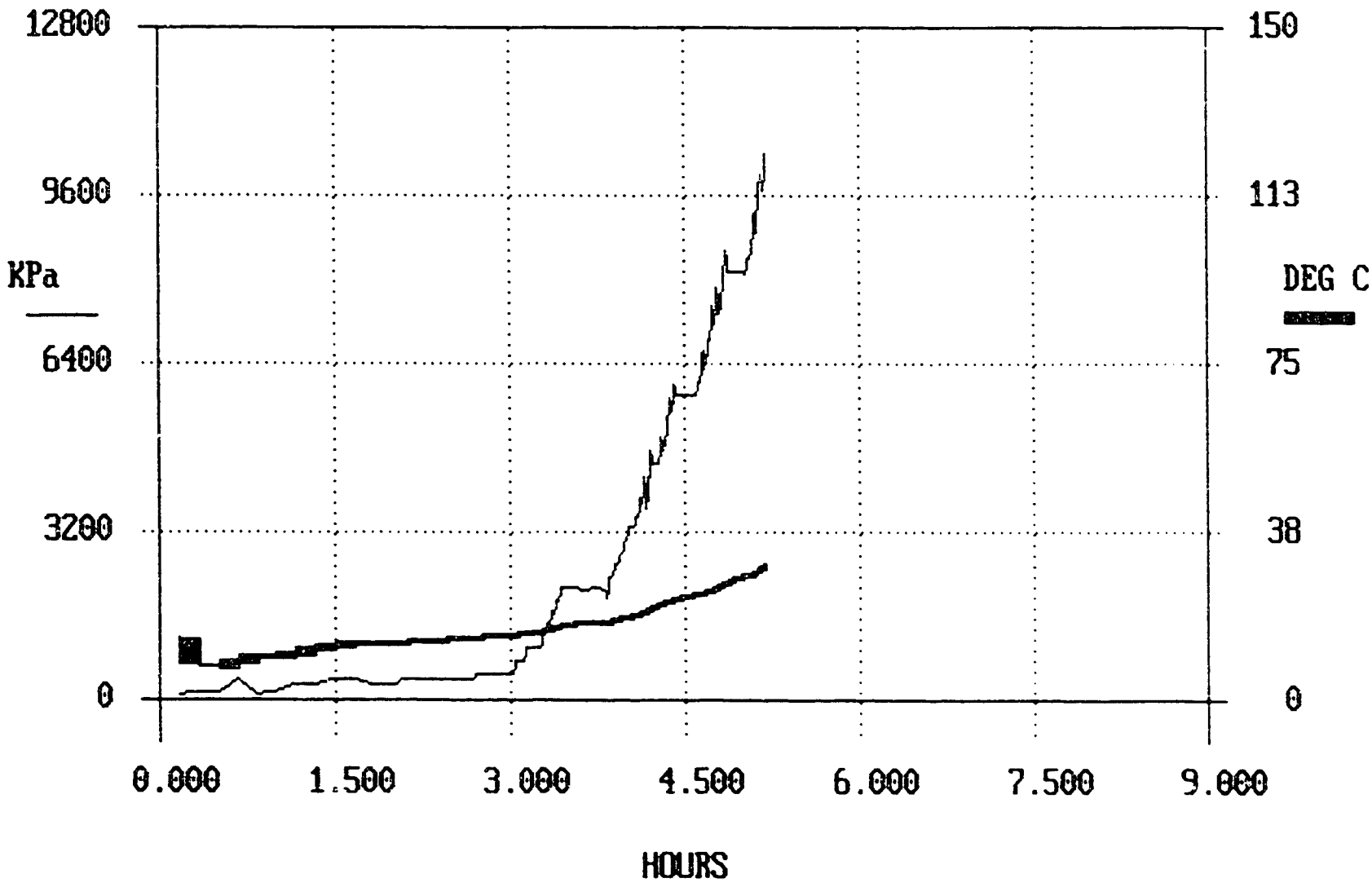
ALPINE

Time/Pressure Plot

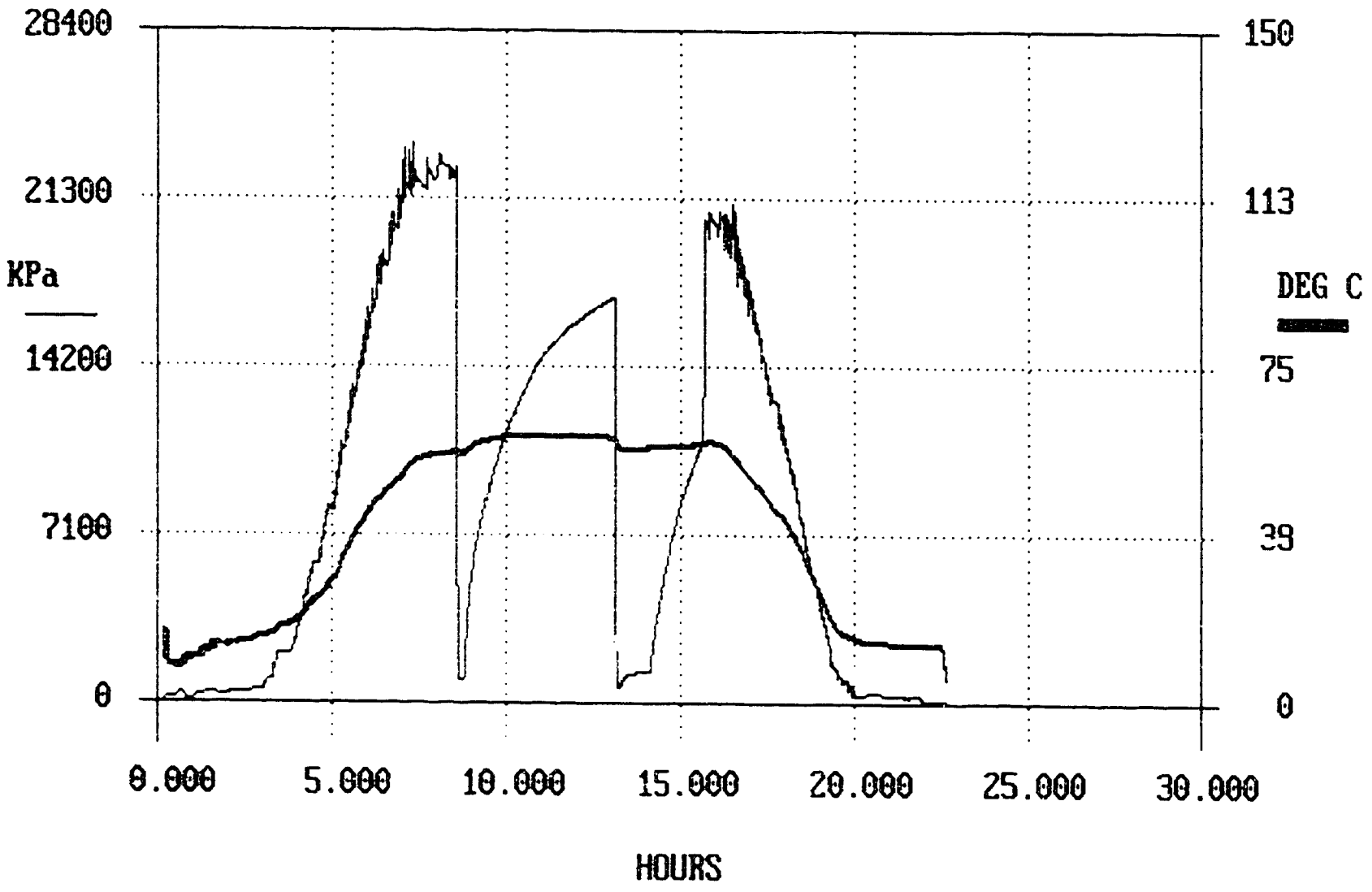
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 OUTSIDE Rec#133



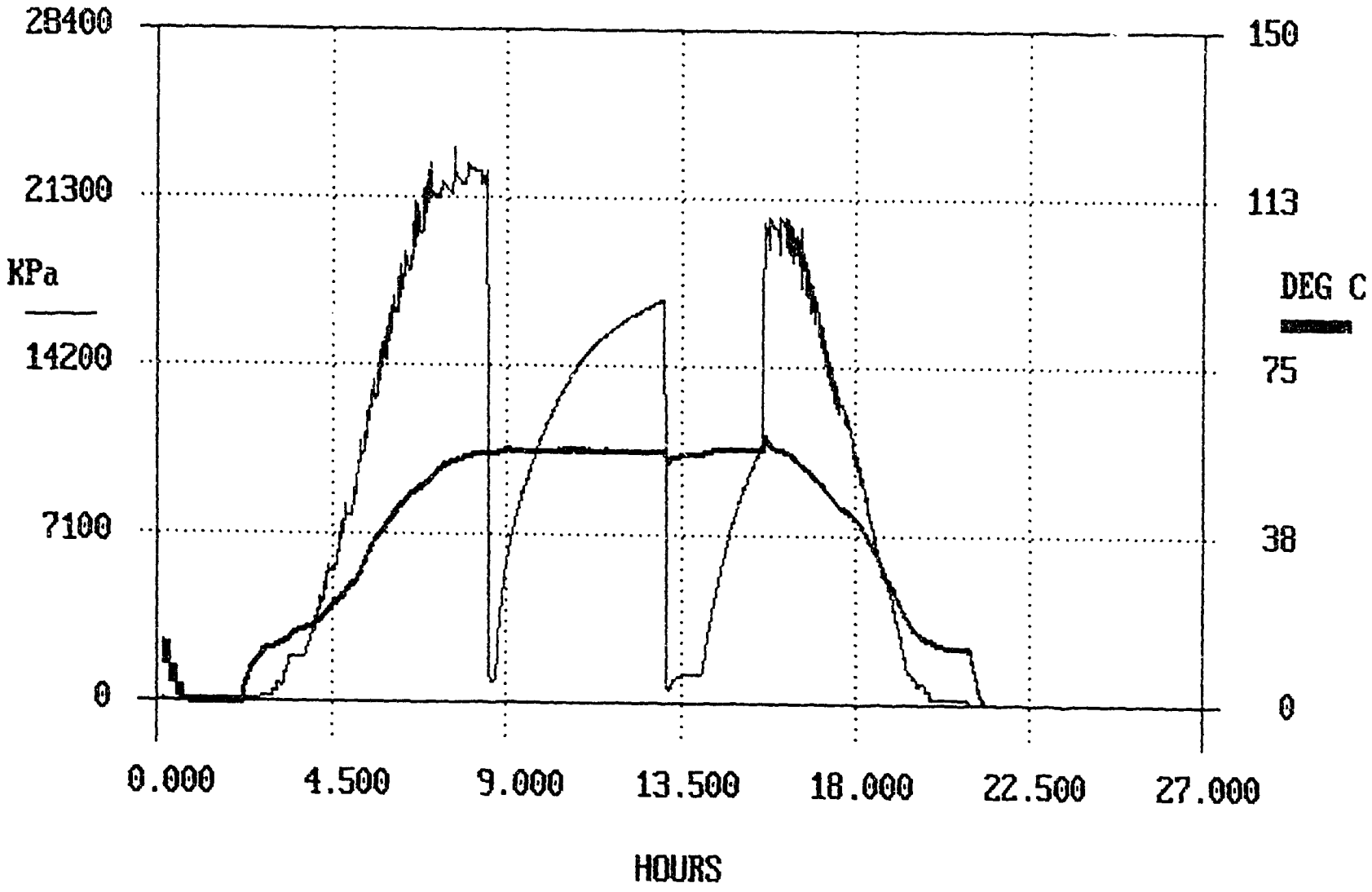
FILE: <C:\ALP_IN\B2800659.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T#2-9998 11/28/00 OUTSIDE



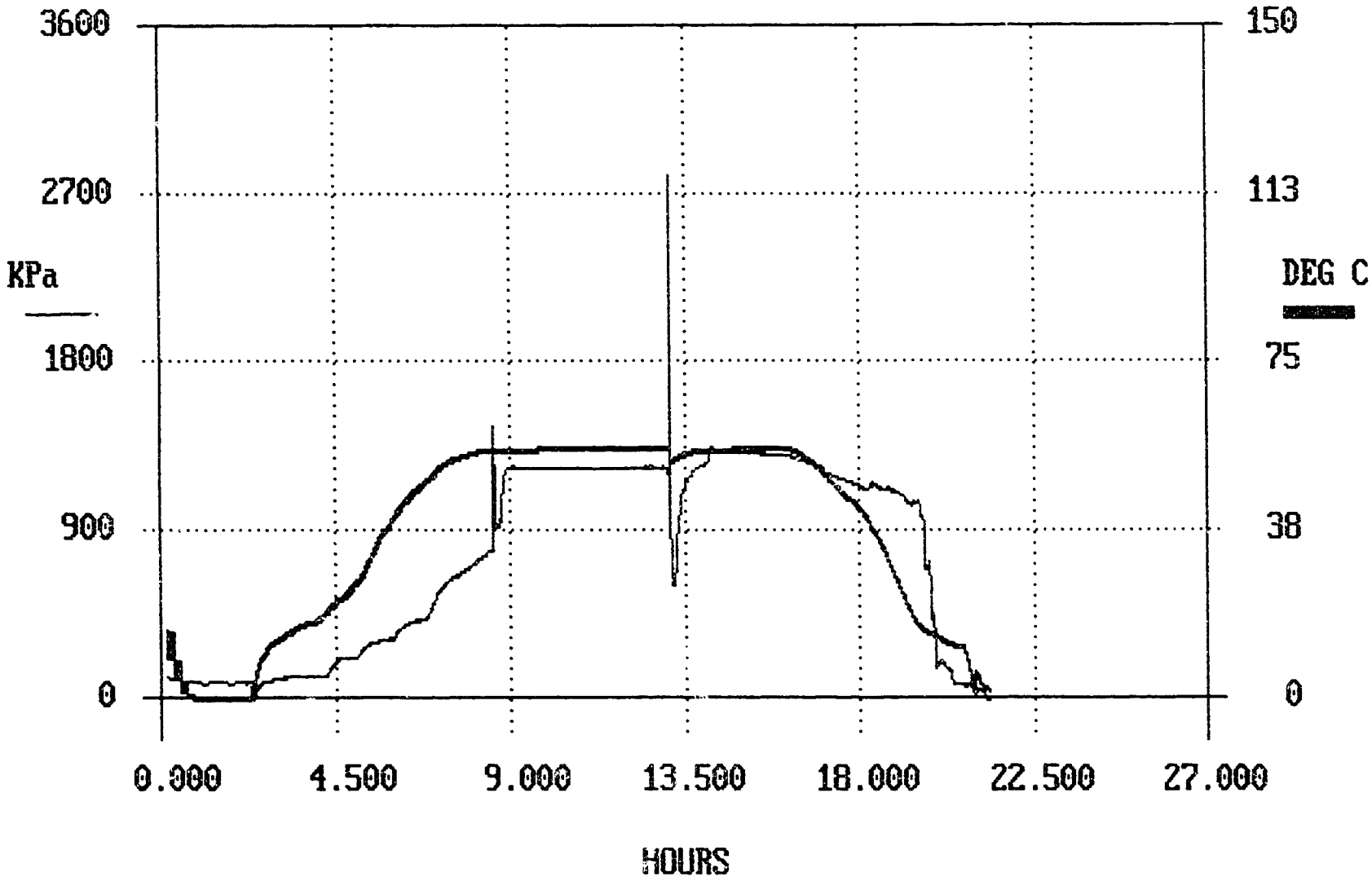
FILE: <C:\ALP_IN\B2800715.133>
s/n 133 PARAMOUNT RES. LTD 60-20-123-30 T#2-9998 11/28/00 OUTSIDE



FILE: <C:\ALP_IN\B2800703.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-9998 11/28/00 INSIDE



FILE: <C:\ALP_IN\B2800759.066>
s/n 66 PARAMOUNT RES.LTD T#2-9998 60-20-123-30 11/28/00 FLUID





Drill Stem Test Report

Prepared for: PARAMOUNT RESOURCES

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Test Date: 11/30/2000

Job Ticket #: D2-9999 DST#: 4

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD Job Ticket #: D2-9999 DST#: 4

Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: ALBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

Test Type	INFLATE STRADDLE	Tester:	ALBERTO SCARIONE
Interval	1216.00m - 1240.00m	Truck No.:	673 Ÿ
Formation	MATTSON	Contractor:	AKITA DRILLING
KB Elevation	374.60m	Rig No.:	51 LIN
Ground Elevation	369.10m	Hole Diameter:	222mm
Total Depth	1744.00m	Hole Condition:	FAIR
Test Mode	Gas	Bottom Hole Temperature:	44.00 C

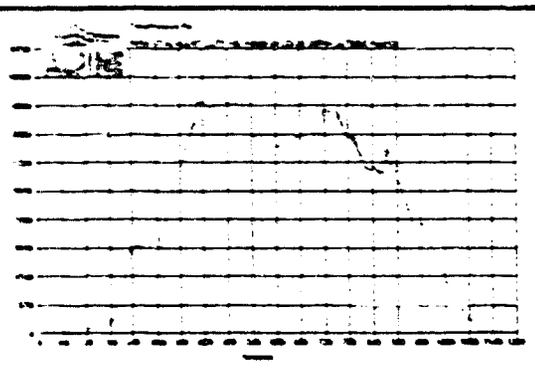
Electronic Recorder Information:

OUTSIDE

Recorder #: 133 Recorder #:

Range	10000 kPag	Range	kPag
Depth	1218.00 m	Depth:	m

Flag Points	Time	Pressure
A Initial Hydrostatic	0.00	15390.2
B Start of 1st Flow	0.00	3986.2
C End of 1st Flow	6.00	5588.0
D End of 1st Shutin	35.00	13176.1
E Start of 2nd Flow	0.00	6031.3
F End of 2nd Flow	28.00	9003.6
G End of 2nd Shutin	122.00	13184.2
G Final Hydrostatic	0.00	14904.1



Test Run Information:

Start Time:	400hrs
Reached Test Depth:	830hrs
Pull Out Time:	1316hrs
Tool Out Of Hole:	2009hrs
Weight set on Packers:	10000.00daN
Weight to free Packers:	62000.00daN
Initial String Weight:	49000.00daN
Unseated String Weight:	52000.00daN

Tool Chased Dist:	0.00m	Water Loss:	6.50cm³
Mud Type:	GEL CHEMICAL	Mud Drop:	NO
Mud Weight:	1240.00kg/m³	VIS:	61.00S/L
Amount of fill:	0.00m	Filter Cake:	2.00mm
Amt of cushion:	0.00	Pump Time:	30min
Type of cushion:		Reversed Out:	YES

General Remarks:

PREFLOW: Weak air blow increasing to strong in 20 seconds. Dead in 6 min.

FINAL FLOW: Strong air blow immediately. Decreasing throughout to Very weak air blow. No gas to surface.

Recovery Description:

well lic# 1884

Total fluid recovery was 711 meters, consisting of fresh water. refractometer reading 1.4

Gas Bomb: 0 Sampler: 1

Fluid Sample: 6 Sent to: AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-9999 DST#: 4
Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Contact: WILBERT CALLIHOO

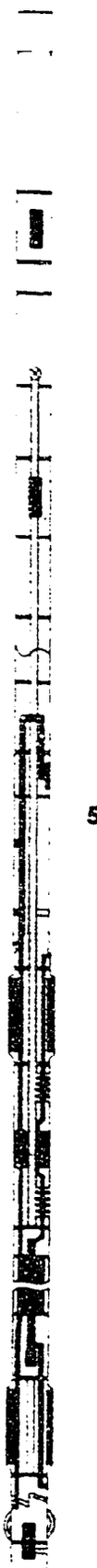
Inflate Straddle

Drill Collar Stands:	2
Drill Collar Singles:	1
Drill Pipe Stands:	41
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1220.95m
Total Drill Pipe Above K.B.:	3.95m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	38.57	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	789.52	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.91	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

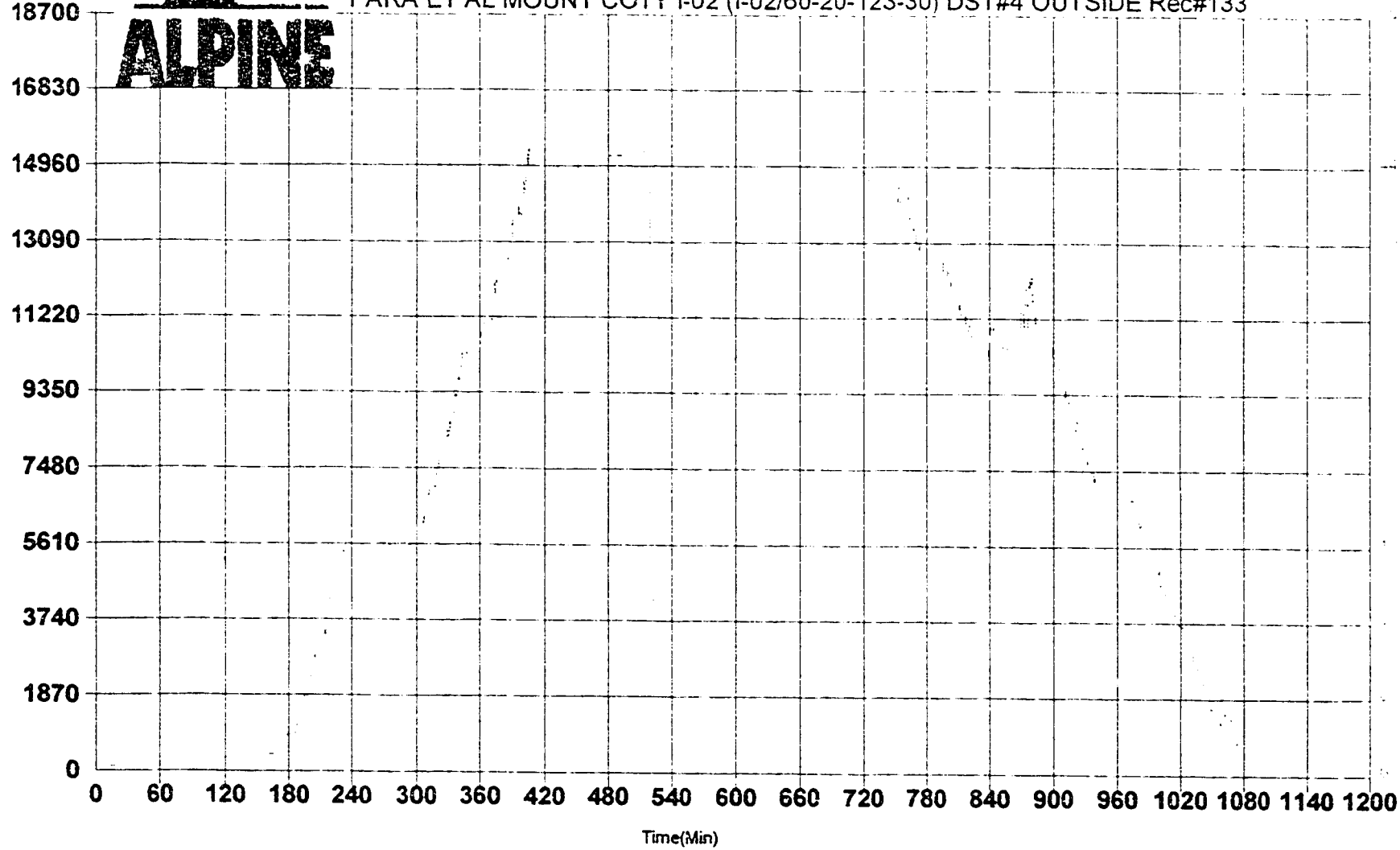


	Item	Length
	P.O. Sub	0.31
	C.O. Sub	0.30
	P.O. Sub	0.31
	REC FLUID#65	1.80
	HMV Stroke	2.39
	Sampler	1.10
	REC INSIDE#66	1.80
	Telemetry Tool	6.10
	Jars	2.10
24.95m	Safety Joint	0.65
	Pump	2.05
	Screen	1.18
54.27m		
	Valve	2.23
	Deflate	0.85
	Packer	1.78
Depth: 1216m	T.C.	0.72
	K-3 Carrier	2.20
	Bypass Hanger	0.42
	C.O. Sub	0.30
24.14m	Drill Collar	18.70
	C.O. Sub	0.30
	Bypass Receiver	0.78
Depth: 1240m	Stubb	0.72
	Packer	1.78
	Extension Sub	0.72
5.18m	Drag Spring	2.08
	Bullnose	0.60

Total Depth: 1744.00m

Time/Pressure Plot

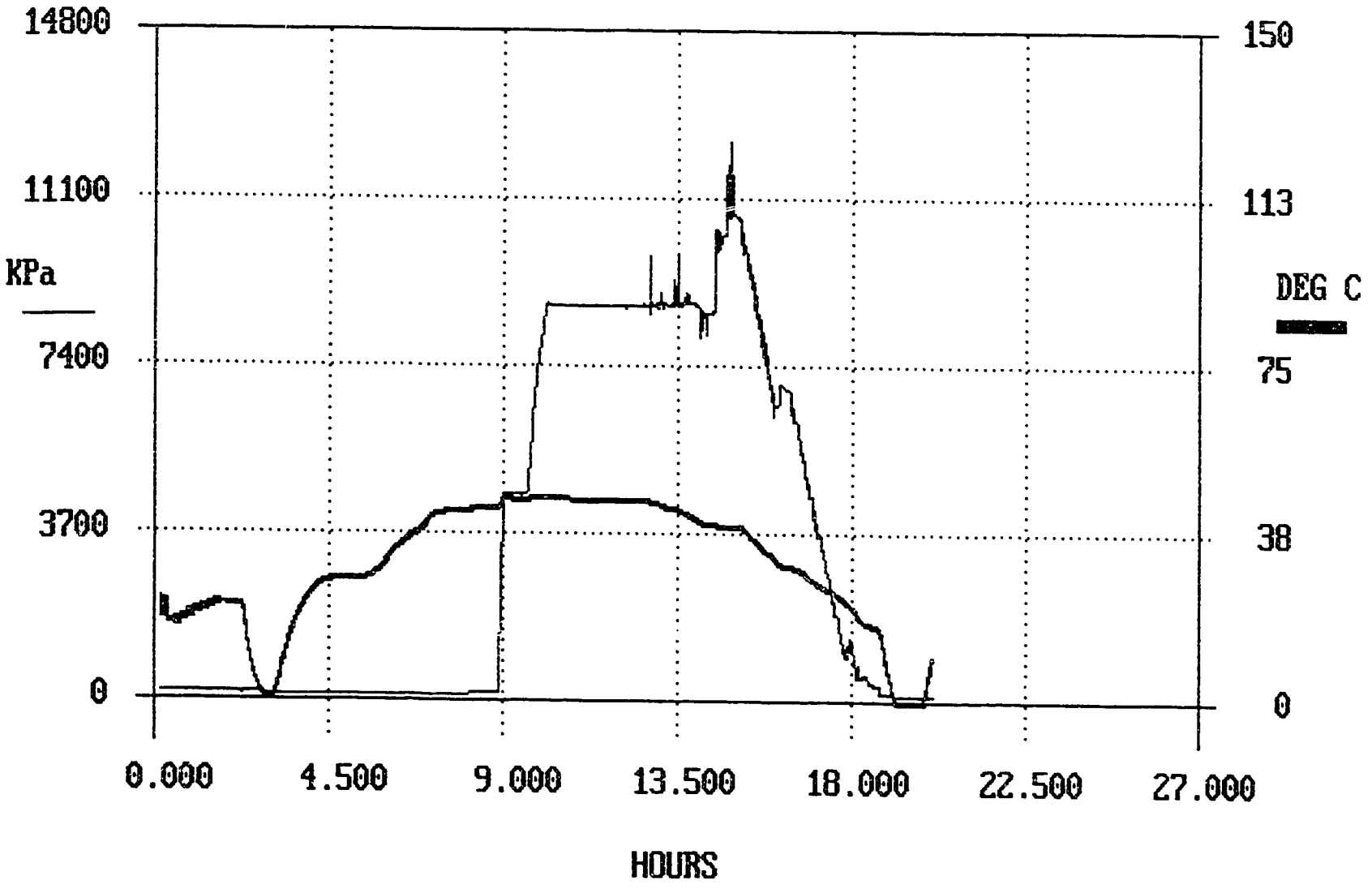
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 OUTSIDE Rec#133



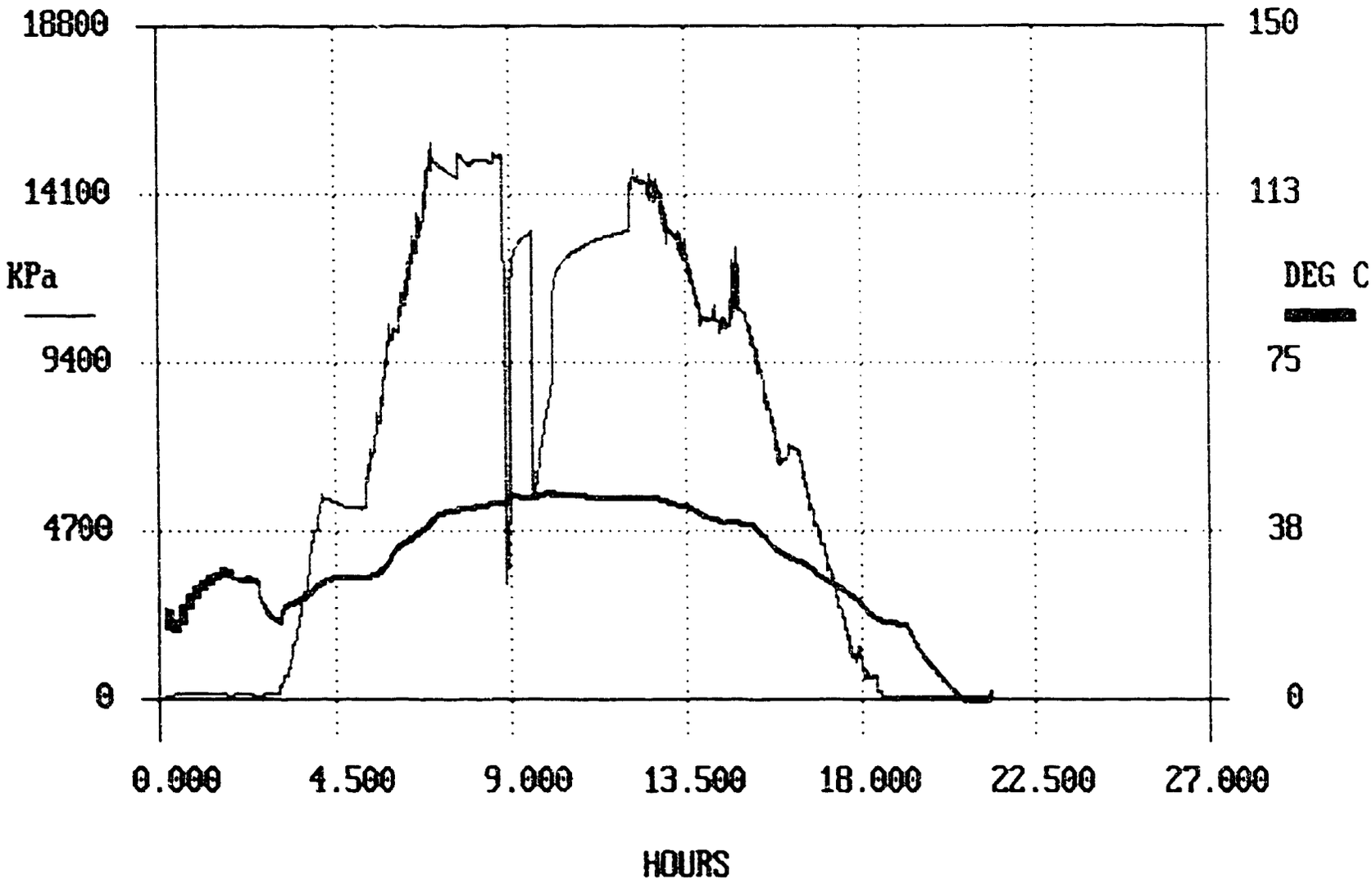
FILE: <C:\ALP_IN\B2900541.066>

s/n 66 PARAMOUNT RES.LTD T#2-9999 60-20-123-30 11/30/00 [redacted]DE

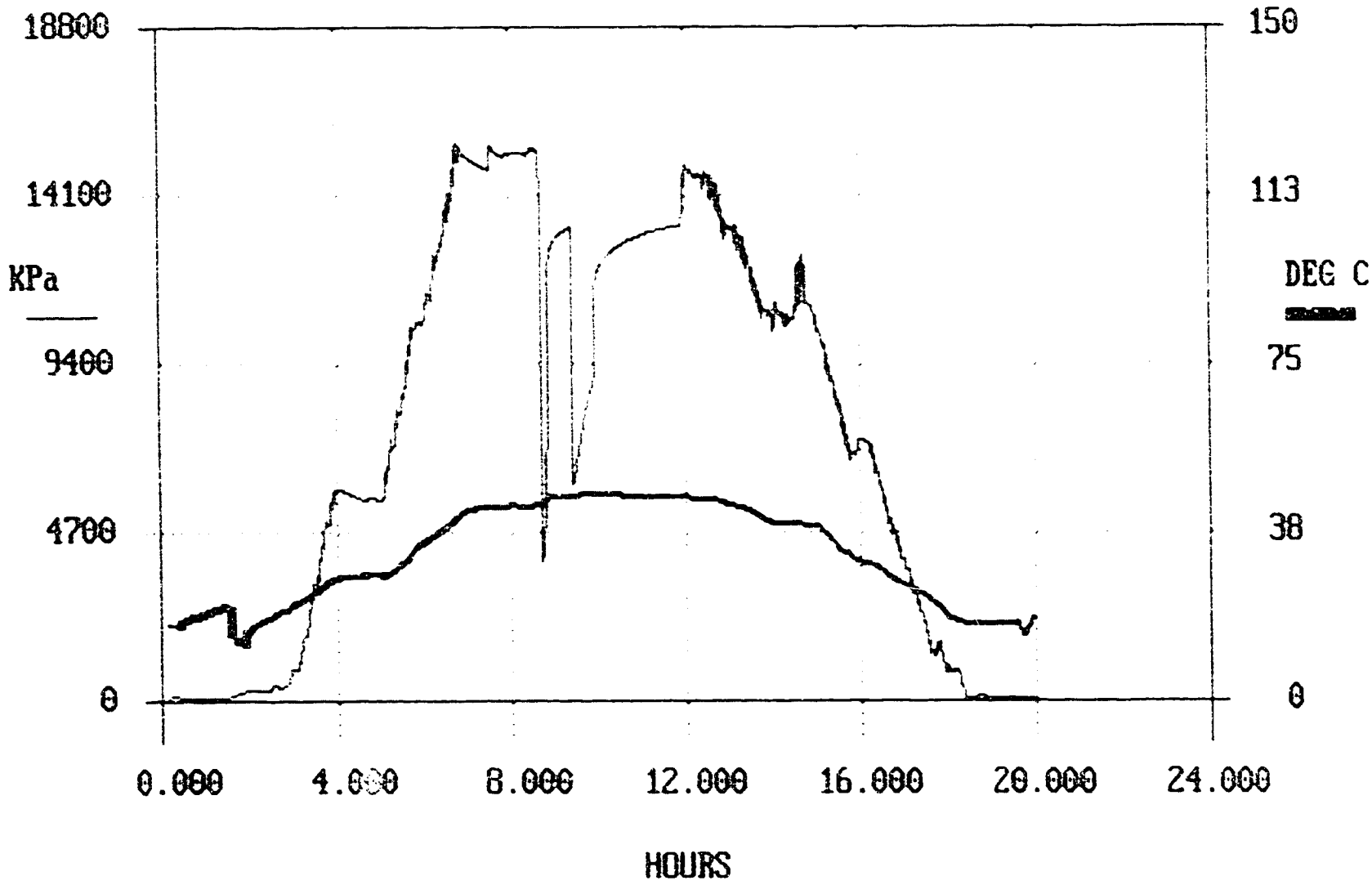
FLUID



FILE: <C:\ALP_IN\B2900636.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T=2-9999 11/30/00 INSIDE



FILE: <C:\ALP_IN\B2S00802.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-9999 11/30/00 OUTSIDE





Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/30/2000**

Job Ticket #: **T4-6188** DST#: **4**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: T4-6188 DST# 4

Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

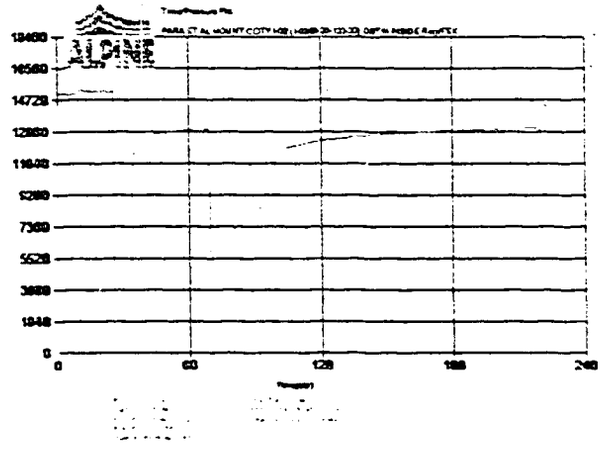
Test Type:	INFLATE STRADDLE	Tester:	KEN PEARSON
Interval:	1216m -1240m	Truck No.:	673
Formation:	MATTSON	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	44.00 C

Telemetry Recorder Information:

INSIDE

Recorder #: FEK Depth: 1201.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	15206.6
B Start of 1st Flow	0.00	3570.0
C End of 1st Flow	7.44	5359.3
D End of 1st Shutin	34.08	13107.1
E Start of 2nd Flow	0.00	5811.9
F End of 2nd Flow	28.02	8903.4
G End of 2nd Shutin	122.04	13016.4
Q Final Hydrostatic	0.00	14549.1



Test Run Information:

Start Time:	400hrs
Reached Test Depth:	830hrs
Pull Out Time:	1316hrs
Tool Out Of Hole:	2000hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	61.00S/L
Filter Cake:	0.00mm
Pump Time:	0min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1240.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

PREFLOW: Open tool at 10:09 to 10:16 weak air blow increasing to strong in 20 seconds. Dead in 6 min.

FINAL FLOW:Open tool at 10:53 to 11:23 Strong air blow in 4 min. Very weak air blow. No gas to surface.

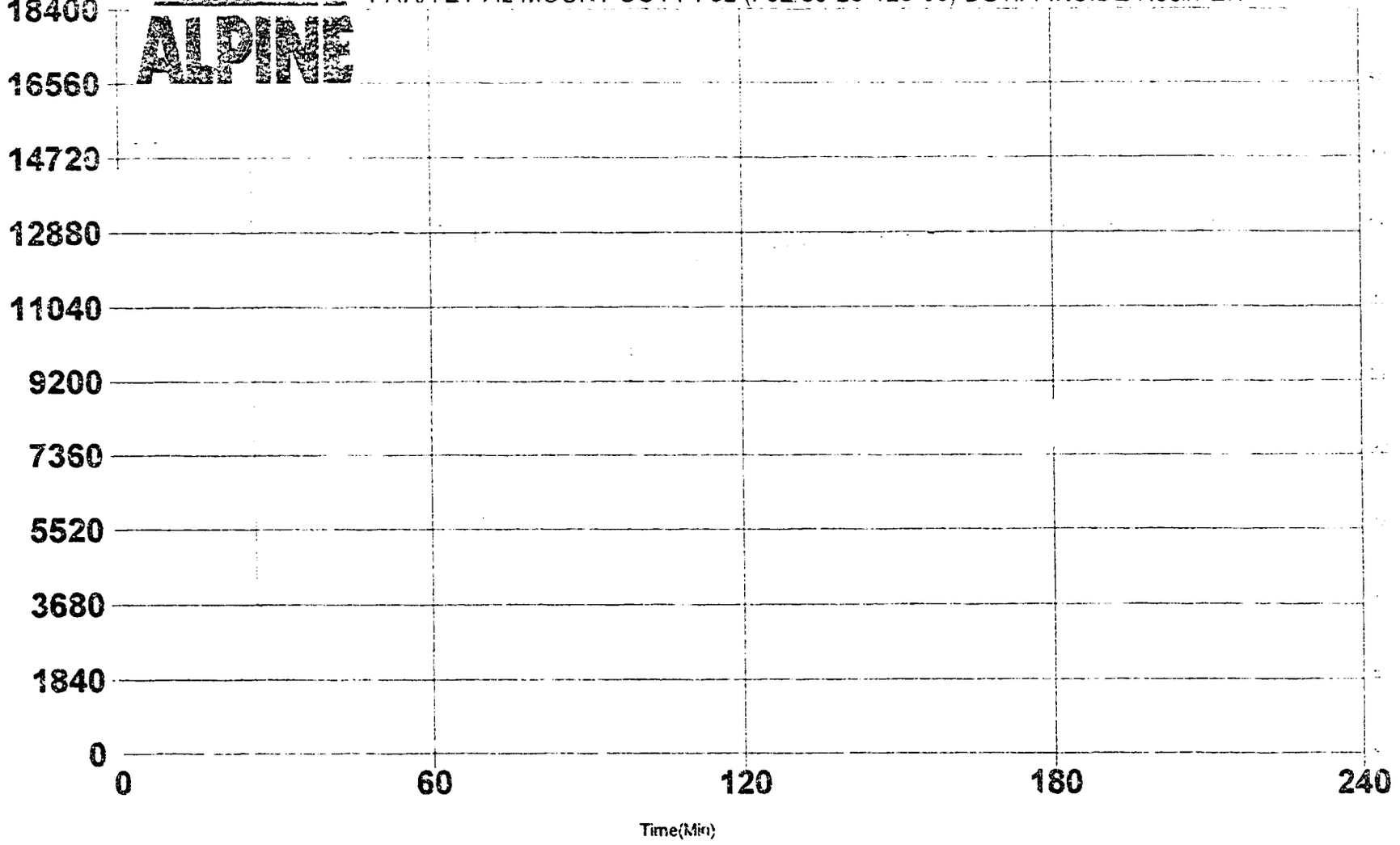
Recovery Description:

Total fluid recovery was 711 meters, consisting of fresh water.

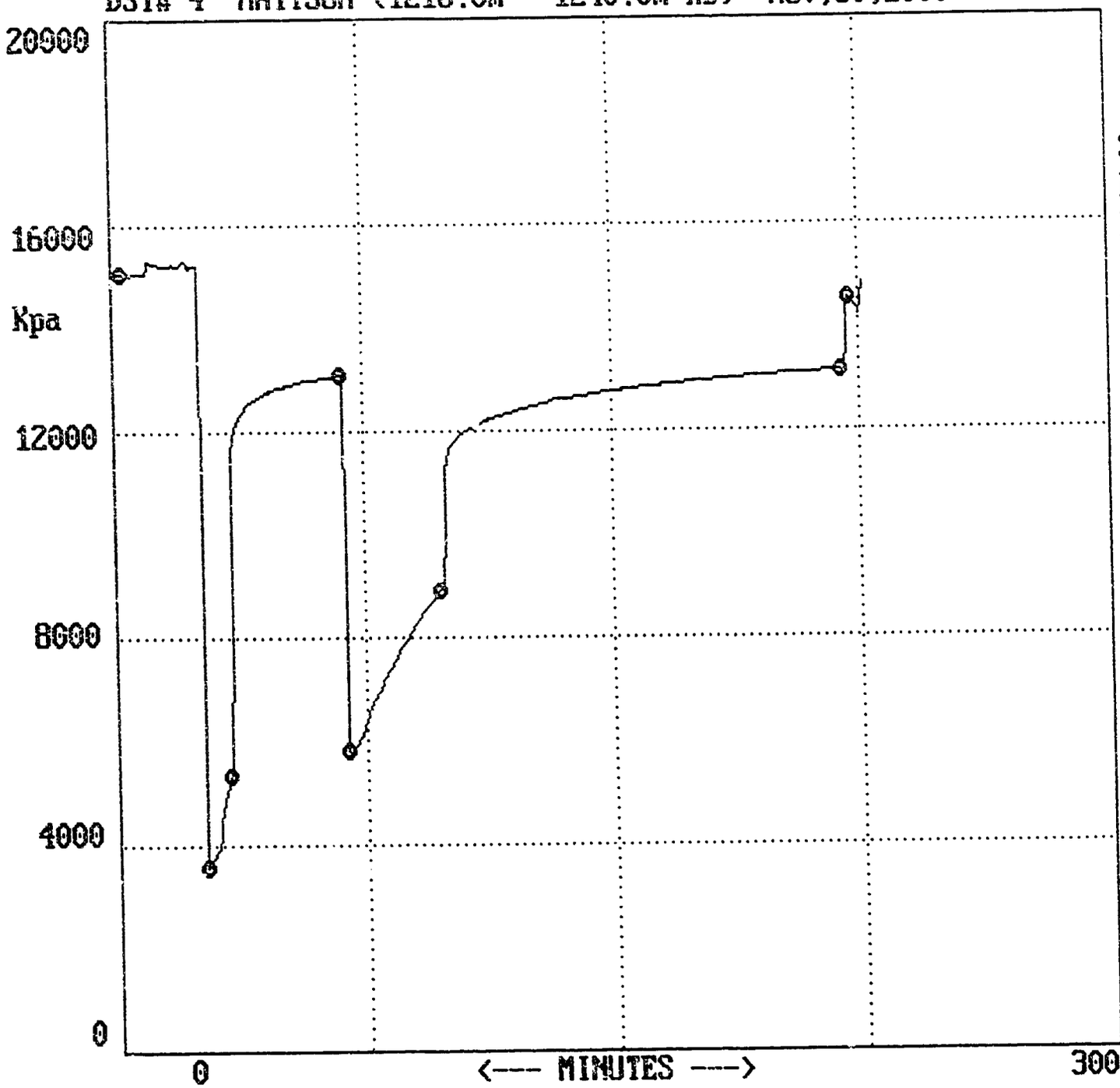
ALPINE

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 INSIDE Rec#FEK



PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 4 MATTSON (1216.0m - 1240.0m KB) NOV,30,2000



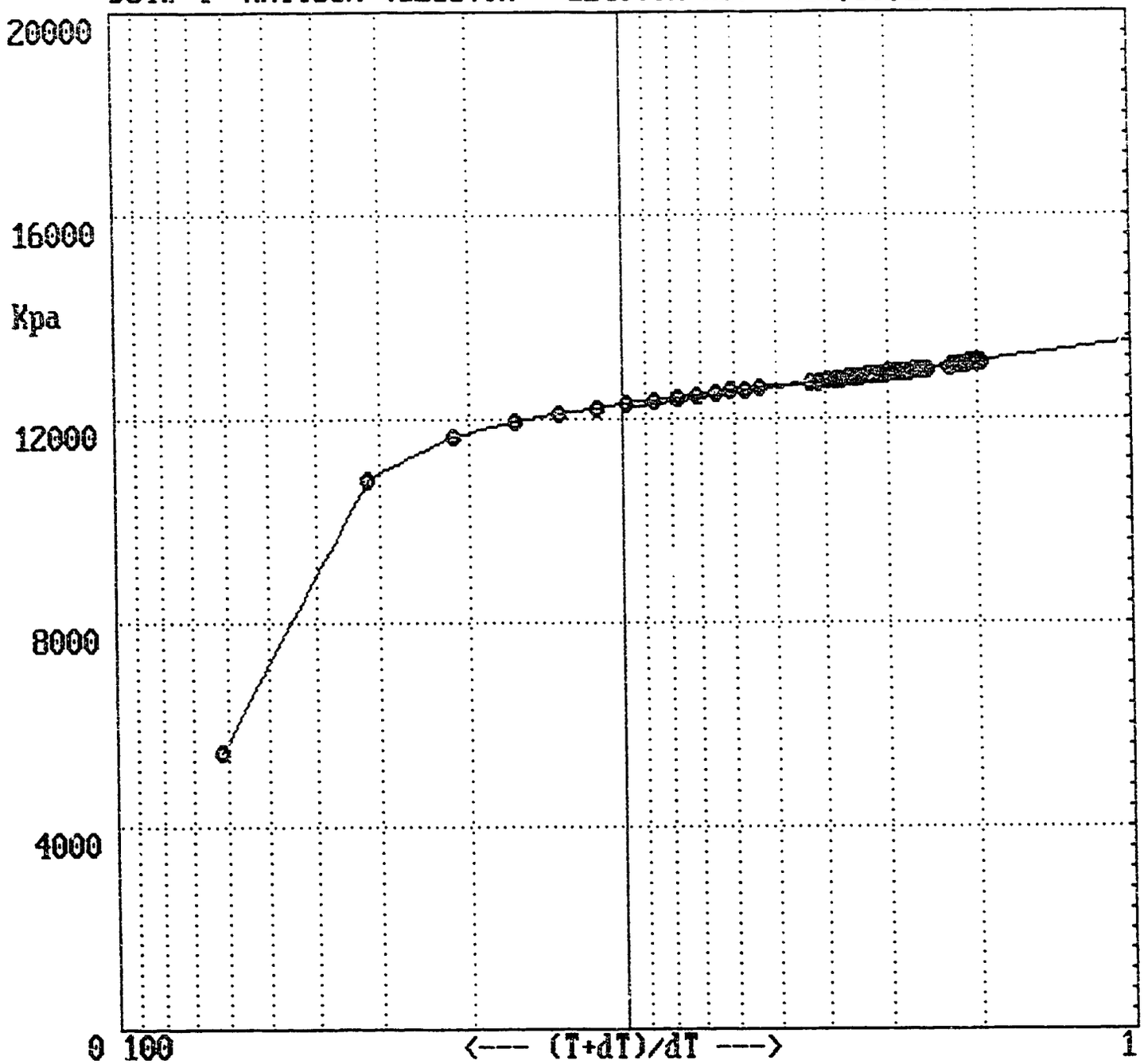
IHP = 15101.6

SF1 = 3570.0
EF1 = 5359.3
ES1 = 13109.5

SF2 = 5811.9
EF2 = 8903.4
ES2 = 13154.8

FHP = 14549.1

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 4 MATTSON (1216.0m - 1240.0m KB) NOV,30,2000

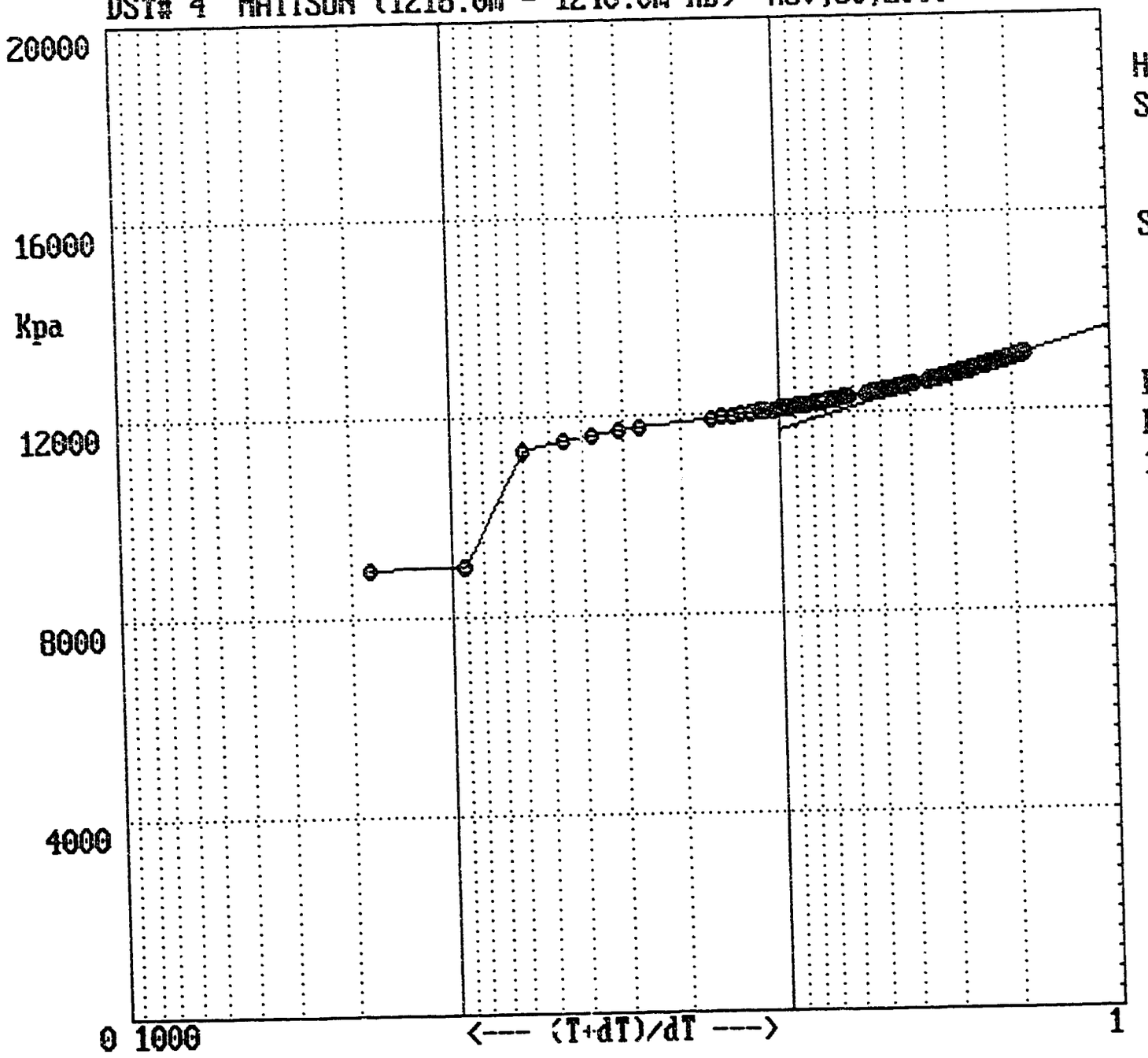


HORNER PLOT
SHUT-IN # 1

SLOPE =
1291.7
kPa/cycle

Extrapolated
Pressure =
13489.4
Kpa

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 4 MATTSON (1216.0m - 1240.0m KB) NOV,30,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
2018.8
kPa/cycle

Extrapolated
Pressure =
13665.1
Kpa



Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/01/2000**

Job Ticket #: **T4-6189** DST #: **5**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: T4-6189 DST#: 5

Test Date: 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

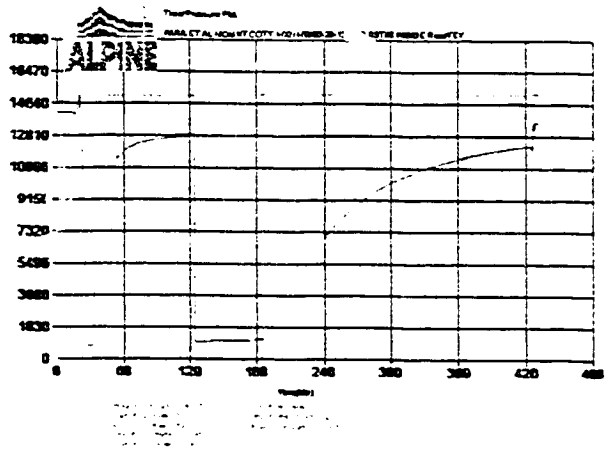
Test Type:	INFLATE STRADDLE	Tester:	KEN PEARSON
Interval:	1134m -1140m	Truck No.:	673 □Ÿ□
Formation:	MATTSON	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	43.00 C

Telemetry Recorder Information:

INSIDE

Recorder #: FEK Depth: 1119.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	14177.3
B Start of 1st Flow	0.00	752.8
C End of 1st Flow	3.30	788.6
D End of 1st Shutin	88.50	12789.5
E Start of 2nd Flow	0.00	1035.6
F End of 2nd Flow	60.96	1145.7
G End of 2nd Shutin	239.64	12300.1
Q Final Hydrostatic	0.00	13568.0



Test Run Information:

Start Time:	2300hrs
Reached Test Depth:	2100hrs
Pull Out Time:	1020hrs
Tool Out Of Hole:	1430hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	61.00S/L
Filter Cake:	0.00mm
Pump Time:	30min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1240.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

PREFLOW: START 03:33 TO 03:43 Weak air blow 3 inches in pail No gas to surface.

FINAL FLOW: START 05:15 TO 06:15 Weak air blow. Bottom of pail in 6 minutes. No gas to surface.

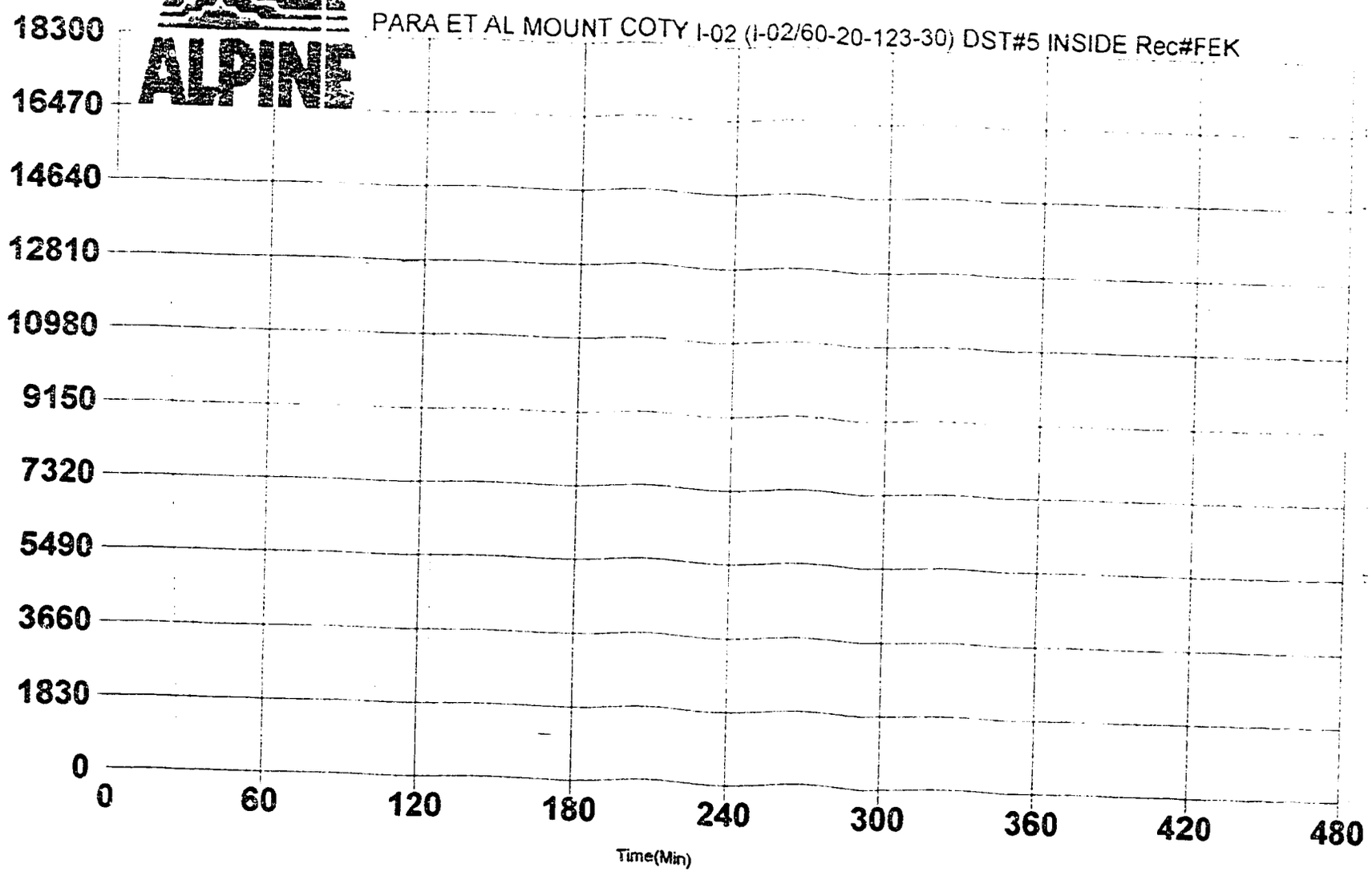
Recovery Description:

WELL LIC# 1884

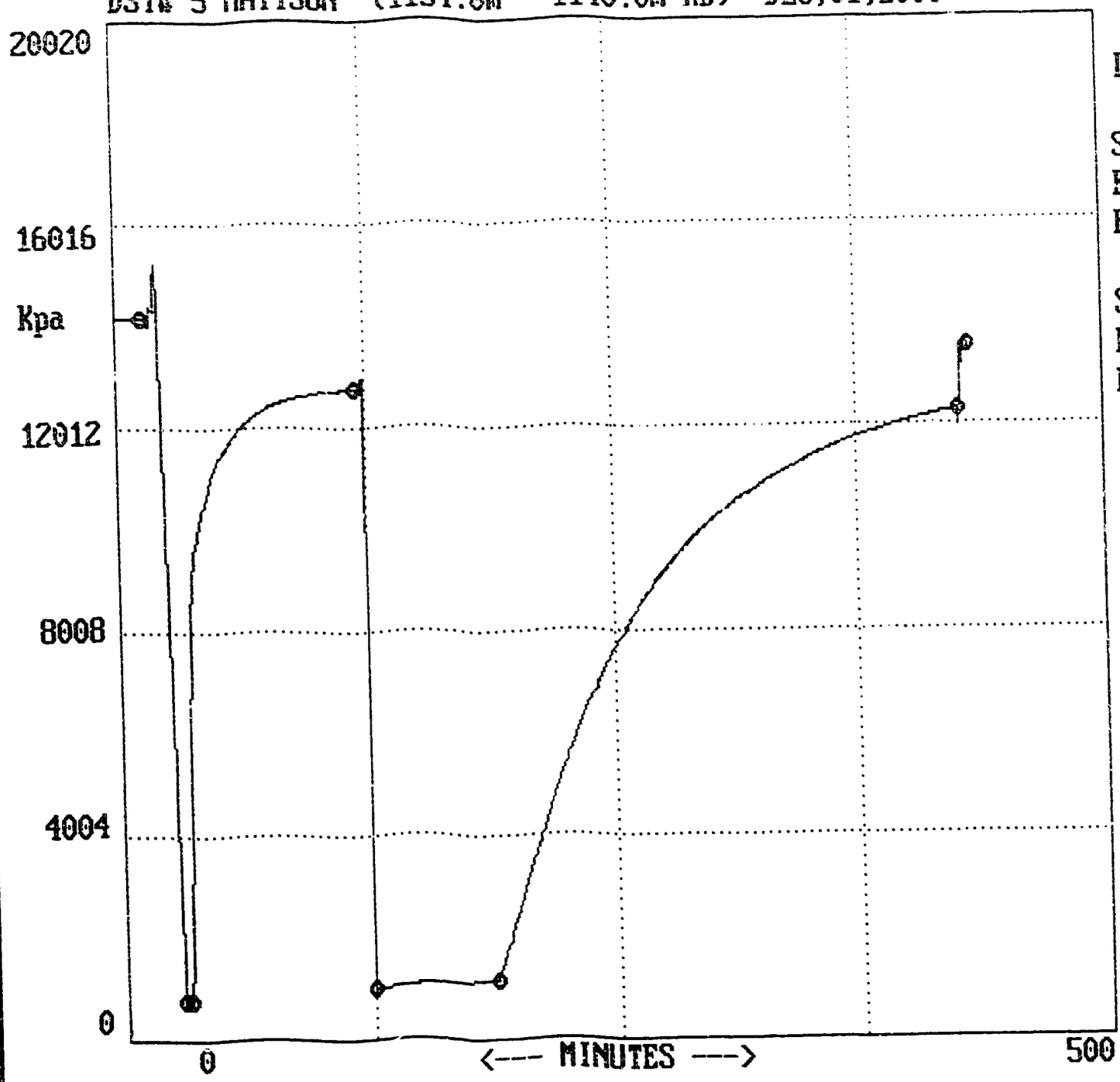
ALPINE

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (i-02/60-20-123-30) DST#5 INSIDE Rec#FEK



PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 5 MATTSON (1134.0m - 1140.0m KB) DEC,01,2000



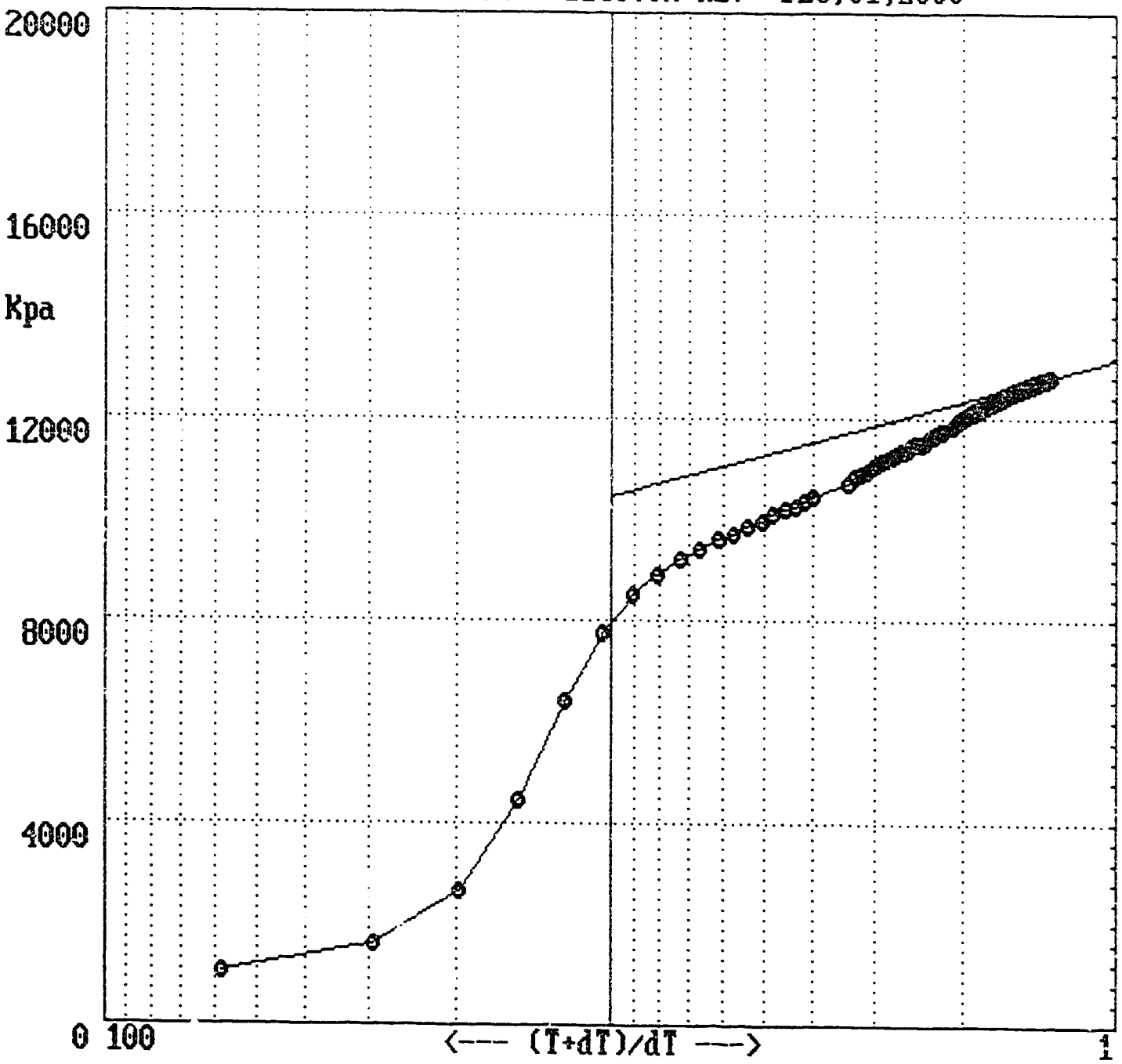
IHP = 14177.3

SF1 = 752.8
EF1 = 788.6
ES1 = 12789.5

SF2 = 1035.6
EF2 = 1145.8
ES2 = 12300.1

FHP = 13534.5

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 5 MATTSON (1134.0m - 1140.0m KB) DEC,01,2000

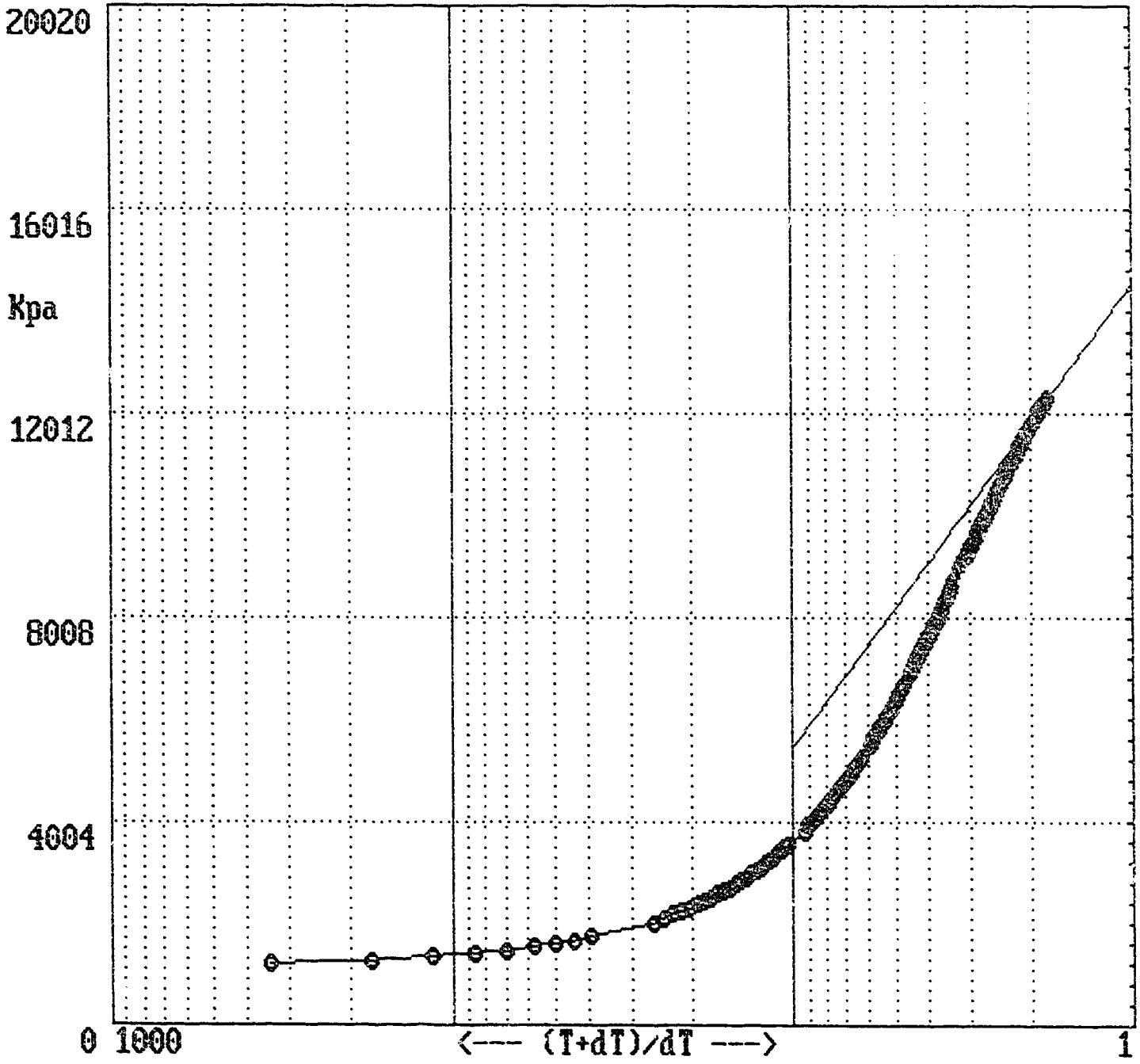


HORNER PLOT
SHUT-IN # 1

SLOPE =
2661.0
kPa/cyc

Extrapolated
Pressure =
13133.8
Kpa

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 5 MATTSON (1134.0m - 1140.0m KB) DEC,01,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
9135.7
kPa/cycle

Extrapolated
Pressure =
14589.4
Kpa



Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/01/2000**

Job Ticket #: **D2-10000** DST#: **5**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-10000 DST#: 5
Test Date: 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

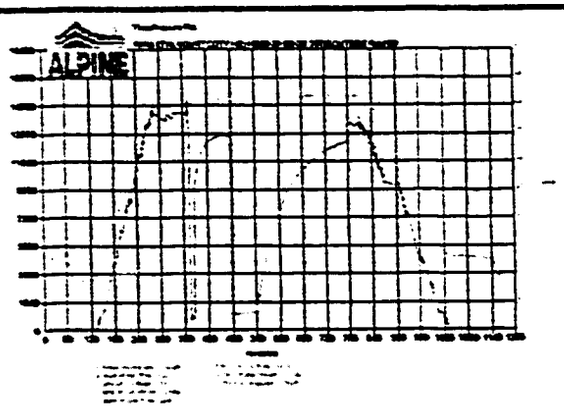
Test Type: INFLATE STRADDLE
Interval: 1134.00m - 1140.00m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 43.00 C

Electronic Recorder Information:

OUTSIDE	OUTSIDE
Recorder #: 160	Recorder #: 066
Range: 10000 kPag	Range: 10000 kPag
Depth: 1136.00 m	Depth: 1136.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	14226.4
B Start of 1st Flow	0.00	721.6
C End of 1st Flow	7.00	781.2
D End of 1st Shutin	90.00	12846.3
E Start of 2nd Flow	0.00	994.1
F End of 2nd Flow	60.00	1109.9
G End of 2nd Shutin	240.00	12326.1
Q Final Hydrostatic	0.00	13599.7



Test Run Information:

Start Time: 2300hrs
Reached Test Depth: 210hrs
Pull Out Time: 1020hrs
Tool Out Of Hole: 1430hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 56000.00daN
Initial String Weight: 45000.00daN
Unseated String Weight: 46000.00daN

Tool Chased Dist: 0.00m Water Loss: 6.50cm³
Mud Type: GEL CHEMICAL Mud Drop: NO
Mud Weight: 1240.00kg/m³ VIS: 61.00S/L
Amount of fill: 0.00m Filter Cake: 2.00mm
Amt of cushion: 0.00 Pump Time:30min
Type of cushion: Reversed Out: NO

General Remarks:

PREFLOW: Weak air blow 3 in pail no gas to surface.

FINAL FLOW: Weak air blow. Bottom of pail in 6 minutes. No gas to surface.

Recovery Description:

WELL LIC# 1884

Total fluid recovery was 56 meters, consisting of
fresh water and
drill mud.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to:AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-10000 DST#: 5
Test Date: 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

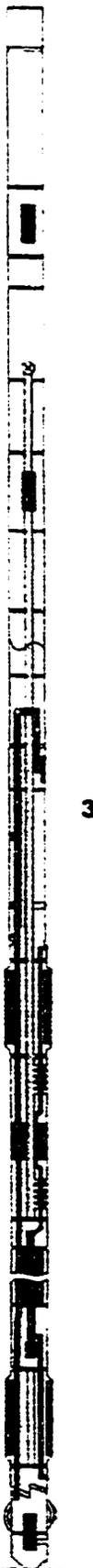
Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	36
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1134.81m
Total Drill Pipe Above K.B.:	0.72m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	56.40	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	685.65	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.81	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

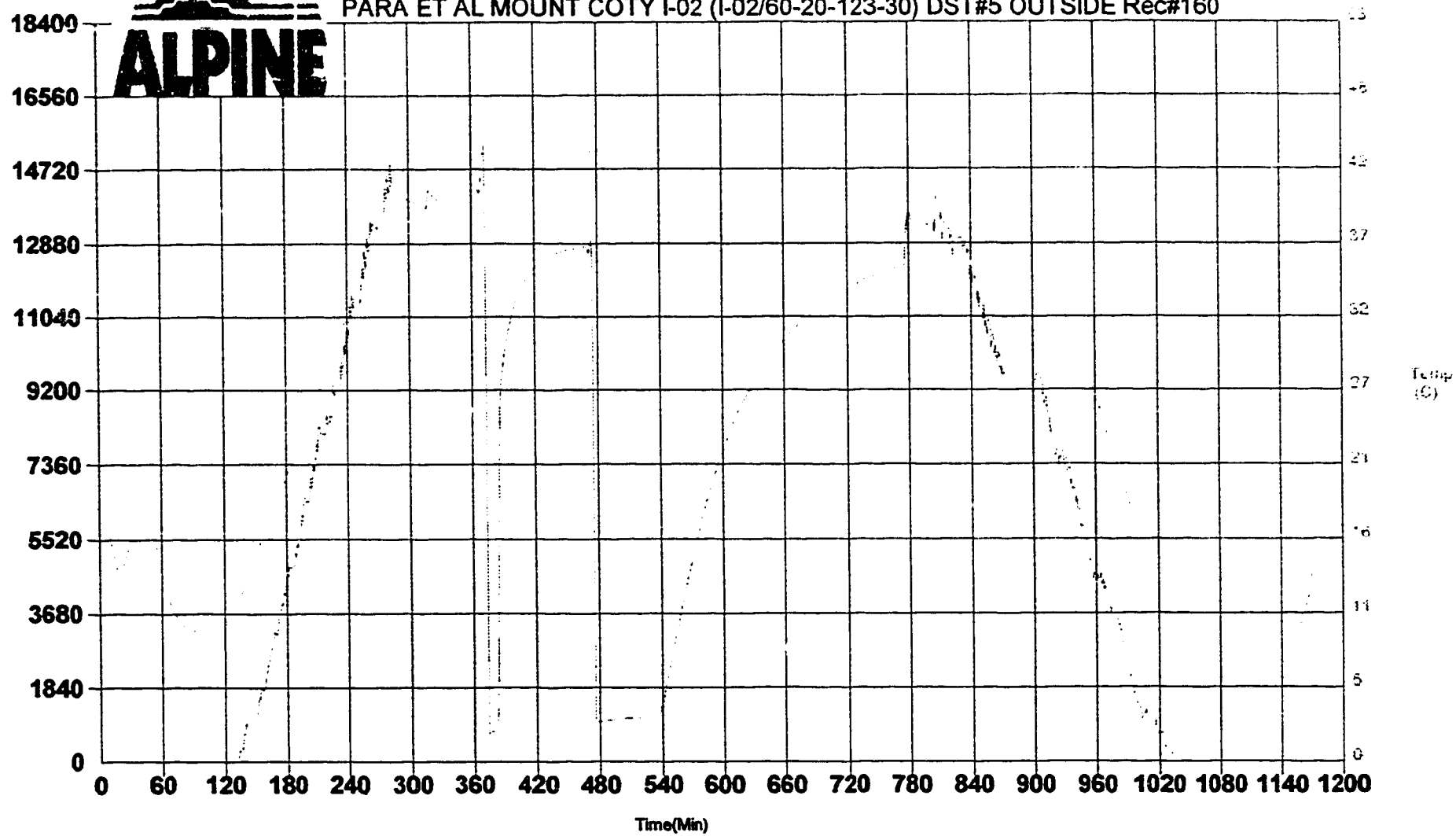


Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	1.52
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

ALPINE

Time/Pressure Plot

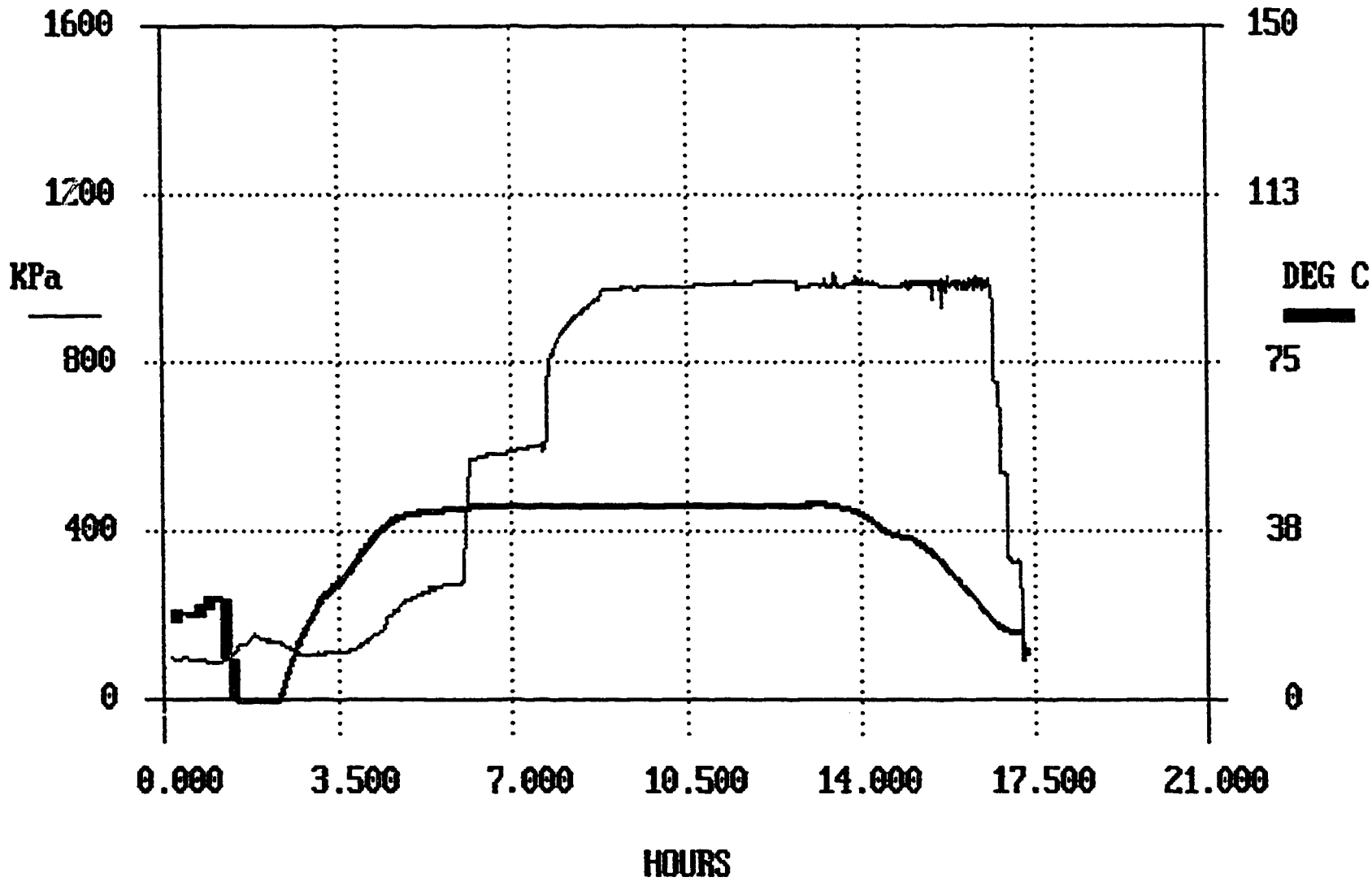
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 OUTSIDE Rec#160



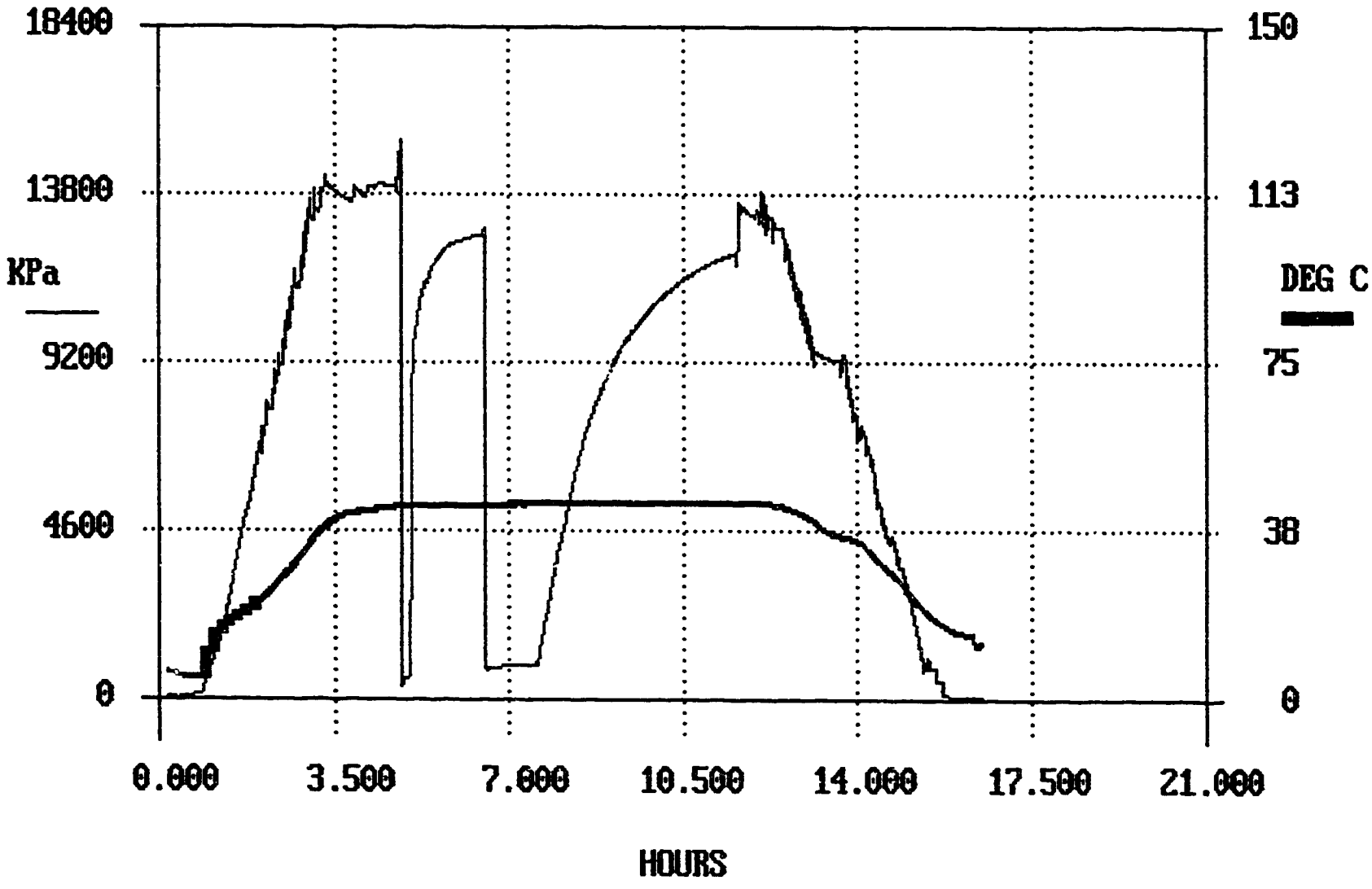
A Initial Hydrostatic - 14226
B Start of 1st Flow - 722
C End of 1st Flow - 781
D End of 1st Shutin - 12546
E Start of 2nd Flow - 994
F End of 2nd Flow - 1110
G End of 2nd Shutin - 12326
O Final Hydrostatic - 13600

FILE: <C:\ALP_IN\B3002136.133>

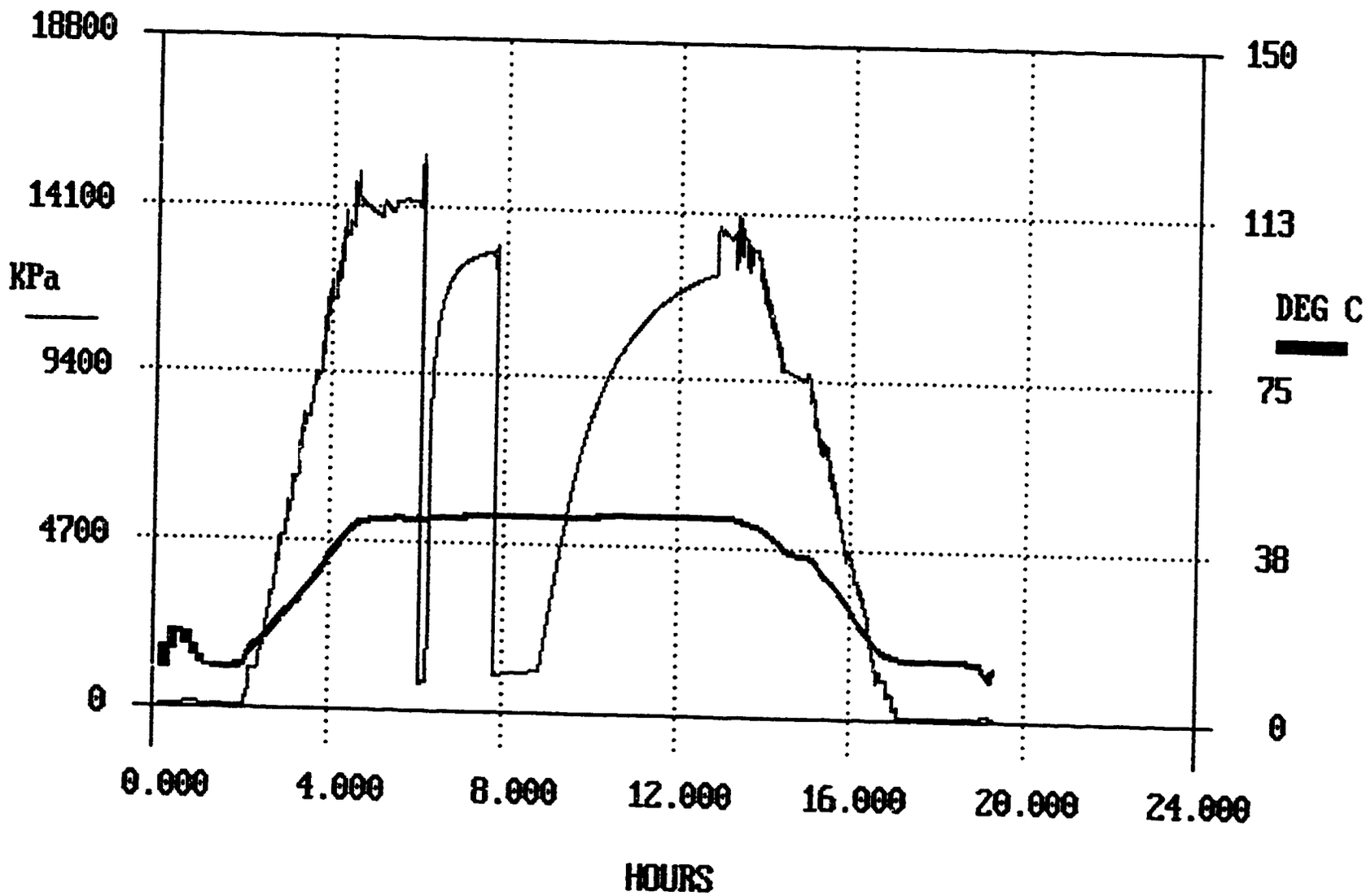
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 FLUID [redacted]



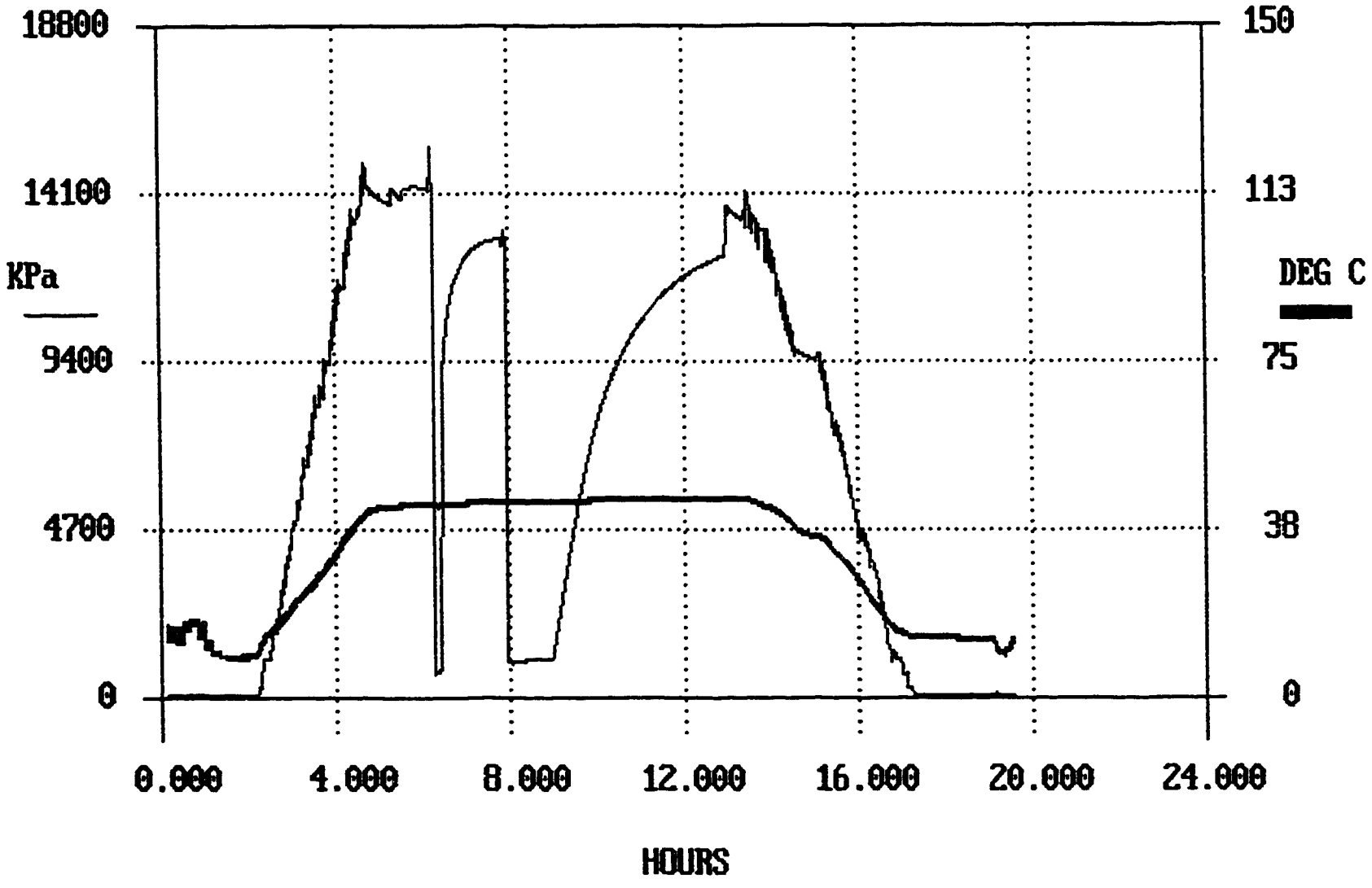
FILE: <C:\ALP_IN\B3002247.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 INSIDE



FILE: <C:\ALP_IN\B3002130.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 OUTSIDE



FILE: <C:\ALP_IN\B3002122.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 OUTSIDE





Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/01/2000**

Job Ticket #: **T4-6190** DST#: **6**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: T4-6190 DST# 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

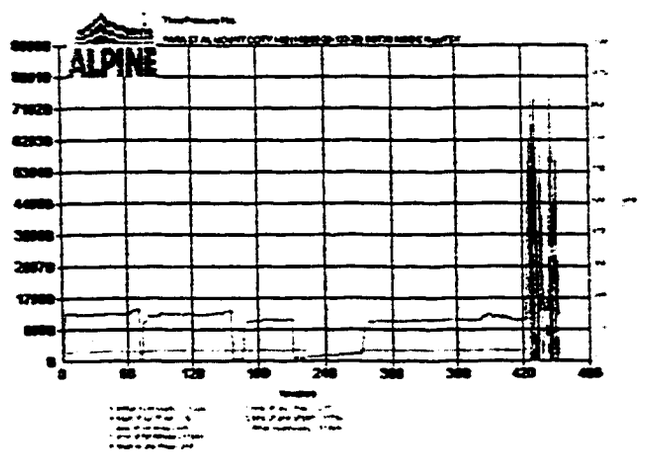
General Information:

Test Type:	INFLATE STRADDLE	Tester:	KEN PEARSON
Interval:	1075m -1085m	Truck No.:	673
Formation:	MATTSON	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	41.00 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 1060.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	13305.9
B Start of 1st Flow	0.00	575.9
C End of 1st Flow	9.24	876.2
D End of 1st Shutin	42.66	11901.0
E Start of 2nd Flow	0.00	936.5
F End of 2nd Flow	62.10	2216.9
G End of 2nd Shutin	105.24	11781.7
Q Final Hydrostatic	0.00	13365.1



Test Run Information:

Start Time:	1800hrs
Reached Test Depth:	2130hrs
Pull Out Time:	350hrs
Tool Out Of Hole:	800hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	61.00S/L
Filter Cake:	0.00mm
Pump Time:	0min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1240.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

PREFLOW:Start 00:08 to 00:17 Very weak air blow. Remained throughout.

FINAL FLOW: Very weak air blow. Bottom of pail in 15 minutes. No gas to surface.

Note: We first set and opened tool at zone. When opening tool it was skidding so unseat packers and worked pipe and set again did test.

Recovery Description:

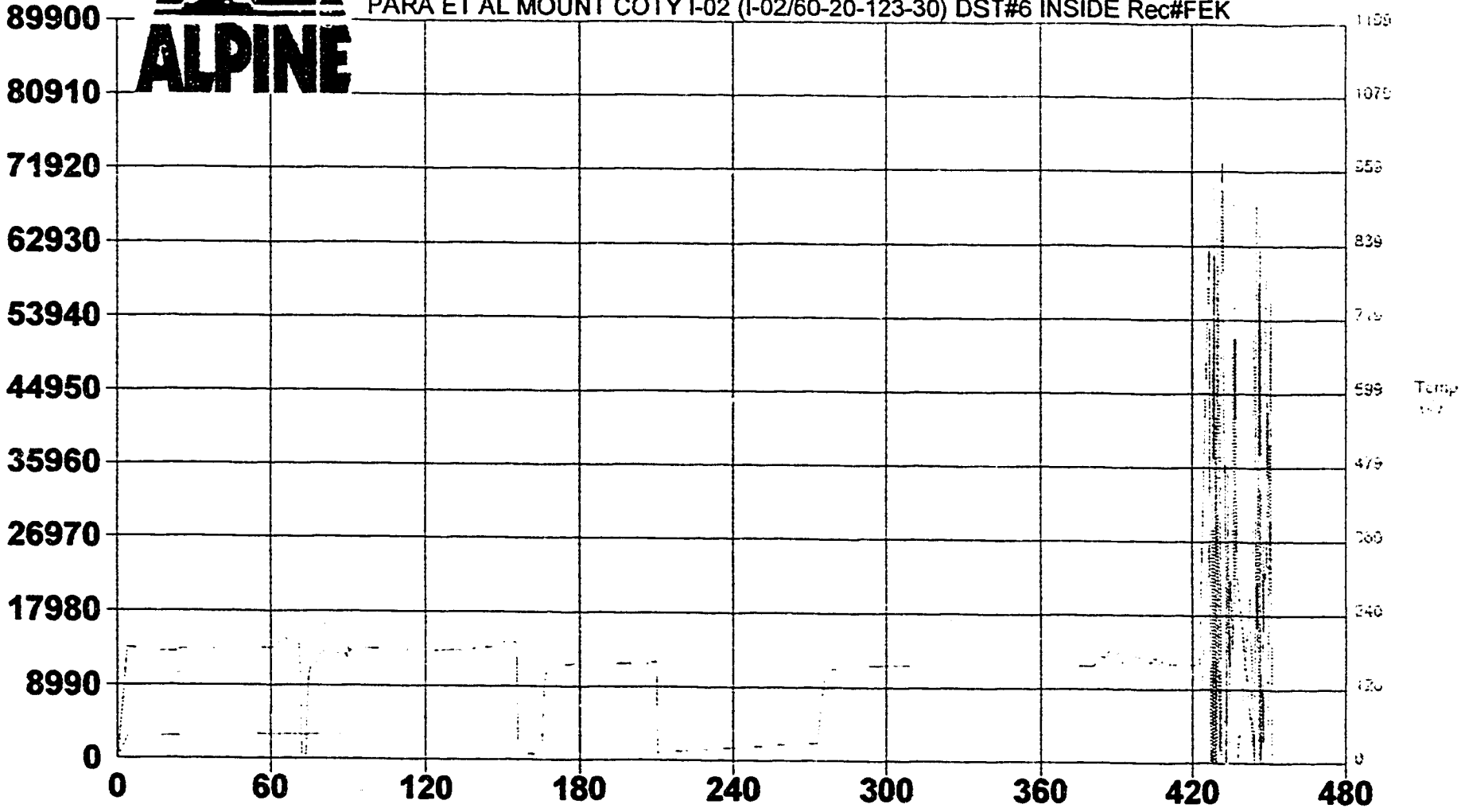
WELL LIC# 1884

Total fluid recovery was 197 meters, consisting of fresh water.

ALPINE

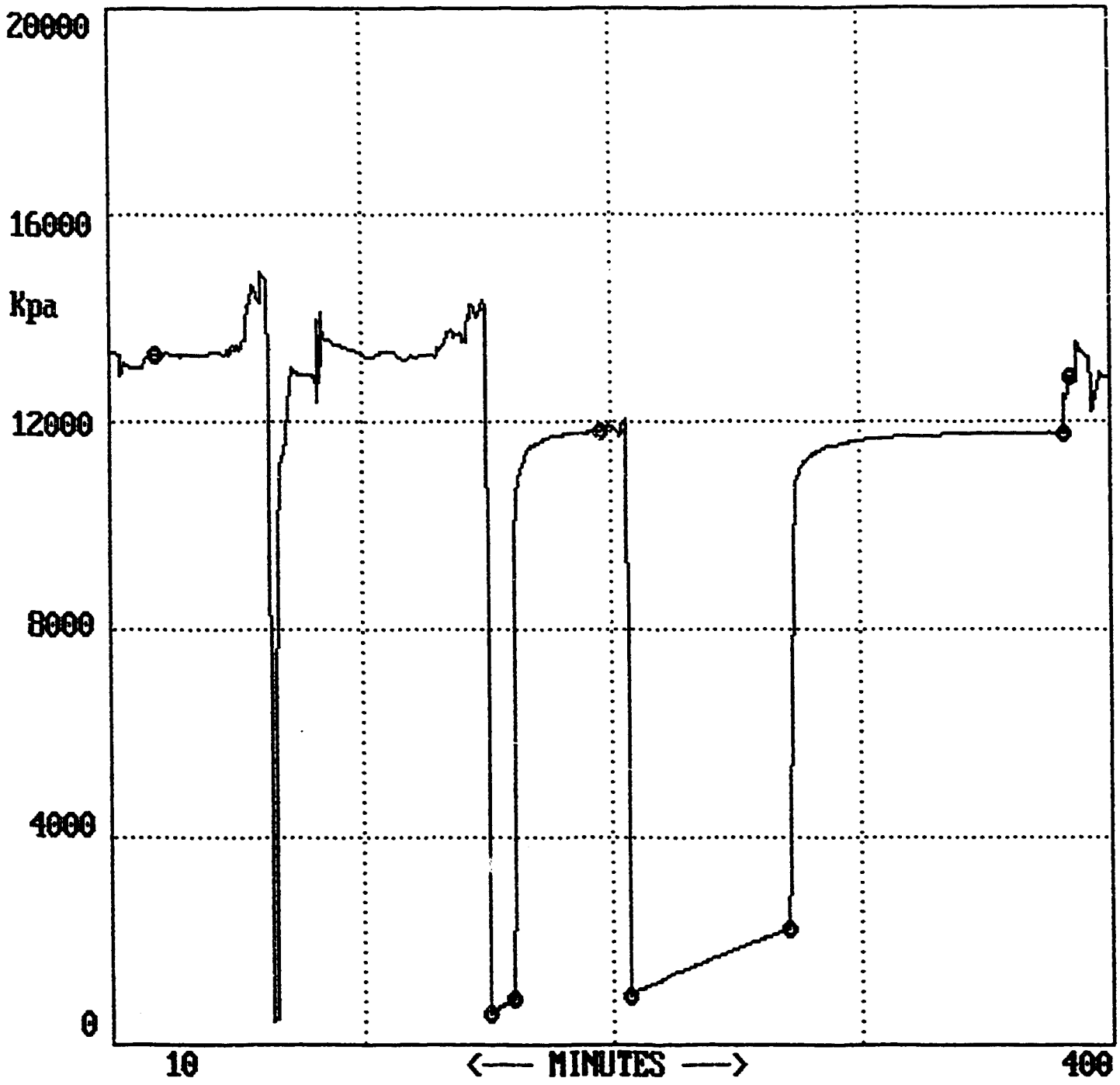
Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 INSIDE Rec#FEK



A Initial Hydrostatic - 13305
B Start of 1st Flow - 576
C End of 1st Flow - 876
D End of 1st Shutin - 1150
E Start of 2nd Flow - 937
F End of 2nd Flow - 2217
G End of 2nd Shutin - 11782
O Final Hydrostatic - 13365

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 6 MATTSON (1075.0m - 1085.0m KB) DEC



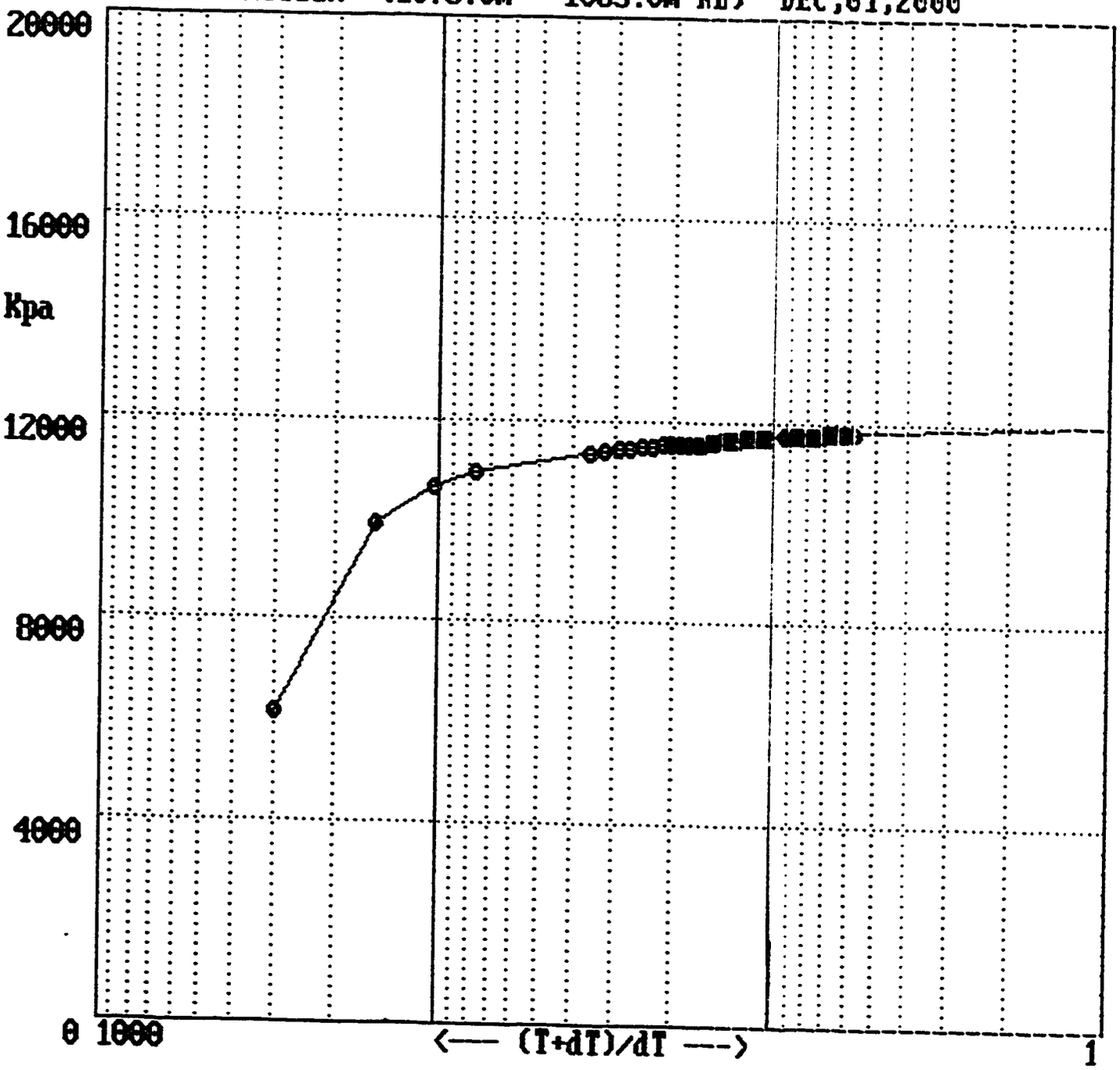
IHP = 13303.6

SF1 = 575.9
EF1 = 876.2
ES1 = 11795.9

SF2 = 936.5
EF2 = 2216.9
ES2 = 11781.7

FHP = 12870.7

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 6 MATTSON (1075.0m - 1085.0m KB) DEC,01,2000

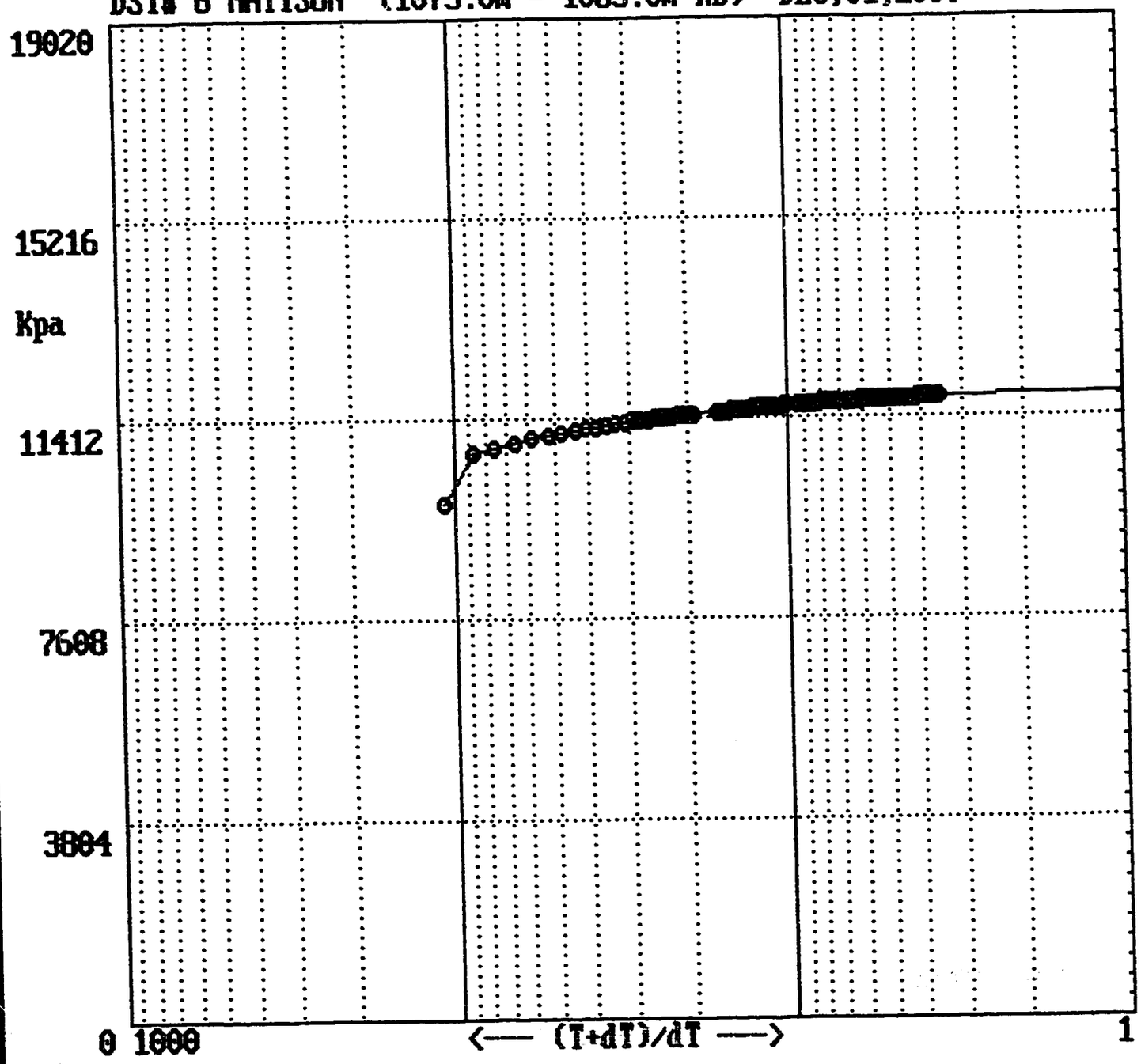


HORNER PLOT
SHUT-IN # 1

SLOPE =
252.6
kPa/cycle

Extrapolated
Pressure =
11988.7
Kpa

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 6 MATTSON (1075.0m - 1085.0m KB) DEC,01,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
123.8
kPa/cycle

Extrapolated
Pressure =
11850.9
Kpa

ALPINE

Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/01/2000**

Job Ticket #: **D2-08778** DST#: **6**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-08778 DST#: 6

Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

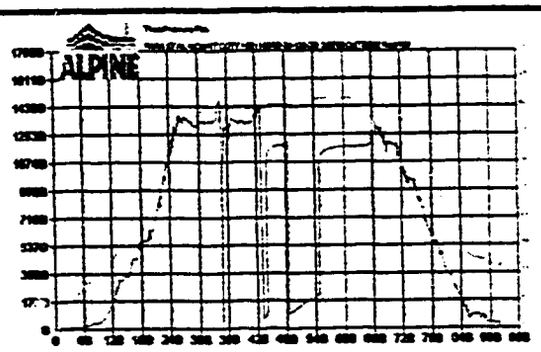
Test Type: INFLATE STRADDLE
Interval: 1075.00m - 1085.00m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 41.00 C

Electronic Recorder Information:

OUTSIDE	
Recorder #: 160	Recorder #:
Range: 10000 kPag	Range: kPag
Depth: 1077.00 m	Depth: m

Flag Points: Time: Pressure:



Test Run Information:

Start Time: 1800hrs
Reached Test Depth: 2130hrs
Pull Out Time: 350hrs
Tool Out Of Hole: 800hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 53000.00daN
Initial String Weight: 39000.00daN
Unseated String Weight: 43000.00daN

Tool Chased Dist: 0.00m
Water Loss: 6.50cm³
Mud Type: GEL CHEMICAL
Mud Drop: NO
Mud Weight: 1240.00kg/m³
VIS: 61.00S/L
Amount of fill: 0.00m
Filter Cake: 2.00mm
Amt of cushion: 0.00
Pump Time: 60min
Type of cushion:
Reversed Out: NO

General Remarks:

PREFLOW: Very weak air blow. Remained throughout.

FINAL FLOW: Very weak air blow. Bottom of pail in 15 minutes. No gas to surface.

Note: We first seat and opened tool at zone. When opening tool it was skidding so unseat packers and worked pipe and set again did test.

Recovery Description:

WELL LIC# 1884

Total fluid recovery was 197 meters, consisting of fresh water.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to: AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-06778 DST#: 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	33
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1077.85m
Total Drill Pipe Above K.B.:	2.85m
Total Depth:	1744m

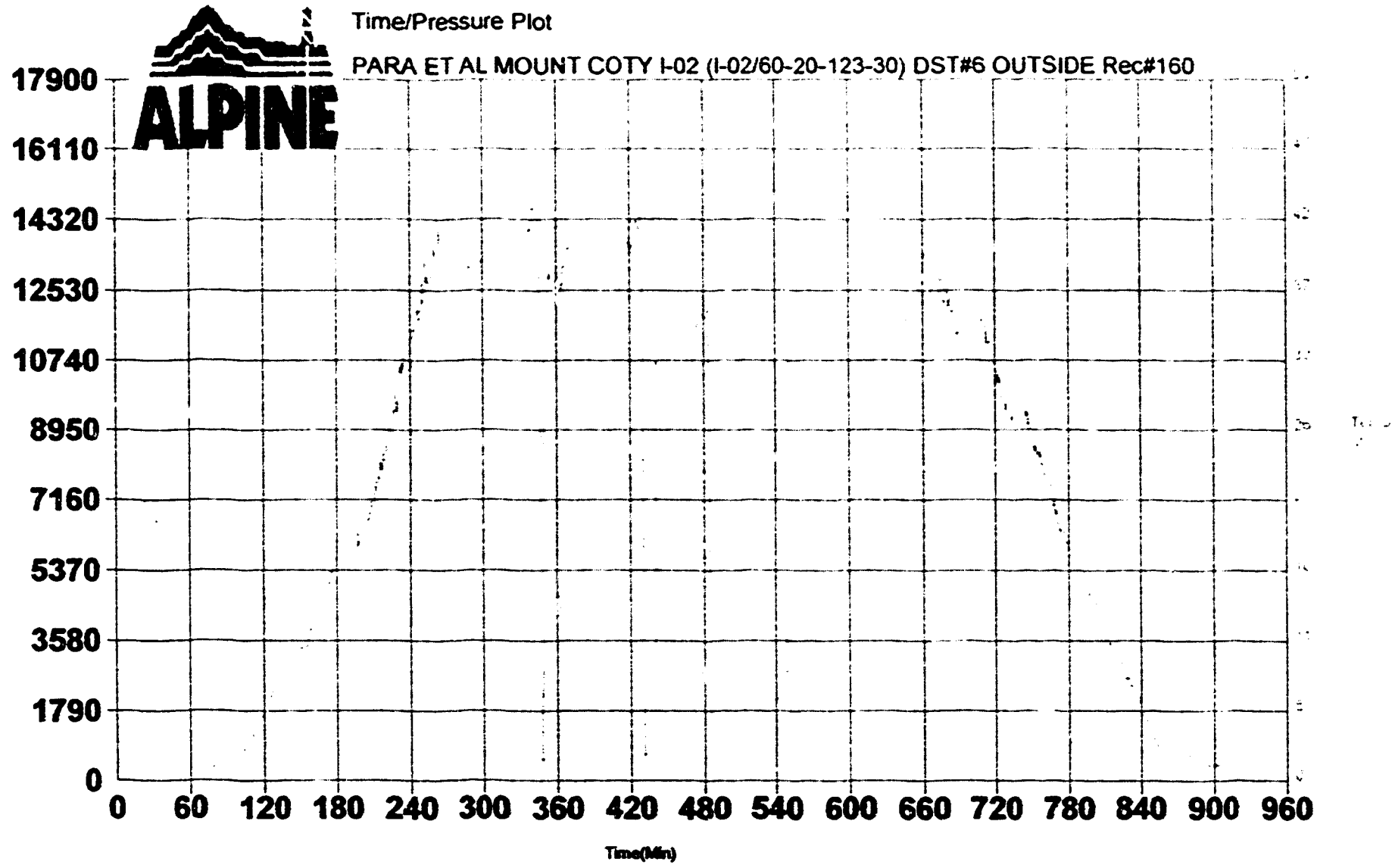
Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	55.93	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	629.06	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.91	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

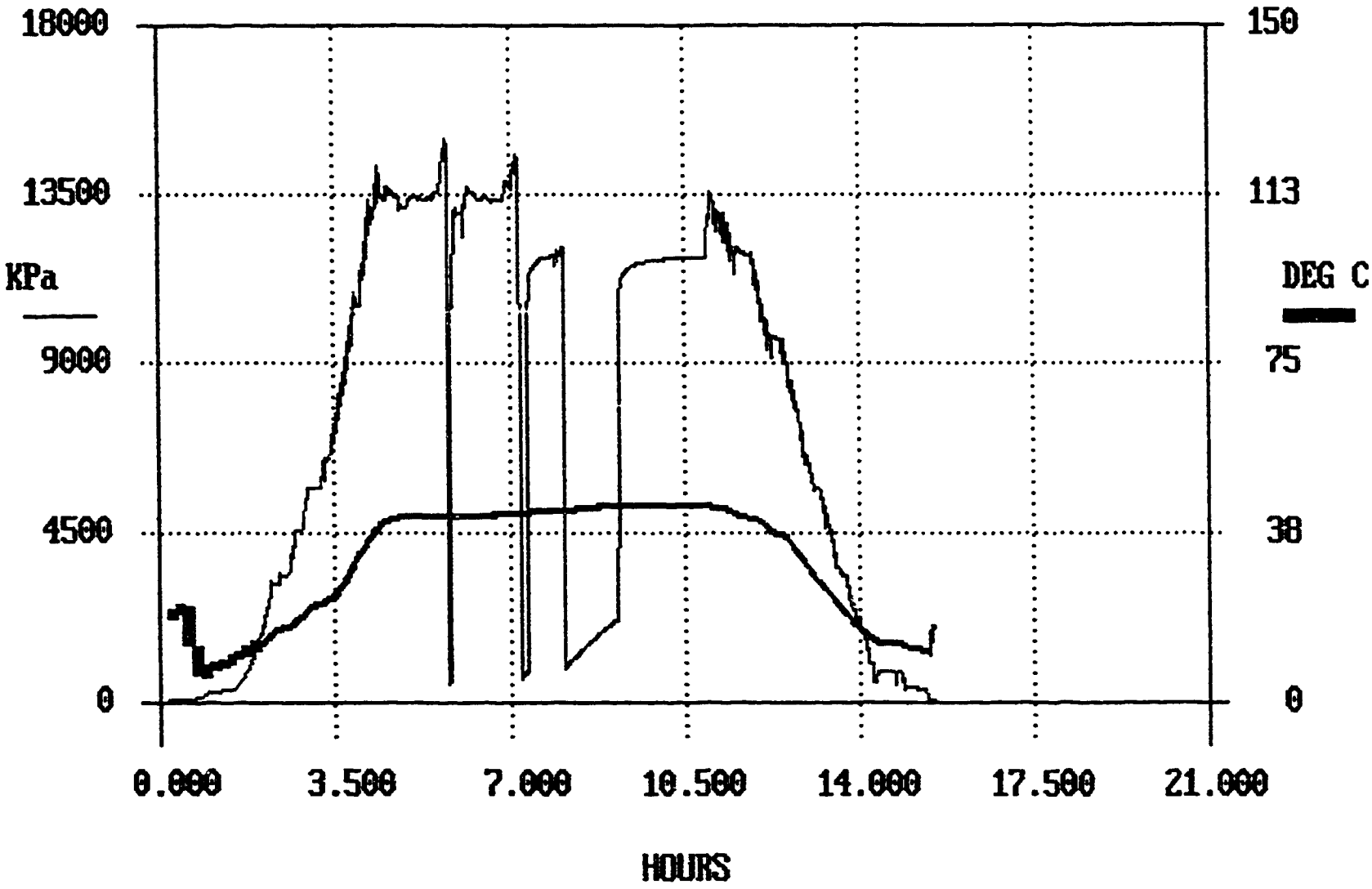
Tool Remarks:



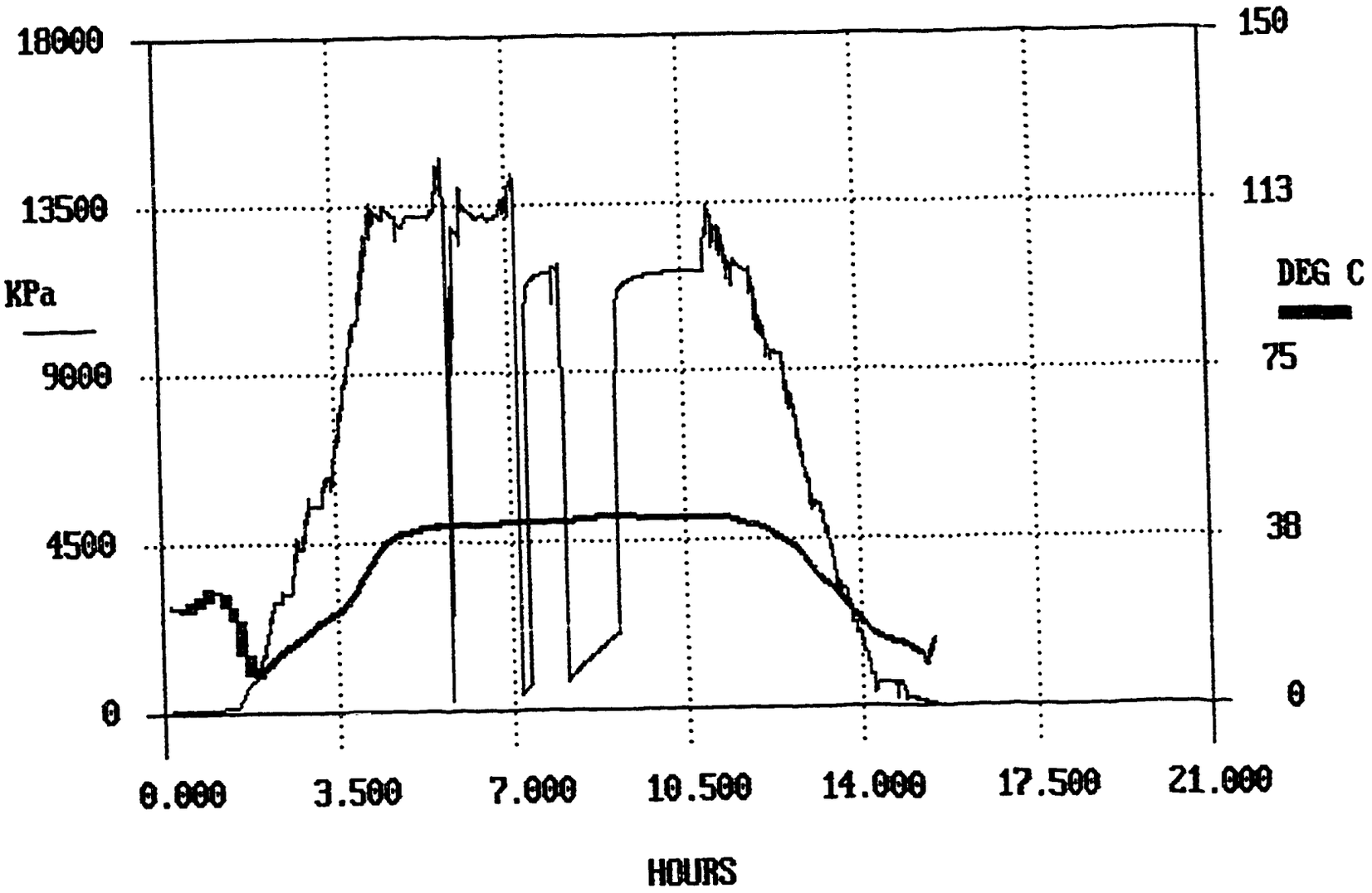
Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.85
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
C.O. Sub	0.30
Drill Collar	18.70
C.O. Sub	0.30
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 OUTSIDE Rec#160
17900
16110
14320
12530
10740
8950
7160
5370
3580
1790
0
0
60
120
180
240
300
360
420
480
540
600
660
720
780
840
900
960
Time(Min)

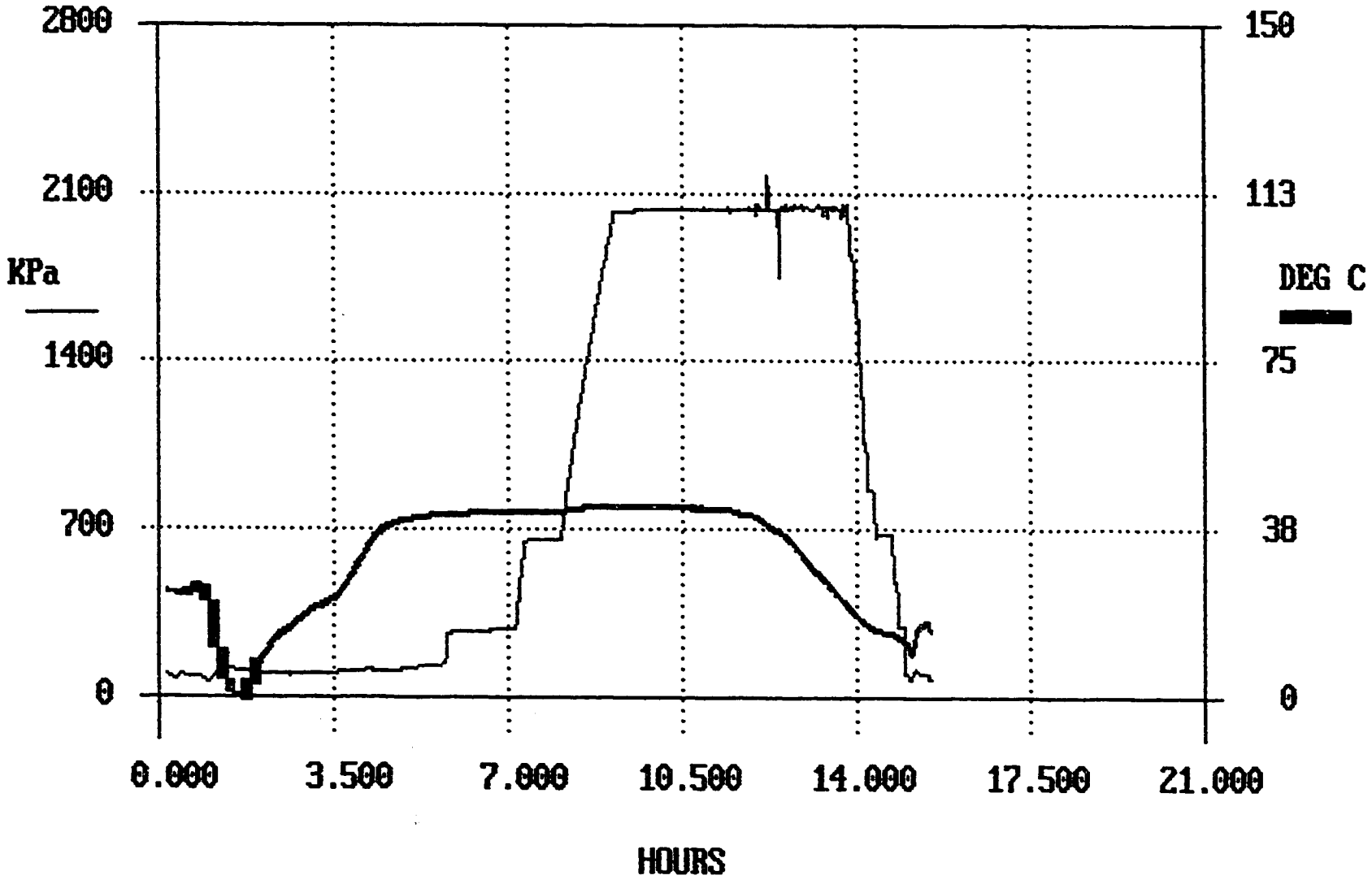
FILE: <C:\ALP_IN\C0101700.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 OUTSIDE



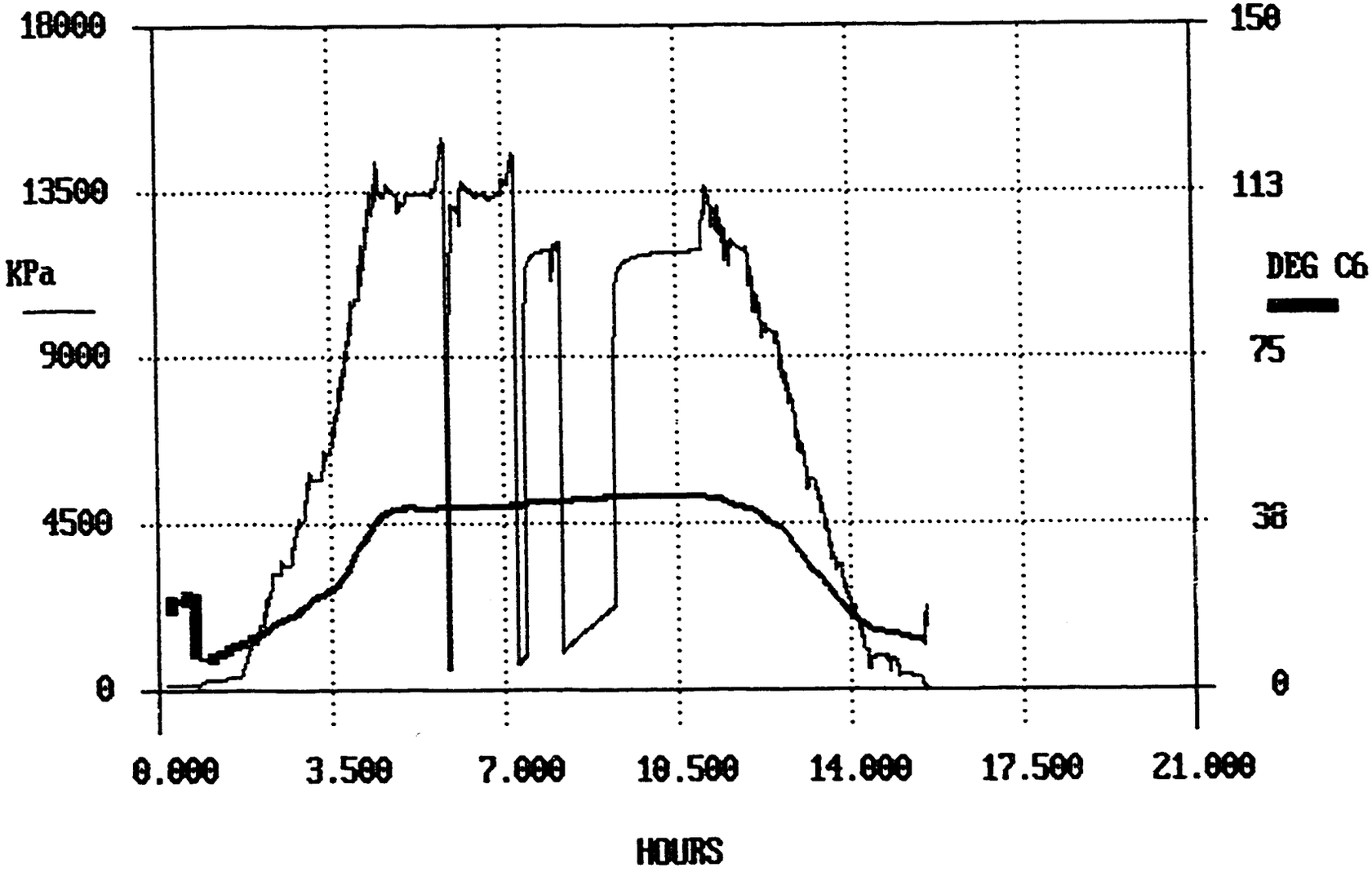
FILE: <C:\ALP_IN\C0101503.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 INSIDE



FILE: <C:\ALP_IN\C0101526.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 FLUID



FILE: <C:\ALP_IN\C0101654.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 OUTSIDE



ALPINE

Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/02/2000**

Job Ticket #: **T4-6191** DST#: **7**

TELEMETRY SERVICES

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: T4-6191 DST#: 7
Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

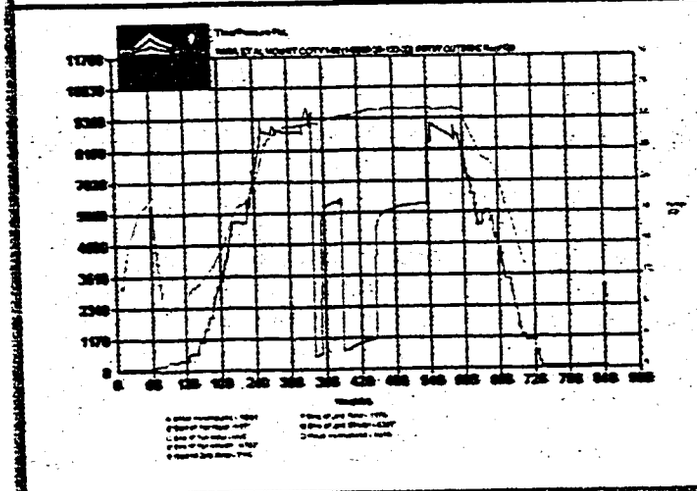
Test Type: INFLATE STRADDLE
Interval: 708m -720m
Formation: CHINKEH
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: KEN PEARSON
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 34.00 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 693.00 m

Flag Points: Time: Pressure:



Test Run Information:

Start Time: 1030hrs
Reached Test Depth: 1330hrs
Pull Out Time: 1745hrs
Tool Out Of Hole: 2130hrs
Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 0.00mm
Pump Time: 0min
Reversed Out: NO
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amount of cushion: 0.00
Type of cushion:

General Remarks:

PREFLOW: Weak air blow. No gas to surface.Start 14:28 to 14:38

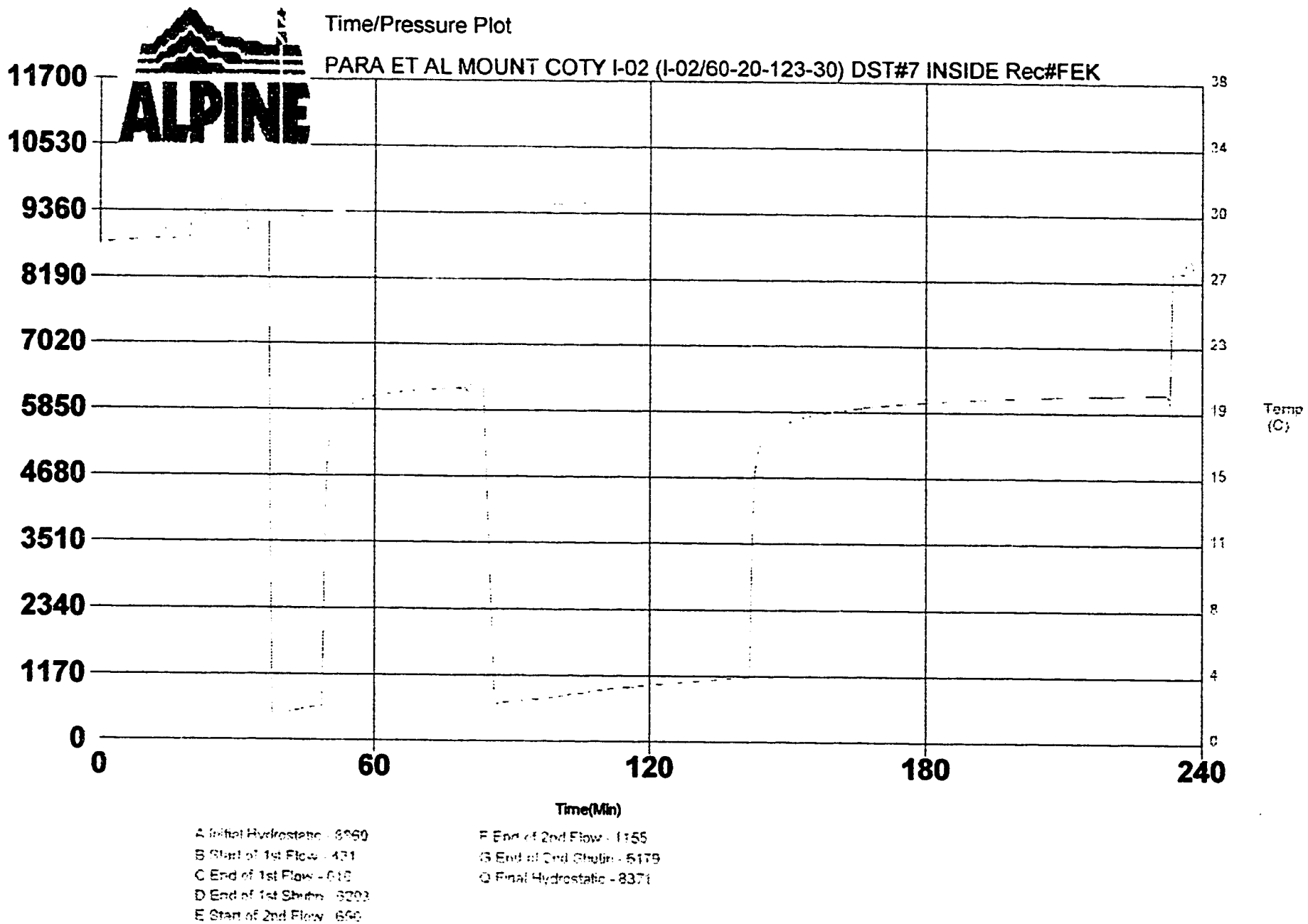
□

FINAL FLOW: Weak air blow. No gas to surface. Start 15:08 to 16:08

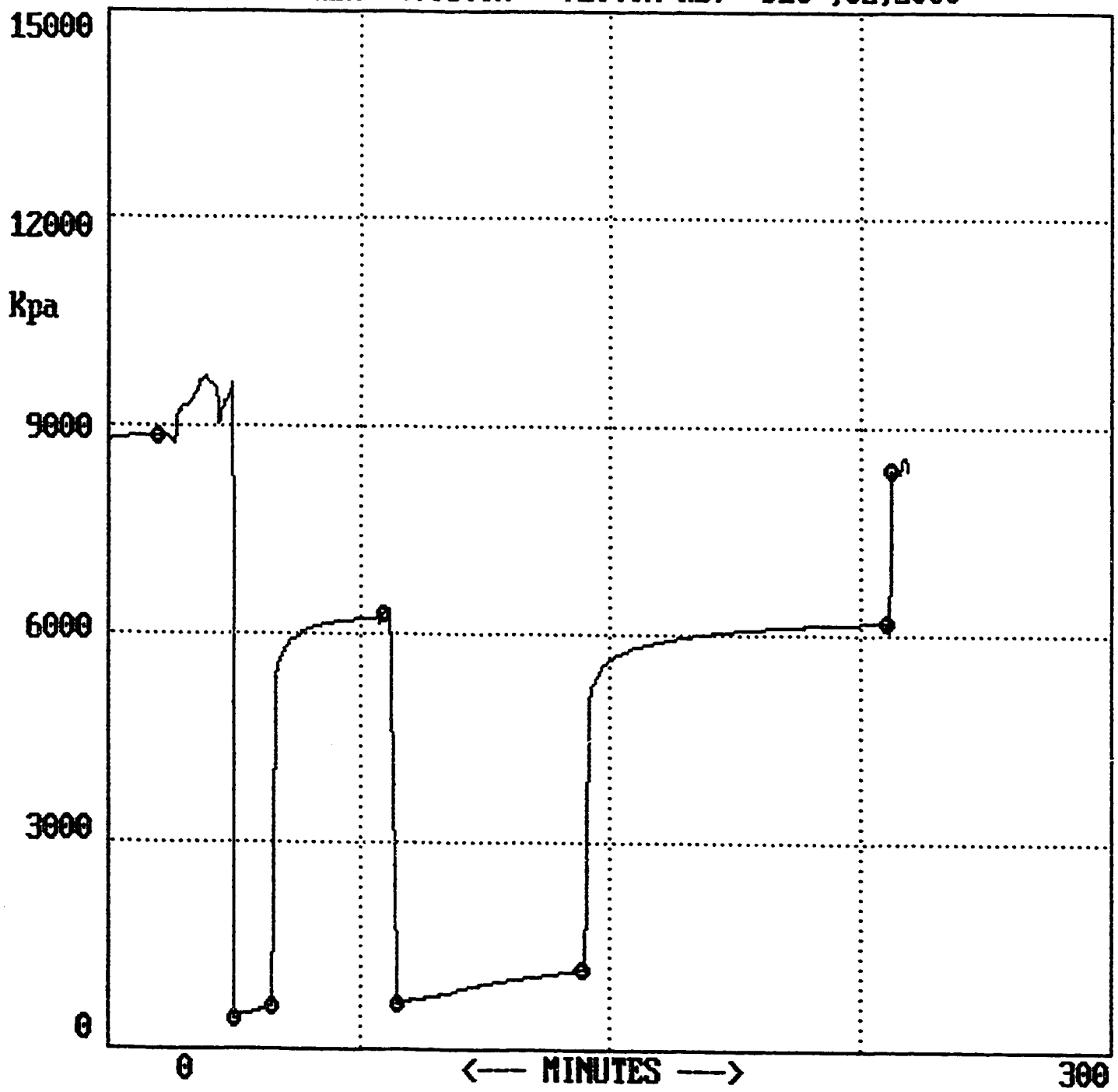
Recovery Description:

WELL LIC# 1884

Total fluid recovery was meters, consisting of fresh water.


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 INSIDE Rec#FEK
11700
10530
9360
8190
7020
5850
4680
3510
2340
1170
0
38
34
30
27
23
19
15
11
8
4
0
Temp (C)
0
60
120
180
240
Time(Min)
A Initial Hydrostatic - 8969
B Start of 1st Flow - 431
C End of 1st Flow - 616
D End of 1st Shutin - 3293
E Start of 2nd Flow - 656
F End of 2nd Flow - 1155
G End of 2nd Shutin - 5179
O Final Hydrostatic - 8371

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 7 CHINKEH (708.0m - 720.0m KB) DEC ,02,2000



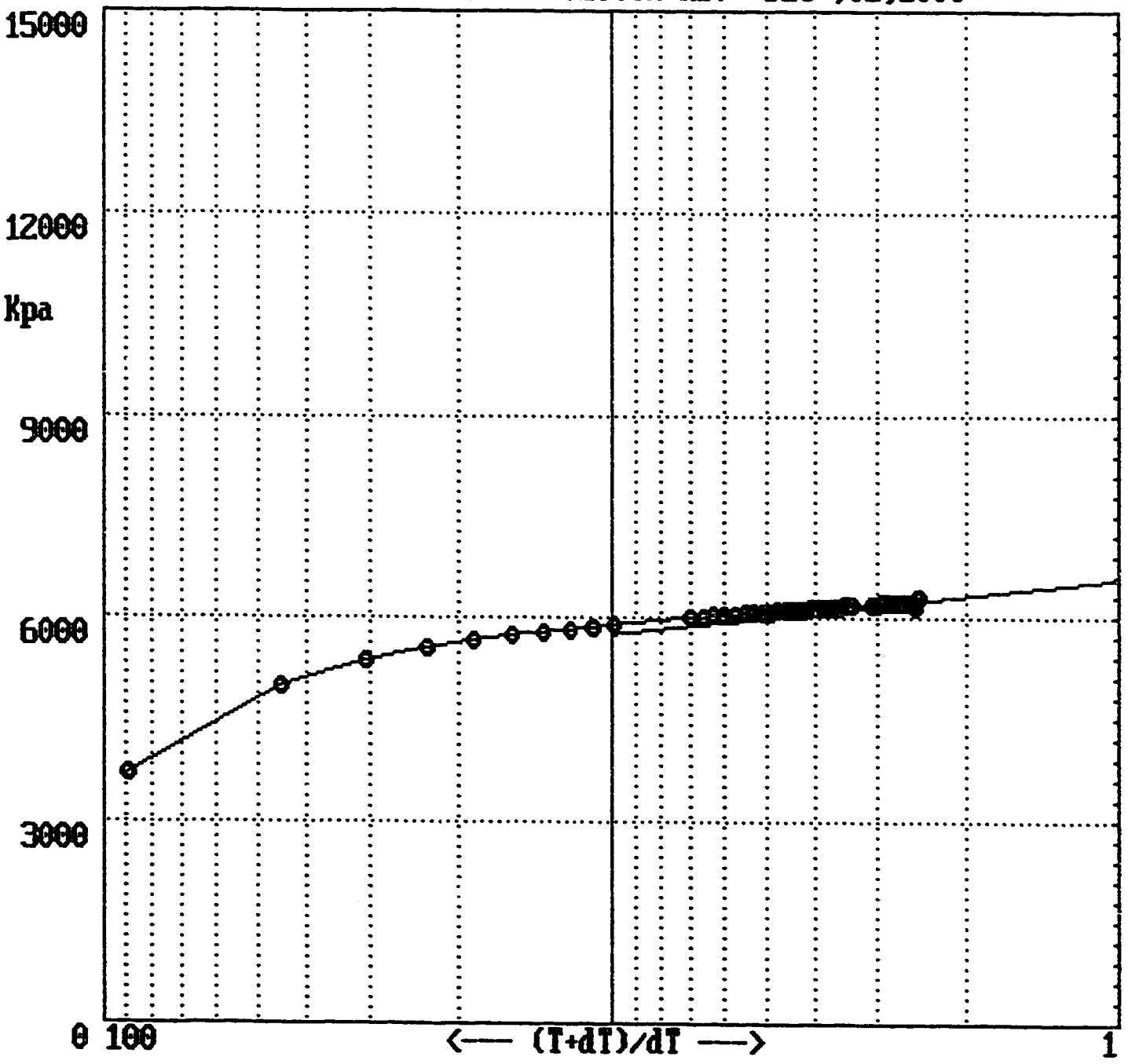
IHP = 8860.3

SF1 = 430.6
EF1 = 615.5
ES1 = 6293.0

SF2 = 650.3
EF2 = 1154.6
ES2 = 6179.4

FHP = 8371.3

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 7 CHINKEH (708.0m - 720.0m KB) DEC ,02,2000

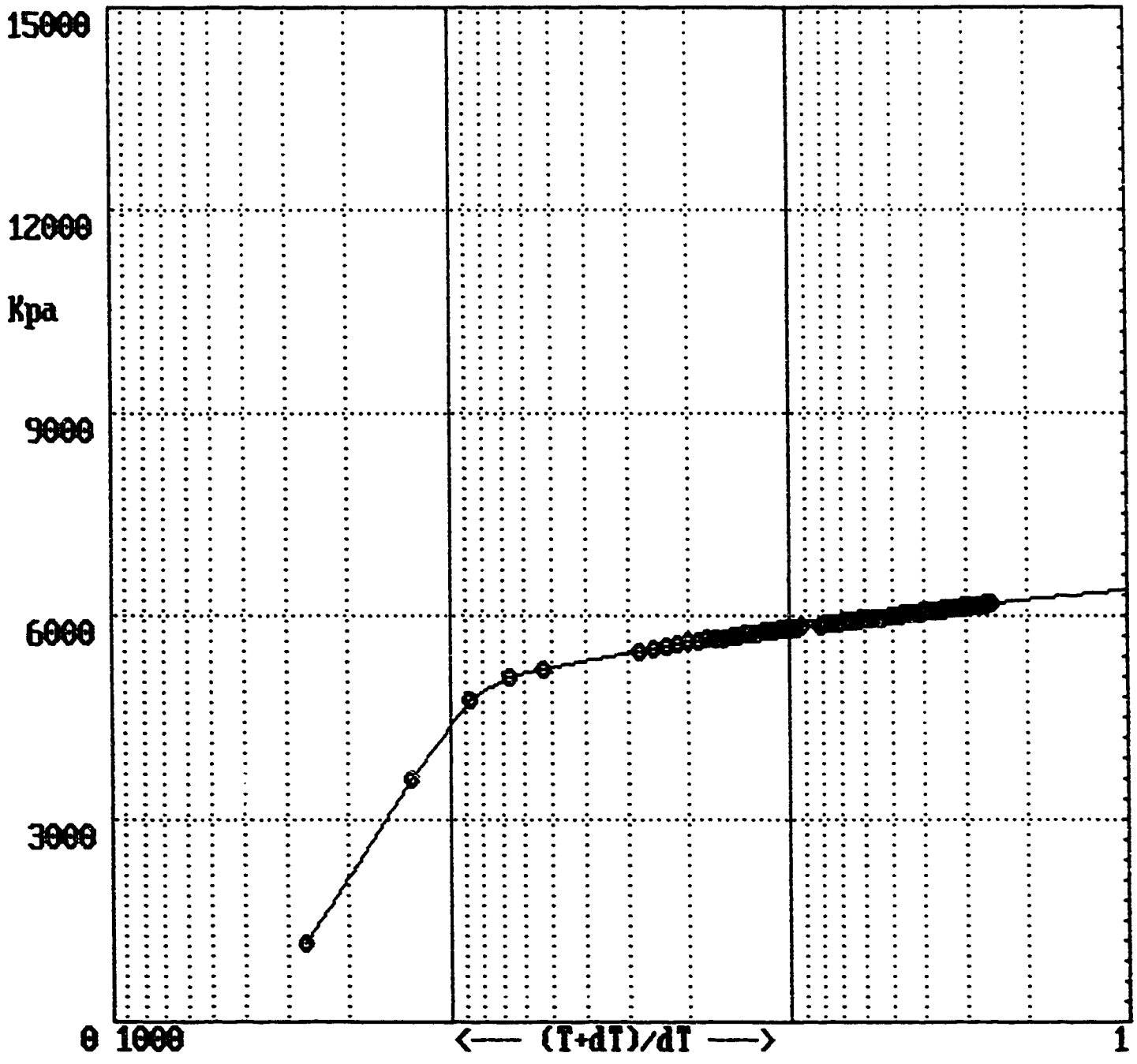


HORNER PLOT
SHUT-IN # 1

SLOPE =
840.5
kPa/cycle

Extrapolated
Pressure =
6579.2
Kpa

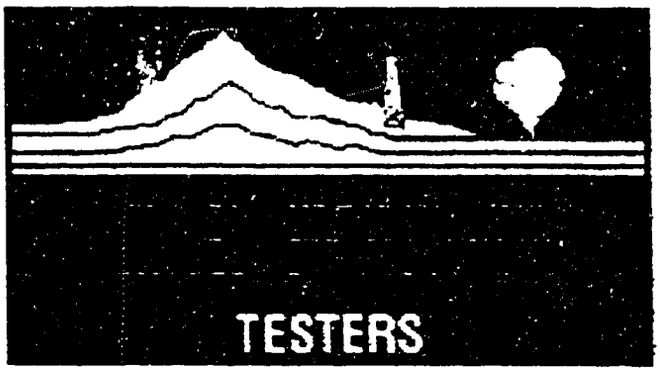
PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 7 CHINKEH (708.0m - 720.0m KB) DEC ,02,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
496.5
kPa/cycle

Extrapolated
Pressure =
6379.5
Kpa



Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/02/2000**

Job Ticket #: **D2-08779** DST#: **7**

Drill Stem Testing Report

TESTERS

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-08779 DST#: 7

Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

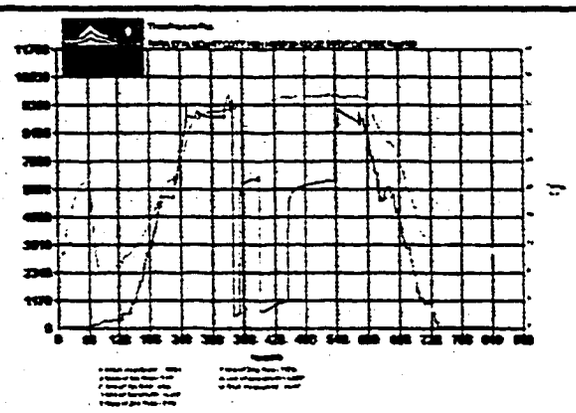
Test Type: INFLATE STRADDLE
Interval: 708.00m - 720.00m
Formation: CHINKEH
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673 □Ÿ□
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 33.00 C

Electronic Recorder Information:

OUTSIDE		Recorder #:	
Recorder #: 160			
Range:	10000 kPag	Range:	kPag
Depth:	710.00 m	Depth:	m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8901.0
B Start of 1st Flow	0.00	516.7
C End of 1st Flow	11.00	655.0
D End of 1st Shutin	36.00	6386.7
E Start of 2nd Flow	0.00	714.6
F End of 2nd Flow	58.00	1173.5
G End of 2nd Shutin	91.00	6206.7
Q Final Hydrostatic	0.00	8616.3



Test Run Information:

Start Time: 1030hrs
Reached Test Depth: 1330hrs
Pull Out Time: 1745hrs
Tool Out Of Hole: 2130hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 55000.00daN
Initial String Weight: 45000.00daN
Unseated String Weight: 46000.00daN

Tool Chased Dist: 0.00m
Water Loss: 6.50cm³
Mud Type: GEL CHEMICAL
Mud Drop: NO
Mud Weight: 1240.00kg/m³
VIS: 61.00S/L
Amount of fill: 0.00m
Filter Cake: 2.00mm
Amt of cushion: 0.00
Pump Time: 30min
Type of cushion:
Reversed Out: NO

General Remarks:

PREFLOW: Weak air blow. No gas to surface.

FINAL FLOW: Very weak air blow. No gas to surface.

Recovery Description:

WELL LIC# 1884

Total fluid recovery was 75 meters, consisting of fresh water.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to: AGAT EDMONTON

TESTERS

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD. Job Ticket #: D2-08779 DST#: 7
Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	23
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	10
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	710.51m
Total Drill Pipe Above K.B.:	2.51m
Total Depth:	1744m

Tool / Drill Stem information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	55.62	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	446.32	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	183.62	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.85
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	7.45
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

24.95m

42.42m

Depth: 708.0m

12.29m

Depth: 720.0m

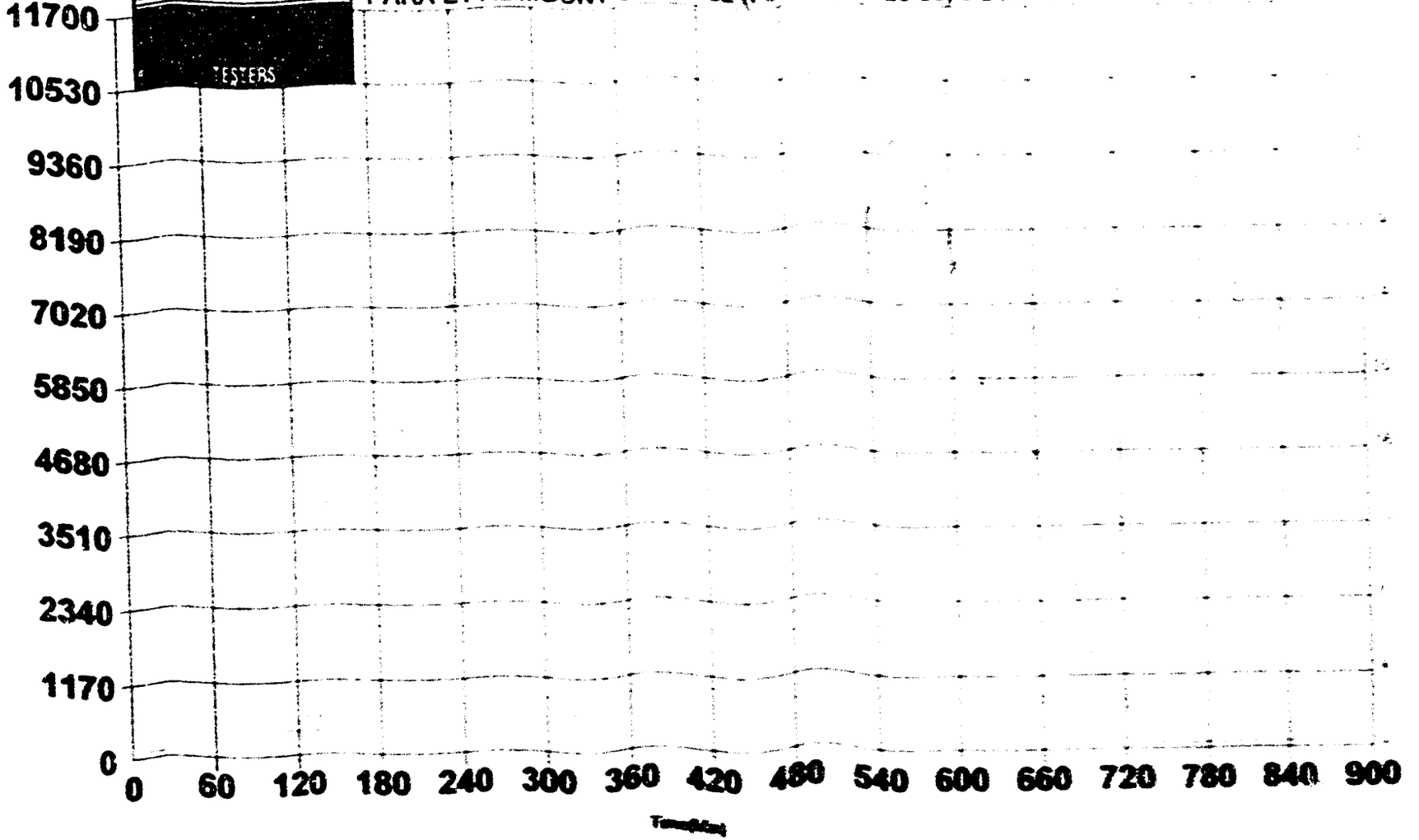
5.18m

Total Depth: 1744.00m



Time/Pressure Plot

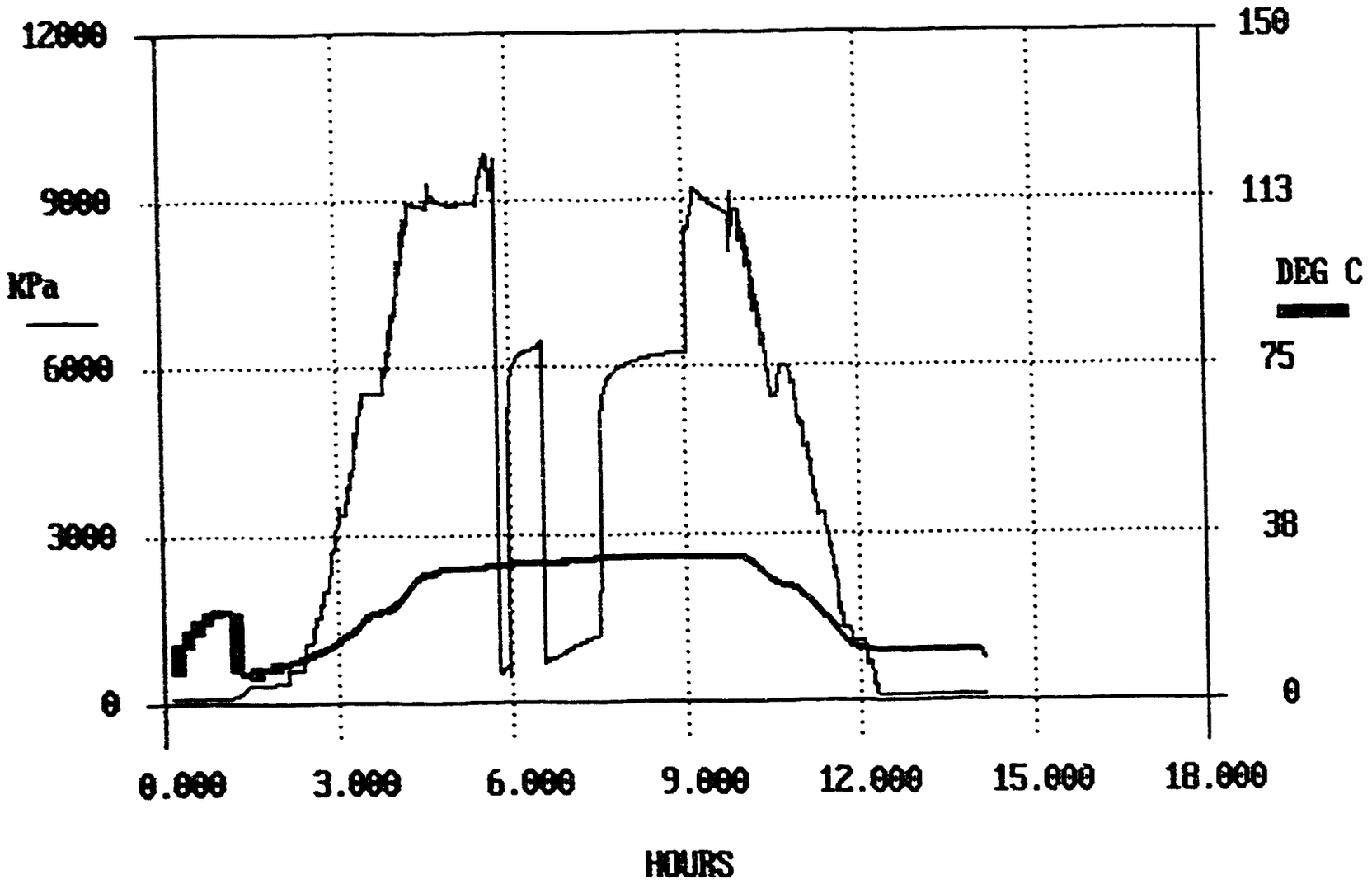
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 OUTSIDE Rec#160



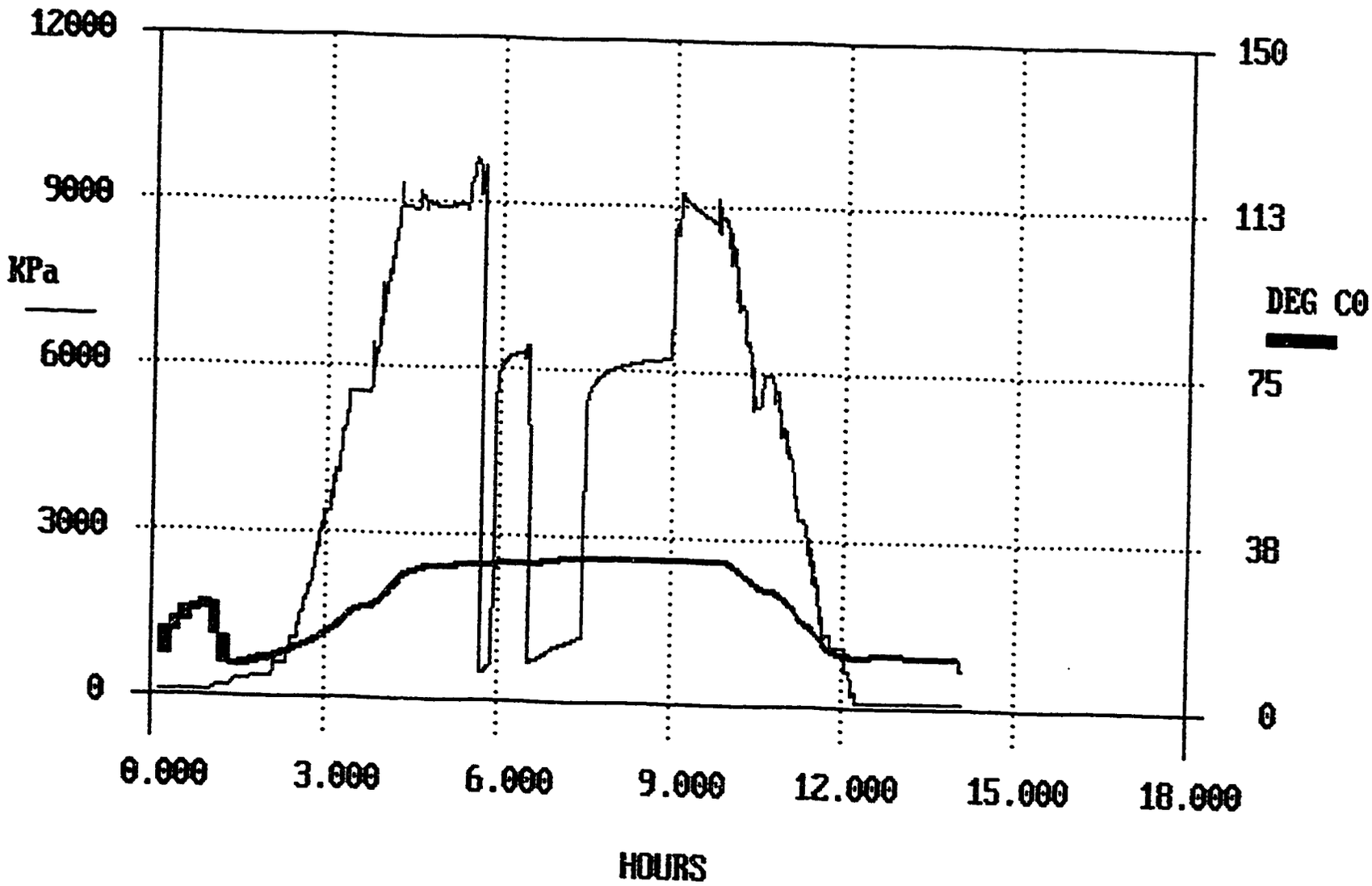
FILE: <C:\ALP_IN\C8200045.065>

OUTSIDE

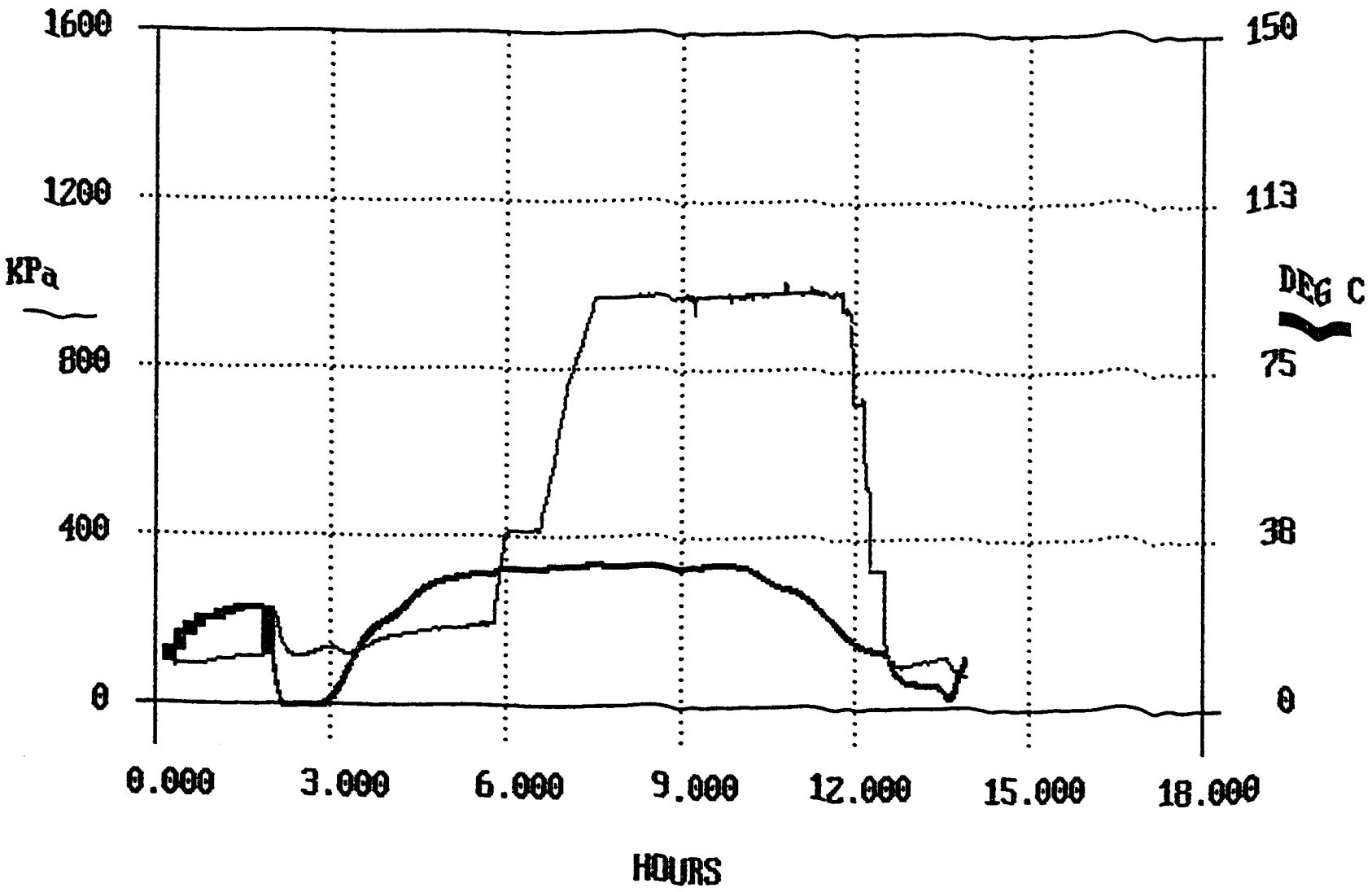
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-8779 12/02/00 [redacted]



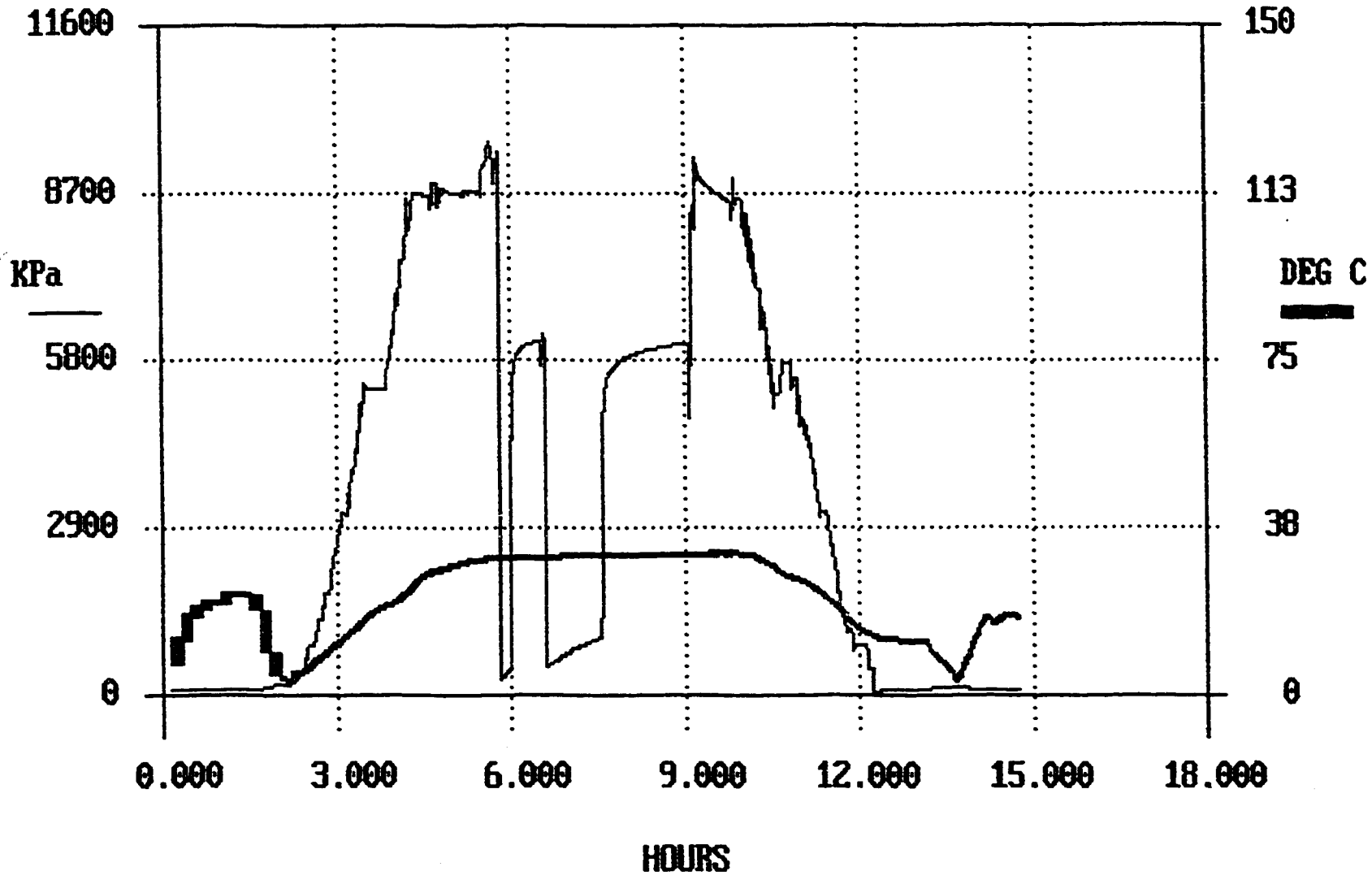
FILE: <C:\ALP_IN\C0200848.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 Te-8779 12/02/00 OUTSIDE



FILE: <C:\ALP_IM\C0200833.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 T#2-8779 12/02/00 FLUID E



FILE: <C:\ALP_IN\C0200837.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-8779 12/02/00 INSIDE



DAILY DRILLING SUMMARY

Para et al Mount Coty I-02

I-02/60-20, 123-30

Date	Depth	Footage	Hours	ROP (m/hr)	Density	Viscosity	Chlorides	pH	Activity
00-Oct-16	53	30	1.50	20.00	1060	43	-	8.5	Wait on water, rig in Continental mud-logging equipment, spud well @ 22:00hrs, drill 23-53m.
00-Oct-17	195	142	9.75	14.56	110-113	22-33	5.4-6.3	9.0-10.0	Drill 53-132m, circ. & cond. mud, drill 132-154m, lose circulation, cond. mud, mix & pump LCM pill, drill 154-164m, cond. mud & circ., POOH, mix LCM, RIH, drill 164-195m.
00-Oct-18	257	62	7.75	8.00	070-113	78-85	-	9.5-10.5	Drill from 195-208m, mix & pump LCM, drill from 208-232m, POOH for bit, RIH with Bit #2A, drill from 232-235m, trip for mud-ring, condition mud & circulate, drill from 235-257, run survey.
00-Oct-19	315	58	7.75	7.48	090-111	63-84	-	8.5-9.5	POOH for 222mm bit (pilot hole), RIH, drill 257-315m.
00-Oct-20	330	15	5.25	2.86	1070	75	-	9.0	Drill from 315-330m, POOH to pick up 311mm bit, RIH, ream pilot hole from 257-330m, POOH to pick-up directional tools.
00-Oct-21	453	123	16.25	7.57	080-109	74-78	-	8.5-9.0	Pick-up directional tools, RIH & test MWD tool, drill from 330-453m.
00-Oct-22	514	61	9.50	6.42	095-110	70-78	-	9.0-9.5	Drill 453m to sfc. csg. pt. @ 514m, POOH, lay down directional tools, pick up 311mm bit, RIH, ream pilot hole from 330-423m.
00-Oct-23	514	0	0.00		-	-	-	-	Ream from 423-448m, POOH for bit, RIH, ream 448-514m, wiper trip, circulate & condition mud, POOH to run surface casing.
00-Oct-24	514	0	0.00		-	-	-	-	Run surface casing, cond. mud & circ., cement casing, WOC, tear out diverter, cut casing & conductor, cement casing, cut casing, weld on bowl.
00-Oct-25	516	2	0.50	4.00	-	-	-	-	Nipple up BOP, pressure test, pick up dir. tools, RIH, drill out cement, drill 514-516m.
00-Oct-26	720	204	13.75	14.84	000-105	28-42	11.0	8.0-10.5	Drill from 516-523m, LOT, drill from 523-720m, POOH for bit, RIH.
00-Oct-27	858	138	19.50	7.08	070-110	36-43	7.5-8.5	9.5-10.0	RIH, drill from 720-858m.
00-Oct-28	923	65	8.50	7.65	090-109	39-46	8.5	9.0-9.5	Drill from 858-876m, POOH for bit, RIH, ream 860-876m, drill from 876-923m, POOH for bit.
00-Oct-29	1007	84	17.25	4.87	080-110	41-51	.0-11.	8.5-10.0	Change bit, RIH, ream 910-923m, drill from 923-
00-Oct-30	1052	45	13.00	3.46	090-111	48-51	7.5-8.0	10.0	Drill from 1007-1052m, POOH for bit, change out bit, test MWD tool.
00-Oct-31	1091	39	6.25	6.24	110-119	42-69	6.5-7.5	10.0	RIH, ream, drill 1052-1066, shut in well & circulate out gas kick, build mud wt., drill 1066-1069, shut in well, circ. out gas, build mud wt., drill 1069-1091m, commence POOH for DST, well flowing - return to bottom, build mud wt., POOH.

00-Nov-01	1091	0	0.00	-	1230	95	6.0	9.0	POOH, well flowing, build mud wt., POOH for DST, lay down tools, make up DST tool, RIH, run DST #1 (1058-1068m), circulate & condition mud (build wt.).
00-Nov-02	1091	0	0.00	-	1260	90	6.5	10.0	Circ. & cond. mud (build wt.) POOH, recorders not recovered, RIH & attempt to screw onto fish, POOH - no recovery, RIH with bit, circulate & WO fisherman.
00-Nov-03	1091	0	0.00	-	-	-	-	-	Circulate & condition mud while WO fisherman, POOH, pick up fishing tools, RIH, recover fish, POOH, lay down fish, pick up bit & directional tools, RIH.
00-Nov-04	1142	51	15.75	3.24	1350	82	5.5	10.5	RIH, work on directional tools, RIH, condition mud & circulate, RIH, drill from 1091-1142m.
00-Nov-05	1173	31	10.75	2.88	1300	73	6.0	10.5	Drill 1142-1147m, POOH for bit, RIH, slip & cut, RIH, break circulation & clean to bottom, drill 1147-1173m.
00-Nov-06	1207	34	14.00	2.43	1300	72-75	6.0	10-10.5	Drill 1173-1183, POOH for bit, RIH, break circulation & clean to bottom, drill 1183-1207m.
00-Nov-07	1254	47	14.25	3.30	300-132	70-75	6.0-6.2	10.5	Drill 1207-1248m, POOH for bit, RIH, break circulation & clean to bottom, drill 1248-1254m.
00-Nov-08	1281	27	17.25	1.57	290-134	75	6.0-6.5	9.5-10.5	Drill 1254-1281m, cond. mud & circ., POOH for bit.
00-Nov-09	1320	39	15.75	2.48	285-129	75	7.0-8.0	10-10.5	Change bit, RIH, slip & cut, RIH, ream to bottom, drill from 1281-1320m.
00-Nov-10	1350	30	10.50	2.86	270-128	73	7.5	10.0	Drill 1320-1327m, POOH for bit, RIH, break circulation & wash to bottom, drill 1327-1350m, POOH for bit.
00-Nov-11	1396	46	14.25	3.23	280-130	69-73	6.9-8.2	10.0	POOH for bit, change bit, RIH, break circulation & wash to bottom, drill 1350-1396m, run survey.
00-Nov-12	1428	32	12.75	2.51	280-130	74	7.0-7.5	10-10.5	POOH for bit, change bit, RIH, break circulation & wash to bottom, drill 1396-1428m.
00-Nov-13	1442	14	8.75	1.60	1280	75	7.5	10.0	Drill 1428-1428.8m, POOH for bit, change bit, RIH, slip & cut, RIH, break circulation & wash to bottom, drill 1428.8-1442m, POOH for bit.
00-Nov-14	1467	25	15.75	1.59	270-127	60-65	7.5-7.9	10.0	Change bit, RIH, cond. mud & circ., drill 1442-1467m.
00-Nov-15	1490	23	11.25	2.04	1270	80-11	8.0	10.0	Drill 1467-1471m, POOH for bit, change bit, RIH, ream 1448-1471m, drill 1471-1490m.
00-Nov-16	1510	20	8.50	2.35	260-128	65-70	8.0	10.0	POOH for bit, change bit, RIH, ream 1479-1490m, drill from 1490-1510m, cond. mud & circ., POOH for bit.
00-Nov-17	1535	25	14.00	1.79	260-127	60-70	7.5	10.0	Change bit, RIH, cond. mud & circ., drill 1510-1535 m
00-Nov-18	1556	21	6.50	3.23	260-127	57-60	7.5	10.0	RIH, drill from 1547-1556 m
00-Nov-19	1587	31	17.50	1.77	270-127	65-70	7.4	10.5	Change bit, RIH, cond. mud & circ., drill 11556-1587 m
00-Nov-20	1625	38	20.50	1.85	280-128	61-62	7.7	10.0	Drill 1587-1625m, cond. mud & circ., POOH for bit.
00-Nov-21	1640	15	9.00	1.67	270-127	57-60	7.2	10.5	POOH for bit, change bit, RIH, break circulation & wash to bottom, drill 1625-1640 m.
00-Nov-22	1663	23	20.00	1.15	275-128	57-59	7.0	9.5	Drill from 1640-1663m, POOH for bit.
00-Nov-23	1689	26	17.50	1.49	1280	68-69	7.0	10.5	Change bit, RIH, cond. mud & circ., drill 1663-1689 m.
00-Nov-24	1705	16	12.50	1.28	1280	63-66	7.0	10.5	Drill 1689-1705m, POOH for bit, lay down MWD tools, rig repair, RIH, slip & cut, RIH.
00-Nov-25	1744	39	20.75	1.88	270-128	80	6.0-6.5	10.5	RIH, drill from 1705 to FTD of 1744m, circulate bottoms up, condition mud.
00-Nov-26	1744	0	0.00	n.a	1275	80	6.5	10.5	Wiper trip to stc. csg., condition mud & circulate, POOH, rig to & log Run #1, commence Run #2.

00-Nov-27	1744	0	0.00	n/a	-	-	-	-	Complete Run #2, log Run #3 (RCOR), make up DST tool, RIH to run DST #2 (706-717m).
00-Nov-28	1744	0	0.00	n/a	-	-	-	-	RIH to run DST #2 - misrun, POOH, breakdown tool, makeup DST #3, RIH, run DST #3.
00-Nov-29	1744	0	0.00	n/a	1270	65	7.0	10.5	Run DST #3, POOH, breakdown & layout test tool, RIH with bit, break circulation, cond. mud & circ., RIH to bottom, cond. mud & circ., POOH.
00-Nov-30	1744	0	0.00	n/a	-	-	-	-	POOH, make up test tool, RIH, slip & cut, RIH, run DST#4, hoist DST #4, reverse circulate, POOH, lay down recorders, make up DST #5, RIH.
00-Dec-01	1744	0	0.00	n/a	-	-	-	-	RIH, run DST#5, POOH, make up DST #6, RIH, commence DST #6.
00-Dec-02	1744	0	0.00	n/a	-	-	-	-	Run DST#6, POOH, make up DST #7, RIH, run DST #7, POOH, handle test tool.
00-Dec-03	1744	0	0.00	n/a	-	-	-	-	Lay down test tool, RIH, condition mud & circulate, POOH sideways, rig to & run casing.
00-Dec-04	1744	0	0.00	n/a	-	-	-	-	Run casing, circ. & cond. mud, rig to & cmt. casing, geologist released and off location @ 1400hrs.

WELLSITE LOGGING REPORT

Para et al Mount Coty I-02

I-02/60-20, 123-30

HOLE DATA	MUD DATA	LOGGING COMPANY
Hole Size: 222mm		**Logging Co.:** Baker Hughes
TD Driller: 1744.0m	**Type:** Gel-chem	**Engineer:** C. Butler
Strap: 1744.8m	**Density:** 1275	**Truck No.:** HL6577
TD Logger: 1743.2m	**Viscosity:** 80	**Start Date:** Nov. 26, 2000
Casing Driller: 514.0m	**W.L.:** 6.5	**Start Time:** 12:45hrs
Casing Logger: 512.0m	**pH:** 10.5	**End Date:** Nov. 27, 2000
Hole Condition: Good		**End Time:** 18:00hrs

LOGGING SEQUENCE

Run Number	Logged Interval From	To	Hours	Logs	Remarks
1	TD	Sfc. Csg.	8.25	HDIL-ZDL-CN-GR-XYCAL	
2	TD	Sfc. Csg.	5.5	ML-MAC-GR-XYCAL	
3	1720	712	15.5	RCOR	18 plugs
	Total Hours:		29.25		

LOGGING OPERATIONS SUMMARY

Date	From	To	Description of Operation
26 Nov 00	1245	2100	HDIL-ZDL-CN-GR-XYCAL
26 Nov 00	2100	0230	ML-MAC-GR-XYCAL
27 Nov 00	0230	1800	RCOR

REMARKS & COMMENTS

No problems on Runs #1 & 2 though there were some problems with repeatibility on the SP curve in the bottom ~100m. This was likely due to poor or no filtercake on this section with some flow from the formatio
There were 18 sidewall cores cut with 10 recovered.

INTRODUCTION

The Paramount et al Mount Coty I-02 well is located approximately 6 kilometres from the village of Fort Liard. This vertical exploration well was spudded on October 16, 2000 by Akita Drilling Rig #51 @ 22:00 hours. A Continental total gas detector and chromatograph was rigged up and running from surface to T.D. Samples were collected in 5 metre intervals from surface to F.T.D. The well reached F.T.D. at 1744 metres in carbonate of the Flett/Debolt November 25, 2000 at 22:45 hours. Sample quality was variable, ranging from generally adequate to periodically poor, due to a combination of factors which includes some inconsistent and improper sample-catching by rig personnel, as well as occasional problems with the mud-system and shakers.

The primary zone of interest was the Mississippian Mattson Formation, a predominantly clastic succession representing 5 different depositional environments of near shore marine to coastal plain systems. There were multiple zones within the succession occurring primarily in the coastal dune complex. Secondary targets in the well were the basal Cretaceous Chinkeh Formation, the Permian Fantasque Formation, and the Mississippian Flett/Debolt Formation. All zones of interest were gas targets.

A number of operational difficulties were encountered during the drilling of this well. Problems with hole deviation on the 311mm surface section necessitated drilling with relatively low FOB, slowing the progress of the well. At 257m a decision was taken to come out of the hole to change bits to 222mm in order to drill pilot hole to surface casing TD @ 514 metres. Initially the pilot hole was rotary-drilled but increasing deviation problems necessitated bringing in directional personnel. Directional tools were picked up at 330m and the remainder of the surface section was drilled with a mud-motor. Two days of reaming with the 311mm bit were required to complete the surface section which was completed on November 18. The main section from 514m to 1510m was drilled with a mud-motor to ensure control of potential deviation problems. At ~1510m a decision was taken to lay down the mud-motor and rotary-drill to FTD, which was completed with no problems on November 25.

One intermediate DST in the upper Mattson (i.e., DST #1: 1058-1068m) was conducted by Weatherford/Alpine Testing, commencing on November 1st and completed on November 2nd. Problems were encountered on this DST run. Upon pulling out of the hole after a successful test, it was discovered that part of the DST had been left in the hole (i.e., ~24m of the test tool from the safety joint down). An attempt to screw onto the safety joint was unsuccessful and a fishing operation was successfully conducted the following day.

A significant portion of the middle and lower sections of the Mattson Formation proved to be very hard drilling and resulted in extreme wear and short bit life. A total of 18 bits were required to drill ~681m of the Mattson, some of which were badly worn after as little as 8 hours of drilling. Problematically, the rocks in samples often did not appear hard enough to produce such extreme wear. The higher RPM involved with drilling with a mud-motor is one factor which likely contributed to shorter bit life. This theory appears to be supported by a significant increase in bit hours over the last few bits run in the lower Mattson after laying down the mud-motor and rotary-drilling to FTD.

Three logging runs were conducted upon reaching FTD, commencing on November 26th and completed on November 27th. The first two logging runs were conventional (i.e., #1: HDIL-ZDL-CN-GR-XYCAL; #2: ML-MAC-GR-XYCAL) and the third run was a sidewall core (i.e., #3: RCOR). A total of 18 sidewall cores were cut in three formations (i.e., 2 in the Flett/Debolt; 13 in the Mattson; 3 in the Chinkeh) with 10 cores recovered; 8 of the 13 cut in the Mattson were not recovered (see sidewall core report for details). After completion of logging a total of six DST's were run, commencing on November 27th and completed on December 2nd. Two DSTs were run in the Chinkeh (i.e., DST #2 (mis-run) & DST #7), three in the Mattson (i.e., DSTs #4-6) and one in the Flett/Debolt (i.e., DST #3). There were no significant problems encountered on the DST runs, excepting the mis-run on DST #2 when no packer seat was obtained (see attached DST reports for details). Production casing was run upon completion of the testing program.

FORMATION EVALUATIONS

PARAMOUNT ET AL MOUNT COTY I-02
300/I-02-60-20-123-30/00

LEPINE FORMATION

An erosionally-truncated Lepine Formation, overlain by ~92 metres of Quaternary glacial sands, comprises 284 metres of shale and siltstone at this locality. Two informal subdivisions are apparent; 1) an upper section ~177 metres thick consisting of shale with interbedded siltstone, and, 2) a lower section ~107 metres thick consisting of predominantly shale with minor interbedded siltstone. The upper shale is typically dark grey, firm, sub-blocky to sub-platy, sub-fissile, variably silty in part, and contains trace to minor glauconite. The lower shale is similar to that upsection but also contains trace to minor sideritic siltstone and siderite stringers. The siltstone is typically light to dark grey, very quartzose with trace to minor glauconite, trace to minor dark specks and rare to trace mica flakes. The siltstone is predominantly variably argillaceous with common to locally abundant silty argillaceous laminations and very thinly interbedded shale. The siltstone is variably indurated, ranging from poorly to very well indurated; however, they are typically moderately indurated. The predominant cement is silica with trace to minor locally abundant streaky calcareous cement. The siltstone is tight and without hydrocarbon shows. There are no rocks of economic interest in this formation.

CONCLUSION: The Lepine Formation has no economic potential at this locality.

SCATTER FORMATION

The Scatter at this locality comprises ~140 metres of sandstone with minor interbedded shale and siltstone. The shales are typically dark grey, firm to very firm, sub-blocky to sub-platy, commonly variably silty grading to argillaceous siltstone in part, and generally slightly glauconitic. The sandstone is typically light to medium grey, very fine grained & silty, quartzose, variably glauconitic, and commonly variably argillaceous to locally clean. Trace to minor siderite and sideritic-siliceous sandstone laminations are scattered through most of the section. The sandstone is typically moderately to well indurated with siliceous cement. These rocks are generally tight with minor streaky poor to occasionally fair porosity, which increases downsection.

Hydrocarbon shows were generally absent with the exception of the basal section from ~478-516m where shows consisted of slightly patchy to even, partly dead oil staining, minor spotty to patchy very dull fluorescence, and common poor to locally fair thin streaming and diffuse cut. There was minor gas response through this section but there is insufficient reservoir quality present to be of interest.

CONCLUSION: The Scatter Formation has no economic potential at this locality.

GARBUTT FORMATION

The Garbutt at this locality comprises ~145 metres of shale with interbedded siltstone & minor sandstone. Two basic divisions are apparent at this locality; an upper ~90 metre section which is dominated by siltstone with interbedded shale and minor sandstone, and the lower ~40m of the formation which comprises shale with minor interbedded siltstone.

The siltstone is very similar to the overlying basal Scatter sandstone. The siltstone is typically dark to medium brown, predominantly variably argillaceous to locally clean with abundant quartz, trace to minor glauconite and minor dark lithic grains. There are common to abundant argillaceous partings and laminations and it is variably sandy in part locally grading to silty sandstone. The rocks are moderately to well indurated with siliceous cement. There was predominantly no visible porosity in these rocks. Minor streaky poor porosity was occasionally observed. Hydrocarbon shows were generally very poor and consisted of minor to locally common poor slow streaming and diffuse cut with no fluorescence in the uppermost ~10 metres decreasing to trace in the underlying ~20 metres. There were no significant gas shows in this section.

The shale is typically dark grey, platy to sub-platy, fissile and commonly brittle. The shale is slightly to moderately silty in part with siltstone laminations and locally variably carbonaceous. The Radioactive Zone is not well-developed at this locality; bentonite is rare in samples and the strong radioactive kick that is characteristic of the zone on e-logs is absent, suggesting that this locality is at or near the limit of regional correlation for this unit. The shale through the Radioactive Zone is very similar to the overlying shale but becomes predominantly non-silty.

CONCLUSION: The Garbutt Formation has no economic potential.

BULLHEAD FORMATION

The Bullhead consists of ~53m of shale. The shale is quite similar to the overlying Garbutt shales but becomes carbonaceous in minor part. Bentonite increases slightly to a trace occurrence and is dominantly white to cream coloured and slightly tuffaceous. Trace to minor siltstone laminations/stringers were observed and trace siderite & sideritic siltstone occur in the basal section.

CONCLUSION: The Bullhead has no economic potential.

CHINKEH FORMATION

The Chinkeh Sand at this locality comprises ~14 metres of sandstone with minor interbedded shale. There is a thin Chinkeh Silt zone (i.e., ~2.5 metres) at the top of the section. The sandstone is typically light grey to light brown, very fine to fine-grained, clean and variably silty in part. The composition is very quartzose with trace dark lithic grains and ranges from non-glauconitic to moderately glauconitic, comprising sublitharenite to quartzarenite. The rocks are variably indurated, ranging from commonly poorly indurated and crumbly to moderately to locally well indurated. Cements consist of common siliceous, minor dolomitic cement and trace to minor spotty kaolin/illite. Subhedral quartz overgrowths range from minor to common. Visible porosity was variable in samples; typically fair to good with tight streaks in the upper section with minor to common poor to marginally fair porosity (i.e., 4–7%). Hydrocarbon shows were generally absent and consisted of traces of spotty dead oil stain. There was no gas response in this formation.

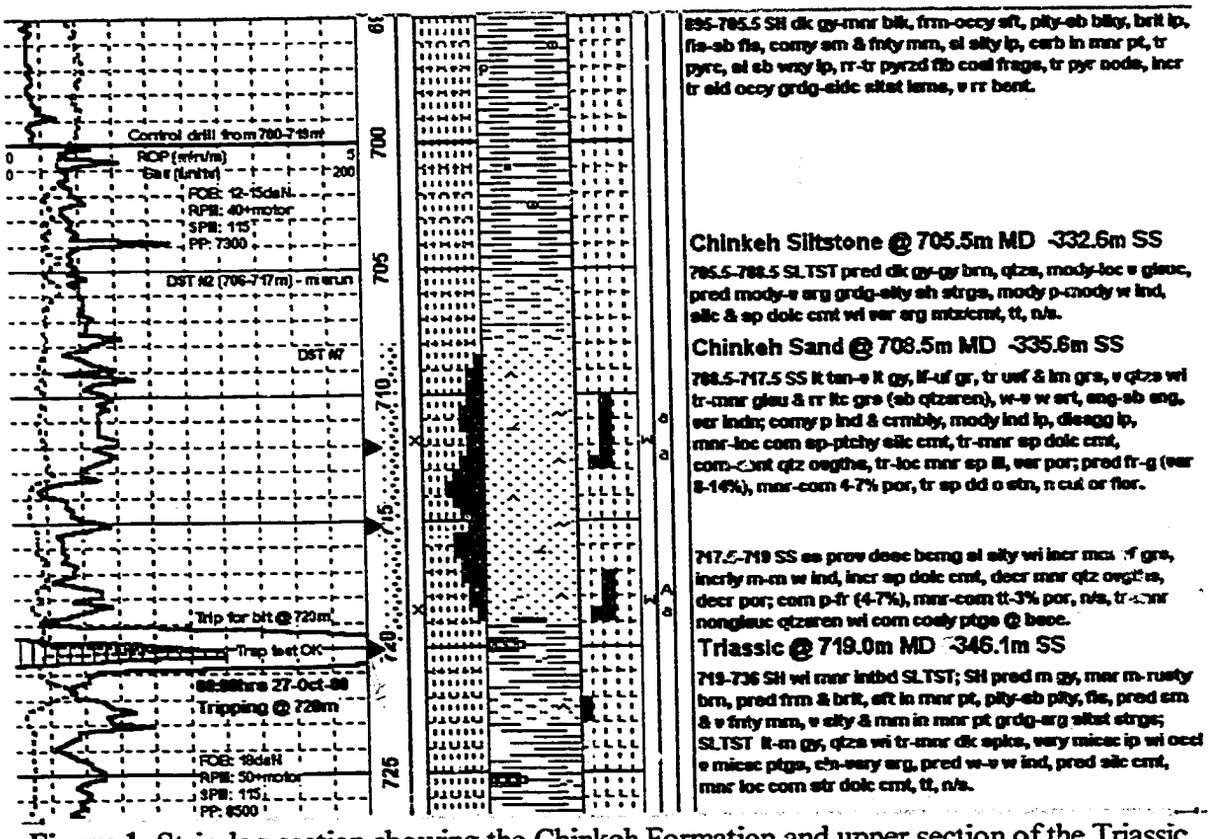


Figure 1. Strip-log section showing the Chinkeh Formation and upper section of the Triassic. Note the absence of gas response.

CONCLUSION: The Chinkeh Sand has some fair to good reservoir-quality intervals at this locality; however, hydrocarbon shows & gas response were absent and indicate that the zone is

CONCLUSION: The Chinkeh Sand has some fair to good reservoir-quality intervals at this locality; however, hydrocarbon shows & gas response were absent and indicate that the zone is wet, confirmed by induction logs and DST #7. This interval has no economic potential at this locality.

TRIASSIC (TOAD/GRAYLING FORMATIONS)

The Triassic comprises ~67 metres of shale with minor interbedded siltstone. The siltstone occurs mainly in the upper section (i.e., 719-740m MD) and is light to medium grey, quartzose, and variably micaceous. The rocks are predominantly well indurated with common siliceous and locally common dolomitic cement. There was no visible porosity or hydrocarbon shows in these rocks.

The shales consist of two basic types; 1) medium to dark grey, and 2) maroon to rusty red. These two types are interbedded with the minor interbedded siltstone more common in the grey shale sections. The grey shale is typically firm to hard, sub-fissile and variably silty with minor argillaceous siltstone laminations and stringers. This shale becomes slightly to moderately dolomitic from about 740m downsection. The maroon to red shale is typically firm to hard (becoming locally soft in the basal section), fissile and significantly less silty than the grey variety. This shale is variably dolomitic except in the basal section where it becomes non-dolomitic. A particular feature of note in the oxidized shale units is the variable content of 'bentonitic' clays (i.e., smectitic swelling clays) which increase downsection, as manifested by common to abundant red clay in the wash with a significant loss of sample volume.

Both these shales are thinly interbedded and interlaminated in part, most likely at the transitions between the two facies which appear to represent subaqueous (grey shale & minor siltstone) and periodically or wholly subaerial (oxidized shale) depositional environments.

CONCLUSION: The Triassic has no economic potential at this locality.

BELLOY FORMATION

The Belloy Formation comprises ~47 metres of predominantly chert with interbedded sandstone and minor thin shale. This formation was interpreted to be absent at this locality. Three informal subdivisions can be made at this locality; 1) an upper division from ~791-806m consisting of predominantly chert with minor interbedded sandstone, 2) a middle division from ~806-825m comprised of argillaceous to slightly phosphatic lithic wacke with interbedded glauconitic chert and variably phosphatic to cherty to hematitic mudstone, and 3) a lower division from ~825-839 consisting of sublitharenite to subwacke with a basal chert unit.

The chert ranges in colour from very pale to dark brown & brownish grey. The chert is typically moderately to very glauconitic and commonly variably sandy to silty locally grading to cherty sandstone. The upper chert is characterized by a common granular texture on cuttings, locally crumbly nature and a variable argillaceous content that locally grades to minor cherty glauconitic mudstone with trace pyritized spicules and worm burrows. The chert is generally tight with trace to minor poor to rarely fair microvug to vug porosity. There is inferred local fair fracture porosity in the upper section. The lower chert is similar in many respects but is generally very glauconitic and includes an unusual hematitic component that grades to cherty mudstone.

The sandstone consists of two basic types; 1) upper sand - dark grey, quartzose lithic wacke composed of common to abundant clear to varicoloured quartz, minor to common varicoloured lithic grains. Texturally, the sandstone is moderately poorly sorted, upper very fine to lower medium grained with common to abundant argillaceous to slightly phosphatic matrix and locally grades to sandy mudstone. The sandstone is variably silicified in part and contains unusual common to locally abundant apatite (?) blebs and rare crystals. The rock is tight with no shows, 2) lower sand – predominantly well-sorted, fine grained sublitharenite locally grading to quartzose lithic wacke and has a similar composition to the overlying sand with the addition of trace to minor glauconite. The sandstone is predominantly disaggregated with minor consolidated cutting with tight siliceous cement and minor to common dolomitic cement. Unusual minor spotty to patchy limonitic(?) cement/matrix was observed. Common poor to fair porosity was inferred. There were no hydrocarbon shows in these rocks.

There was a significant increase in gas readings upon penetration of the formation and a few minor thin gas shows in the section; however, the gas response is generally poor. Other hydrocarbon shows consist of minor to common dull to moderate yellow green fluorescence with common poor slow streaming and very thin diffuse cut in the upper chert section (i.e., ~791-805m).

CONCLUSION: There is some localized fair fracture porosity in the upper Belloy and common fair to poor porosity in the lower sand; however, poor hydrocarbon shows & gas response indicate the Belloy has no economic potential at this location. The Belloy is of potential economic interest in the area if fracture systems and/or sandstone porosity are sufficiently developed and gas-charged.

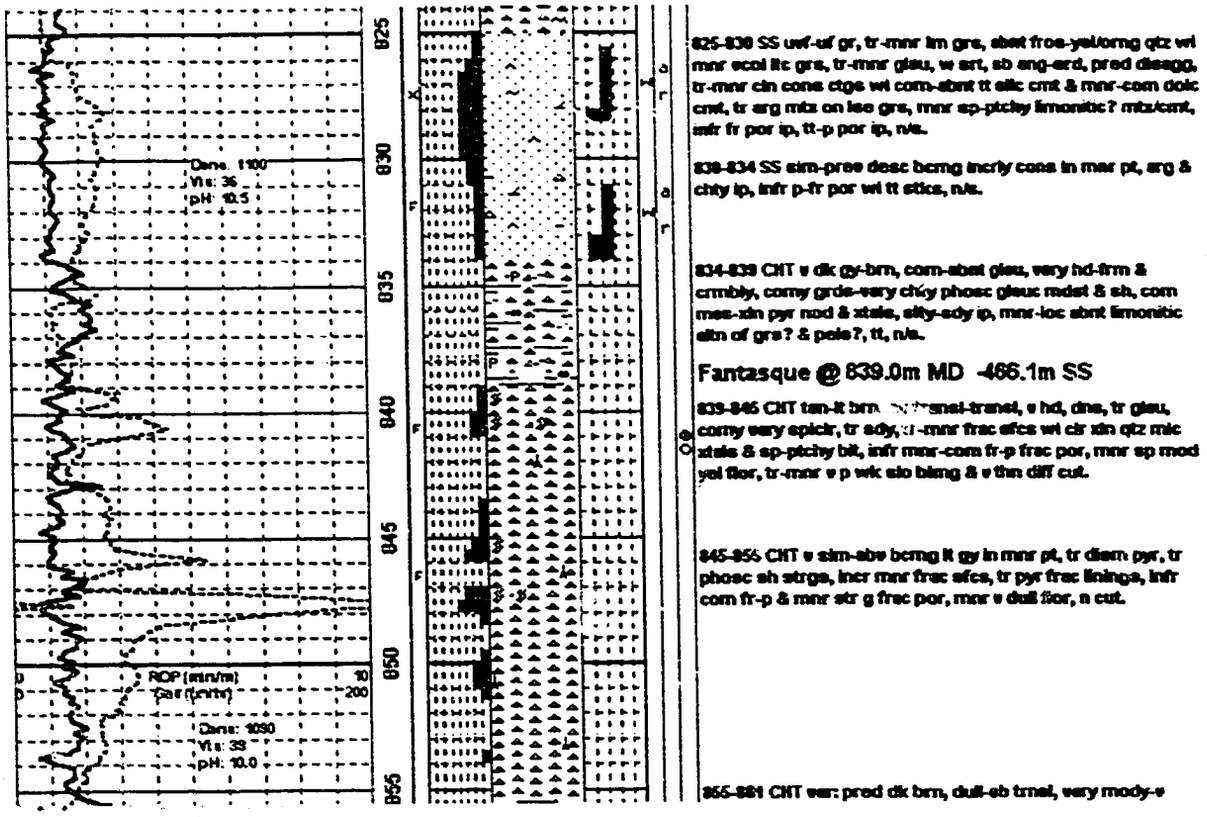
FANTASQUE FORMATION

The Fantasque Formation consists of ~83 metres of bedded chert with very minor shale. The chert is variable with three basic types apparent. The first type (from ~837-855m) is generally light brown to light grey, commonly translucent, very hard & dense, and commonly variably spicular. The second variety (from ~855-864m) is commonly dark brown, sub-translucent to non-translucent, variably glauconitic and ranges from hard & dense to variably firm & crumbly with a common granular texture. This chert variety is commonly argillaceous and locally grades to cherty phosphatic mudstone. The third and most uniform variety (from ~894-920m) is typically light grey to pale brown, translucent, and commonly pelletal to mottled. It is distinct by virtue of the common dark brown pellets and mottles which are ubiquitous. This chert shows the most evidence of hydrothermal silicification (discussed below) and fracturing which increases downsection. The section from ~864-894m is comprised of variable amounts of all three varieties.

Planar fracture surfaces are ubiquitous throughout the section, though generally minor except in the basal Fantasque, and are often lined with different varieties of quartz, discussed below. Locally, pyrite was also observed coating fracture surfaces. Porosity consists of localized fractures which are inferred to range from good to poor and increase downsection to become common in the basal section. There is rare to trace scattered poor moldic & microvug porosity.

The chert has numerous fractures throughout the section and there are a number of features related to the fractures that are worthy of note. Silica-saturated hydrothermal fluids have moved through the fracture systems in at least two stages. The first and primary episode of silica precipitation is manifested in the form of locally common finely laminated chalcedonic and milky quartz fracture linings and 'heals'. The chalcedony occasionally has a colloform habit. The second, apparently minor, stage takes the form of clear subhedral to euhedral quartz crystal linings that are often precipitated on top of chalcedonic or milky quartz fracture linings. The chalcedonic and milky quartz become increasingly common downsection (i.e., ~898-920m) where the chert shows evidence of variable degrees of hydrothermal silicification, manifested by the ubiquitous presence of random to localized chalcedonic to milky quartz mottles and 'blebs' in addition to the fracture heals, fillings and linings by the same material. The boundaries are typically diffuse, even with the obvious fracture-related fills, underlining the locally pervasive nature of the alteration. This diagenetic artifact in the lower Fantasque was also noted on the I-46/60-10-123-15 and b-43-K/94-O-14 wells and confirms the regional scale of this hydrothermal event.

Figure 2. Strip-log section showing lower Belloy & upper Fantasque Formations. Note fracture zone in upper Fantasque with gas show.



Hydrocarbon shows were typically absent to locally very poor and consisted of rare to trace spotty oil stain or bitumen, trace to minor spotty dull fluorescence with traces of questionable cut, excepting the uppermost interval where there was minor spotty moderate yellow fluorescence with trace to minor very poor, slow blooming and very thin diffuse cut. There was a fair thin gas show at the top of the formation and some minor gas response scattered throughout the section; however, there was no gas crossover on logs.

CONCLUSION: The Fantasque at this locality has some fair localized fracture porosity; however, poor gas response & e-log characteristics indicate that the Fantasque has no economic potential at this location but is of economic interest in the area.

KINDLE FORMATION

The Kindle Formation comprises ~45 metres of siltstone with minor interbedded limestone & dolomite at this locality. The siltstone is typically medium to dark brown, quartzose, and slightly to locally moderately argillaceous with trace argillaceous partings. The siltstone is generally very dolomitic locally grading to very silty dolostone. The rocks are generally moderately to well indurated and tight with abundant dolomitic cement upsection grading downsection to abundant calcareous cement. The basal Kindle grades to silty limestone. The limestone is very dark brown to grey, cryptocrystalline to microcrystalline, variably dolomitic, and very silty and argillaceous grading to calcareous siltstone.

Hydrocarbon shows generally consisted of locally common very dull yellow green fluorescence with variably minor to common poor thin yellow white streaming and diffuse cut which decreases downsection. An unusual hydrocarbon show consisted of condensate and minor light oil over the shaker in the basal section which appears to be derived from a fracture zone at 953m. There is a minor lithological change at ~945m to a very quartzose, very well indurated, dense siltstone. Rare to trace fracture surfaces and sparry calcite fracture-fill were observed in this interval.

CONCLUSION: The Kindle Formation has no reservoir-quality intervals and hence, no economic potential at this locality.

MATTSON FORMATION

The Mattson Formation comprises 681m of sandstone with minor interbedded shale and carbonate. The section is strongly sand-dominated with generally minor carbonate & shale. Locally, carbonate becomes an important subordinate to dominant lithology (i.e., 1150-1205m). There are two basic types of sandstone in the Mattson succession that are generally representative of their respective environments; 1) very fine to fine grained quartzarenite to minor sublitharenite of shoreface affinity, 2) upper very fine to lower medium grained quartzarenite to sublitharenite of eolian origin. A third variable type of sandstone consists of very fine to medium grained quartzarenite to quartzose subwackes of transitional facies but are generally of no economic interest. It seems reasonable to assume various degrees of reworking of both eolian and shoreface deposits during subsequent transgressions and regressions, making distinction between the two types sometimes unclear.

Five separate lithofacies have been identified in the Mattson succession in this area; 1) storm-reworked shoreface, 2) muddy shoreface or lagoon & tidal flat, 3)) wave-reworked shoreface, foreshore and backshore, 4) coastal dune complex, and 5) interdune swamp & paleosoil. All five of these lithofacies appear to be represented at this location. The Mattson Formation at this locality correlates well with the UCEL Liard K-02 well, although some degree of stratigraphic thinning is apparent at I-02.

The Mattson succession can be broadly subdivided into two lithostratigraphic 'megasequences' at this locality; 1) a mixed marginal-marine/eolian section, generally dominated by shoreface deposits of Lithofacies #1 and Lithofacies #3 from 963-1423m (i.e., middle & upper Mattson), and 2) a terrestrial section dominated by eolian deposits and associated lithofacies from 1423-1644m (i.e., lower Mattson).

Shoreface Sandstone

The shoreface sandstone represents two different depositional controls in similar environments; 1) storm-reworked shoreface with associated minor carbonate interbeds, and 2) wave-reworked shoreface, foreshore and backshore. The primary distinction between the two appears to be the presence or absence of minor carbonate interbeds.

The shoreface sandstone is a typically very light grey to light brown, well-sorted quartzarenite with trace amounts of dark lithic grains which can occasionally be identified as chert. The quartz is predominantly clear and angular to sub-rounded. Variable degrees of reworking and input from eolian sources is apparent where there is a minor frosted quartz component. These sandstones are predominantly very fine to fine grained with the very fine grained fraction typically dominant. The sandstones are generally variably silty, ranging from trace to common, and locally grade to sandy siltstone in minor part. Argillaceous content is typically nil in these clean quartzarenites. Locally, the sandstone becomes slightly to moderately argillaceous and usually has argillaceous partings and laminae associated with it. Upsection (i.e., ~1273-1290m), some sandstone has a variably trace to minor component of outsized (i.e., medium to fine) unusual blue, partly tripolitic chert grains and grades to sublitharenite. This appear · be a regional provenance marker, as noted on previous wells (i.e., I-46/60-20-123-15 & b-43-K/94-O-14). Locally, the sandstone becomes a sublitharenite with an added minor component of carbonate grains and skeletal debris.

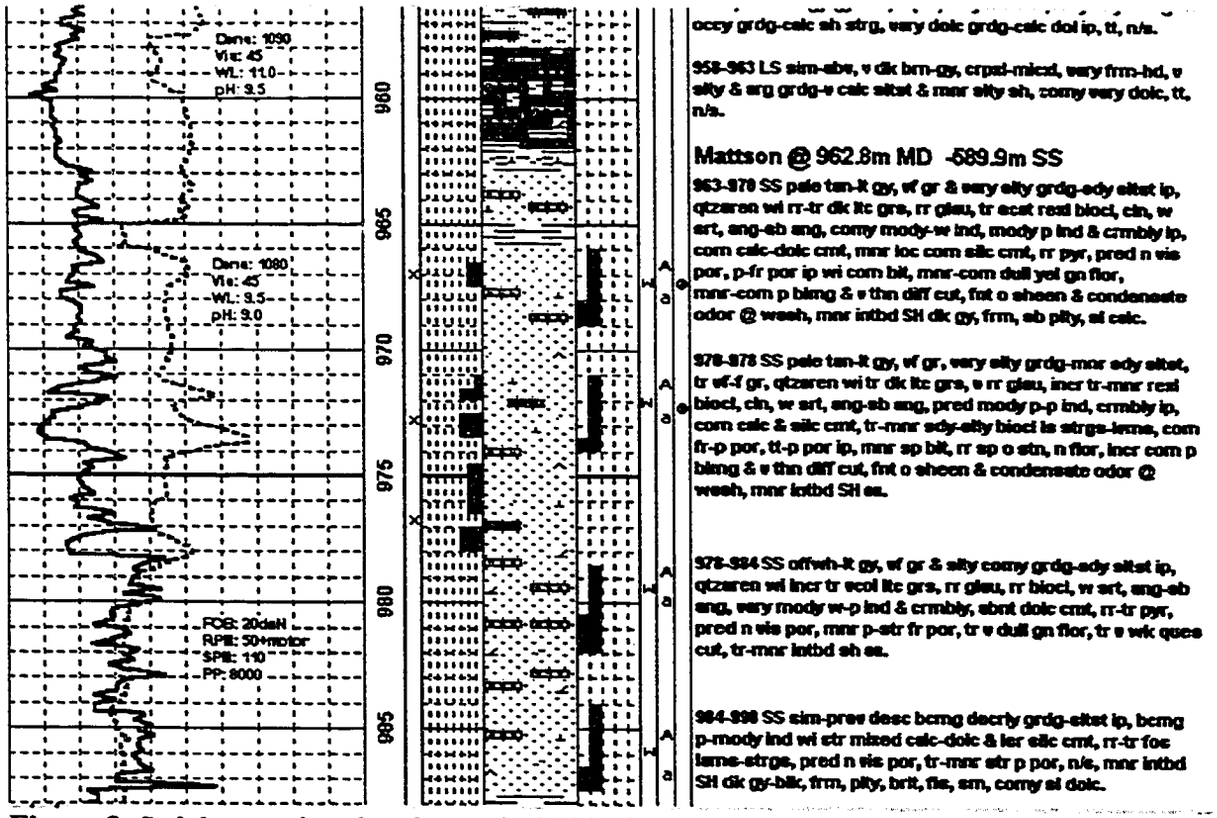


Figure 3. Striplog section showing typical Lithofacies #1 interval (shoreface) in the upper Mattson Formation. Note minor thin gas shows between 971-979 metres.

The shoreface sandstone is variably indurated throughout the succession, ranging from moderately well to poorly indurated & friable to crumbly. Visible porosity was commonly poor (i.e., tight to 3%), even in some poorly indurated sandstone where matrix porosity is likely to be at least a few percent. Sections with poor to fair and occasionally good porosity were observed; however, this better porosity was a generally minor component in consolidated cuttings. Samples often contained a variable disaggregated fraction, including sandstone that is generally tight in the writer's opinion, making porosity estimates somewhat problematic. To some degree at least, porosity distribution appears to be of a streaky to patchy nature, given the variability of visible porosity in cutting of the same sandstone. Cements are generally of mixed carbonate-siliceous type and locally wholly carbonate; upsection the carbonate cement is entirely calcareous (with one exception @ 978-984m) and is replaced by dolomitic cement at ~1140m. Permeability is estimated to be generally poor in much of this lithofacies, given the very fine-grained, silty nature of the sandstone and the typically common to abundant cements.

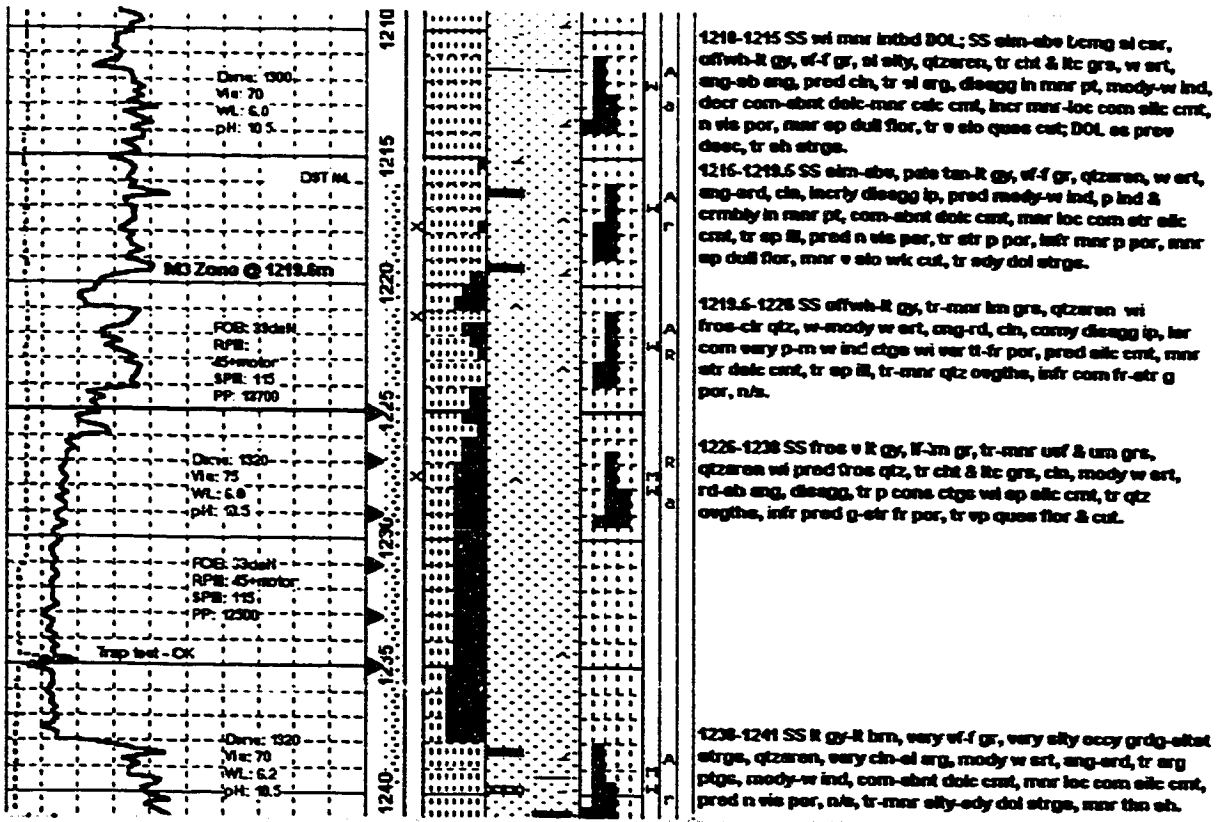


Figure 4. Striplog section showing typical Lithofacies #4 in the Mattson Formation. The eolian facies is overlain & underlain by shoreface sandstone & minor carbonate of Lithofacies #1.

Eolian Sandstone

Eolian sandstone can be usually distinguished from the shoreface quartzarenite by virtue of its coarser grain size and the presence of frosted quartz grains. The sandstone is typically very light grey to light brown, moderately to moderately well sorted with angular to rounded grains. A much greater degree of rounding than is seen in shoreface sandstone is apparent where grain surfaces have not been modified by quartz overgrowths. These sandstones tend to have less compositional maturity than shoreface sandstone due to a generally higher minor chert fraction. Compositionally, the sandstone consists of abundant quartz with a variably minor to common frosted component and trace to minor predominantly dark varicoloured chert and lithic grains, comprising quartzarenite to minor sublitharenite. These sandstones are typically very fine to lower medium grained with a fine median grain size. Trace to minor coarse grains are often present. The eolian sandstone tends to be poorly to very poorly indurated and very friable. They are commonly variably to wholly disaggregated in samples. Cements are generally minor and typically siliceous with a spotty to patchy distribution. Locally, spotty to patchy calcareous/dolomitic cement is a minor occurrence. Quartz overgrowths range from minor to common to locally abundant. Rare to trace interstitial pyrite was also commonly observed.

calcareous/dolomitic cement is a minor occurrence. Quartz overgrowths range from minor to common to locally abundant. Rare to trace interstitial pyrite was also commonly observed.

The best porosity in the Mattson appears to be largely lithofacies-dependant and typically confined to eolian deposits. Porosity was variable in the generally minor consolidated fraction and ranged from typically fair to locally poor to good. Porosity was inferred to be predominantly fair to good in most eolian sandstone.

Diagenesis

Some general diagenetic associations are apparent with regard to the different lithofacies and are as follows; 1) Siliceous cementation is wholly or strongly dominant in eolian and related depositional environments (i.e., transitional sandstone in interdune swamp & paleosol environments), 2) Dolomitic-calcareous cementation appears to be largely confined to shoreface environments. Mixed siliceous-carbonate cements appears to be more common in shoreface environments downsection than purely carbonate cements which dominate the upper Mattson, indicating at least two stages of authigenic cementation.

There is a significant change in cement type at ~1423m, where dolomitic cement becomes a trace to minor component of the cements. This corresponds to the top of the M7 Zone which is an eolian deposit. Some of the very-fine to fine grained quartzarenite of apparent shoreface origin likely represents coastal plain environments for part or all of its depositional and diagenetic history, given the frequency of transgressive/regressive episodes. Consequently, some of the shoreface sandstone has likely had a mixed marine-terrestrial early diagenetic history which may account for the different diagenetic associations observed downsection (i.e., ~1423m onward), where sandstone is predominantly to wholly silica-cemented.

Common to locally abundant subhedral to euhedral quartz overgrowths are typically associated with the best porosity, primarily in eolian deposits. Traces of spotty kaolin/illite were observed in predominantly terrestrial deposits. Pyrite cements and nodules are commonly associated with Lithofacies #5 (terrestrial) where it occurs in massive, crystalline and disseminated forms. The presence of unusual very bituminous claystone and coaly to bituminous shale is a typical co-association.

Stylolitic networks observed in quartzarenite in the lower Mattson on the b-43-K/94-O-14 well (i.e., ~2250-2255m) were also found to occur at this locality. Traces of possible stylolites were first observed at ~1460m and common unequivocal stylolites were noted in the 1510m sample. The stylolites appear to occur sporadically throughout the remainder of the section.

Hydrocarbon Shows & DST Results

Hydrocarbon shows were generally very poor, typically consisting of variably minor to abundant, patchy to even, dull to bright yellow to yellow white to yellow green fluorescence and trace to minor thin, faint yellow white diffuse to streaming cut to questionable or no cut. Exceptions to the above occur in a number of intervals in the upper and middle Mattson, where shows were poor to fair; 1) 1015-1035m: minor to common oil at the wash, minor to common spotty to patchy dull yellow green fluorescence, minor to common poor slow streaming & thin diffuse cut; 2) 1059-1065m: common to abundant slightly patchy pale green to yellow green fluorescence, common fair, milky diffuse & streaming cut (minor oil sheen and strong condensate odour noted at wash); 3) 1080-1085m: traces of spotty bitumen, abundant moderate to bright pale yellow green fluorescence, common poor, thin diffuse cut; 4) 1275-1280m: minor to locally common spotty bitumen, common dull green fluorescence, common slow blooming & diffuse cut; 5) 1300-1305m: common dull green fluorescence with common poor thin diffuse & streaming cut (in a tight dolomite); and 6) 1383-1390m: common to abundant bitumen, common spotty dull to moderate fluorescence, common poor to fair streaming & diffuse cut.

A number of fair to good gas shows were recorded during the drilling of the Mattson; however, all of these were thin (i.e., 1-3 metres) An intermediate DST (#1) was run on the 1058-1068m interval; the preflow produced a strong air blow in 20 seconds with gas to surface in 2.75 minutes increasing throughout with a 2.5m flare. The VO had GTS immediately with a steady 3m flare. Flow rates indicate ~11,011 m^3/day from this zone. Liquid recovery was 180 metres of slightly oil-stained gasified mud. Three other DSTs were run in the Mattson with poor results; 1) DST #4 (1216-1240m – M3 Zone): weak air blow increasing to strong in 20 seconds becoming dead in 6 minutes (no GTS). The final flow had a strong blow immediately decreasing throughout to very weak air blow with no GTS. The liquid recovery was 711 metres of fresh water; 2) DST #5 (1134-1140m – M2 Zone): weak air blow 8cm into pail with no GTS. The final flow had a weak air blow to the bottom of the pail in 6 minutes with no GTS. The liquid recovery was 56 metres of fresh water; and 3) DST #6 (1075-1085m – M1 Zone): very weak air blow which remained throughout and no GTS. The final flow had a very weak air blow to the bottom of the pail in 15 minutes with no GTS. The liquid recovery was 197 metres of fresh water.

CONCLUSION: The Mattson has numerous fair to good reservoir-quality intervals at this locality and a number fair gas responses; however, most of the significant reservoir intervals either appear wet on induction logs or lack significant gas crossover. DSTs #4-6 showed the M1, M2 & M3 Zones (respectively) to be water-bearing. Despite these negative indicators, there are still some gas-bearing intervals present of commercial interest. This formation has fair economic potential at this location and good to excellent potential in the region.

GOLATA FORMATION

The Golata consists of ~65 metres of interbedded shale, sandstone and dolomite at this locality. The shales are varicoloured and range from black to very dark brown to rusty red/brown to grey green. The shale is typically platy and fissile and is variably dolomitic/calcareous in part to bituminous to carbonaceous in part. The dolomite is tight and ranges from very sandy to silty grading to dolomitic sand/siltstone to cryptocrystalline and variably cherty. Most of the sandstone consists of thin very fine grained & silty, tight subquartzarenite to quartzarenite that locally grades to siltstone. Downsection, the sandstone grades to sublitharenite with an added minor component of dolomitic grains. An unusually thick sandstone unit for the Golata in this region is found in the 1656-1664m interval. This unit had common poor to marginally fair porosity in the lower section of the unit. There were no hydrocarbon shows or significant gas response in the formation.

CONCLUSION: The Golata has no economic potential at this locality. The presence of a thick clastic unit with marginally fair reservoir characteristics suggests possible economic potential in the region.

DEBOLT FORMATION

Approximately 34 metres of the upper Debolt were penetrated at this location. The carbonate consisted of interbedded limestone and dolomite which are gradational in part. Textures are dominantly bioclastic packstone locally gradational to wackestone with some interbedded dolomite of indeterminate texture. Much of the calcareous dolomite has preserved a packstone to wackestone texture. Crinoid ossicles are the most common identifiable bioclast in both carbonate types and, locally at least, form the dominant bioclast (i.e., crinoidal packstone). Other minor to rare bioclasts include ostracodes & fusulinids.

Visible porosity was predominantly nil in these rocks; however, some fracture porosity was encountered in this section. Hydrocarbon shows in the section were typically very poor, consisting of minor to common dull yellow fluorescence with traces of very weak cut. One exception occurred in the ~1730-1740m interval where shows were slightly better with increasing minor poor thin diffuse cut. A DST (i.e., #3: 1709-1727m) was run across a fractured interval that had a very good, thin gas show of 3287 units. The preflow had a strong air blow immediately with GTS in 5 minutes and a lazy 3m flare. The VO had GTS immediately. Liquid recovery was 102m of gasified mud. Measured flow rates were low; 344m^3/day.

CONCLUSION: The upper Debolt has no commercial reservoir at this locality. The fractured gas unit is considered to have low potential for commercial production and is a poor candidate for reservoir enhancement.

LITHOLOGICAL DESCRIPTIONS

PARAMOUNT ET AL MOUNT COTY I-02
NWT I-02-60-20-123-30

311mm Surface Section

23-31	**TILL:** unconsolidated sand, very fine to lower medium grained, trace to minor upper medium grains, clear to frosted quartz with minor varicolored lithic grains, minor rusty quartz and K-spar grains, moderately well sorted, angular to subrounded, clean, **infer good porosity.**
31-40	**TILL:** unconsolidated sand, fine to coarse grained, trace to minor very coarse grains, quartzose as above with increasing common to abundant varicolored lithic grains (i.e., heterolithic grains including common granite), trace shale grains, moderately sorted, sub angular to rounded, clean, **infer good porosity.**
40-45	**TILL:** unconsolidated sand as previously described with increasing minor upper very coarse grains and occasional fine pebbles.
45-55	**TILL:** unconsolidated sand, predominantly fine to upper coarse grained, common very coarse grains and fine pebbles, pebbly to conglomeratic in part, quartzose as above, pebbles increasingly very heterolithic (including common granite), poorly sorted, sub angular to rounded, clean, **infer good porosity.**
55-63	**TILL:** unconsolidated sand, as previously described becoming slightly coarser, quartzose as above, pebbly to conglomeratic in part, trace argillaceous matrix, **infer decreasing good to streaky fair porosity.**
63-75	**TILL:** unconsolidated sand, upper fine to very coarse grained, trace fine pebbles, frosted to clear quartz (+ minor feldspar) with common varicolored lithic grains as above, moderately to moderately poorly sorted, angular to rounded, predominantly clean, trace argillaceous matrix, **infer predominantly good porosity.**
75-85	**TILL:** unconsolidated sand, medium to very coarse grained, minor fine grains, increasing common pebbles, conglomeratic, quartzose as above with polymict lithic clasts, poorly sorted, angular to rounded, predominantly clean, trace argillaceous matrix, **infer good to fair porosity.**

85-90.5 **TILL:** unconsolidated gravel, fine pebble, clast supported, medium to coarse grained sand matrix as above, very polymictic (abundant granitoid clasts, common siliciclastics, minor carbonates), poorly sorted, sub angular to rounded, **infer good to fair porosity.**

90.5-92.5 **TILL:** unconsolidated sand, fine to very coarse grained, frosted to clear quartz (+ minor feldspar) with common varicolored lithic grains as above, moderately to moderately poorly sorted, angular to rounded, **infer good porosity.**

LEPINE 92.5 m MD 280.5 m SS

92.5-102 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: light to medium grey, quartzose with minor scattered glauconite, trace dark specks, sandy in part occasionally grading to very fine sandstone laminations, **predominantly no visible porosity, trace scattered poor to rare fair porosity, rare to trace dead oil stain, minor oil sheen in wash, no fluorescence or cut;**

SHALE: dark grey, variably firm, sub blocky, minor sub platy, faintly micromicaceous, predominantly variably silty, common argillaceous to locally clean siltstone laminations and stringers, trace to locally minor glauconite.

102-110 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: as previously described;

SILTSTONE: medium to light grey, quartzose, variably glauconitic, trace dark specks, predominantly variably argillaceous, clean in minor part, well indurated with predominantly siliceous cement, minor streaky calcareous cement, common argillaceous partings, locally variably sandy occasionally grading to very fine sandstone laminations, **predominantly no visible porosity, no shows.**

110-115 **SHALE:** dark grey, variably firm, sub blocky, minor sub platy, faintly micromicaceous, predominantly variably silty, common argillaceous to locally clean siltstone laminations and stringers, trace to locally minor glauconite.

115-127 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: as previously described, medium to light grey, quartzose, variably glauconitic, trace dark specks, predominantly variably argillaceous, clean in minor part, well indurated with predominantly siliceous cement, minor streaky calcareous cement, common argillaceous partings, locally variably sandy occasionally grading to very fine sandstone laminations, **predominantly no visible porosity, no shows;**

SHALE: as previously described.

127-138 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, faintly micromicaceous, predominantly slightly to moderate silty, locally very silty in part grading to argillaceous siltstone laminations and stringers;

SILTSTONE: as previously described.

138-146 **SHALE:** dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, faintly micromicaceous, predominantly slightly to moderate silty, locally very silty in part grading to argillaceous siltstone laminations and stringers, minor interbedded siltstone as previously described.

146-151 **SHALE:** dark grey, moderately to very firm, sub blocky, minor sub platy, sub fissile in part, micromicaceous, commonly slightly to moderately silty, locally very silty with argillaceous siltstone laminations, trace scattered glauconite.

151-160 **SILTSTONE:** light to dark grey, quartzose, variably glauconitic, trace to minor scattered dark specks, occasional mica flake, moderately to well indurated, common siliceous cement, minor spotty to patchy calcareous cement, clean in part, commonly variably argillaceous, minor to common argillaceous partings and laminations, slightly sandy in part, predominantly no visible porosity, no shows, minor thin shale interbeds and stringers as above.

160-165 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: similar to previously described becoming predominantly variably argillaceous, clean in minor part, **no visible porosity, no shows;**

SHALE: as previously described becoming increasingly silty.

Shaker bypassed from 164 to 184m; samples of suspect quality.

165-180 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: dark grey, moderately to very firm, sub blocky, minor sub platy, sub fissile in part, micromicaceous, predominantly moderately silty, locally very silty with argillaceous siltstone laminations, trace scattered glauconite;

SILTSTONE: very similar to previously described, dark to light grey, quartzose, variably glauconitic, trace to minor scattered dark specks, moderately to well indurated, common siliceous cement, minor spotty calcareous cement, predominantly variably argillaceous, common argillaceous partings and laminations, clean in minor part, **no visible porosity, no shows.**

180-195 **SHALE AND SILTSTONE:** Inferred lithology, >95% Quaternary sand cavings in samples 185, 190 and 195m.

195-203 **SHALE:** dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, micromicaceous, predominantly moderately to very silty grading to argillaceous siltstone laminations and stringers in part, trace to minor scattered glauconite; minor very thin siltstone interbeds and stringers, dark to light grey, quartzose, variably glauconitic, trace to minor scattered dark specks, moderately to well indurated, common siliceous cement, minor spotty calcareous cement, predominantly variably argillaceous, common argillaceous partings and laminations, clean in minor part, **no visible porosity, no shows,** abundant Quaternary sand cavings in sample.

203-210 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: as previously described;

SILTSTONE: similar to previously described, light to dark grey, quartzose with minor dark specks, predominantly slightly to moderately glauconitic, moderately to well indurated, common streaky to patchy siliceous and lesser calcareous cement, predominantly variably argillaceous, clean in minor part, common argillaceous partings and laminations, rare to trace pyrite, **predominantly no visible porosity, no shows.**

210-221 **SHALE:** as previously described, dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, micromicaceous, predominantly moderately to very silty grading to argillaceous siltstone laminations and stringers in part, trace to minor scattered glauconite, minor thin siltstone interbeds and stringers as above.

221-225 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: as previously described;

SILTSTONE: as previously described becoming increasingly clean in part with decreasing trace to minor scattered glauconite, **no visible porosity, no shows.**

225-240 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: very similar to previously described becoming increasingly very silty in part, dark grey, very firm to locally hard, sub blocky to sub platy, sub fissile in part, micromicaceous, predominantly moderately to very silty increasingly grading to argillaceous siltstone laminations and stringers in part, trace to minor scattered glauconite;

SILTSTONE: dark to light grey, quartzose with minor dark specks, predominantly slightly to moderately glauconitic, moderately to well indurated, common siliceous and lesser streaky to patchy calcareous cement, predominantly variably argillaceous, clean in minor part, common argillaceous partings and laminations, **predominantly no visible porosity, no shows.**

Shaker bypassed from 235 to 248m; samples of suspect quality.

240-247 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: dark grey, very firm to locally hard, sub blocky, minor sub platy, micromicaceous, variably silty, commonly variably silty grading to argillaceous siltstone, trace scattered glauconite;

SILTSTONE: light to dark grey, quartzose with trace dark specks, slightly to moderately glauconite, occasional mica flake, predominantly variably argillaceous grading from above in part, clean in minor part, trace slightly sandy, moderately to well indurated, common siliceous and minor to locally common streaky calcareous cement, **no visible porosity, no shows.**

247-255 **SHALE:** dark grey, very firm to hard, sub blocky to sub platy, micromicaceous, moderately to very silty with minor to common argillaceous to occasionally clean siltstone laminations and stringers, trace scattered glauconite, rare sideritic siltstone laminations.

255-270 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: dark grey, moderately to very firm, sub blocky to sub platy, micromicaceous, predominantly moderately to very silty grading to argillaceous siltstone in part, common argillaceous to occasionally clean siltstone laminations and stringers, trace to minor scattered glauconite;

SILTSTONE: dark to light grey, commonly grading from shale above, quartzose with trace dark specks, variably glauconitic, occasional mica flake, predominantly variably argillaceous, common argillaceous partings, moderately to well indurated with common siliceous and minor calcareous cement, **no visible porosity, no shows.**

270-275 **SHALE:** dark grey, variably firm, sub platy to sub blocky, sub fissile, faintly micromicaceous, commonly slightly silty, variably moderately to very silty in part with minor argillaceous to occasionally clean siltstone laminations and stringers, decreasing trace scattered glauconite.

275-285 **SHALE:** dark grey, variably firm, sub blocky to sub platy, sub fissile in part, micromicaceous, commonly moderately to very silty grading to argillaceous siltstone laminations and stringers in part, slightly silty in minor part, trace scattered glauconite, trace siderite stringers; minor very thin siltstone interbeds and stringers, commonly variably argillaceous grading from shale above, light to medium grey to brown in part and clean with abundant tight calcareous cement, quartzose and variably glauconitic as above, **tight, no shows.**

285-295 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: as previously described with minor siderite medium to dark brown, very hard, dense, slightly silty in part, fractured with calcite fracture fill;

SILTSTONE: very similar to above, dark to light grey, commonly grading from shale above, quartzose with trace dark specks, variably glauconitic, occasional mica flake, predominantly variably argillaceous, clean in minor part, common argillaceous partings, moderately to well indurated with siliceous and minor spotty to streaky calcareous cement, **no visible porosity, no shows.**

295-300 **SHALE:** dark grey, variably firm to locally hard, sub blocky to sub platy, sub fissile in part, faintly to moderately micromicaceous, brittle in part, variably silty with minor argillaceous siltstone laminations and stringers, slightly silty in minor part, decreasing trace scattered glauconite, decreasing rare to trace siderite stringers.

300-310 **SHALE:** very similar to previously described, dark grey, variably firm to locally hard, sub platy to sub blocky, sub fissile, micromicaceous, brittle in part, predominantly variably moderate to very silty with common argillaceous to occasionally clean siltstone laminations and stringers, slightly silty in part, trace scattered glauconite, slightly increasing trace siderite as above.

310-317 **SHALE:** as previously described with increasing trace to minor fractured Siderite as described above.

317-330 **SHALE:** similar to previous description, dark grey, variably firm to locally hard, sub platy to sub blocky, sub fissile, micromicaceous, brittle in part, predominantly variably moderately to very silty with common argillaceous to occasionally clean siltstone laminations and stringers, slightly silty in part, decreasing trace scattered glauconite, decreasing trace siderite as above becoming increasingly silty and rarely fractured, grades to sideritic siltstone laminations to stringers, rare ferruginous laminations.

330-340 **SHALE:** dark grey, variably firm, sub platy to sub blocky, brittle in part, sub fissile, micromicaceous, predominantly slightly to moderately silty, locally very silty in minor part, trace to minor argillaceous siltstone laminations, decreasing rare to trace glauconite, rare framboidal pyrite.

340-350 **SHALE:** as previously described with slightly increasing argillaceous siltstone laminations, dark grey, variably firm, sub platy to sub blocky, brittle in part, sub fissile, micromicaceous, predominantly slightly to moderately silty, locally very silty in minor part, slightly increasing trace to minor argillaceous siltstone laminations, rare to trace glauconite.

350-357 **SHALE:** dark grey to black, variably firm, sub platy to sub blocky, brittle in part, sub fissile to fissile, micromicaceous, predominantly slightly to moderately silty, decreasing trace to minor variably argillaceous siltstone laminations, variably carbonaceous in part, decreasing rare scattered glauconite.

357-365 **SHALE:** dark grey, firm, predominantly sub platy, minor sub blocky, commonly brittle, sub fissile to fissile, faintly to moderately micromicaceous, commonly slightly silty, moderately to very silty in part with increasing minor variably argillaceous slightly glauconitic siltstone laminations and stringers, rare glauconite.

365-376.6 **SHALE:** as previously described, dark grey, firm, predominantly sub platy, minor sub blocky, commonly brittle, sub fissile to fissile, faintly to moderately micromicaceous, commonly slightly silty, moderately to very silty in part with increasing minor variably argillaceous slightly glauconitic siltstone laminations and stringers, rare glauconite.

SCATTER 376.6 m MD (-3.7 m SS)

376.6-390 **SANDSTONE:** light grey, very fine grained and variably silty grading to siltstone in part, quartzose with common black and dark brown specks, moderately glauconitic, well sorted, angular to sub angular, predominantly clean, variably argillaceous in minor part, minor to locally common argillaceous laminations and partings, predominantly moderately to moderately well indurated, moderately poorly indurated in part, predominantly siliceous cement, trace spotty calcareous cement, **predominantly no visible porosity, no shows;** minor very thin shale interbeds and stringers, dark grey variably firm to occasionally soft, sub platy to platy, brittle in part, fissile to sub fissile, faintly to moderately micromicaceous, predominantly slightly silty.

390-400 **SANDSTONE:** light grey, very fine grained, quartzose with minor to common black to brown specks and lithic grains, moderately glauconitic, trace mica flake, well sorted, angular to sub angular, predominantly moderately to moderately well indurated, poorly to moderately poorly indurated and crumbly in part, siliceous and trace spotty calcareous cement, trace quartz overgrowths, variably silty occasionally grading to sandy siltstone laminations to stringers, predominantly clean, slightly to moderately argillaceous in part, minor argillaceous laminations and partings, **common tight to 2% porosity, minor to common scattered 3 to 5% porosity, no shows, trace medium brown very fine sandstone with tight siliceous cement and very dull fluorescence with rare spotty streaming cut,** trace shale stringers as above.

400-405 **SANDSTONE:** similar to previous description, **predominantly tight to 2% porosity, trace very well indurated brown sandstone stringers with abundant tight siliceous cement and trace dull fluorescence, no cut.**

405-415 No samples caught.

415-420 **SANDSTONE:** very similar to above, light grey, quartzose with minor to common dark specks and lithic grains, moderately glauconitic, rare to trace mica flakes, well sorted, angular to sub angular, predominantly moderately indurated, variably moderately poorly to moderately well indurated in part, variably crumbly in minor part, siliceous and trace spotty to patchy calcareous cement, trace quartz overgrowths, predominantly clean, variably silty, slightly to moderately argillaceous in part, minor argillaceous laminations and partings, **predominantly tight to 2% porosity, minor scattered 3 to 5% porosity, no shows,** trace shale laminations to stringers as above.

420-428 **SANDSTONE:** as previously described becoming increasingly argillaceous in minor part, increasing minor argillaceous laminations, **predominantly tight to 2% porosity, rare very dull fluorescence, no cut,** trace to minor medium brown very fine grained tight sandstone with abundant siliceous to sideritic cement, trace medium brown hard dense siderite.

428-438 **SANDSTONE:** predominantly light grey, trace to minor light brown, quartzose with minor to common dark specks and lithic grains, moderately glauconitic, rare mica flake, well sorted, angular to sub angular, commonly moderately to moderately well indurated, moderately poorly indurated in part, siliceous and trace spotty calcareous cement, rare quartz overgrowths, predominantly clean, slightly to moderately silty, occasional siltstone laminations, slightly to moderately argillaceous in minor part, increasing minor argillaceous laminations and partings, **predominantly tight to 2% porosity, minor scattered 3 to 5% porosity, rare to trace very dull fluorescence, trace very weak very questionable cut,** increasing minor medium brown very fine grained tight sandstone with abundant siliceous to sideritic cement, increasing trace to minor hard dense siderite with rare fracture, trace shale laminations to stringers as above.

438-445 **SANDSTONE:** very similar to previous description becoming increasingly silty grading to siltstone in part, increasingly variably argillaceous in part, increasing minor siliceous to sideritic sandstone and siderite as above, **predominantly tight to 2% porosity, no shows,** minor thin interbedded shale dark grey, platy, fissile, brittle, slightly silty and faintly micromicaceous.

445-450 **SANDSTONE:** light grey, trace light brown, quartzose and moderately glauconitic as above, rare mica flake, well sorted, angular to sub angular, commonly moderately to moderately well indurated, moderately poorly indurated in part, siliceous and trace spotty calcareous cement, predominantly clean, slightly to moderately silty locally grading to minor siltstone, slightly to moderately argillaceous in minor part, increasing minor argillaceous laminations and partings, **predominantly tight to 2% porosity, trace scattered 3 to 5% porosity, no shows,** decreasing trace medium brown siliceous to sideritic sandstone and siderite as above, trace shale laminations to stringers as above.

450-466 **SANDSTONE:** predominantly light grey, medium grey and variably argillaceous in part, trace light brown, quartzose with minor to common dark specks and lithic grains, moderately glauconitic, rare to trace mica flakes, well sorted, angular to sub angular, slightly to moderately silty, occasional silty laminations, increasing minor argillaceous partings and laminations, commonly moderately to moderately well indurated, moderately poorly indurated and variably crumbly in part, siliceous cement, decreasing rare to trace spotty calcareous cement, **tight to 2% porosity,** decreasing trace siliceous to sideritic sandstone and siderite laminations to stringers, trace to minor shale as above.

466-478 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: medium to light grey, very fine grained and variably silty grading to siltstone in part, quartzose as above, moderately to locally very glauconitic, well sorted, angular to sub angular, commonly variably argillaceous, clean in minor part, common to abundant argillaceous partings and laminations, predominantly moderately to moderately well indurated, siliceous cement, **tight to 2% porosity, rare to trace scattered poor porosity, no shows,** increasing trace siliceous to sideritic sandstone and siderite laminations to stringers as above;

SHALE: dark grey, firm, sub platy to sub blocky, faintly to moderately micromicaceous, slightly to very silty grading to very argillaceous siltstone stringers, trace to locally abundant glauconite.

478-486 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: **as previously described becoming light brown in minor part with slightly patchy commonly dead oil stain, no to trace very dull fluorescence with minor poor slow blooming and very thin diffuse cut, predominantly tight to 2% porosity, trace to minor scattered poor porosity,** increasing trace to minor siliceous to sideritic sandstone and siderite stringers as above;

SHALE: as previously described.

486-500 **SANDSTONE:** light to medium brown, very fine grained, quartzose with minor dark specks and lithic grains, moderately glauconitic, rare to trace mica flakes, well sorted, angular to sub angular, variably silty, occasional silty laminations, predominantly clean, slightly to moderately argillaceous in minor part, predominantly moderately to moderately poorly indurated, commonly variably crumbly, siliceous cement and trace spotty calcareous cement, **predominantly tight to 2% porosity, trace to minor scattered 3 to 5% porosity, slightly patchy to even partly dead oil stain, minor spotty to patchy very dull fluorescence, common poor thin yellow white streaming and very thin diffuse cut,** decreasing trace siliceous to sideritic sandstone and siderite laminations as above, minor thin interbedded shale as above.

500-508 **SANDSTONE: as previously described with increasing minor scattered 3 to 5% porosity, rare cutting with 5 to 7% porosity and spotty bitumen, oil stain and fluorescence as above,** slightly increasing common cut as above, minor interbedded shale, as above.

508-514 **SANDSTONE:** light to medium brown, very fine grained, quartzose with minor dark specks and lithic grains, moderately glauconitic, rare to trace mica flakes, well sorted, angular to sub angular, variably silty, occasional silty laminations, predominantly clean, slightly to moderately argillaceous in minor part, predominantly moderately to moderately poorly indurated, commonly variably crumbly, siliceous cement and trace spotty calcareous cement, trace interstitial pyrite, trace quartz overgrowths, **common tight to 2% porosity, minor to common scattered 3 to 5% porosity, increasing trace 5 to 7% porosity, slightly patchy to even partly dead oil stain, minor to locally common spotty bitumen, common dull yellow to yellow green fluorescence, common to abundant poor to fair yellow streaming and diffuse cut,** decreasing minor thin interbedded shale as above.

222mm Main Section

514-517 **SANDSTONE:** as previously described.

GARBUTT 517.0 m MD (-144.1 m SS)

517-526 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: medium to dark grey brown, quartzose with common dark specks, rare to trace glauconite, predominantly variably argillaceous, common argillaceous partings, trace sandy, moderately to well indurated, siliceous cement with variable argillaceous matrix, **tight to 2% porosity, no fluorescence, common poor slow streaming and diffuse cut;**

SHALE: dark grey, very firm, blocky to sub platy, sub fissile in part, variably silty and micromicaceous, rare framboidal pyrite.

526-533 **SILTSTONE:** similar to above, medium to dark grey brown, quartzose with minor to common dark specks, slightly to moderately glauconitic, trace mica flakes, rare to trace carbonaceous debris, predominantly variably slightly to very argillaceous occasionally grading to very silty shale laminations and stringers, clean in minor part. minor argillaceous partings, locally sandy grading to minor silty sandstone stringers to laminations, moderately to well indurated, siliceous cement and argillaceous matrix/cement, **predominantly tight to 2% porosity, minor streaky 2 to 5% porosity, rare spotty bitumen, no fluorescence, trace to minor very poor slow streaming and diffuse cut,** trace to minor shale stringers as above.

533-539 **SILTSTONE: as previously described with decreasing trace 2 to 5% porosity and decreasing trace cut as above,** increasing minor thin shale interbeds and stringers to laminations as above.

539-548 **SILTSTONE WITH MINOR INTERBEDDED SHALE:**

SILTSTONE: similar to above, medium to dark grey brown, quartzose with minor to common dark specks, slightly to moderately glauconitic, trace mica flakes, rare to trace carbonaceous debris, predominantly variably slightly to very argillaceous occasionally grading to very silty shale laminations and stringers, common argillaceous partings, decreasingly trace to minor sandy, moderately to well indurated. siliceous cement and argillaceous matrix/cement, **predominantly tight to 2% porosity, no fluorescence, decreasing trace very poor slow cut as above;**

SHALE: dark grey, sub blocky to sub platy, variably silty and micromicaceous, sub fissile.

548-561 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: similar to above, medium to dark grey brown, quartzose with minor to common dark specks, slightly to moderately glauconitic, trace mica flakes, rare to trace carbonaceous debris, predominantly variably argillaceous occasionally grading to very silty shale laminations and stringers, common to abundant argillaceous partings, trace sandy, moderately to well indurated, siliceous cement and argillaceous matrix/cement, **predominantly tight to 2% porosity, no fluorescence, decreasing rare very poor slow cut as above;**

SHALE: as previously described.

561-570 **SILTSTONE AND SHALE:**

SILTSTONE: dark to medium grey and grey brown, quartzose with minor to common dark specks, decreasingly slightly to moderately glauconitic, trace mica flakes, rare carbonaceous debris, predominantly variably argillaceous, trace clean, common to abundant argillaceous partings and laminations, moderately to well indurated, siliceous cement and argillaceous matrix/cement, **tight to 2% porosity, no shows;**

interbedded and interlaminated SHALE: similar to above, dark grey, variably firm, sub platy to platy, minor sub blocky, fissile to sub fissile, variably silty and micromicaceous grading to very argillaceous siltstone in part.

570-580 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: as previously described, dark to medium grey and grey brown, quartzose with minor to common dark specks, decreasingly slightly to moderately glauconitic, trace mica flakes, rare carbonaceous debris, predominantly variably argillaceous, trace clean, common to abundant argillaceous partings and laminations, moderately to well indurated, siliceous cement and argillaceous matrix/cement, **tight to 2% porosity, no shows;**

interbedded and interlaminated SHALE: as above.

580-586 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: similar to above, dark grey, variably firm, sub platy to platy, fissile to sub fissile, micromicaceous, slightly to very silty commonly grading to and interlaminated with argillaceous siltstone;

SILTSTONE: predominantly dark grey, quartzose, minor dark specks, predominantly slightly glauconitic, variably slightly to very argillaceous grading from shale in part, abundant argillaceous partings and laminations, moderately to well indurated, siliceous and argillaceous matrix to cement, rare spotty calcareous cement, **tight to 2% porosity, no shows.**

586-595 **SILTSTONE WITH INTERBEDDED SHALE:**

SILTSTONE: as previously described becoming decreasingly argillaceous in part, **tight to 2% porosity, no shows;**

SHALE: as previously described.

595-604 **SHALE WITH INTERBEDDED SILTSTONE:**

SHALE: dark grey, variably firm to locally hard, brittle in part, platy to sub platy, micromicaceous, fissile to sub fissile, smooth and non-silty in part, slightly to very silty in part with argillaceous siltstone laminations, rare framboidal pyrite;

SILTSTONE: dark to medium grey and grey brown, quartzose with minor to common dark specks, predominantly slightly glauconitic, trace mica flakes, predominantly slightly to moderately argillaceous, abundant argillaceous partings, trace sandy, variably moderately poor to very well indurated, predominantly siliceous and variable argillaceous matrix/cement, trace to locally minor streaky calcareous cement, **tight with streaky poor porosity, no fluorescence, trace to minor very poor slow blooming cut.**

604-616 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: as previously described;

SILTSTONE: as previously described becoming tight with no shows.

616-625 **SHALE:** dark grey, variably firm, brittle in part, platy to sub platy, fissile, commonly smooth and faintly micromicaceous, variably silty in part with minor siltstone laminations, minor thin siltstone interbeds and stringers to laminations as above.

625-637 **SHALE:** as previously described, dark grey, variably firm, brittle in part, platy to sub platy, fissile, commonly smooth and faintly micromicaceous, variably silty in part with minor siltstone laminations, minor thin siltstone interbeds and stringers to laminations as above.

GARBUTT RADIOACTIVE ZONE 537.2 m MD (-264.3 m SS)

637-656 **SHALE:** dark grey, firm, brittle in part, platy to sub platy, minor sub blocky, fissile to sub fissile, predominantly smooth and faintly micromicaceous, slightly to moderately silty in minor part, trace siltstone laminations and stringers, rare cream to light grey slightly tuffaceous bentonite.

BULLHEAD 656.5 m MD (-283.6 m SS)

656-666 **SHALE:** similar to above, dark grey, minor black, variably firm to locally soft, platy, brittle in part, fissile, predominantly smooth and faintly micromicaceous, slightly silty in minor part with trace argillaceous siltstone laminations, carbonaceous in part, rare to trace carbonaceous to coaly debris, very rare root cast, increasing rare to trace cream to tan bentonite, slightly tuffaceous in part.

666-675 **SHALE:** dark grey, firm to locally soft, platy to sub platy, minor sub blocky, brittle in part, fissile to sub fissile, predominantly smooth and faintly micromicaceous, slightly silty in minor part with trace argillaceous siltstone laminations, decreasingly carbonaceous in minor part, decreasing rare bentonite as above.

675-683 **SHALE:** similar to above, dark grey, variably firm to locally soft, platy to sub platy, minor sub blocky, brittle in minor part, fissile to sub fissile, commonly smooth and faintly micromicaceous, slightly silty in part, increasing trace argillaceous siltstone laminations, increasingly variably carbonaceous in minor part, increasing trace cream to light grey slightly tuffaceous bentonite as above, rare pyrite, rare to trace siderite.

683-695 **SHALE:** dark grey to black, variably firm to occasionally soft, commonly brittle, platy to sub platy, fissile, predominantly smooth and faintly micromicaceous, slightly silty in part, variably carbonaceous in part, trace scattered carbonaceous to coaly debris, trace pyrite nodules, trace bentonite as above, increasing rare to trace siderite.

695-705.5 **SHALE:** dark grey to minor black, firm to occasionally soft, platy to sub blocky, brittle in part, fissile to sub fissile, commonly smooth and faintly micromicaceous, slightly silty in part, carbonaceous in minor part, trace pyritic, slightly sub waxy in part, rare to trace pyritized fibrous coal fragments, trace pyrite nodules, increasing trace siderite occasionally grading to sideritic siltstone laminations, very rare bentonite.

CHINKEH SILTSTONE 705.5 m MD (-332.6 m SS)

705.5-708.5 **SILTSTONE:** predominantly dark grey to grey brown, quartzose, moderately to locally very glauconitic, predominantly moderately to very argillaceous grading to silty shale stringers, moderately poor to moderately well indurated, siliceous and spotty dolomitic cement with variable argillaceous matrix/cement, **tight, no shows.**

CHINKEH SAND **708.5 m MD (-335.6 m SS)**

708.5-717.5 **SANDSTONE:** light tan to very light grey, lower fine to upper fine grained, trace upper very fine and lower medium grains, very quartzose with trace to minor glauconite and rare lithic grains (sub-quartzarenite), well to very well sorted, angular to sub angular, variable induration; commonly poor indurated and crumbly, moderately indurated in part, disaggregated in part, minor to locally common spotty to patchy siliceous cement, trace to minor spotty dolomitic cement, common to abundant quartz overgrowths, trace to locally minor spotty illite, **variable porosity; predominantly fair to good (variable 8 to 14%), minor to common 4 to 7% porosity, trace spotty dead oil stain, no cut or fluorescence.**

717.5-719 **SANDSTONE:** as previously described becoming slightly silty with increasing minor very fine grains, increasingly moderately to moderately well indurated, increasing spotty dolomitic cement, decreasing minor quartz overgrowths, **decreasing porosity; common poor to fair (4 to 7%), minor to common tight to 3% porosity, no shows,** trace to minor non-glauconitic quartzarenite with common coaly partings at base.

TRIASSIC **719.0 m MD (-346.1 m SS)**

719-736 **SHALE WITH MINOR INTERBEDDED SILTSTONE:**

SHALE: predominantly medium grey, minor medium to rusty brown, predominantly firm and brittle, soft in minor part, platy to sub platy, fissile, predominantly smooth and very faintly micromicaceous, very silty and micromicaceous in minor part grading to argillaceous siltstone stringers;

SILTSTONE: light to medium grey, quartzose with trace to minor dark specks, variably micaceous in part with occasional very micaceous partings, clean to variably argillaceous, predominantly well to very well indurated, predominantly siliceous cement, minor locally common streaky dolomitic cement, **tight, no shows.**

736-741 **SHALE:** medium grey, variably hard to soft, platy to sub platy, fissile, brittle in part, predominantly smooth and faintly micromicaceous, locally variably silty with argillaceous siltstone laminations and stringers, slightly sub waxy in part, trace scattered carbonaceous debris;

minor interbedded SILTSTONE: light to medium grey, quartzose with trace to minor carbonaceous specks, slightly to moderately micaceous, occasional very micaceous partings, predominantly moderately to very well indurated, common to abundant dolomitic cement, minor siliceous cement, **tight/no shows.**

741-750 **SHALE:** mixed; common medium grey as above becoming slightly dolomitic in minor part, interbedded and interlaminated with common red brown to maroon shale firm, locally hard to soft, platy to sub blocky, commonly fissile to sub fissile, brittle in part, predominantly smooth and faintly micromicaceous, slightly to moderately silty in minor part, slightly sub waxy, slightly bentonitic in part, commonly slightly to moderately dolomitic.

750-757 **SHALE:** predominantly medium to dark grey to brown grey, minor red brown as above, predominantly firm, locally hard to soft, variably platy to sub blocky, brittle in part, commonly fissile to sub fissile, carbonaceous in part, smooth and sub waxy in part, commonly variably silty in part with increasing minor to common argillaceous siltstone stringers, variably faintly to moderately micromicaceous, trace to minor slightly dolomitic, trace to minor siltstone as above.

757-770 **SHALE:** mixed; rusty red to brown, maroon, commonly firm to hard, slightly to moderately soft in part, brittle in part, commonly platy to sub platy and fissile, predominantly smooth and faintly micromicaceous, variably silty in minor part, commonly moderately to very dolomitic, variably bentonitic in part with common red clay at wash, interbedded and interlaminated with ~25% light to medium grey shale firm to hard, platy to sub blocky, commonly brittle, commonly fissile, commonly variably silty with common argillaceous to clean siltstone stringers as above, smooth and faintly micromicaceous in part, slightly to locally moderately dolomitic in part.

770-780 **SHALE:** very similar to above becoming 90% rusty red to brown, decreasingly dolomitic in part and commonly non-dolomitic, increasingly variably bentonitic in part with abundant red clay at wash, decreasing minor light to medium grey shale interbeds as above.

780-785 **SHALE:** rusty red to brown, maroon, commonly firm to hard, slightly to moderately soft in part, brittle in part, commonly platy to sub platy and fissile, predominantly smooth and faintly micromicaceous, variably silty in minor part, predominantly non-dolomitic, variably bentonitic in part with common red clay at wash, rare to trace variably tuffaceous cream bentonite, trace to minor medium grey shale stringers as above.

785-791 **SHALE:** mixed; predominantly as previously described with ~20% medium grey shale similar to above, firm to hard, platy, commonly brittle, fissile, predominantly smooth and faintly micromicaceous, slightly sub waxy, very rare slickensides.

BELLOY 791.0 m MD (-418.1 m SS)

791-800 **CHERT:** predominantly dark brown to brown grey, commonly hard and dense, variably firm to soft and crumbly in part, trace translucent, slightly to moderately glauconitic, faintly spicular in minor part, variably silty to sandy in part occasionally grading to very cherty sandstone, common granular texture on cuttings, variably argillaceous in part grading to cherty glauconitic to slightly phosphatic shale, slightly dolomitic in part, trace soft black phosphatic glauconitic shale stringers, trace locally abundant pyritized spicules and worm burrows, rare to trace sandy pyrite nodules, infer minor poor to fair locally fracture porosity, trace fracture surfaces with bitumen linings, rare to trace poor micro vugs with spotty bitumen, **trace to minor dull yellow fluorescence, minor to common poor slow yellow white streaming cut.**

800-806 **CHERT:** tan to light grey, predominantly variably silicified siltstone and very fine grained sandstone, slightly to moderately glauconitic, very hard dense and translucent in part, commonly variably hard to firm and slightly crumbly, locally slightly to moderately spicular in minor part, predominantly very silty to sandy grading to very cherty siltstone to sandstone, common granular texture, slightly dolomitic in part, moderately to very dolomitic in minor part, increasing trace fracture surfaces with bitumen linings, **minor poor microvug porosity with common bitumen, common moderate yellow green fluorescence, common weak slow streaming and very thin diffuse cut.**

806-810 **SANDSTONE:** dark grey, lower fine to lower medium grained, trace upper very fine grains, lithic wacke with common clear to yellow to orange quartz and minor to common varicolored lithic grains, common to abundant argillaceous to slightly phosphatic matrix, grades to variably sandy slightly to moderately phosphatic to cherty mudstone in part, moderately poorly sorted, sub angular to sub rounded, variably disaggregated in part, very well to moderately poorly indurated, variably silicified in part, siliceous cement, minor dolomitic cement, common to locally abundant epidote? blebs to microvug linings and rare crystals, **predominantly tight, minor locally poor to fair predominantly ineffective microvug porosity, rare to trace fracture, no shows.**

810-815 **SANDSTONE:** predominantly as above increasingly grading to minor to common variably cherty mudstone and chert, slightly increasing glauconitic and decreasing epidote?, trace to minor dark grey to black platy phosphatic to bituminous shale stringers, **predominantly tight, no shows.**

815-820 **CHERT:** variable: dark brown to grey, rusty red/orange, common to very abundant glauconite, commonly variably hard to slightly soft, crumbly in part, hard and dense in minor part, common granular texture, commonly silty to locally sandy in part, variably silicified in part grading to variably cherty phosphatic and hematitic mudstone, variably dolomitic in part with minor locally common dolomite rhombs, trace to minor black variably phosphate shale, **tight, no shows.**

820-825 **CHERT:** predominantly as above with decreasing trace to minor hematitic mudstone to chert, minor light grey dense silty to sandy chert grading to cherty siltstone to sandstone, minor medium to dark grey variably silicified fine grained glauconitic lithic wacke grading to sandy chert in part, rare to trace fracture surfaces with bitumen, rare sparry calcite fracture fill, **no shows.**

825-830 **SANDSTONE:** upper very fine to upper fine grained, trace to minor lower medium grains, abundant frosted to yellow/orange quartz with minor varicolored lithic grains, trace to minor glauconite, well sorted, sub angular to subrounded, predominantly disaggregated, trace to minor clean consolidated cuttings with common to abundant tight siliceous cement and minor to common dolomitic cement, trace argillaceous matrix on loose grains, minor spotty to patchy limonitic? matrix/cement, **infer fair porosity in part, tight to poor porosity in part, no shows.**

830-834 **SANDSTONE:** similar to previously described becoming increasingly consolidated in minor part, argillaceous and cherty in part, **infer poor to fair porosity with tight streaks, no shows.**

834-839 **CHERT:** very dark grey to brown, common to abundant glauconite, variably hard to firm and crumbly, commonly grades to variably cherty phosphatic glauconitic mudstone and shale, common massive to crystalline pyrite nodules and crystals, silty to sandy in part, minor to locally abundant limonitic alteration of grains? and pellets?, **tight, no shows.**

FANTASQUE 839.0 m MD (-466.1 m SS)

839-845 **CHERT:** tan to light brown, sub translucent to translucent, very hard, dense, trace glauconite, commonly variably spicular, trace sandy, trace to minor fracture surfaces with clear crystalline quartz micro crystals and spotty to patchy bitumen, **infer minor to common fair to poor fracture porosity, minor spotty moderate yellow fluorescence, trace to minor very poor weak slow blooming and very thin diffuse cut.**

845-855 **CHERT:** very similar to above becoming light grey in minor part, trace disseminated pyrite, trace phosphatic shale stringers, increasing minor fracture surfaces, trace pyrite fracture linings, **infer common fair to poor and minor streaky good fracture porosity, minor very dull fluorescence, no cut.**

855-861 **CHERT:** variable: predominantly dark brown, dull to sub translucent, variably moderately to very glauconitic, commonly variably hard and dense, variably firm and crumbly in part, minor to common granular texture, argillaceous locally grading to cherty phosphatic mudstone and trace shale in part, variably sandy to silty in part, trace to locally minor disseminated pyrite, minor light to dark brown translucent to sub translucent chert with slightly resinous lustre, rare to trace fracture surfaces with crystalline quartz and pyrite linings, rare bitumen, **infer trace poor fracture porosity, no shows.**

861-868.5 **CHERT:** predominantly as above becoming decreasingly slightly to moderately glauconitic, predominantly dull and variably hard to firm with common granular texture, very hard and dense in part, crumbly in part, slightly silty to occasionally sandy in part, argillaceous as above, rare fracture surfaces as above, **rare to trace poor fracture porosity, no shows.**

868.5-875 **CHERT:** tan to light grey, slightly mottled in minor part, predominantly very hard and dense, translucent to sub translucent, variably spicular in part, trace to locally minor scattered glauconite, variably silty in part, trace disseminated pyrite, rare fracture surfaces as previously described, rare bitumen, **predominantly tight, infer trace to minor poor fracture porosity, trace spotty moderate to dull yellow fluorescence with very weak questionable cut.**

875-880 **CHERT:** predominantly as above becoming increasingly silty and slightly argillaceous in part, increasing trace fracture surfaces with occasional quartz crystals and bitumen, trace massive pyrite nodules, increasing trace to minor phosphatic to variably cherty glauconitic shale stringers, minor medium to dark brown variably glauconitic argillaceous chert with dull lustre and common granular texture, trace to minor thin clean to argillaceous variably cherty fine grained sandstone as above, trace quartzose glauconitic siltstone stringers, **infer trace to minor poor fracture porosity, trace spotty dull fluorescence, no shows.**

880-888 **CHERT:** light to medium brown, predominantly translucent to sub translucent, very hard and dense, slightly mottled in minor part, trace to locally minor pellet, slightly to moderately spicular in part, decreasing trace disseminated pyrite, decreasing trace shale laminations to stringers as above, rare to trace milky to occasionally chalcedonic quartz blebs to mottles and fracture heals, increasing trace to minor fracture surfaces with crystalline quartz and spotty oil stain and bitumen, rare micro vugs, **infer increasing minor to common poor to fair fracture porosity, minor spotty dull fluorescence, trace poor thin diffuse and streaming cut.**

895-898.5	**CHERT:** predominantly medium to dark brown with dull to resinous lustre, minor medium to light brown to brown grey and sub translucent in minor part, predominantly hard and dense, slightly mottled in part, predominantly argillaceous grading to trace cherty mudstone, trace milky to occasionally chalcedonic quartz blebs to mottles and fracture heals, decreasing trace fracture surfaces as above, very rare micro vugs, **infer trace to minor poor fracture porosity, no shows.**
898.5-905	**CHERT:** variably light to medium brown and light grey, common brown pellet and minor mottles, variably slightly to locally very spicular in part, very hard and dense, sub translucent to translucent, variably silicified in part with increasing minor milky to occasionally chalcedonic quartz blebs to mottles and fracture heals, infer commonly variably fractured, increasing common planar fracture surfaces with drusy quartz crystals and **rare spotty to patchy oil stain and bitumen, infer common variable poor to streaky good fracture porosity, trace spotty fluorescence, rare poor blooming and diffuse cut.**
905-910	**CHERT:** similar to above becoming predominantly light to medium grey, common brown pellet and minor mottles, very hard and dense, sub translucent, variably spicular in part, variably silicified with minor milky quartz as above, increasing common to abundant planar fracture surface with decreasing minor drusy quartz, **infer common to abundant variable poor to locally good fracture porosity, trace spotty poor shows as above.**
910-915	**CHERT:** as previously described becoming predominantly light to very light grey, pelletal and mottled as above, increasingly silicified in part with minor to common milky to occasionally chalcedonic quartz blebs to mottles and fracture heals, decreasing minor to common fracture surfaces with minor drusy quartz, **infer decreasing common variably poor to locally good fracture porosity, rare spotty bitumen and oil stain, minor spotty very dull fluorescence, trace to minor very poor weak cut,** trace dark grey brown argillaceous dolomitic siltstone stringers.
915-919	**CHERT:** similar to above becoming darker with increasingly abundant brown pellet and common mottles, variably silicified with milky to chalcedonic quartz as above, increasing common fracture surfaces with increasing drusy quartz, **infer increasing common to abundant variable fracture porosity as above, rare spotty fluorescence, rare to trace very weak questionable cut.**
919-923.5	**CHERT:** as above becoming mottled dark grey to brown in part, increasingly silicified with common milky quartz blebs to mottles and occasional fracture heals, **increasing common fracture surfaces with drusy quartz and minor oil stain, minor to locally common poor to fair micro vug porosity, infer common poor to fair fracture porosity, minor dull yellow fluorescence, common poor to fair milky cut.**

KINDLE 923.5 m MD (-550.6 m SS)

923.5-930 **SILTSTONE:** predominantly medium to dark brown, quartzose, predominantly moderate to slightly argillaceous, trace slightly sandy, variably poorly to well indurated, very dolomitic locally grading to silty dolostone, trace spotty to patchy pyrite, **no visible porosity, rare spotty bitumen, no fluorescence, trace very weak questionable cut,** minor shale, black, soft to firm, sub platy, phosphatic, glauconitic in part, silty.

930-937 **SILTSTONE:** medium to dark brown, quartzose, rare glauconite, decreasingly slightly to moderately argillaceous, trace argillaceous partings, variably moderately to well indurated, poorly indurated and crumbly in minor part, abundant dolomitic cement and common scattered rhombs, increasingly grading to silty dolostone stringers in minor part, trace slightly cherty, **no visible porosity, common to abundant very dull green fluorescence, minor to common poor thin yellow white streaming and diffuse cut.**

937-945 **SILTSTONE:** similar to above, dark to medium brown, quartzose, decreasing very rare glauconite, increasingly moderately to slightly argillaceous, commonly moderately well to well indurated, moderately to poorly indurated and crumbly in minor part, abundant calcareous to dolomitic cement, locally grades to silty dolostone to limestone stringers, very argillaceous in minor part grading to minor very calcareous to dolomitic shale stringers, **no visible porosity, no fluorescence, minor very weak very thin diffuse and trace streaming cut.**

945-952 **SILTSTONE:** medium to dark brown, very quartzose with rare dark specks and scattered glauconite, predominantly clean, predominantly well to very well indurated, moderately to occasionally poorly indurated and crumbly in part, abundant calcareous to dolomitic cement, occasional sparry inclusion (recrystallized bioclast?), occasionally grades to very silty limestone to dolomite stringers, slightly argillaceous in minor part, trace argillaceous partings, **no visible porosity, rare to trace spotty bitumen, trace very dull questionable fluorescence, common poor thin yellow white streaming and diffuse cut.**

952-958 **SILTSTONE WITH MINOR INTERBEDDED LIMESTONE:**

SILTSTONE: light to medium grey, quartzose with trace dark specks, clean, commonly dense and very well indurated, poorly indurated and crumbly in minor part, abundant calcareous cement, occasionally grades to silty limestone stringers, trace very silty marly laminations to stringers, rare to trace fracture surfaces, rare sparry calcite fracture fill, **no visible porosity, infer locally fair to good fracture porosity, no fluorescence, rare questionable cut, faint oil sheen at wash, condensate odor;** limestone very dark grey to grey brown, cryptocrystalline, variably firm to hard, variably silty and argillaceous occasionally grading to calcareous shale stringers, variably dolomitic grading to calcareous dolomite in part, **tight, no shows.**

958-963 **LIMESTONE:** similar to above, very dark brown to grey, cryptocrystalline to microcrystalline, variably firm to hard, very silty and argillaceous grading to very calcareous siltstone and minor silty shale, commonly variably dolomitic, **tight, no shows.**

MATTSON 962.8 m MD (-589.9 m SS)

963-970 **SANDSTONE:** pale tan to light grey, very fine grained and variably silty grading to sandy siltstone in part, quartz arenite with rare to trace dark lithic grains, rare glauconite, trace scattered recrystallized bioclasts, clean, well sorted, angular to sub angular, commonly moderately to well indurated, moderately poor indurated and crumbly in part, common calcareous to dolomitic cement, minor locally common siliceous cement, rare pyrite, **predominantly no visible porosity, poor to fair porosity in part with common bitumen, minor to common dull yellow green fluorescence, minor to common poor blooming and very thin diffuse cut, faint oil sheen and condensate odor at wash,** minor interbedded shale dark grey, firm, sub platy, slightly calcareous.

970-978 **SANDSTONE:** pale tan to light grey, very fine grained, variably silty grading to minor sandy siltstone, trace very fine to fine grained, quartz arenite with trace dark lithic grains, very rare glauconite, increasing trace to minor recrystallized bioclasts, clean, well sorted, angular to sub angular, predominantly moderately poorly to poorly indurated, crumbly in part, common calcareous and siliceous cement, trace to minor sandy to silty bioclastic limestone stringers to laminations, **common fair to poor porosity, tight to poor porosity in part, minor spotty bitumen, rare spotty oil stain, no fluorescence, increasing common poor blooming and very thin diffuse cut, faint oil sheen and condensate odor at wash,** minor interbedded shale, as above.

978-984 **SANDSTONE:** off-white to light grey, very fine grained and silty commonly grading to sandy siltstone in part, quartz arenite with increasing trace varicolored lithic grains, rare glauconite, rare bioclasts, well sorted, angular to sub angular, variably moderately well to poor indurated and crumbly, abundant dolomitic cement, rare to trace pyrite, **predominantly no visible porosity, minor poor to streaky fair porosity, trace very dull green fluorescence, trace very weak questionable cut,** trace to minor interbedded shale as above.

984-990 **SANDSTONE:** similar to previously described becoming decreasingly grading to siltstone in part, becoming poor to moderately indurated with streaky mixed calcareous to dolomitic and lesser siliceous cement, rare to trace fossiliferous laminations to stringers, **predominantly no visible porosity, trace to minor streaky poor porosity, no shows,** minor interbedded shale, dark grey to black, firm, platy, brittle, fissile, smooth, commonly slightly dolomitic.

990-1002 **SANDSTONE WITH MINOR INTERBEDDED SILTSTONE AND SHALE:**

SANDSTONE: similar to above, predominantly off-white to light grey, light tan in part, very fine grained, variably silty in part grading to sandy siltstone, quartz arenite with trace varicolored lithic grains, rare bioclasts, well sorted, angular to sub angular, commonly variably disaggregated in part with inferred very poor to poor induration, moderately to poorly indurated in part, abundant calcareous cement, rare to trace pyrite, **predominantly no visible porosity in consolidated cuttings, infer poor to fair porosity in part, no fluorescence, rare to trace very weak questionable cut;**

SILTSTONE: medium brown to grey, quartzose, variably argillaceous in part, very calcareous to dolomitic grading to silty limestone and dolomite stringers, **tight, no shows;**

SHALE: black, soft to firm, sub platy to platy, fissile, very carbonaceous to bituminous.

1002-1009 **SANDSTONE:** pale brown to light grey, very fine grained and variably silty grading to minor siltstone, medium brown and very silty in minor part commonly grading to siltstone, quartz arenite, trace lithic grains, rare recrystallized bioclast, well sorted, angular to sub angular, predominantly clean, minor slightly to moderately argillaceous, predominantly poorly to moderately indurated, well to very well indurated in minor part, abundant calcareous cement, minor patchy to streaky siliceous cement, **predominantly no visible porosity, trace to minor poor to rarely fair porosity, rare to trace spotty fluorescence, minor poor slow streaming and blooming cut,** minor interbedded shale and siltstone as above.

1009-1014 **SANDSTONE WITH INTERBEDDED SHALE:**

SANDSTONE: as above becoming increasingly medium to dark brown and silty to argillaceous commonly grading to siltstone, **predominantly tight, decreasing shows as above;**

SHALE: as above becoming brittle in part and locally silty.

1014-1019 **SANDSTONE:** light tan, very fine grained, predominantly variably silty locally grading to sandy siltstone, trace to minor very fine to fine grained, quartz arenite, trace dark lithic grains, rare glauconite, rare to trace recrystallized bioclasts, clean, well sorted, angular to sub angular, poor to moderately indurated, commonly variably crumbly, abundant calcareous cement, **commonly no visible porosity, minor to common variable poor 2 to 5% porosity, trace bitumen, rare oil stain, minor to common spotty dull fluorescence, minor to common poor slow streaming and thin diffuse cut, minor to common oil at wash,** minor interbedded shale and argillaceous siltstone as above.

1019-1026 **SHALE WITH INTERBEDDED SANDSTONE AND LIMESTONE:**

SHALE: black, soft to firm, sub platy to platy, fissile, carbonaceous to phosphatic/bitumen, locally glauconitic in minor part, increasingly silty in part grading to argillaceous siltstone stringers;

SANDSTONE: as above becoming increasingly calcareous occasionally grading to limestone, buff, variably firm to soft, cryptocrystalline to microcrystalline, commonly bioclastic wackestone grading to packstone, variably chalky micritic matrix, commonly variably sandy, **no visible porosity, common dull spotty fluorescence, minor to common very poor slow streaming cut, minor to common oil at wash.**

1026-1029 **SANDSTONE:** light tan to brown, very fine grained, silty in part, very quartzose with trace to locally minor lithic grains, trace to minor limestone grains, quartz arenite to sublitharenite, well sorted, angular to subrounded, predominantly poorly indurated and crumbly, predominantly very calcareous grading to sandy limestone in part, **no visible porosity, minor to common dull yellow green fluorescence, minor to common poor very slow streaming and diffuse cut;** decreasing minor limestone as above becoming decreasingly bioclastic in minor part and predominantly variably sandy grading from sandstone above, **porosity and shows as above.**

1029-1035 **SHALE WITH INTERBEDDED SANDSTONE:**

SHALE: black, firm to soft, sub platy to platy, fissile to sub fissile, faintly micromicaceous and slightly silty in part, phosphatic to bituminous with **poor cut;**

SANDSTONE: as above with minor variably argillaceous siltstone as above.

1035-1039 **SANDSTONE:** off-white to light grey, very fine grained, predominantly variably silty grading to minor sandy siltstone, quartz arenite, well sorted, angular to sub angular, clean, trace slightly argillaceous, predominantly poorly to moderately indurated and crumbly, decreasing common to abundant calcareous cement, trace siliceous cement, **predominantly no visible porosity, minor streaky poor porosity, no fluorescence, trace very poor questionable cut.**

1039-1046 **SANDSTONE:** off-white to light grey, lower very fine to lower fine grained, slightly to moderately silty, quartz arenite with clear to frosted quartz, well sorted, angular to subrounded, rare well rounded blue grey tripolitic chert grains, clean, commonly variably disaggregated, **common poorly consolidated cuttings with tight to poor porosity and variably minor to abundant calcareous cement, minor siliceous cement, minor quartz overgrowths, infer common fair to poor porosity, minor very dull fluorescence, minor to common weak streaming and very thin diffuse cut,** trace to minor shale stringers as above.

1046-1052 **SANDSTONE WITH MINOR INTERBEDDED SHAL:**

SANDSTONE: very similar to above, off-white to light grey, predominantly very fine grained, minor fine grains, increasingly silty in part, quartz arenite as above, clean, well sorted, angular to sub angular, minor subrounded grains, predominantly moderately to poorly indurated, variably crumbly in part, variably disaggregated in minor part, decreasing common calcareous cement, minor siliceous cement, minor quartz overgrowths, **predominantly no visible porosity, minor streaky poor porosity, no fluorescence, trace very weak questionable cut;**

SHALE: black, variably firm to locally soft, commonly brittle, platy, fissile, carbonaceous to slightly phosphatic/bituminous.

1052-1059 **SHALE WITH MINOR INTERBEDDED SANDSTONE AND SILTSTONE:**

SHALE: very dark brown to black, dark grey in part, variably firm to slightly soft, variably platy to sub blocky, commonly fissile to sub fissile, smooth and faintly micromicaceous in part, commonly sub waxy, commonly very slightly dolomitic, variably silty in part locally grading to minor argillaceous siltstone laminations, variably bituminous to slightly phosphatic with common **very poor cut,** trace pyrite nodules;

SANDSTONE AND SILTSTONE: dark brown to grey, argillaceous, siliceous to calcareous, **tight, no shows.**

1059-1065 **SANDSTONE:** pale tan to very light grey, fine to very fine grained, quartz arenite with clear to frosted quartz, trace to minor yellow quartz grains, well sorted, angular to subrounded, minor rounded grains, clean, commonly disaggregated in part, common consolidated cuttings with variably very poor to moderate induration, minor spotty to patchy siliceous and calcareous cement, trace interstitial pyrite, rare to trace spotty illite, common quartz overgrowths, **consolidated cuttings with variable streaky fair to poor porosity, occasional good and tight streaks, infer common fair to good porosity, very faint oil stain, common to abundant pale green to yellow green fluorescence, common fair milky streaming and diffuse cut,** minor oil sheen at wash, strong condensate odor.

1065-1070 **SANDSTONE:** predominantly disaggregated as above becoming slightly finer, slightly silty in part, infer fair to good porosity, ~20% consolidated cuttings: poor to moderately indurated and crumbly to friable, abundant calcareous cement, minor siliceous cement, **predominantly no visible porosity with minor streaky poor to fair porosity, trace spotty fluorescence, trace to minor very poor cut,** minor dark grey to black platy fissile, slightly bituminous shale.

1070-1075 **SANDSTONE:** very light grey to pale tan, very fine grained, trace fine grains, variably silty in part, quartz arenite with trace lithic grains, very rare recrystallized bioclast, well sorted, angular to sub angular, trace rounded grains, predominantly clean, trace slightly argillaceous, rare to trace argillaceous partings, predominantly poorly to moderately indurated and crumbly to variably friable, well indurated in part, abundant calcareous cement, minor to locally common streaky to patchy siliceous cement, **predominantly no visible porosity, no shows.**

1075-1080 **SHALE WITH INTERBEDDED SANDSTONE AND MINOR SILTSTONE:**

SHALE: similar to above, very dark brown to dark grey, variably firm to slightly soft, platy to sub blocky, fissile to sub fissile, smooth and slightly sub waxy in part, slightly silty and faintly micromicaceous in part, **slightly bituminous with very poor cut;**

SILTSTONE: medium to dark brown, quartzose, moderately to well indurated, common to abundant calcareous to dolomitic cement, argillaceous in part, variably sandy in part grading to silty sandstone stringers, **tight, no fluorescence, minor very slow blooming and streaming cut;**

SANDSTONE: predominantly as previously described.

1080-1085 **SANDSTONE:** predominantly disaggregated, fine to very fine grained, trace to minor lower medium grains, quartz arenite with predominantly frosted quartz, well to moderately well sorted, sub angular to rounded, clean, **infer fair to good porosity, no shows, ~20% consolidated cuttings:** pale brown to light grey, well sorted, angular to subrounded, minor rounded, poorly to very poorly indurated and moderately to very friable, minor calcareous and siliceous cement, **predominantly fair to poor porosity,** trace spotty bitumen, **abundant slightly patchy very faint oil stain, abundant moderate to bright pale yellow green fluorescence, common poor thin diffuse cut,** minor thin shale interbeds and stringers as above.

1085-1092 **SANDSTONE:** very similar to above, disaggregated, fine to very fine grained, quartz arenite with predominantly frosted quartz, well to moderately well sorted, sub angular to rounded, **trace very friable consolidated cuttings with predominantly fair porosity and decreasing cements as above, infer fair to good porosity, no shows.**

1092-1095 Trip sample with abundant cavings.

1095-1098 **SANDSTONE WITH INTERBEDDED SHALE:**

SANDSTONE: off-white to light grey, predominantly very fine to fine grained and slightly silty, very fine grained and silty in part occasionally grading to siltstone, quartz arenite with trace to minor dark lithic grains, well sorted, angular to subrounded, poorly to moderately indurated, crumbly to friable in part, abundant calcareous cement, commonly disaggregated, **predominantly no visible porosity in consolidated cuttings, infer streaky poor to fair porosity in part, no shows.**

1098-1104 **SANDSTONE WITH INTERBEDDED SHALE:**

SANDSTONE: predominantly light brown, very fine to fine grained, slightly to moderately silty, quartz arenite with trace dark lithic grains, well sorted, angular to subrounded, poorly to moderately indurated, crumbly to friable in part, predominantly clean, slightly argillaceous in part, abundant calcareous cement, **no visible porosity, minor very dull fluorescence, minor to common poor thin diffuse cut;**

SHALE: black to dark grey, firm to locally hard, brittle in part, sub platy to sub fissile, smooth in part, variably silty in part with trace argillaceous siltstone laminations, **variably bituminous with poor cut.**

1104-1109 **SANDSTONE:** pale tan to very light grey, predominantly very fine to fine grained, trace lower medium grains, slightly silty, quartz arenite with frosted to clear quartz and trace dark lithic grains, well sorted, angular to subrounded, minor rounded grains, clean, trace slightly argillaceous, rare argillaceous partings, variably poorly to well indurated, crumbly to friable in part, decreasing common calcareous cement, minor siliceous cement, commonly variably disaggregated, **variable tight to streaky fair porosity in consolidated cuttings, infer common poor to fair porosity, minor spotty yellow green fluorescence, minor very weak cut.**

1109-1113.5 **SANDSTONE WITH INTERBEDDED SHALE:**

SANDSTONE: light to medium brown, very fine grained and variably silty grading to sandy siltstone in part, very quartzose, trace to minor dark lithic grains, clean to variably argillaceous, minor argillaceous partings and laminations, well sorted, angular to sub angular, commonly moderately to well indurated, poorly indurated and crumbly in part, common to abundant calcareous cement, minor siliceous cement, variable argillaceous matrix/cement, **no visible porosity, no shows;**

SHALE: as above.

1113.5-1120 **SANDSTONE:** offwhite to very pale tan, very fine to fine grained, trace lower medium grains, slightly to moderately silty, quartz arenite, trace to minor dark lithic grains, rare recrystallized bioclast, well sorted, angular to subrounded, clean, predominantly poorly to moderately indurated and variably crumbly to friable, abundant calcareous cement, disaggregated in minor part, predominantly no visible porosity with minor streaky poor to fair porosity in consolidated cuttings, **infer minor poor to fair porosity, trace to minor dull fluorescence, minor weak thin streaming and diffuse cut,** trace to minor thin shale interbeds as above.

1120-1131 **SANDSTONE:** very similar to above, offwhite to very pale tan, very fine to fine grained, trace lower medium grains, slightly to moderately silty, quartz arenite, trace to minor dark lithic grains, rare recrystallized bioclast, well sorted, angular to sub-angular, clean, predominantly poorly to moderately indurated and variably crumbly to friable, abundant calcareous cement, decreasingly disaggregated in minor part, **predominantly no visible porosity, infer minor streaky poor to fair porosity, no shows,** decreasing trace thin shale interbeds as above.

1131-1136 **INTERBEDDED SANDSTONE, SILTSTONE AND SHALE:** very poor quality sample with common to abundant cavings;

SANDSTONE: as above, siltstone, medium to dark brown, quartzose, calcareous to dolomitic, **tight,** shale as above.

1136-1139 **SANDSTONE:** offwhite to pale brown, predominantly lower fine to upper medium grained, minor upper very fine and lower coarse grains, quartz arenite with predominantly frosted quartz, increasing minor chert and lithic grains, moderately sorted, sub angular to rounded, clean, commonly disaggregated, common poorly to moderately consolidated cuttings with common siliceous and minor spotty calcareous cement, trace spotty illite, trace to minor quartz overgrowths, **variably fair to very poor porosity in consolidated cuttings, infer predominantly fair porosity, trace spotty bitumen, no fluorescence, minor to common weak slow cut.**

1139-1145 **SANDSTONE:** mixed; as above in part, predominantly **SANDSTONE:** #2 offwhite, very fine grained and variably silty occasionally grading to siltstone stringers, trace to minor fine grains, quartz arenite, well sorted, angular to subrounded, clean, predominantly moderately to well indurated, abundant calcareous to dolomitic cement, no visible porosity, no shows, trace light brown to grey cryptocrystalline limestone stringers variably bioclast to sandy, **tight, no shows.**

1145-1150 **SANDSTONE:** similar to above, offwhite to light grey, very fine to fine grained, slightly to moderately silty, quartz arenite with trace chert and lithic grains, well sorted, angular to subrounded, predominantly clean, slightly argillaceous in part, trace argillaceous partings, poorly indurated and crumbly to friable in part, medium to well indurated in part, abundant dolomitic to calcareous cement, **predominantly no visible porosity, no shows;**

minor interbedded SILTSTONE: medium brown, quartzose, well indurated, abundant calcareous to dolomitic cement, sandy occasionally grading to sandstone, **tight, no shows.**

1150-1155 **DOLOMITE WITH INTERBEDDED CHERT:**

DOLOMITE: buff, commonly cryptocrystalline to microcrystalline, locally microcrystalline to very fine crystalline and slightly microsucrosic, predominantly firm to hard and variably dense, variably cherty in part occasionally grading to dolomitic chert stringers to nodules, locally silty to sandy in minor part, **tight, trace to minor dull yellow fluorescence, no cut;**

CHERT: light to medium grey, predominantly hard and dense, opaque to sub translucent, commonly variably dolomitic occasionally grading to cherty dolomite stringers, rare to trace fracture surfaces, **infer locally poor to fair fracture porosity, no shows,** minor thin sandstone stringers as above.

1155-1161 **DOLOMITE:** similar to above, buff to light brown, cryptocrystalline to microcrystalline, predominantly hard and dense, predominantly variably cherty grading to minor chert stringers and nodules, silty to sandy in minor part, slightly calcareous in part, **tight, questionable shows as above;**

minor interbedded SILTSTONE: medium to dark brown, quartzose, slightly to moderately argillaceous, well indurated, abundant dolomitic to calcareous cement, variably sandy occasionally grading to sandstone stringers, **tight, no fluorescence, minor very weak thin cut,** trace sandstone and shale stringers.

1161-1165 **SANDSTONE:** buff to pale tan, very fine to fine grained, slightly silty, quartz arenite with trace chert and lithic grains, well sorted, angular to subrounded, clean, moderately to poor indurated, abundant dolomitic cement, trace quartz overgrowths, disaggregated in part, **no visible porosity in consolidated cuttings, infer minor fair porosity, trace to minor very dull fluorescence, no cut.**

1165-1170 **SANDSTONE:** very similar to above becoming slightly coarser, fine to very fine grained, quartz arenite with predominantly frosted quartz, trace chert and lithic grains, well sorted, angular to rounded, clean, commonly poorly to moderately indurated and variably crumbly to friable, well indurated in part, abundant dolomitic to calcareous cement, minor locally siliceous cement, trace quartz overgrowths, disaggregated in minor part, **predominantly no visible porosity, no shows.**

1170-1173 **SANDSTONE:** as above becoming slightly coarser, predominantly fine grained, quartz arenite as above, sub angular to rounded, commonly disaggregated, common variably poorly to well consolidated cuttings with abundant dolomitic cement, minor locally common streaky siliceous cement, **trace to minor streaky poor porosity in consolidated cuttings, infer minor poor to fair porosity, trace spotty bitumen, trace to minor spotty dull fluorescence, trace to minor poor slow streaming cut.**

1173-1179 **DOLOMITE:** dark brown, cryptocrystalline to microcrystalline, hard, dense, variably cherty with minor chert nodules and stringers, locally silty to sandy in part, argillaceous in part, **tight, no shows.**

1179-1183 **SANDSTONE WITH INTERBEDDED DOLOMITE:**

SANDSTONE: buff to light grey, fine to very fine grained, quartz arenite, well sorted, angular to rounded, clean, moderately to well indurated, abundant dolomitic cement, minor siliceous cement, disaggregated in minor part, rare fracture surfaces with pyrobituminous to pyritic residue, **no visible porosity, no shows;**

DOLOMITE: medium brown to grey, slightly mottled, cryptocrystalline to microcrystalline, hard, common recrystallized bioclasts, variably sandy in part occasionally grading to dolomitic sandstone, cherty in part, rare fracture surfaces as above, very rare slickensides, **tight, no shows.**

1183-1191.5 **DOLOMITE WITH INTERBEDDED SANDSTONE:**

DOLOMITE: light to medium grey and buff brown, mottled in part, bioclastic in part, predominantly variably sandy grading to dolomitic sandstone in part, variably silicified in part with trace to minor milky quartz blebs to mottles, common disseminated and nodular pyrite, cherty in part, trace chert nodules, increasing trace to minor fracture surfaces as above, **predominantly tight, infer minor poor fracture porosity, no shows;**

SANDSTONE: buff to light grey, predominantly fine to very fine grained, minor medium grains, quartz arenite locally grading to sub litharenite, abundant clear to frosted quartz, locally minor dolomite grains, moderately to well indurated, abundant dolomitic cement, minor siliceous cement, **no visible porosity, minor to common very dull fluorescence, trace questionable cut.**

1191.5-1199 **SANDSTONE WITH INTERBEDDED DOLOMITE:**

DOLOMITE: as previously described becoming variably sandy commonly grading to sandstone buff to light brown, variably very fine to fine grained, minor medium grains, sublitharenite locally grading to quartz arenite, abundant clear to frosted quartz with minor to locally common dolomite grains, trace chert and lithic grains, clean, well to moderately well sorted, angular to subrounded, disaggregated in minor part, predominantly well to very well indurated, abundant dolomitic to minor calcareous cement, minor siliceous cement, **no visible porosity, common dull yellow green fluorescence, minor very weak very thin cut.**

1199-1205 **DOLOMITE WITH INTERBEDDED SANDSTONE AND MINOR SILTSTONE:**

DOLOMITE: as previously described commonly grading to dolomitic sandstone as above;

SANDSTONE #2: offwhite to light grey, very fine to fine grained, slightly silty, quartz arenite, trace chert and lithic grains, well sorted, angular to sub angular, clean, moderately to well indurated, abundant dolomitic cement, minor siliceous cement, **no visible porosity, no shows;**

SILTSTONE: medium brown, very quartzose, moderately to poorly indurated, abundant dolomitic cement, **no visible porosity, minor very dull fluorescence, minor weak slow cut.**

1205-1215 m **SANDSTONE WITH MINOR DOLOMITE:**

SANDSTONE: similar to above becoming slightly coarser, offwhite to light grey, very fine to fine grained, slightly silty, quartz arenite, trace chert and lithic grains, well sorted, angular to sub angular, predominantly clean, trace slightly argillaceous, disaggregated in minor part, moderately to well indurated, decreasing common to abundant dolomitic to minor calcareous cement, increasing minor to locally common siliceous cement, **no visible porosity, minor spotty dull fluorescence, trace very slow questionable cut;**

DOLOMITE: as previously described, trace shale stringers.

1215-1219.5 **SANDSTONE:** similar to above, pale tan to light grey, very fine to fine grained, quartz arenite, well sorted, angular to subrounded, clean, increasingly disaggregated in part, predominantly moderately to well indurated, poorly indurated and crumbly in minor part, common to abundant dolomitic cement, minor locally common streaky siliceous cement, trace spotty illite, **predominantly no visible porosity, trace streaky poor porosity, infer minor poor porosity, minor spotty dull fluorescence, minor very slow weak cut,** trace sandy dolomite stringers.

1219.5-1226 **SANDSTONE:** offwhite to light grey, trace to minor lower medium grains, quartz arenite with frosted to clear quartz, well to moderately well sorted, angular to rounded, clean, commonly disaggregated in part, lesser common variably poorly to moderately well indurated cuttings with variable tight to fair porosity, predominantly siliceous cement, minor streaky dolomitic cement, trace spotty illite, trace to minor quartz overgrowths, **infer common fair to streaky good porosity, no shows.**

1226-1238 **SANDSTONE:** frosted very light grey, lower fine to lower medium grained, trace to minor upper very fine and upper medium grains, quartz arenite with predominantly frosted quartz, trace chert and lithic grains, clean, moderately well sorted, rounded to sub angular, disaggregated, trace poorly consolidated cuttings with spotty siliceous cement, trace quartz overgrowths, **infer predominantly good to streaky fair porosity, trace very poor questionable fluorescence and cut.**

1238-1241 **SANDSTONE:** light grey to light brown, variably very fine to fine grained, variably silty occasionally grading to siltstone stringers, quartz arenite, variably clean to slightly argillaceous, moderately well sorted, angular to subrounded, trace argillaceous partings, moderately to well indurated, common to abundant dolomitic cement, minor locally common siliceous cement, **predominantly no visible porosity, no shows,** trace to minor silty to sandy dolomite stringers, minor thin shale.

1241-1245 **SANDSTONE:** light grey to pale tan, very fine to fine grained, variably silty in part, quartz arenite, well to moderately well sorted, angular to subrounded, predominantly clean, slightly argillaceous in part with trace argillaceous partings, predominantly well to moderately indurated, predominantly abundant dolomitic cement, minor siliceous cement, **no visible porosity, common very dull questionable fluorescence, trace questionable cut;** trace to minor thin shale interbeds to stringers, trace silty to sandy dolomite stringers.

1245-1252.5 **SANDSTONE:** predominantly as above becoming slightly finer in part, disaggregated in minor part, **infer minor poor to fair porosity, no shows;** minor thin shale interbeds to stringers dark grey, firm, brittle, sub platy, fissile, slightly sub waxy in part, variably silty in part, trace silty to sandy dolomite stringers, trace light grey bentonitic claystone stringers.

1252.5-1259 **SANDSTONE:** offwhite to light grey, fine to very fine grained, trace to minor lower medium grains, slightly silty, quartz arenite with predominantly frosted quartz, well sorted, sub angular to rounded, clean, commonly variably disaggregated, common poorly to moderately indurated variably friable consolidated cuttings with predominantly siliceous cement, trace to minor quartz overgrowths, **variable tight to minor fair porosity in consolidated cuttings, infer common fair porosity, no shows.**

1259-1264 **SANDSTONE:** offwhite to light grey, light brown in part, very fine to fine grained, slightly to moderately silty, quartz arenite, well sorted, angular to subrounded, clean, commonly moderately to well indurated, poorly indurated and crumbly to friable in part, predominantly siliceous cement, **increasing minor to locally common streaky dolomitic cement, predominantly no visible porosity, minor streaky poor to fair porosity, trace spotty dull fluorescence, trace questionable cut;**

minor interbedded SHALE: dark grey to black, firm, brittle, platy to sub platy, fissile, slightly silty, carbonaceous to bituminous, trace dolomite stringers.

1264-1273 **SANDSTONE WITH MINOR INTERBEDDED SHALE AND SILTSTONE:**

SANDSTONE: as above in part, predominantly tan to light grey, very fine grained, minor fine grains, variably silty occasionally grading to siltstone, quartz arenite, well sorted, angular to sub angular, predominantly clean to slightly argillaceous, trace argillaceous partings, variably poorly to well indurated, siliceous and minor dolomitic cement, **no visible porosity, no shows;**

SILTSTONE: medium to dark brown, quartzose, poorly to moderately indurated, abundant dolomitic cement and minor to locally abundant dolomite rhombs, grades to dolsiltite in part, variably sandy in part, slightly to moderately argillaceous, **no visible porosity,** minor to locally common bitumen, **minor to common weak thin cut,** trace dolomite stringers; SHALE: as above with minor soft light brown faintly laminated marl stringers.

1273-1281 SANDSTONE: mixed;

SANDSTONE #1: tan to light grey, very fine to fine grained, quartz arenite, well sorted, angular to sub angular, clean, abundant dolomitic cement, **tight, no shows;**

SANDSTONE #2: light grey, lower fine to upper coarse grained, trace to minor upper very fine and very coarse grains, litharenite grading to sub litharenite, abundant frosted to clear quartz, common blue grey to minor light to dark varicolored chert grains, moderately poorly sorted, rounded to sub angular, clean, commonly variably disaggregated, common consolidated cuttings with siliceous and minor dolomitic cement, trace to minor quartz overgrowths, **variable tight to fair porosity in consolidated cuttings, infer common fair porosity, minor locally common spotty bitumen, common dull green fluorescence, common slow blooming and diffuse cut.**

1281-1290 SANDSTONE: mixed similar to above; predominantly SANDSTONE: #2 light grey, upper very fine to upper medium grained, trace to minor lower coarse grains, sub litharenite locally grading to litharenite, abundant frosted to minor clear quartz with common dark to light varicolored chert and lithic grains, moderately poorly to poorly sorted, rounded to sub angular, clean, predominantly disaggregated, minor consolidated cuttings with mixed dolomitic and siliceous cement, trace to minor quartz overgrowths, **infer common poor to fair porosity, minor spotty bitumen, trace spotty fluorescence, trace poor cut;** SANDSTONE: #1 light grey to tan, fine to very fine grained, quartz arenite, trace to locally minor chert and lithic grains, moderately well to well sorted, angular to subrounded, clean, poorly to moderately indurated, common siliceous and dolomitic cement, **variable tight to minor streaky fair porosity, no fluorescence, trace poor slow cut.**

1290-1295 SANDSTONE: light grey, fine to very fine grained, slightly to moderately silty, quartz arenite, trace chert and lithic grains, well sorted, angular to subrounded, clean, predominantly poorly to moderately indurated and crumbly to friable, predominantly siliceous and minor dolomitic cement, trace quartz overgrowths, trace pyrite, **predominantly no visible porosity, trace spotty very dull fluorescence, trace very weak questionable cut.**

1295-1300 **SANDSTONE:** offwhite to light grey, fine to very fine grained, minor scattered medium and trace lower coarse grains, silty in part, quartz arenite, well to moderately well sorted, angular to subrounded, clean to trace slightly argillaceous, very silty in minor part grading to siltstone laminations to stringers with common argillaceous partings, well indurated in part, poorly to moderately indurated and crumbly to friable in part, predominantly siliceous with minor dolomitic cement, trace pyrite, **minor streaky poor porosity, trace spotty bitumen, common very dull green fluorescence, no cut,** minor shale stringers to thin interbeds.

1300-1303.5 **DOLOMITE:** variable: dark to light brown, predominantly common to very abundant very fine rhombs in variable trace to abundant argillaceous matrix, grades to dolarenite in part, trace to minor recrystallized allochems, silty to sandy in part grading to dolomitic sandstone, **hard dense and cryptocrystalline to microcrystalline in minor part, no visible porosity, common very dull green fluorescence, common poor thin diffuse and streaming cut.**

1303.5-1306 **SANDSTONE:** tan to light grey, predominantly fine grained, quartz arenite, frosted to minor clear quartz, predominantly disaggregated, minor poorly to moderately consolidated cuttings with siliceous and lesser dolomitic cement, **tight to poor porosity in consolidated cuttings, infer common poor to fair porosity, no fluorescence, trace questionable cut.**

1306-1314 **SANDSTONE:** offwhite to light grey, very fine to fine grained, quartz arenite, trace dark lithic grains, well sorted, angular to subrounded, clean, moderately to poorly indurated, variably crumbly to slightly friable, siliceous cement, trace quartz overgrowths, disaggregated in minor part, **tight to streaky poor porosity, minor dull fluorescence, minor weak thin slow cut,** trace shale stringers.

1314-1316 **DOLOMITE:** very similar to above, common to very abundant very fine rhombs in variable trace to abundant argillaceous matrix, grades to dolarenite in part, commonly soft to firm and crumbly, silty to sandy in part grading to dolomitic sandstone stringers, **no visible porosity, minor very dull green fluorescence, minor poor thin diffuse and streaming cut.**

1316-1323.5 **SANDSTONE:** as above in minor part, predominantly upper very fine to lower medium grained, quartz arenite with abundant frosted quartz, trace chert and lithic grains, moderately well sorted, sub angular to rounded, predominantly disaggregated, minor poorly consolidated cuttings with dolomitic and minor siliceous cement, trace quartz overgrowths, trace pyrite, **tight to streaky fair porosity in consolidated cuttings, infer common poor to streaky fair porosity, trace spotty bitumen, minor to common fair spotty yellow green fluorescence, minor to common poor to fair streaming and diffuse cut.**

1323.5-1329 **SANDSTONE:** offwhite to light grey, fine to very fine grained, slightly silty, quartz arenite, well sorted, angular to subrounded, clean, predominantly poor to moderately indurated with common to abundant dolomitic and lesser siliceous cement, disaggregated in minor part, **predominantly no visible porosity, trace questionable cut and fluorescence.**

1329-1334 **SANDSTONE:** pale tan to light grey, fine to very fine grained, trace lower medium grains, quartz arenite, rare dolomitic grains, moderately well sorted, sub angular to rounded, clean, disaggregated in part, poor to moderately indurated, common to abundant dolomitic to minor calcareous cement, minor siliceous cement, trace interstitial pyrite, **predominantly no visible porosity, no shows,** trace buff cryptocrystalline dolomite stringers, rare to trace ironstone laminations, trace variably argillaceous siltstone laminations to stringers.

1334-1346 **SANDSTONE:** similar to above, pale tan to light grey, fine to very fine grained, trace lower medium grains, quartz arenite, increasing rare to trace dolomitic grains, moderately well sorted, sub angular to rounded, clean, commonly variably disaggregated, poorly to moderately indurated, common to abundant dolomitic to minor calcareous cement, minor siliceous cement, trace to locally minor quartz overgrowths, trace interstitial pyrite, **commonly no visible porosity in consolidated cuttings, minor to locally common streaky poor to fair porosity with common spotty bitumen, minor to locally common spotty yellow fluorescence, minor poor to fair streaming and diffuse cut,** minor buff to brown cryptocrystalline to microcrystalline dolomite stringers.

1346-1350 **SANDSTONE:** frosted light grey, predominantly fine grained, trace to minor upper very fine and lower medium grains, quartz arenite, predominantly frosted to minor clear quartz, well sorted, sub angular to rounded, clean, predominantly disaggregated, trace consolidated cuttings with dolomitic and siliceous cement, trace quartz overgrowths, **infer common fair to good porosity, minor dull fluorescence, trace questionable cut,** trace to minor dolomite stringers as above.

1350-1356 **SANDSTONE WITH MINOR INTERBEDDED DOLOMITE AND SHALE:**

SANDSTONE: light grey to minor tan, fine to very fine grained, increasing minor lower medium grains, quartz arenite, predominantly frosted quartz, clean, trace argillaceous partings, moderately well sorted, sub angular to rounded, commonly disaggregated, common poorly to moderately consolidated cuttings with common to abundant dolomitic cement, minor siliceous cement, **predominantly no visible porosity in consolidated cuttings, infer minor to common poor to fair porosity, trace dull fluorescence and questionable cut;**

DOLOMITE: medium to dark brown, predominantly cryptocrystalline to microcrystalline, hard dense and variably cherty grading to chert, **tight, no shows;**

SHALE: very dark brown, slightly to very silty and micromicaceous, slightly phosphatic to bituminous.

1356-1365 **SANDSTONE:** very pale tan to light grey, upper very fine to upper fine grained, trace lower medium grains, quartz arenite with frosted to clear quartz, rare bioclastic grains, well sorted, angular to rounded, clean, predominantly disaggregated, minor to common poorly to moderately consolidated cuttings with common to abundant dolomitic cement in part, common to abundant siliceous cement in part, trace to minor quartz overgrowths, **predominantly tight to poor porosity with minor streaky poor to fair porosity in consolidated cuttings, infer common fair porosity, trace to minor spotty bitumen, minor to common spotty dull yellow green fluorescence, minor very poor very slow cut,** trace dolomite stringers.

1365-1370 **SANDSTONE:** offwhite to light grey, very fine to fine grained, slightly silty in part, quartz arenite, frosted to clear quartz, well sorted, angular to rounded, clean, disaggregated in part, commonly moderately to well indurated, poorly indurated in part, predominantly common to abundant dolomitic cement, minor siliceous cement, trace interstitial pyrite, **predominantly no visible porosity, trace streaky poor porosity, infer minor poor to fair porosity, no shows.**

1370-1377 **SANDSTONE:** very similar to above becoming slightly coarser, decreasingly indurated, commonly to predominantly disaggregated, minor to common poorly to moderately indurated and crumbly to friable consolidated cuttings, cements as above, trace quartz overgrowths, trace interstitial pyrite, **predominantly no visible porosity in consolidated cuttings, infer common poor to streaky fair porosity, trace dull fluorescence, no cut.**

1377-1383 **SANDSTONE:** pale brown to light grey, very fine to fine grained, variably silty in part, quartz arenite, frosted to clear quartz, well sorted, angular to rounded, clean, disaggregated in minor part, predominantly moderately to well indurated, abundant dolomitic cement, minor siliceous cement, trace interstitial pyrite, **predominantly no visible porosity, trace streaky poor porosity, no shows,** minor interbedded shale.

1383-1390 **SANDSTONE:** mixed; predominantly **SANDSTONE:** #1 lower fine to upper medium grained, quartz arenite with predominantly frosted quartz, moderately to moderately well sorted, rounded to sub angular, disaggregated, trace consolidated cuttings with spotty dolomitic and siliceous cement, minor patchy pyrite, **infer predominantly fair to streaky good porosity, trace to minor spotty bitumen, minor fluorescence and cut as below:** **SANDSTONE:** #2 very fine to fine grained, quartz arenite, well sorted, angular to rounded, disaggregated in part, poorly to moderately indurated with spotty siliceous and dolomitic cement, trace pyrite, **variable very poor to fair porosity with common to abundant bitumen, common spotty dull to moderate fluorescence, common poor to fair streaming and diffuse cut.**

1390-1395.5 **SANDSTONE:** offwhite to light grey, predominantly fine grained, minor upper very fine and lower medium grains, quartz arenite with frosted to minor clear quartz, well sorted, angular to rounded, slightly silty, predominantly poorly indurated and variably crumbly to friable, moderately indurated in part, predominantly siliceous cement, minor dolomitic cement, trace spotty illite, trace to minor quartz overgrowths, decreasing trace pyrite, disaggregated in part, **predominantly poor to streaky fair porosity with tight streaks, trace dull fluorescence, trace weak questionable cut.**

1395.5-1400 **INTERBEDDED DOLOMITE, SHALE AND SANDSTONE:**

DOLOMITE: light to dark brown, mottled in part, cryptocrystalline, hard, dense, variably cherty with common chert nodules, clean to argillaceous, silty in part, **tight, no shows;**

SHALE: medium to dark green in part, platy sub platy, fissile, sub waxy, locally silty with siltstone stringers, trace anhydrite stringers;

SANDSTONE: light grey, fine to very fine grained, quartz arenite, well sorted, angular to subrounded, variably silty in part, clean to trace argillaceous, trace argillaceous partings, disaggregated in part, poorly to moderately indurated, common to abundant dolomitic cement, **predominantly no visible porosity, infer minor poor to fair porosity, no shows.**

1400-1405 **SANDSTONE:** pale buff to light grey, predominantly lower fine to lower medium grained, trace upper very fine grains, quartz arenite, predominantly frosted quartz, well sorted, rounded to sub angular, clean, predominantly disaggregated, minor poorly consolidated cuttings with siliceous and dolomitic cement, well indurated in part with locally common patchy pyrite, **tight to poor porosity in consolidated cuttings, infer predominantly fair to good porosity, no shows.**

1405-1408 **SANDSTONE:** light grey, very fine to fine grained, slightly silty, quartz arenite, well sorted, angular to subrounded, clean to trace argillaceous, trace argillaceous partings, variably poorly to well indurated, common to abundant dolomitic cement, minor streaky siliceous cement, trace spotty to patchy pyrite, **predominantly no visible porosity, no shows,** trace to minor cryptocrystalline to sandy dolomite stringers, trace light grey marl stringers.

1408-1412 **SANDSTONE:** light grey, predominantly lower fine to lower medium grained, trace upper very fine and upper medium grains, quartz arenite, predominantly frosted quartz, well sorted, rounded to sub angular, clean, predominantly disaggregated, minor poorly consolidated cuttings with siliceous and dolomitic cement, well indurated in part with locally common patchy pyrite, **tight to poor porosity in consolidated cuttings infer predominantly fair to good porosity, no shows.**

1412-1415 **SANDSTONE:** light grey to light brown, very fine to fine grained, slightly silty, quartz arenite, well sorted, angular to subrounded, clean to trace argillaceous, trace argillaceous partings, variably poorly to well indurated, common to abundant dolomitic cement, minor streaky siliceous cement, trace spotty to patchy pyrite, **predominantly no visible porosity, no shows.**

1415-1420.5 **SANDSTONE WITH INTERBEDDED DOLOMITE AND SILTSTONE:**

SANDSTONE: buff to light grey, very fine to fine grained, variably silty occasionally grading to siltstone laminations, quartz arenite, well sorted, angular to sub angular, clean to slightly argillaceous, moderately to well indurated, predominantly siliceous cement, minor dolomitic cement, **no visible porosity, no shows;**

DOLOMITE: buff to medium brown, cryptocrystalline to microcrystalline, hard dense and variably cherty in part, very silty in part grading to siltstone, light brown, quartzose, poorly to well indurated, abundant dolomitic cement, sandy in part occasionally grading to silty sandstone, **common poor to fair yellow fluorescence, no cut.**

1420.5-1425 **SANDSTONE:** light grey, upper very fine to lower medium grained, trace upper medium grains, quartz arenite with predominantly frosted quartz, moderately well sorted, angular to rounded, clean, commonly poorly to moderately indurated and variably crumbly to friable, well indurated in part, predominantly siliceous cement, minor to locally common quartz overgrowths, trace interstitial pyrite, disaggregated in part, **common tight to 2% porosity, minor to common streaky 4 to 7% porosity, no shows.**

1425-1429 **SANDSTONE:** as above with increasing trace spotty to patchy pyrite, increasing minor to common poor to fair porosity locally with common to abundant bitumen, **minor poor to fair fluorescence and cut.**

1429-1436 **SANDSTONE:** pale buff to light grey, upper very fine to lower medium grained, quartz arenite with predominantly frosted quartz, moderately well sorted, rounded to sub angular, clean, commonly disaggregated, minor poorly to moderately consolidated cuttings, variably crumbly to friable, predominantly siliceous cement with minor spotty to streaky dolomitic cement, increasing minor quartz overgrowths, **common poor to fair porosity with tight streaks in consolidated cuttings, infer common poor to fair porosity, no shows.**

1436-1441.5 **SANDSTONE:** offwhite to light grey, predominantly fine grained, minor upper very fine and lower medium grains, quartz arenite with clear to frosted quartz, well sorted, angular to subrounded, minor rounded grains, clean, commonly poorly indurated and crumbly to friable, moderately to occasionally well indurated in part, siliceous cement, increasing minor to common quartz overgrowths, commonly variably disaggregated in part, **common tight to 3% porosity, minor streaky 4 to 6% porosity, no shows.**

1441.5-1448 **SHALE WITH INTERBEDDED SANDSTONE AND MINOR DOLOMITE:**

SHALE: mixed: predominantly #1 black to very dark brown, firm, blocky to sub platy, predominantly variably silty to locally very sandy with minor variably dolomitic sandstone laminations to stringers, commonly sub waxy to waxy, phosphatic to bituminous with poor cut, trace slickensides, #2 medium green to green grey, platy to sub blocky, sub waxy, pyritic in part with trace to locally abundant disseminated pyrite, minor to common massive to crystalline pyrite nodules;

SANDSTONE: buff to tan, very fine grained and variably silty, very fine to fine grained in part, quartz arenite, angular to sub angular, poorly to moderately indurated, abundant dolomitic cement, **no visible porosity, no shows;**

DOLOMITE: medium to dark brown, cryptocrystalline, hard, cherty in part, argillaceous, silty to sandy in part grading to dolomitic sandstone, **tight, no shows.**

1448-1454.5 **SANDSTONE:** pale buff, fine to very fine grained, trace lower medium grains, quartz arenite with frosted to clear quartz, moderately well sorted, angular to rounded, clean, predominantly poorly indurated and crumbly to friable, moderate to occasionally well indurated in minor part, siliceous cement, minor to common quartz overgrowths, disaggregated in part, **variable porosity in consolidated cuttings: common tight to 3%, less common 4 to 7% porosity, infer common poor to fair porosity, rare spotty pyrobitumen to bitumen, trace very dull questionable fluorescence and cut.**

1454.5-1459 **SANDSTONE:** variable: light brown to light grey, very fine grained and silty in part occasionally grading to siltstone stringers, variably fine to very fine grained in part, moderately well to well sorted, angular to subrounded, predominantly clean, slightly argillaceous in part, trace argillaceous partings, moderately to well indurated, predominantly siliceous cement, minor streaky dolomitic cement, disaggregated in part, **no visible porosity, infer minor poor to fair porosity, rare to trace pyrobitumen, no fluorescence or cut,** minor thin shale stringers.

1459-1466.5 **SANDSTONE:** offwhite to light grey, fine to very fine grained, slightly silty in part, quartz arenite with clear to frosted quartz, well sorted, angular to subrounded, minor rounded grains, clean, poorly indurated and crumbly to friable in part, moderately to well indurated in part, disaggregated in part, predominantly siliceous cement, minor streaky dolomitic cement, minor to locally common quartz overgrowths, rare fracture surface and trace stylolites?, **variable porosity in consolidated cuttings: common tight to 3%, less common 4 to 8%, no shows.**

1466.5-1472 **SANDSTONE:** buff commonly very fine grained and variably silty occasionally grading to siltstone laminations, variably very fine to fine grained in part, well to moderately well sorted, angular to subrounded, clean to slightly argillaceous, predominantly moderately to well indurated, predominantly common to abundant siliceous cement, minor locally common dolomitic cement, minor to locally common argillaceous partings, pyrobituminous to bituminous to occasionally pyritic partings in part (possible stylolites to fractures), trace to minor pyrite nodules, **trace to minor poor porosity, predominantly no visible porosity, no fluorescence, trace to minor very poor cut;**

MINOR SHALE: black to very dark brown, platy to sub blocky, micromicaceous in part, slightly to moderately silty, fissile in part, very carbonaceous to bituminous with poor cut, trace soft very bituminous claystone stringers.

1472-1478 **SANDSTONE:** pale buff, upper very fine to upper fine grained, trace to minor lower medium grains, quartz arenite with frosted to clear quartz, moderately well sorted, angular to subrounded, minor rounded grains, predominantly disaggregated, minor to common poorly to moderately consolidated cuttings with siliceous and trace spotty dolomitic cement, common to abundant quartz overgrowths, **common variable 4 to 9% porosity with tight streaks in consolidated cuttings, infer predominantly fair to poor porosity, no shows,** minor interbedded shale as above becoming very carbonaceous to coaly, very micaceous in part, trace to minor anhydrite stringers to laminations.

1478-1485 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: buff to light grey, very fine grained and silty in part grading to minor to common tight siliceous siltstone laminations with common argillaceous partings, quartz arenite, well sorted, angular to subrounded, clean to slightly argillaceous, moderately to well indurated, siliceous cement, **predominantly no visible porosity, no shows;**

SHALE: dark grey to black, firm to locally soft, platy to sub blocky, commonly fissile, smooth and faintly and micromicaceous, variably silty in part, predominantly variably carbonaceous, locally very coaly to bituminous, minor grey green sub waxy shale stringers.

1485-1490 **SANDSTONE:** pale buff, predominantly fine grained, minor lower medium and trace upper very fine grains, quartz arenite with clear to frosted quartz, well sorted, angular to subrounded, minor rounded grains, predominantly disaggregated, minor to common poorly to moderately consolidated cuttings with siliceous cement, common quartz overgrowths, trace spotty to streaky dolomitic cement, **variable tight to streaky fair porosity in consolidated cuttings, infer common fair to poor porosity, no shows.**

1490-1495.5 **SANDSTONE:** pale buff to light grey, variably fine to very fine grained, slightly silty in part, quartz arenite with clear to frosted quartz, rare coaly grains, well sorted, angular to subrounded, minor rounded grains, clean, trace argillaceous partings, poorly indurated and crumbly to friable in part, moderately to very well indurated in part, predominantly siliceous cement, minor locally common streaky dolomitic cement, minor quartz overgrowths, disaggregated in part, **predominantly tight to 3% with minor streaky 4 to 7% porosity in consolidated cuttings, infer common poor to streaky fair porosity, no shows,** trace black platy very carbonaceous to bituminous shale stringers.

1495.5-1500 **SANDSTONE:** similar to above becoming coarser, pale buff, predominantly fine grained, minor lower medium grains, quartz arenite with frosted to clear quartz, moderately well sorted, angular to subrounded, increasing minor rounded grains, clean, predominantly disaggregated, minor poorly to moderately indurated and crumbly to friable consolidated cuttings with siliceous cement, increasing minor to common quartz overgrowths, **predominantly variable poor to streaky fair porosity with tight streaks in consolidated cuttings, infer increasing common fair to poor porosity, minor spotty dull yellow green fluorescence, no cut.**

1500-1505 **SANDSTONE:** similar to above becoming slightly finer, pale buff, fine to very fine grained, trace to minor lower medium grains, quartz arenite with clear to minor frosted quartz, moderately well sorted, angular to subrounded, clean, predominantly disaggregated, minor poorly to moderately consolidated cuttings with siliceous cement, minor to common quartz overgrowths, trace interstitial pyrite, **tight to minor streaky poor porosity in consolidated cuttings, infer comp to streaky fair porosity, no shows.**

1505-1510 **SANDSTONE:** buff, fine to very fine grained, variably silty in part, quartz arenite, well sorted, angular to sub angular, minor subrounded grains, clean, predominantly moderately to very well indurated, poorly indurated in minor part, disaggregated in part, common to abundant siliceous cement, trace quartz overgrowths, minor to common stylolite surfaces with pyrobituminous residue, **no visible porosity, no shows,** trace shale stringers.

1510-1515 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, fine grained, occasional medium grains, well sorted, sub rounded to sub angular, minor rounded grains, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, trace shale stringers, **poor to streaky fair visible porosity, no shows.**

1515-1520 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, fine grained, occasional medium grains, well sorted, sub rounded to sub angular, minor rounded grained, trace pyrite, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, spotted light brown oil stain, trace shale stringers, **poor visible porosity, minor spotty dull yellow green fluorescence, no shows.**

1520-1525 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, very fine to fine grained, well sorted, sub rounded to sub angular, minor rounded grains, trace pyrite, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, **spotted light brown oil stain, trace shale stringers, poor visible porosity, minor spotty dull yellow green fluorescence, no shows.**

1525-1530 **SANDSTONE:** similar to above becoming coarser, pale buff, predominantly fine grained, minor lower medium grains, quartz arenite with frosted to clear quartz, moderately well sorted, angular to subrounded, increasing minor rounded grains, clean, predominantly disaggregated, minor poorly to moderately indurated and crumbly to friable consolidated cuttings with siliceous cement, increasing minor to common quartz overgrowths, **predominantly variable poor to streaky fair porosity with tight streaks in consolidated cuttings, infer increasing common fair to poor porosity, minor spotty dull yellow green fluorescence, no shows.**

1530-1535 **SANDSTONE:** similar to above becoming slightly finer, pale buff, fine to very fine grained, trace to minor lower medium grains, quartz arenite with clear to minor frosted quartz, moderately well sorted, angular to subrounded, clean, predominantly disaggregated, minor poorly to moderately consolidated cuttings with siliceous cement, minor to common quartz overgrowths, trace interstitial pyrite, **tight to minor streaky poor porosity in consolidated cuttings, infer common poor to streaky fair porosity, no shows.**

1535-1540 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, very fine to fine grained, well sorted, sub rounded to sub angular, minor rounded grains, trace pyrite, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, spotted light brown oil stain, trace shale stringers, **poor visible porosity, minor spotty dull yellow green fluorescence, no shows.**

1540-1545 **SANDSTONE:** white to light brown, part consolidated, increasingly unconsolidated, frosted quartz grains, minor clear grains, quartz arenite, fine grained, occasional medium grains, well sorted, sub rounded to sub angular, minor rounded grains, moderately cemented, siliceous cement, rare stylolite surfaces with pyrobituminous residue, trace shale stringers, **poor visible porosity, no shows.**

1545-1550 **SANDSTONE:** light to medium brown, predominantly very fine grained, minor fine grains, moderately to locally very silty grading to occasional siltstone stringers, minor very fine to fine grained slightly silty sandstone with poor to fair porosity, quartz arenite, predominantly clear quartz, moderately well sorted, angular to subrounded, predominantly clean, locally slightly to moderately argillaceous, increasing minor to common argillaceous partings and laminations, predominantly moderately to well indurated, common to abundant siliceous cement, minor spotty kaolin to illite, trace to locally minor quartz overgrowths, **predominantly tight to 3% porosity, minor streaky poor porosity, minor very dull fluorescence, trace very faint questionable cut;** minor interbedded very coaly to bituminous shale.

1550-1553 **SANDSTONE:** light grey to light brown, predominantly very fine to fine grained, very fine grained and silty in part occasionally grading to siltstone stringers, predominantly clean to locally slightly argillaceous quartz arenite, well sorted, angular to subrounded, trace to minor argillaceous partings and laminations, predominantly poorly to moderately indurated and variably crumbly to friable, disaggregated in minor part, common siliceous cement, trace pyrite, rare to trace spotty kaolin to illite, **predominantly tight, minor streaky poor to fair porosity, trace to minor very dull fluorescence, trace very faint questionable cut;** minor interbedded shale as above.

1553-1566 **SANDSTONE:** offwhite to very light grey, very fine to lower medium grained, quartz arenite with clear to frosted quartz, clean, moderately well sorted, angular to subrounded, predominantly disaggregated, trace to minor poorly consolidated and friable cuttings with spotty to patchy siliceous cement, increasing common to abundant quartz overgrowths, **predominantly fair to streaky poor porosity in consolidated cuttings, infer predominantly fair to streaky good porosity, shows as above.**

1566-1575 **SANDSTONE:** light to medium brown, predominantly very fine grained and moderately silty, minor very fine to fine grained, quartz arenite, predominantly clear quartz, well to moderately well sorted, angular to subrounded, predominantly clean, minor slightly argillaceous, minor argillaceous partings, variably very well to moderately poorly indurated, common to abundant siliceous cement, trace quartz overgrowths, **predominantly tight to 3% porosity, minor streaky 4 to 8% porosity, minor dull to moderate fluorescence, no cut;**

CLAYSTONE AND SHALE: as above, trace pyrite nodules.

1575-1587 **SANDSTONE:** similar to above, light to medium brown, very fine grained with trace to minor fine grains, moderately silty, locally very fine to fine grained in minor part, predominantly clean quartz arenite, variably argillaceous in part occasionally grading to wacke, well sorted, angular to subrounded, common argillaceous partings and laminations, trace siltstone stringers, predominantly very well to moderately indurated, poorly indurated in minor part, common to abundant siliceous cement, trace spotty kaolin to illite, trace patchy pyrite, trace locally minor quartz overgrowths, **predominantly tight to 2% porosity, minor streaky poor to fair porosity, common to abundant very dull yellow green fluorescence, trace very faint questionable cut;**

minor interbedded CLAYSTONE: as above with increasing minor anhydritic mottles and laminations becoming predominantly very bituminous, increasing trace to minor siderite stringers, trace slightly bentonitic, trace shale, as above.

1587-1595 **SANDSTONE WITH INTERBEDDED CLAYSTONE AND SHALE:**

SANDSTONE: as above in part becoming increasingly argillaceous in part grading to minor wacke, very fine to fine grained in part, slightly to moderately silty, quartz arenite as above, moderately well sorted, angular to subrounded to minor rounded, predominantly clean, variably disaggregated in part, poorly to moderately indurated, crumbly to slightly friable, increasing minor to locally common quartz overgrowths, decreasing minor spotty kaolin to illite, **minor to common variable poor to trace streaky fair porosity, shows as above;** increasing claystone and decreasing shale as above.

1595-1600 **SANDSTONE:** light to medium brown to grey brown, predominantly very fine grained with trace to minor fine grains, moderately to locally very silty occasionally grading to siltstone stringers, minor very fine to fine grained, predominantly clean to slightly argillaceous quartz arenite, locally moderately argillaceous grading to wacke, common argillaceous partings and laminations, commonly well to very well indurated, moderately to poorly indurated in minor part, common to abundant siliceous cement, increasing trace to minor spotty to patchy pyrite, decreasing trace spotty kaolin/illite, **predominantly tight, minor streaky poor to fair porosity, minor very dull fluorescence, trace very faint questionable cut;** minor interbedded claystone and shale as above.

1600-1605 **SANDSTONE:** as previously described with slightly increasing fine grains becoming commonly poorly to moderately indurated, variably disaggregated in minor part, decreasing common to abundant siliceous cement, increasing trace spotty kaolin/illite, increasing trace to minor quartz overgrowths, decreasing minor to common argillaceous partings, **increasing minor to common poor to streaky fair porosity, shows as above;** minor claystone and shale as above.

1605-1615 **SANDSTONE:**, as previously described with slightly increasing minor fine grains, trace lower medium frosted quartz grains, predominantly poorly to moderately indurated, **commonly tight to 3% porosity, minor to common poor to increasing streaky fair porosity, shows as above;**

minor interbedded CLAYSTONE: similar to above becoming commonly variably bentonitic, trace slightly marly, increasing pyritic in minor part, trace siderite stringers, decreasing trace to minor shale as above.

1615-1625 **SANDSTONE WITH INTERBEDDED CLAYSTONE AND SHALE:**

SANDSTONE: light to medium brown, predominantly very fine grained, trace to locally minor fine grains, moderately to very silty, predominantly clean to slightly argillaceous quartz arenite, increasingly moderately to very argillaceous wacke in part, common argillaceous partings, predominantly well to very well indurated, moderately to moderately poorly indurated in part, increasing common to abundant siliceous cement, increasing trace spotty kaolin/illite, trace spotty to patchy pyrite, **predominantly tight to 2% porosity, minor streaky poor to trace fair porosity, common to abundant dull yellow green fluorescence, minor poor slow streaming and thin diffuse cut;**

CLAYSTONE: similar to above, medium to dark brown and brown grey, soft, trace white anhydritic mottles and streaky laminations, variably moderately to very bituminous, commonly slightly to moderately bentonitic, increasing minor siderite stringers, minor interbedded shale as above.

1625-1635 **SANDSTONE:** light to medium brown, very fine grained with trace to minor fine grains, moderately silty, locally very fine to fine grained in minor part, predominantly quartz arenite, commonly clean to variably argillaceous in part grading to minor wacke, well to moderately well sorted, angular to subrounded, common argillaceous partings, variably poorly to well indurated, common to locally abundant siliceous cement, minor streaky to spotty dolomitic cement, trace spotty kaolin/illite, trace patchy pyrite, trace quartz overgrowths, **predominantly tight to 3% porosity, minor streaky poor to fair porosity, minor to common very dull fluorescence, trace faint questionable cut;**

INTERBEDDED CLAYSTONE: medium brown to grey, soft, trace anhydritic to dolomitic mottles to streaks, variably bituminous in part, slightly to moderately bentonitic in part, trace siderite nodules, locally very pyritic, minor black coaly shale grading to bituminous coal.

1635-1644.6 **SANDSTONE:** similar to above, light to medium brown, very fine grained with trace to minor fine grains, moderately silty, locally very fine to fine grained in minor part, predominantly clean quartz arenite, variably argillaceous in part occasionally grading to wacke, well sorted, angular to subrounded, common argillaceous partings and laminations, trace siltstone stringers, predominantly very well to moderately indurated, poorly indurated in minor part, common to abundant siliceous cement, trace spotty kaolin/illite, trace patchy pyrite, trace locally minor quartz overgrowths, **predominantly tight to 2% porosity, minor streaky poor to fair porosity, common to abundant very dull yellow green fluorescence, trace very faint questionable cut;**

minor interbedded CLAYSTONE: as above with increasing minor anhydritic mottles and laminations becoming predominantly very bituminous, increasing trace to minor siderite stringers, trace slightly bentonitic, trace shale as above.

GOLATA 1644.6 m MD (-1271.7 m SS)

1644.6-1660 **SHALE WITH MINOR INTERBEDDED DOLOMITE:**

SHALE: black to very dark brown, rusty red to brown, minor grey green, firm, brittle, locally variably hard to soft, brittle in part, platy to sub platy, fissile to sub fissile, slightly sub waxy in part, variably silty and dolomitic in minor part, slightly to moderately micromicaceous, variably carbonaceous to bituminous in part, slightly dolomitic to calcareous in part, minor quartzose argillaceous variably sandy tight siltstone stringers;

DOLOMITE: light to medium brown, slightly mottled, cryptocrystalline to microcrystalline, firm to hard, predominantly dense, variably cherty in minor part, trace to minor scattered sparry inclusions, rare to trace scattered glauconite, **tight, no shows.**

1660-1665 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: as above in part becoming increasingly argillaceous in part grading to minor wacke, very fine to fine grained in part, slightly to moderately silty, quartz arenite as above, moderately well sorted, angular to subrounded to minor rounded, predominantly clean, variably disaggregated in part, poorly to moderately indurated, crumbly to slightly friable, increasing minor to locally common quartz overgrowths, decreasing minor spotty kaolin/illite, **minor to common variable poor to trace streaky fair porosity, shows as above;**

SHALE: as above.

1665-1670 **SHALE:** dark grey to very dark brown, minor black, predominantly variably firm, locally slightly soft to hard, platy to sub blocky, brittle in part, fissile to sub fissile, commonly smooth and faintly micromicaceous, sandstone stringers as above, slightly to moderately silty in part, commonly slightly sub waxy, minor pyrite nodules, slightly bituminous, trace marly bituminous claystone stringers.

1670-1675 **SHALE WITH INTERBEDDED SANDSTONE:**

SHALE: very dark brown, firm to soft, sub platy to sub blocky, sub fissile, very faintly micromicaceous, slightly to very silty grading to very argillaceous siltstone in part, slightly to moderately dolomitic, quartzose, very hard, dense, slightly to moderately argillaceous, slightly sandy, moderately to very dolomitic grading to silty dolomite stringers in part, **tight, no shows.**

1675-1685 **SHALE:** dark grey to very dark brown, minor black, predominantly variably firm, locally slightly soft to hard, platy to sub blocky, brittle in part, fissile to sub fissile, commonly smooth and faintly micromicaceous, slightly to moderately silty in part, commonly slightly sub waxy, minor pyrite nodules, slightly bituminous, trace marly bituminous claystone stringers, sandstone stringers as above, minor thin dolomite as above.

1685-1693 **SHALE WITH INTERBEDDED SANDSTONE:**

SHALE: very dark brown, firm to soft, sub platy to sub blocky, sub fissile, very faintly micromicaceous, slightly to very silty grading to very argillaceous siltstone in part, slightly to moderately dolomitic, quartzose, very hard, dense, slightly to moderately argillaceous, slightly sandy, moderately to very dolomitic grading to silty dolomite in part, **tight, no shows.**

1693-1698.5 **INTERBEDDED SANDSTONE, DOLOMITE AND SHALE:**

DOLOMITE: medium brown, cryptocrystalline to microcrystalline, variably glauconitic, predominantly variably silty grading to dolomitic siltstone stringers, minor sparry inclusions, variably calcareous grading to dolomitic limestone in part, minor ostracodes and rare crinoids, **no visible porosity, common dull yellow fluorescence, trace questionable cut;**

SANDSTONE: off white to medium grey, predominantly very fine grained and variably silty, very quartzose with variable dolomitic grains (sub litharenite), clean to variably argillaceous, moderately well sorted, angular to subrounded, commonly disaggregated, variably poorly to well indurated, common siliceous cement, minor streaky dolomitic cement, **trace poor porosity, minor spotty fluorescence, no cut;**

SHALE: dark grey to black, platy to sub blocky, variably carbonaceous to coaly, minor framboidal pyrite.

1698.5-1705 **SANDSTONE WITH MINOR INTERBEDDED SHALE:**

SANDSTONE: predominantly light to medium brown, minor light grey, predominantly very fine to fine grained, very fine grained and silty in part, sub-quartzarenite with variable trace to minor dolomitic grains locally grading to sub litharenite, moderately well sorted, angular to rounded, clean to slightly argillaceous, variably well to moderately poorly indurated, disaggregated in part, common siliceous and minor to common spotty to streaky dolomitic cement, **predominantly tight to 2% porosity, minor to common variable poor to trace streaky fair intergranular to trace dissolution porosity, common patchy bitumen to oil stain, common spotty to patchy dull to moderate yellow fluorescence, minor thin poor to fair milky cut;**

SHALE: as above, trace to minor dolomite stringers as above.

1705-1709 **SHALE WITH INTERBEDDED SANDSTONE:**

SHALE: dark grey to black, variably firm, platy to sub platy, fissile, variably silty and micromicaceous in part, variably carbonaceous to coaly with minor coaly laminations, trace marl stringers;

SANDSTONE: light grey to light brown, predominantly very fine grained and silty, very quartzose grading to quartz arenite, clean to variably argillaceous, minor argillaceous partings, well sorted, angular to subrounded, moderately to well indurated, abundant dolomitic to calcareous cement, **no visible porosity, minor to common spotty fluorescence, no cut.**

FLETT/DEBOLT 1709 m MD (-1336.1 m SS)

1709-1714 **LIMESTONE:** variable: medium to dark brown, light to medium grey in part, mottled in part, cryptocrystalline to microcrystalline and dense in part (mudstone), microcrystalline with common to abundant sparry bioclasts to allochems (common crinoid, rare to trace fusulinids)(packstone to wackestone), locally variably dolomitic, argillaceous in part, **no visible porosity, minor to common dull yellow fluorescence, trace weak questionable cut;**

DOLOMITE: predominantly as above, trace to minor recrystallized bioclast **packstone to wackestone, tight, no shows,** minor thin shale stringers.

1714-1719 **LIMESTONE:** light to medium brown, minor brown grey, slightly mottled in part, predominantly packstone to wackestone with micro to extremely fine crystalline matrix and common to abundant recrystallized sparry to micritized indeterminate bioclasts to allochems (minor crinoid, rare ostracodes), commonly variably dolomitic grading to calcareous dolomite in part, **no visible porosity, trace clear to white calcite spar fracture fill, infer minor poor fracture porosity, common dull yellow fluorescence, trace very weak very thin cut.**

1719-1725 **DOLOMITE:** light brown, slightly mottled, predominantly firm to hard and brittle, indeterminate texture (probably recrystallized packstone to wackestone), cryptocrystalline to extremely fine crystalline, common sparry bioclasts to allochems (crinoidal in part), trace micro sucrosic, variably calcareous grading to minor dolomitic limestone, common fracture surfaces with white calcite spar and dolomite fracture fill, trace stylolites, **infer common poor to fair fracture porosity, abundant dull to moderate yellow fluorescence, trace very weak cut.**

1725-1730.5 **DOLOMITE:** as previously described becoming medium to dark brown and argillaceous in minor part, increasingly grading to dolomitic limestone stringers in minor part, trace buff to light grey bioclastic limestone stringers, trace fracture surfaces with calcite to dolomite fill as above, **no visible porosity, infer trace to minor poor fracture porosity, fluorescence and cut as above.**

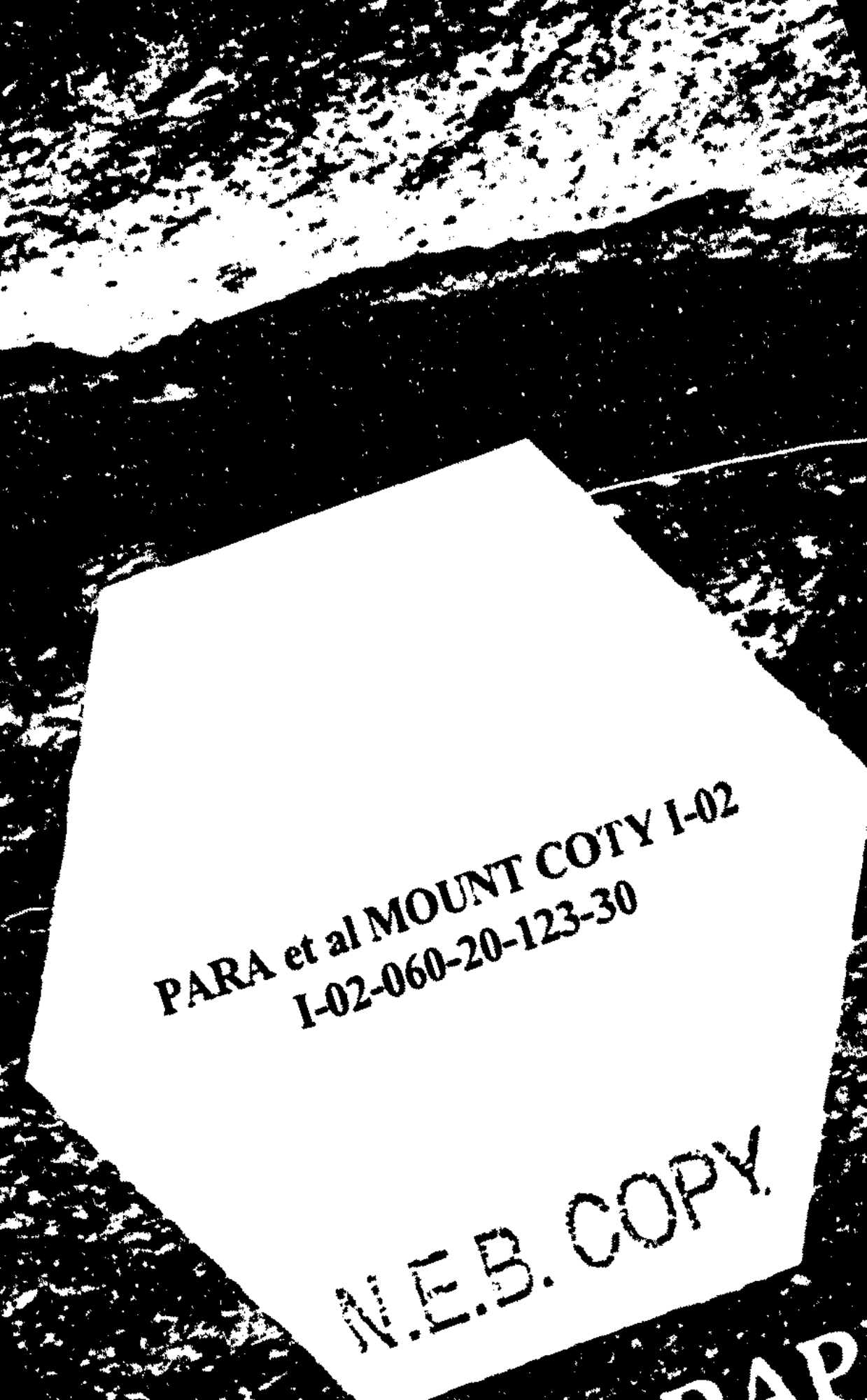
1730.5-1740 **LIMESTONE WITH INTERBEDDED DOLOMITE:**

LIMESTONE: predominantly buff to light brown, medium to dark brown to grey in part, mottled in part, predominantly packstone with microcrystalline matrix and abundant sparry to micritized bioclasts to allochems, common crinoids and indeterminate bioclasts, locally grades to wackestone, commonly variably firm to locally crumbly, hard dense and variably cherty in part with minor chert nodules, variably dolomitic in part grading to minor calcareous dolomite, **no visible porosity, common dull to moderate yellow fluorescence, minor poor very thin diffuse cut;**

DOLOMITE: light grey to light brown, predominantly cryptocrystalline to microcrystalline, micro to very fine crystalline and slightly micro sucrosic in minor part, predominantly indeterminate texture, minor locally common sparry inclusions, variably calcareous grading to dolomitic limestone in part, **no visible porosity, minor to common fluorescence and trace weak cut.**

1740-1744 **LIMESTONE WITH INTERBEDDED DOLOMITE: as above with decreasing minor to common fluorescence and decreasing trace weak cut.**

PHOTOGRAPHY

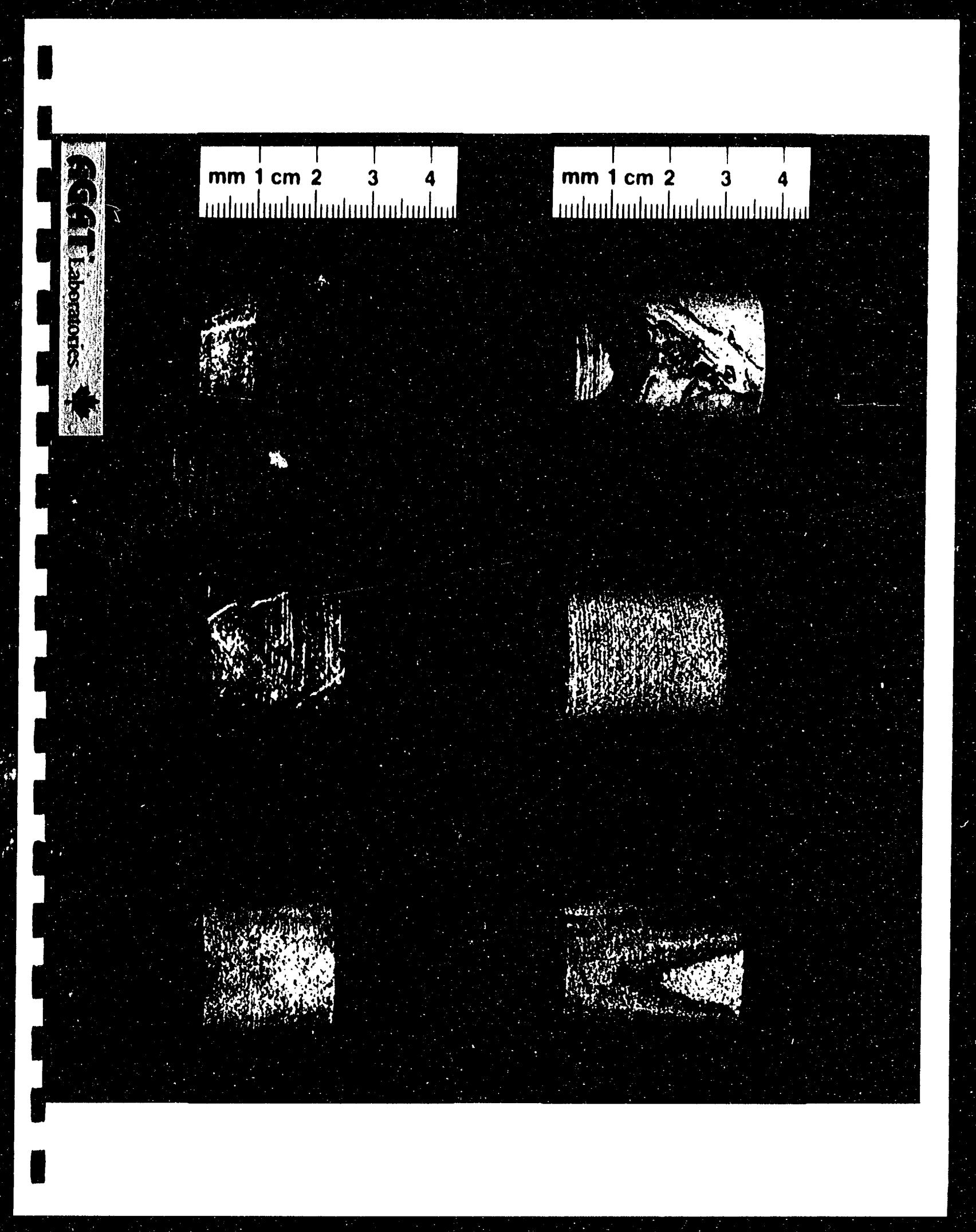

PARA et al MOUNT COTY I-02
I-02-060-20-123-30
N.E.B. COPY

PARA et al MOUNT COTY I-02
I-02-060-20-123-30

N.E.B. COPY

DEC - 2 2002

AGAT


mm 1 cm 2 3 4
mm 1 cm 2 3 4
CCAT Laboratories

mm 1 cm 2 3 4
AGAT Laboratories

SIDEWALL ANALYSIS REPORT

SIDEWALL ANALYSIS REPORT

PARA et al MOUNT COTY I-02
I-02-060-20-123-30

N.E.B. COPY

AGAT Laboratories

CORE SERVICES DIVISION



Front Cover: Thin section photomicrograph of Upper Cretaceous Belle River litharenite sandstone characterized by pervasive rims of authigenic chlorite on the framework grains. Porosity is mainly of primary intergranular type, but includes secondary porosity created by the solution of feldspar and volcanic rock fragments. Porosity 21%, permeability 98md.

Back Cover Scanning electron microscope photograph of authigenic chlorite lining framework grains in sandstone.

AGAT Laboratories

SIDEWALL ANALYSIS REPORT

PARA et al MOUNT COTY I-02
I-02-060-20-123-30

N.E.B. COPY

Prepared for:

PARAMOUNT RESOURCES LTD.

RC9102

December, 2000

"In Pursuit of Excellence"

- **AIHA Accredited**
- **CAEAL Accredited**
- **Registered with APEGGA**

NATIONAL ENERGY BOARD
FILE
JAN - 2 2001

TABLE OF CONTENTS

PAGE

Final Core Analysis Data 1

Porosity – Permeability (Kmax) Correlation ..... Figure 1

General Information

Sample Handling and Analysis Information

Abbreviations

CORE ANALYSIS DATA

PARA et al MOUNT COTY I-02
I-02-060-20-123-30

COMPANY : PARAMOUNT RESOURCES LTD
WELL NAME : PARA et al MOUNT COTY I-02
LOCATION : I-02-060-20-123-30
FORMATION :
DRILLING FLUID : WATER BASE MUD

PAGE 1
DATE 12-13-2000
W/O No RC9102

CORE ANALYSIS - SIDEWALL REPORT

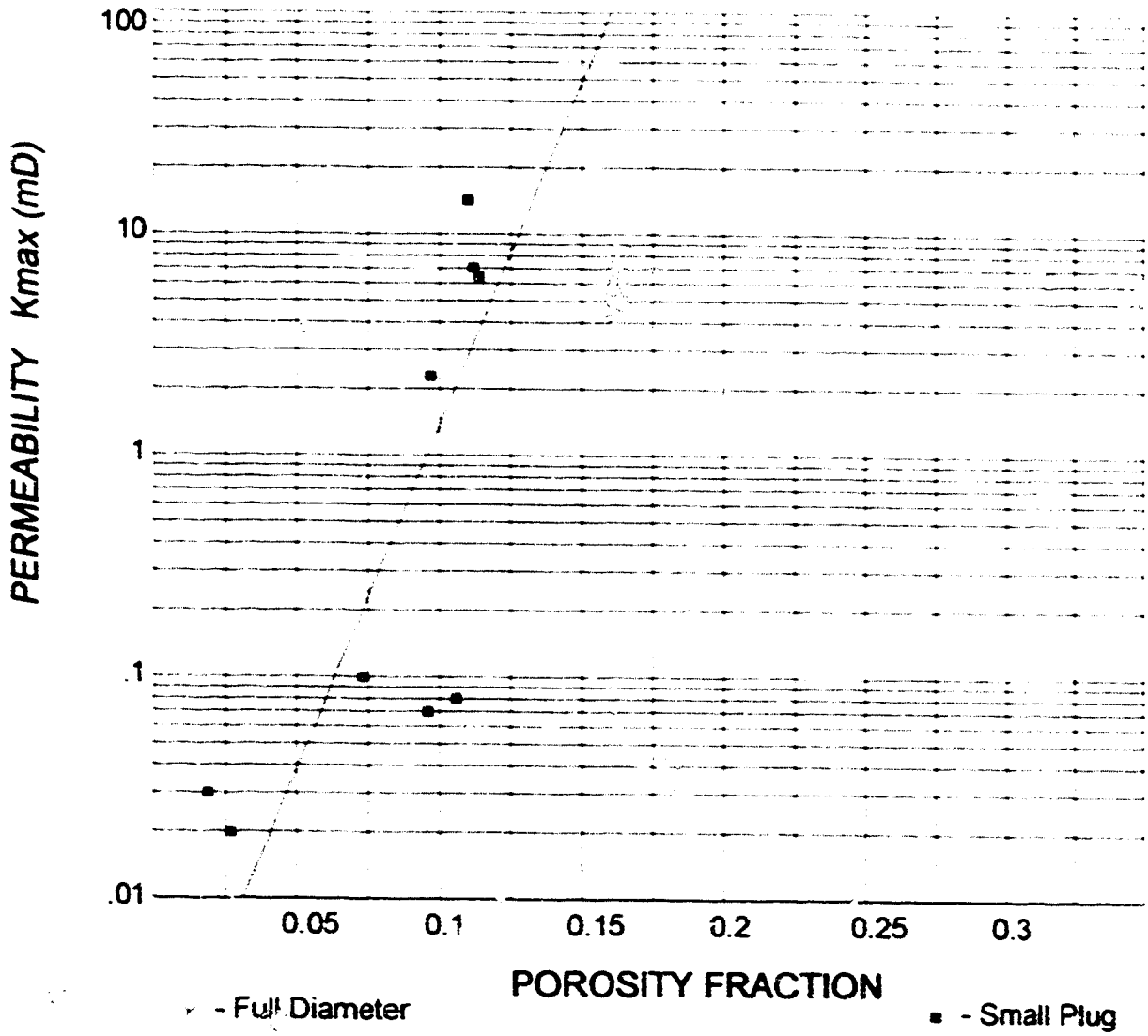
Sample	Interval (m) Top	Base	Rep Thick (m)	Sample Length (m)	Gas Permeability Kmax (mD)	K90 (mD)	Kv (mD)	Capacity Kmax mD m	Porosity	Capacity O m	Density (Kg/m³) Bulk	Grain	Residual Saturation Oil	Water	Remarks
SP001	721.00	-	-	-	0.10	-	-	-	0.073		2390	2590	-	-	ss vf-fgr carblam pyr tracs
SP002	715.00	-	-	-	0.07	-	-	-	0.096		2750	3040	-	-	ss vf-fgr dol sid
SP003	712.00	-	-	-	0.08	-	-	-	0.106		2380	2660	-	-	ss vf-fgr carbptg
SP004	1720.10	-	-	-	0.03	-	-	-	0.019		2760	2820	-	-	dol vf-fxln calc
SP005	1714.00	-	-	-	0.02	-	-	-	0.027		2740	2820	-	-	dol vf-fxln carblam calc pyr
SP006	1235.00	-	-	-	-	-	-	-	-		-	-	-	-	insufficient sample
SP014	1082.00	-	-	-	2.28	-	-	-	0.097		2390	2650	-	-	ss vf-fgr
SP015	1080.00	-	-	-	6.40	-	-	-	0.114		2340	2640	-	-	ss vf-fgr
SP016	1064.50	-	-	-	7.05	-	-	-	0.112		2360	2650	-	-	ss vf-fgr
SP017	1062.50	-	-	-	14.2	-	-	-	0.110		2340	2630	-	-	ss vf-fgr
SP018	1060.00	-	-	-	-	-	-	-	-		-	-	-	-	insufficient sample

AGAT Laboratories

Company	PARAMOUNT RESOURCES LTD.		
Location	I-02-060-20-123-30	FIGURE	1
Interval	SIDEWALLS	W/O	RC9102
Formation		Date	12-13-2000

AGAT Laboratories

POROSITY-PERMEABILITY CORRELATION



Equation of Line : Log (Kmax) = -2.97 + 31.02* Porosity

Correlation Coefficient r = 0.75

SAMPLE HANDLING

AGAT LABORATORIES CORE SERVICES

SAMPLE HANDLING AND ANALYSIS INFORMATION

Company : PARAMOUNT RESOURCES LTD.
Well : PARA et al MOUNT COTY I-02
Location : I-02-060-20-123-30

Coring Equipment : Diamond
Coring Fluid : Water Base Mud

W/O Number : RC9102
Date : 12-13-2000

HANDLING

Core Transported in : Boxes
Cutting Solution : Water
Cleaning Solvent : Toluene
Extraction : Vapour Phase
Cleaning Time : 144 hours
Drying Equipment : Convection oven
Drying Time/Temp : 48 hours @ 108°C

ANALYSIS

Grain volume measured by Boyle's Law using helium
Bulk volume measured by calipering on right-cylindrical samples
Permeability measured on 25.4mm diameter drilled plugs

REMARKS

SIDEWALL PLUG SAMPLES
FIVE (5) SETS OF COLOR PHOTOS

AGAT Laboratories

ABBREVIATIONS

COMMON ABBREVIATIONS

abnt	Abundant
abv	Above
Alg	Algae (al)
alt	Altered (ing)
amor	Amorphous
Amph	Amphipora
ang	Angular
anhy	Anhydrite (ic)
app	Appear
apr	Apparent
aprox	Approximate (ly)
arg	Argillaceous
ark	Arkose (ic)
asph	Asphalt (ic)
AST	Assigned similar to (no actual sample taken)
apha	Aphanitic
bcm	Become (ing)
bd	Bed
bdd	Bedded
bdg	Bedding
Belm	Belemnites
bent	Bentonite (ic)
bf	Buff
biocl	Bioclastic
bioturb	Bioturbated
bit	Bitumen (inous)
bl	Blue (ish)
blk	Black
blky	Blocky
bnd	Band (ed)
Brac	Brachiopod
brec	Breccia (ted)
bri	Bright
brit	Brittle
brn	Brown
Bry	Bryozoa
bulb	Bulbous
bur	Burrowed
C	Coarse (ly)
calc	Calcite (areous)
carb	Carbonaceous
cbl	Cobble (64-256 mm)
Ceph	Cephalopod
cgl	Conglomerate
chk	Chalk (y)
chlor	Chlorite
cht	Chert
chty	Cherty
cl	Clastic
cln	Clean
clr	Clear
cly	Clay (ey)
com	Common
coq	Coquina
Cor	Coral
crbnt	Carbonate
Crin	Crinoid (al)
crm	Cream
crpxl	Cryptocrystalline
ctc	Contact
deb	Debris
decr	Decrease (ing)
desi	Desiccation
dism	Disseminated
dk	Dark (er)
dns	Dense (er)
dol	Dolomite (ic)
drsy	Drusy
dtrl	Detrital (us)
elg	Elongate
euhed	Euhedral
f	Fine (ly)
fau	Fauna
Fe	Iron-Ferruginous
Fe-mag	Feromagnesian
fenst	Fenestral
fis	Fissile
fl	Fill (ed)
fld	Feldspar (thic)
flk	Flake
flky	Flaky
flor	Fluorescence
flt	Fault (ed)
fltg	Floating
foram	Foraminifera
fos	Fossil (iferous)
fr	Fair
frac	Fracture (ed)
frag	Fragment (al)
fri	Friable
frmwk	Framework
fros	Frosted
g	Good
Gast	Gastropod
gl	Glass (y)
glau	Glauconite (ic)
gn	Green
gr	Grain (ed)
gran	Granular
grd	Grade (ed)
grnl	Granule (2-4 mm)
gy	Grey
gyp	Gypsum (iferous)

AGAT Laboratories

COMMON ABBREVIATIONS (CONTINUED)

hd	Hard
hfrac	Horizontal Fracture
hi	High
hrtl	Horizontal
hvy	Heavy
hydc	Hydrocarbon
ig	Igneous
imbed	Imbedded
imp	Impression
incl	Included (sion)
incr	Increase
indst	Indistinct
intbd	Interbedded
intcl	Intraclast (s)
intfrag	Interfragmental
intgran	Intergranular
intlam	Interlaminated
intr	Intrusion (ive)
intv	Interval
intxl	Intercrystalline
ireg	Irregular
ird	Iridescent
intrsk	Intraskeletal
kao	Kaolin
lam	Laminated
lchd	Leached
len	Lentil (cular)
lith	Lithographic
lmy	Limy
lrg	Large (er)
ls	Limestone
lse	Loose
lstr	Lustre
lt	Light (er)
m	Medium
mar	Maroon
mas	Massive
mat	Material, matter
mica	Mica (ceous)
mic	Micro
mky	Milky
mnr	Minor
mnrl	Mineral (ized)
mnut	Minute
Mol	Mollusca
mot	Mottled
mrly	Marly
mtx	Matrix
n	No,none,non
nod	Nodule
num	Numerous
o	Oil
occ	Occasional
od	Odor
ool	Oolite (ic)
op	Opaque
org	Organic
orng	Orange
orth	Orthoclase
Ost	Ostracod
ovgth	Overgrowth
ox	Oxidized
p	Preliminary (as suffix)
pbl	Pebble (4-64 mm)
pel	Pellet
perm	permeability
pet	Petroleum (iferous)
phos	Phosphate (ic)
pk	Pink
plag	Plagioclase
plcy	Pelecypod
pl	Plant
plty	Platy
por	Porous (sity)
pos	Possible (ility)
p-p	Pin-Point
pred	Predominant (ly)
prim	Primary
prob	Probable (ly)
prom	Prominent (ly)
pt	Part (ly)
ptch	Patch (es)
ptg	Parting
purp	Purple
pyr	Pyrite (ic) (ized)
pyrbit	Pyrobitumen
qtz	Quartz
qtzc	Quartzitic
qtzs	Quartzose
rd	Round (ed)
repl	Replaced (ing) (ment)
rexl	Recrystallized
rmn	Remains (nant)
rr	Rare
rsns	Resinous
rthy	Earthy
s	Small
sa	Salt (y)
S	Sulphur
s&p	Salt & Pepper
sat	Saturated
sb	Sub

AGAT Laboratories

COMMON ABBREVIATIONS (CONTINUED)

sc	Scales
scat	Scattered
sd	Sand (1/16 - 2mm)
sdy	Sandy
sec	Secondary
sed	Sediment (ary)
sft	Soft
sh	Shale
shad	Shadow
shy	Shaly
sid	Siderite (ic)
sil	Silica
sks	Slickensided
sl	Slight (ly)
sln	Solution
slt	Silt
sltst	Siltstone
slty	Silty
sm	Smooth
SP	Small Plug (as prefix)
sp	Spot (ted) (ty)
spec	Speck (led)
spl	Sample
srt	Sort (ed) (ing)
strg	Stringer
Strom	Stromatoporoid
stromlt	Stromatolite
struc	Structure
styl	Stylolite (ic)
suc	Sucrosic
sug	Sugary
sup	Supported
surf	Surface
sz	Size

tab	Tabular
tex	Texture
Tham	Thamnopora
thk	Thick
thn	Thin
thru	Throughout
tr	Trace
trnsl	Translucent
trnsp	Transparent
tt	Tight
tub	Tubular
uncons	Unconsolidated
unident	Unidentifiable
up	Upper
v	Very
var	Variable
vcol	Varicolored
vfrac	Vertical Fracture
vgt	Varigated
vn	Vein
vrtl	Vertical
vug	Vug (gy) (ular)
w	Well
wh	White
wk	Weak
wthrd	Weathered
wtr	Water
wvy	Wavy
wxy	Waxy
wsrt	Well sorted

xbd	Cross-bedded
xbdg	Cross-bedding
xl	Crystal (line)
xlam	Cross-laminated
yel	Yellow
zn	Zone
*	Broken core
/	With
>10000	Permeability over 10000 mD
<0.01	Permeability less than 0.01 mD
CC	Cracked Core
DR	Drilled
LC	Lost Core
RU	Rubble
mD	milliDarcy

AGAT Laboratories

DRILL STEM TEST REPORT

MEDIA COPY

PARA ET AL MOUNT COTY I-02/60-20-123-30 DST #2

ALPINE

Drill Stem Test Report

Prepared for: PARAMOUNT RESOURCES
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: 11/27/2000

Job Ticket #: D2-9997 DST#: 2

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9997 DST#: 2
Test Date: 11/27/2000 2230hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

General Information:

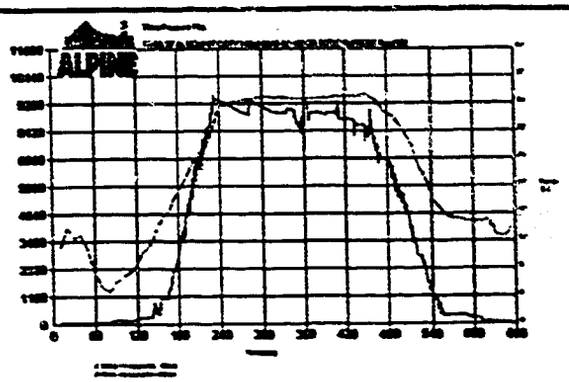
Test Type: INFLATE STRADDLE
Interval: 706.00m - 717.00m
Formation: CHINKEH
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: A. SCARIONE
Truck No.: Unit 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 34.10 C

Electronic Recorder Information:

OUTSIDE		FLUID	
Recorder #:	133	Recorder #:	065
Range:	70000 kPa	Range:	35000 kPa
Depth:	708.92 m	Depth:	683.77 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8907.5
G Final Hydrostatic	0.00	8887.2



Test Run Information:

Start Time: 2230hrs
Reached Test Depth: 10hrs
Pull Out Time: 320hrs
Tool Out Of Hole: 620hrs

Weight set on Packers: 19000.00daN
Weight to free Packers: 39000.00daN
Initial String Weight: 39000.00daN
Unseated String Weight: 39000.00daN

Tool Chased Dist:	1.00m	Water Loss:	6.50cm³
Mud Type:	GEL CHEMICAL	Mud Drop:	1.00m
Mud Weight:	1270.00kg/m³	VIS:	80.00S/L
Amount of fill:	0.00m	Filter Cake:	2.00mm
Amt of cushion:	0.00	Pump Time:	60min
Type of cushion:	N/A	Reversed Out:	NO

General Remarks:

MISRUN-

Ran to test depth. Opened tool for preflow and immediately lost packer seat. Pulled up 1 1/2 meters, however could not obtain a successful packer seat. Pulled out of hole in preparation for DST #3.

Recovery Description:

No fluid recovery due to misrun.

Gas Bomb: 0 Sampler: 0
Fluid Sample: 0 Sent to: NO SAMPLES

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9997 DST#: 2
Test Date: 11/27/2000 2230hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	14
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	714.66m
Total Drill Pipe Above K.B.:	8.66m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	56.40	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	266.11	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.20	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

24.95m

41.12m

10.99m

5.18m

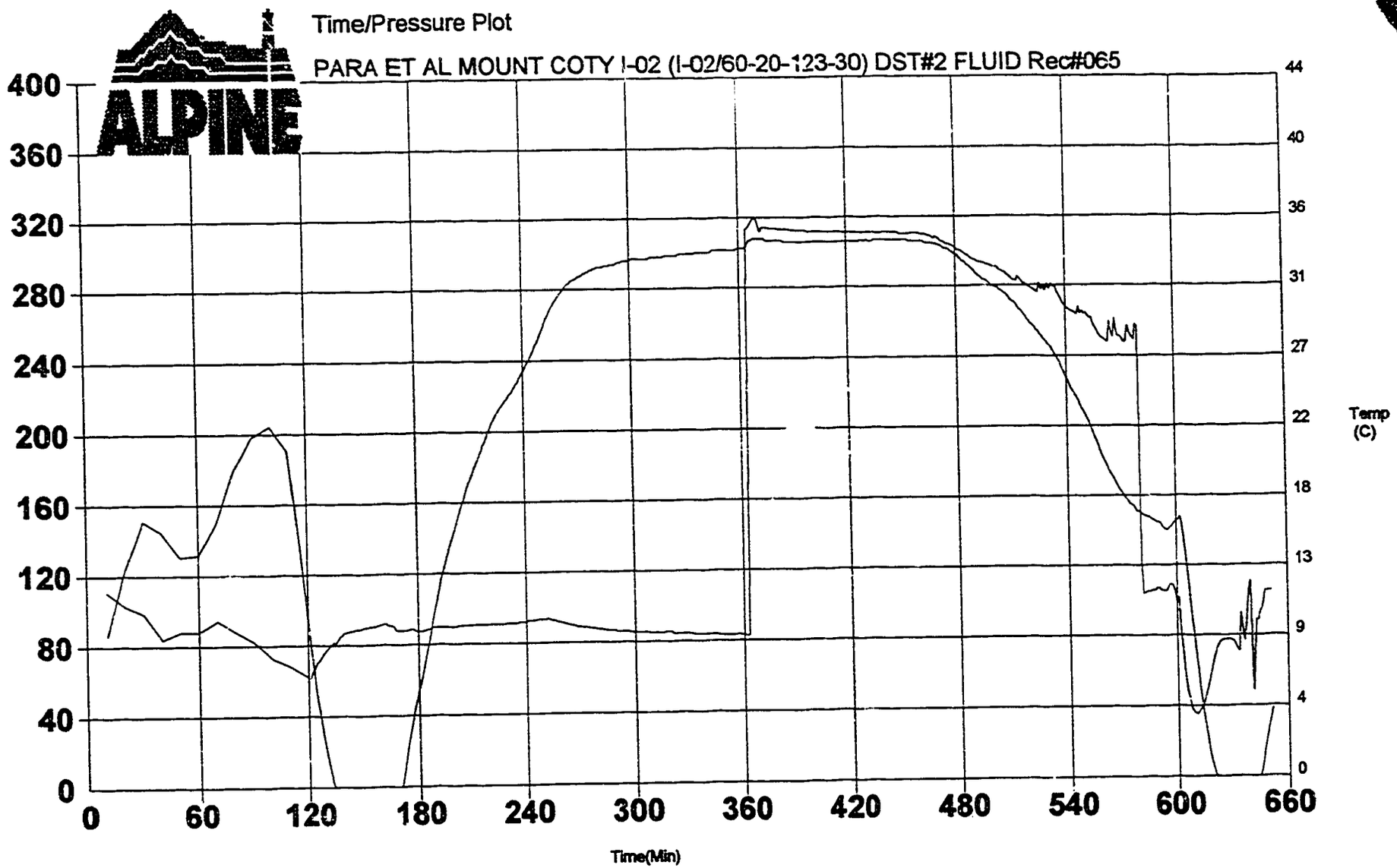
Depth: 706.0m

Depth: 717.0m

Total Depth: 1744.66m



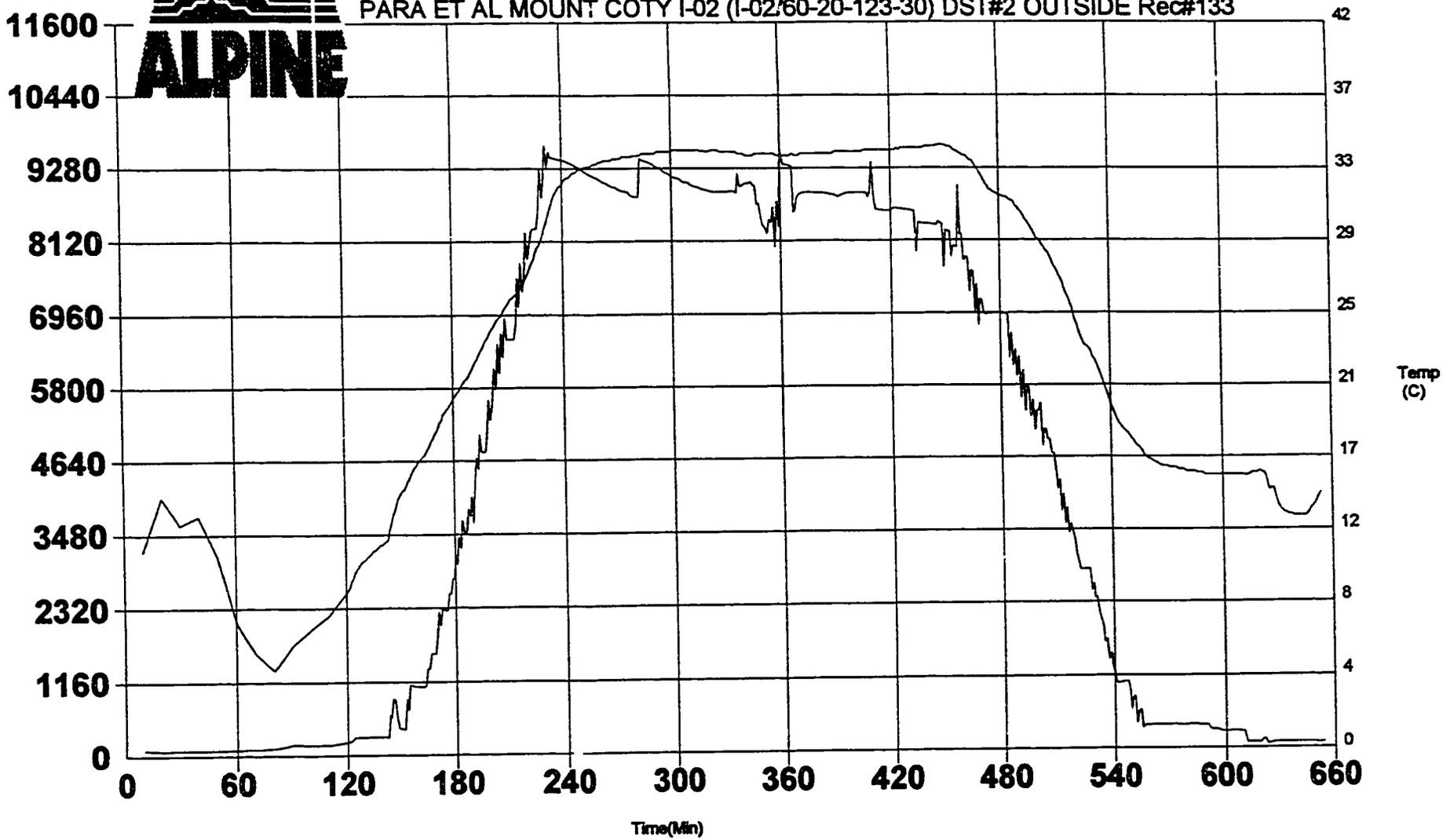
Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC#66	1.80
HWW 60 Stds	2.39
Spacing	1.10
REC#64	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.85
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
Stub	0.72
ASE Carrier	2.20
REC#133	
REC#160	
Bypass Hanger	0.42
Blank Spacing	6.15
Bypass Receiver	0.78
Stub	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.98
Bullnose	0.60


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#2 FLUID Rec#065
400
360
320
280
240
200
160
120
80
40
0
0
60
120
180
240
300
360
420
480
540
600
660
Time(Min)
44
40
36
31
27
22
18
13
9
4
0
Temp (C)
A Initial Hydrostatic - 83
Q Final Hydrostatic - 314

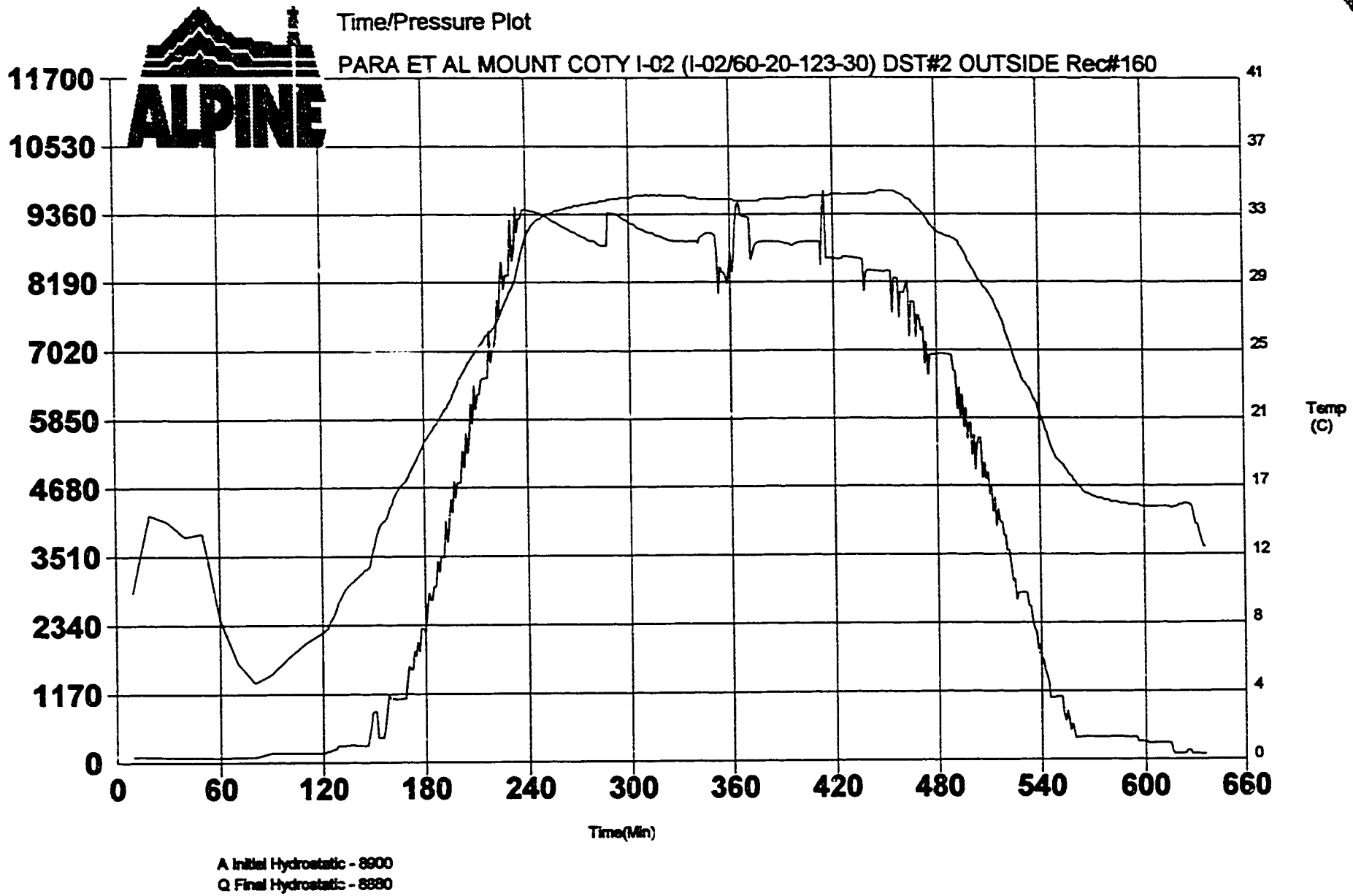
ALPINE

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#2 OUTSIDE Rec#133



A Initial Hydrostatic - 8906
Q Final Hydrostatic - 8888


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#2 OUTSIDE Rec#160
11700
10530
9360
8190
7020
5850
4680
3510
2340
1170
0
41
37
33
29
25
21
17
12
8
4
0
Temp (C)
0
60
120
180
240
300
360
420
480
540
600
660
Time(Min)
A Initial Hydrostatic - 8900
Q Final Hydrostatic - 8880

PARA ET AL MOUNT COTY

I-02/60-20-123-30

DST #3

ALPINE

Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: **11/28/2000**

Job Ticket #: **D2-9998** DST#: **3**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

General Information:

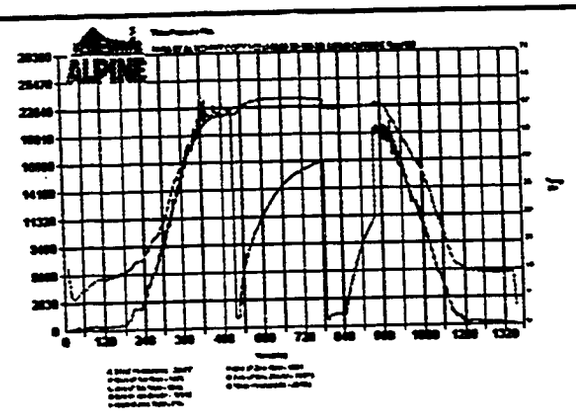
Test Type: **INFLATE STRADDLE**
Interval: **1709.00m - 1727.00m**
Formation: **DEBOLT**
KB Elevation: **374.60m**
Ground Elevation: **369.10m**
Total Depth: **1744.00m**
Test Mode: **Gas**

Tester: **A. SCARIONE**
Truck No.: **Unit 673**
Contractor: **AKITA DRILLING**
Rig No.: **51**
Hole Diameter: **222mm**
Hole Condition: **FAIR**
Bottom Hole Temperature: **59.60 C**

Electronic Recorder Information:

OUTSIDE	FLUID
Recorder #: 133	Recorder #: 066
Range: 70000 kPa	Range: 70000 kPa
Depth: 1711.92 m	Depth: 1686.77 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	22576.7
B Start of 1st Flow	0.00	1078.7
C End of 1st Flow	8.00	1041.7
D End of 1st Shutin	258.00	17016.4
E Start of 2nd Flow	0.00	736.0
F End of 2nd Flow	54.00	1331.0
G End of 2nd Shutin	93.00	10974.7
Q Final Hydrostatic	0.00	20186.4



Test Run Information:

Start Time: **1200hrs**
Reached Test Depth: **1530hrs**
Pull Out Time: **45hrs**
Tool Out Of Hole: **530hrs**

Weight set on Packers: **10000.00daN**
Weight to free Packers: **70000.00daN**
Initial String Weight: **49000.00daN**
Unseated String Weight: **55000.00daN**

Tool Chased Dist: 1.00m
Mud Type: GEL CHEMICAL
Mud Weight: 1270.00kg/m³
Amount of fill: 0.00m
Amt of cushion: 180.00L
Type of cushion: INHIBITOR & H20

Water Loss: 6.50cm³
Mud Drop: NO
VIS: 80.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: NO

General Remarks:

Mechanically successful. *Test results suggest low permeability within the zone tested.

PREFLOW: Strong air blow throughout. Gas to surface immediately, lazy 3 meter flare. Rates too small to measure.

FINAL FLOW: Gas to surface immediately.

***** See gas volume charts for gas rates.**

NOTE - See Alpine Telemetry report for real time data acquisition.

Recovery Description:

Total fluid recovery was 102 meters gasified drilling fluid.

No gas to surface.

Gas Bomb: 1 Sampler: 1
Fluid Sample: 4 Sent to: **AGAT LAB**

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	2
Drill Collar Singles:	1
Drill Pipe Stands:	65
Drill Pipe Singles:	4
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1713.53m
Total Drill Pipe Above K.B.:	4.53m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	47.92	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	1271.88	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	368.78	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

NOTE

Electronic Rec. #160 malfunctioned, no pressure data is available.



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC#066	1.80
HMV Stroke	2.39
Sampler	1.10
REC#065	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.85
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
Stub	0.72
ASE Carrier	2.20
REC#133	
REC#160	
Bypass Hanger	0.42
C.O. Sub	0.30
Drill Collar	9.30
C.O. Sub	0.30
Blank Spacing	4.00
Bypass Receiver	0.78
Stub	0.71
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

Drill Stem Testing - Gas Recovery Measurements

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Gas Measurements for Flow # 2

Gas Recovery Measured With: **Willis Choke**

Time (min.)	Orifice (mm)	Pressure (kPa)	Rate (m^3/d)
20	3.18	97	284.00
30	3.18	100	304.00
40	3.18	124	324.00
50	3.18	138	344.00
54	3.18	138	344.00

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
A	Initial Hydrostatic	0.00	0.00	22576.70		55.6
B	Start of 1st Flow	0.00	0.00	1078.70		55.7
		1.00	-62.50	1016.20		55.7
		2.00	-68.30	1010.40		55.7
		3.00	-77.50	1001.20		55.7
		4.00	-82.20	996.50		55.7
		5.00	-79.80	998.90		55.7
		6.00	-76.40	1002.30		55.7
		7.00	-57.90	1020.80		55.7
C	End of 1st Flow	8.00	-37.00	1041.70		55.7
		1.00	318.30	1360.00	9.0000	55.8
		2.00	822.90	1864.60	5.0000	55.8
		3.00	1252.30	2294.00	3.6667	55.9
		4.00	1638.90	2680.00	3.0000	56.0
		5.00	1997.70	3039.40	2.6000	56.1
		6.00	2332.20	3373.90	2.3333	56.2
		7.00	2642.40	3684.10	2.1429	56.3
		8.00	2928.30	3970.00	2.0000	56.4
		9.00	3200.20	4241.90	1.8889	56.5
		10.00	3445.60	4487.30	1.8000	56.6
		11.00	3686.40	4728.10	1.7273	56.7
		12.00	3912.10	4953.80	1.6667	56.8
		13.00	4127.30	5169.00	1.6154	56.9
		14.00	4336.80	5378.50	1.5714	57.0
		15.00	4537.10	5578.80	1.5333	57.1
		16.00	4723.40	5765.10	1.5000	57.2
		17.00	4906.30	5948.00	1.4706	57.3
		18.00	5077.60	6119.30	1.4444	57.4
		19.00	5215.30	6257.00	1.4211	57.5
		20.00	5351.90	6393.60	1.4000	57.6
		21.00	5480.40	6522.10	1.3810	57.6
		22.00	5601.90	6643.60	1.3636	57.7
		23.00	5730.40	6772.10	1.3478	57.8
		24.00	5856.50	6898.20	1.3333	57.8
		25.00	5976.90	7018.60	1.3200	57.9
		26.00	6100.70	7142.40	1.3077	58.0
		27.00	6223.40	7265.10	1.2963	58.0
		28.00	6343.80	7385.50	1.2857	58.0
		29.00	6454.90	7496.60	1.2759	58.1
		30.00	6564.90	7606.60	1.2667	58.2
		31.00	6673.70	7715.40	1.2581	58.2
		32.00	6781.30	7823.00	1.2500	58.3
		33.00	6887.80	7929.50	1.2424	58.3
		34.00	6992.00	8033.70	1.2353	58.3
		35.00	7095.00	8136.70	1.2286	58.4
		36.00	7199.10	8240.80	1.2222	58.4
		37.00	7309.10	8350.80	1.2162	58.4
		38.00	7413.30	8455.00	1.2105	58.5
		39.00	7516.30	8558.00	1.2051	58.5
		40.00	7611.20	8652.90	1.2000	58.5
		41.00	7707.20	8748.90	1.1951	58.6
		42.00	7805.60	8847.30	1.1905	58.6
		43.00	7902.80	8944.50	1.1860	58.7
		44.00	7996.60	9038.30	1.1818	58.7
		45.00	8086.90	9128.60	1.1778	58.7
		46.00	8179.50	9221.20	1.1739	58.8
		47.00	8268.60	9310.30	1.1702	58.8
		48.00	8358.90	9400.60	1.1667	58.8
		49.00	8448.00	9489.70	1.1633	58.8
		50.00	8536.00	9577.70	1.1600	58.9
		51.00	8623.90	9665.60	1.1569	58.9
		52.00	8708.40	9750.10	1.1538	58.9
		53.00	8791.70	9833.40	1.1509	59.0
		54.00	8865.80	9907.50	1.1481	59.0
		55.00	8949.20	9990.90	1.1455	59.0
		56.00	9031.30	10073.00	1.1429	59.0
		57.00	9108.90	10150.60	1.1404	59.1
		58.00	9188.70	10230.40	1.1379	59.1
		59.00	9267.40	10309.10	1.1356	59.1
		60.00	9347.30	10389.00	1.1333	59.1
		61.00	9423.70	10465.40	1.1311	59.1
		62.00	9501.20	10542.90	1.1290	59.2
		63.00	9568.40	10610.10	1.1270	59.2
		64.00	9645.90	10687.60	1.1250	59.2

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		65.00	9721.20	10762.90	1.1231	59.2
		66.00	9796.40	10838.10	1.1212	59.2
		67.00	9870.50	10912.20	1.1194	59.2
		68.00	9943.40	10985.10	1.1176	59.3
		69.00	10016.30	11058.00	1.1159	59.3
		70.00	10089.20	11130.90	1.1143	59.3
		71.00	10158.70	11200.40	1.1127	59.3
		72.00	10228.10	11269.80	1.1111	59.3
		73.00	10298.70	11340.40	1.1096	59.3
		74.00	10365.80	11407.50	1.1081	59.4
		75.00	10434.10	11475.80	1.1067	59.4
		76.00	10502.40	11544.10	1.1053	59.4
		77.00	10569.50	11611.20	1.1039	59.4
		78.00	10634.40	11676.10	1.1026	59.4
		79.00	10694.50	11736.20	1.1013	59.4
		80.00	10753.60	11795.30	1.1000	59.4
		81.00	10814.90	11856.60	1.0988	59.4
		82.00	10879.70	11921.40	1.0976	59.5
		83.00	10933.00	11974.70	1.0964	59.5
		84.00	10994.30	12036.00	1.0952	59.5
		85.00	11053.30	12095.00	1.0941	59.5
		86.00	11105.40	12147.10	1.0930	59.5
		87.00	11155.20	12196.90	1.0920	59.5
		88.00	11215.40	12257.10	1.0909	59.5
		89.00	11277.90	12319.60	1.0899	59.5
		90.00	11330.00	12371.70	1.0889	59.5
		91.00	11391.30	12433.00	1.0879	59.5
		92.00	11451.50	12493.20	1.0870	59.5
		93.00	11510.50	12552.20	1.0860	59.5
		94.00	11569.60	12611.30	1.0851	59.5
		95.00	11624.00	12665.70	1.0842	59.6
		96.00	11681.80	12723.50	1.0833	59.6
		97.00	11736.20	12777.90	1.0825	59.6
		98.00	11790.60	12832.30	1.0816	59.6
		99.00	11845.00	12886.70	1.0808	59.6
		100.00	11901.70	12943.40	1.0800	59.6
		101.00	11955.00	12996.70	1.0792	59.6

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		102.00	12008.20	13049.90	1.0784	59.6
		103.00	12060.30	13102.00	1.0777	59.6
		104.00	12112.40	13154.10	1.0769	59.6
		105.00	12163.30	13205.00	1.0762	59.6
		106.00	12214.20	13255.90	1.0755	59.6
		107.00	12261.70	13303.40	1.0748	59.7
		108.00	12310.30	13352.00	1.0741	59.7
		109.00	12361.20	13402.90	1.0734	59.6
		110.00	12409.80	13451.50	1.0727	59.7
		111.00	12459.60	13501.30	1.0721	59.7
		112.00	12503.60	13545.30	1.0714	59.7
		113.00	12553.40	13595.10	1.0708	59.7
		114.00	12602.00	13643.70	1.0702	59.7
		115.00	12648.30	13690.00	1.0696	59.7
		116.00	12695.70	13737.40	1.0690	59.7
		117.00	12740.90	13782.60	1.0684	59.7
		118.00	12784.90	13826.60	1.0678	59.7
		119.00	12830.00	13871.70	1.0672	59.7
		120.00	12874.00	13915.70	1.0667	59.7
		121.00	12918.00	13959.70	1.0661	59.7
		122.00	12961.90	14003.60	1.0656	59.7
		123.00	13004.80	14046.50	1.0650	59.7
		124.00	13047.60	14089.30	1.0645	59.7
		125.00	13084.60	14126.30	1.0640	59.7
		126.00	13125.10	14166.80	1.0635	59.7
		127.00	13165.60	14207.30	1.0630	59.7
		128.00	13206.20	14247.90	1.0625	59.7
		129.00	13243.20	14284.90	1.0620	59.7
		130.00	13281.40	14323.10	1.0615	59.7
		131.00	13320.70	14362.40	1.0611	59.7
		132.00	13357.80	14399.50	1.0606	59.7
		133.00	13394.80	14436.50	1.0602	59.7
		134.00	13430.70	14472.40	1.0597	59.7
		135.00	13465.40	14507.10	1.0593	59.7
		136.00	13501.30	14543.00	1.0588	59.7
		137.00	13533.70	14575.40	1.0584	59.7
		138.00	13569.60	14611.30	1.0580	59.7

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		139.00	13604.30	14646.00	1.0576	59.7
		140.00	13637.90	14679.60	1.0571	59.7
		141.00	13671.40	14713.10	1.0567	59.7
		142.00	13705.00	14746.70	1.0563	59.7
		143.00	13732.80	14774.50	1.0559	59.7
		144.00	13764.00	14805.70	1.0556	59.6
		145.00	13797.60	14839.30	1.0552	59.6
		146.00	13826.50	14868.20	1.0548	59.6
		147.00	13858.90	14900.60	1.0544	59.6
		148.00	13889.00	14930.70	1.0541	59.6
		149.00	13919.10	14960.80	1.0537	59.6
		150.00	13941.10	14982.80	1.0533	59.6
		151.00	13974.70	15016.40	1.0530	59.6
		152.00	14003.60	15045.30	1.0526	59.6
		153.00	14033.70	15075.40	1.0523	59.6
		154.00	14059.20	15100.90	1.0519	59.6
		155.00	14089.30	15131.00	1.0516	59.6
		156.00	14118.20	15159.90	1.0513	59.6
		157.00	14146.00	15187.70	1.0510	59.6
		158.00	14174.90	15216.60	1.0506	59.6
		159.00	14202.70	15244.40	1.0503	59.6
		160.00	14230.50	15272.20	1.0500	59.6
		161.00	14255.90	15297.60	1.0497	59.6
		162.00	14283.70	15325.40	1.0494	59.6
		163.00	14311.50	15353.20	1.0491	59.6
		164.00	14338.10	15379.80	1.0488	59.6
		165.00	14362.40	15404.10	1.0485	59.7
		166.00	14384.40	15426.10	1.0482	59.7
		167.00	14408.70	15450.40	1.0479	59.7
		168.00	14434.20	15475.90	1.0476	59.7
		169.00	14457.30	15499.00	1.0473	59.7
		170.00	14481.60	15523.30	1.0471	59.7
		171.00	14507.10	15548.80	1.0468	59.7
		172.00	14531.40	15573.10	1.0465	59.7
		173.00	14555.70	15597.40	1.0462	59.7
		174.00	14575.40	15617.10	1.0460	59.7
		175.00	14596.20	15637.90	1.0457	59.7
		176.00	14620.50	15662.20	1.0455	59.7
		177.00	14643.70	15685.40	1.0452	59.7
		178.00	14665.70	15707.40	1.0449	59.7
		179.00	14688.80	15730.50	1.0447	59.7
		180.00	14712.00	15753.70	1.0444	59.7
		181.00	14733.90	15775.60	1.0442	59.7
		182.00	14755.90	15797.60	1.0440	59.7
		183.00	14776.80	15818.50	1.0437	59.6
		184.00	14798.80	15840.50	1.0435	59.7
		185.00	14819.60	15861.30	1.0432	59.6
		186.00	14841.60	15883.30	1.0430	59.6
		187.00	14790.70	15832.40	1.0428	59.6
		188.00	14818.40	15860.10	1.0426	59.6
		189.00	14846.20	15887.90	1.0423	59.6
		190.00	14868.20	15909.90	1.0421	59.6
		191.00	14891.40	15933.10	1.0419	59.5
		192.00	14913.30	15955.00	1.0417	59.5
		193.00	14934.20	15975.90	1.0415	59.5
		194.00	14956.20	15997.90	1.0412	59.5
		195.00	14977.00	16018.70	1.0410	59.5
		196.00	14998.70	16038.40	1.0408	59.5
		197.00	15017.50	16059.20	1.0406	59.5
		198.00	15036.00	16077.70	1.0404	59.5
		199.00	15054.60	16096.30	1.0402	59.5
		200.00	15073.10	16114.80	1.0400	59.5
		201.00	15092.70	16134.40	1.0398	59.5
		202.00	15113.60	16155.30	1.0396	59.5
		203.00	15132.10	16173.80	1.0394	59.5
		204.00	15151.80	16193.50	1.0392	59.5
		205.00	15170.30	16212.00	1.0390	59.5
		206.00	15187.70	16229.40	1.0388	59.5
		207.00	15207.30	16249.00	1.0386	59.5
		208.00	15225.90	16267.60	1.0385	59.5
		209.00	15243.20	16284.90	1.0383	59.5
		210.00	15260.60	16302.30	1.0381	59.4
		211.00	15274.50	16316.20	1.0379	59.4
		212.00	15293.00	16334.70	1.0377	59.5

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		213.00	15310.30	16352.00	1.0376	59.4
		214.00	15327.70	16369.40	1.0374	59.4
		215.00	15346.20	16387.90	1.0372	59.4
		216.00	15364.70	16406.40	1.0370	59.4
		217.00	15383.30	16425.00	1.0369	59.4
		218.00	15400.60	16442.30	1.0367	59.4
		219.00	15418.00	16459.70	1.0365	59.4
		220.00	15424.90	16466.60	1.0364	59.4
		221.00	15444.60	16486.30	1.0362	59.4
		222.00	15460.80	16502.50	1.0360	59.4
		223.00	15482.80	16524.50	1.0358	59.4
		224.00	15502.50	16544.20	1.0357	59.4
		225.00	15517.50	16559.20	1.0356	59.4
		226.00	15529.10	16570.80	1.0354	59.4
		227.00	15545.30	16587.00	1.0352	59.4
		228.00	15561.50	16603.20	1.0351	59.4
		229.00	15578.90	16620.60	1.0349	59.4
		230.00	15592.80	16634.50	1.0348	59.4
		231.00	15605.50	16647.20	1.0346	59.4
		232.00	15622.80	16664.50	1.0345	59.4
		233.00	15639.10	16680.80	1.0343	59.3
		234.00	15655.30	16697.00	1.0342	59.3
		235.00	15670.30	16712.00	1.0340	59.3
		236.00	15684.20	16725.90	1.0339	59.3
		237.00	15681.90	16723.60	1.0338	59.3
		238.00	15698.10	16739.80	1.0336	59.3
		239.00	15714.30	16756.00	1.0335	59.3
		240.00	15730.50	16772.20	1.0333	59.3
		241.00	15746.70	16788.40	1.0332	59.3
		242.00	15762.90	16804.60	1.0331	59.3
		243.00	15773.30	16815.00	1.0329	59.3
		244.00	15788.40	16830.10	1.0328	59.3
		245.00	15804.60	16846.30	1.0327	59.3
		246.00	15818.50	16860.20	1.0325	59.3
		247.00	15834.70	16876.40	1.0324	59.3
		248.00	15847.40	16889.10	1.0323	59.2
		249.00	15862.40	16904.10	1.0321	59.3
		250.00	15876.30	16918.00	1.0320	59.3
		251.00	15890.20	16931.90	1.0319	59.2
		252.00	15899.50	16941.20	1.0317	59.2
		253.00	15913.40	16955.10	1.0316	59.2
		254.00	15926.10	16967.80	1.0315	59.2
		255.00	15937.70	16979.40	1.0314	59.2
		256.00	15950.40	16992.10	1.0313	59.2
		257.00	15962.00	17003.70	1.0311	59.2
D	End of 1st Shutin	258.00	15974.70	17016.40	1.0310	59.2
E	Start of 2nd Flow	0.00	0.00	735.00		57.4
		1.00	-22.00	713.00		57.2
		2.00	-18.60	716.40		57.0
		3.00	-3.50	731.50		56.9
		4.00	24.30	759.30		56.8
		5.00	43.90	778.90		56.7
		6.00	87.90	822.90		56.6
		7.00	179.40	914.40		56.6
		8.00	267.30	1002.30		56.6
		9.00	306.70	1041.70		56.6
		10.00	327.50	1062.50		56.6
		11.00	354.10	1089.10		56.6
		12.00	387.70	1122.70		56.6
		13.00	417.80	1152.80		56.6
		14.00	435.20	1170.20		56.6
		15.00	452.50	1187.50		56.6
		16.00	461.80	1196.80		56.6
		17.00	475.70	1210.70		56.6
		18.00	476.80	1211.80		56.6
		19.00	483.80	1218.80		56.7
		20.00	482.60	1217.60		56.7
		21.00	481.40	1216.40		56.7
		22.00	484.90	1219.90		56.7
		23.00	495.30	1230.30		56.7
		24.00	506.90	1241.90		56.7
		25.00	510.40	1245.40		56.7
		26.00	511.50	1246.50		56.7
		27.00	519.60	1254.60		56.7

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9998 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		28.00	525.40	1260.40		56.8
		29.00	530.10	1265.10		56.8
		30.00	533.50	1268.50		56.8
		31.00	538.20	1273.20		56.8
		32.00	545.10	1280.10		56.8
		33.00	545.10	1280.10		56.8
		34.00	548.60	1283.60		56.8
		35.00	554.40	1289.40		56.8
		36.00	562.50	1297.50		56.8
		37.00	559.00	1294.00		56.9
		38.00	561.30	1296.30		56.9
		39.00	568.30	1303.30		56.9
		40.00	565.90	1300.90		56.9
		41.00	569.40	1304.40		56.9
		42.00	574.00	1309.00		56.9
		43.00	571.70	1306.70		56.9
		44.00	577.50	1312.50		56.9
		45.00	579.80	1314.80		56.9
		46.00	581.00	1316.00		56.9
		47.00	585.60	1320.60		56.9
		48.00	583.30	1318.30		56.9
		49.00	583.30	1318.30		56.9
		50.00	590.20	1325.20		56.9
		51.00	591.40	1326.40		57.0
		52.00	598.30	1333.30		57.0
		53.00	598.30	1333.30		57.0
F	End of 2nd Flow	54.00	596.00	1331.00		57.0
		1.00	211.80	1542.80	63.0000	57.0
		2.00	423.70	1754.70	32.0000	57.0
		3.00	623.90	1954.90	21.6667	57.0
		4.00	813.70	2144.70	16.5000	57.0
		5.00	990.80	2321.80	13.4000	57.0
		6.00	1160.90	2491.90	11.3333	57.0
		7.00	1327.60	2658.60	9.8571	57.0
		8.00	1489.60	2820.60	8.7500	57.0
		9.00	1650.50	2981.50	7.8889	57.0
		10.00	1806.80	3137.80	7.2000	57.0
		11.00	1961.90	3292.90	6.6364	57.1
		12.00	2110.00	3441.00	6.1667	57.0
		13.00	2257.00	3588.00	5.7692	57.1
		14.00	2406.30	3737.30	5.4286	57.1
		15.00	2552.10	3883.10	5.1333	57.1
		16.00	2696.80	4027.80	4.8750	57.1
		17.00	2838.00	4169.00	4.6471	57.1
		18.00	2979.20	4310.20	4.4444	57.1
		19.00	3118.10	4449.10	4.2632	57.1
		20.00	3254.70	4585.70	4.1000	57.1
		21.00	3390.10	4721.10	3.9524	57.1
		22.00	3524.40	4855.40	3.8182	57.1
		23.00	3658.60	4989.60	3.6957	57.1
		24.00	3789.40	5120.40	3.5833	57.1
		25.00	3920.20	5251.20	3.4800	57.1
		26.00	4047.50	5378.50	3.3846	57.1
		27.00	4174.90	5505.90	3.2963	57.1
		28.00	4299.90	5630.90	3.2143	57.1
		29.00	4423.70	5754.70	3.1379	57.2
		30.00	4546.40	5877.40	3.0667	57.2
		31.00	4667.90	5998.90	3.0000	57.2
		32.00	4786.00	6117.00	2.9375	57.2
		33.00	4904.00	6235.00	2.8788	57.2
		34.00	5020.90	6351.90	2.8235	57.2
		35.00	5134.40	6465.40	2.7714	57.2
		36.00	5248.90	6579.90	2.7222	57.2
		37.00	5361.20	6692.20	2.6757	57.2
		38.00	5470.00	6801.00	2.6316	57.2
		39.00	5581.10	6912.10	2.5897	57.2
		40.00	5686.40	7017.40	2.5500	57.3
		41.00	5792.90	7123.90	2.5122	57.3
		42.00	5897.10	7228.10	2.4762	57.3
		43.00	6001.30	7332.30	2.4419	57.3
		44.00	6100.80	7431.80	2.4091	57.3
		45.00	6201.50	7532.50	2.3778	57.3
		46.00	6301.00	7632.00	2.3478	57.3
		47.00	6390.20	7721.20	2.3191	57.3

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

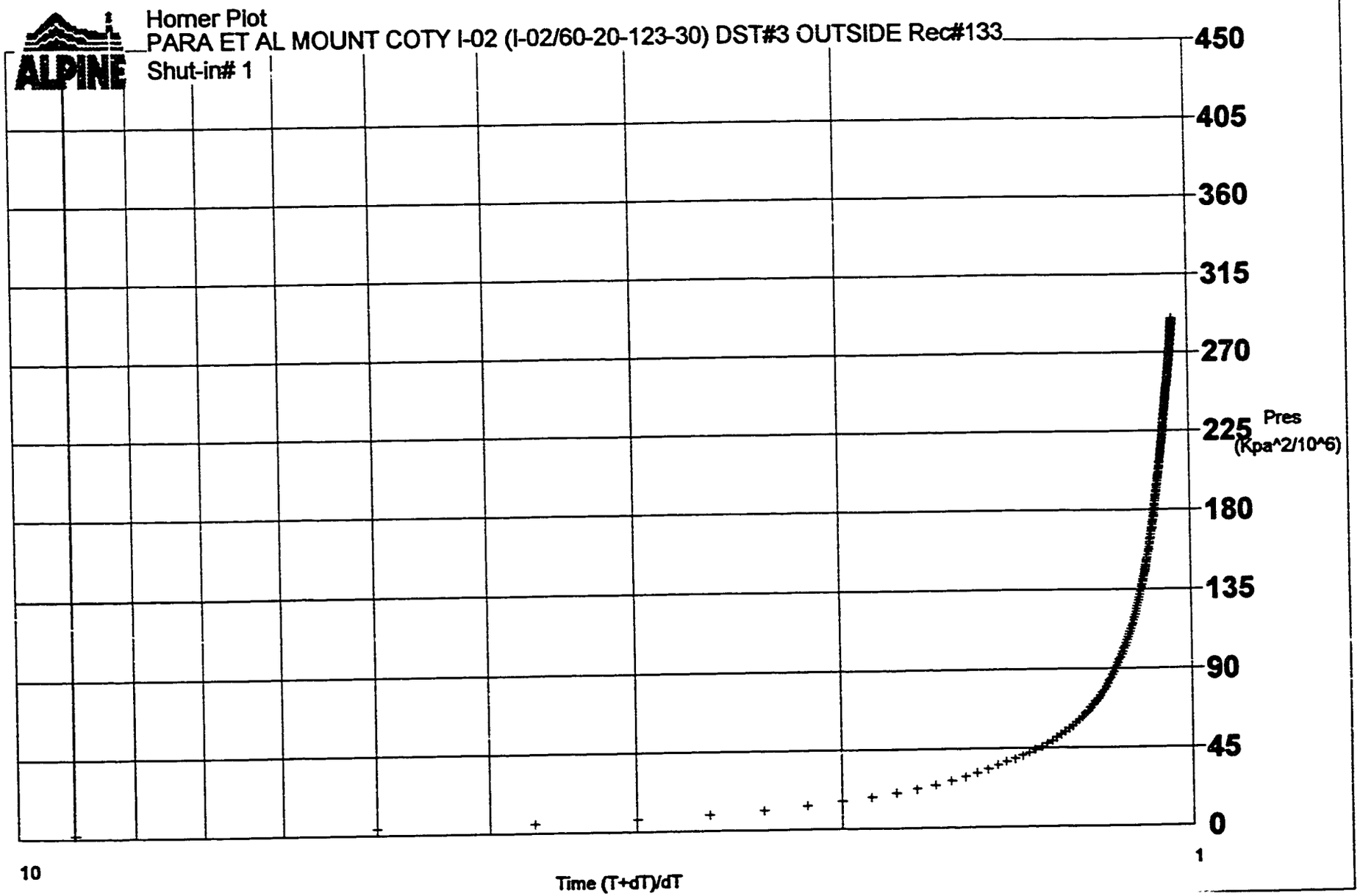
Contact: WILBERT CALLIHOO

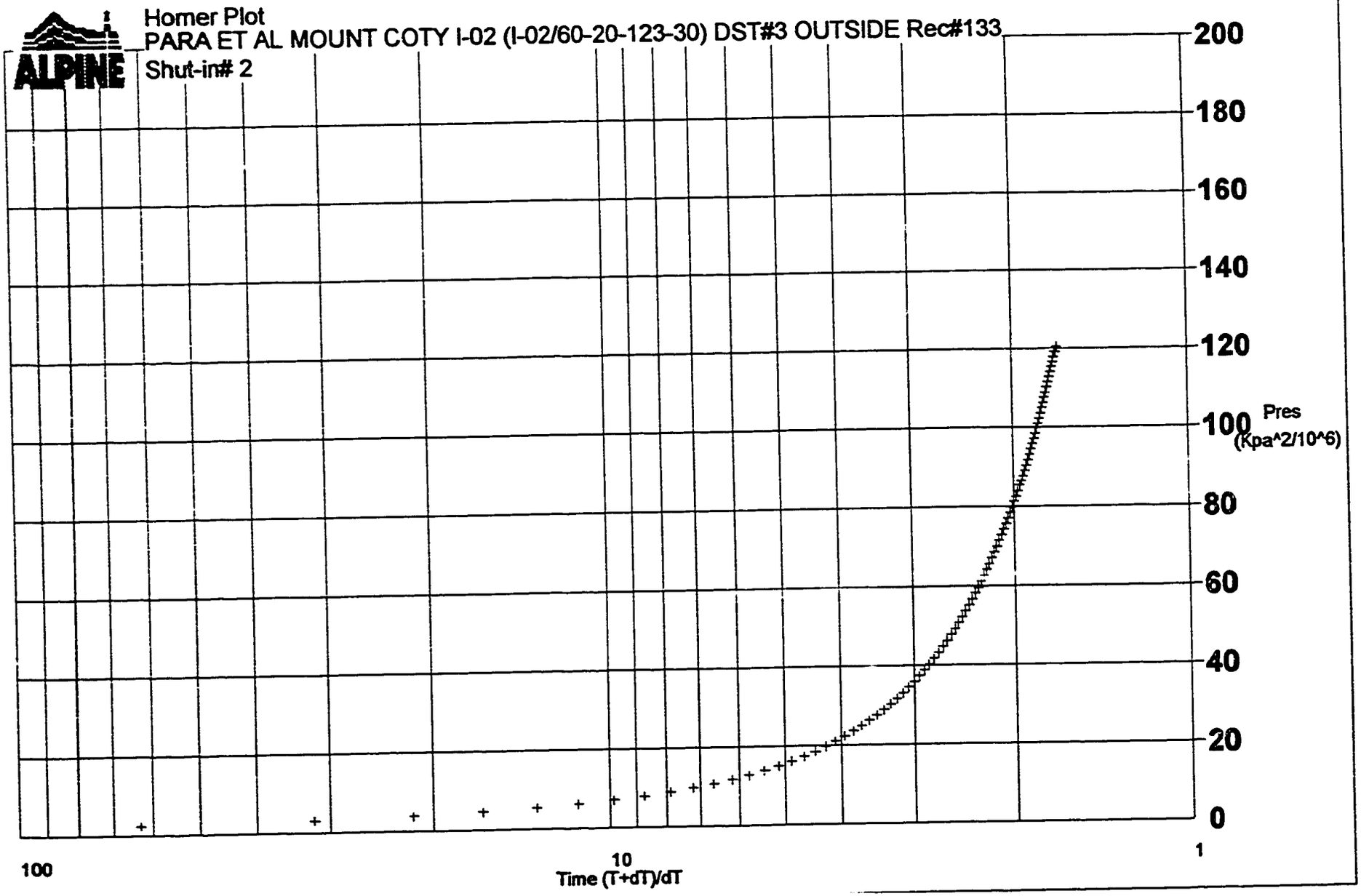
Job Ticket #: D2-9996 DST#: 3
Test Date: 11/28/2000 1200hrs

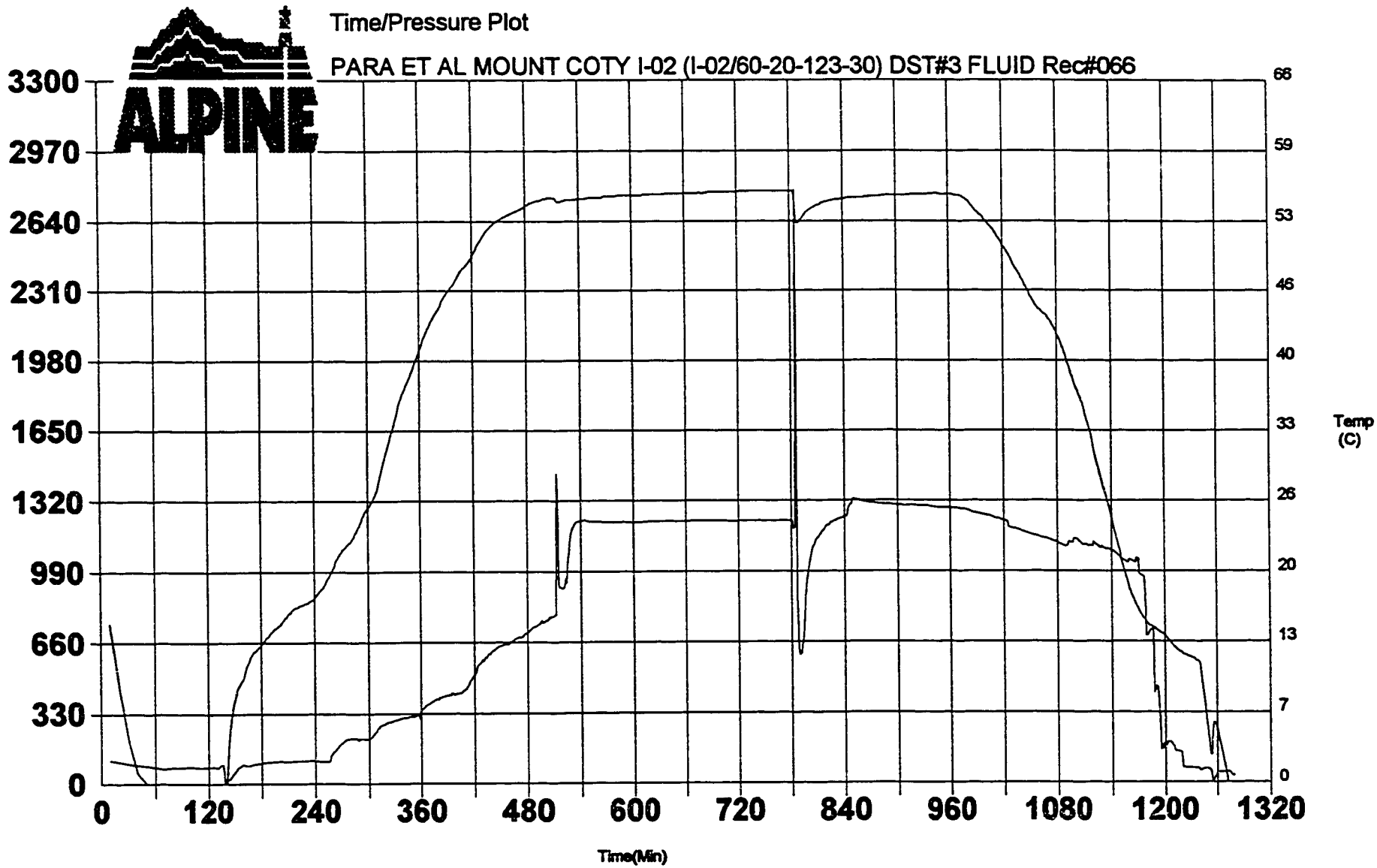
Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		48.00	6487.40	7818.40	2.2917	57.3
		49.00	6583.40	7914.40	2.2653	57.3
		50.00	6677.20	8008.20	2.2400	57.3
		51.00	6768.60	8099.60	2.2157	57.3
		52.00	6857.80	8188.80	2.1923	57.3
		53.00	6943.40	8274.40	2.1698	57.3
		54.00	7031.40	8362.40	2.1481	57.3
		55.00	7119.30	8450.30	2.1273	57.3
		56.00	7203.80	8534.80	2.1071	57.3
		57.00	7287.20	8618.20	2.0877	57.3
		58.00	7370.50	8701.50	2.0690	57.3
		59.00	7451.50	8782.50	2.0508	57.4
		60.00	7531.40	8862.40	2.0333	57.4
		61.00	7611.20	8942.20	2.0164	57.4
		62.00	7688.80	9019.80	2.0000	57.4
		63.00	7757.10	9088.10	1.9841	57.4
		64.00	7834.60	9165.60	1.9688	57.4
		65.00	7912.20	9243.20	1.9538	57.4
		66.00	7968.90	9299.90	1.9394	57.4
		67.00	8029.10	9360.10	1.9254	57.4
		68.00	8102.00	9433.00	1.9118	57.4
		69.00	8174.90	9505.90	1.8986	57.4
		70.00	8247.80	9578.80	1.8857	57.4
		71.00	8318.40	9649.40	1.8732	57.4
		72.00	8389.00	9720.00	1.8611	57.4
		73.00	8459.60	9790.60	1.8493	57.4
		74.00	8526.80	9857.80	1.8378	57.5
		75.00	8595.00	9926.00	1.8267	57.4
		76.00	8663.30	9994.30	1.8158	57.4
		77.00	8715.40	10046.40	1.8052	57.5
		78.00	8777.90	10108.90	1.7949	57.5
		79.00	8846.20	10177.20	1.7848	57.5
		80.00	8912.20	10243.20	1.7750	57.5
		81.00	8974.70	10305.70	1.7654	57.5
		82.00	9038.30	10369.30	1.7561	57.5
		83.00	9100.80	10431.80	1.7470	57.5
		84.00	9164.50	10495.50	1.7381	57.5
		85.00	9225.80	10556.80	1.7294	57.5
		86.00	9287.20	10618.20	1.7209	57.5
		87.00	9348.50	10679.50	1.7126	57.5
		88.00	9408.70	10739.70	1.7045	57.5
		89.00	9467.70	10798.70	1.6966	57.6
		90.00	9525.60	10856.60	1.6889	57.6
		91.00	9580.00	10911.00	1.6813	57.6
		92.00	9584.60	10915.60	1.6739	57.6
G	End of 2nd Shutin	93.00	9643.70	10974.70	1.6667	57.6
Q	Final Hydrostatic	0.00	0.00	20185.40		57.8

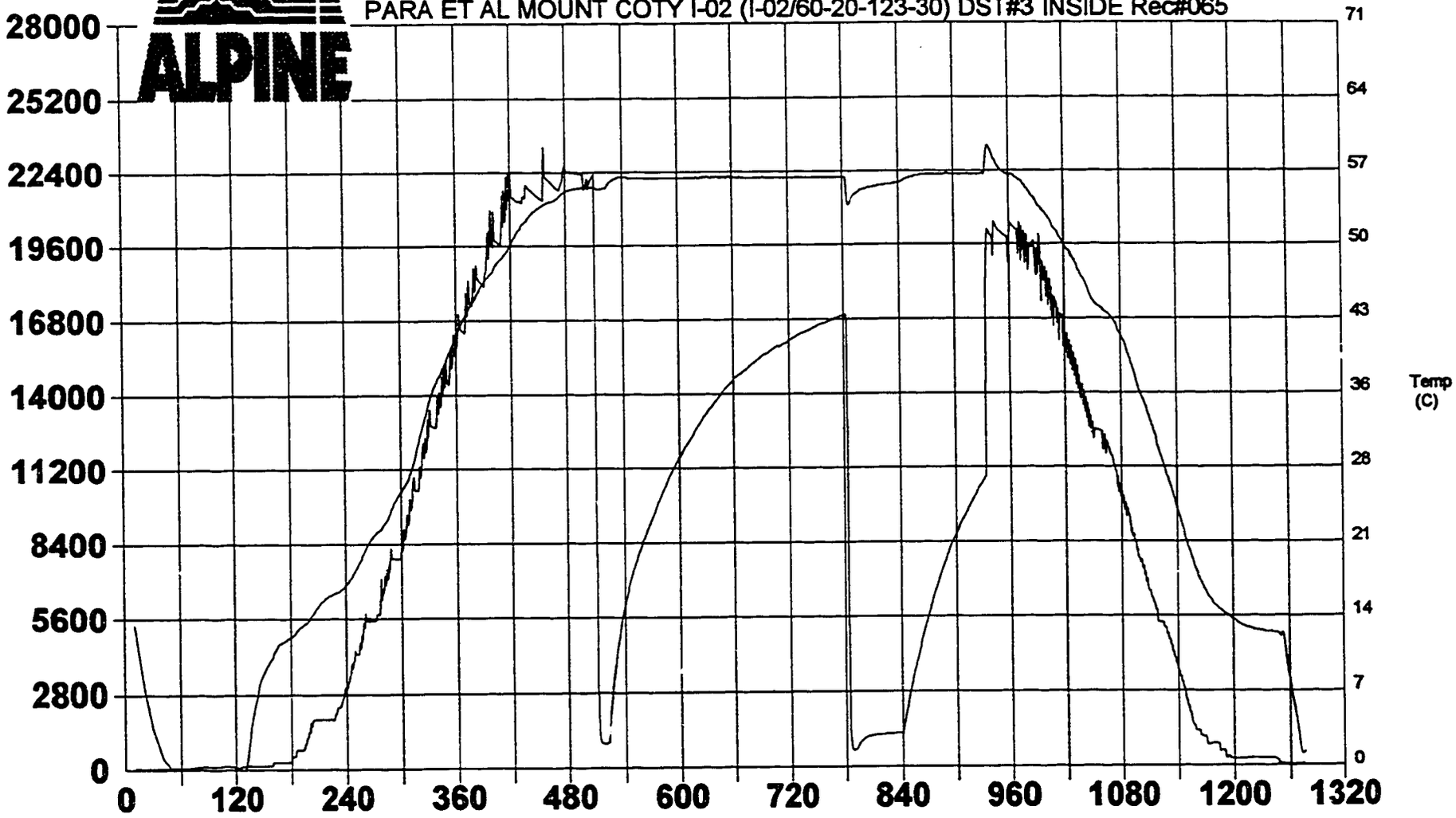

Homer Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 OUTSIDE Rec#133
Shut-in# 1
450
405
360
315
270
225
180
135
90
45
0
Pres
(Kpa^2/10^6)
10
1
Time (T+dT)/dT


Horner Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 OUTSIDE Rec#133
Shut-in# 2
200
180
160
140
120
100
80
60
40
20
0
Pres
(Kpa^2/10^6)
100
10
1
Time (T+dT)/dT

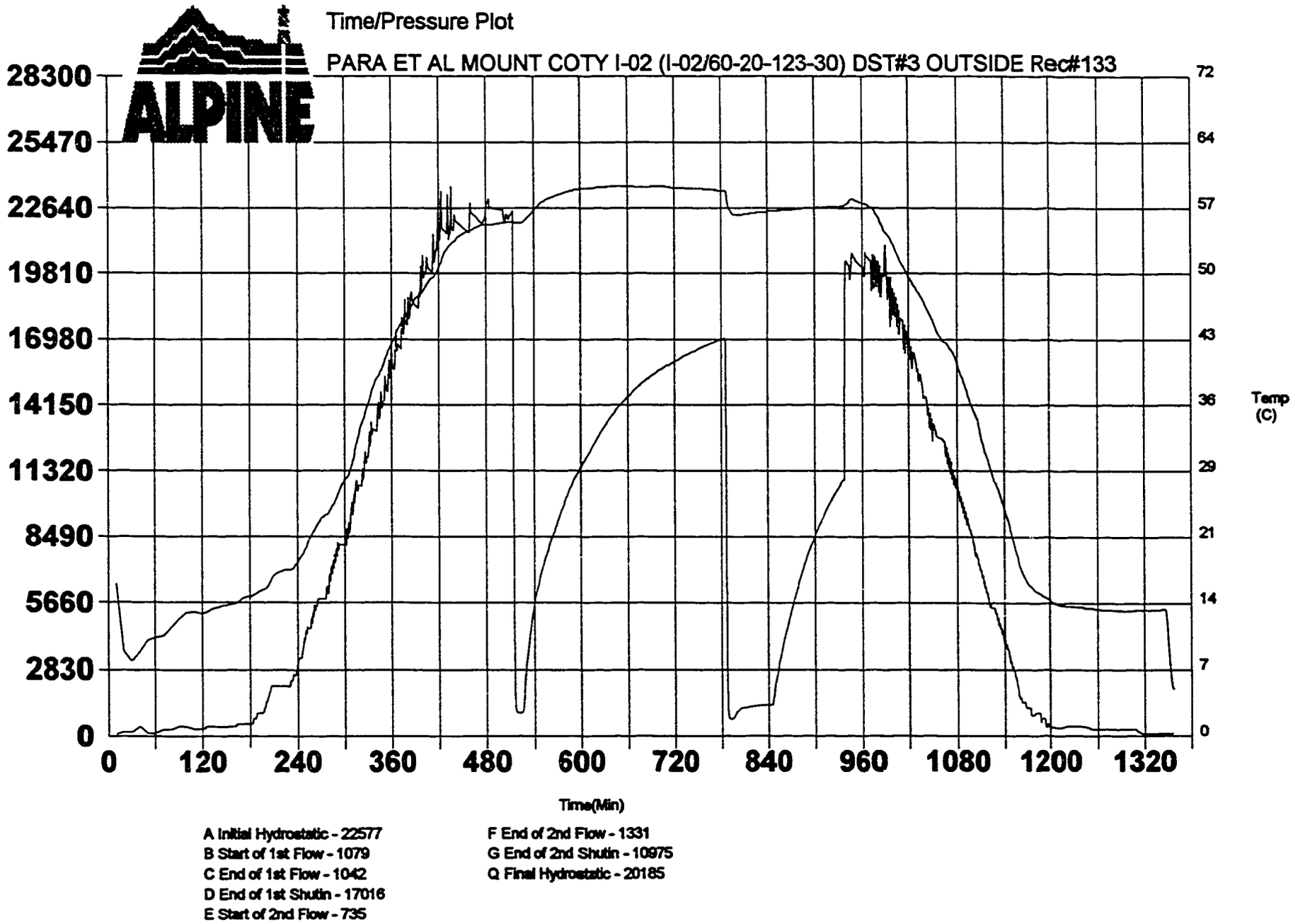

ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 FLUID Rec#066
3300
2970
2640
2310
1980
1650
1320
990
660
330
0
66
59
53
46
40
33
26
20
13
7
0
Temp (C)
0
120
240
360
480
600
720
840
960
1080
1200
1320
Time(Min)
A Initial Hydrostatic - 778
B Start of 1st Flow - 788
C End of 1st Flow - 916
D End of 1st Shutin - 1225
E Start of 2nd Flow - 600
F End of 2nd Flow - 1252
G End of 2nd Shutin - 1299
Q Final Hydrostatic - 1299

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 INSIDE Rec#065



A Initial Hydrostatic - 22331
B Start of 1st Flow - 939
C End of 1st Flow - 918
D End of 1st Shutin - 16925
E Start of 2nd Flow - 608
F End of 2nd Flow - 1262
G End of 2nd Shutin - 10837
Q Final Hydrostatic - 20422


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#3 OUTSIDE Rec#133
28300
25470
22640
19810
16980
14150
11320
8490
5660
2830
0
72
64
57
50
43
36
29
21
14
7
0
Temp (C)
0
120
240
360
480
600
720
840
960
1080
1200
1320
Time(Min)
A Initial Hydrostatic - 22577
B Start of 1st Flow - 1079
C End of 1st Flow - 1042
D End of 1st Shutin - 17016
E Start of 2nd Flow - 735
F End of 2nd Flow - 1331
G End of 2nd Shutin - 10975
Q Final Hydrostatic - 20185



Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/28/2000**

Job Ticket #: **T6187-3** DST#: **3**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: T6187-3 DST#: 3
Test Date: 11/28/2000 1200hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

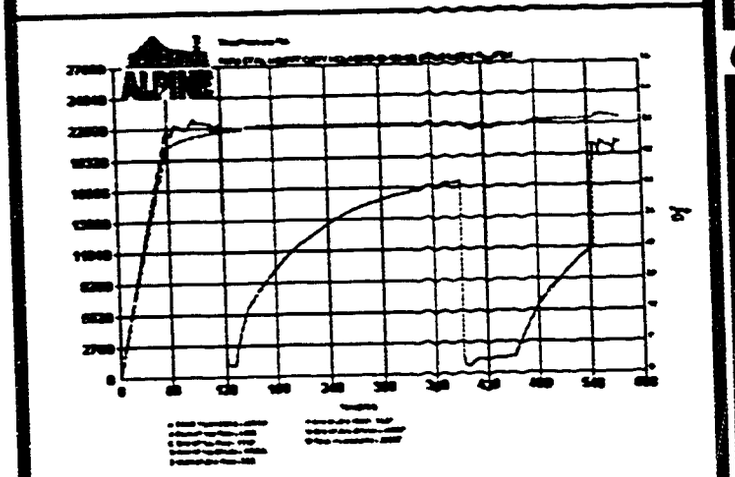
General Information:

Test Type:	INFLATE STRADDLE
Interval:	1709m -1727m
Formation:	DEBOLT
KB Elevation:	374.60m
Ground Elevation:	369.10m
Total Depth:	1744.00m
Test Mode:	Gas
Tester:	K. PEARSON
Truck No.:	Unit 673
Contractor:	AKITA DRILLING
Rig No.:	51
Hole Diameter:	222mm
Hole Condition:	FAIR
Bottom Hole Temperature:	59.60 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 1698.16 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	22518.5
B Start of 1st Flow	0.00	1102.3
C End of 1st Flow	7.50	1118.9
D End of 1st Shutin	250.83	17982.7
E Start of 2nd Flow	0.00	781.6
F End of 2nd Flow	63.94	1427.3
G End of 2nd Shutin	92.25	10987.8
Q Final Hydrostatic	0.00	20987.8



Test Run Information:

Start Time:	1200hrs
Reached Test Depth:	1530hrs
Pull Out Time:	45hrs
Tool Out Of Hole:	530hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	80.00S/L
Filter Cake:	2.00mm
Pump Time:	30min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1270.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	180.00L
Type of cushion:	INHIBITOR & H20

General Remarks:

Mechanically successful. *Test results suggest low permeability within the zone tested.

PREFLOW: Strong air blow throughout. Gas to surface immediately, lazy 3 meter flare. Rates too small to measure.

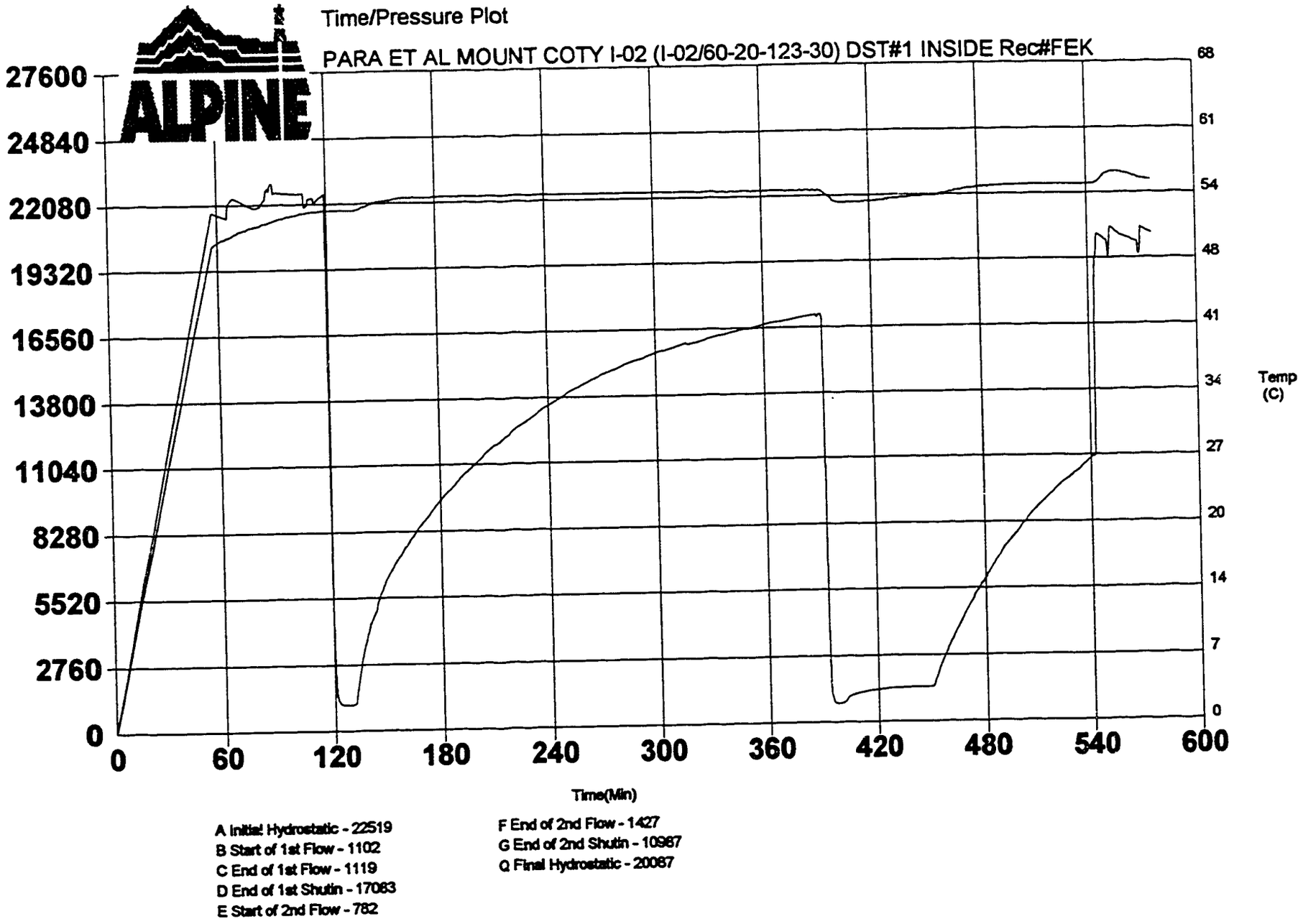
FINAL FLOW: Gas to surface immediately.

*** See gas volume charts for gas rates.

Recovery Description:

Total fluid recovery was 102 meters gasified drilling fluid.

No gas to surface.


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#1 INSIDE Rec#FEK
27600
24840
22080
19320
16560
13800
11040
8280
5520
2760
0
68
61
54
48
41
34
27
20
14
7
0
Temp (C)
0
60
120
180
240
300
360
420
480
540
600
Time(Min)
A Initial Hydrostatic - 22519
B Start of 1st Flow - 1102
C End of 1st Flow - 1119
D End of 1st Shutin - 17083
E Start of 2nd Flow - 782
F End of 2nd Flow - 1427
G End of 2nd Shutin - 10987
Q Final Hydrostatic - 20087

PARA ET AL MOUNT COTY

I-02/60-20-123-30

DST #4



Drill Stem Test Report

Prepared for: PARAMOUNT RESOURCES
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: 11/30/2000

Job Ticket #: D2-9999 DST#: 4

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9999 DST#: 4
Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

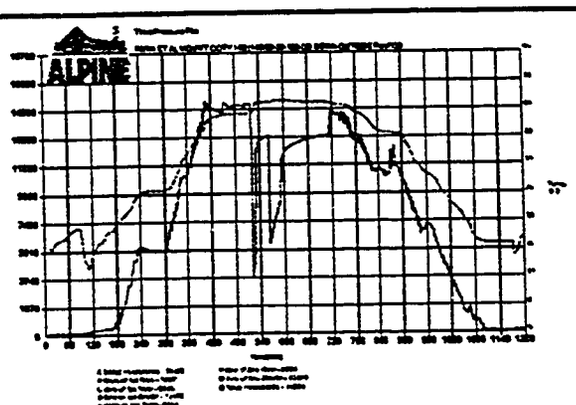
General Information:

Test Type: INFLATE STRADDLE
Interval: 1216.00m - 1240.00m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: A. SCARIONE
Truck No.: Unit 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 45.80 C

Electronic Recorder Information:

OUTSIDE		FLUID	
Recorder #: 133		Recorder #: 066	
Range: 70000 kPa		Range: 70000 kPa	
Depth: 1218.92 m		Depth: 1193.77 m	
Flag Points:	Time:		Pressure:
A Initial Hydrostatic	0.00		15390.2
B Start of 1st Flow	0.00		3897.0
C End of 1st Flow	7.00		5588.0
D End of 1st Shutin	35.00		13176.1
E Start of 2nd Flow	0.00		6031.3
F End of 2nd Flow	28.00		9003.6
G End of 2nd Shutin	121.00		13202.7
Q Final Hydrostatic	0.00		14904.1



Test Run Information:

Start Time: 400hrs
Reached Test Depth: 830hrs
Pull Out Time: 1316hrs
Tool Out Of Hole: 2000hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 62000.00daN
Initial String Weight: 49000.00daN
Unseated String Weight: 52000.00daN

Tool Chased Dist: 0.00m
Water Loss: 8.50cm³
Mud Type: GEL CHEMICAL
Mud Drop: NO
Mud Weight: 1240.00kg/m³
VIS: 61.00S/L
Amount of fill: 0.00m
Filter Cake: 2.00mm
Amt of cushion: 0.00
Pump Time: 30min
Type of cushion:
Reversed Out: YES

General Remarks:

Mechanically successful. *Test results suggest high permeability within the zone tested.

PREFLOW: Weak air blow increasing to strong in 20 seconds. Decreasing to dead after 6 minutes.

FINAL FLOW: Strong air blow decreasing to very weak air blow.

NOTE - See Alpine Telemetry report for real time data acquisition.

Recovery Description:

Total fluid recovery reversed out was 711 meters fresh water.

No gas to surface.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 6 Sent to: AGAT LAB

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9999 DST#: 4
Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	2
Drill Collar Singles:	1
Drill Pipe Stands:	41
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1220.95m
Total Drill Pipe Above K.B.:	3.95m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	38.57	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	789.52	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.91	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

NOTE -

Electronic Rec. #160 malfunctioned, no pressure data is available.



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC#066	1.90
HMV Stroke	2.39
Sampler	1.10
REC#066	1.90
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.85
Pump	2.95
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
Stub	0.72
ASE Carrier	2.20
REC#133	
REC#160	
Bypass Hanger	0.42
C.O. Sub	0.30
Drill Collar	18.70
C.O. Sub	0.30
Bypass Receiver	0.78
Stub	0.71
Packer	1.71
Extension Sub	0.72
Drag Spring	2.00
Bullnose	0.90

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9999 DST#: 4
Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
A	Initial Hydrostatic	0.00	0.00	15390.20		43.5
B	Start of 1st Flow	0.00	0.00	3997.00		43.5
		1.00	89.20	3986.20		43.6
		2.00	291.70	4188.70		43.8
		3.00	575.30	4472.30		44.0
		4.00	879.70	4776.70		44.2
		5.00	1184.10	5081.10		44.4
		6.00	1439.90	5336.90		44.7
C	End of 1st Flow	7.00	1691.00	5588.00		44.9
		1.00	5629.70	11217.70	8.0000	45.1
		2.00	6384.40	11972.40	4.5000	45.3
		3.00	6633.20	12221.20	3.3333	45.4
		4.00	6780.20	12368.20	2.7500	45.5
		5.00	6882.10	12470.10	2.4000	45.6
		6.00	6959.60	12547.60	2.1667	45.6
		7.00	7022.10	12610.10	2.0000	45.6
		8.00	7074.20	12662.20	1.8750	45.7
		9.00	7118.20	12706.20	1.7778	45.7
		10.00	7157.50	12745.50	1.7000	45.7
		11.00	7192.20	12780.20	1.6364	45.7
		12.00	7222.30	12810.30	1.5833	45.7
		13.00	7251.30	12839.30	1.5385	45.7
		14.00	7277.90	12865.90	1.5000	45.7
		15.00	7301.00	12889.00	1.4667	45.7
		16.00	7321.90	12909.90	1.4375	45.7
		17.00	7343.90	12931.90	1.4118	45.7
		18.00	7362.40	12950.40	1.3889	45.7
		19.00	7380.90	12968.90	1.3684	45.7
		20.00	7397.10	12985.10	1.3500	45.7
		21.00	7413.30	13001.30	1.3333	45.7
		22.00	7429.50	13017.50	1.3182	45.6
		23.00	7442.20	13030.20	1.3043	45.7
		24.00	7457.30	13045.30	1.2917	45.6
		25.00	7468.90	13056.90	1.2800	45.6
		26.00	7482.80	13070.80	1.2692	45.6
		27.00	7494.30	13082.30	1.2593	45.6
		28.00	7505.90	13093.90	1.2500	45.6
		29.00	7526.70	13114.70	1.2414	45.6
		30.00	7533.70	13121.70	1.2333	45.6
		31.00	7541.80	13129.80	1.2258	45.6
		32.00	7549.90	13137.90	1.2188	45.6
		33.00	7562.80	13150.60	1.2121	45.6
		34.00	7571.90	13159.90	1.2059	45.6
D	End of 1st Shutin	35.00	7588.10	13176.10	1.2000	45.6
E	Start of 2nd Flow	0.00	0.00	6031.30		45.5
		1.00	66.00	6097.30		45.5
		2.00	167.80	6199.10		45.5
		3.00	296.30	6327.60		45.5
		4.00	429.40	6460.70		45.6
		5.00	568.30	6599.60		45.7
		6.00	703.70	6735.00		45.7
		7.00	829.90	6861.20		45.8
		8.00	960.70	6992.00		45.8
		9.00	1085.70	7117.00		45.9
		10.00	1208.40	7239.70		45.9
		11.00	1336.80	7368.10		45.9
		12.00	1452.60	7483.90		46.0
		13.00	1563.70	7595.00		46.0
		14.00	1674.80	7706.10		46.0
		15.00	1779.00	7810.30		46.0
		16.00	1883.10	7914.40		46.0
		17.00	1986.20	8017.50		46.0
		18.00	2086.90	8118.20		46.0
		19.00	2187.50	8218.80		46.0
		20.00	2281.30	8312.60		46.0
		21.00	2372.70	8404.00		46.0
		22.00	2464.20	8495.50		46.0
		23.00	2552.10	8583.40		46.0
		24.00	2636.60	8667.90		46.0
		25.00	2721.10	8752.40		46.0
		26.00	2809.10	8840.40		46.0
		27.00	2894.70	8926.00		46.0
F	End of 2nd Flow	28.00	2972.30	9003.60		46.0
		1.00	2211.80	11215.40	36.0000	46.0

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-9999 DST#: 4
Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		2.00	2613.40	11617.00	18.5000	46.0
		3.00	2740.80	11744.40	12.6667	46.0
		4.00	2828.70	11832.30	9.7500	46.0
		5.00	2897.00	11900.60	8.0000	46.0
		6.00	2953.70	11957.30	6.8333	46.0
		7.00	3002.30	12005.90	6.0000	46.0
		8.00	3046.30	12049.90	5.3750	46.0
		9.00	3085.70	12089.30	4.8889	46.0
		10.00	3121.50	12125.10	4.5000	46.0
		11.00	3155.10	12158.70	4.1818	46.0
		12.00	3185.20	12188.80	3.9167	46.0
		13.00	3215.30	12218.90	3.6923	46.0
		14.00	3243.10	12246.70	3.5000	46.0
		15.00	3269.70	12273.30	3.3333	46.0
		16.00	3294.00	12297.60	3.1875	46.0
		17.00	3318.30	12321.90	3.0588	46.0
		18.00	3340.30	12343.90	2.9444	46.0
		19.00	3362.30	12365.90	2.8421	46.0
		20.00	3384.30	12387.90	2.7500	46.0
		21.00	3404.00	12407.60	2.6667	46.0
		22.00	3423.60	12427.20	2.5909	46.0
		23.00	3443.30	12446.90	2.5217	46.0
		24.00	3460.70	12464.30	2.4583	45.9
		25.00	3479.20	12482.80	2.4000	45.9
		26.00	3495.40	12499.00	2.3462	45.9
		27.00	3511.60	12515.20	2.2963	45.9
		28.00	3527.80	12531.40	2.2500	45.9
		29.00	3544.00	12547.60	2.2069	45.9
		30.00	3559.00	12562.60	2.1667	45.9
		31.00	3574.10	12577.70	2.1290	45.9
		32.00	3589.10	12592.70	2.0938	45.9
		33.00	3601.90	12605.50	2.0606	45.9
		34.00	3615.80	12619.40	2.0294	45.9
		35.00	3629.70	12633.30	2.0000	45.9
		36.00	3642.40	12646.00	1.9722	45.9
		37.00	3655.10	12658.70	1.9459	45.8
		38.00	3667.80	12671.40	1.9211	45.8
		39.00	3678.30	12681.90	1.8974	45.8
		40.00	3692.20	12695.80	1.8750	45.8
		41.00	3702.60	12706.20	1.8537	45.8
		42.00	3714.10	12717.70	1.8333	45.8
		43.00	3725.70	12729.30	1.8140	45.8
		44.00	3736.10	12739.70	1.7955	45.8
		45.00	3747.70	12751.30	1.7778	45.8
		46.00	3757.00	12760.60	1.7609	45.8
		47.00	3767.40	12771.00	1.7447	45.8
		48.00	3777.80	12781.40	1.7292	45.8
		49.00	3787.10	12790.70	1.7143	45.8
		50.00	3797.50	12801.10	1.7000	45.8
		51.00	3806.70	12810.30	1.6863	45.8
		52.00	3816.00	12819.60	1.6731	45.8
		53.00	3825.30	12828.90	1.6604	45.8
		54.00	3833.40	12837.00	1.6481	45.8
		55.00	3842.60	12846.20	1.6364	45.7
		56.00	3850.70	12854.30	1.6250	45.7
		57.00	3858.80	12862.40	1.6140	45.8
		58.00	3868.10	12871.70	1.6034	45.7
		59.00	3876.20	12879.80	1.5932	45.7
		60.00	3884.30	12887.90	1.5833	45.7
		61.00	3892.40	12896.00	1.5738	45.7
		62.00	3899.30	12902.90	1.5645	45.7
		63.00	3907.40	12911.00	1.5556	45.7
		64.00	3914.40	12918.00	1.5469	45.7
		65.00	3922.50	12926.10	1.5385	45.7
		66.00	3929.40	12933.00	1.5303	45.7
		67.00	3936.40	12940.00	1.5224	45.7
		68.00	3943.30	12946.90	1.5147	45.7
		69.00	3950.30	12953.90	1.5072	45.7
		70.00	3957.20	12960.80	1.5000	45.7
		71.00	3964.10	12967.70	1.4930	45.7
		72.00	3971.10	12974.70	1.4861	45.7
		73.00	3976.90	12980.50	1.4795	45.7
		74.00	3983.80	12987.40	1.4730	45.7
		75.00	3989.60	12993.20	1.4667	45.7

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

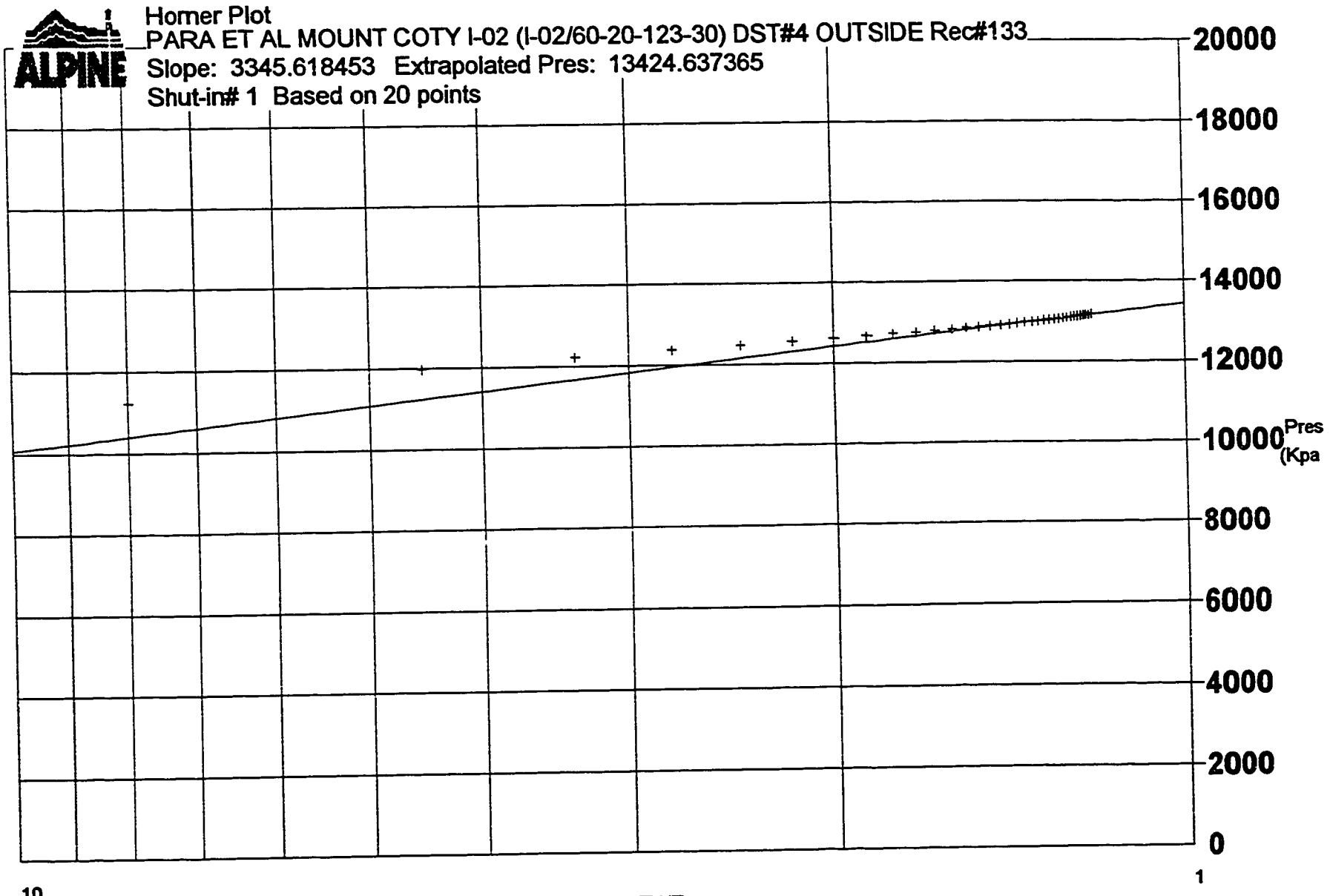
Contact: WILBERT CALLIHOO

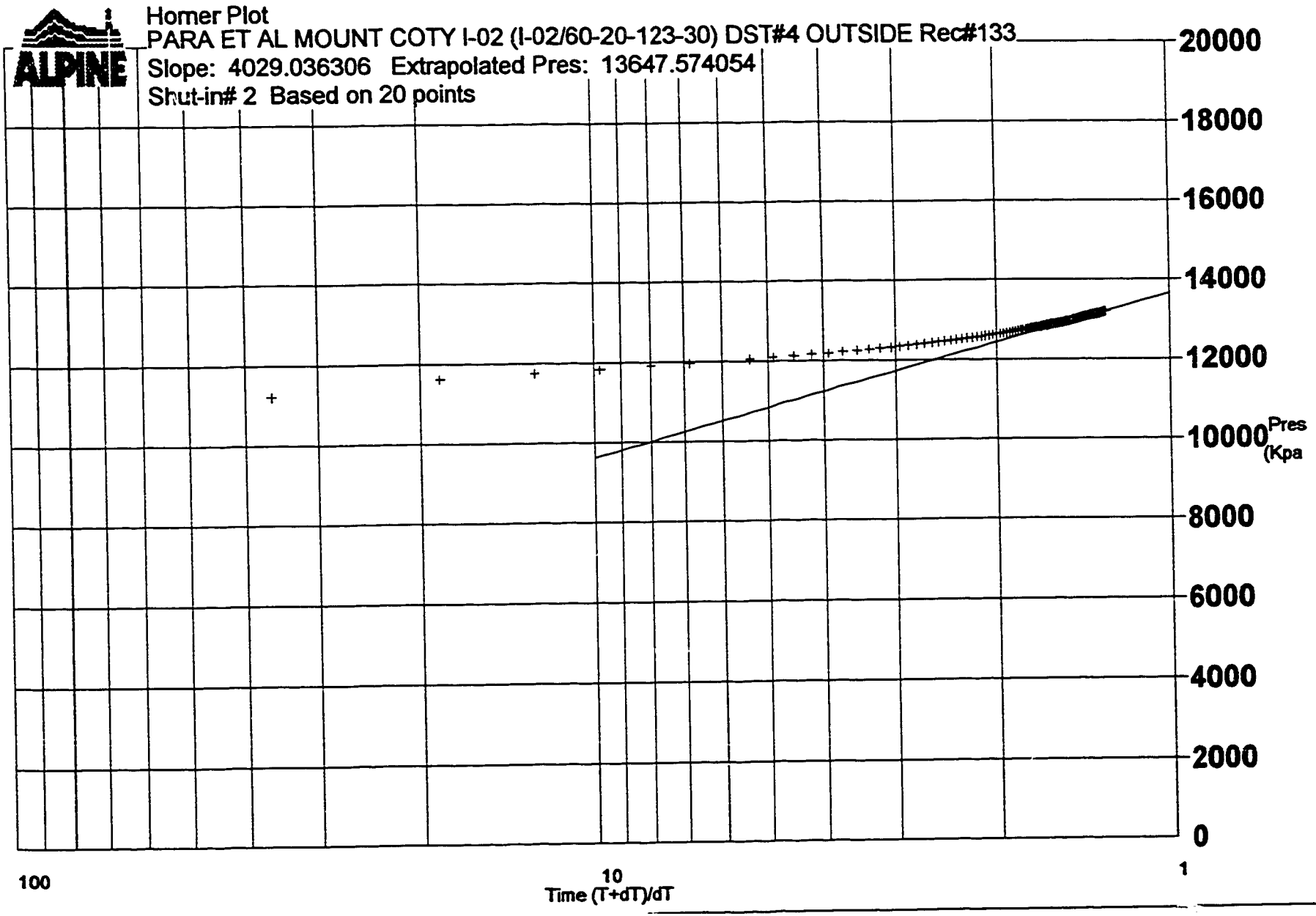
Job Ticket #: D2-9999 DST#: 4
Test Date: 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		76.00	3995.40	12999.00	1.4605	45.7
		77.00	4002.30	13005.90	1.4545	45.7
		78.00	4008.10	13011.70	1.4487	45.6
		79.00	4013.90	13017.50	1.4430	45.6
		80.00	4018.50	13022.10	1.4375	45.6
		81.00	4024.30	13027.90	1.4321	45.6
		82.00	4031.30	13034.90	1.4268	45.6
		83.00	4035.90	13039.50	1.4217	45.6
		84.00	4041.70	13045.30	1.4167	45.6
		85.00	4047.50	13051.10	1.4118	45.6
		86.00	4052.10	13055.70	1.4070	45.6
		87.00	4057.90	13061.50	1.4023	45.6
		88.00	4062.50	13066.10	1.3977	45.6
		89.00	4068.30	13071.90	1.3933	45.6
		90.00	4072.90	13076.50	1.3889	45.6
		91.00	4078.70	13082.30	1.3846	45.6
		92.00	4083.40	13087.00	1.3804	45.6
		93.00	4088.00	13091.60	1.3763	45.6
		94.00	4092.60	13096.20	1.3723	45.6
		95.00	4097.20	13100.80	1.3684	45.6
		96.00	4101.90	13105.50	1.3646	45.6
		97.00	4106.50	13110.10	1.3608	45.6
		98.00	4111.10	13114.70	1.3571	45.6
		99.00	4115.80	13119.40	1.3535	45.6
		100.00	4119.20	13122.80	1.3500	45.6
		101.00	4123.90	13127.50	1.3465	45.6
		102.00	4128.50	13132.10	1.3431	45.6
		103.00	4133.10	13136.70	1.3398	45.6
		104.00	4136.60	13140.20	1.3365	45.6
		105.00	4140.10	13143.70	1.3333	45.6
		106.00	4144.70	13148.30	1.3302	45.6
		107.00	4148.20	13151.80	1.3271	45.6
		108.00	4152.80	13156.40	1.3241	45.6
		109.00	4156.30	13159.90	1.3211	45.6
		110.00	4160.90	13164.50	1.3182	45.6
		111.00	4163.20	13166.80	1.3153	45.5
		112.00	4167.90	13171.50	1.3125	45.5
		113.00	4171.30	13174.90	1.3097	45.6
		114.00	4174.80	13178.40	1.3070	45.5
		115.00	4179.40	13183.00	1.3043	45.6
		116.00	4182.90	13186.50	1.3017	45.5
		117.00	4186.40	13190.00	1.2991	45.6
		118.00	4189.80	13193.40	1.2966	45.5
		119.00	4193.30	13196.90	1.2941	45.5
		120.00	4196.80	13200.40	1.2917	45.5
G	End of 2nd Shutin	121.00	4199.10	13202.70	1.2893	45.5
Q	Final Hydrostatic	0.00	0.00	14904.10		45.5

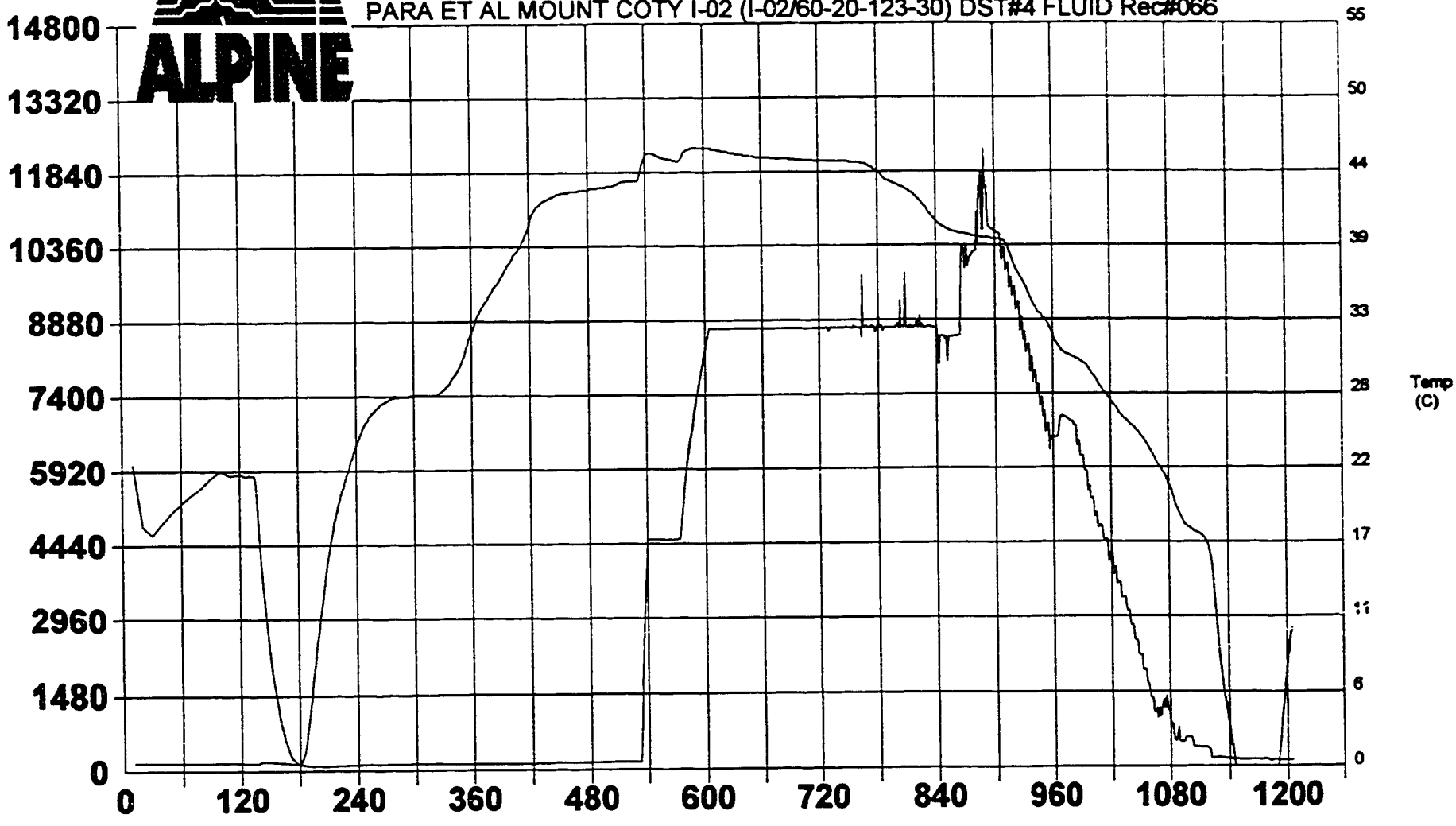

Homer Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 OUTSIDE Rec#133
Slope: 3345.618453 Extrapolated Pres: 13424.637365
Shut-in# 1 Based on 20 points
20000
18000
16000
14000
12000
10000
Pres (Kpa
8000
6000
4000
2000
0
10
1
Time (T+dT)/dT


ALPINE
Homer Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 OUTSIDE Rec#133
Slope: 4029.036306 Extrapolated Pres: 13647.574054
Shut-in# 2 Based on 20 points
20000
18000
16000
14000
12000
10000
Pres
(Kpa
8000
6000
4000
2000
0
100
10
1
Time (T+dT)/dT

ALPINE

Time/Pressure Plot

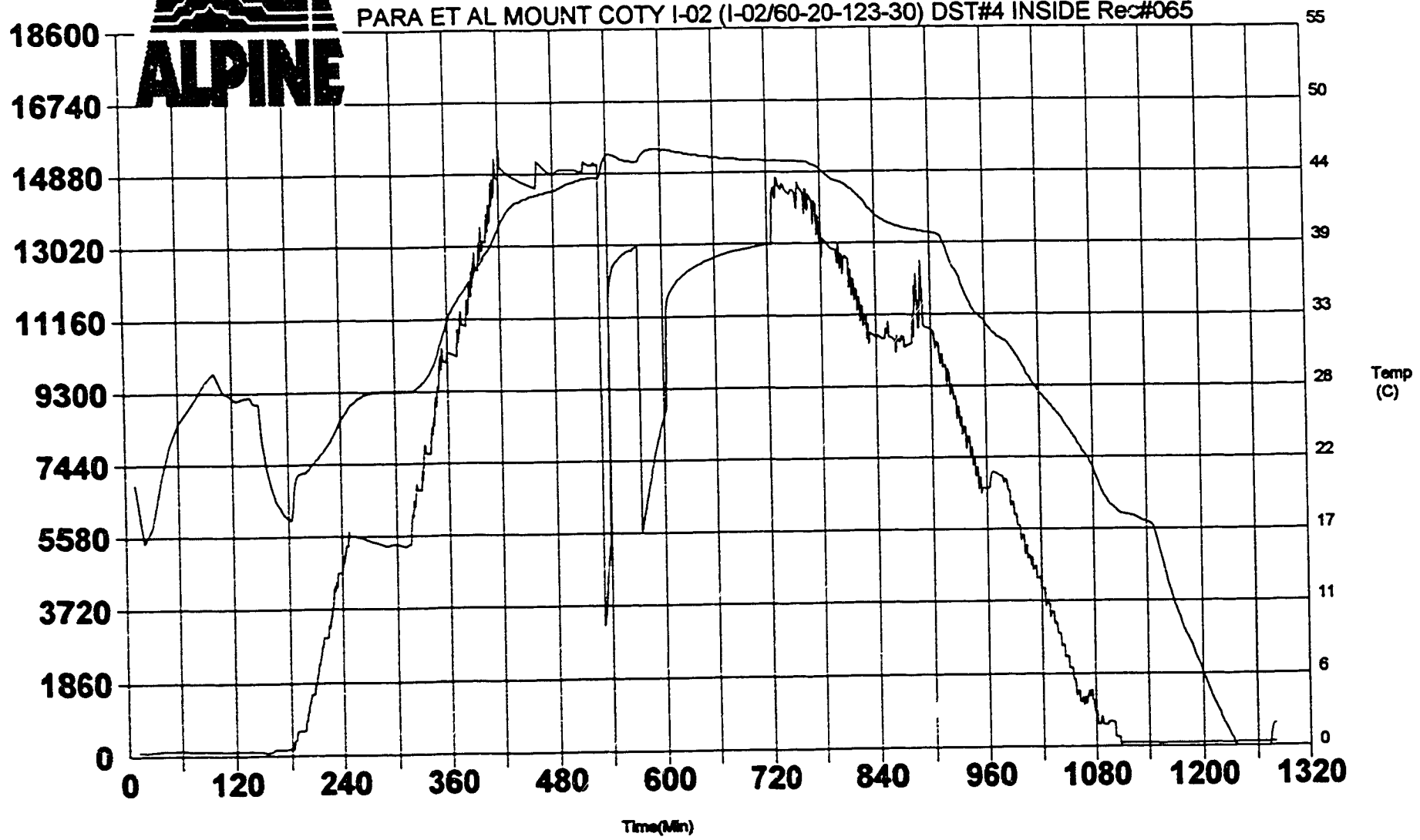
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 FLUID Rec#066



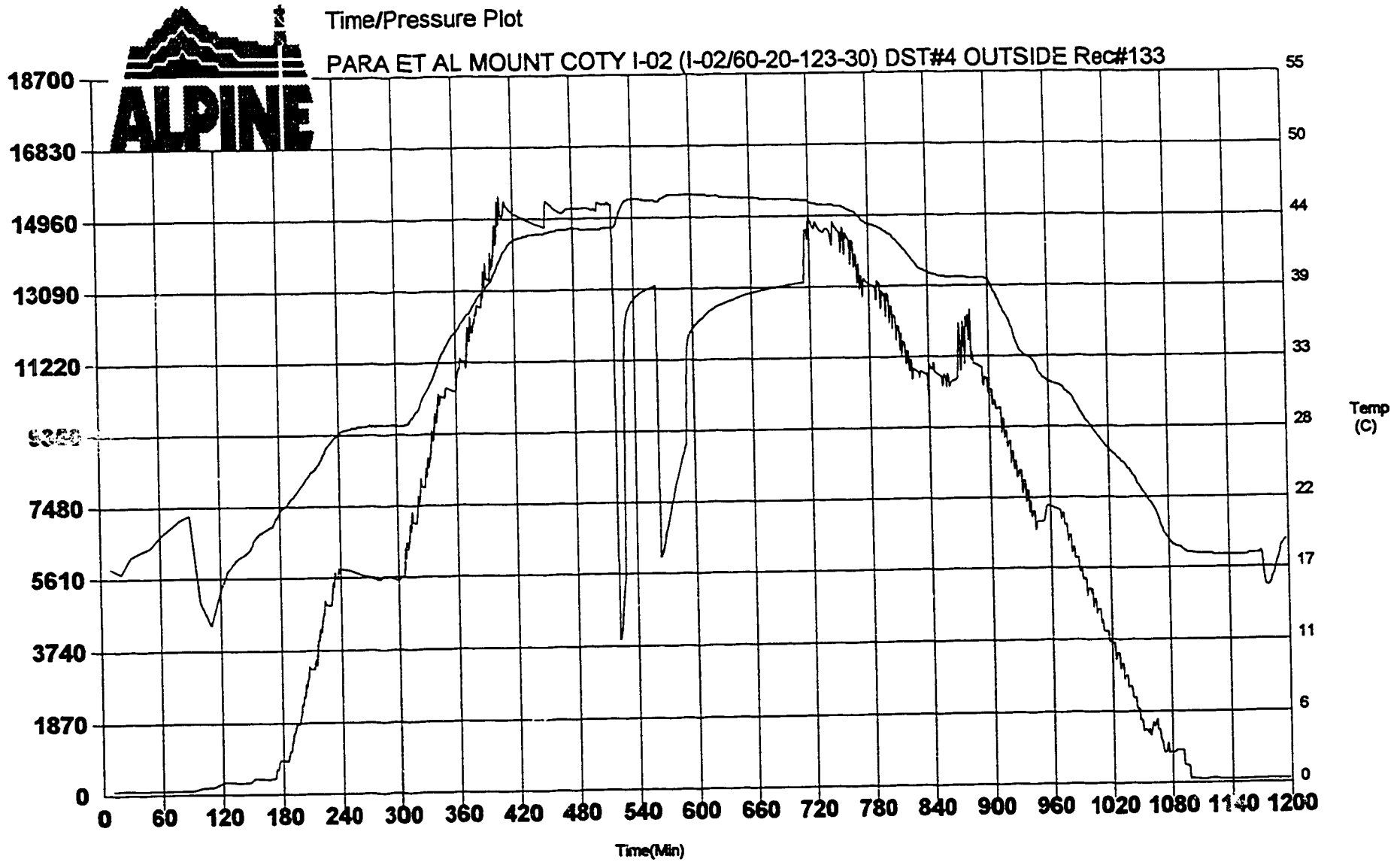
A Initial Hydrostatic - 149
B Start of 1st Flow - 153
C End of 1st Flow - 4491
D End of 1st Shutin - 4524
E Start of 2nd Flow - 4523
F End of 2nd Flow - 8730
G End of 2nd Shutin - 8714
Q Final Hydrostatic - 8714

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 INSIDE Rec#065



A Initial Hydrostatic - 15084
B Start of 1st Flow - 3195
C End of 1st Flow - 5308
D End of 1st Shutin - 12985
E Start of 2nd Flow - 5614
F End of 2nd Flow - 8850
G End of 2nd Shutin - 13015
Q Final Hydrostatic - 14492


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 OUTSIDE Rec#133
18700
16830
14960
13090
11220
7480
5610
3740
1870
0
55
50
44
39
33
28
22
17
11
6
0
Temp (C)
0 60 120 180 240 300 360 420 480 540 600 660 720 780 840 900 960 1020 1080 1140 1200
Time(Min)
A Initial Hydrostatic - 15390
B Start of 1st Flow - 3897
C End of 1st Flow - 5588
D End of 1st Shutin - 13176
E Start of 2nd Flow - 6031
F End of 2nd Flow - 9004
G End of 2nd Shutin - 13203
Q Final Hydrostatic - 14904



Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **11/30/2000**

Job Ticket #: **T6188-4** DST#: **4**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 8[illegible] - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket # T6183-4 DST# 4
Test Date 11/30/2000 400hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

General Information:

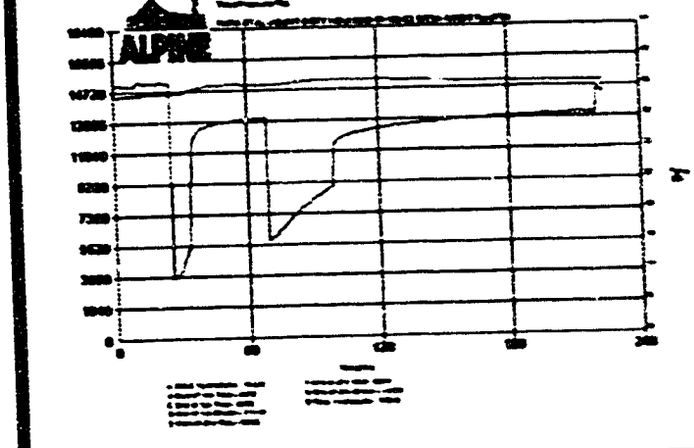
Test Type: INFLATE STRADDLE
Interval: 1216m -1240m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: K. PEARSON
Truck No.: Unit 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 45.80 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 1205.16 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	16321.2
B Start of 1st Flow	0.00	3578.0
C End of 1st Flow	7.98	6436.8
D End of 1st Shutin	34.08	13188.6
E Start of 2nd Flow	0.00	5811.9
F End of 2nd Flow	29.16	8984.1
G End of 2nd Shutin	129.36	13164.8
Q Final Hydrostatic	0.00	14648.1



Test Run Information:

Start Time: 400hrs
Reached Test Depth: 830hrs
Pull Out Time: 1316hrs
Tool Out Of Hole: 2000hrs
Water Loss: 6.60cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: YES
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amount of cushion: 0.00
Type of cushion:

General Remarks:

Mechanically successful. *Test results suggest high permeability within the zone tested.

PREFLOW: Weak air blow increasing to strong in 20 seconds. Decreasing to dead after 6 minutes.

FINAL FLOW: Strong air blow decreasing to very weak air blow.

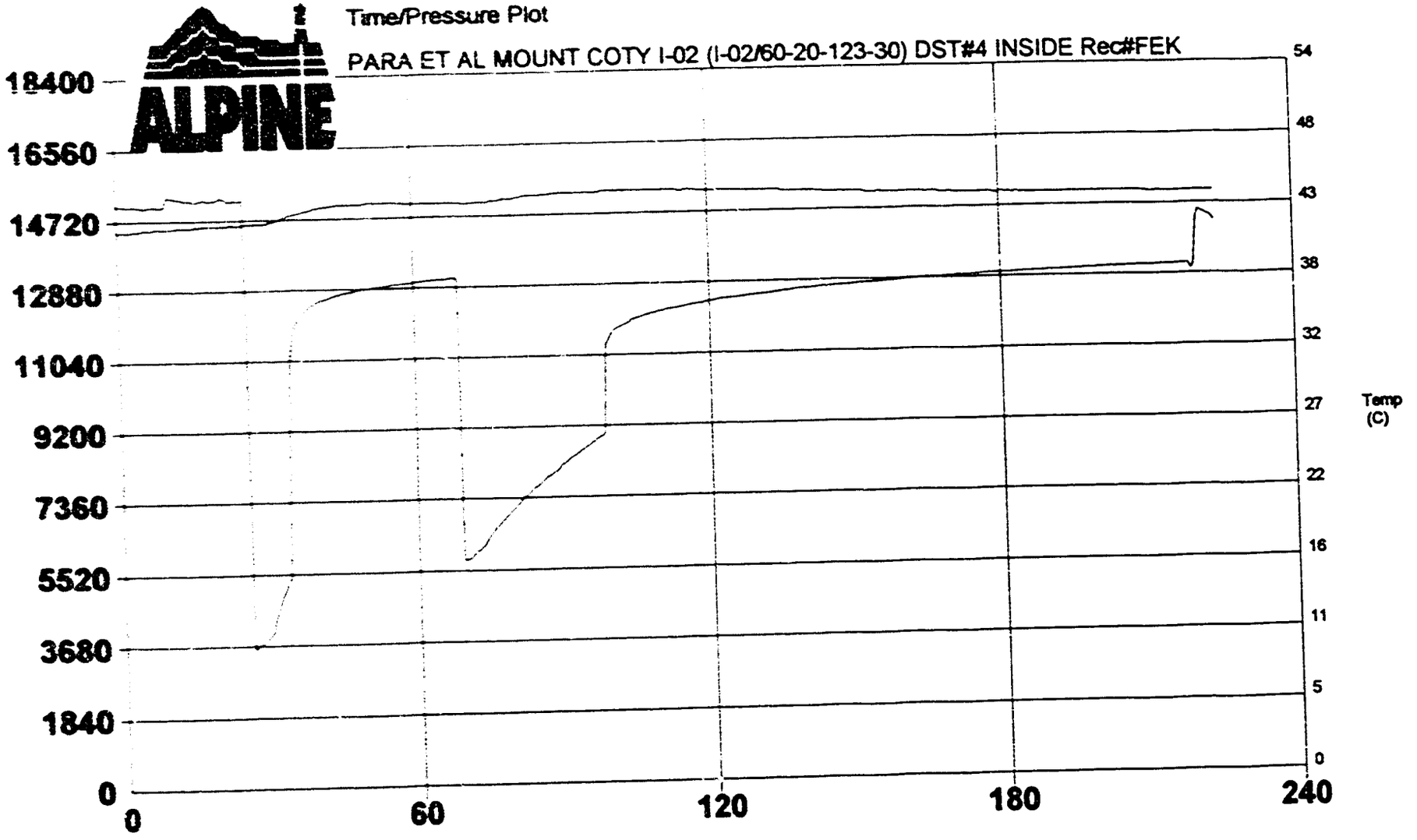
Recovery Description:

Total fluid recovery reversed out was 711 meters fresh water.

No gas to surface.

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#4 INSIDE Rec#FEK



A Initial Hydrostatic - 15321
B Start of 1st Flow - 3570
C End of 1st Flow - 5436
D End of 1st Shutin - 13110
E Start of 2nd Flow - 5812
F End of 2nd Flow - 8554
G End of 2nd Shutin - 13155
Q Final Hydrostatic - 14549

COPY

ALPINE

Drill Stem Test Report

Prepared for: PARAMOUNT RESOURCES
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: 11/30/2000

Job Ticket #: D2-10000 DST#: 5

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-10000 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

General Information:

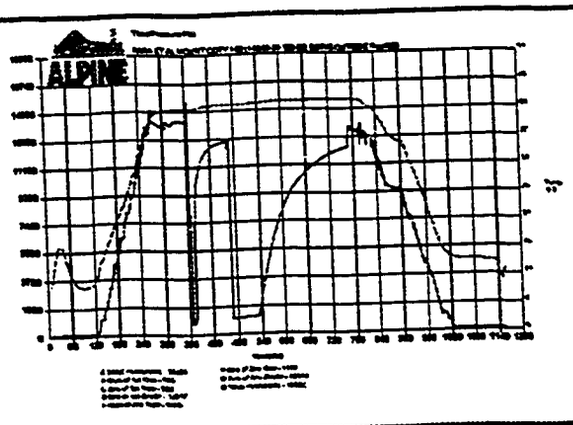
Test Type: INFLATE STRADDLE
Interval: 1134.00m - 1140.00m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: A. SCARIONE
Truck No.: Unit 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 44.00 C

Electronic Recorder Information:

OUTSIDE	FLUID
Recorder #: 066	Recorder #: 133
Range: 70000 kPa	Range: 70000 kPa
Depth: 1136.92 m	Depth: 1111.77 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	14223.5
B Start of 1st Flow	0.00	702.6
C End of 1st Flow	8.00	921.8
D End of 1st Shutin	88.00	12817.3
E Start of 2nd Flow	0.00	1023.2
F End of 2nd Flow	61.00	1148.2
G End of 2nd Shutin	239.00	12331.2
Q Final Hydrostatic	0.00	13821.7



Test Run Information:

Start Time: 2300hrs
Reached Test Depth: 210hrs
Pull Out Time: 1020hrs
Tool Out Of Hole: 1430hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 56000.00daN
Initial String Weight: 45000.00daN
Unseated String Weight: 46000.00daN

Tool Chased Dist: 0.00m
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amt of cushion: 0.00
Type of cushion:

Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: NO

General Remarks:

Mechanically successful. *Test results suggest relatively low permeability within the zone tested.

PREFLOW: Weak air blow throughout.

FINAL FLOW: Weak air blow increasing to strong in 6 minutes. Remaining strong throughout remainder of flow.

NOTE - See Alpine Telemetry report for real time data acquisition.

Recovery Description:

Total fluid recovery was 56 meters water cut drilling fluid.

No gas to surface.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to: AGAT LAB

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-10000 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	36
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1134.72m
Total Drill Pipe Above K.B.:	0.72m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	56.40	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	685.56	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.81	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC#133	1.80
HMV Stroke	2.39
Sampler	1.10
REC#065	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
Stub	0.72
ASE Carrier	2.20
REC#066	
REC#160	
Bypass Hanger	0.42
Blank Spacing	1.52
Bypass Receiver	0.78
Stub	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-10000 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abeciesa (T+dt)/dt	Temp. (°C)
A	Initial Hydrostatic	0.00	0.00	14223.50		42.8
B	Start of 1st Flow	0.00	0.00	702.60		42.8
		1.00	48.60	751.20		42.7
		2.00	79.80	782.40		42.7
		3.00	85.60	788.20		42.7
		4.00	83.30	785.90		42.7
		5.00	90.20	792.80		42.7
		6.00	101.80	804.40		42.8
		7.00	112.20	814.80		42.7
C	End of 1st Flow	8.00	119.20	821.80		42.8
		1.00	452.50	1274.30	9.0000	42.8
		2.00	2258.10	3079.90	5.0000	42.8
		3.00	5765.10	6586.90	3.6667	42.8
		4.00	7650.50	8472.30	3.0000	42.9
		5.00	8335.70	9157.50	2.6000	42.9
		6.00	8718.80	9540.60	2.3333	42.9
		7.00	8993.10	9814.90	2.1429	42.9
		8.00	9211.90	10033.70	2.0000	42.9
		9.00	9401.70	10223.50	1.8889	42.9
		10.00	9563.70	10385.50	1.8000	43.0
		11.00	9711.90	10533.70	1.7273	43.0
		12.00	9849.60	10671.40	1.6667	43.0
		13.00	9975.80	10797.60	1.6154	43.0
		14.00	10092.70	10914.50	1.5714	43.0
		15.00	10199.20	11021.00	1.5333	43.0
		16.00	10302.20	11124.00	1.5000	43.0
		17.00	10395.90	11217.70	1.4706	43.1
		18.00	10485.00	11306.80	1.4444	43.1
		19.00	10569.50	11391.30	1.4211	43.1
		20.00	10648.20	11470.00	1.4000	43.1
		21.00	10720.00	11541.80	1.3810	43.1
		22.00	10738.50	11560.30	1.3636	43.1
		23.00	10809.10	11630.90	1.3478	43.1
		24.00	10873.90	11695.70	1.3333	43.2
		25.00	10935.30	11757.10	1.3200	43.2
		26.00	10989.70	11811.50	1.3077	43.2
		27.00	11041.80	11863.60	1.2963	43.2
		28.00	11091.50	11913.30	1.2857	43.2
		29.00	11140.10	11961.90	1.2759	43.2
		30.00	11181.80	12003.60	1.2667	43.3
		31.00	11225.80	12047.60	1.2581	43.3
		32.00	11265.10	12086.90	1.2500	43.3
		33.00	11302.20	12124.00	1.2424	43.3
		34.00	11338.10	12159.90	1.2353	43.3
		35.00	11370.50	12192.30	1.2286	43.3
		36.00	11401.70	12223.50	1.2222	43.3
		37.00	11431.80	12253.60	1.2162	43.3
		38.00	11460.80	12282.60	1.2105	43.3
		39.00	11487.40	12309.20	1.2051	43.4
		40.00	11511.70	12333.50	1.2000	43.4
		41.00	11536.00	12357.80	1.1951	43.4
		42.00	11558.00	12379.80	1.1905	43.4
		43.00	11580.00	12401.80	1.1860	43.4
		44.00	11602.00	12423.80	1.1818	43.4
		45.00	11621.90	12443.40	1.1778	43.4
		46.00	11641.30	12463.10	1.1739	43.4
		47.00	11658.70	12480.50	1.1702	43.4
		48.00	11676.00	12497.80	1.1667	43.4
		49.00	11692.20	12514.00	1.1633	43.4
		50.00	11707.30	12529.10	1.1600	43.4
		51.00	11722.30	12544.10	1.1569	43.4
		52.00	11737.40	12559.20	1.1538	43.4
		53.00	11750.10	12571.90	1.1509	43.5
		54.00	11764.00	12585.80	1.1481	43.5
		55.00	11775.60	12597.40	1.1455	43.5
		56.00	11787.10	12608.90	1.1429	43.5
		57.00	11796.40	12618.20	1.1404	43.5
		58.00	11808.00	12629.80	1.1379	43.5
		59.00	11818.40	12640.20	1.1356	43.5
		60.00	11827.70	12649.50	1.1333	43.5
		61.00	11838.10	12659.90	1.1311	43.5
		62.00	11846.20	12668.00	1.1290	43.5
		63.00	11855.40	12677.20	1.1270	43.5
		64.00	11863.50	12685.30	1.1250	43.5

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-10000 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ST AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		65.00	11871.60	12693.40	1.1231	43.5
		66.00	11879.70	12701.50	1.1212	43.5
		67.00	11886.70	12708.50	1.1194	43.5
		68.00	11893.60	12715.40	1.1176	43.5
		69.00	11901.70	12723.50	1.1159	43.5
		70.00	11907.50	12729.30	1.1143	43.6
		71.00	11914.50	12736.30	1.1127	43.6
		72.00	11920.20	12742.00	1.1111	43.6
		73.00	11927.20	12749.00	1.1096	43.6
		74.00	11931.80	12753.60	1.1081	43.6
		75.00	11937.60	12759.40	1.1067	43.6
		76.00	11943.40	12765.20	1.1053	43.6
		77.00	11948.00	12769.80	1.1039	43.6
		78.00	11953.80	12775.60	1.1026	43.6
		79.00	11958.40	12780.20	1.1013	43.6
		80.00	11964.20	12786.00	1.1000	43.6
		81.00	11968.90	12790.70	1.0988	43.6
		82.00	11971.20	12793.00	1.0976	43.6
		83.00	11975.80	12797.60	1.0964	43.6
		84.00	11979.30	12801.10	1.0952	43.6
		85.00	11983.90	12805.70	1.0941	43.6
		86.00	11987.40	12809.20	1.0930	43.6
		87.00	11990.90	12812.70	1.0920	43.6
D	End of 1st Shutin	88.00	11995.50	12817.30	1.0909	43.6
E	Start of 2nd Flow	0.00	0.00	1023.20		43.6
		1.00	27.70	1050.90		43.6
		2.00	38.20	1061.40		43.6
		3.00	9.20	1032.40		43.5
		4.00	22.00	1045.20		43.5
		5.00	1.10	1024.30		43.5
		6.00	18.50	1041.70		43.5
		7.00	19.60	1042.80		43.5
		8.00	26.60	1049.80		43.5
		9.00	35.80	1059.00		43.5
		10.00	39.30	1062.50		43.5
		11.00	42.80	1066.00		43.5
		12.00	46.30	1069.50		43.5
		13.00	50.90	1074.10		43.5
		14.00	53.20	1076.40		43.5
		15.00	52.00	1075.20		43.5
		16.00	58.00	1082.20		43.5
		17.00	59.00	1082.20		43.5
		18.00	60.10	1083.30		43.5
		19.00	63.60	1086.80		43.5
		20.00	64.80	1088.00		43.5
		21.00	67.10	1090.30		43.5
		22.00	68.20	1091.40		43.5
		23.00	70.60	1093.80		43.5
		24.00	77.50	1100.70		43.5
		25.00	72.90	1096.10		43.5
		26.00	77.50	1100.70		43.5
		27.00	78.70	1101.90		43.6
		28.00	79.80	1103.00		43.6
		29.00	82.10	1105.30		43.6
		30.00	84.50	1107.70		43.6
		31.00	83.30	1106.50		43.6
		32.00	91.40	1114.60		43.6
		33.00	87.90	1111.10		43.6
		34.00	91.40	1114.60		43.6
		35.00	92.60	1115.80		43.6
		36.00	92.60	1115.80		43.6
		37.00	98.00	1119.20		43.6
		38.00	98.00	1119.20		43.6
		39.00	98.30	1121.50		43.6
		40.00	101.80	1125.00		43.6
		41.00	100.70	1123.90		43.6
		42.00	100.70	1123.90		43.6
		43.00	103.00	1126.20		43.6
		44.00	106.40	1129.60		43.6
		45.00	105.30	1128.50		43.6
		46.00	107.60	1130.80		43.6
		47.00	109.90	1133.10		43.6
		48.00	107.60	1130.80		43.6
		49.00	111.10	1134.30		43.6

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-10000 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		50.00	116.90	1140.10		43.7
		51.00	113.40	1136.60		43.7
		52.00	118.00	1141.20		43.7
		53.00	118.00	1141.20		43.7
		54.00	116.90	1140.10		43.7
		55.00	119.20	1142.40		43.7
		56.00	118.00	1141.20		43.7
		57.00	120.30	1143.50		43.7
		58.00	120.30	1143.50		43.7
		59.00	121.50	1144.70		43.7
		60.00	121.50	1144.70		43.7
F	End of 3rd Flow	61.00	125.00	1148.20		43.7
		1.00	57.80	1206.00	70.0000	43.7
		2.00	190.90	1339.10	35.5000	43.7
		3.00	313.60	1461.80	24.0000	43.7
		4.00	435.20	1583.40	18.2500	43.8
		5.00	557.80	1706.00	14.8000	43.8
		6.00	681.70	1829.90	12.5000	43.8
		7.00	805.50	1953.70	10.8571	43.8
		8.00	928.20	2076.40	9.6250	43.8
		9.00	1050.90	2199.10	8.6667	43.8
		10.00	1174.70	2322.90	7.9000	43.8
		11.00	1297.40	2445.60	7.2727	43.8
		12.00	1420.10	2568.30	6.7500	43.8
		13.00	1542.80	2691.00	6.3077	43.8
		14.00	1663.20	2811.40	5.9286	43.8
		15.00	1787.00	2935.20	5.6000	43.8
		16.00	1907.40	3055.60	5.3125	43.8
		17.00	2028.90	3177.10	5.0588	43.8
		18.00	2149.30	3297.50	4.8333	43.8
		19.00	2268.50	3416.70	4.6316	43.8
		20.00	2388.90	3537.10	4.4500	43.8
		21.00	2506.90	3655.10	4.2857	43.8
		22.00	2625.00	3773.20	4.1364	43.9
		23.00	2741.90	3890.10	4.0000	43.9
		24.00	2858.80	4007.00	3.8750	43.9
		25.00	2974.50	4122.70	3.7600	43.9
		26.00	3088.00	4236.20	3.6538	43.9
		27.00	3202.50	4350.70	3.5556	43.9
		28.00	3317.10	4465.30	3.4643	43.9
		29.00	3428.20	4576.40	3.3793	43.9
		30.00	3539.40	4687.60	3.3000	43.9
		31.00	3649.30	4797.50	3.2258	43.9
		32.00	3759.30	4907.50	3.1563	43.9
		33.00	3865.70	5013.90	3.0909	43.9
		34.00	3973.40	5121.60	3.0294	43.9
		35.00	4079.90	5228.10	2.9714	43.9
		36.00	4186.40	5334.60	2.9167	43.9
		37.00	4288.20	5436.40	2.8649	43.9
		38.00	4390.10	5538.30	2.8158	43.9
		39.00	4491.90	5640.10	2.7692	43.9
		40.00	4592.60	5740.80	2.7250	43.9
		41.00	4691.00	5839.20	2.6829	43.9
		42.00	4788.20	5936.40	2.6429	43.9
		43.00	4884.30	6032.50	2.6047	44.0
		44.00	4980.30	6128.50	2.5682	43.9
		45.00	5072.90	6221.10	2.5333	44.0
		46.00	5166.70	6314.90	2.5000	43.9
		47.00	5257.00	6405.20	2.4681	44.0
		48.00	5348.40	6496.60	2.4375	44.0
		49.00	5437.50	6585.70	2.4082	43.9
		50.00	5524.30	6672.50	2.3800	44.0
		51.00	5610.00	6758.20	2.3529	44.0
		52.00	5695.60	6843.80	2.3269	44.0
		53.00	5780.10	6928.30	2.3019	44.0
		54.00	5862.30	7010.50	2.2778	44.0
		55.00	5943.30	7091.50	2.2545	44.0
		56.00	6024.30	7172.50	2.2321	44.0
		57.00	6104.20	7252.40	2.2105	44.0
		58.00	6180.60	7328.80	2.1897	44.0
		59.00	6258.10	7406.30	2.1695	44.0
		60.00	6334.50	7482.70	2.1500	44.0
		61.00	6408.60	7556.80	2.1311	44.0
		62.00	6480.40	7628.60	2.1129	44.0

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-10000 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		63.00	6552.10	7700.30	2.0952	44.0
		64.00	6623.90	7772.10	2.0781	44.0
		65.00	6694.50	7842.70	2.0615	44.0
		66.00	6763.90	7912.10	2.0455	44.0
		67.00	6831.10	7979.30	2.0299	44.0
		68.00	6897.00	8045.20	2.0147	44.0
		69.00	6964.20	8112.40	2.0000	44.0
		70.00	7027.80	8176.00	1.9857	44.0
		71.00	7091.50	8239.70	1.9718	44.0
		72.00	7152.80	8301.00	1.9583	44.0
		73.00	7214.20	8362.40	1.9452	44.0
		74.00	7274.40	8422.60	1.9324	44.0
		75.00	7333.40	8481.60	1.9200	44.0
		76.00	7392.40	8540.60	1.9079	44.0
		77.00	7450.30	8598.50	1.8961	44.0
		78.00	7505.80	8654.00	1.8846	44.0
		79.00	7561.40	8709.60	1.8734	44.0
		80.00	7615.80	8764.00	1.8625	44.0
		81.00	7670.20	8818.40	1.8519	44.1
		82.00	7723.40	8871.60	1.8415	44.0
		83.00	7774.40	8922.60	1.8313	44.1
		84.00	7826.40	8974.60	1.8214	44.1
		85.00	7876.20	9024.40	1.8118	44.1
		86.00	7926.00	9074.20	1.8023	44.1
		87.00	7974.60	9122.80	1.7931	44.1
		88.00	8024.40	9172.60	1.7841	44.1
		89.00	8070.70	9218.90	1.7753	44.1
		90.00	8118.10	9266.30	1.7667	44.1
		91.00	8164.40	9312.60	1.7582	44.1
		92.00	8209.50	9357.70	1.7500	44.1
		93.00	8252.40	9400.60	1.7419	44.1
		94.00	8296.40	9444.60	1.7340	44.1
		95.00	8339.20	9487.40	1.7263	44.1
		96.00	8383.20	9531.40	1.7188	44.1
		97.00	8424.80	9573.00	1.7113	44.1
		98.00	8465.30	9613.50	1.7041	44.1
		99.00	8504.70	9652.90	1.6970	44.1
		100.00	8544.00	9692.20	1.6900	44.1
		101.00	8583.40	9731.60	1.6832	44.1
		102.00	8621.80	9769.80	1.6765	44.1
		103.00	8660.90	9809.10	1.6699	44.1
		104.00	8696.80	9845.00	1.6635	44.1
		105.00	8733.90	9882.10	1.6571	44.1
		106.00	8768.60	9916.80	1.6509	44.1
		107.00	8804.50	9952.70	1.6449	44.1
		108.00	8840.30	9988.50	1.6389	44.1
		109.00	8875.10	10023.30	1.6330	44.1
		110.00	8908.60	10056.80	1.6273	44.1
		111.00	8941.00	10089.20	1.6216	44.1
		112.00	8975.80	10124.00	1.6161	44.1
		113.00	9008.20	10156.40	1.6106	44.1
		114.00	9040.60	10188.80	1.6053	44.1
		115.00	9071.80	10220.00	1.6000	44.1
		116.00	9104.20	10252.40	1.5948	44.1
		117.00	9133.20	10281.40	1.5897	44.1
		118.00	9163.30	10311.50	1.5847	44.1
		119.00	9194.50	10342.70	1.5798	44.1
		120.00	9224.60	10372.80	1.5750	44.1
		121.00	9254.70	10402.90	1.5702	44.1
		122.00	9281.30	10429.50	1.5656	44.1
		123.00	9311.40	10459.60	1.5610	44.1
		124.00	9339.20	10487.40	1.5565	44.1
		125.00	9369.30	10517.50	1.5520	44.1
		126.00	9397.10	10545.30	1.5476	44.1
		127.00	9424.80	10573.00	1.5433	44.1
		128.00	9452.60	10600.80	1.5391	44.1
		129.00	9480.40	10628.60	1.5349	44.1
		130.00	9508.20	10656.40	1.5308	44.1
		131.00	9532.50	10680.70	1.5267	44.2
		132.00	9560.30	10708.50	1.5227	44.2
		133.00	9586.90	10735.10	1.5188	44.1
		134.00	9613.50	10761.70	1.5149	44.1
		135.00	9639.00	10787.20	1.5111	44.1
		136.00	9663.30	10811.50	1.5074	44.2

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-10000 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		137.00	9688.70	10836.90	1.5036	44.1
		138.00	9713.00	10861.20	1.5000	44.1
		139.00	9737.30	10885.50	1.4964	44.2
		140.00	9760.50	10908.70	1.4929	44.2
		141.00	9784.80	10933.00	1.4894	44.1
		142.00	9806.80	10955.00	1.4859	44.1
		143.00	9831.10	10979.30	1.4825	44.2
		144.00	9853.10	11001.30	1.4792	44.2
		145.00	9875.10	11023.30	1.4753	44.2
		146.00	9899.40	11047.60	1.4726	44.1
		147.00	9921.40	11069.60	1.4694	44.2
		148.00	9942.20	11090.40	1.4662	44.2
		149.00	9963.00	11111.20	1.4631	44.2
		150.00	9986.20	11134.40	1.4600	44.2
		151.00	10008.20	11156.40	1.4570	44.2
		152.00	10029.00	11177.20	1.4539	44.2
		153.00	10049.80	11198.00	1.4510	44.2
		154.00	10070.70	11218.90	1.4481	44.2
		155.00	10091.50	11239.70	1.4452	44.2
		156.00	10111.20	11259.40	1.4423	44.2
		157.00	10130.90	11279.10	1.4395	44.2
		158.00	10150.50	11298.70	1.4367	44.2
		159.00	10170.20	11318.40	1.4340	44.2
		160.00	10189.90	11338.10	1.4313	44.2
		161.00	10209.60	11357.30	1.4286	44.2
		162.00	10228.10	[illegible].30	1.4259	44.2
		163.00	10246.60	[illegible]4.80	1.4233	44.2
		164.00	10265.10	11413.30	1.4207	44.2
		165.00	10283.60	11431.80	1.4182	44.2
		166.00	10302.20	11450.40	1.4157	44.2
		167.00	10318.40	11466.60	1.4132	44.2
		168.00	10336.90	11485.10	1.4107	44.2
		169.00	10353.10	11501.30	1.4083	44.2
		170.00	10370.50	11518.70	1.4059	44.2
		171.00	10387.80	11536.00	1.4035	44.2
		172.00	10404.00	11552.20	1.4012	44.2
		173.00	10421.40	11569.60	1.3988	44.2

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		174.00	10436.40	11584.60	1.3966	44.2
		175.00	10453.80	11602.00	1.3943	44.2
		176.00	10467.70	11615.90	1.3920	44.2
		177.00	10485.00	11633.20	1.3896	44.2
		178.00	10501.20	11649.40	1.3876	44.2
		179.00	10517.40	11665.60	1.3855	44.2
		180.00	10531.30	11679.50	1.3833	44.2
		181.00	10547.50	11695.70	1.3812	44.2
		182.00	10562.60	11710.80	1.3791	44.2
		183.00	10576.50	11724.70	1.3770	44.2
		184.00	10591.50	11739.70	1.3750	44.2
		185.00	10605.40	11753.60	1.3730	44.2
		186.00	10620.50	11768.70	1.3710	44.2
		187.00	10633.20	11781.40	1.3690	44.2
		188.00	10648.20	11796.40	1.3670	44.2
		189.00	10663.30	11811.50	1.3651	44.2
		190.00	10678.30	11826.50	1.3632	44.2
		191.00	10691.10	11839.30	1.3613	44.2
		192.00	10704.90	11853.10	1.3594	44.2
		193.00	10717.70	11865.90	1.3575	44.2
		194.00	10730.40	11878.60	1.3557	44.2
		195.00	10745.50	11893.70	1.3538	44.2
		196.00	10757.00	11905.20	1.3520	44.2
		197.00	10770.90	11919.10	1.3503	44.2
		198.00	10781.30	11929.50	1.3485	44.2
		199.00	10791.80	11940.00	1.3467	44.2
		200.00	10805.60	11953.80	1.3450	44.2
		201.00	10818.40	11966.60	1.3433	44.2
		202.00	10328.80	11977.00	1.3416	44.2
		203.00	10841.50	11989.70	1.3399	44.2
		204.00	10851.90	12000.10	1.3382	44.2
		205.00	10864.70	12012.90	1.3366	44.2
		206.00	10873.90	12022.10	1.3350	44.2
		207.00	10884.30	12032.50	1.3333	44.2
		208.00	10894.80	12043.00	1.3317	44.2
		209.00	10907.50	12055.70	1.3301	44.2
		210.00	10917.90	12066.10	1.3286	44.2

Drill Stem Testing - Time / Pressure Listing

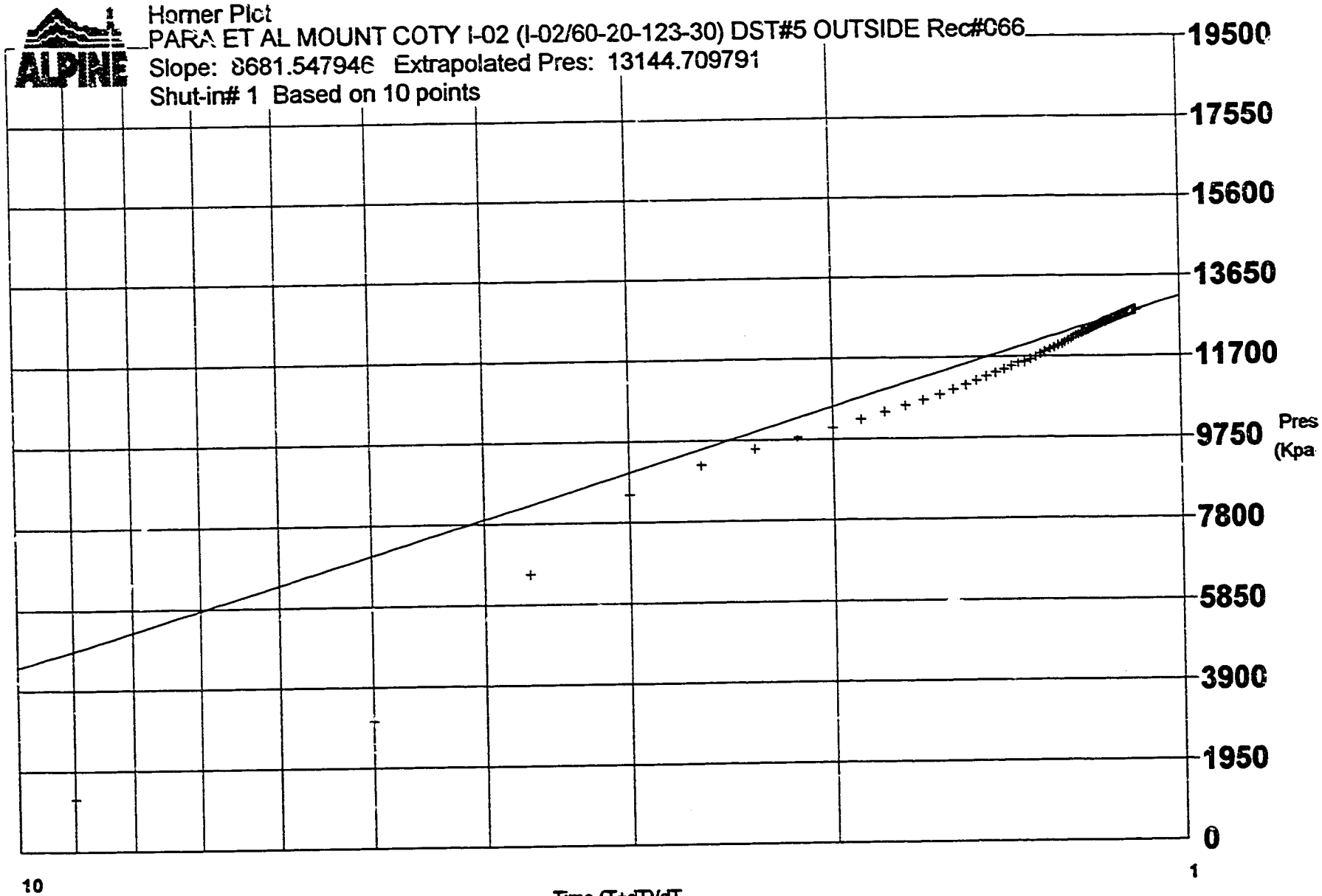
Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

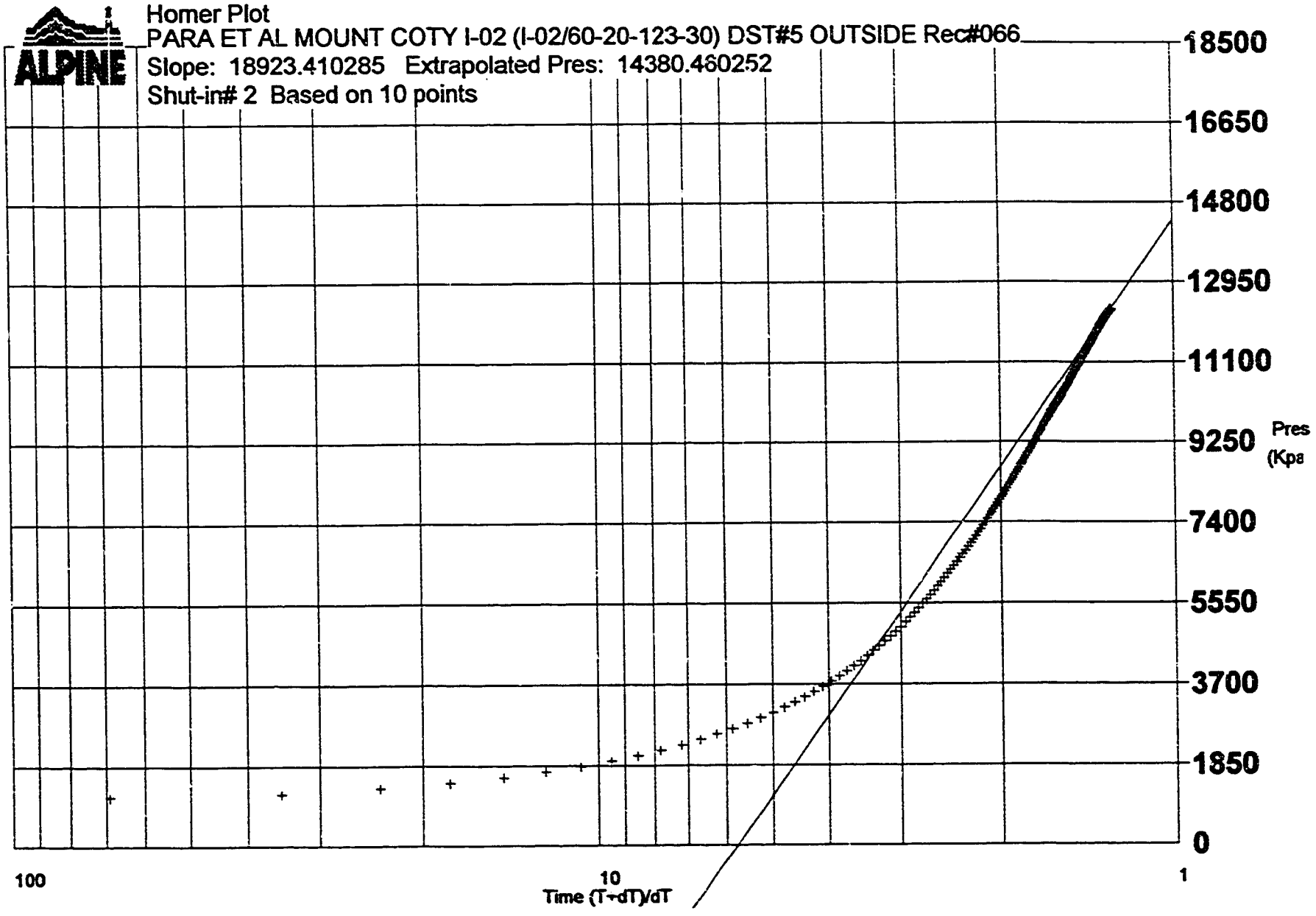
Contact: WILBERT CALLIHOO

Job Ticket #: D2-10000 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		211.00	10928.30	12076.50	1.3270	44.2
		212.00	10939.90	12088.10	1.3255	44.2
		213.00	10951.50	12099.70	1.3239	44.2
		214.00	10960.70	12108.90	1.3224	44.2
		215.00	10972.30	12120.50	1.3209	44.2
		216.00	10983.90	12132.10	1.3194	44.2
		217.00	10993.10	12141.30	1.3180	44.2
		218.00	11003.60	12151.80	1.3165	44.2
		219.00	11012.80	12161.00	1.3151	44.2
		220.00	11023.20	12171.40	1.3136	44.2
		221.00	11032.50	12180.70	1.3122	44.2
		222.00	11039.40	12187.60	1.3108	44.2
		223.00	11049.90	12198.10	1.3094	44.2
		224.00	11059.10	12207.30	1.3080	44.2
		225.00	11067.20	12215.40	1.3067	44.2
		226.00	11077.60	12225.80	1.3053	44.2
		227.00	11084.60	12232.80	1.3040	44.2
		228.00	11095.00	12243.20	1.3026	44.2
		229.00	11103.10	12251.30	1.3013	44.2
		230.00	11111.20	12259.40	1.3000	44.2
		231.00	11120.50	12268.70	1.2987	44.2
		232.00	11127.40	12275.60	1.2974	44.2
		233.00	11135.50	12283.70	1.2961	44.2
		234.00	11143.60	12291.80	1.2949	44.2
		235.00	11152.90	12301.10	1.2936	44.2
		236.00	11158.70	12306.90	1.2924	44.2
		237.00	11166.80	12315.00	1.2911	44.2
		238.00	11173.70	12321.90	1.2899	44.2
G	End of 2nd Shutin	239.00	11183.00	12331.20	1.2887	44.2
Q	Final Hydrostatic	0.00	0.00	13621.70		44.2

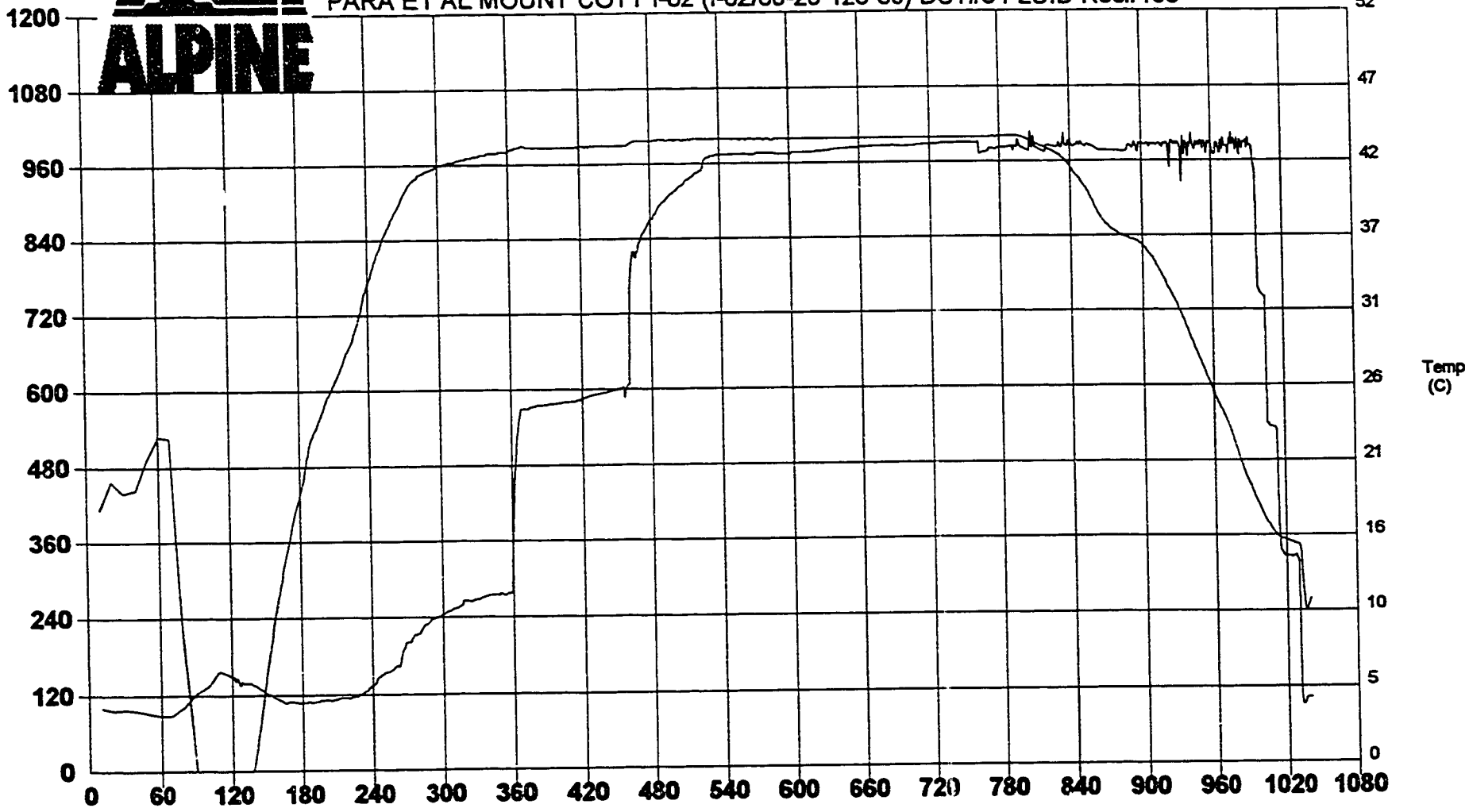

Horner Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 OUTSIDE Rec#066
Slope: 8681.547946 Extrapolated Pres: 13144.709791
Shut-in# 1 Based on 10 points
19500
17550
15600
13650
11700
9750
7800
5850
3900
1950
0
Pres
(Kpa
10
1
Time (T+dT)/dT


Homer Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 OUTSIDE Rec#066
Slope: 18923.410285 Extrapolated Pres: 14380.460252
Shut-in# 2 Based on 10 points
18500
16650
14800
12950
11100
9250
7400
5550
3700
1850
0
Pres (Kpa
100
10
1
Time (T+dT)/dT

ALPINE

Time/Pressure Plot

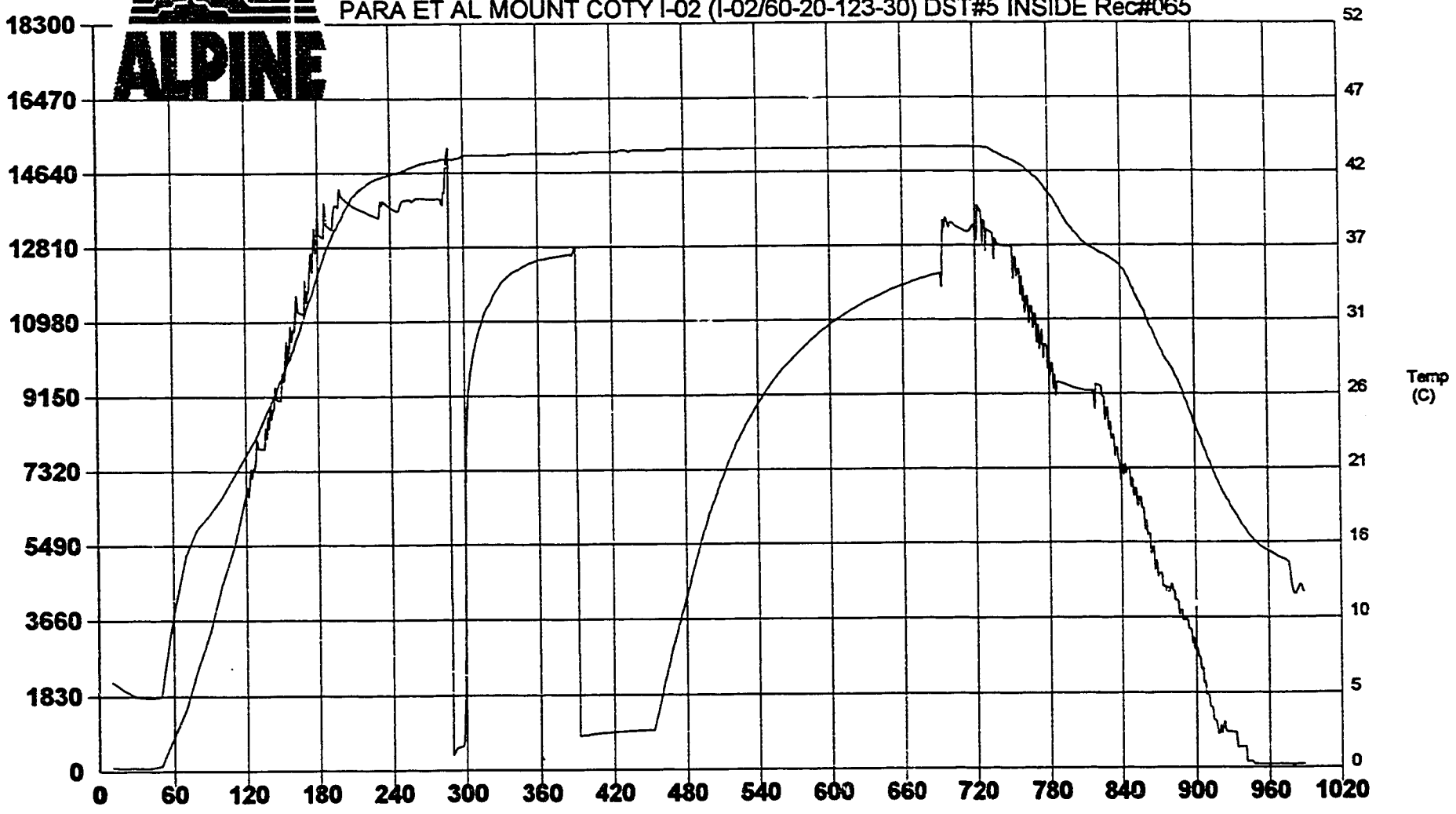
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 FLUID Rec#133



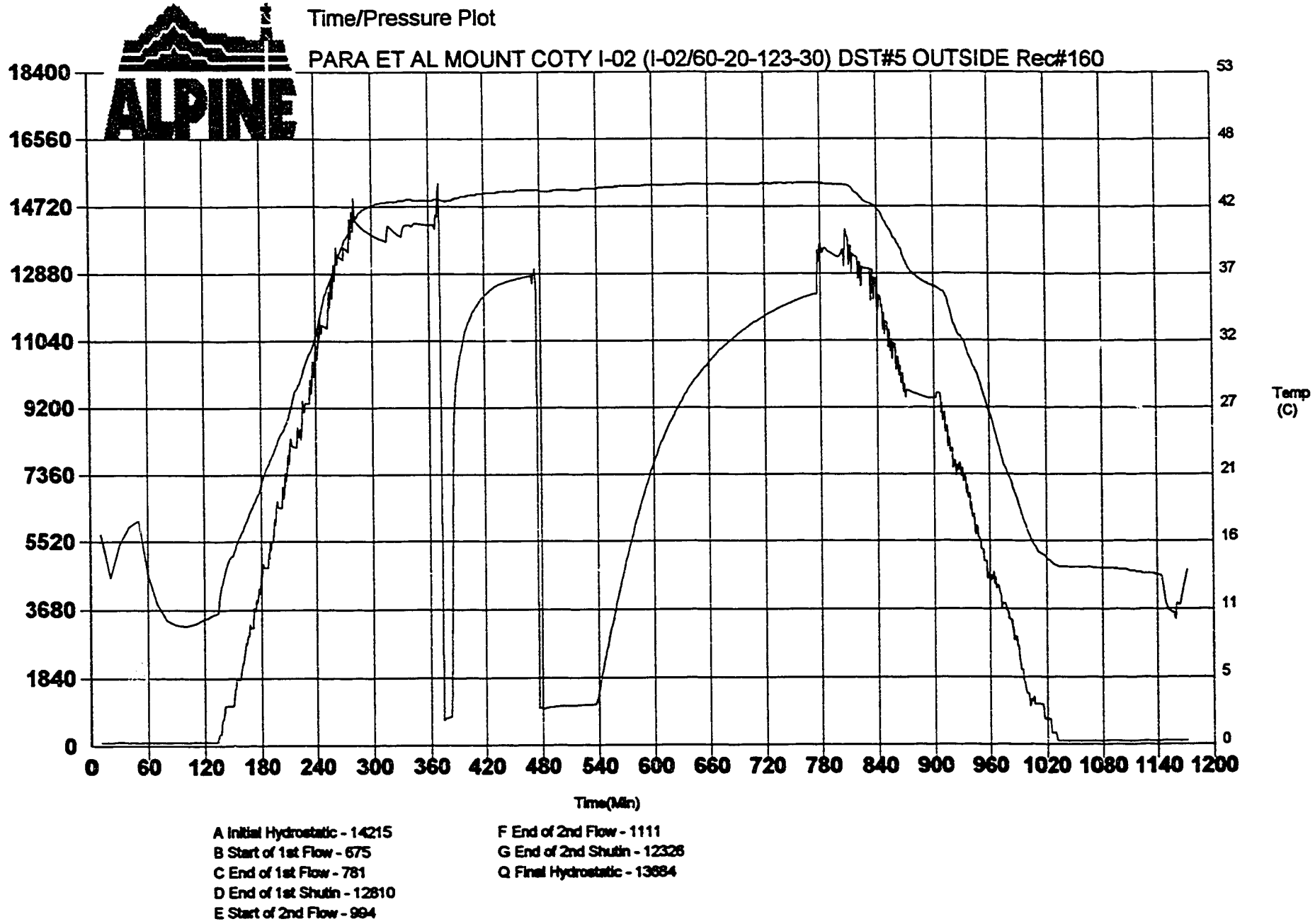
A Initial Hydrostatic - 276
B Start of 1st Flow - 278
C End of 1st Flow - 564
D End of 1st Shutin - 603
E Start of 2nd Flow - 606
F End of 2nd Flow - 948
G End of 2nd Shutin - 977
Q Final Hydrostatic - 978

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 INSIDE Rec#065



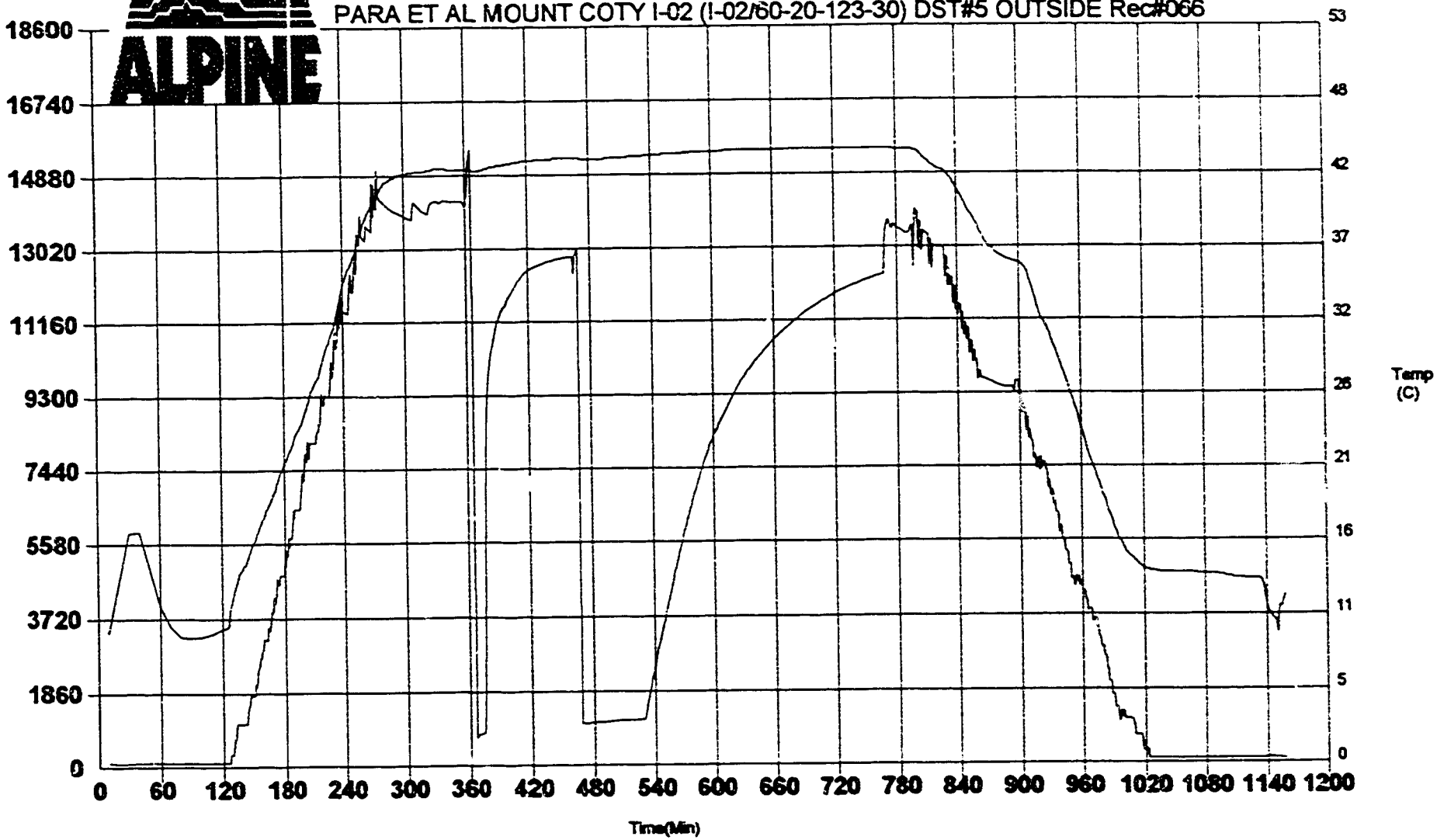
A Initial Hydrostatic - 13981
B Start of 1st Flow - 377
C End of 1st Flow - 598
D End of 1st Shutin - 12617
E Start of 2nd Flow - 837
F End of 2nd Flow - 966
G End of 2nd Shutin - 12124
Q Final Hydrostatic - 13316


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 OUTSIDE Rec#160
18400
16560
14720
12880
11040
9200
7360
5520
3680
1840
0
53
48
42
37
32
27
21
16
11
5
0
Temp (C)
0 60 120 180 240 300 360 420 480 540 600 660 720 780 840 900 960 1020 1080 1140 1200
Time(Min)
A Initial Hydrostatic - 14215
B Start of 1st Flow - 675
C End of 1st Flow - 781
D End of 1st Shutin - 12810
E Start of 2nd Flow - 994
F End of 2nd Flow - 1111
G End of 2nd Shutin - 12326
Q Final Hydrostatic - 13684

ALPINE

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 OUTSIDE Rec#066



A Initial Hydrostatic - 14224
B Start of 1st Flow - 703
C End of 1st Flow - 822
D End of 1st Shutin - 12617
E Start of 2nd Flow - 1023
F End of 2nd Flow - 1148
G End of 2nd Shutin - 12331
Q Final Hydrostatic - 13622

ALPINE

Real Time Test Report

Prepared for: PARAMOUNT RESOURCES
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: 11/30/2009

Job Ticket #: T6189-5 DST#: 5

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: T6189-5 DST#: 5
Test Date: 11/30/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY i-02
Location: I-02/60-20-123-30

General Information:

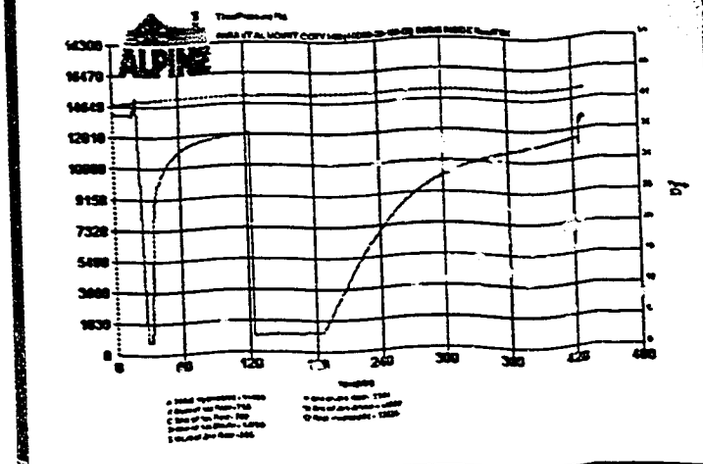
Test Type: INFLATE STRADDLE
Interval: 1134m -1140m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: K. PEARSON
Truck No.: Unit 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 44.00 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 1123.16 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	14179.7
B Start of 1st Flow	0.00	752.8
C End of 1st Flow	3.30	788.6
D End of 1st Shutin	88.50	12789.5
E Start of 2nd Flow	0.00	985.5
F End of 2nd Flow	61.50	1145.8
G End of 2nd Shutin	238.56	12300.1
Q Final Hydrostatic	0.00	13627.7



Test Run Information:

Start Time: 2300hrs
Reached Test Depth: 210hrs
Pull Out Time: 1020hrs
Tool Out Of Hole: 1430hrs
Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: NO
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amount of cushion: 0.00
Type of cushion:

General Remarks:

Mechanically successful. *Test results suggest relatively low permeability within the zone tested.

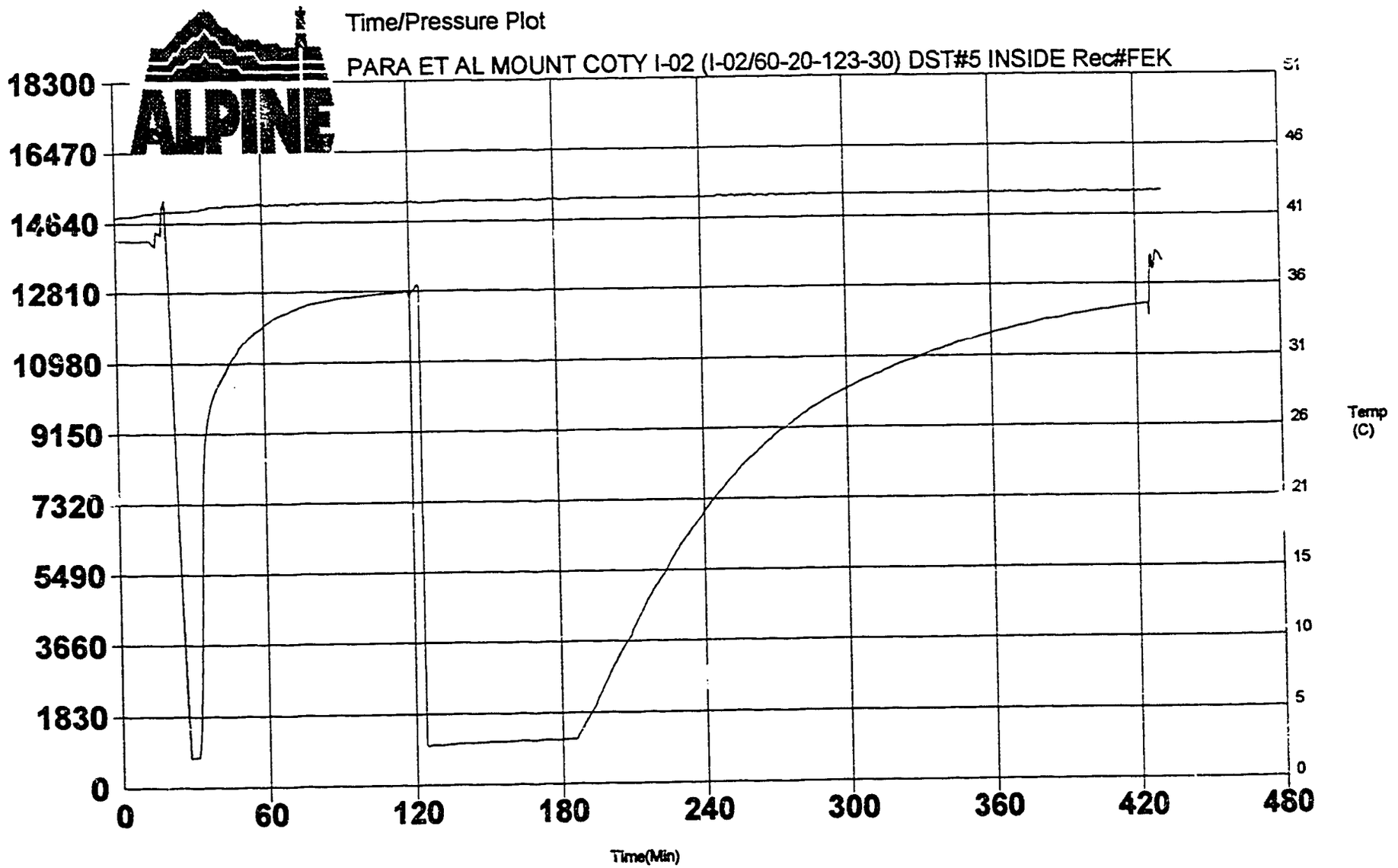
PREFLOW: Weak air blow throughout.

FINAL FLOW: Weak air blow increasing to strong in 6 minutes. Remaining strong throughout remainder of flow.

Recovery Description:

Total fluid recovery was 56 meters water cut drilling fluid.

No gas to surface.



A Initial Hydrostatic - 14180
B Start of 1st Flow - 753
C End of 1st Flow - 789
D End of 1st Shutin - 12790
E Start of 2nd Flow - 986
F End of 2nd Flow - 1146
G End of 2nd Shutin - 12300
Q Final Hydrostatic - 13623



Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: **12/01/2000**

Job Ticket #: **D2-10000** DST#: **5**

Real Time Testing Report

Company PARAMOUNT RESOURCES LTD Job Ticket #: T4 6189 DST# 5

Test Date 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

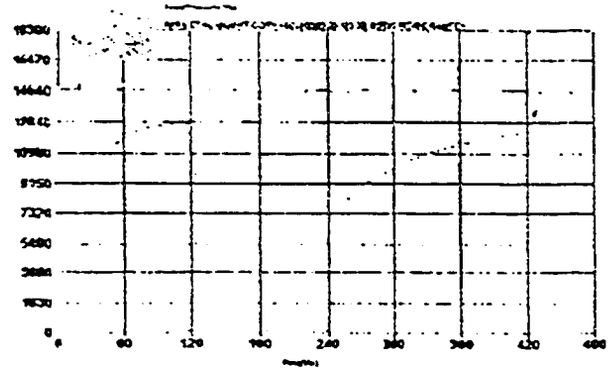
Test Type:	INFLATE STRADDLE	Tester:	KEN PEARSON
Interval:	1134m -1140m	Truck No.:	673 Y
Formation	MATTSON	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51 LIN
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Gas	Bottom Hole Temperature:	43.00 C

Telemetry Recorder Information:

INSIDE

Recorder #: FEK Depth: 1119.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	14177.3
B Start of 1st Flow	0.00	752.8
C End of 1st Flow	3.30	788.6
D End of 1st Shutin	83.50	12789.5
E Start of 2nd Flow	0.00	1035.6
F End of 2nd Flow	60.96	1145.7
G End of 2nd Shutin	239.64	12300.1
Q Final Hydrostatic	0.00	13568.0



Test Run Information:

Start Time:	2300hrs
Reached Test Depth:	210hrs
Pull Out Time:	1020hrs
Tool Out Of Hole:	1430hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	51.00S/L
Filter Cake:	0.00mm
Pump Time:	30min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1240.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

PREFLOW: START 03:33 TO 03:43 Weak air blow 3 inches in pail No gas to surface.

FINAL FLOW: START 05:15 TO 06:15 Weak air blow. Bottom of pail in 6 minutes. No gas to surface.

Recovery Description:

WELL LIC# 1884

See DST Rpt

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD Job Ticket #: D2-10000 DST# 5

Test Date: 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

General Information:

Test Type: INFLATE STRADDLE
Interval: 1134.00m - 1140.00m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

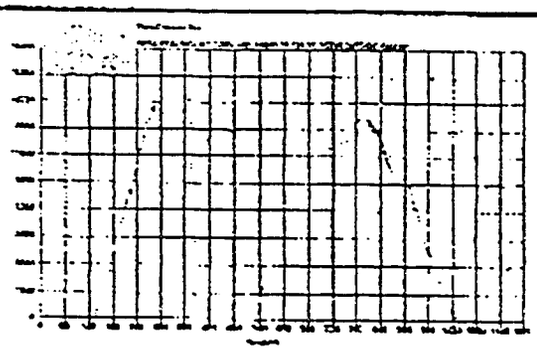
Tester: ALBERTO SCARIONE
Truck No.: 673
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 43.00 C

Electronic Recorder Information:

OUTSIDE	OUTSIDE
Recorder #: 160	Recorder #: 066
Range: 10000 kPag	Range: 10000 kPag
Depth: 1136.00 m	Depth: 1136.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	14226.4
B Start of 1st Flow	0.00	721.6
C End of 1st Flow	7.00	781.2
D End of 1st Shutin	90.00	12846.3
E Start of 2nd Flow	0.00	994.1
F End of 2nd Flow	60.00	1109.9
G End of 2nd Shutin	240.00	12326.1
Q Final Hydrostatic	0.00	13599.7

NOT USED
See Real Time #6



Test Run Information:

Start Time: 2300hrs
Reached Test Depth: 210hrs
Pull Out Time: 1020hrs
Tool Out Of Hole: 1430hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 56000.00daN
Initial String Weight: 45000.00daN
Unseated String Weight: 46000.00daN

Tool Chased Dist: 0.00m
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amt of cushion: 0.00
Type of cushion:

Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: NO

General Remarks:

PREFLOW: Weak air blow 3 in pail no gas to surface.

FINAL FLOW: Weak air blow. Bottom of pail in 6 minutes. No gas to surface.

Recovery Description:

WELL LIC# 1884

Total fluid recovery was 56 meters, consisting of meters of salt water and
drill mud. 28600 ppm salt.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to: AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company PARAMOUNT RESOURCES LTD Job Ticket #: D2-10000 DST# 5

Test Date 12/01/2000 2300hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO Location: I-02/60-20-123-30

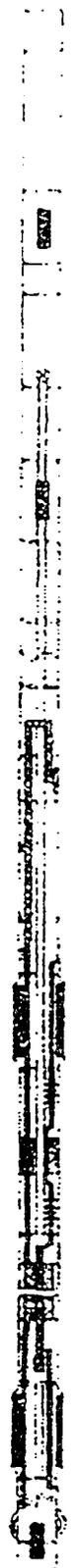
Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	36
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1134.81m
Total Drill Pipe Above K.B.:	0.72m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	56.40	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	685.65	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.81	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.85
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	1.52
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

24.95m

36.49m

Depth: 1134m

6.36m

Depth: 1140m

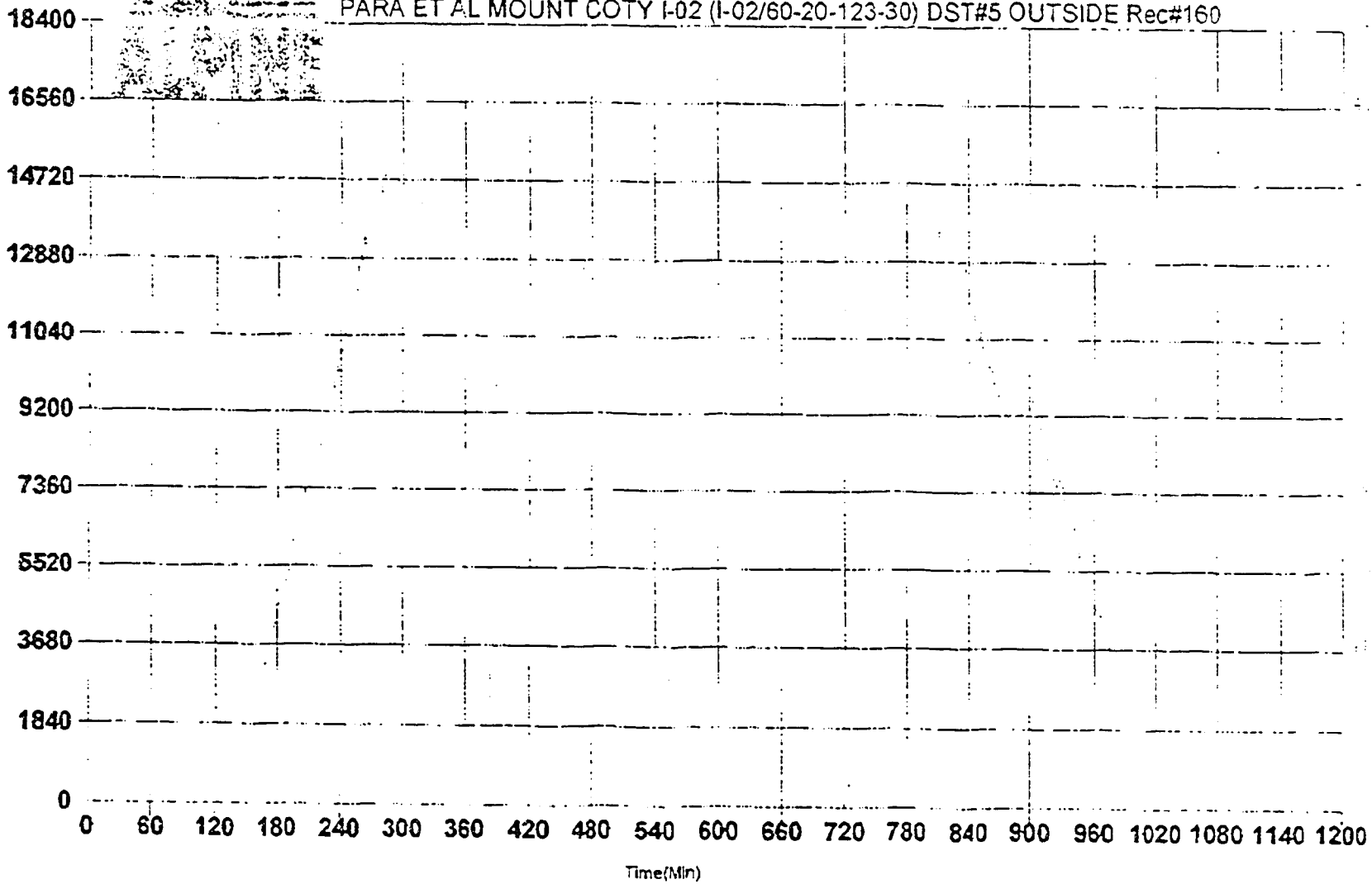
5.18m

Total Depth: 1744.00m

P.04
14036204647

Time/Pressure Plot

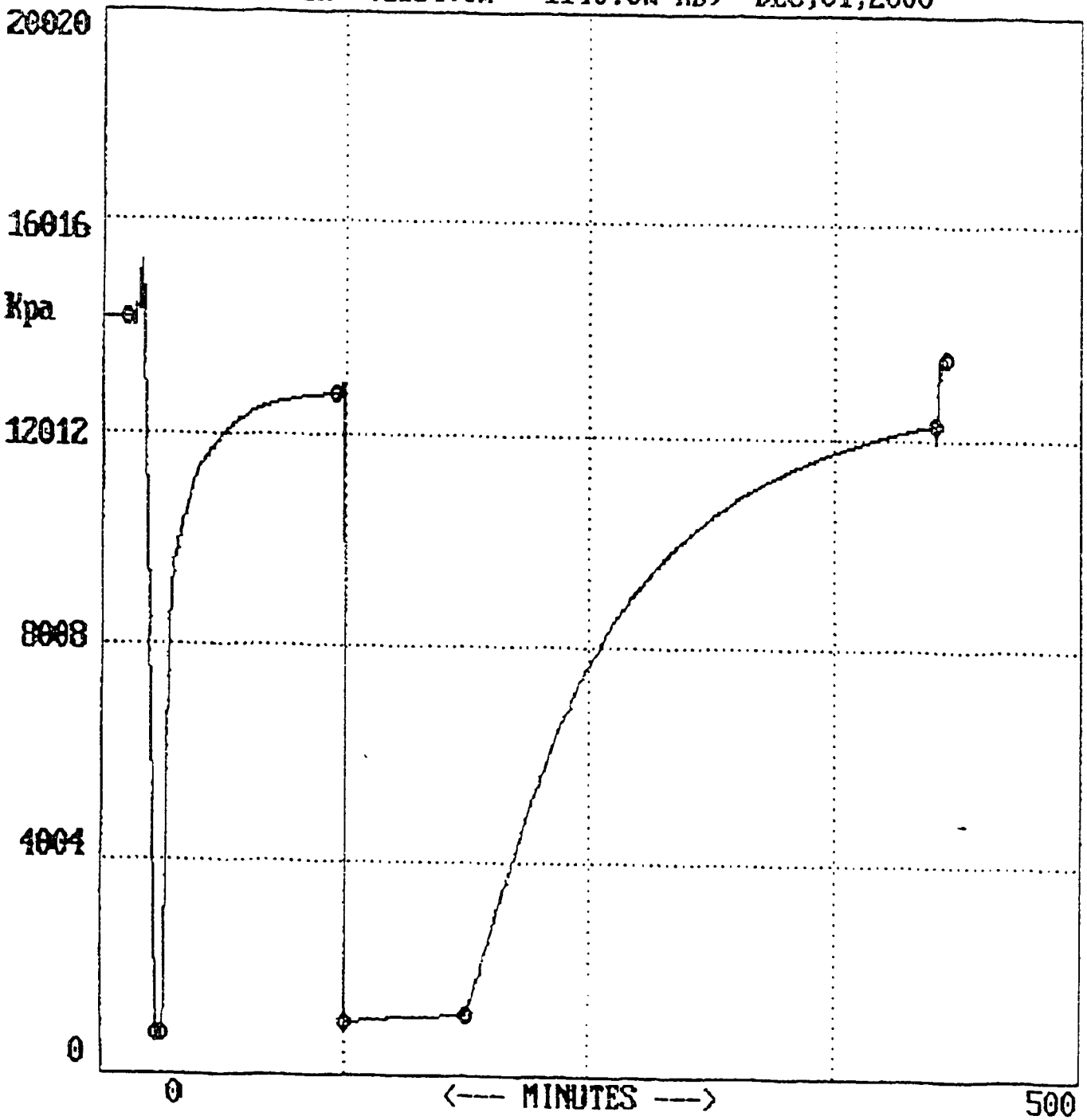
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#5 OUTSIDE Rec#160



1403620464?

Gary Johansson

..RA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 5 MATTSON (1134.0m - 1140.0m KB) DEC,01,2000



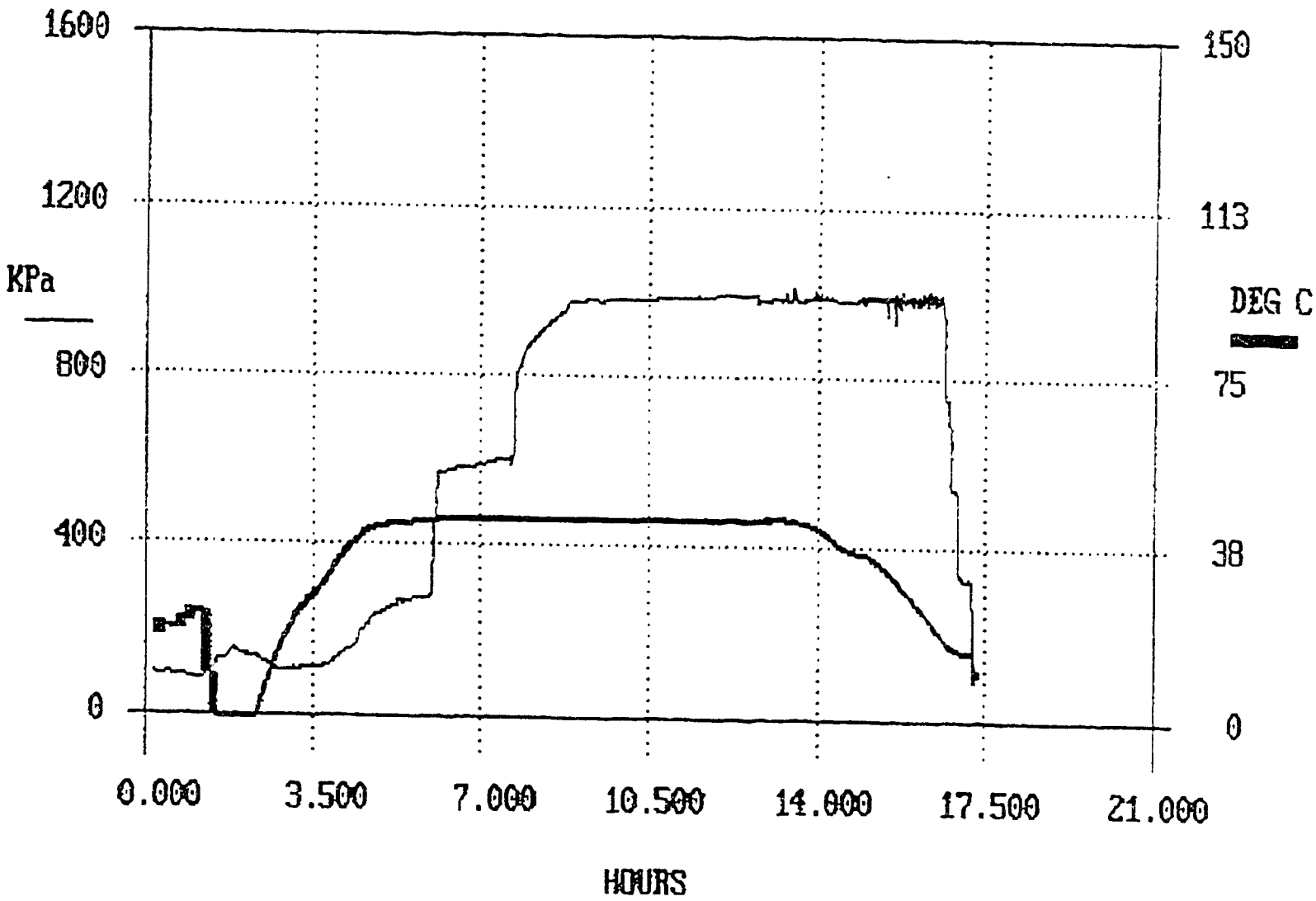
IHP = 14177.3

SF1 = 752.8
EF1 = 788.6
ES1 = 12789.5

SF2 = 1035.6
EF2 = 1145.8
ES2 = 12300.1

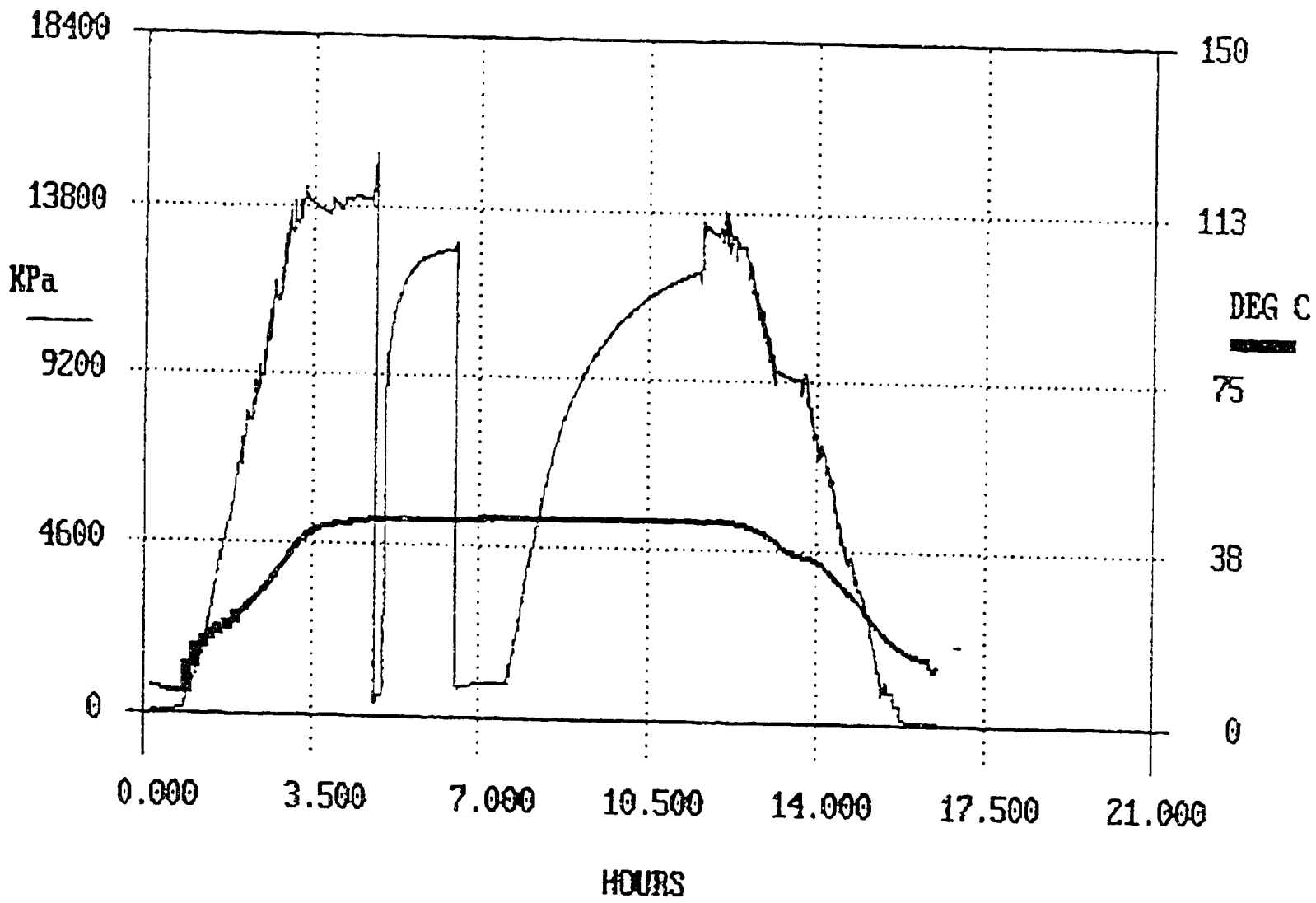
FHP = 13534.5

FILE: <C:\ALP_IN\B3002136.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 FLUID [redacted]



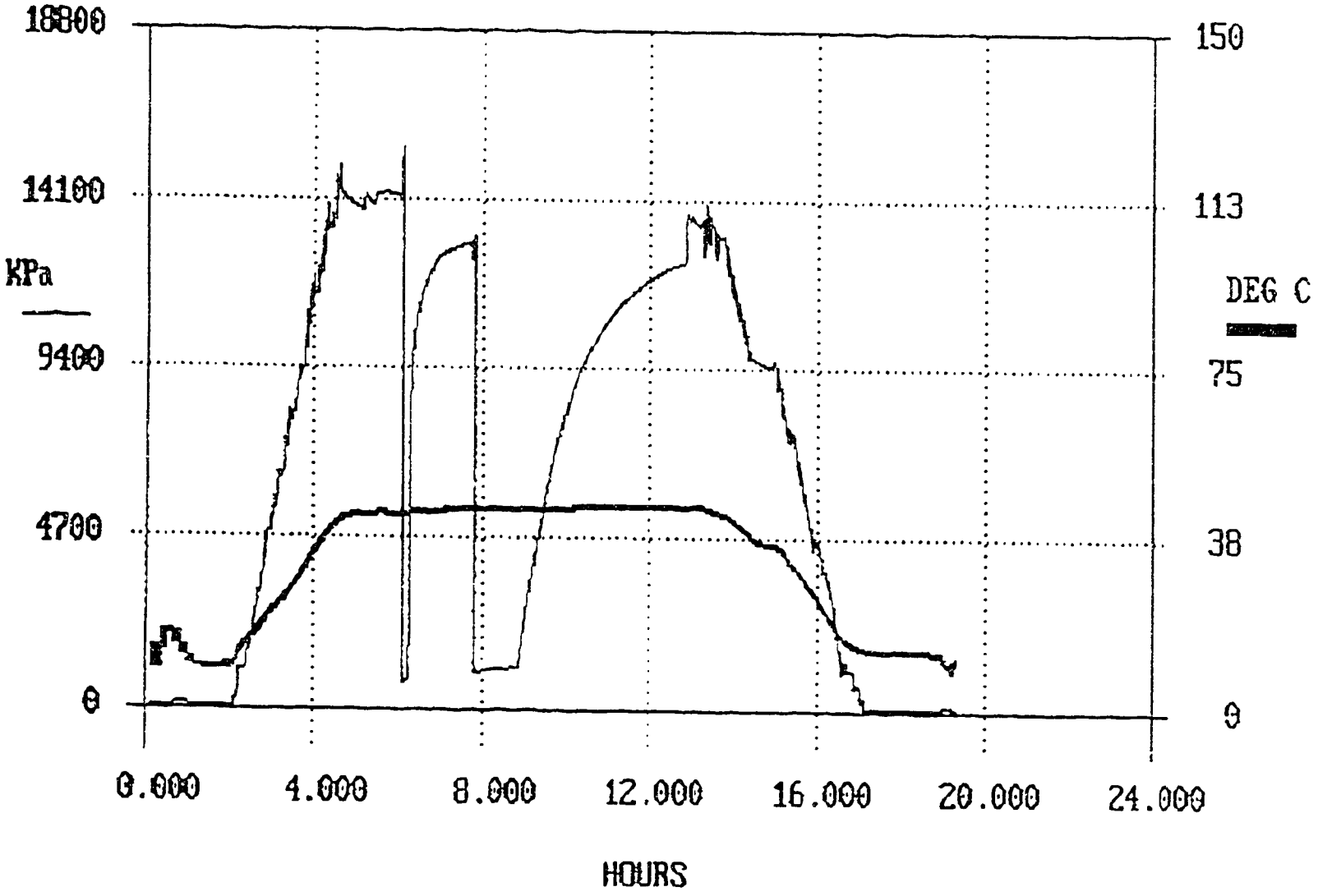
14036204647
P.05

FILE: <C:\ALP_IN\B3002247.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 INSIDE



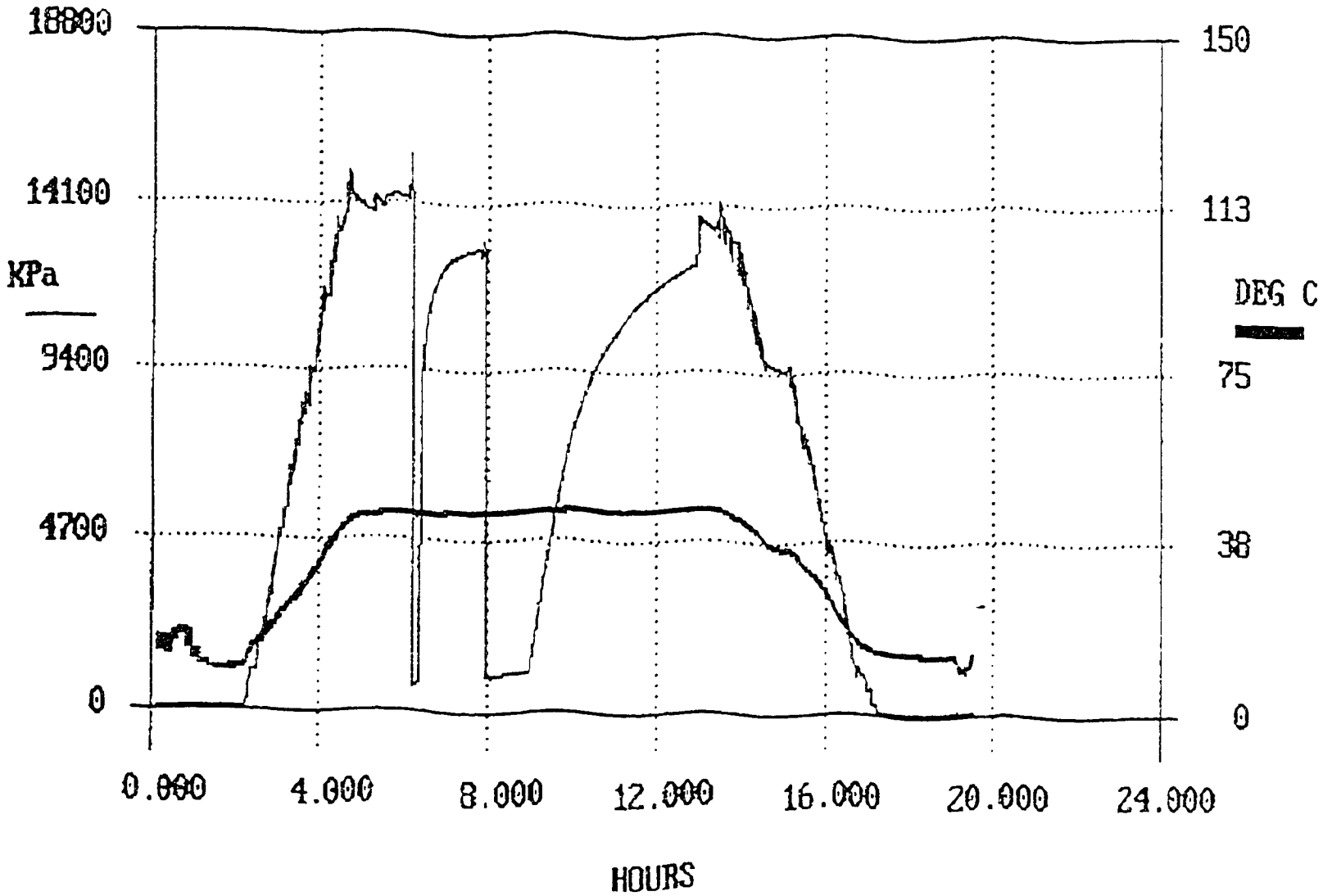
P.07
14036284647
Gary Johanson

FILE: <C:\ALP_IN\B3002130.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 OUTSIDE



14036284647

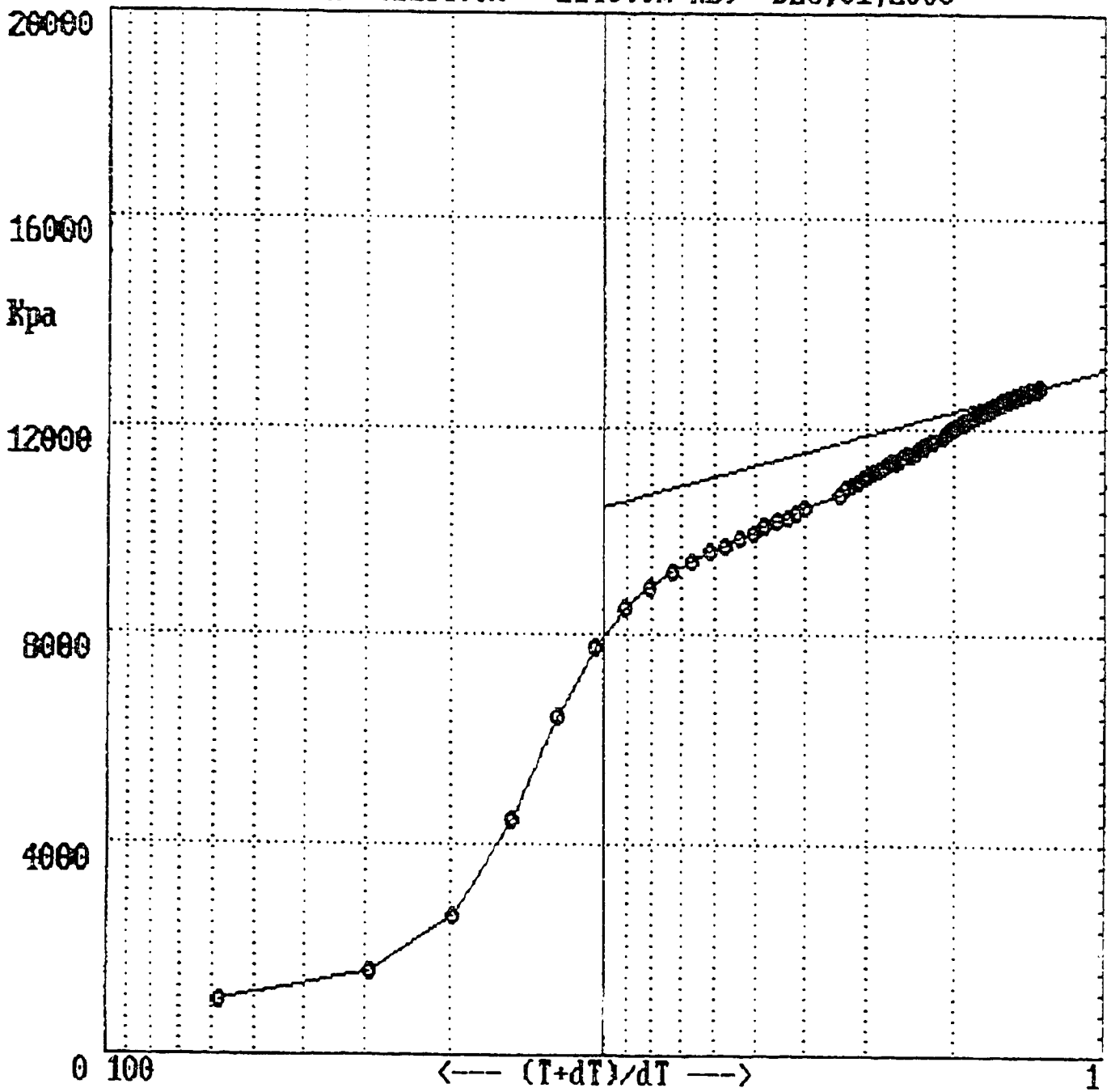
FILE: <C:\ALP_IN\B3002122.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T#2-10000 11/30/00 OUTSIDE



Gary Johannson

1403620 1647

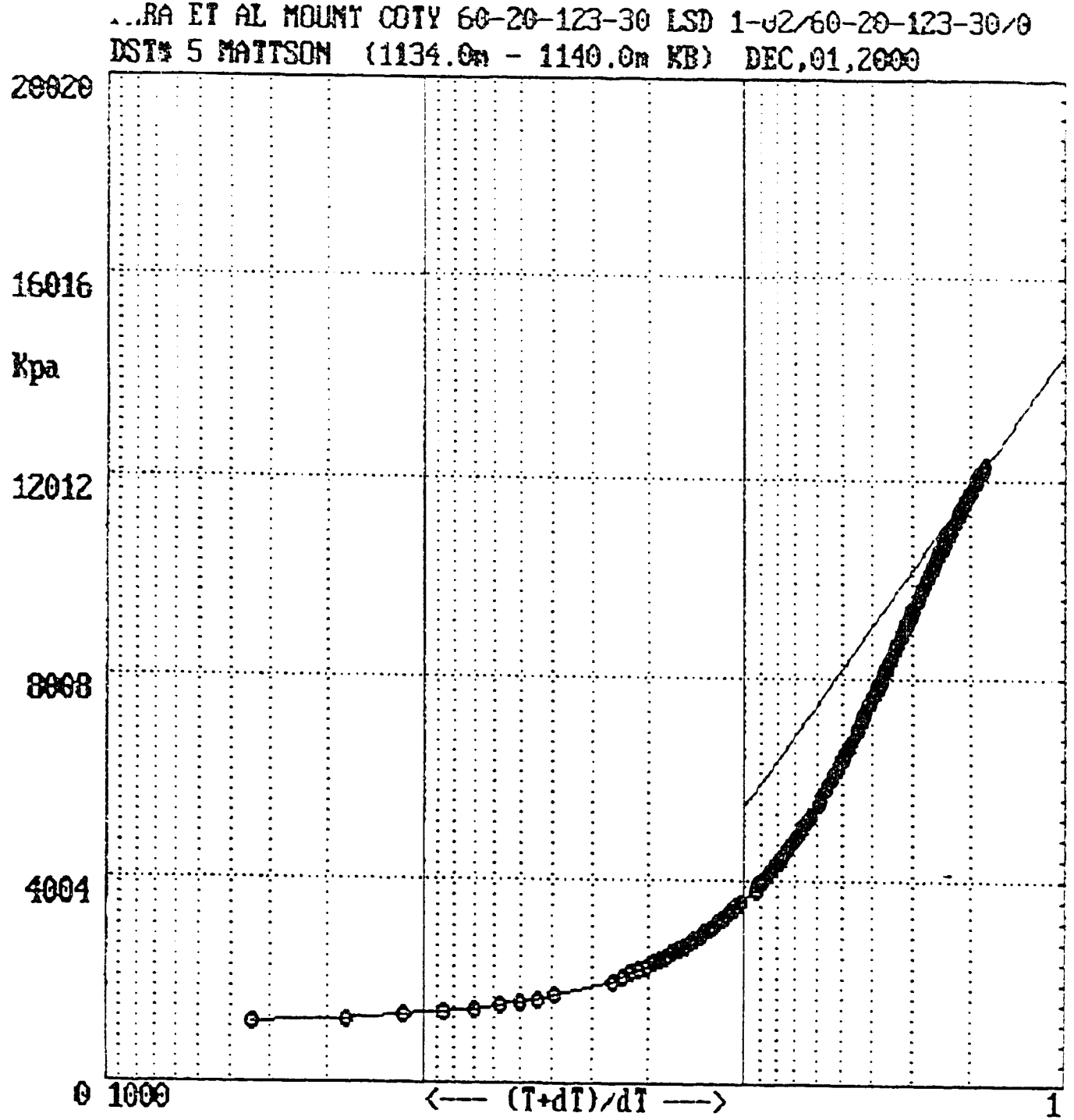
▲ ЛА ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 5 MATTSON (1134.0m - 1140.0m KB) DEC,01,2000



HORNER PLOT
SHUT-IN # 1

SLOPE =
2661.0
kPa/cycle

Extrapolated
Pressure =
13133.8
Kpa



HORNER PLOT
SHUT-IN # 2

SLOPE =
9135.7
kPa/cycle

Extrapolated
Pressure =
14589.4 ⟸ not usable
Kpa

PARA ET AL MOUNT COTY

I-02/60-20-123-30

DST #6

ALPINE

Drill Stem Test Report

Prepared for: **PARAMOUNT RESOURCES**
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: **PARA ET AL MOUNT COTY I-02**
Location: **I-02/60-20-123-30**

Test Date: **12/01/2000**

Job Ticket #: **D2-08778** DST#: **6**

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-08778 DST#: 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

General Information:

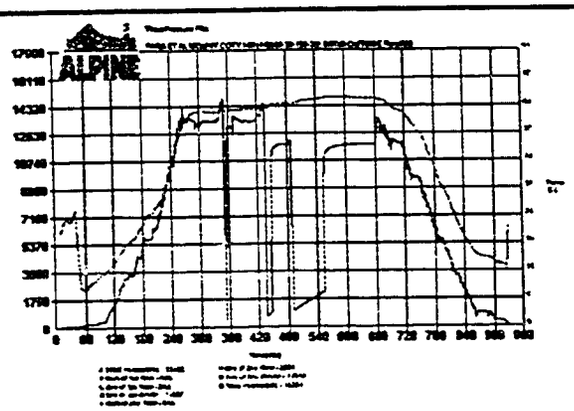
Test Type: INFLATE STRADDLE
Interval: 1075.00m - 1085.00m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: A. SCARIONE
Truck No.: Unit 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 43.70 C

Electronic Recorder Information:

OUTSIDE		FLUID	
Recorder #:	066	Recorder #:	065
Range:	70000 kPa	Range:	35000 kPa
Depth:	1077.92 m	Depth:	1052.77 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	13332.3
B Start of 1st Flow	0.00	686.4
C End of 1st Flow	9.00	942.1
D End of 1st Shutin	34.00	11836.9
E Start of 2nd Flow	0.00	962.7
F End of 2nd Flow	63.00	2266.2
G End of 2nd Shutin	107.00	11810.3
Q Final Hydrostatic	0.00	13251.3



Test Run Information:

Start Time: 1800hrs
Reached Test Depth: 2130hrs
Pull Out Time: 350hrs
Tool Out Of Hole: 800hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 53000.00daN
Initial String Weight: 39000.00daN
Unseated String Weight: 43000.00daN

Tool Chased Dist: 0.00m
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amt of cushion: 0.00
Type of cushion:

Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 60min
Reversed Out: NO

General Remarks:

Mechanically successful. *Test results suggest relatively high permeability within the zone tested.

PREFLOW: Very weak air blow throughout.

FINAL FLOW: Very weak air blow increasing to strong in 15 minutes. Remaining strong throughout remainder of flow.

NOTE - See Alpine Telemetry report for real time data acquisition.

Recovery Description:

Total fluid recovery was 197 meters fresh water.

No gas to surface.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to: AGAT LAB

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-08778 DST#: 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	33
Drill Pipe Singles:	0
Heavy Wt. Pipe Stands:	20
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	1077.85m
Total Drill Pipe Above K.B.:	2.85m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	55.93	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	629.06	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	367.91	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

NOTE -

Ran to test depth. Opened tool for preflow, and tool immediately began to skid. Pulled up, reset packers and was able to obtain a successful test.



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC#065	1.80
HMV Stroke	2.39
Sampler	1.10
REC#133	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
Stub	0.72
ASE Carrier	2.20
REC#066	
REC#160	
Bypass Hanger	0.42
Blank Spacing	1.52
Bypass Receiver	0.78
Stub	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.78

Total Depth: 1744.00m

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CAI ' IHOO

Job Ticket #: D2-08778 DST#: 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
A	Initial Hydrostatic	0.00	0.00	13332.30		41.7
B	Start of 1st Flow	0.00	0.00	686.40		41.7
		1.00	32.40	718.80		41.7
		2.00	56.70	743.10		41.7
		3.00	81.00	767.40		41.8
		4.00	106.40	792.80		41.8
		5.00	131.90	818.30		41.8
		6.00	148.10	834.50		41.9
		7.00	184.00	870.40		42.0
		8.00	222.20	908.60		42.0
C	End of 1st Flow	9.00	255.70	942.10		42.1
		1.00	9306.90	10249.00	10.0000	42.3
		2.00	10068.40	11010.50	5.5000	42.4
		3.00	10291.80	11233.90	4.0000	42.4
		4.00	10426.10	11368.20	3.2500	42.5
		5.00	10507.10	11449.20	2.8000	42.5
		6.00	10540.70	11482.80	2.5000	42.6
		7.00	10592.80	11534.90	2.2857	42.6
		8.00	10650.60	11592.70	2.1250	42.6
		9.00	10656.40	11598.50	2.0000	42.6
		10.00	10670.30	11612.40	1.9000	42.6
		11.00	10694.60	11636.70	1.8182	42.7
		12.00	10737.40	11679.50	1.7500	42.7
		13.00	10761.70	11703.80	1.6923	42.7
		14.00	10779.10	11721.20	1.6429	42.7
		15.00	10793.00	11735.10	1.6000	42.7
		16.00	10805.70	11747.80	1.5625	42.7
		17.00	10815.00	11757.10	1.5294	42.7
		18.00	10824.20	11766.30	1.5000	42.7
		19.00	10831.20	11773.30	1.4737	42.7
		20.00	10840.40	11782.50	1.4500	42.7
		21.00	10846.20	11788.30	1.4286	42.7
		22.00	10852.00	11794.10	1.4091	42.7
		23.00	10857.80	11799.90	1.3913	42.7
		24.00	10862.40	11804.50	1.3750	42.7
		25.00	10867.10	11809.20	1.3600	42.7
		26.00	10871.70	11813.80	1.3462	42.7
		27.00	10874.00	11816.10	1.3333	42.7
		28.00	10878.60	11820.70	1.3214	42.7
		29.00	10882.10	11824.20	1.3103	42.7
		30.00	10884.40	11826.50	1.3000	42.8
		31.00	10887.90	11830.00	1.2903	42.7
		32.00	10891.40	11833.50	1.2813	42.7
		33.00	10894.80	11836.90	1.2727	42.7
D	End of 1st Shutin	34.00	10894.80	11836.90	1.2647	42.8
E	Start of 2nd Flow	0.00	0.00	982.70		42.7
		1.00	39.30	1022.00		42.7
		2.00	65.90	1048.60		42.7
		3.00	87.90	1070.60		42.7
		4.00	111.10	1093.80		42.7
		5.00	135.40	1118.10		42.7
		6.00	152.70	1135.40		42.7
		7.00	175.90	1158.60		42.7
		8.00	194.40	1177.10		42.7
		9.00	218.70	1201.40		42.8
		10.00	241.90	1224.60		42.8
		11.00	262.70	1245.40		42.8
		12.00	287.00	1269.70		42.8
		13.00	307.80	1290.50		42.9
		14.00	331.00	1313.70		42.9
		15.00	353.00	1335.70		42.9
		16.00	378.40	1361.10		42.9
		17.00	400.40	1383.10		43.0
		18.00	421.30	1404.00		43.0
		19.00	443.20	1425.90		43.0
		20.00	464.10	1446.80		43.1
		21.00	487.20	1469.90		43.1
		22.00	505.70	1488.40		43.1
		23.00	527.70	1510.40		43.1
		24.00	548.60	1531.30		43.2
		25.00	568.20	1550.90		43.2
		26.00	584.40	1567.10		43.2
		27.00	605.30	1588.00		43.2
		28.00	626.10	1608.80		43.3

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD
4700 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-08778 DST# 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY 1-02

Location: 1-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		29.00	646.90	1629.60		43.3
		30.00	667.80	1650.50		43.3
		31.00	686.30	1669.00		43.3
		32.00	703.70	1686.40		43.3
		33.00	722.20	1704.90		43.3
		34.00	739.50	1722.20		43.3
		35.00	756.90	1739.60		43.3
		36.00	777.70	1760.40		43.3
		37.00	797.40	1780.10		43.3
		38.00	818.20	1800.90		43.3
		39.00	837.90	1820.60		43.3
		40.00	858.80	1841.50		43.4
		41.00	877.30	1860.00		43.4
		42.00	898.10	1880.80		43.3
		43.00	918.90	1901.60		43.4
		44.00	938.60	1921.30		43.4
		45.00	954.80	1937.50		43.4
		46.00	973.30	1956.00		43.4
		47.00	991.90	1974.60		43.4
		48.00	1009.20	1991.90		43.4
		49.00	1027.70	2010.40		43.4
		50.00	1043.90	2026.60		43.4
		51.00	1064.80	2047.50		43.5
		52.00	1084.50	2067.20		43.5
		53.00	1105.30	2088.00		43.5
		54.00	1123.80	2106.50		43.5
		55.00	1142.30	2125.00		43.5
		56.00	1159.70	2142.40		43.5
		57.00	1178.20	2160.90		43.5
		58.00	1196.70	2179.40		43.6
		59.00	1212.90	2195.60		43.5
		60.00	1229.10	2211.80		43.6
		61.00	1247.70	2230.40		43.6
		62.00	1266.20	2248.90		43.6
F	End of 2nd Flow	63.00	1283.50	2266.20		43.6
		1.00	6855.40	9121.60	73.0000	43.6
		2.00	8375.10	10641.30	37.0000	43.7

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
		3.00	8055.20	10921.40	25.0000	43.7
		4.00	8798.70	11084.90	19.0000	43.7
		5.00	8897.10	11163.30	15.4000	43.8
		6.00	8967.70	11233.90	13.0000	43.8
		7.00	9021.00	11287.20	11.2857	43.8
		8.00	9069.60	11335.80	10.0000	43.8
		9.00	9107.80	11374.00	9.0000	43.8
		10.00	9141.30	11407.50	8.2000	43.8
		11.00	9168.00	11434.20	7.5455	43.8
		12.00	9194.60	11460.80	7.0000	43.8
		13.00	9215.40	11481.60	6.5385	43.9
		14.00	9235.10	11501.30	6.1429	43.9
		15.00	9251.30	11517.50	5.8000	43.9
		16.00	9267.50	11533.70	5.5000	43.9
		17.00	9281.40	11547.60	5.2353	43.9
		18.00	9293.70	11549.90	5.0000	43.9
		19.00	9302.20	11568.40	4.7895	43.9
		20.00	9316.10	11582.30	4.6000	43.9
		21.00	9321.90	11588.10	4.4286	43.9
		22.00	9335.80	11602.00	4.2727	43.9
		23.00	9346.20	11612.40	4.1304	43.9
		24.00	9355.50	11621.70	4.0000	43.9
		25.00	9361.30	11627.50	3.8800	43.9
		26.00	9370.50	11636.70	3.7692	43.9
		27.00	9378.60	11644.80	3.6667	43.8
		28.00	9385.60	11651.80	3.5714	43.8
		29.00	9391.30	11657.50	3.4828	43.8
		30.00	9397.10	11663.30	3.4000	43.8
		31.00	9402.90	11669.10	3.3226	43.8
		32.00	9408.70	11674.90	3.2500	43.8
		33.00	9413.30	11679.50	3.1818	43.8
		34.00	9419.10	11685.30	3.1176	43.8
		35.00	9422.60	11688.80	3.0571	43.8
		36.00	9427.20	11693.40	3.0000	43.8
		37.00	9431.90	11698.10	2.9459	43.8
		38.00	9436.50	11702.70	2.8947	43.8
		39.00	9440.00	11706.20	2.8462	43.8

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S W
CALGARY, AB

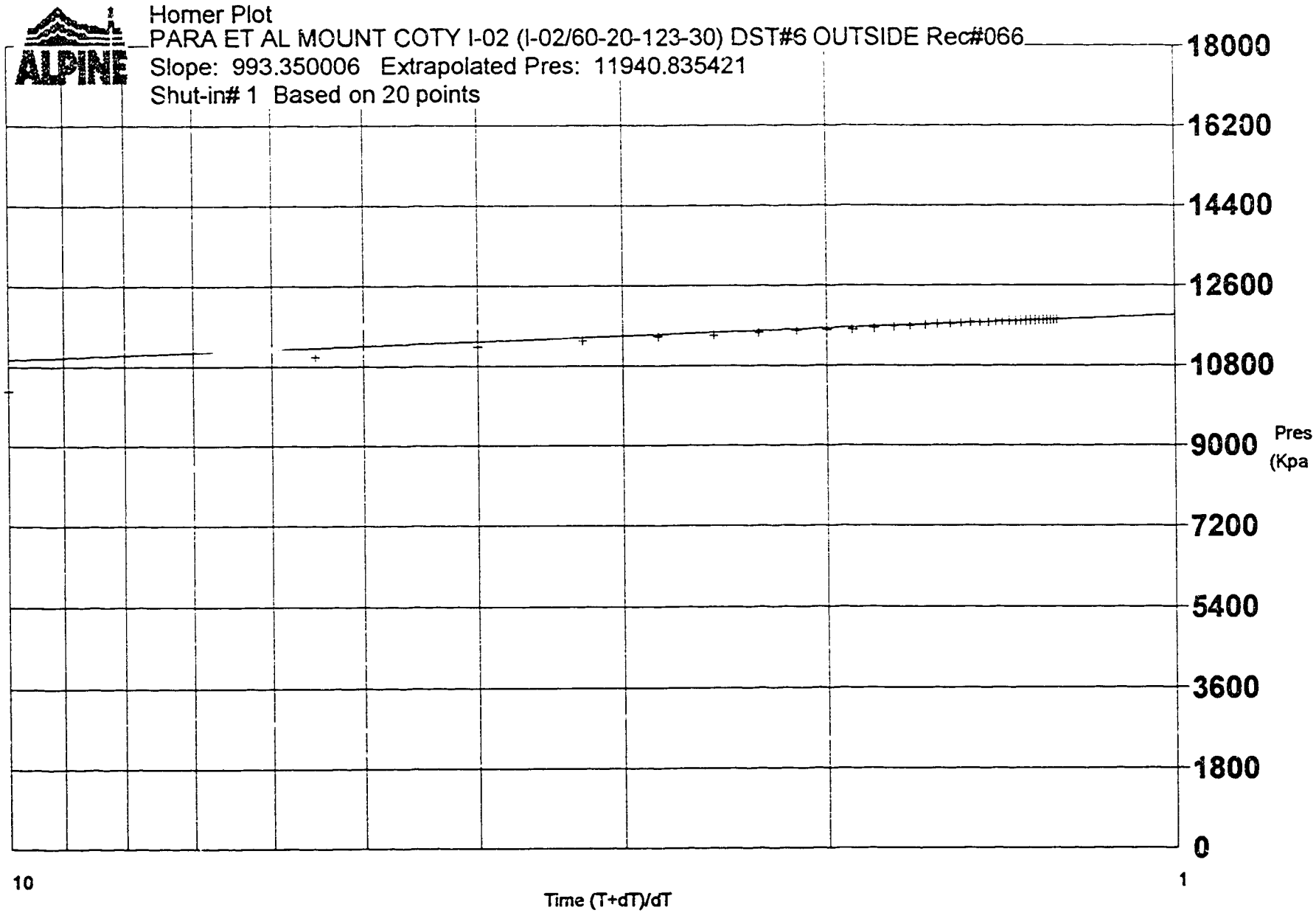
Contact: WILBERT CALLIHOO

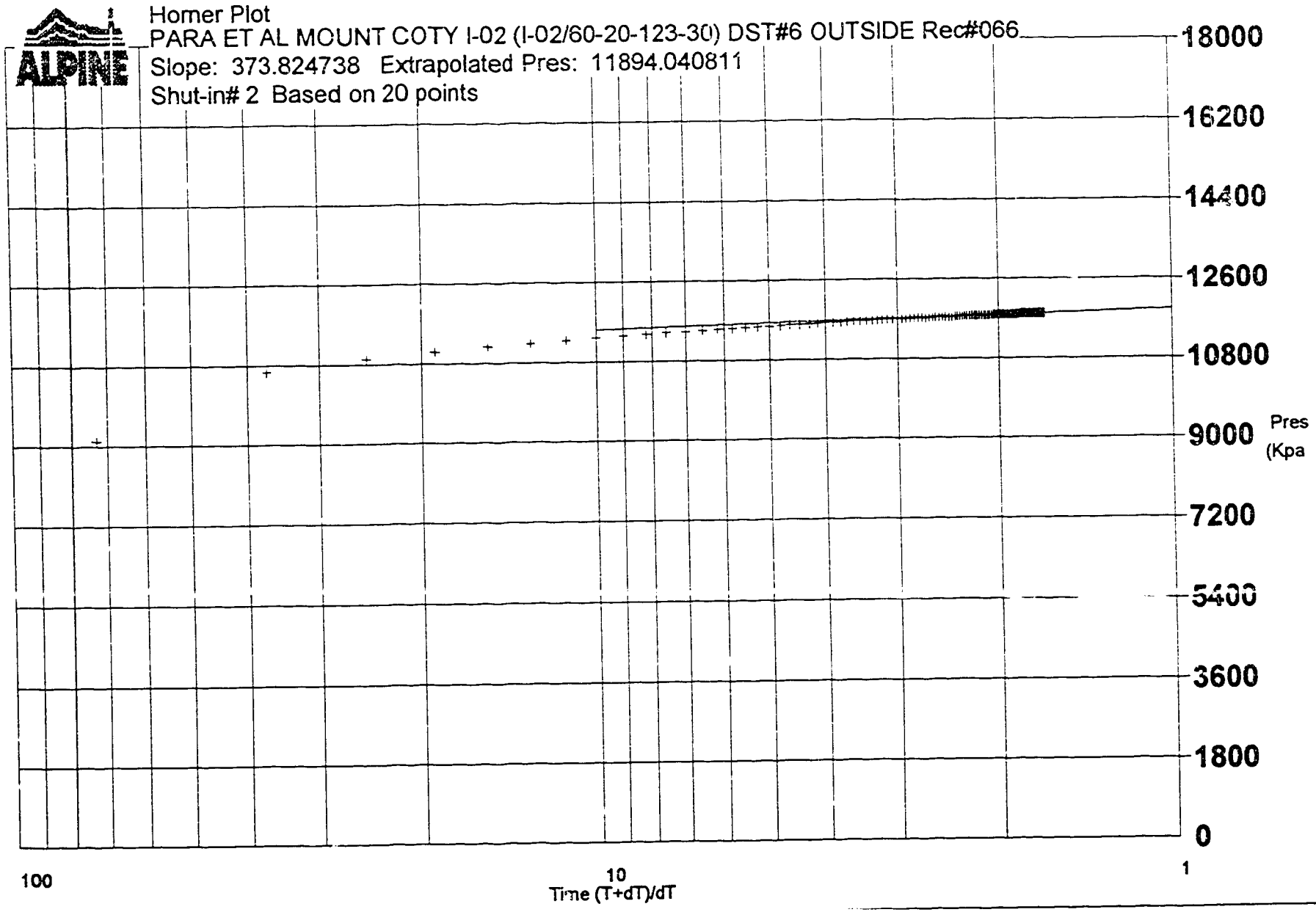
Job Ticket #: D2-08778 DST#: 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

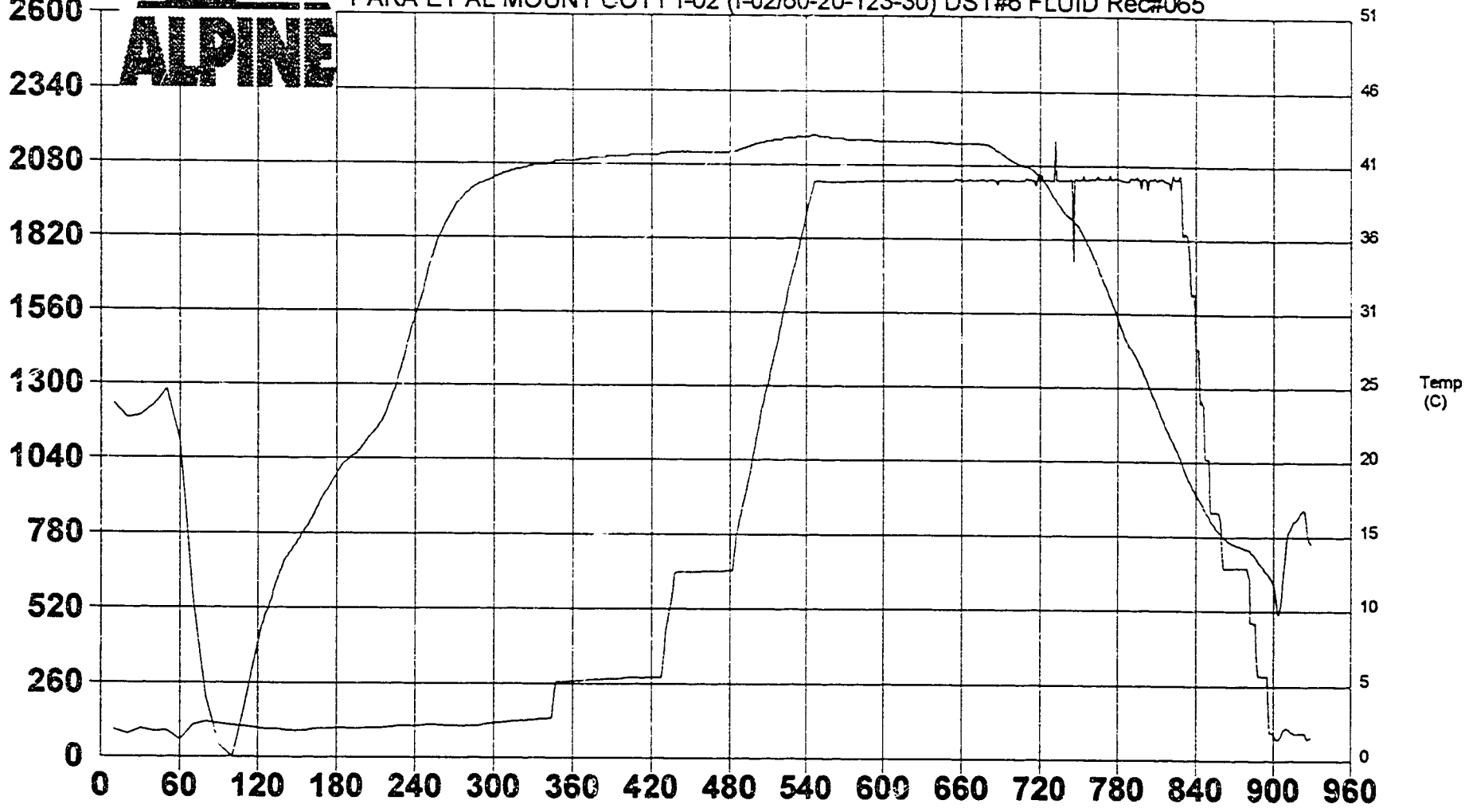
Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp (°C)
		40.00	9443.40	11709.60	2.8000	43.8
		41.00	9448.10	11714.30	2.7561	43.8
		42.00	9450.40	11716.60	2.7143	43.8
		43.00	9453.80	11720.00	2.6744	43.8
		44.00	9456.20	11722.40	2.6364	43.8
		45.00	9460.80	11727.00	2.6000	43.8
		46.00	9463.10	11729.30	2.5652	43.8
		47.00	9465.40	11731.60	2.5319	43.8
		48.00	9467.70	11733.90	2.5000	43.8
		49.00	9472.40	11738.60	2.4694	43.8
		50.00	9473.50	11739.70	2.4400	43.8
		51.00	9475.80	11742.00	2.4118	43.8
		52.00	9478.20	11744.40	2.3846	43.8
		53.00	9480.50	11746.70	2.3585	43.8
		54.00	9482.80	11749.00	2.3333	43.8
		55.00	9485.10	11751.30	2.3091	43.8
		56.00	9487.40	11753.60	2.2857	43.7
		57.00	9489.70	11755.90	2.2632	43.7
		58.00	9490.90	11757.10	2.2414	43.7
		59.00	9493.20	11759.40	2.2203	43.7
		60.00	9495.50	11761.70	2.2000	43.7
		61.00	9495.50	11761.70	2.1803	43.7
		62.00	9499.00	11765.20	2.1613	43.7
		63.00	9499.00	11765.20	2.1429	43.7
		64.00	9501.30	11767.50	2.1250	43.7
		65.00	9502.50	11768.70	2.1077	43.7
		66.00	9504.80	11771.00	2.0909	43.7
		67.00	9507.10	11773.30	2.0746	43.7
		68.00	9507.10	11773.30	2.0588	43.7
		69.00	9509.40	11775.60	2.0435	43.7
		70.00	9510.60	11776.80	2.0286	43.7
		71.00	9511.70	11777.90	2.0141	43.7
		72.00	9512.90	11779.10	2.0000	43.7
		73.00	9516.30	11782.50	1.9863	43.6
		74.00	9516.30	11782.50	1.9730	43.6
		75.00	9517.50	11783.70	1.9600	43.7
		76.00	9517.50	11783.70	1.9474	43.7
		77.00	9518.70	11784.90	1.9351	43.7
		78.00	9519.80	11786.00	1.9231	43.6
		79.00	9521.00	11787.20	1.9114	43.6
		80.00	9522.10	11788.30	1.9000	43.6
		81.00	9524.40	11790.60	1.8889	43.6
		82.00	9524.40	11790.60	1.8780	43.6
		83.00	9525.60	11791.80	1.8675	43.6
		84.00	9526.80	11793.00	1.8571	43.6
		85.00	9527.90	11794.10	1.8471	43.6
		86.00	9527.90	11794.10	1.8372	43.6
		87.00	9529.10	11795.30	1.8276	43.6
		88.00	9530.20	11796.40	1.8182	43.6
		89.00	9531.40	11797.60	1.8090	43.6
		90.00	9532.60	11798.80	1.8000	43.6
		91.00	9533.70	11799.90	1.7912	43.6
		92.00	9533.70	11799.90	1.7826	43.6
		93.00	9534.90	11801.10	1.7742	43.6
		94.00	9536.00	11802.20	1.7660	43.6
		95.00	9536.00	11802.20	1.7579	43.6
		96.00	9537.20	11803.40	1.7500	43.6
		97.00	9538.30	11804.50	1.7423	43.6
		98.00	9538.30	11804.50	1.7347	43.6
		99.00	9538.30	11804.50	1.7273	43.6
		100.00	9540.70	11806.90	1.7200	43.6
		101.00	9539.50	11805.70	1.7129	43.6
		102.00	9541.80	11808.00	1.7059	43.6
		103.00	9541.80	11808.00	1.6990	43.6
		104.00	9541.80	11808.00	1.6923	43.6
		105.00	9543.00	11809.20	1.6857	43.6
		106.00	9544.10	11810.30	1.6792	43.6
G	End of 2nd Shutin	107.00	9544.10	11810.30	1.6729	43.6
Q	Final Hydrostatic	0.00	0.00	13251.30		43.3


ALPINE
Homer Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 OUTSIDE Rec#066
Slope: 993.350006 Extrapolated Pres: 11940.835421
Shut-in# 1 Based on 20 points
18000
16200
14400
12600
10800
9000
7200
5400
3600
1800
0
Pres
(Kpa
10
1
Time (T+dT)/dT


Homer Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 OUTSIDE Rec#066
Slope: 373.824738 Extrapolated Pres: 11894.040811
Shut-in# 2 Based on 20 points
18000
16200
14400
12600
10800
9000
7200
5400
3600
1800
0
Pres
(Kpa
100
10
1
Time (T+dT)/dT

Time/Pressure Plot

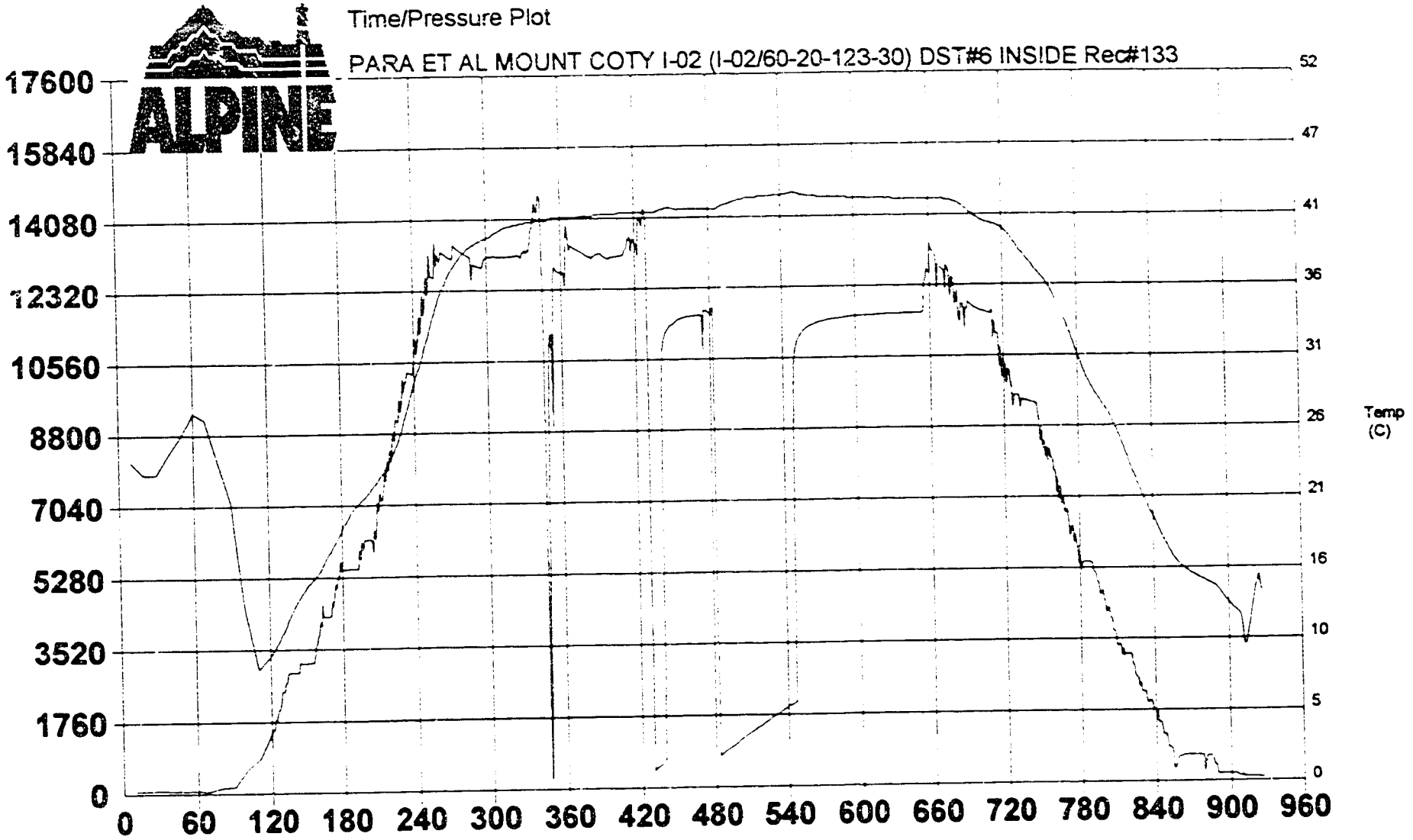
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 FLUID Rec#065



A Initial Hydrostatic - 281
B Start of 1st Flow - 281
C End of 1st Flow - 642
D End of 1st Shutin - 655
E Start of 2nd Flow - 653
F End of 2nd Flow - 2013
G End of 2nd Shutin - 2025
Q Final Hydrostatic - 2027

Time/Pressure Plot

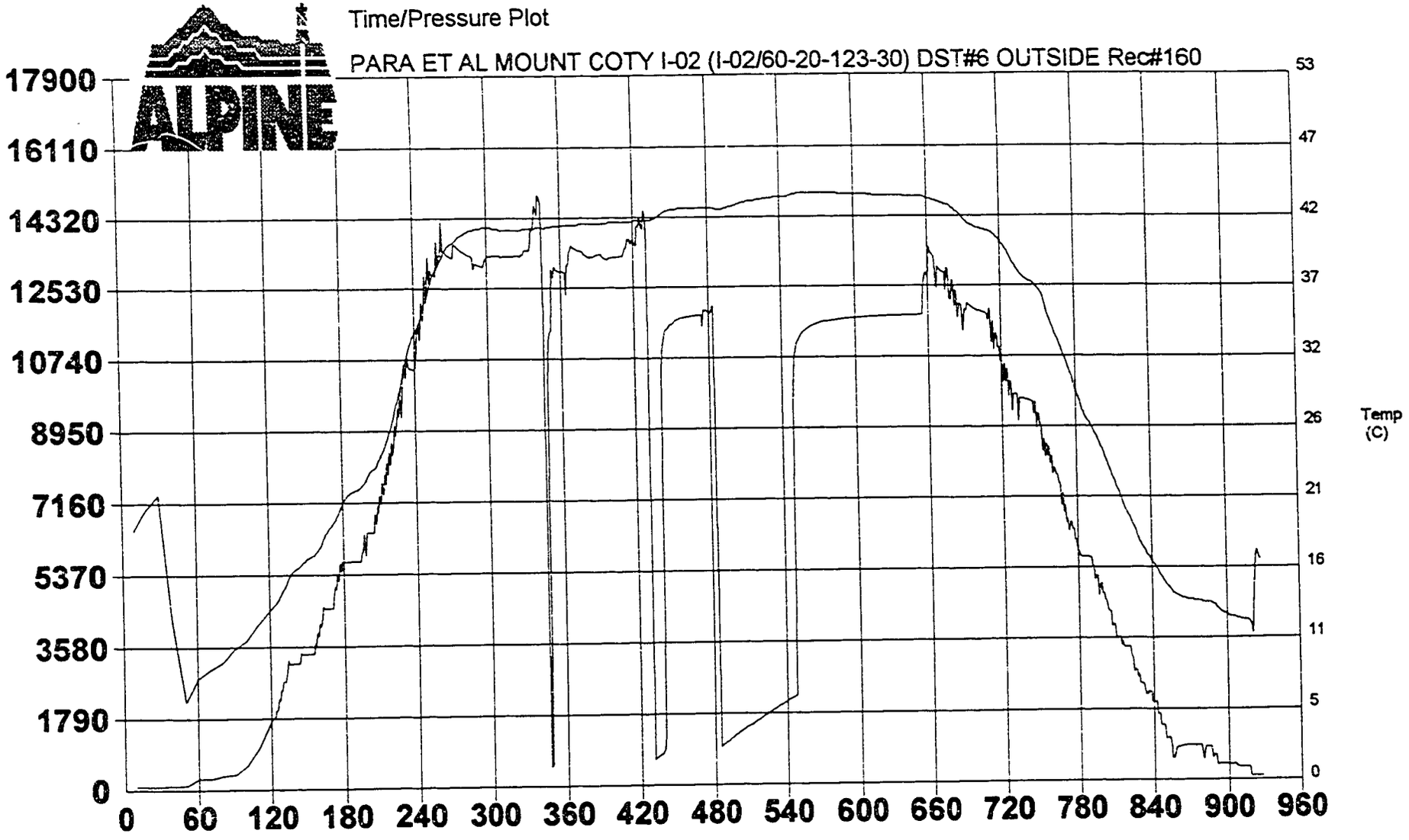
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 INSIDE Rec#133



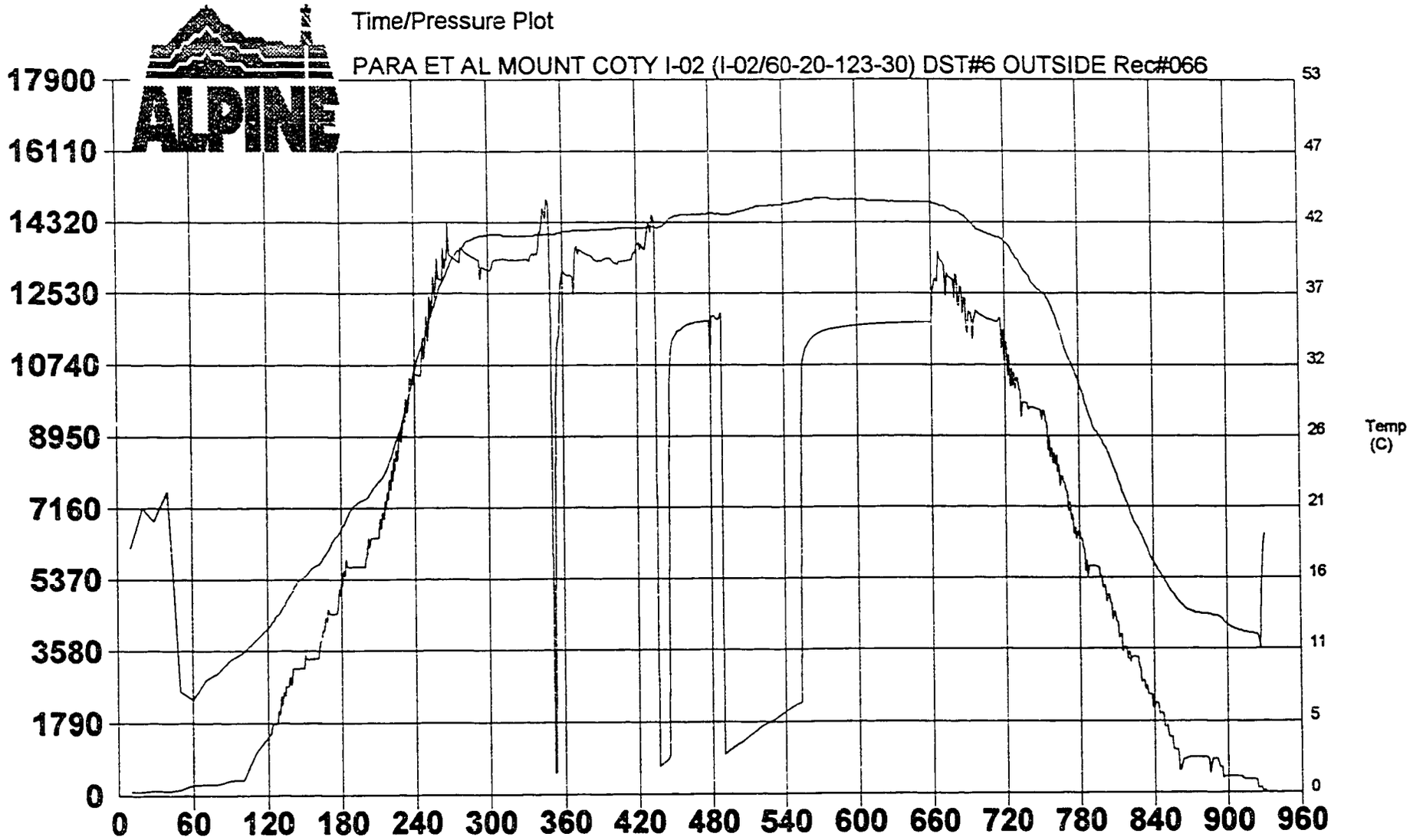
A Initial Hydrostatic - 13126
B Start of 1st Flow - 421
C End of 1st Flow - 705
D End of 1st Shutin - 11644
E Start of 2nd Flow - 755
F End of 2nd Flow - 2064
G End of 2nd Shutin - 11639
Q Final Hydrostatic - 13107

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 OUTSIDE Rec#160



A Initial Hydrostatic - 13315
B Start of 1st Flow - 638
C End of 1st Flow - 867
D End of 1st Shutin - 11812
E Start of 2nd Flow - 943
F End of 2nd Flow - 2223
G End of 2nd Shutin - 11790
Q Final Hydrostatic - 12968



A Initial Hydrostatic - 13332
B Start of 1st Flow - 686
C End of 1st Flow - 942
D End of 1st Shutin - 11837
E Start of 2nd Flow - 983
F End of 2nd Flow - 2266
G End of 2nd Shutin - 11810
Q Final Hydrostatic - 13251



Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: **12/01/2000**

Job Ticket #: **T6190-6** DST#: **6**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: T6190-6 DST#: 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

General Information:

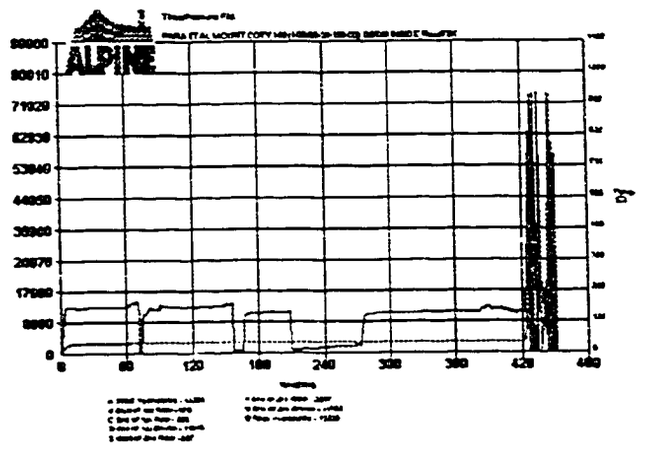
Test Type: INFLATE STRADDLE
Interval: 1075m -1085m
Formation: MATTSON
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: K. PEARSON
Truck No.: Unit 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 43.70 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 1064.16 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	13293.6
B Start of 1st Flow	0.00	575.9
C End of 1st Flow	9.24	876.2
D End of 1st Shutin	38.82	11915.3
E Start of 2nd Flow	0.00	936.5
F End of 2nd Flow	62.10	2216.9
G End of 2nd Shutin	108.36	11781.7
Q Final Hydrostatic	0.00	13238.5



Test Run Information:

Start Time: 1800hrs
Reached Test Depth: 2130hrs
Pull Out Time: 350hrs
Tool Out Of Hole: 800hrs
Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 60min
Reversed Out: NO
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amount of cushion: 0.00
Type of cushion:

General Remarks:

Mechanically successful. *Test results suggest relatively high permeability within the zone tested.

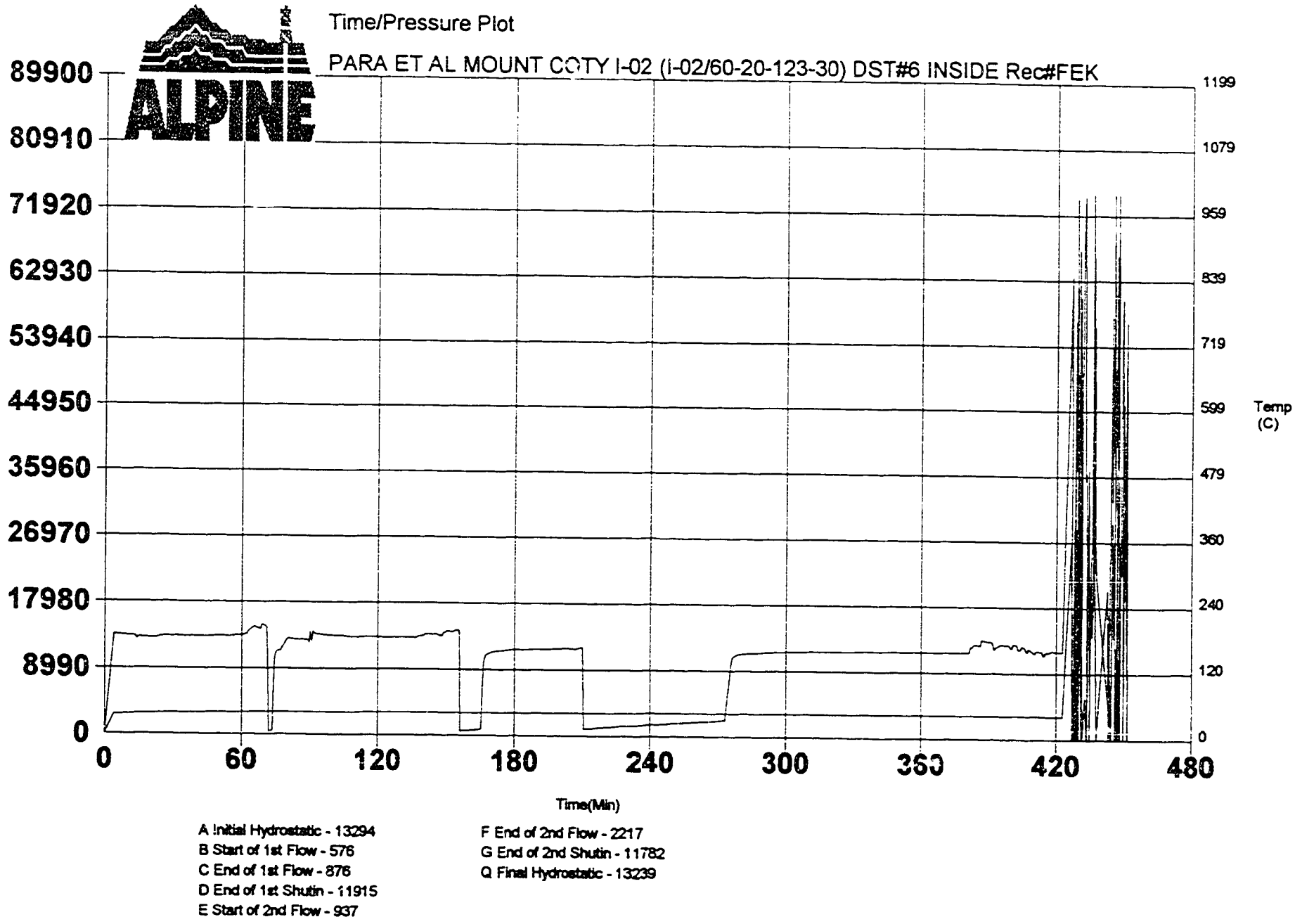
PREFLOW: Very weak air blow throughout.

FINAL FLOW: Very weak air blow increasing to strong in 15 minutes. Remaining strong throughout remainder of flow.

Recovery Description:

Total fluid recovery was 197 meters fresh water.

No gas to surface.


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 INSIDE Rec#FEK
89900
80910
71920
62930
53940
44950
35960
26970
17980
8990
0
1199
1079
959
839
719
599
479
360
240
120
0
Temp (C)
0
60
120
180
240
300
360
420
480
Time(Min)
A Initial Hydrostatic - 13294
B Start of 1st Flow - 576
C End of 1st Flow - 876
D End of 1st Shutin - 11915
E Start of 2nd Flow - 937
F End of 2nd Flow - 2217
G End of 2nd Shutin - 11782
Q Final Hydrostatic - 13239

ALPINE

Drill Stem Test Report

Prepared for: PARAMOUNT RESOURCES
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: 12/02/2000

Job Ticket #: D2-08779 DST#: 7

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-08779 DST#: 7
Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

General Information:

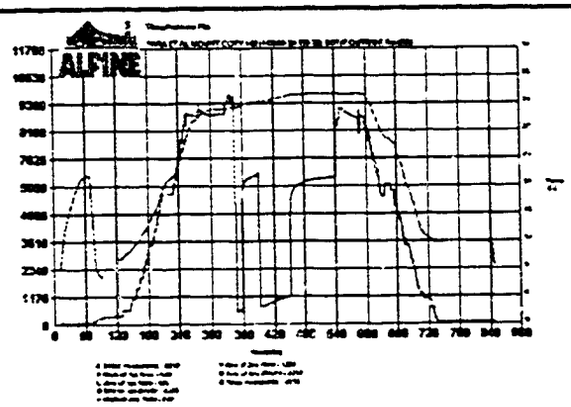
Test Type: INFLATE STRADDLE
Interval: 708.00m - 720.00m
Formation: CHINKEH
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: A. SCARIONE
Truck No.: Unit 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 32.70 C

Electronic Recorder Information:

OUTSIDE		FLUID	
Recorder #:	066	Recorder #:	065
Range:	70000 kPa	Range:	35000 kPa
Depth:	710.92 m	Depth:	685.77 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8913.9
B Start of 1st Flow	0.00	539.9
C End of 1st Flow	11.00	476.8
D End of 1st Shutin	31.00	6306.3
E Start of 2nd Flow	0.00	722.2
F End of 2nd Flow	57.00	1205.9
G End of 2nd Shutin	91.00	6231.6
Q Final Hydrostatic	0.00	8714.6



Test Run Information:

Start Time: 1030hrs
Reached Test Depth: 1330hrs
Pull Out Time: 1745hrs
Tool Out Of Hole: 2130hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 55000.00daN
Initial String Weight: 45000.00daN
Unseated String Weight: 46000.00daN

Tool Chased Dist: 0.00m
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amt of cushion: 0.00
Type of cushion:

Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: NO

General Remarks:

Mechanically successful. *Test results suggest relatively high permeability within the zone tested.

PREFLOW: Weak air blow throughout.

FINAL FLOW: Very weak air blow throughout.

NOTE - See Alpine Telemetry report for real time data acquisition.

Recovery Description:

Total fluid recovery was 75 meters fresh water.

No gas to surface.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to: AGAT LAB

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-08779 DST#: 7
Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	23
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	10
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	710.51m
Total Drill Pipe Above K.B.:	2.51m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	55.62	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	446.32	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	183.62	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:



Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC#065	1.80
HMV Stroke	2.39
Sampler	1.10
REC#133	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.85
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
Stub	0.72
ASE Carrier	2.20
REC#066	
REC#160	
Bypass Hanger	0.42
Blank Spacing	7.45
Bypass P. aiver	0.78
Stub	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, 3

Contact: WILBERT CALLIHOO

Job Ticket #: D2-08779 DST#: 7
Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp. (°C)
A	Initial Hydrostatic	0.00	0.00	8918.90		30.5
B	Start of 1st Flow	0.00	0.00	539.90		30.8
		1.00	-16.20	523.70		30.8
		2.00	5.20	545.10		30.8
		3.00	18.50	558.40		30.8
		4.00	33.60	573.50		30.8
		5.00	53.20	593.10		30.9
		6.00	71.70	611.60		30.9
		7.00	87.90	627.60		30.9
		8.00	93.70	633.60		30.9
		9.00	113.40	653.30		31.0
		10.00	130.80	670.70		31.0
C	End of 1st Flow	11.00	-63.10	476.80		31.0
		1.00	4662.90	5139.70	12.0000	31.1
		2.00	5140.30	5617.10	6.5000	31.2
		3.00	5305.20	5782.00	4.6667	31.2
		4.00	5401.80	5878.60	3.7500	31.2
		5.00	5469.50	5946.30	3.2000	31.3
		6.00	5520.50	5997.30	2.8333	31.3
		7.00	5561.50	6038.30	2.5714	31.3
		8.00	5593.90	6070.70	2.3750	31.4
		9.00	5621.10	6097.90	2.2222	31.4
		10.00	5644.30	6121.10	2.1000	31.4
		11.00	5665.10	6141.90	2.0000	31.4
		12.00	5683.10	6159.90	1.9167	31.4
		13.00	5698.70	6175.50	1.8462	31.4
		14.00	5712.60	6189.40	1.7857	31.4
		15.00	5724.70	6201.50	1.7333	31.4
		16.00	5735.70	6212.50	1.6875	31.5
		17.00	5745.60	6222.40	1.6471	31.5
		18.00	5755.40	6232.20	1.6111	31.5
		19.00	5764.10	6240.90	1.5789	31.5
		20.00	5771.60	6248.40	1.5500	31.5
		21.00	5779.10	6255.90	1.5238	31.5
		22.00	5786.10	6262.90	1.5000	31.5
		23.00	5791.80	6268.60	1.4783	31.5
		24.00	5797.60	6274.40	1.4583	31.5
		25.00	5802.80	6279.60	1.4400	31.5
		26.00	5808.00	6284.80	1.4231	31.5
		27.00	5813.30	6290.10	1.4074	31.5
		28.00	5817.90	6294.70	1.3929	31.5
		29.00	5821.90	6298.70	1.3793	31.5
		30.00	5826.00	6302.80	1.3667	31.6
D	End of 1st Shutin	31.00	5829.50	6306.30	1.3548	31.6
E	Start of 2nd Flow	0.00	0.00	722.20		31.6
		1.00	16.20	738.40		31.6
		2.00	20.80	743.00		31.6
		3.00	31.80	754.00		31.5
		4.00	41.10	763.30		31.6
		5.00	49.70	771.90		31.6
		6.00	57.80	780.00		31.6
		7.00	57.30	779.50		31.6
		8.00	60.70	782.90		31.6
		9.00	67.10	789.30		31.6
		10.00	73.50	795.70		31.6
		11.00	81.00	803.20		31.7
		12.00	86.80	809.00		31.7
		13.00	98.30	820.50		31.7
		14.00	111.10	833.30		31.7
		15.00	123.80	846.00		31.7
		16.00	136.50	858.70		31.8
		17.00	148.70	870.90		31.8
		18.00	161.40	883.60		31.8
		19.00	173.60	895.80		31.8
		20.00	182.80	905.00		31.9
		21.00	195.00	917.20		31.8
		22.00	207.10	929.30		31.9
		23.00	219.30	941.50		31.9
		24.00	231.40	953.60		31.9
		25.00	244.20	966.40		31.9
		26.00	256.30	978.50		32.0
		27.00	268.50	990.70		32.0
		28.00	276.00	998.20		32.0
		29.00	282.90	1005.10		32.0

Drill Stem Testing - Time / Pressure Listing

Company: PARAMOUNT RESOURCES LTD
1700, 888 - 3rd Street S.W.
CALGARY AB

Contact: WILBERT CALLIHOO

Job Ticket #: D2-08779 DST #:
Test Date: 12/02/2000

Well Name: PARA ET AL MOUNT COTY 1-02

Location: 1-02/60-20-123-30

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp (°C)
		30.00	290.50	1012.70		32.0
		31.00	297.40	1019.60		32.0
		32.00	304.90	1027.10		32.1
		33.00	312.40	1034.60		32.1
		34.00	320.00	1042.20		32.1
		35.00	327.50	1049.70		32.1
		36.00	334.40	1056.80		32.1
		37.00	342.00	1064.20		32.1
		38.00	349.50	1071.70		32.2
		39.00	356.40	1078.60		32.2
		40.00	359.90	1082.10		32.2
		41.00	366.80	1089.00		32.2
		42.00	373.80	1096.00		32.2
		43.00	381.30	1103.50		32.2
		44.00	388.80	1111.00		32.3
		45.00	396.40	1118.60		32.3
		46.00	403.90	1126.10		32.3
		47.00	411.40	1133.60		32.3
		48.00	418.30	1140.50		32.3
		49.00	425.90	1148.10		32.3
		50.00	432.80	1155.00		32.3
		51.00	440.30	1162.50		32.3
		52.00	447.30	1169.50		32.4
		53.00	454.20	1176.40		32.4
		54.00	461.70	1183.90		32.4
		55.00	468.70	1190.90		32.4
		56.00	476.20	1198.40		32.4
F	End of 2nd Flow	57.00	483.70	1205.90		32.4
		1.00	3193.10	4399.00	89.0000	32.5
		2.00	3981.20	5187.10	35.0000	32.5
		3.00	4174.50	5380.40	23.6667	32.5
		4.00	4276.30	5482.20	18.0000	32.5
		5.00	4348.10	5554.00	14.6000	32.5
		6.00	4402.50	5608.40	12.3333	32.5
		7.00	4447.60	5653.50	10.7143	32.5
		8.00	4485.20	5691.10	9.5000	32.5
		9.00	4518.20	5724.10	8.5556	32.6

Chart Label	Comments	Time (Min.)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp (°C)
		10.00	4546.30	5751.80	7.6000	32.6
		11.00	4572.30	5777.80	6.9818	32.6
		12.00	4594.60	5800.50	6.5667	32.6
		13.00	4615.40	5821.30	6.2308	32.6
		14.00	4634.30	5839.80	5.9571	32.6
		15.00	4651.30	5857.20	5.7333	32.6
		16.00	4666.90	5872.80	5.5500	32.6
		17.00	4680.80	5886.70	5.4000	32.6
		18.00	4695.30	5901.20	5.2778	32.6
		19.00	4708.00	5913.90	5.1579	32.6
		20.00	4720.20	5926.10	5.0500	32.6
		21.00	4731.80	5937.70	4.9524	32.6
		22.00	4743.30	5949.20	4.8636	32.6
		23.00	4753.70	5959.60	4.7826	32.6
		24.00	4763.20	5969.10	4.7083	32.6
		25.00	4772.50	5978.40	4.6400	32.6
		26.00	4782.10	5988.00	4.5769	32.6
		27.00	4790.80	5996.70	4.5185	32.6
		28.00	4798.90	6004.80	4.4643	32.6
		29.00	4807.00	6012.90	4.4138	32.6
		30.00	4813.90	6019.80	4.3667	32.6
		31.00	4821.40	6027.30	4.3226	32.6
		32.00	4828.40	6034.30	4.2813	32.6
		33.00	4835.30	6041.20	4.2424	32.6
		34.00	4841.70	6047.60	4.2059	32.6
		35.00	4848.10	6054.00	4.1714	32.6
		36.00	4853.80	6059.70	4.1389	32.6
		37.00	4859.60	6065.50	4.1081	32.7
		38.00	4865.40	6071.30	4.0789	32.6
		39.00	4870.60	6076.50	4.0513	32.7
		40.00	4875.80	6081.70	4.0250	32.7
		41.00	4881.30	6087.20	3.9976	32.7
		42.00	4885.70	6091.60	3.9762	32.7
		43.00	4890.30	6096.20	3.9535	32.6
		44.00	4895.50	6101.40	3.9318	32.7
		45.00	4900.10	6106.00	3.9111	32.7
		46.00	4904.20	6110.10	3.8913	32.7

Drill Stem Testing - Time / Pressure Listing

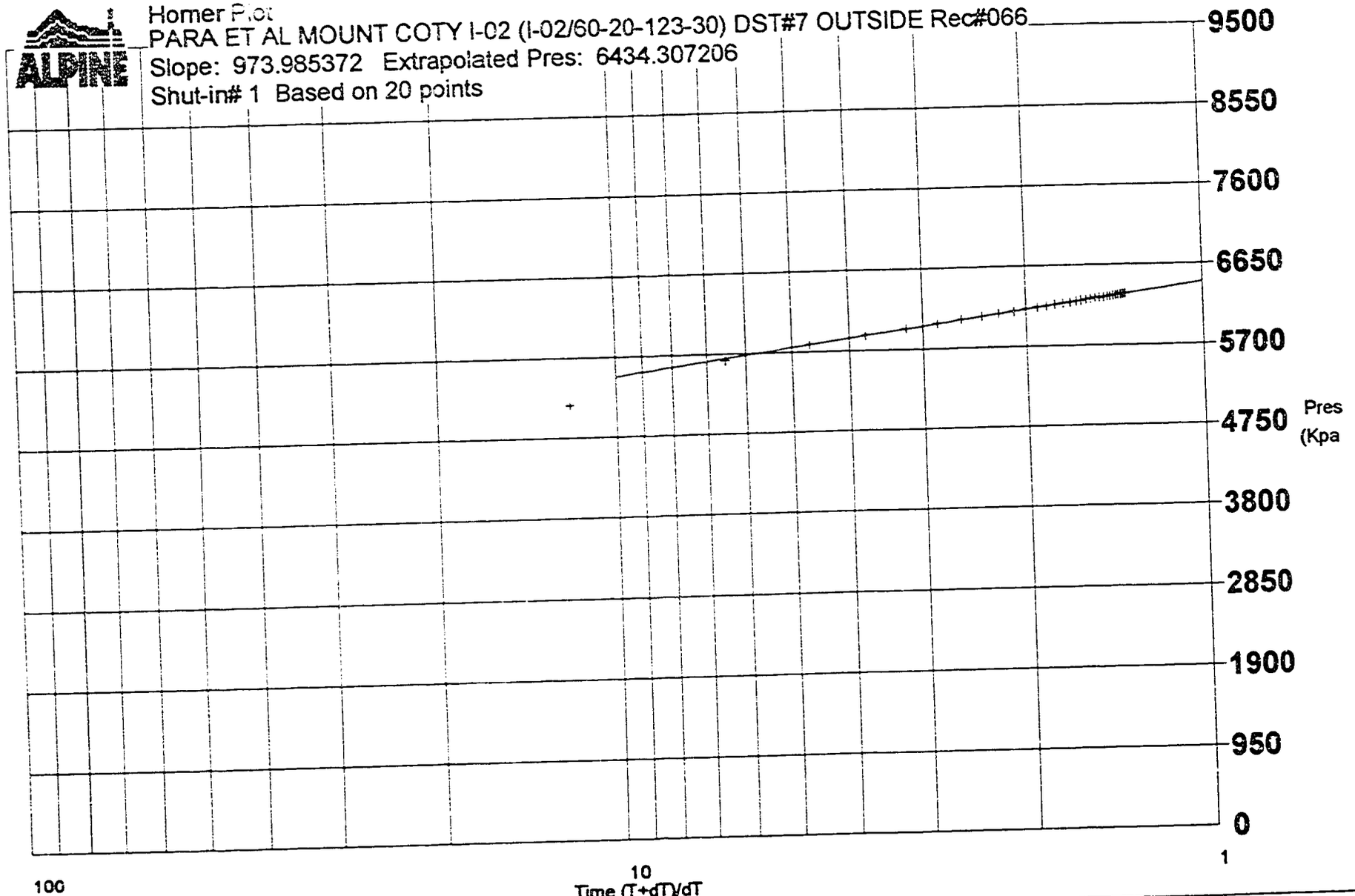
Company: PARAMOUNT RESOURCES LTD
4700, 888 3rd Street S.W.
CALGARY AB

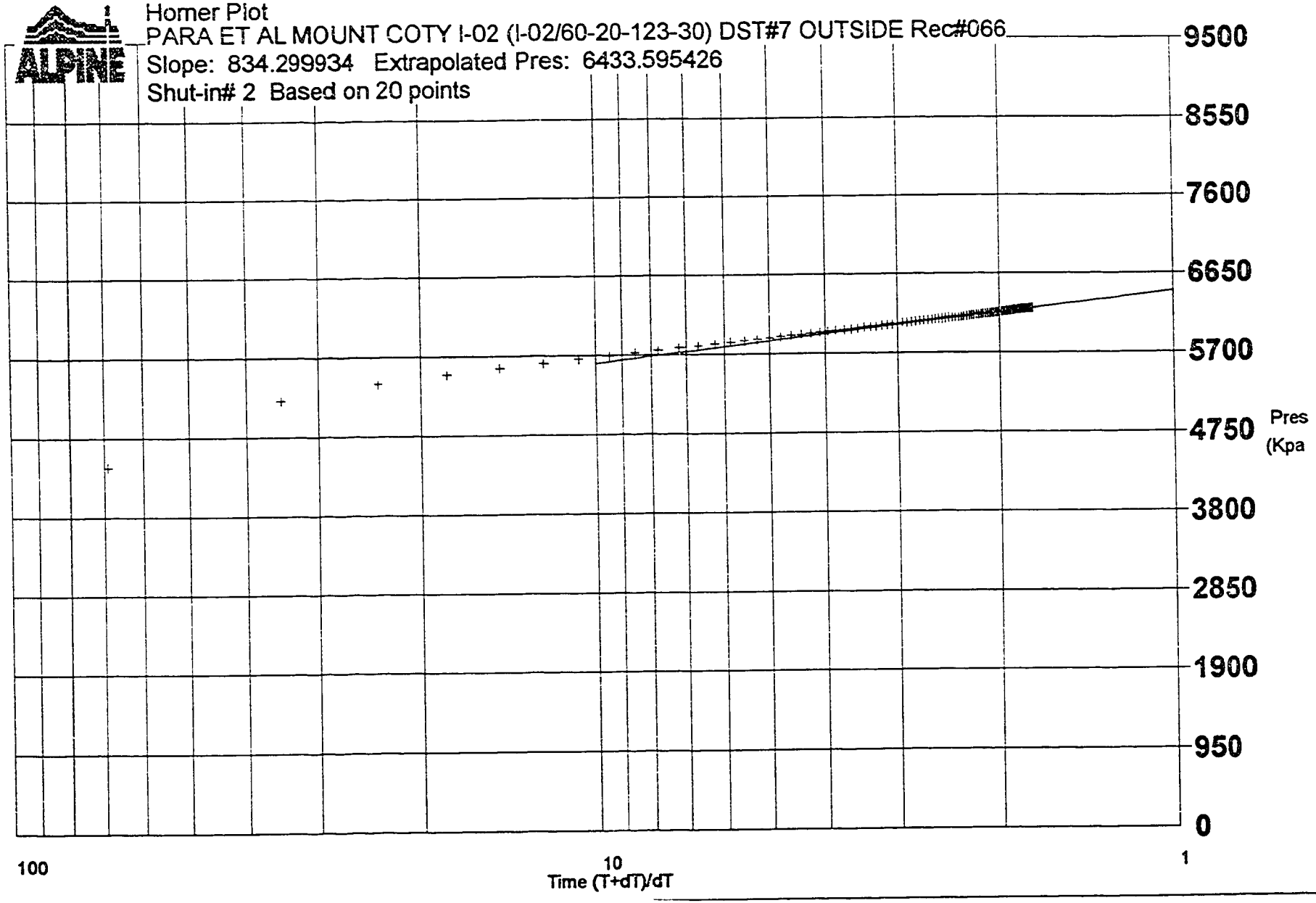
Contact: ALBERT CALLIOU

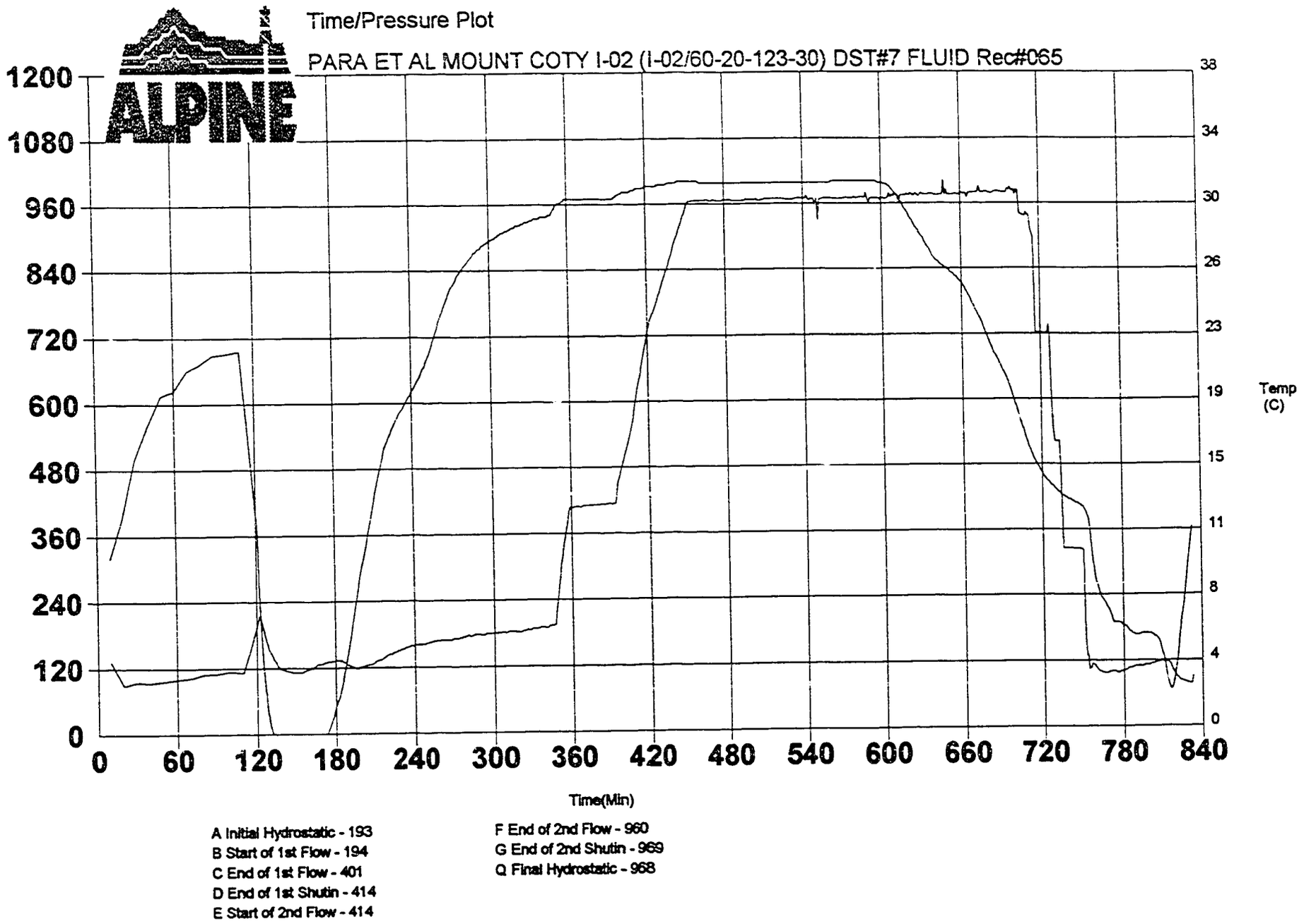
Job Ticket #: 03-26779 DST #: 7
Test Date: 10/02/2000 1030hrs

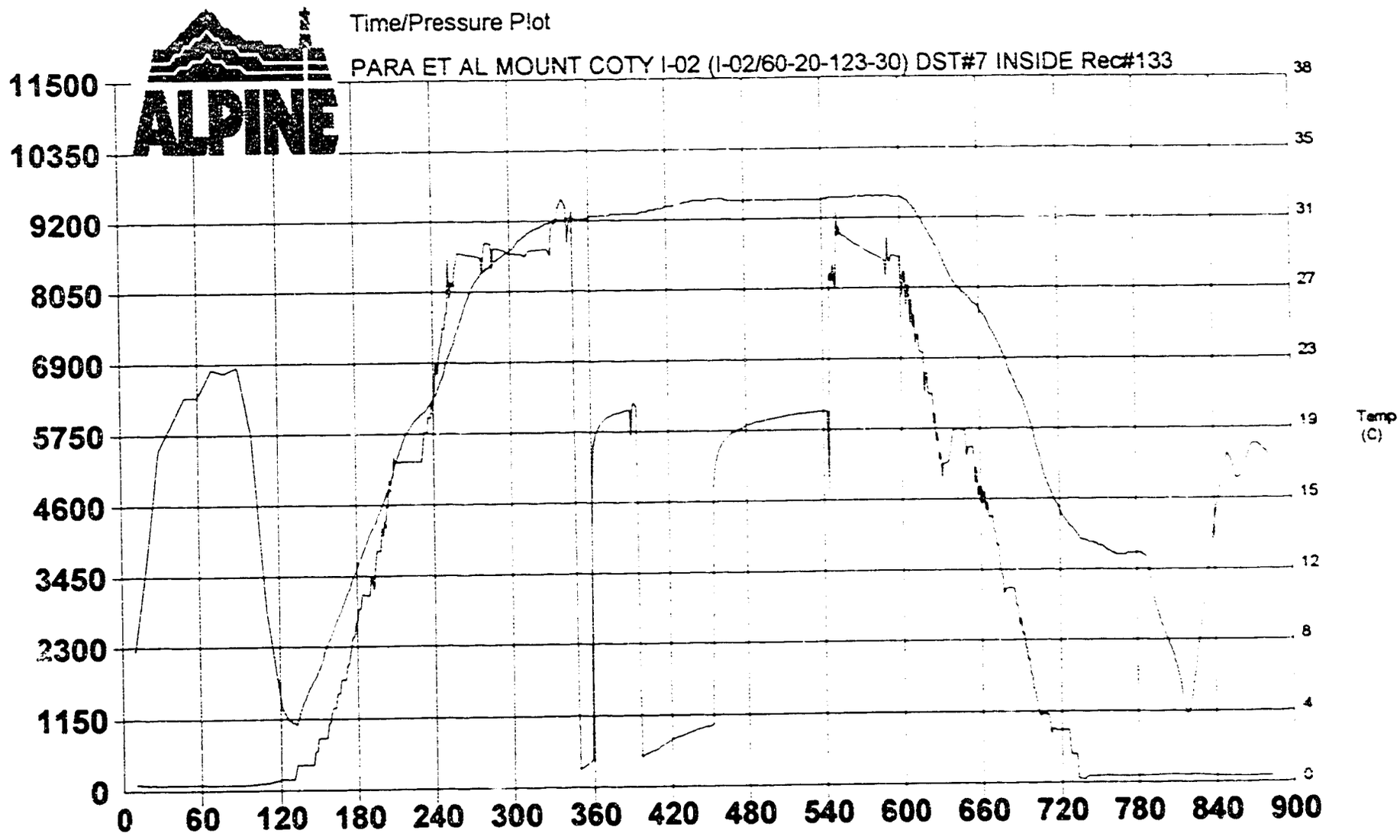
Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

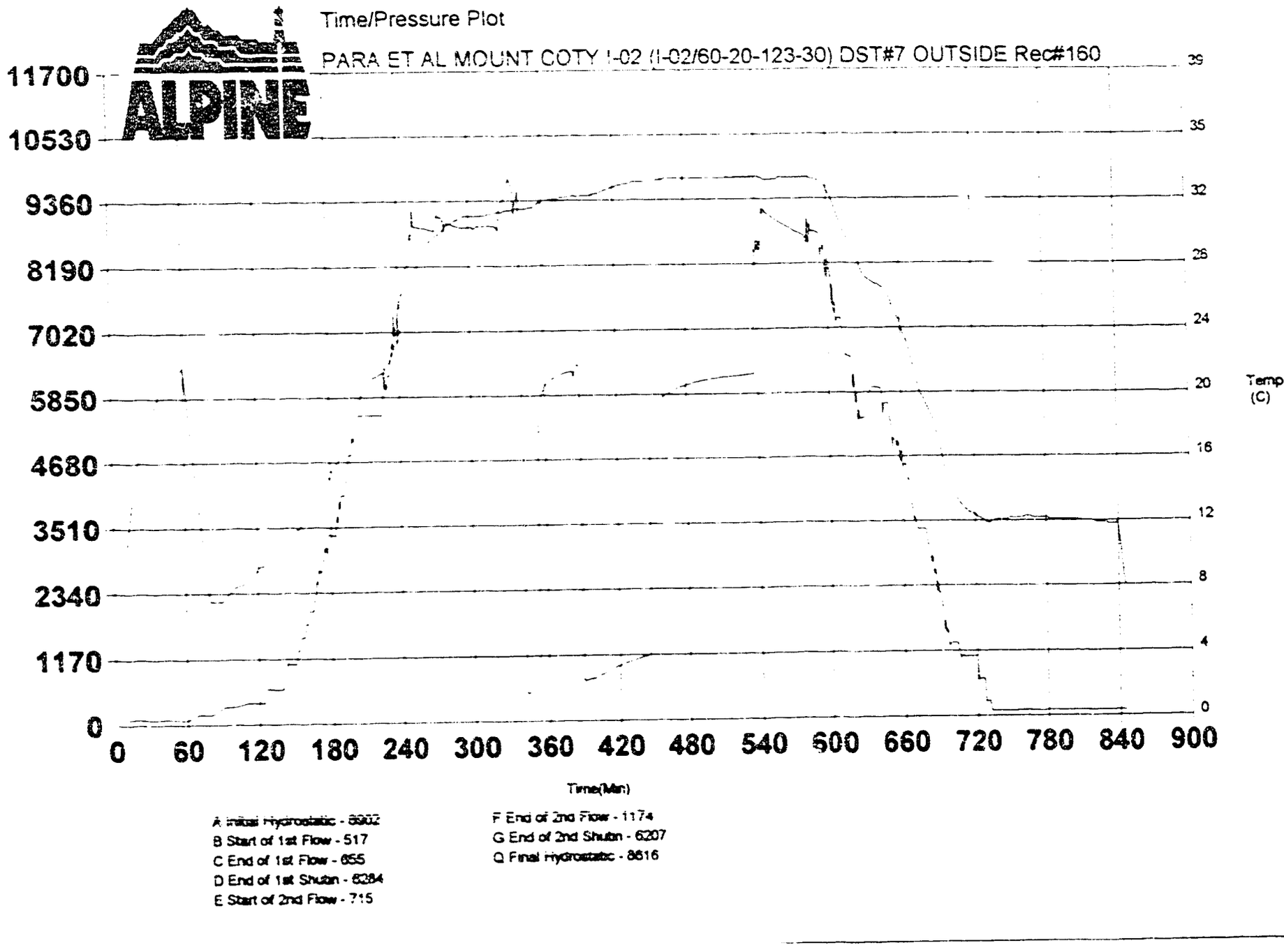
Chart Label	Comments	Time (Min)	Delta P (KPag)	Pressure (KPag)	Abscissa (T+dt)/dt	Temp (°C)
		47.00	4908.80	6114.70	2.44568	32.7
		48.00	4911.20	6116.80	2.41667	32.7
		49.00	4913.60	6121.80	2.38776	32.7
		50.00	4917.30	6125.90	2.35900	32.7
		51.00	4923.90	6129.60	2.33033	32.7
		52.00	4927.90	6133.80	2.30177	32.7
		53.00	4931.40	6137.30	2.27330	32.7
		54.00	4934.90	6140.80	2.24493	32.7
		55.00	4938.90	6144.80	2.21664	32.7
		56.00	4941.80	6147.70	2.18845	32.7
		57.00	4945.30	6151.20	2.16032	32.7
		58.00	4948.20	6154.10	2.13229	32.7
		59.00	4951.60	6157.50	2.10435	32.7
		50.00	4954.50	6160.40	2.07649	32.7
		61.00	4958.00	6163.90	2.04869	32.7
		62.00	4960.90	6166.80	2.02098	32.7
		63.00	4963.20	6169.10	1.99334	32.7
		64.00	4966.10	6172.00	1.96579	32.7
		65.00	4969.00	6174.90	1.93832	32.7
		66.00	4971.90	6177.80	1.91093	32.7
		67.00	4974.20	6180.10	1.88361	32.7
		68.00	4977.10	6183.00	1.85638	32.7
		69.00	4979.40	6185.30	1.82923	32.7
		70.00	4982.30	6188.20	1.80214	32.7
		71.00	4984.80	6190.50	1.77513	32.7
		72.00	4986.90	6192.80	1.74820	32.7
		73.00	4989.30	6195.20	1.72135	32.7
		74.00	4991.60	6197.50	1.69459	32.7
		75.00	4993.90	6199.80	1.66791	32.7
		76.00	4996.20	6202.10	1.64131	32.7
		77.00	4998.50	6204.40	1.61481	32.7
		78.00	5000.20	6206.10	1.58839	32.7
		79.00	5002.60	6208.50	1.56206	32.7
		80.00	5004.90	6210.80	1.53582	32.7
		81.00	5006.50	6212.50	1.50966	32.7
		82.00	5008.90	6214.80	1.48359	32.7
		83.00	5010.70	6216.60	1.45763	32.7
		84.00	5012.40	6218.30	1.43176	32.7
		85.00	5014.70	6220.60	1.40600	32.7
		86.00	5016.50	6222.40	1.38034	32.7
		87.00	5018.80	6224.70	1.35478	32.7
		88.00	5020.50	6226.40	1.32933	32.7
		89.00	5022.70	6228.60	1.30400	32.7
		90.00	5024.00	6229.90	1.27878	32.7
G	End of Dec Shutin	91.00	5026.70	6231.60	1.25368	32.7
C	Final Hydrostatic	0.00	0.00	8714.60		32.7

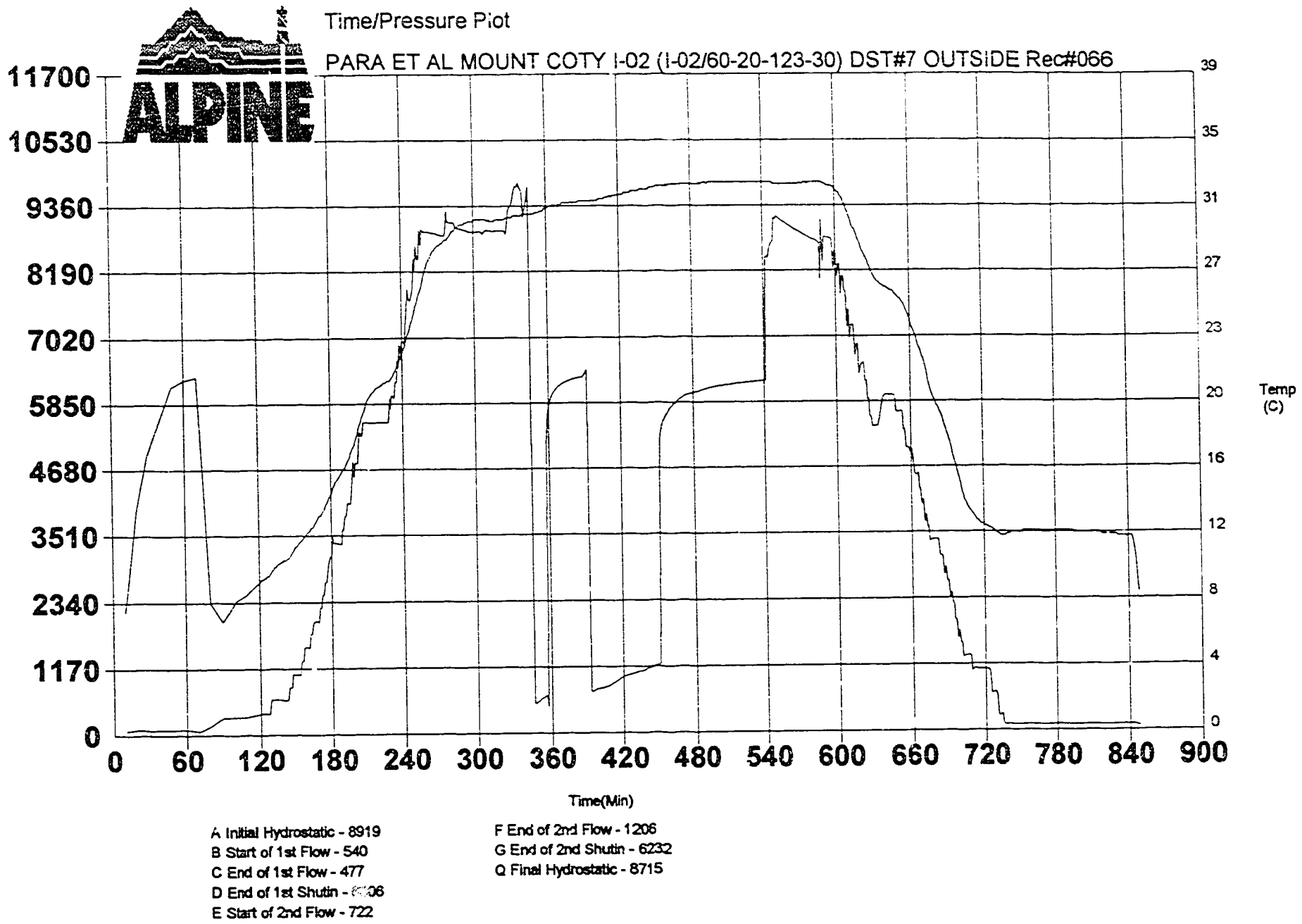

Homer Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 OUTSIDE Rec#066
Slope: 973.985372 Extrapolated Pres: 6434.307206
Shut-in# 1 Based on 20 points
9500
8550
7600
6650
5700
4750
3800
2850
1900
950
0
Pres (Kpa
100
10
1
Time (T+dT)/dT


Homer Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 OUTSIDE Rec#066
Slope: 834.299934 Extrapolated Pres: 6433.595426
Shut-in# 2 Based on 20 points
9500
8550
7600
6650
5700
4750
3800
2850
1900
950
0
Pres (Kpa
100
10
1
Time (T+dT)/dT


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 FLUID Rec#065
1200
1080
960
840
720
600
480
360
240
120
0
38
34
30
26
23
19
15
11
8
4
0
Temp (C)
0
60
120
180
240
300
360
420
480
540
600
660
720
780
840
Time(Min)
A Initial Hydrostatic - 193
B Start of 1st Flow - 194
C End of 1st Flow - 401
D End of 1st Shutin - 414
E Start of 2nd Flow - 414
F End of 2nd Flow - 960
G End of 2nd Shutin - 969
Q Final Hydrostatic - 968


Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 INSIDE Rec#133
11500
10350
9200
8050
6900
5750
4600
3450
2300
1150
0
38
35
31
27
23
19
15
12
8
4
0
Temp (C)
0
60
120
180
240
300
360
420
480
540
600
660
720
780
840
900
Time(Min)
A Initial Hydrostatic - 8724
B Start of 1st Flow - 277
C End of 1st Flow - 447
D End of 1st Shutin - 6107
E Start of 2nd Flow - 479
F End of 2nd Flow - 1002
G End of 2nd Shutin - 6059
Q Final Hydrostatic - 8684


ALPINE
Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 OUTSIDE Rec#160
11700
10530
9360
8190
7020
5850
4680
3510
2340
1170
0
0 60 120 180 240 300 360 420 480 540 600 660 720 780 840 900
Time(Min)
39
35
32
28
24
20
16
12
8
4
0
Temp (C)
A Initial Hydrostatic - 8902
B Start of 1st Flow - 517
C End of 1st Flow - 655
D End of 1st Shutin - 6284
E Start of 2nd Flow - 715
F End of 2nd Flow - 1174
G End of 2nd Shutin - 6207
Q Final Hydrostatic - 8616


Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 OUTSIDE Rec#066
11700
10530
9360
8190
7020
5850
4680
3510
2340
1170
0
39
35
31
27
23
20
16
12
8
4
0
Temp (C)
0 60 120 180 240 300 360 420 480 540 600 660 720 780 840 900
Time(Min)
A Initial Hydrostatic - 8919
B Start of 1st Flow - 540
C End of 1st Flow - 477
D End of 1st Shutin - 606
E Start of 2nd Flow - 722
F End of 2nd Flow - 1206
G End of 2nd Shutin - 6232
Q Final Hydrostatic - 8715



Real Time Test Report

Prepared for: PARAMOUNT RESOURCES
4700, 888 - 3rd Street S.W.
CALGARY, AB

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: 12/02/2000

Job Ticket #: T6191-7 DST#: 7

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 888 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: T6191-7 DST#: 7
Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

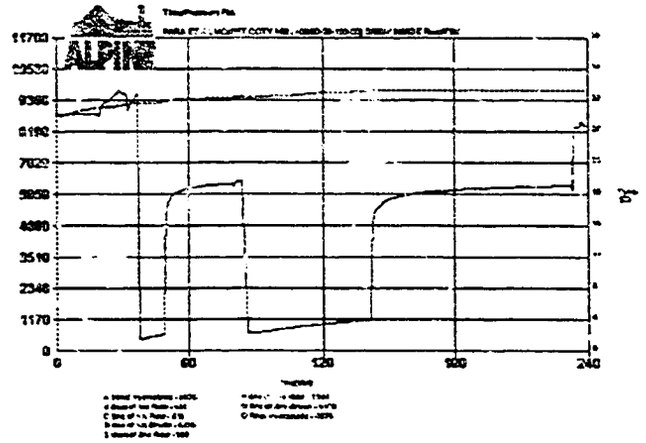
General Information:

Test Type:	INFLATE STRADDLE	Tester:	K. PEARSON
Interval:	708m -720m	Truck No.:	Unit 673
Formation:	CHINKEH	Contractor:	AKITA DRILLING
KB Elevation:	374.60m	Rig No.:	51
Ground Elevation:	369.10m	Hole Diameter:	222mm
Total Depth:	1744.00m	Hole Condition:	FAIR
Test Mode:	Fluid	Bottom Hole Temperature:	32.70 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 697.16 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	9375.7
B Start of 1st Flow	0.00	430.6
C End of 1st Flow	10.74	615.5
D End of 1st Shutin	31.32	6235.5
E Start of 2nd Flow	0.00	650.3
F End of 2nd Flow	55.68	1159.5
G End of 2nd Shutin	90.66	6179.4
Q Final Hydrostatic	0.00	8574.7



Test Run Information:

Start Time:	1030hrs
Reached Test Depth:	1330hrs
Pull Out Time:	1745hrs
Tool Out Of Hole:	2130hrs
Water Loss:	6.50cm³
Mud Drop:	NO
VIS:	64.00S/L
Filter Cake:	2.00mm
Pump Time:	30min
Reversed Out:	NO
Mud Type:	GEL CHEMICAL
Mud Weight:	1240.00kg/m³
Amount of fill:	0.00m
Amount of cushion:	0.00
Type of cushion:	

General Remarks:

Mechanically successful. *Test results suggest relatively high permeability within the zone tested.

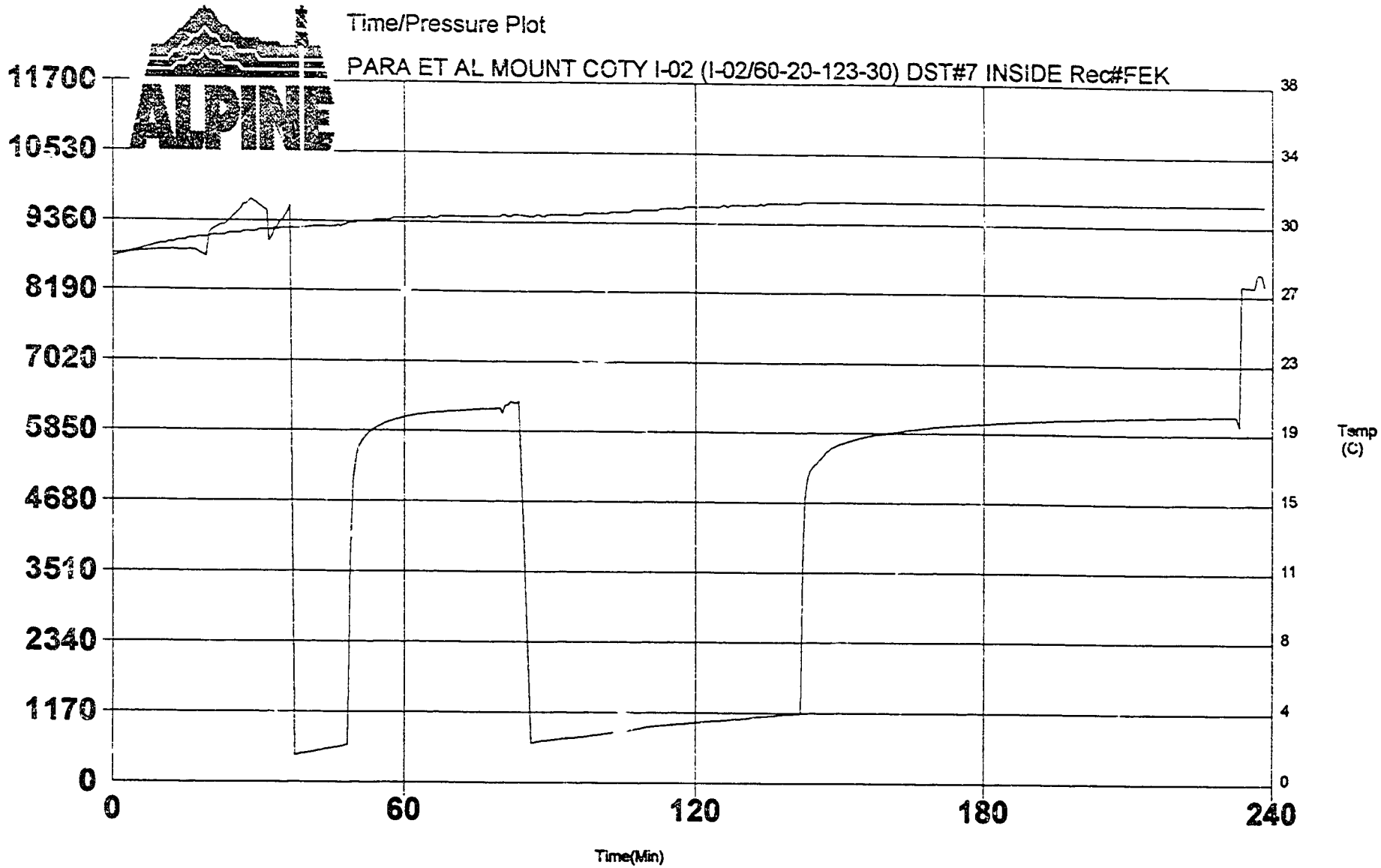
PREFLOW: Weak air blow throughout.

FINAL FLOW: Very weak air blow throughout.

Recovery Description:

Total fluid recovery was 75 meters fresh water.

No gas to surface.



A Initial Hydrostatic - 9376
B Start of 1st Flow - 431
C End of 1st Flow - 616
D End of 1st Shutin - 6236
E Start of 2nd Flow - 650
F End of 2nd Flow - 1160
G End of 2nd Shutin - 6179
Q Final Hydrostatic - 8575

GAS, WATER, OIL, HYDROCARBON ANALYSIS

AGAT Laboratories

GAS ANALYSIS

Container Identification	Laboratory Number
AGAT 21246	GE69349B

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
897.00-917.00		WELLHEAD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			800	800	1100
Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Mar 14, 2001	Mar 20, 2001	Apr 03, 2001	LQ

Other Information

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	0.0008	0.0009	
He	TRACE	TRACE	
N2	0.0475	0.0508	
CO2	0.0644	0.0000	
H2S	0.0000	0.0000	
C1	0.7941	0.8487	
C2	0.0363	0.0388	
C3	0.0321	0.0343	117.9
IC4	0.0042	0.0045	18.3
NC4	0.0137	0.0146	57.7
IC5	0.0027	0.0029	13.2
NC5	0.0027	0.0029	13.1
C6	0.0009	0.0010	4.9
C7+	0.0006	0.0006	3.7
Total	1.0000	1.0000	228.8

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
38.75	41.39

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.724	0.670

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4697	210.7	4512	204.3

RELATIVE MOLECULAR MASS

Total Gas	C_{7+}
22.0	100.2

VAPOUR PRESSURE	H_2S g/m³
[illegible]	0.00

AGAT Laboratories

GAS ANALYSIS

Container Identification	Laboratory Number
AGAT 19561	GE69349A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m 379.50 GRD m 367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point
897.00-917.00	WELLHEAD
mKB	

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			800	800	1200
Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Mar 14, 2001	Mar 20, 2001	Apr 03, 2001	LQ

Other Information

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	0.0010	0.0011	
He	TRACE	TRACE	
N2	0.0371	0.0396	
CO2	0.0638	0.0000	
H2S	0.0000	0.0000	
C1	0.7988	0.8532	
C2	0.0374	0.0399	
C3	0.0355	0.0379	130.4
IC4	0.0045	0.0048	19.6
NC4	0.0140	0.0150	58.9
IC5	0.0027	0.0029	13.2
NC5	0.0027	0.0029	13.1
C6	0.0014	0.0015	7.7
C7+	0.0011	0.0012	6.9
Total	1.0000	1.0000	249.8

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
39.60	42.28

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.727	0.673

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4704	212.5	4522	206.3

RELATIVE MOLECULAR MASS

Total Gas	C_7+
21.1	102.8

VAPOUR PRESSURE	H_2S g/m³
92.30 kPa	0.00

AGAT® Laboratories

GAS ANALYSIS

Container Identification	Laboratory Number
AGAT 19561	GE69349A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
897.00-917.00		WELLHEAD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			800	800	1200
Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Mar 14, 2001	Mar 20, 2001	Apr 03, 2001	LQ

Other Information

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	0.0010	0.0011	
He	TRACE	TRACE	
N2	0.0371	0.0396	
CO2	0.0638	0.0000	
H2S	0.0000	0.0000	
C1	0.7988	0.8532	
C2	0.0374	0.0399	
C3	0.0355	0.0379	130.4
IC4	0.0045	0.0048	19.6
NC4	0.0140	0.0150	58.9
IC5	0.0027	0.0029	13.2
NC5	0.0027	0.0029	13.1
C6	0.0014	0.0015	7.7
C7+	0.0011	0.0012	6.9
Total	1.0000	1.0000	249.8

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
39.60	42.28

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.727	0.673

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4704	212.5	4522	206.3

RELATIVE MOLECULAR MASS

Total Gas	C7+
21.1	102.8

VAPOUR PRESSURE	H_2S g/m³
92.30 kPa	0.00

AGAT Laboratories

GAS ANALYSIS

Container Identification	Laboratory Number
AGAT 21246	GE69349B

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m 379.50 GRD m 367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point
897.00-917.00 mKB	WELLHEAD

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			800	800	1100
Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Mar 14, 2001	Mar 20, 2001	Apr 03, 2001	LQ

Other Information

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	0.0008	0.0009	
He	TRACE	TRACE	
N2	0.0475	0.0508	
CO2	0.0644	0.0000	
H2S	0.0000	0.0000	
C1	0.7941	0.8487	
C2	0.0363	0.0388	
C3	0.0321	0.0343	117.9
IC4	0.0042	0.0045	18.3
NC4	0.0137	0.0146	57.7
IC5	0.0027	0.0029	13.2
NC5	0.0027	0.0029	13.1
C6	0.0009	0.0010	4.9
C7+	0.0006	0.0006	3.7
Total	1.0000	1.0000	228.8

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
38.75	41.39

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.724	0.670

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4697	210.7	4512	204.3

RELATIVE MOLECULAR MASS

Total Gas	C_{7+}
21.0	100.2

VAPOUR PRESSURE	H_2S g/m³
[illegible]	[illegible]

AGAT Laboratories

GAS ANALYSIS

Container Identification
AGAT 21771

Laboratory Number
GE60651A

Operator Name
PARAMOUNT RESOURCES LTD

Unique Well Identifier	Well Name	Elevation
NOT APPLICABLE	PARA et al MOUNT COTY I-02	KB m 372.95 GRD m

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	1	300/60 deg 20' LATITUDE 123 deg 30' LONGITUDE	WEATHERFORD

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1058.00-1068.00 mKB	NOT AVAILABLE	Pressure (kPa)			150C	1500	1700
		Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Nov 01, 2000	Nov 04, 2000	Nov 06, 2000	LQ

Other Information
SAMPLED @ 19:20 hrs TIGHT HOLE

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	TRACE	TRACE	
He	0.0002	0.0002	
N2	0.0042	0.0042	
CO2	0.0017	0.0000	
H2S	0.0000	0.0000	
C1	0.8805	0.8820	
C2	0.0620	0.0621	
C3	0.0340	0.0341	124.9
IC4	0.0034	0.0034	14.8
NC4	0.0092	0.0092	38.7
IC5	0.0017	0.0017	8.3
NC5	0.0020	0.0020	9.7
C6	0.0010	0.0010	5.5
C7+	0.0001	0.0001	0.6
Total	1.0000	1.0000	202.5

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
42.90	42.97

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.648	0.647

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4591	207.9	4586	207.8

RELATIVE MOLECULAR MASS

Total Gas	C_{7+}
18.8	100.2

VAPOUR PRESSURE (Pentanes +) [illegible] kPa

H_2S g/m³ 0.00

AGAT® Laboratories

GAS ANALYSIS

Container Identification: AGAT 470

Previous Number: GE60651C

Laboratory Number: GE60651B

Operator Name: PARAMOUNT RESOURCES LTD.

Unique Well Identifier: NOT APPLICABLE

Well Name: PARA et al MOUNT COTY I-02

Elevation: KB m 372.95 GRD m

Field or Area: MOUNT COTY

Pool or Zone: MATTSON

Sampler's Company: ALPINE

Test Type: DST

Test No.: 1

Test Recovery: 300/60 deg 20' LATITUDE 123 deg 30' LONGITUDE

Name of Sampler: WEATHERFORD

Test Interval or Perfs: 1058.00-1068.00 mKB

Sampling Point: BOTTOM HOLE SAMPLER

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					1500
Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Nov 01, 2000	Nov 04, 2000	Nov 05, 2000	LQ

Other Information: BHS #36 TIGHT HOLE

COMP	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	PETROLEUM LIQUID mL • m³
H2	TRACE	TRACE	
He	0.0002	0.0002	
N2	0.0032	0.0032	
CO2	0.0002	0.0000	
H2S	0.0000	0.0000	
C1	0.8820	0.8822	
C2	0.0634	0.0634	
C3	0.0337	0.0337	123.8
IC4	0.0033	0.0033	14.4
NC4	0.0092	0.0092	38.7
IC5	0.0016	0.0016	7.8
NC5	0.0019	0.0019	9.2
C6	0.0009	0.0009	4.9
C7+	0.0004	0.0004	2.5
Total	1.0000	1.0000	201.3

NOTE: The following are comparibly different than the most recent sample: C3

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
43.02	43.03

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.647	0.647

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4583	207.9	4583	207.9

RELATIVE MOLECULAR MASS

Total Gas	C_{7+}
18.7	100.2

VAPOUR PRESSURE (Pentanes +): 96.83 kPa

H_2S g/m³: 0.00

AGAT® Laboratories

GAS ANALYSIS

Container Identification
AGAT 30856

Laboratory Number
GE60651C

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
NOT APPLICABLE	PARA et al MOUNT COTY I-02	KB m 372.95 GRD m

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	1	300/30 deg 20' LATITUDE 123 deg 30' LONG[illegible]DE	WEATHERFORD

Test Interval or Perfs	Sampling Point		Source	Sampled	Received
1058.00-1068.00 mKB	BOTTOM HOLE SAMPLER	Pressure			1400
		Temperatur[illegible]			21

Date Sampled	Date Received	Date Reported	nalyst
Nov 01, 2000	Nov 04, 2000	Nov 06, 2000	LQ

Other Information
BHS #51 TIGHT HOLE

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	TRACE	TRACE	
He	0.0002	0.0002	
N2	0.0032	0.0032	
CO2	0.0001	0.0000	
H2S	0.0000	0.0000	
C1	0.8787	0.8788	
C2	0.0637	0.0637	
C3	0.0355	0.0355	130.4
IC4	0.0035	0.0035	15.3
NC4	0.0096	0.0096	40.4
IC5	0.0019	0.0019	9.3
NC5	0.0022	0.0022	10.6
C6	0.0009	0.0009	4.9
C7+	0.0005	0.0005	3.1
Total	1.0000	1.0000	214.0

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
43.28	43.28

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.651	0.651

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4586	208.6	4586	208.6

RELATIVE MOLECULAR MASS

Total Gas	C_7+
18.9	103.0

VAPOUR PRESSURE (Pentanes +)	H_2S g/m³
98.12 kPa	0.00

AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 6E	WF62728C	WF62805E

Operator Name: PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-02	PARA ET AL MOUNT COTY I-02	KB m 372.95 GRD m 367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1059.00-1067.00	FRAC MANIFOLD	Pressure (kPa)					
mKB		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 18, 2000	Dec 20, 2000	Dec 20, 2000	LN

Other Information: TIME: 11:00 HRS

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1716.0	0.305	74.6
K	108.0	0.019	2.8
Ca	25.7	0.005	0.7
Mg	11.8	0.002	0.5
Fe	26.1	0.005	0.5

Anions

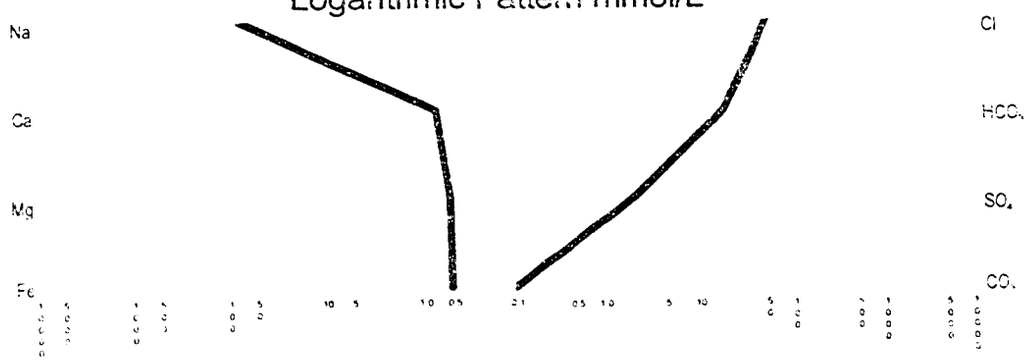
ION	mg/L	Mass Fraction	mmol/L
Cl	2233.0	0.397	63.
HCO_3	1302.9	0.232	21.4
SO_4	200.0	0.036	2.1
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	5624
Observed pH	7.75
H2S (25°C) mg/L	N.D.
Relative Density (25°C)	1.300
Resistivity / OHM-m (25°C)	1.320
Salinity %	3.40

Total Cations	80.6	Total Anions	88.5

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 7F	WF62728C	WF62805F

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
I-02	PARA ET AL MOUNT COTY I-02	KB m	372.95	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point		Separator	Reservoir	Source	Sampled	Received
1059.00-1067.00		FRAC MANIFOLD	Pressure (kPa)					
mKB			Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 18, 2000	Dec 20, 2000	Dec 20, 2000	LN

Other Information
TIME: 13:00 HRS

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	2332.0	0.322	101.4
K	112.0	0.015	2.9
Ca	30.9	0.004	0.8
Mg	11.7	0.002	0.5
Fe	9.4	0.001	0.2

Anions

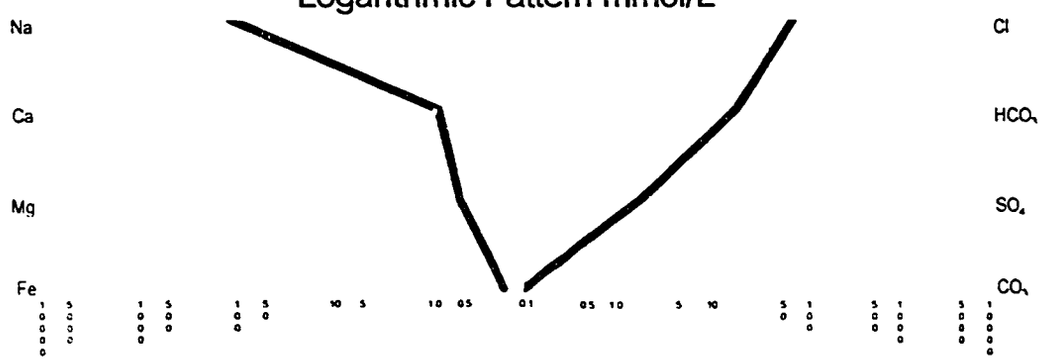
ION	mg/L	Mass Fraction	mmol/L
Cl	3226.0	0.445	91.0
HCO_3	1332.8	0.184	21.8
SO_4	188.0	0.026	2.0
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	7242
Observed pH	7.90
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.003
Resistivity / OHM-m (25°C)	0.971
Salinity %	0.58

Total Cations	107.1	Total Anions	116.8

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 1A	WF62728C	W62987A

Operator Name: PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-02	PARA ET AL MOUNT COTY I-02	KB m 372.95 GRD m 367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1059.00-1067.00	FRAC MANIFOLD	Pressure (kPa)					
mKB		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 19, 2000	Dec 22, 2000	Dec 22, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	3010.0	0.338	130.9
K	101.0	0.011	2.6
Ca	40.3	0.005	1.0
Mg	15.0	0.002	0.6
Fe	14.0	0.002	0.3

Anions

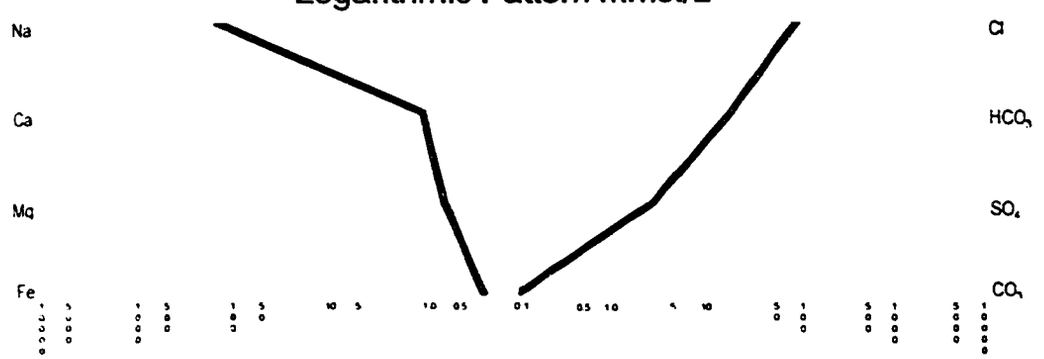
ION	mg/L	Mass Fraction	mmol/L
Cl	4094.0	0.460	115.5
HCO_3	1345.1	0.151	22.0
SO_4	289.5	0.032	3.0
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	8908
Observed pH	7.98
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.005
Resistivity / OHM-m (25°C)	0.816
Salinity %	0.74

Total Cations 137.3 **Total Anions** 143.5

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 2B	W62987A	W62987B

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
I-02	PARA ET AL MOUNT COTY I-02	KB m	372.95	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
1059.00-1067.00		FRAC MANIFOLD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 19, 2000	Dec 22, 2000	Dec 22, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	3000.0	0.340	130.5
K	98.0	0.011	2.5
Ca	39.8	0.005	1.0
Mg	14.6	0.002	0.6
Fe	13.2	0.001	0.2

Anions

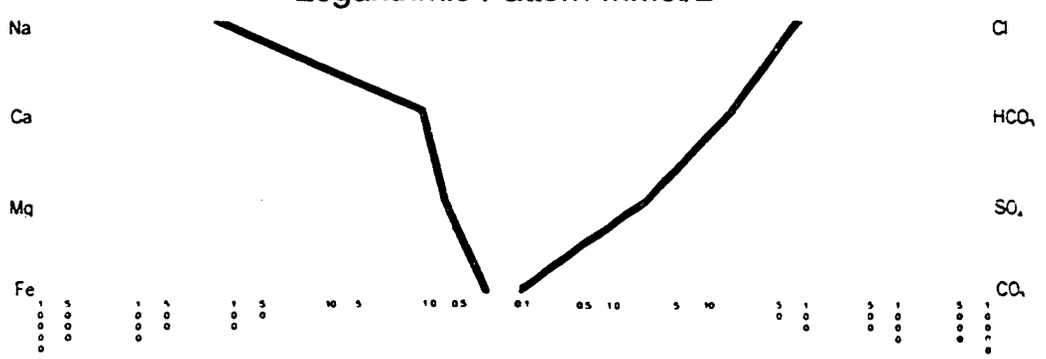
ION	mg/L	Mass Fraction	mmol/L
Cl	4094.0	0.464	115.5
HCO_3	1330.1	0.151	21.8
SO_4	230.5	0.026	2.4
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	8820
Observed pH	8.08
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.005
Resistivity / OHM-m (25°C)	0.829
Salinity %	0.74

Total Cations 136.7 **Total Anions** 142.1

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 6F	W62987A	WG63334F

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-02	PARA ET AL FT. LIARD	KB m / GRD m

Field or Area	Pool or Zone	Sampler's Company
FT. LIARD	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
	FRAC MANIFOLD	Pressure (kPa)					
		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 31, 2000	Jan 04, 2001	Jan 11, 2001	LN

Other Information
FLUID; 1060m

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1582.0	0.300	68.8
K	89.0	0.017	2.3
Ca	70.0	0.013	1.7
Mg	33.0	0.006	1.4
Fe	8.8	0.002	0.2

Anions

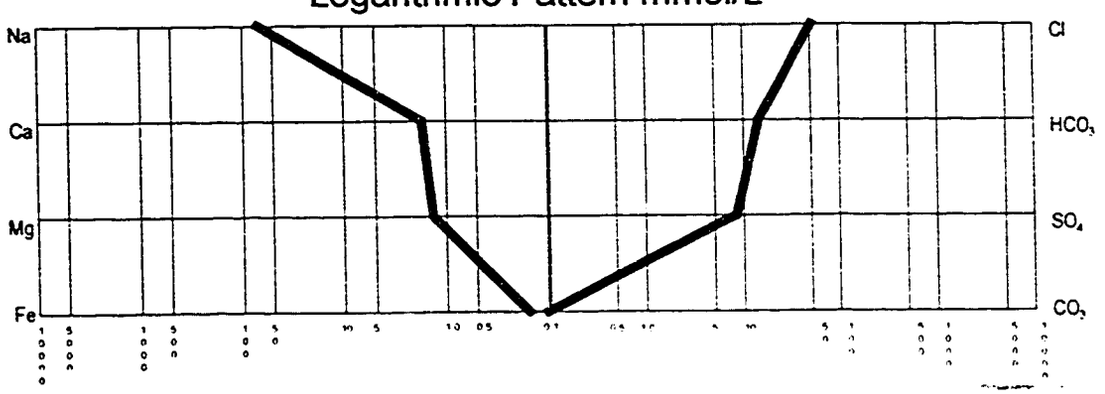
ION	mg/L	Mass Fraction	mmol/L
Cl	1807.0	0.342	51.0
HCO_3	881.8	0.167	14.5
SO_4	805.0	0.153	8.4
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	5276
Observed pH	8.08
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.006
Resistivity / OHM-m (25°C)	1.420
Salinity %	0.32

Total Cations	77.6	Total Anions	82.2

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 7G	W62987A	WG63334G

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-02	PARA ET AL FT. LIARD	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
FT. LIARD	MATTSON SAND	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
	FRAC MANIFOLD	Pressure (kPa)					
		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 31, 2000	Jan 04, 2001	Jan 11, 2001	LN

Other Information
FLUID; 1500m

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	282.0	0.146	12.3
K	24.0	0.012	0.6
Ca	131.0	0.068	3.3
Mg	64.0	0.033	2.6
Fe	Trace	Trace	Trace

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	15.0	0.008	0.4
HCO_3	59.8	0.031	1.0
SO_4	1355.0	0.702	14.1
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

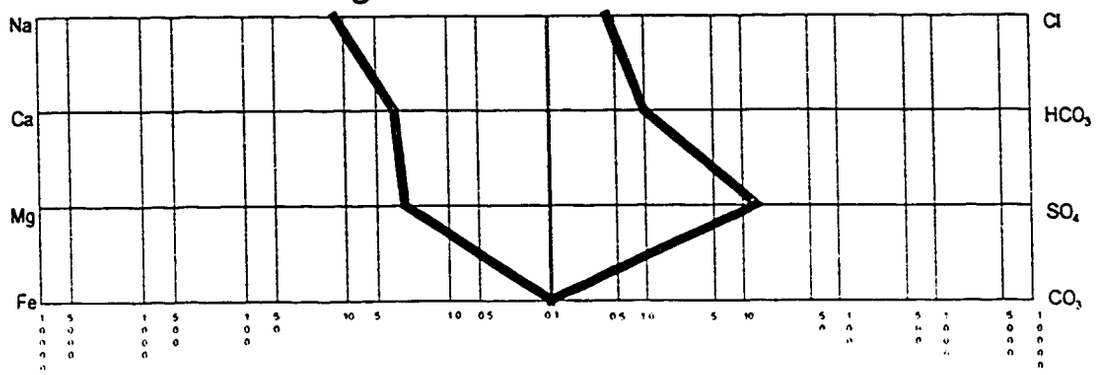
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	1930
Observed pH	7.43
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.005
Resistivity / OHM-m (25°C)	5.180
Salinity %	0.00

Total Cations 24.7 **Total Anions** 29.6

The ionic balance for this water exceeds 10%. The imbalance is caused by cations not analyzed for in the routine analysis.

Logarithmic Pattern mmol/L



AGAT Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 2A	WE69349B	WE69349A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
I-02	PARA ET AL MOUNT COTY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
897.00-917.00		FRAC MANIFOLD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 14, 2001	Mar 20, 2001	Mar 30, 2001	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	753.0	0.239	32.8
K	39.5	0.013	1.0
Ca	30.0	0.010	0.7
Mg	35.3	0.011	1.5
Fe	0.9	Trace	Trace

Anions

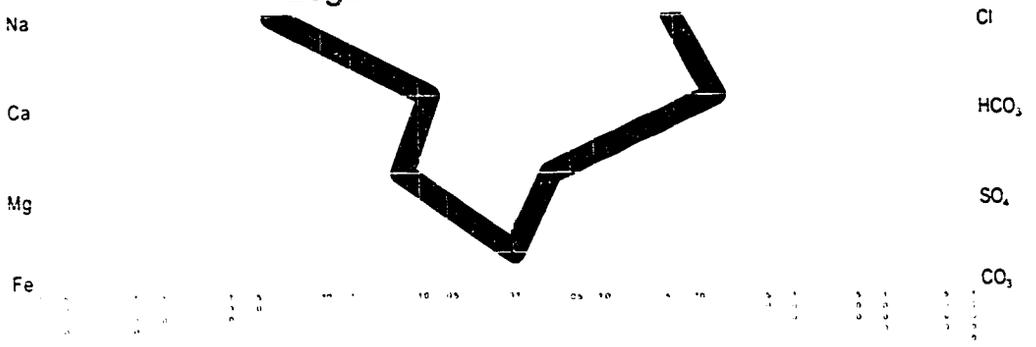
ION	mg/L	Mass Fraction	mmol/L
Cl	329.0	0.104	9.3
HCO_3	1936.8	0.614	31.7
SO_4	28.8	0.009	0.3
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	3153
Observed pH	8.29
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.002
Resistivity / OHM•m (25°C)	2.900
Salinity %	0.06

Total Cations 38.2 **Total Anions** 41.6

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 3B	WE69349A	WE69349B

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
I-02	PARA ET AL MOUNT COTY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point		Separator	Reservoir	Source	Sampled	Received
897.00-917.00		FRAC MANIFOLD	Pressure (kPa)					
mKB			Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 13, 2001	Mar 20, 2001	Mar 30, 2001	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	769.0	0.223	33.4
K	207.0	0.060	5.3
Ca	31.1	0.009	0.8
Mg	34.8	0.010	1.4
Fe	Trace	Trace	Trace

Anions

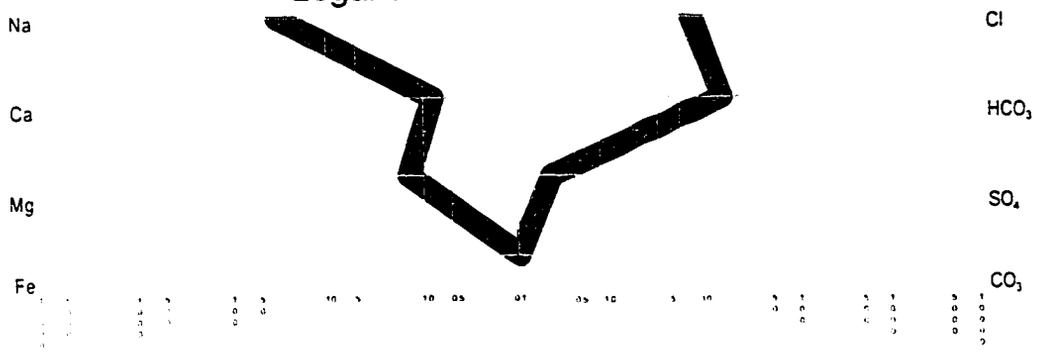
ION	mg/L	Mass Fraction	mmol/L
Cl	470.0	0.137	13.3
HCO_3	1906.3	0.554	31.2
SO_4	24.4	0.007	0.3
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	3442
Observed pH	8.27
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.003
Resistivity / OHM•m (25°C)	2.420
Salinity %	0.08

Total Cations 43.2 **Total Anions** 45.0

Logarithmic Pattern mmol/L



AGAT Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 4C	WE69349A	WE69349C

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-02	PARA ET AL MOUNT COTY I-02	KB m 379.50 GRD m 367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
897.00-917.00	FRAC MANIFOLD	Pressure (kPa)					
mKB		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 13, 2001	Mar 20, 2001	Mar 30, 2001	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	724.0	0.059	31.5
K	4710.0	0.381	120.5
Ca	105.0	0.008	2.6
Mg	28.9	0.002	1.2
Fe	3.6	Trace	0.1

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	4749.0	0.384	134.0
HCO_3	2028.3	0.164	33.2
SO_4	16.4	0.001	0.2
CO_3	Nil	Nil	Nil
OH	Nil	Nil	Nil

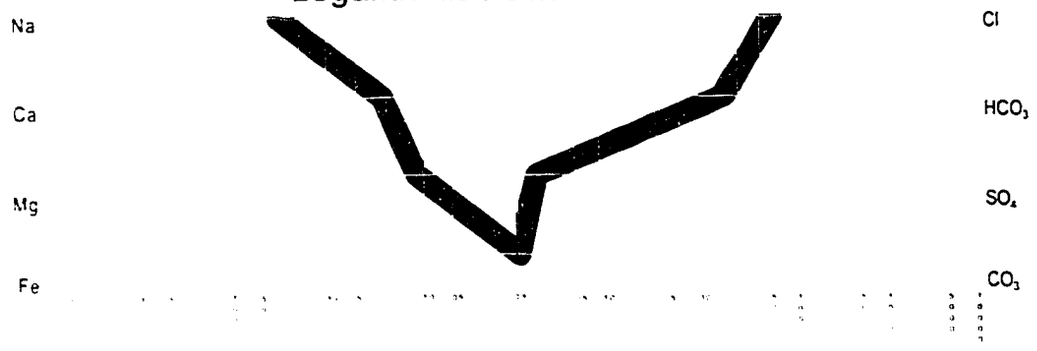
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	12365
Observed pH	8.20
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.004
Resistivity / OHM-m (25°C)	0.552
Salinity %	0.85

Total Cations 159.7

Total Anions 167.5

Logarithmic Pattern mmol/L



NOV 14 2000

AGAT® Laboratories

WATER ANALYSIS

Container Identification
PB 1A

Laboratory Number
WE60651A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-02/60-20-123-30	PARA ET AL MOUNT COTY I-02/60-20-123-30	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	SAME

Test Type	Test No.	Test Recovery	Name of Sampler
DST	1		

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1058.00-1068.00	MUD TANK	Pressure (kPa)					
mKB		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 01, 2000	Nov 04, 2000	Nov 06, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1660.0	0.304	72.2
K	18.4	0.003	0.5
Ca	8.7	0.002	0.2
Mg	3.6	0.001	0.1
Fe	1.1	Trace	Trace

Anions

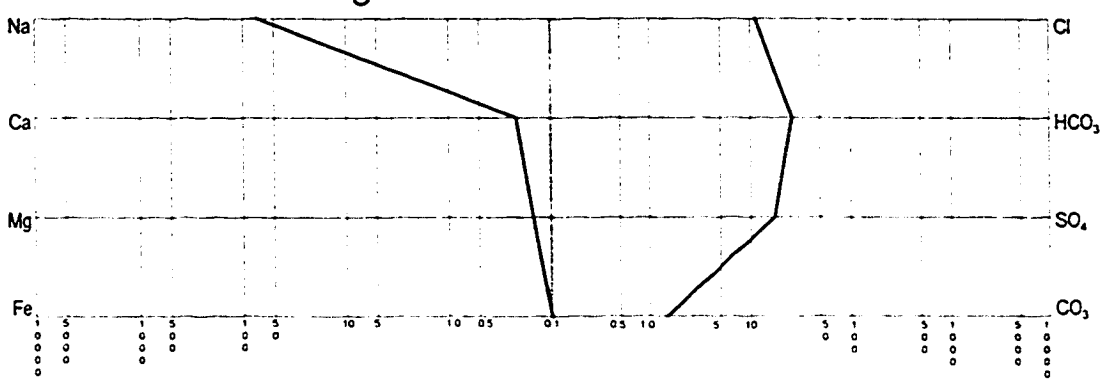
ION	mg/L	Mass Fraction	mmol/L
Cl	402.0	0.074	11.3
HCO_3	1602.4	0.293	26.3
SO_4	1682.0	0.308	17.5
CO_3	88.4	0.016	1.5
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Mud Filtrate Loss mL	5.00
Total Dissolved Solids (Calculated) mg/L	5466
Observed pH	8.94
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.012
Resistivity / OHM-m (25°C)	1.470
Salinity %	0.07

Total Cations 73.4 **Total Anions** 74.1

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification
PB 2B

Laboratory Number
WE60651B

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-02/60-20-123-30	PARA ET AL MOUNT COTY I-02/60-20-123-30	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	SAME

Test Type	Test No.	Test Recovery	Name of Sampler
DST	1	SP: START OF REVERSE CIRC.	

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1058.00-1068.00	REVERSE CIRCULATION	Pressure (kPa)					
mKB		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 01, 2000	Nov 04, 2000	Nov 06, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1630.0	0.300	70.9
K	18.5	0.003	0.5
Ca	9.2	0.002	0.2
Mg	3.7	0.001	0.2
Fe	1.1	Trace	Trace

Anions

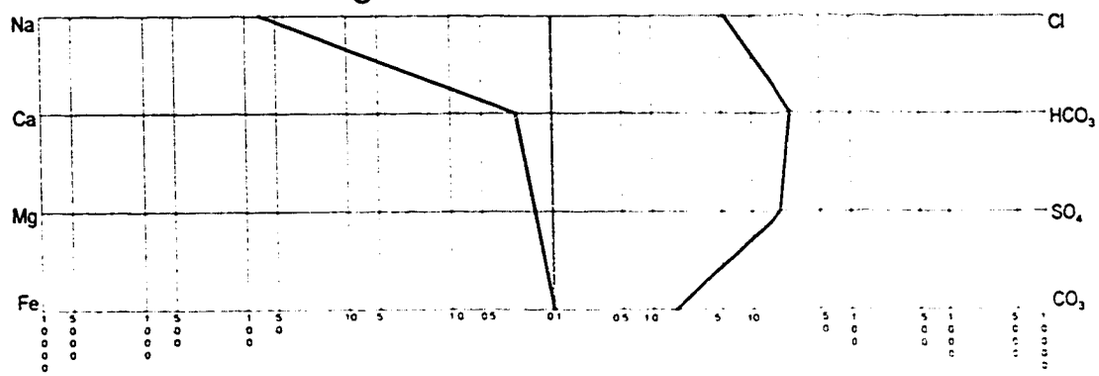
ION	mg/L	Mass Fraction	mmol/L
Cl	194.0	0.036	5.5
HCO_3	1572.4	0.289	25.8
SO_4	1908.0	0.351	19.9
CO_3	103.1	0.019	1.7
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Mud Filtrate Loss mL	5.00
Total Dissolved Solids (Calculated) mg/L	5440
Observed pH	8.86
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.020
Resistivity / OHM•m (25°C)	1.460
Salinity %	0.03

Total Cations 72.1 **Total Anions** 72.7

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 4D	WE60651F	WE60651D

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
I-02/60-20-123-30	PARA ET AL MOUNT COTY I-02/60-20-123-30	KB m GRD m

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	SAME

Test Type	Test No.	Test Recovery	Name of Sampler
DST	1		

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1058.00-1068.00	REVERSED OUT	Pressure (kPa)					
mKB		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 01, 2000	Nov 04, 2000	Nov 06, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1660.0	0.306	72.2
K	17.4	0.003	0.4
Ca	10.9	0.002	0.3
Mg	4.1	0.001	0.2
Fe	0.8	Trace	Trace

Anions

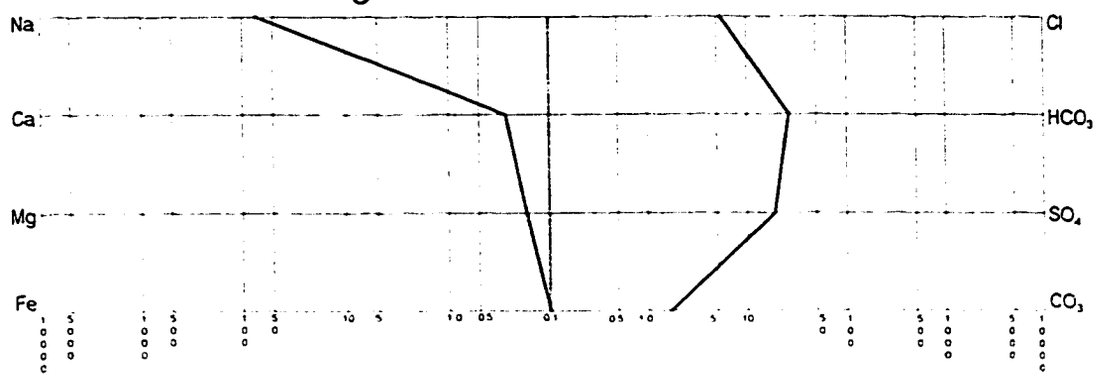
ION	mg/L	Mass Fraction	mmol/L
Cl	194.0	0.036	5.5
HCO_3	1617.4	0.298	26.5
SO_4	1826.0	0.336	19.0
CO_3	103.1	0.019	1.7
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Mud Filtrate Loss mL	5.00
Total Dissolved Solids (Calculated) mg/L	5433
Observed pH	8.84
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.025
Resistivity / OHM-m (25°C)	1.460
Salinity %	0.03

Total Cations	73.5	Total Anions	71.7

Logarithmic Pattern mmol/L



AGAT® Laboratories

WEB COPY

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 6F	WE60651D	WE60651F

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation KB m	Elevation GRD m
I-02/60-20-123-30	PARA ET AL MOUNT COTY I-02/60-20-123-30		

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	SAME

Test Type	Test No.	Test Recovery	Name of Sampler
DST	1		

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1058.00-1068.00	REVERSED OUT	Pressure (kPa)					
mKB		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 01, 2000	Nov 04, 2000	Nov 06, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1610.0	0.297	70.0
K	16.1	0.003	0.4
Ca	9.8	0.002	0.2
Mg	3.7	0.001	0.2
Fe	1.2	Trace	Trace

Anions

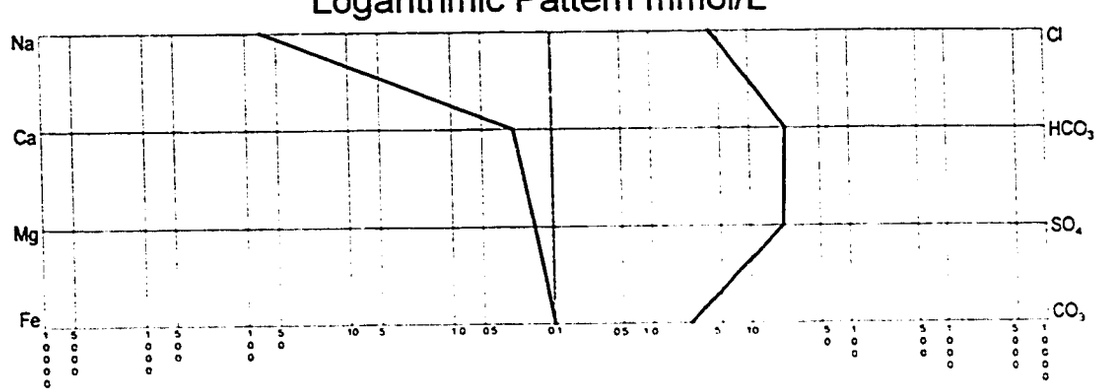
ION	mg/L	Mass Fraction	mmol/L
Cl	146.0	0.027	4.1
HCO_3	1407.7	0.260	23.1
SO_4	2080.0	0.384	21.7
CO_3	147.3	0.027	2.5
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Mud Filtrate Loss mL	4.95
Total Dissolved Solids (Calculated) mg/L	5421
Observed pH	9.07
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.016
Resistivity / OHM-m (25°C)	1.510
Salinity %	0.03

Total Cations	71.2	Total Anions	72.9

Logarithmic Pattern mmol/L



AGAT® Laboratories

OIL ANALYSIS

Container Identification	Laboratory Number
PB-1	OE69349A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
897.00-917.00		FRAC MANIFOLD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 13, 2001	Mar 20, 2001	Mar 05, 2001	H.H.D

Other Information

Sample Properties

Colour of Clean Oil	Colour Number ASTM D-1500
Dk. Brown	D-8 A.S.T.M.

B.S.& W. (Volume Fraction)

Water	Sediment	Total
Trace	Trace	Trace

Free Sediment
3 vol%

API Gravity @ 15°C
25.36

Density - After Cleaning

Relative	Absolute kg/m³
0.9021	901.3

Total Sulphur Mass Fraction	Pour Point / °C (A.S.T.M. D-97)
0.00543	-27

Viscosity

Temp °C	Absolute mPa*s	Kinematic mm²*s-1
20	76.35	85.00
30	36.58	41.00
40	19.59	22.10

Distillation

Volume Fraction	Temp / °C
0.05	71.9
0.10	92.2
0.15	104.3
0.20	124.5
0.25	143.8
0.30	159.9
0.35	177.1
0.40	203.4
0.45	228.7
0.50	251.0
0.55	269.2
0.60	296.5
0.65	316.7
0.70	337.0
0.75	366.3
F.B.P.	368.3

Method
A.S.T.M. -D86*

Initial Boiling Point
46.6

Absolute Barometric Pressure (kPa)
88.5

Room Temp (°C)
21.0

Characterization Factor
11.7

200 °C Naphtha	275 °C Kerosene	350 °C Light Gas Oil
0.39	0.56	0.72

Recovered	Residue	Distillation Loss
0.78	0.19	0.03

Remarks:

BS&W performed on oil portion only. The distillation temperatures have been corrected to 101.3 kPa (abs).

AGAT Laboratories

OIL ANALYSIS

Container Identification	Laboratory Number
PB-1	OE69349A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
897.00-917.00		FRAC MANIFOLD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 13, 2001	Mar 20, 2001	Mar 05, 2001	H,H,D

Other Information

Sample Properties

Colour of Clean Oil	Colour Number ASTM D-1500
Dk Brown	D-8 A.S.T.M.

B.S.& W. (Volume Fraction)

Water	Sediment	Total
Trace	Trace	Trace

Free Sediment
3 vol%

API Gravity @ 15°C
25.36

Density - After Cleaning

Relative	Absolute kg/m³
0.9021	901.3

Total Sulphur Mass Fraction	Pour Point / °C (A.S.T.M. D-97)
0.00543	-27

Viscosity

Temp °C	Absolute mPa*s	Kinematic mm²*s-¹
20	76.35	85.00
30	36.58	41.00
40	19.59	22.10

Distillation

Volume Fraction	Temp / °C
0.05	71.9
0.10	92.2
0.15	104.3
0.20	124.5
0.25	143.8
0.30	159.9
0.35	177.1
0.40	203.4
0.45	228.7
0.50	251.0
0.55	269.2
0.60	296.5
0.65	316.7
0.70	337.0
0.75	366.3
F.B.P.	368.3

Method
A.S.T.M. -D86*

Initial Boiling Point
46.6

Absolute Barometric Pressure (kPa)
88.5

Room Temp (°C)
21.0

Characterization Factor
11.7

200 °C Naphtha	275 °C Kerosene	350 °C Light Gas Oil
0.39	0.56	0.72

Recovered	Residue	Distillation Loss
0.78	0.19	0.03

Remarks:

BS&W performed on oil portion only. The distillation temperatures have been corrected to 101.3 kPa (abs).

COPY

DEC 19 2000 Paul F

AGAT® Laboratories

HYDROCARBON LIQUID ANALYSIS

Laboratory Number: CE62245A

Container Identification: PB#1

Operator Name: PARAMOUNT RESOURCES LTD.

Unique Well Identifier: Not Available

Well Name: PARA et al MOUNT COTY 1-02

Elevation: KB m 374.60 GRD m 369.10

Field or Area: MOUNT COTY

Pool or Zone: DEBOLT

Sampler's Company: ALPINE

Name of Sampler:

Test Type	Test No.
DST	3

Test Recovery: 60 deg 20' Latitude 123 deg 30' Longitude

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1709.00-1727.00 mKB	BOTTOM HOLE SAMPLER	Pressure (kPa)					
		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 28, 2000	Dec 07, 2000	Dec 13, 2000	KK

Other Information:

COMP.	MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
N2	0.0000	0.0000	0.0000
CO2	0.0000	0.0000	0.0000
H2S	0.0000	0.0000	0.0000
C1	0.0000	0.0000	0.0000
C2	0.0055	0.0008	0.0019
C3	0.0081	0.0018	0.0029
IC4	0.0108	0.0031	0.0046
NC4	0.0072	0.0021	0.0030
IC5	0.0088	0.0032	0.0042
NC5	0.0109	0.0039	0.0051
C6	0.0342	0.0146	0.0181
C7+	0.9145	0.9705	0.9602
TOTAL	1.0000	1.0000	1.0000

Observed Properties of C7+ Residue (15/15° C)

Density	*Relative Density*	*API @ 15°*
838.8 kg/m³	0.8396	37.0

Relative Molecular Mass: 212.5

Calculated Properties of Total Sample (15/15° C)

Density	*Relative Density*	*API @ 15°*
829.8 kg/m³	0.8305	38.9

Relative Molecular Mass: 200.2

Calculations for C6 and C7 are based on Boiling Point Grouping. If Carbon Number Grouping had been done, the mole fractions would be (C6: 0.1312) (C7+:0.8175)

Note: Sampling Point, Unique Well Identifier and/or Pool or Zone information was unavailable at time of reporting. This information is integral to AGAT's WinFLUID, a comparison, history and trending analysis system.

AGAT® Laboratories

PROPERTIES OF C6+ FRACTION

File No.	Company	Well No.
CE62245A	PARAMOUNT RESOURCES LTD.	Not Available

BOILING POINT RANGE (C)	COMPONENT		MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
36.1 - 68.9	HEXANES	C6	0.0321	0.0138	0.0173
68.9 - 98.3	HEPTANES	C7	0.0649	0.0452	0.0499
98.3 - 125.6	OCTANES	C8	0.0864	0.0686	0.0737
125.6 - 150.6	NONANES	C9	0.0660	0.0588	0.0618
150.6 - 173.9	DECANES	C10	0.0673	0.0666	0.0689
173.9 - 196.1	UNDECANES	C11	0.0463	0.0503	0.0515
196.1 - 215.0	DODECANES	C12	0.0354	0.0419	0.0423
215.0 - 235.0	TRIDECANES	C13	0.0425	0.0545	0.0546
235.0 - 252.2	TETRADECANES	C14	0.0433	0.0597	0.0592
252.2 - 270.6	PENTADECANES	C15	0.0344	0.0508	0.0500
270.6 - 287.8	HEXADECANES	C16	0.0180	0.0283	0.0277
287.8 - 302.8	HEPTADECANES	C17	0.0188	0.0315	0.0306
302.8 - 317.2	OCTADECANES	C18	0.0126	0.0223	0.0216
317.2 - 330.0	NONADECANES	C19	0.0092	0.0172	0.0166
330.0 - 344.4	EICOSANES	C20	0.0085	0.0167	0.0160
344.4 - 357.2	HENEICOSANES	C21	0.0075	0.0155	0.0148
357.2 - 369.4	DOCOSANES	C22	0.0053	0.0114	0.0109
369.4 - 380.0	TRICOSANES	C23	0.0041	0.0093	0.0088
380.0 - 391.1	TETRACOSANES	C24	0.0040	0.0093	0.0088
391.1 - 401.7	PENTACOSANES	C25	0.0044	0.0107	0.0101
401.7 - 412.2	HEXACOSANES	C26	0.0043	0.0109	0.0103
412.2 - 422.2	HEPTACOSANES	C27	0.0043	0.0114	0.0107
422.2 - 431.7	OCTACOSANES	C28	0.0040	0.0110	0.0103
431.7 - 441.1	NONACOSANES	C29	0.0038	0.0108	0.0101
441.1 - PLUS	TRIACONTANES PLUS	C30+	0.0211	0.0619	0.0578

BOILING POINT RANGE (C)	AROMATICS		MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
80.0	BENZENE	C6	0.0081	0.0044	0.0038
110.6	TOLUENE	C7	0.0531	0.0340	0.0298
136.2	ETHYLBENZENE	C8	0.0064	0.0047	0.0041
138.4 - 144.4	XYLENES	C8	0.0435	0.0321	0.0279
168.9	1,2,4 TRIMETHYLBENZENE	C9	0.0114	0.0095	0.0083

BOILING POINT RANGE (C)	NAPHTHENES		MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
48.9	CYCLOPENTANE	CC5	0.0021	0.0008	0.0008
72.2	METHYLCYCLOPENTANE	MCC5	0.0260	0.0152	0.0152
81.1	CYCLOHEXANE	CC6	0.0629	0.0368	0.0358
101.1	METHYLCYCLOHEXANE	MCC6	0.0867	0.0592	0.0584

The above hexanes plus values are based upon a measured mass fraction and a calculated mole fraction, and assume a total hydrocarbon recovery from the chromatographic system.

AGAT® Laboratories

WATER ANALYSIS

Container Identification	Laboratory Number
PB 2B	WE62245B

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m	374.60	GRD m	369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	DEBOLT	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	3		

Test Interval or Perfs		Sampling Point
1709.00-1727.00		1
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 28, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1293.0	0.283	56.2
K	16.6	0.004	0.4
Ca	6.3	0.001	0.2
Mg	3.5	0.001	0.1
Fe	2.6	0.001	Trace

Anions

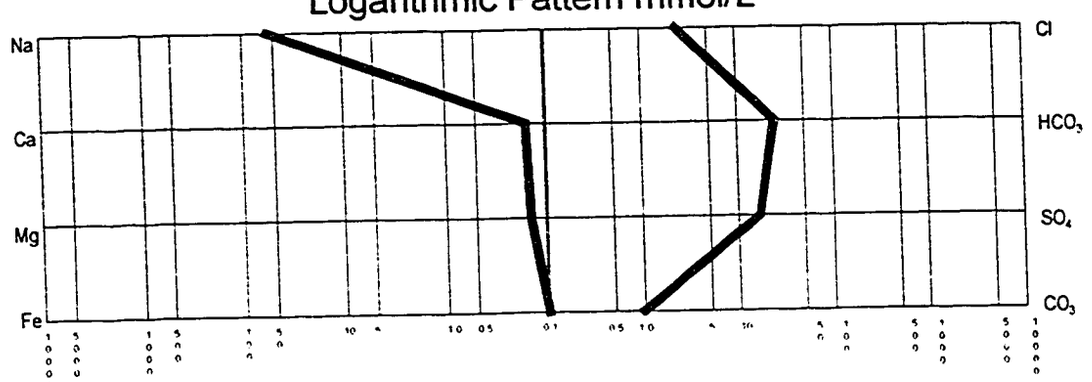
ION	mg/L	Mass Fraction	mmol/L
Cl	84.5	0.018	2.4
HCO_3	1494.5	0.327	24.5
SO_4	1610.0	0.352	16.8
CO_3	58.8	0.013	1.0
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Mud Filtrate Loss mL	6.00
Total Dissolved Solids (Calculated) mg/L	4569
Observed pH	8.94
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.002
Resistivity / OHM-m (25°C)	1.950
Salinity %	0.02

Total Cations	57.3	Total Anions	61.4

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Laboratory Number
PB 7G	WE62245G

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	4		

Test Interval or Perfs		Sampling Point
1216.00-1240.00		1
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 30, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1520.0	0.276	66.1
K	135.0	0.025	3.5
Ca	105.0	0.019	2.6
Mg	34.5	0.006	1.4
Fe	150.0	0.027	2.7

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	156.0	0.028	4.4
HCO_3	1838.2	0.334	30.1
SO_4	1423.0	0.258	14.8
CO_3	147.0	0.027	2.4
OH	Nil	Nil	Nil

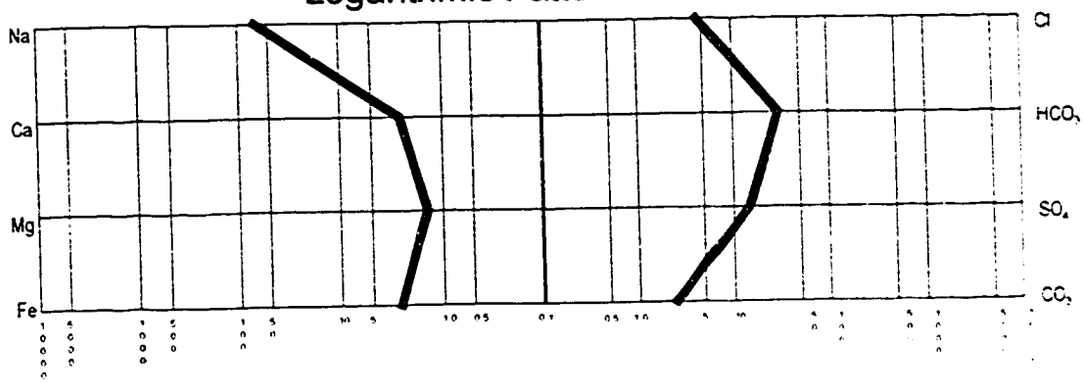
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	5508
Observed pH	8.97
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.006
Resistivity / OHM-m (25°C)	1.660
Salinity %	0.03

Total Cations 83.0 **Total Anions** 66.6

The ionic balance for this water exceeds 10%. The imbalance is caused by anions not analyzed for in the routine analysis.

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 91	WE62245P	WE62245I

Operator Name: PARAMOUNT RESOURCES LTD

Unique Well Identifier	Well Name	Elevation
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	4		

Test Interval or Perfs		Sampling Point		Separator	Reservoir	Source	Sampled	Received
1216.00-1240.00		3	Pressure (kPa)					
mKB			Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 30, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1613.0	0.286	70.2
K	33.9	0.006	0.9
Ca	76.0	0.013	1.9
Mg	22.0	0.004	0.9
Fe	45.3	0.008	0.8

Anions

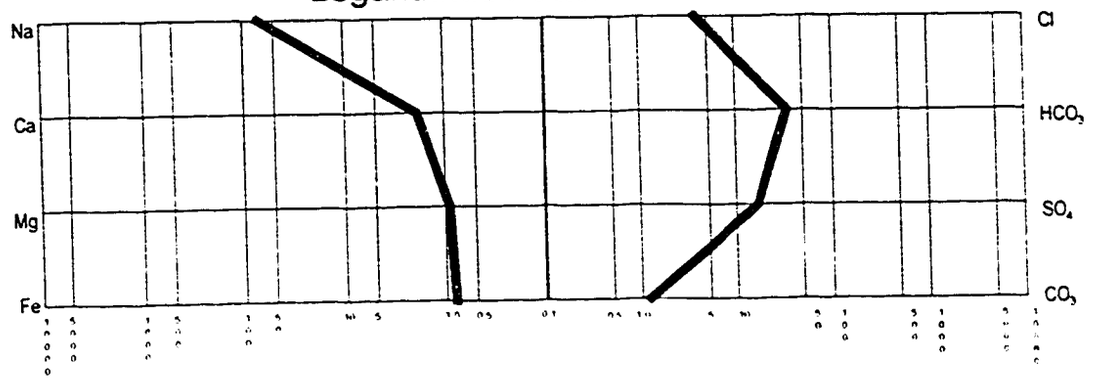
ION	mg/L	Mass Fraction	mmol/L
Cl	137.0	0.024	3.9
HCO_3	2062.4	0.365	33.8
SO_4	1586.0	0.281	16.5
CO_3	73.5	0.013	1.2
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	5649
Observed pH	8.79
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.007
Resistivity / OHM-m (25°C)	1.610
Salinity %	0.02

Total Cations	78.3	Total Anions	71.9

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Laboratory Number
PB 11K	WE62245K

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	4		

Test Interval or Perfs	Sampling Point
1216.00-1240.00 mKB	5

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 30, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1287.0	0.286	56.0
K	31.0	0.007	0.8
Ca	26.7	0.006	0.7
Mg	8.2	0.002	0.3
Fe	31.7	0.007	0.6

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	100.0	0.022	2.8
HCO_3	1644.0	0.365	26.9
SO_4	1340.0	0.298	13.9
CO_3	29.4	0.007	0.5
OH	Nil	Nil	Nil

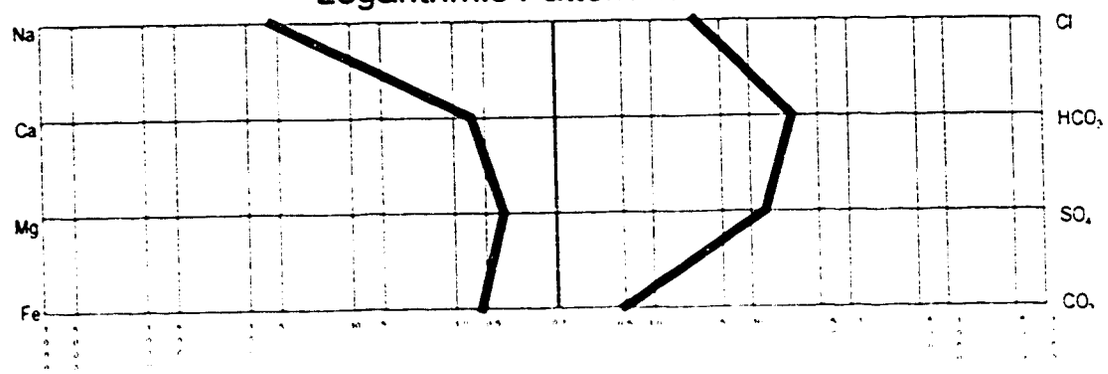
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	4497
Observed pH	8.65
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.002
Resistivity / OHM-m (25°C)	1.970
Salinity %	0.02

Total Cations	59.9

Total Anions	58.2

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Laboratory Number
PB 6F	WE62245F

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m	374.60	GRD m	369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	4		

Test Interval or Perfs		Sampling Point
1216.00-1240.00		BOTTOM HOLE SAMPLER
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 30, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information
BHS 25

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	961.0	0.301	41.8
K	13.6	0.004	0.3
Ca	9.1	0.003	0.2
Mg	3.0	0.001	0.1
Fe	15.4	0.005	0.3

Anions

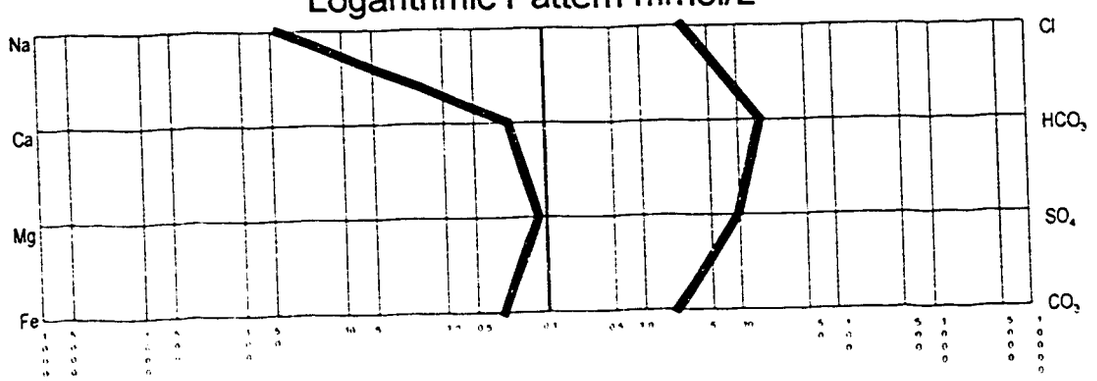
ION	mg/L	Mass Fraction	mmol/L
Cl	100.0	0.031	2.8
HCO_3	1031.2	0.323	16.9
SO_4	928.0	0.291	9.7
CO_3	132.3	0.041	2.2
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	3193
Observed pH	9.23
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.005
Resistivity / OHM-m (25°C)	2.500
Salinity %	0.02

Total Cations	43.4	Total Anions	41.2

Logarithmic Pattern mmol/L



AGAT® Laboratories

GAS ANALYSIS

Container Identification
AGAT 1028

Laboratory Number
GE622458

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
NOT AVAILABLE	PARAMOUNT et al MOUNT COTY I-02	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	5	60 deg 20' Latitude 123 deg 30' Longitude	

Test Interval or Perfs	Sampling Point
1134.00-1140.00 mKB	BOTTOM HOLE SAMPLER

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			345	345	1
Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Nov 30, 2000	Dec 07, 2000	Dec 13, 2000	LQ

Other Information
BHS #44

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	0.0011	0.0011	
He	0.0001	0.0001	
N2	0.0627	0.0628	
CO2	0.0013	0.0000	
H2S	0.0000	0.0000	
C1	0.9079	0.9091	
C2	0.0186	0.0186	
C3	0.0041	0.0041	15.1
IC4	0.0008	0.0008	3.5
NC4	0.0010	0.0010	4.2
IC5	0.0005	0.0005	2.4
NC5	0.0004	0.0004	1.9
C6	0.0005	0.0005	2.7
C7+	0.0010	0.0010	6.4
Total	1.0000	1.0000	36.2

NOTE: The following have exceeded normal limits: N2

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
36.59	36.64

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.602	0.601

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4526	190.5	4522	190.4

RELATIVE MOLECULAR MASS

Total Gas	C_{7+}
17.4	105.8

VAPOUR PRESSURE (Pentanes +)	H_2S g/m³
57.80 kPa	0.00

ALERT!... Received Pressure differs significantly with operating pressure. This may be indicative of a non-representative sample.

AGAT® Laboratories

WATER ANALYSIS

Container Identification	Laboratory Number
PB 20T	WE62245T

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	5		

Test Interval or Perfs		Sampling Point
1134.00-1140.00		3
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 30, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1573.0	0.296	68.4
K	18.6	0.004	0.5
Ca	8.5	0.002	0.2
Mg	4.3	0.001	0.2
Fe	1.8	Trace	Trace

Anions

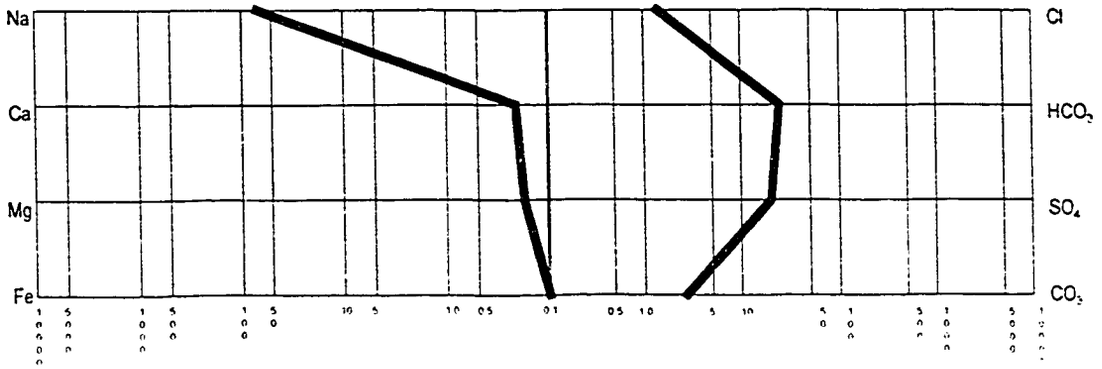
ION	mg/L	Mass Fraction	mmol/L
Cl	50.0	0.009	1.4
HCO_3	1539.3	0.290	25.2
SO_4	1956.0	0.368	20.4
CO_3	161.7	0.030	2.7
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Mud Filtrate Loss mL	13.00
Total Dissolved Solids (Calculated) mg/L	5313
Observed pH	9.04
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.003
Resistivity / OHM-m (25°C)	1.650
Salinity %	0.01

Total Cations	69.7	Total Anions	70.1

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 17Q	WE62245F	WE62245Q

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	5		

Test Interval or Perfs		Sampling Point		Separator	Reservoir	Source	Sampled	Received
1134.00-1140.00		BOTTOM HOLE SAMPLER	Pressure (kPa)					
mKB			Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Nov 30, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information
BHS 44

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1615.0	0.306	70.2
K	17.4	0.003	0.4
Ca	8.6	0.002	0.2
Mg	4.1	0.001	0.2
Fe	2.1	Trace	Trace

Anions

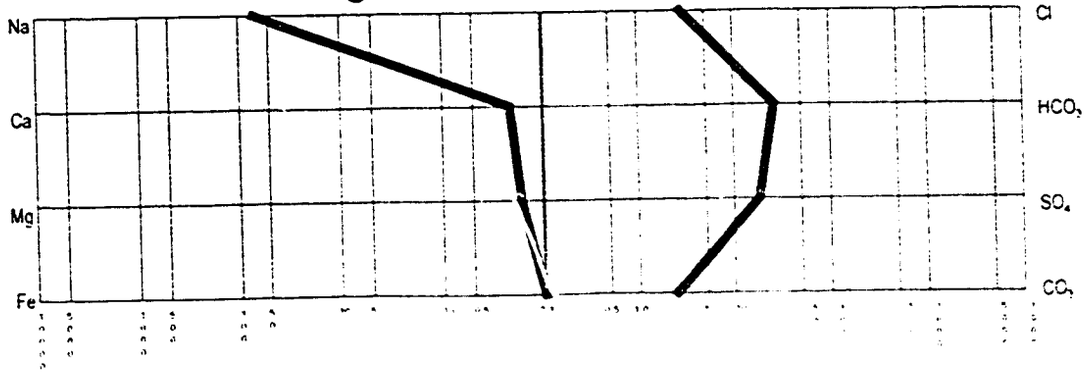
ION	mg/L	Mass Fraction	mmol/L
Cl	100.0	0.019	2.8
HCO_3	1614.1	0.306	26.5
SO_4	1764.0	0.335	18.4
CO_3	147.0	0.028	2.4
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Mud Filtrate Loss mL	21.00
Total Dissolved Solids (Calculated) mg/L	5272
Observed pH	9.00
H_2S (25°C) mg/L	N/D
Relative Density (25°C)	1.005
Resistivity / OHM-m (25°C)	1.610
Salinity %	0.02

Total Cations	71.5	Total Anions	68.4

Logarithmic Pattern mmol/L



AGAT® Laboratories

GAS ANALYSIS

Container Identification
AGAT 1035

Laboratory Number
GE62245A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
NOT AVAILABLE	PARAMOUNT et al MOUNT COTY I-02	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	6	60 deg 20' Latitude 123 deg 30' Longitude	

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
1075.00-1085.00 mKB	BOTTOM HOLE SAMPLER	Pressure (kPa)			96	96	
		Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 01, 2000	Dec 07, 2000	Dec 13, 2000	LQ

Other Information
BHS #90 INSUFFICIENT SAMPLE FOR ANALYSIS

AGAT® Laboratories

WATER ANALYSIS

Container Identification
PB 16P

Previous Number	Laboratory Number
WE62245I	WE62245P

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m	374.60	GRD m	369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	6		

Test Interval or Perfs		Sampling Point
1075.00-1085.00		3
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 01, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1716.0	0.277	74.6
K	143.0	0.023	3.7
Ca	130.0	0.021	3.2
Mg	38.0	0.006	1.6
Fe	154.0	0.025	2.8

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	150.0	0.024	4.2
HCO_3	2301.5	0.371	37.7
SO_4	1454.0	0.234	15.1
CO_3	117.6	0.019	2.0
OH	Nil	Nil	Nil

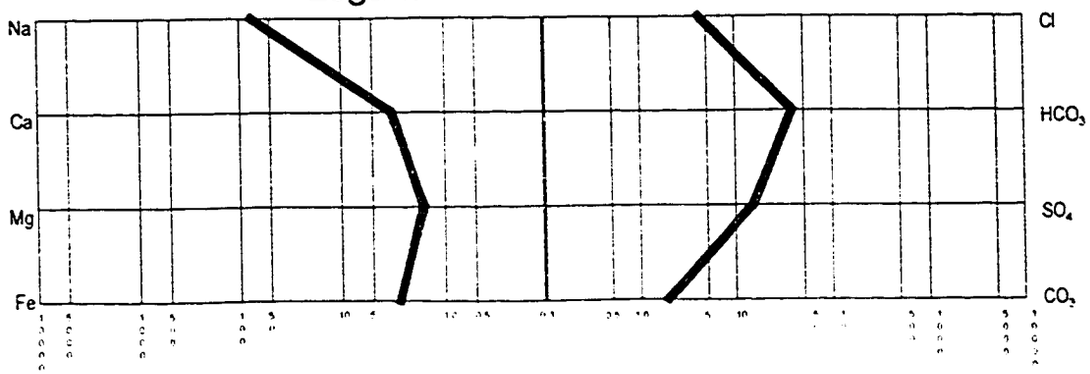
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	6204
Observed pH	8.84
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.006
Resistivity / OHM•m (25°C)	1.520
Salinity %	0.03

Total Cations 93.4 **Total Anions** 74.2

The ionic balance for this water exceeds 10%. The imbalance is caused by anions not analyzed for in the routine analysis.

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 13M	WE62245F	WE62245M

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	MATTSON	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	6		

Test Interval or Perfs	Sampling Point
1075.00-1085.00 mKB	BOTTOM HOLE SAMPLER

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 01, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information
BHS 90

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1553.0	0.272	67.6
K	119.0	0.021	3.0
Ca	102.0	0.018	2.5
Mg	32.9	0.006	1.4
Fe	160.0	0.028	2.9

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	111.0	0.019	3.1
HCO_3	2092.3	0.366	34.3
SO_4	1452.0	0.254	15.1
CO_3	88.2	0.015	1.5
OH	Nil	Nil	Nil

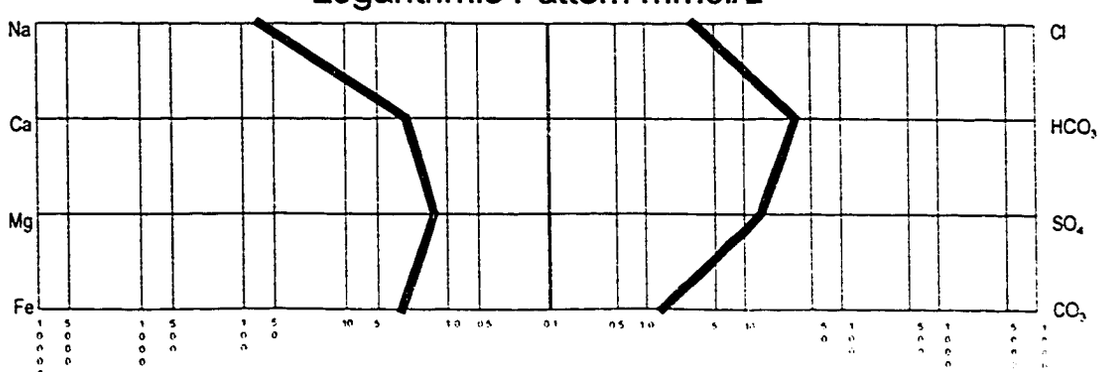
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	5710
Observed pH	8.88
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.007
Resistivity / OHM-m (25°C)	1.630
Salinity %	0.02

Total Cations 84.1 **Total Anions** 69.1

The ionic balance for this water exceeds 10%. The imbalance is caused by anions not analyzed for in the routine analysis.

Logarithmic Pattern mmol/L



AGAT® Laboratories

GAS ANALYSIS

Container Identification
AGAT 5394

Laboratory Number
GE62245C

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
NOT AVAILABLE	PARAMOUNT et al MOUNT COTY I-02	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	CHINKEH	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	7	60 deg 20' Latitude 123 deg 30' Longitude	

Test Interval or Perfs	Sampling Point		Separator	Reservoir	Source	Sampled	Received
708.00-720.00 mKB	SURFACE	Pressure (kPa)					220
		Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Dec 02, 2000	Dec 07, 2000	Dec 13, 2000	LQ

Other Information

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	TRACE	TRACE	
He	0.0002	0.0002	
N2	0.0064	0.0064	
CO2	0.0001	0.0000	
H2S	0.0000	0.0000	
C1	0.9154	0.9155	
C2	0.0495	0.0495	
C3	0.0164	0.0164	60.2
IC4	0.0030	0.0030	13.1
NC4	0.0039	0.0039	16.4
IC5	0.0014	0.0014	6.8
NC5	0.0011	0.0011	5.3
C6	0.0012	0.0012	6.6
C7+	0.0014	0.0014	8.8
Total	1.0000	1.0000	117.2

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
41.16	41.16

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.618	0.618

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4590	201.9	4590	201.9

RELATIVE MOLECULAR MASS

Total Gas	C_7+
17.9	103.2

VAPOUR PRESSURE (Pentanes +)	H_2S g/m³
72.53 kPa	0.00

AGAT® Laboratories

WATER ANALYSIS

Container Identification	Laboratory Number
PB 23W	WE62245W

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	CHINKEH	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	7		

Test Interval or Perfs		Sampling Point
708.00-720.00		2
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 02, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1369.0	0.301	59.5
K	15.1	0.003	0.4
Ca	7.0	0.002	0.2
Mg	3.5	0.001	0.1
Fe	1.2	Trace	Trace

Anions

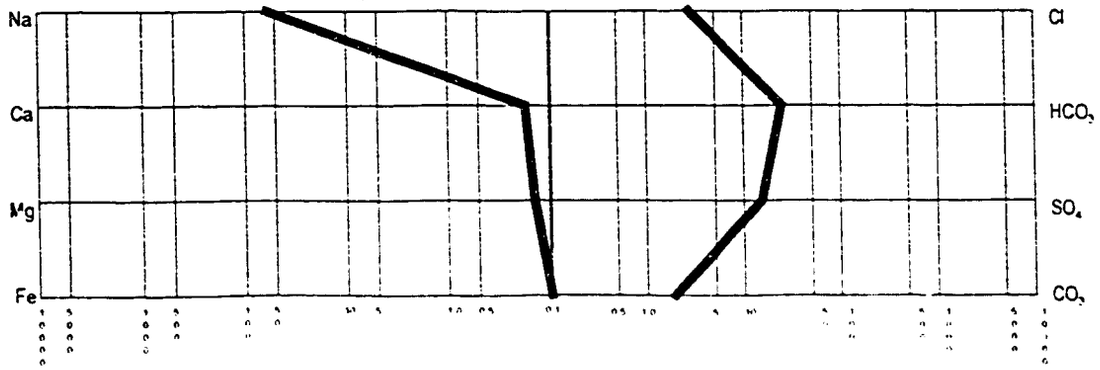
ION	mg/L	Mass Fraction	mmol/L
Cl	100.0	0.022	2.8
HCO_3	1494.5	0.329	24.5
SO_4	1441.0	0.317	15.0
CO_3	117.6	0.026	2.0
OH	Nil	Nil	Nil

Other Measurements

Measurement	Value
Mud Filtrate Loss mL	12.00
Total Dissolved Solids (Calculated) mg/L	4548
Observed pH	8.95
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.005
Resistivity / OHM-m (25°C)	1.800
Salinity %	0.02

Total Cations	60.6	Total Anions	59.3

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Laboratory Number
PB 21U	WE62245U

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
1-02/60-20-123-30	PARA ET AL MOUNT COTY 60-20-123-30	KB m 374.60 GRD m 369.10

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	CHINKEH	ALPINE

Test Type	Test No.	Test Recovery	Name of Sampler
DST	7		

Test Interval or Perfs		Sampling Point
708.00-720.00		BOTTOM HOLE SAMPLER
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Dec 02, 2000	Dec 07, 2000	Dec 13, 2000	LN

Other Information
GP 35

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	1253.0	0.259	54.5
K	142.0	0.029	3.6
Ca	137.0	0.028	3.4
Mg	38.8	0.008	1.6
Fe	222.0	0.046	4.0

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	135.0	0.028	3.8
HCO_3	1673.8	0.346	27.4
SO_4	1218.0	0.252	12.7
CO_3	14.7	0.003	0.2
OH	Nil	Nil	Nil

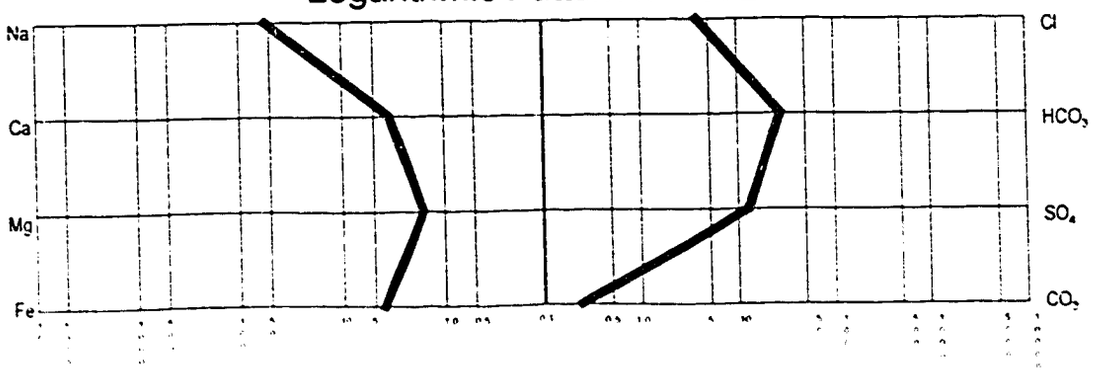
Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	4834
Observed pH	8.41
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.010
Resistivity / OHM-m (25°C)	1.960
Salinity %	0.02

Total Cations 76.1 **Total Anions** 56.8

The ionic balance for this water exceeds 10%. The imbalance is caused by anions not analyzed for in the routine analysis.

Logarithmic Pattern mmol/L



AGAT Laboratories

RESULTS

D.S.T. #:	6
B.H.S. #:	90
OPENING PRESSURE:	96.53 KPA
RECOVERY:	1035A: ~ 500 cc GAS PB13M: ~750ml FLUID

RESULTS

D.S.T. #:	4
B.H.S. #:	25
OPENING PRESSURE:	0.00
RECOVERY:	PB6F: ~600ml FLUID

RESULTS

D.S.T. #:	3
B.H.S. #:	0.0
OPENING PRESSURE:	0.0 KPA
RECOVERY:	PB1A: ~ 300 ml FLUID

AGAT Laboratories

DST TOOL INFORMATION

AGAT W/O #: 00E62245

COMPANY NAME: PARAMOUNT RESOURCES LTD.

LOCATION: 1-02/60-20-123-30

RESULTS

D.S.T. #:	7
B.H.S. #:	GP35
OPENING PRESSURE:	0.00
RECOVERY:	PB2U: ~1L FLUID

RESULTS

D.S.T. #:	5
B.H.S. #:	44
OPENING PRESSURE:	344.75 KPA
RECOVERY:	1028B: ~500 cc GAS PB17Q: ~1 L FLUID

REAL TIME TESTING REPORTS DATED 1 DEC. 2000 AND 2 DEC. 2000

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD.
4700, 886 - 3rd Street S.W.
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: T4-6190 DST# 6
Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

General Information:

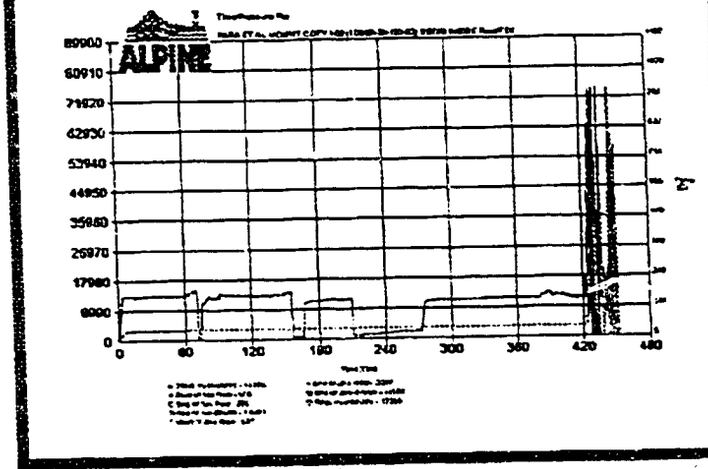
Test Type: PLATE STRADDLE
Interval: 1073m -1085m
Formation: MATTSON
KB Elevation: 1374.60m
Ground Elevation: 1369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: KEN PEARSON
Truck No.: 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 41.00 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 1060.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	13305.9
B Start of 1st Flow	0.00	575.9
C End of 1st Flow	9.24	876.2
D End of 1st Shutin	42.66	11901.0
E Start of 2nd Flow	0.00	936.5
F End of 2nd Flow	62.10	2216.9
G End of 2nd Shutin	105.24	11781.7
Q Final Hydrostatic	0.00	13365.1



Test Run Information:

Start Time: 1800hrs
Reached Test Depth: 2130hrs
Pull Out Time: 350hrs
Tool Out Of Hole: 800hrs
Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 0.00mm
Pump Time: 0min
Reversed Out: NO
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amount of cushion: 0.00
Type of cushion:

General Remarks:

PREFLOW:Start 00:08 to 00:17 Very weak air blow. Remained throughout.

FINAL FLOW: Very weak air blow. Bottom of pail in 15 minutes. No gas to surface.

Note: We first set and opened tool at zone. When opening tool it was skidding so unseat packers and worked pipe and set again did test.

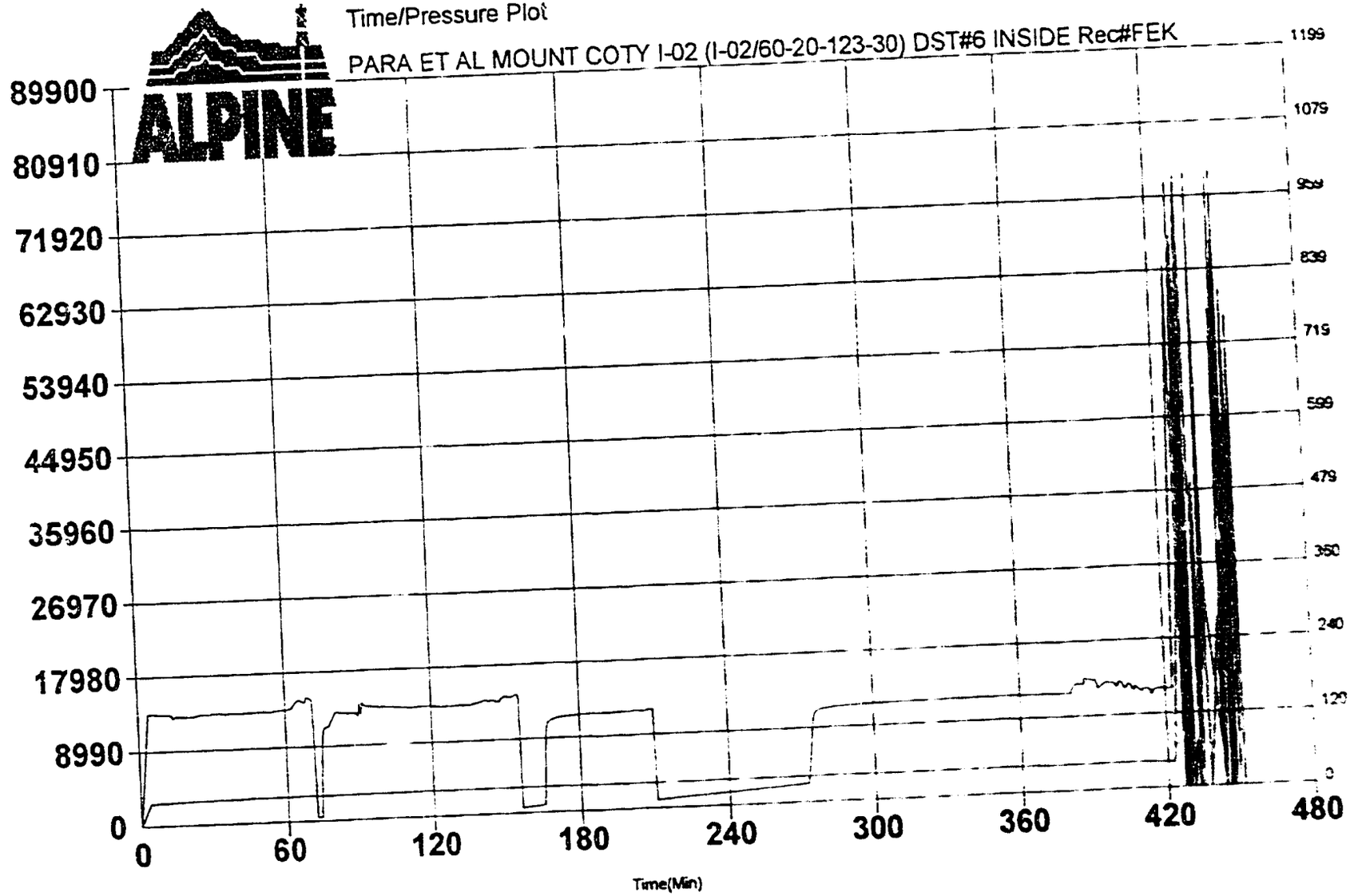
Recovery Description:

WELL LIC# 1884

Total fluid recovery was 197 meters, consisting of fresh water.

Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 INSIDE Rec#FEK



A Initial Hydrostatic - 13306
B Start of 1st Flow - 576
C End of 1st Flow - 875
D End of 1st Shutin - 11901
E Start of 2nd Flow - 937
F End of 2nd Flow - 2217
G End of 2nd Shutin - 11762
Q Final Hydrostatic - 13365

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD Job Ticket #: D2-08776 DST #: 6

Test Date: 12/01/2000 1800hrs

Well Name: PARA ET AL MOUNT COTY 1-02

Contact: WILBERT CALLINGS Location: 1-02/60-20-123-30

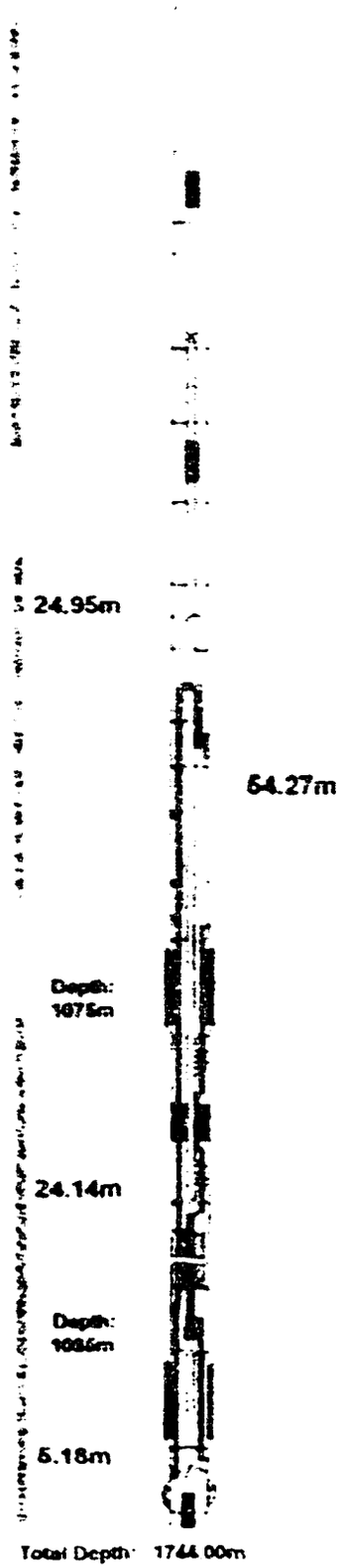
Inflate Straddle

Drill Collar Stands	3
Drill Collar Singles	0
Drill Pipe Stands	33
Drill Pipe Singles	0
Heavy Wt. Pipe Stands	20
Heavy Wt. Pipe Singles	0
Total Drill Collars/Pipe and Tools	1077.85m
Total Drill Pipe Above K.B.	2.85m
Total Depth	1744m

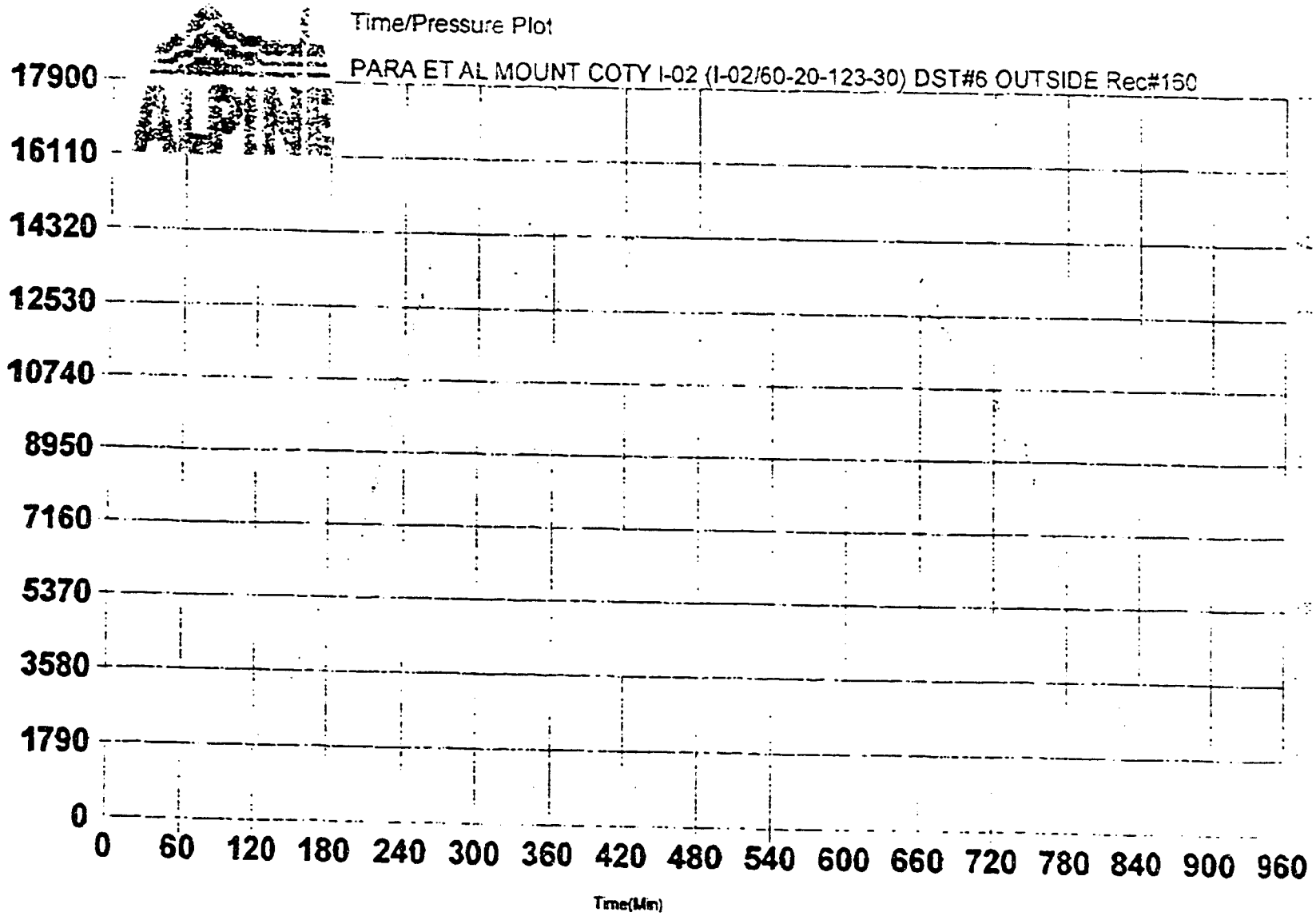
Tool / Drill Stem Information:

Tool Weight	2000.00	daN
Drill Collar Inside Diameter	67.00	mm
Drill Collar Length	55.93	m
Drill Pipe Inside Diameter	97.00	mm
Drill Pipe Length	629.06	m
Heavy Weight Pipe Diameter	69.80	mm
Heavy Weight Pipe Length	367.91	m
Bottom Choke Diameter	12.70	mm
Number of Packers: 2 Dia	197.00	mm

Tool Remarks:

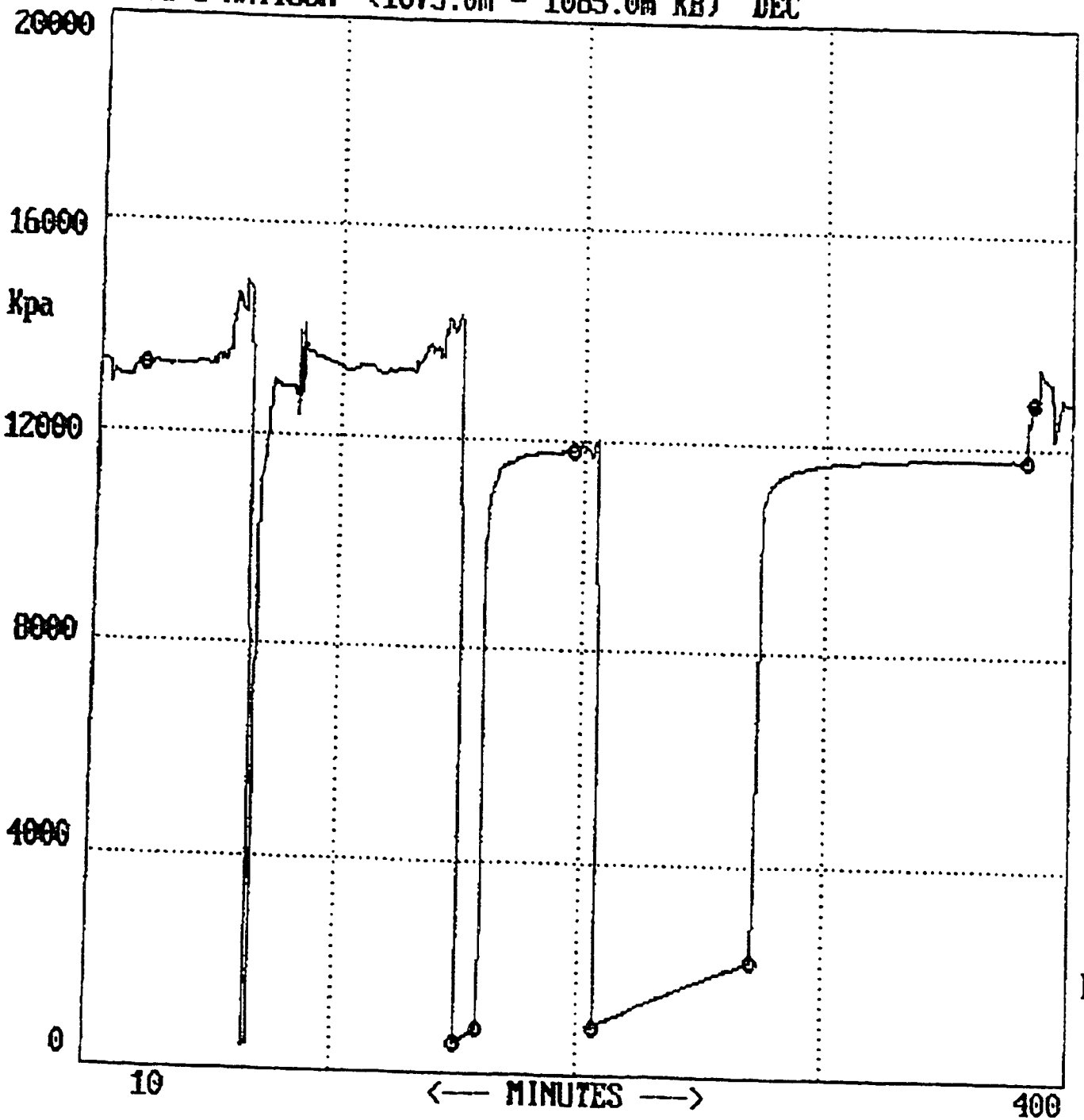


Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUIDS6S	1.80
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.63
Pump	2.85
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	9.42
C.O. Sub	0.30
Drill Collar	18.70
C.O. Sub	0.30
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60


Time/Pressure Plot
PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#6 OUTSIDE Rec#160
17900
16110
14320
12530
10740
8950
7160
5370
3580
1790
0
0 60 120 180 240 300 360 420 480 540 600 660 720 780 840 900 960
Time(Min)

14036204647

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 6 MATTSON (1075.0m - 1085.0m KB) DEC



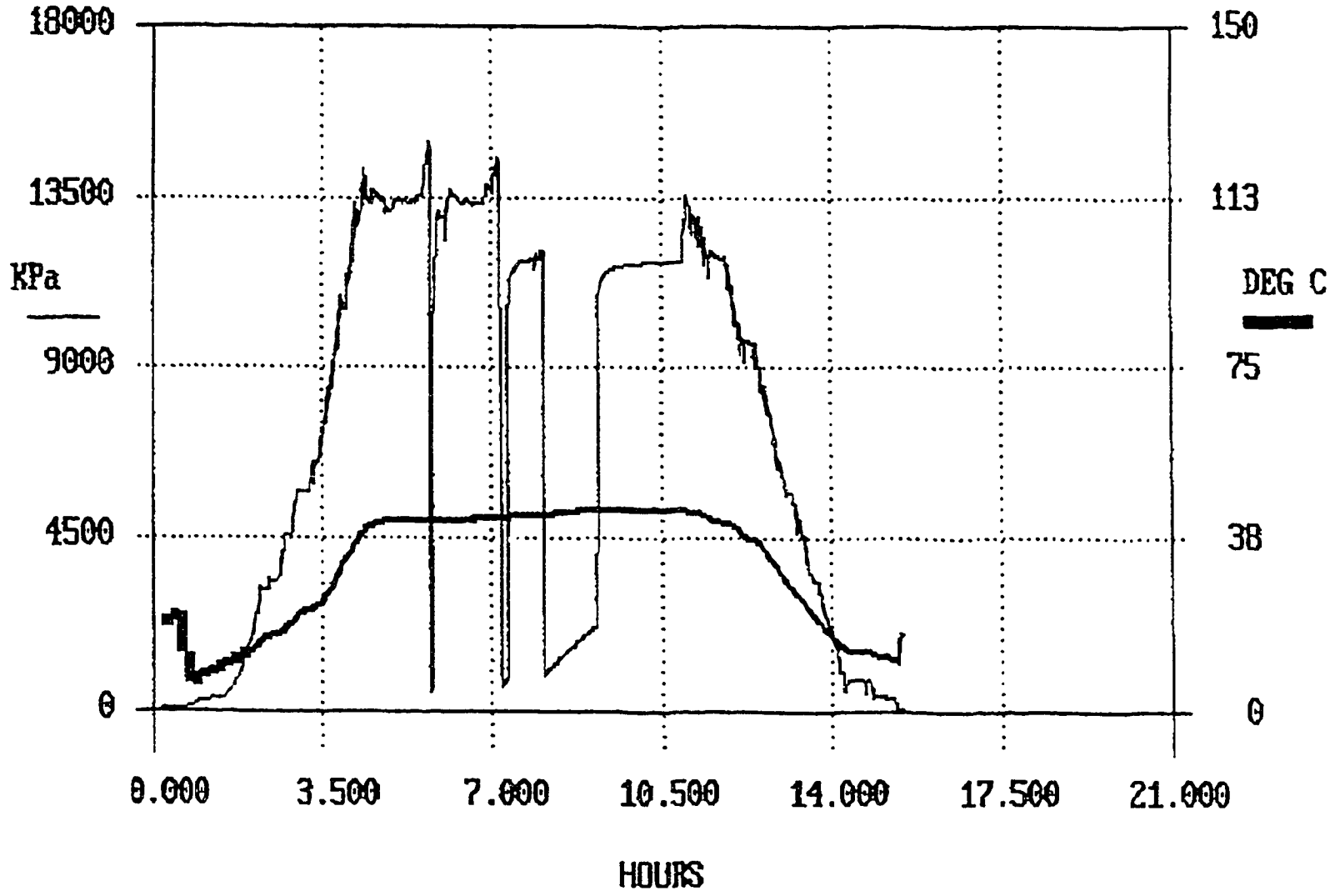
IHP = 13303.6

SF1 = 575.9
EF1 = 876.2
ES1 = 11795.9

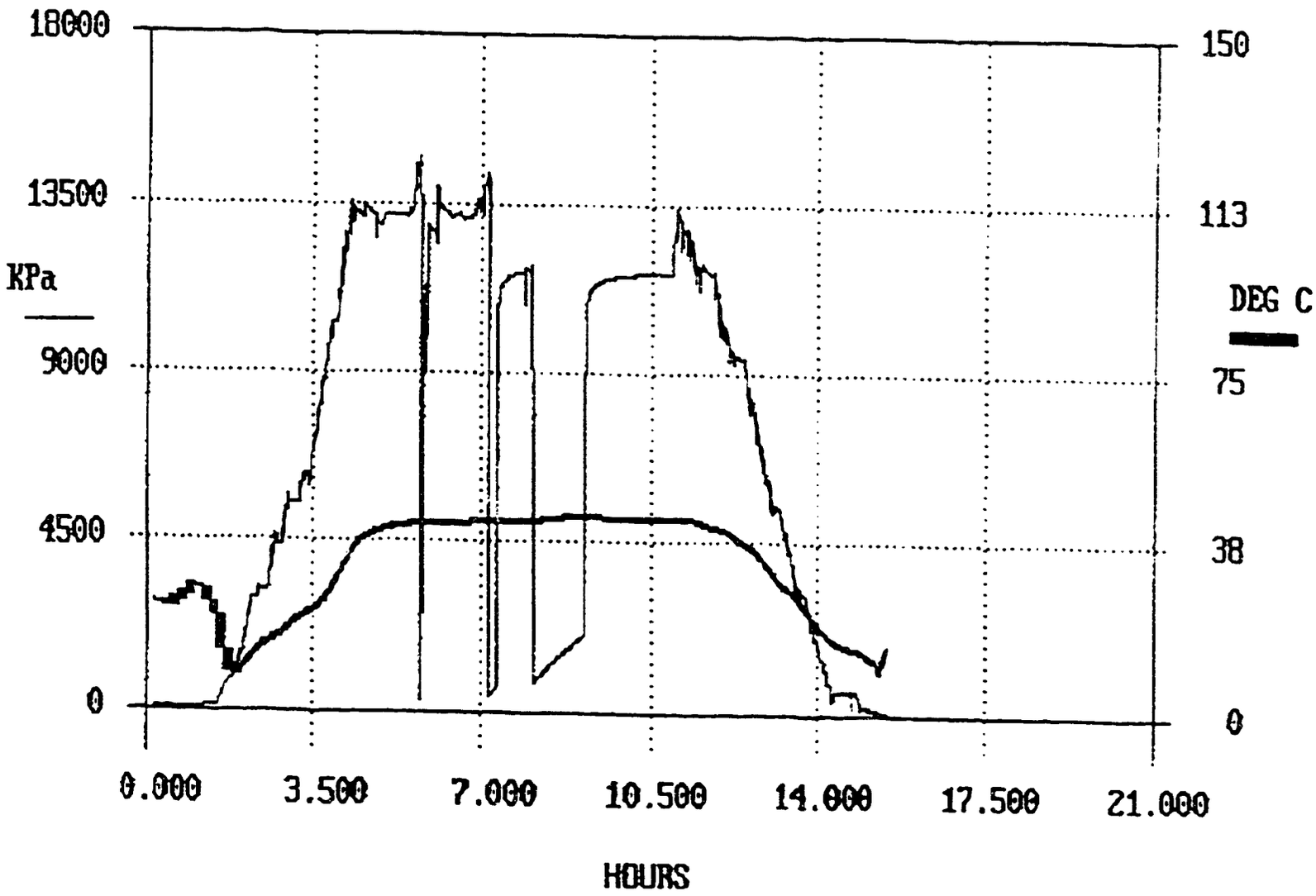
SF2 = 936.5
EF2 = 2216.9
ES2 = 11781.7

FHP = 12870.7

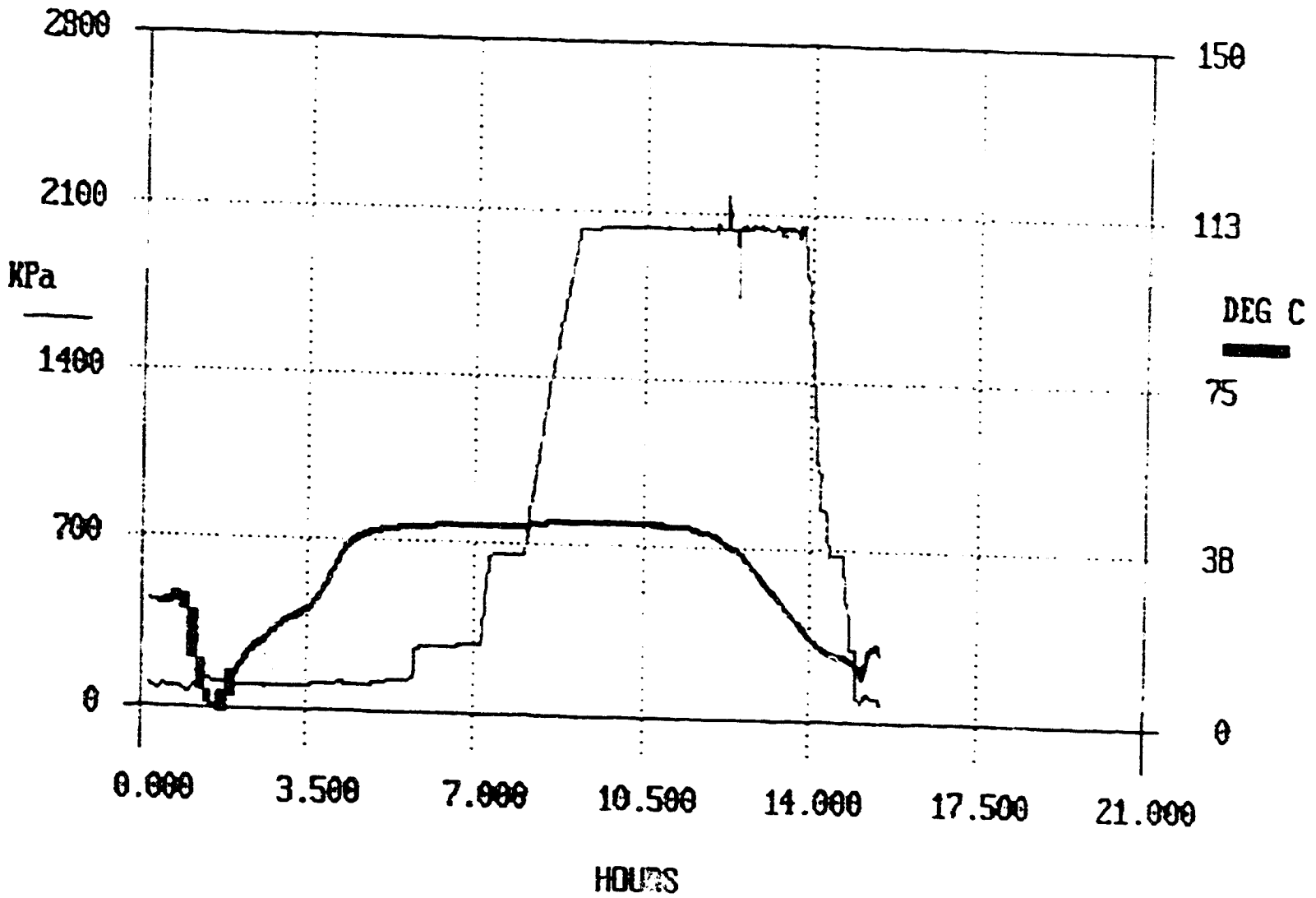
FILE: <C:\ALP_IM\C0101700.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T#Z-8778 12/01/00 OUTSIDE



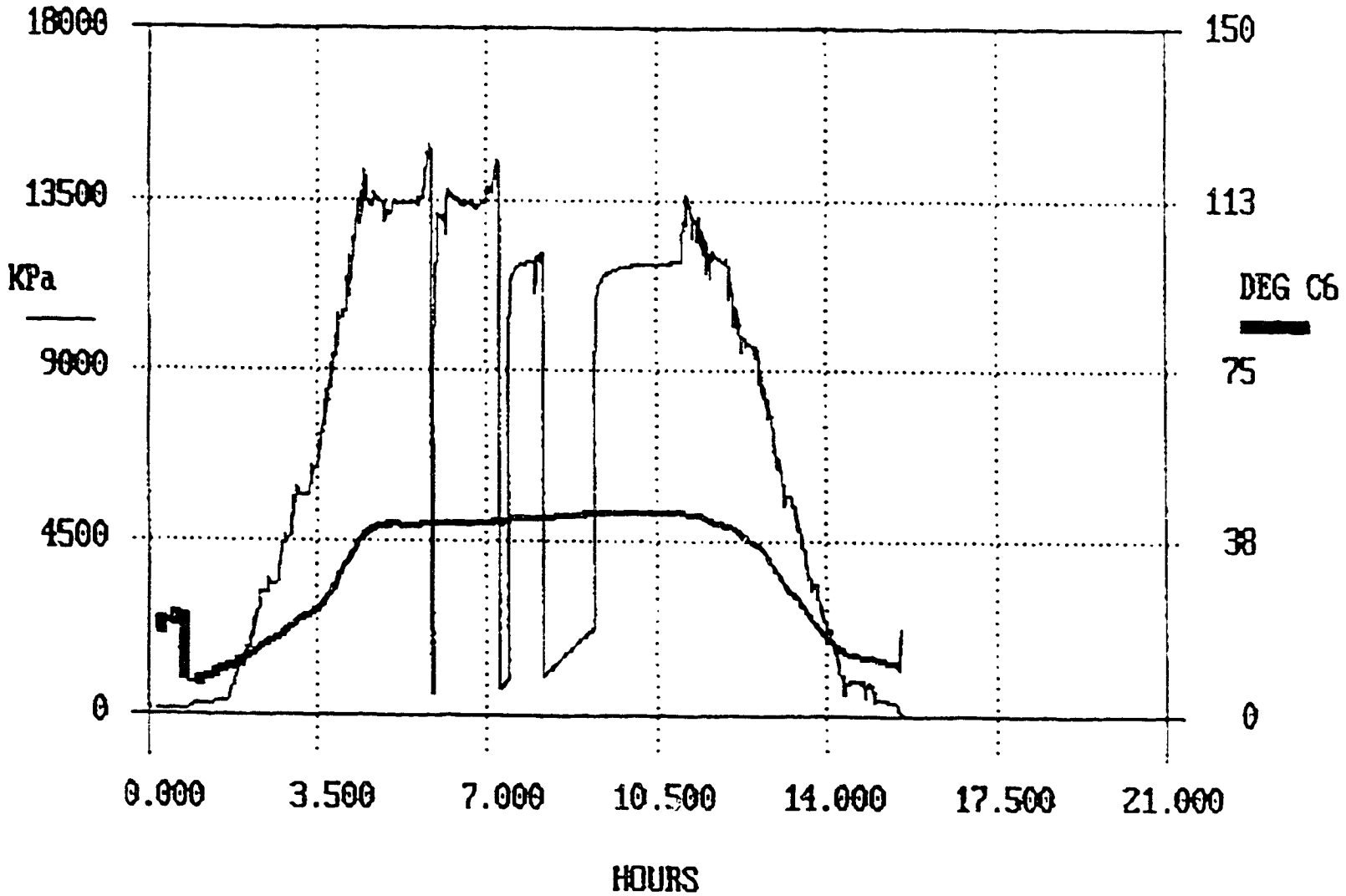
FILE: <C:\ALP_IN\C0101503.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 TM2-8778 12/01/00 INSIDE



FILE: <C:\ALP_IN\C0101526.065>
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T%2-8778 12/01/00 FLUID

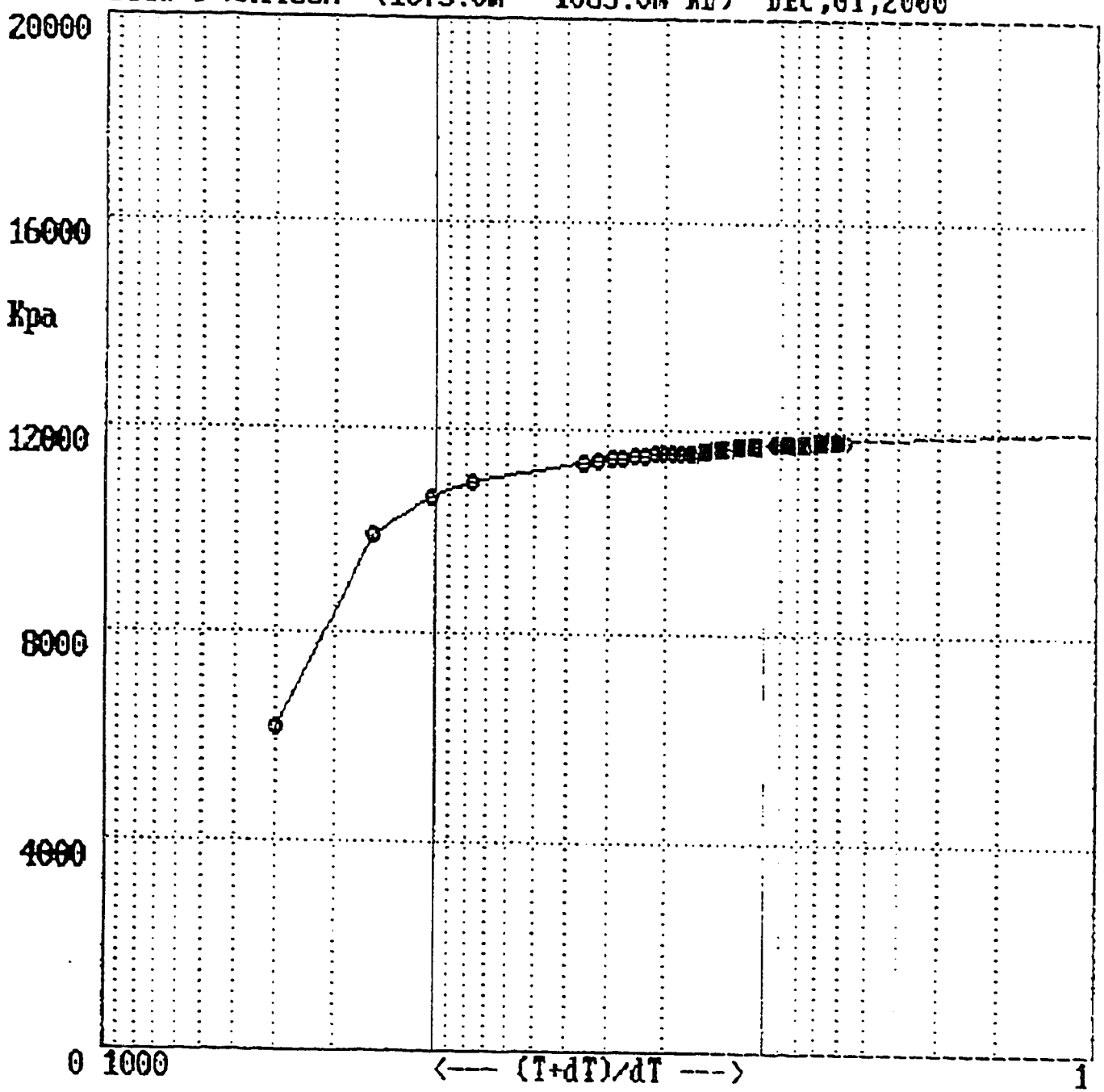


FILE: <C:\ALP_IN\C0101654.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 T#2-8778 12/01/00 OUTSIDE



14036204647 Gary Johannson

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 6 MATTSON (1075.0m - 1085.0m KB) DEC,01,2000



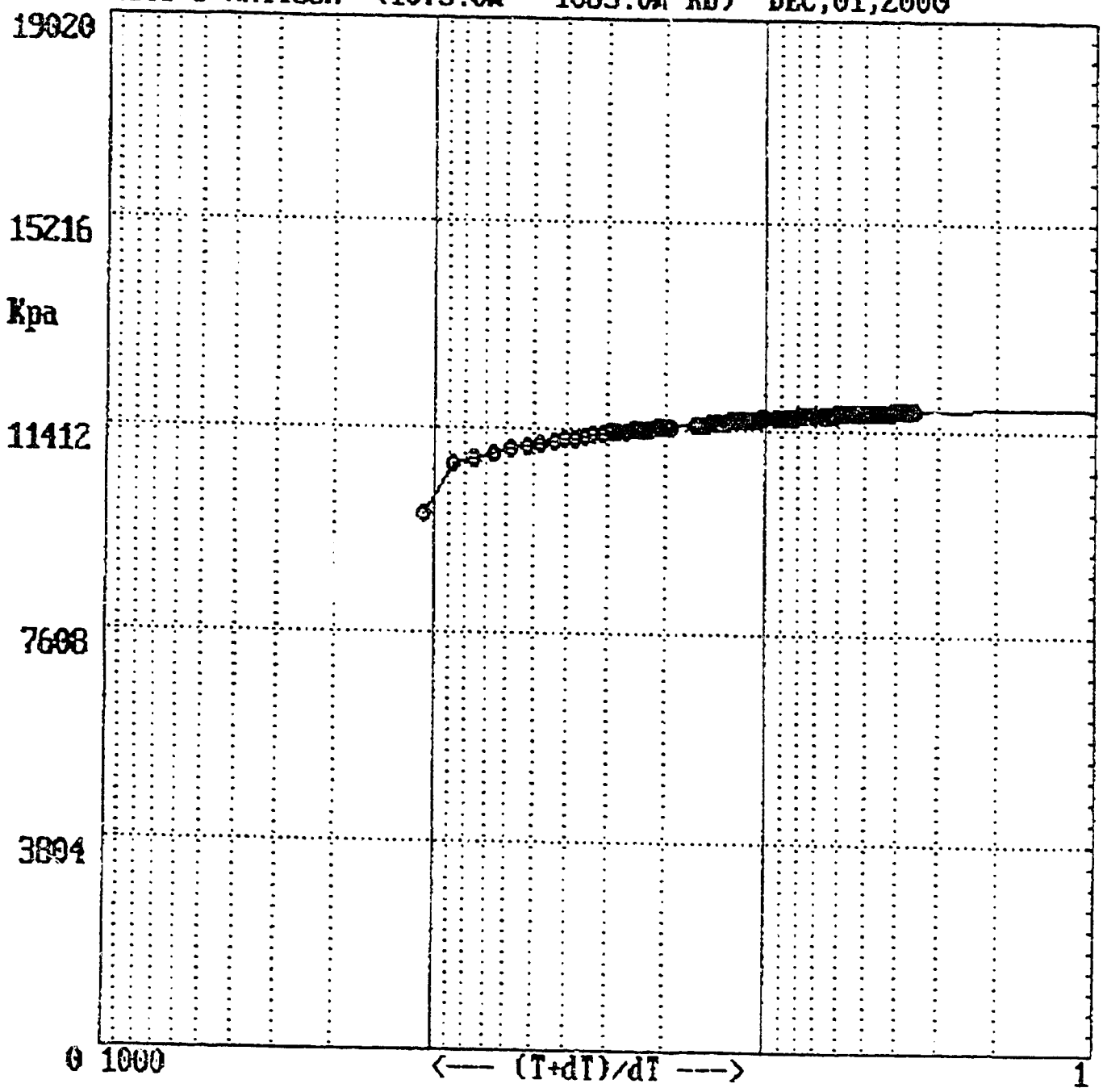
HORNER PLOT
SHUT-IN # 1

SLOPE =
252.6
kPa/cycle

Extrapolated
Pressure =
11988.7
Kpa

1403620464?

PARA ET AL MOUNT COTY 60-20-123-30 LSD 1-02/60-20-123-30/0
DST# 6 MATTSON (1075.0m - 1085.0m KB) DEC,01,2000



HORNER PLOT
SHUT-IN # 2

SLOPE =
123.8
kPa/cycle

Extrapolated
Pressure =
11850.9
Kpa

Dec 04 00 11:24 AM Gary Johansson

ALPINE

Real Time Test Report

Prepared for: **PARAMOUNT RESOURCES**

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

Test Date: **12/02/2000**

Job Ticket #: **T4-6191** DST#: **7**

Real Time Testing Report

Company: PARAMOUNT RESOURCES LTD
4700, 888 - 3rd Street S.W
CALGARY, AB

Contact: WILBERT CALLIHOO

Job Ticket #: T4-6191 DST# 7
Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02
Location: I-02/60-20-123-30

General Information:

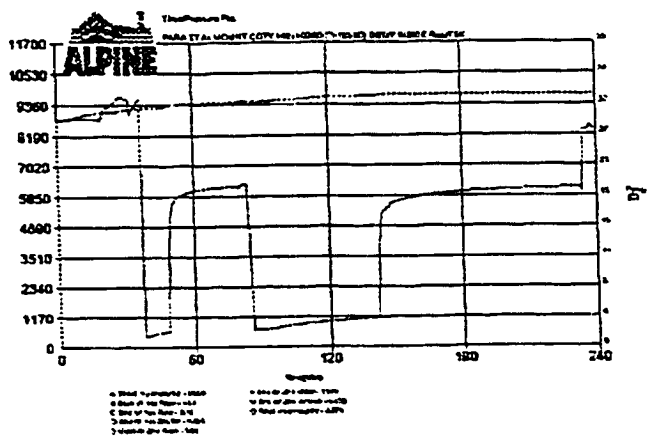
Test Type: INFLATE STRADDLE
Interval: 708m -720m
Formation: CHINKEH
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Fluid

Tester: KEN PEARSON
Truck No.: 673
Contractor: AKITA DRILLING
Rig No.: 51
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 34.00 C

Telemetry Recorder Information:

INSIDE
Recorder #: FEK Depth: 693.00 m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8860.4
B Start of 1st Flow	0.00	430.6
C End of 1st Flow	10.74	615.5
D End of 1st Shutin	33.00	6293.0
E Start of 2nd Flow	0.00	650.3
F End of 2nd Flow	55.14	1154.6
G End of 2nd Shutin	91.20	6179.4
Q Final Hydrostatic	0.00	8371.3



Test Run Information:

Start Time: 1030hrs
Reached Test Depth: 1330hrs
Pull Out Time: 1745hrs
Tool Out Of Hole: 2130hrs
Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 0.00mm
Pump Time: 0min
Reversed Out: NO
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amount of cushion: 0.00
Type of cushion:

General Remarks:

PREFLOW: Weak air blow. No gas to surface.Start 14:28 to 14:38

FINAL FLOW: Weak air blow. No gas to surface. Start 15:08 to 16:08

Recovery Description:

WELL LIC# 1884

Total fluid recovery was 75 meters, consisting of fresh water.

ALPINE TESTERS

Drill Stem Testing Report

Company: PARAMOUNT RESOURCES LTD

Job Ticket #: D2-08779 DST#: 7

Test Date: 12/02/2000 1030hrs

Well Name: PARA ET AL MOUNT COTY I-02

Contact: WILBERT CALLIHOO

Location: I-02/60-20-123-30

General Information:

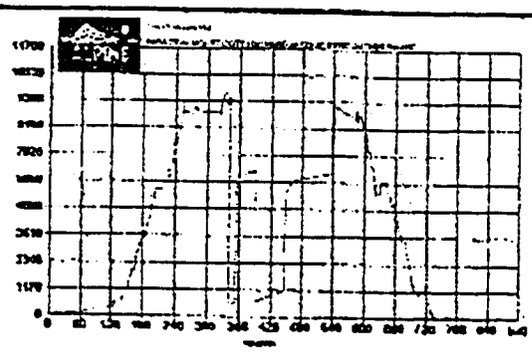
Test Type: INFLATE STRADDLE
Interval: 708.00m - 720.00m
Formation: CHINKEH
KB Elevation: 374.60m
Ground Elevation: 369.10m
Total Depth: 1744.00m
Test Mode: Gas

Tester: ALBERTO SCARIONE
Truck No.: 673
Contractor: AKITA DRILLING
Rig No.: 51 LIN
Hole Diameter: 222mm
Hole Condition: FAIR
Bottom Hole Temperature: 33.00 C

Electronic Recorder Information:

OUTSIDE	
Recorder #: 160	Recorder #:
Range: 10000 kPag	Range: kPag
Depth: 710.00 m	Depth: m

Flag Points:	Time:	Pressure:
A Initial Hydrostatic	0.00	8501.0
B Start of 1st Flow	0.00	519.7
C End of 1st Flow	11.00	655.0
D End of 1st Shutin	36.00	6986.7
E Start of 2nd Flow	0.00	714.6
F End of 2nd Flow	56.00	1173.5
G End of 2nd Shutin	91.00	6206.7
Q Final Hydrostatic	0.00	8516.3



Test Run Information:

Start Time: 1030hrs
Reached Test Depth: 1330hrs
Pull Out Time: 1745hrs
Tool Out Of Hole: 2130hrs

Weight set on Packers: 10000.00daN
Weight to free Packers: 55000.00daN
Initial String Weight: 45000.00daN
Unseated String Weight: 46000.00daN

Tool Chased Dist: 0.00m
Mud Type: GEL CHEMICAL
Mud Weight: 1240.00kg/m³
Amount of fill: 0.00m
Amt of cushion: 0.00
Type of cushion:

Water Loss: 6.50cm³
Mud Drop: NO
VIS: 61.00S/L
Filter Cake: 2.00mm
Pump Time: 30min
Reversed Out: NO

General Remarks:

PREFLOW: Weak air blow. No gas to surface.

FINAL FLOW: Very weak air blow. No gas to surface.

Recovery Description:

WELL LIC# 1884

Total fluid recovery was 75 meters, consisting of fresh water.

Gas Bomb: 0 Sampler: 1
Fluid Sample: 3 Sent to: AGAT EDMONTON

Drill Stem Testing - Tool Diagram / Description

Company: PARAMOUNT RESOURCES LTD

Job Ticket #: D2-08779 DST#: 7

Test Date: 12/02/2000 1030hrs

Contact: WILBERT CALLIHOO

Well Name: PARA ET AL MOUNT COTY I-02

Location: I-02/60-20-123-30

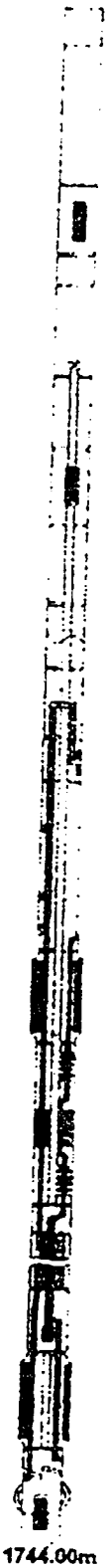
Inflate Straddle

Drill Collar Stands:	3
Drill Collar Singles:	0
Drill Pipe Stands:	23
Drill Pipe Singles:	1
Heavy Wt. Pipe Stands:	10
Heavy Wt. Pipe Singles:	0
Total Drill Collars/Pipe and Tools:	710.51m
Total Drill Pipe Above K.B.:	2.51m
Total Depth:	1744m

Tool / Drill Stem Information:

Tool Weight:	2000.00	daN
Drill Collar Inside Diameter:	67.00	mm
Drill Collar Length:	55.62	m
Drill Pipe Inside Diameter:	97.00	mm
Drill Pipe Length:	446.32	m
Heavy Weight Pipe Diameter:	69.80	mm
Heavy Weight Pipe Length:	183.62	m
Bottom Choke Diameter:	12.70	mm
Number of Packers: 2 Dia.:	197.00	mm

Tool Remarks:

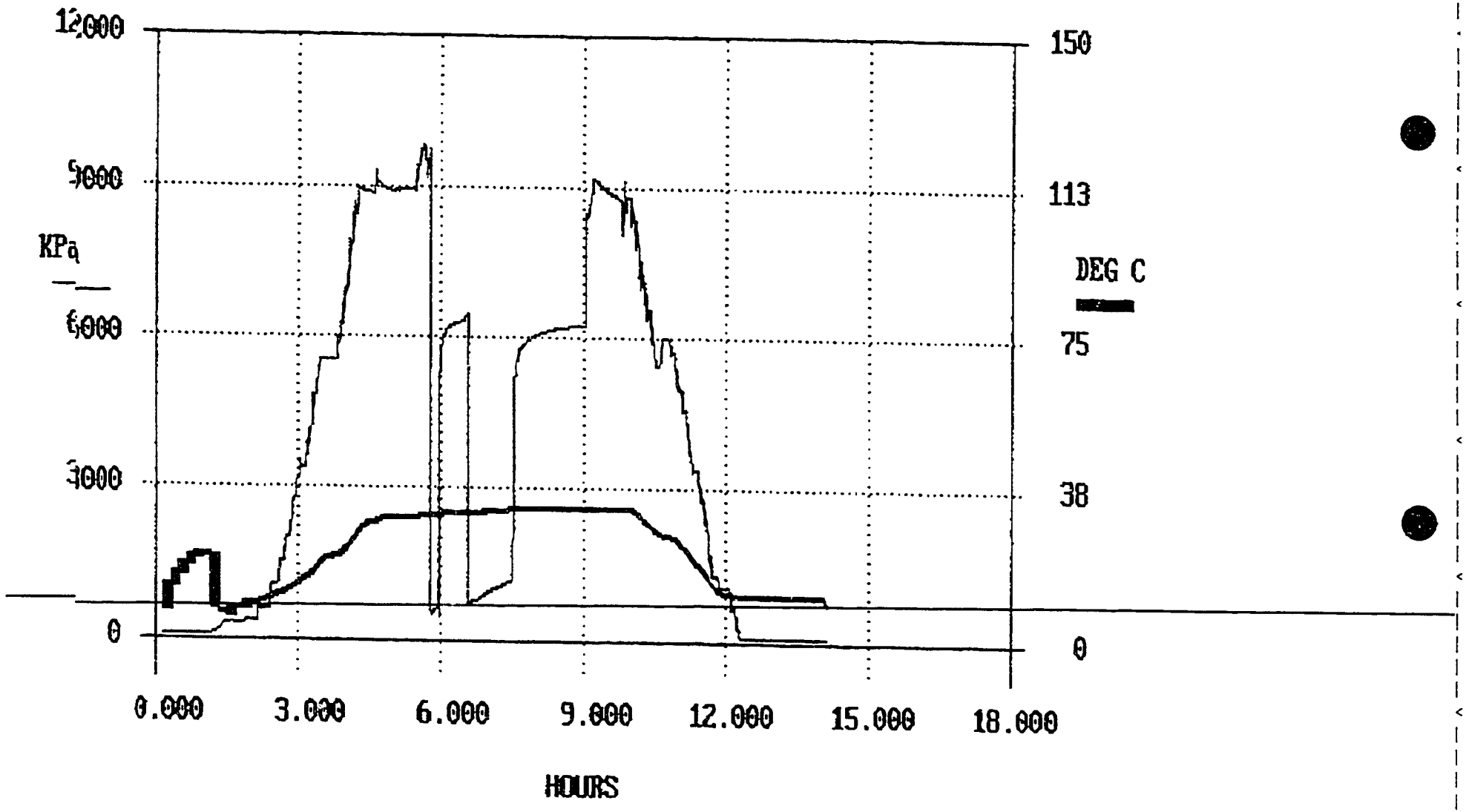


Item	Length
P.O. Sub	0.31
C.O. Sub	0.30
P.O. Sub	0.31
REC FLUID#65	1.60
HMV Stroke	2.39
Sampler	1.10
REC INSIDE#66	1.80
Telemetry Tool	6.10
Jars	2.10
Safety Joint	0.65
Pump	2.05
Screen	1.18
Valve	2.23
Deflate	0.85
Packer	1.78
T.C.	0.72
K-3 Carrier	2.20
Bypass Hanger	0.42
Blank Spacing	7.46
Bypass Receiver	0.78
Stubb	0.72
Packer	1.78
Extension Sub	0.72
Drag Spring	2.08
Bullnose	0.60

FILE: <C:\ALP_IN\C0200845.065>

OUTSIDE

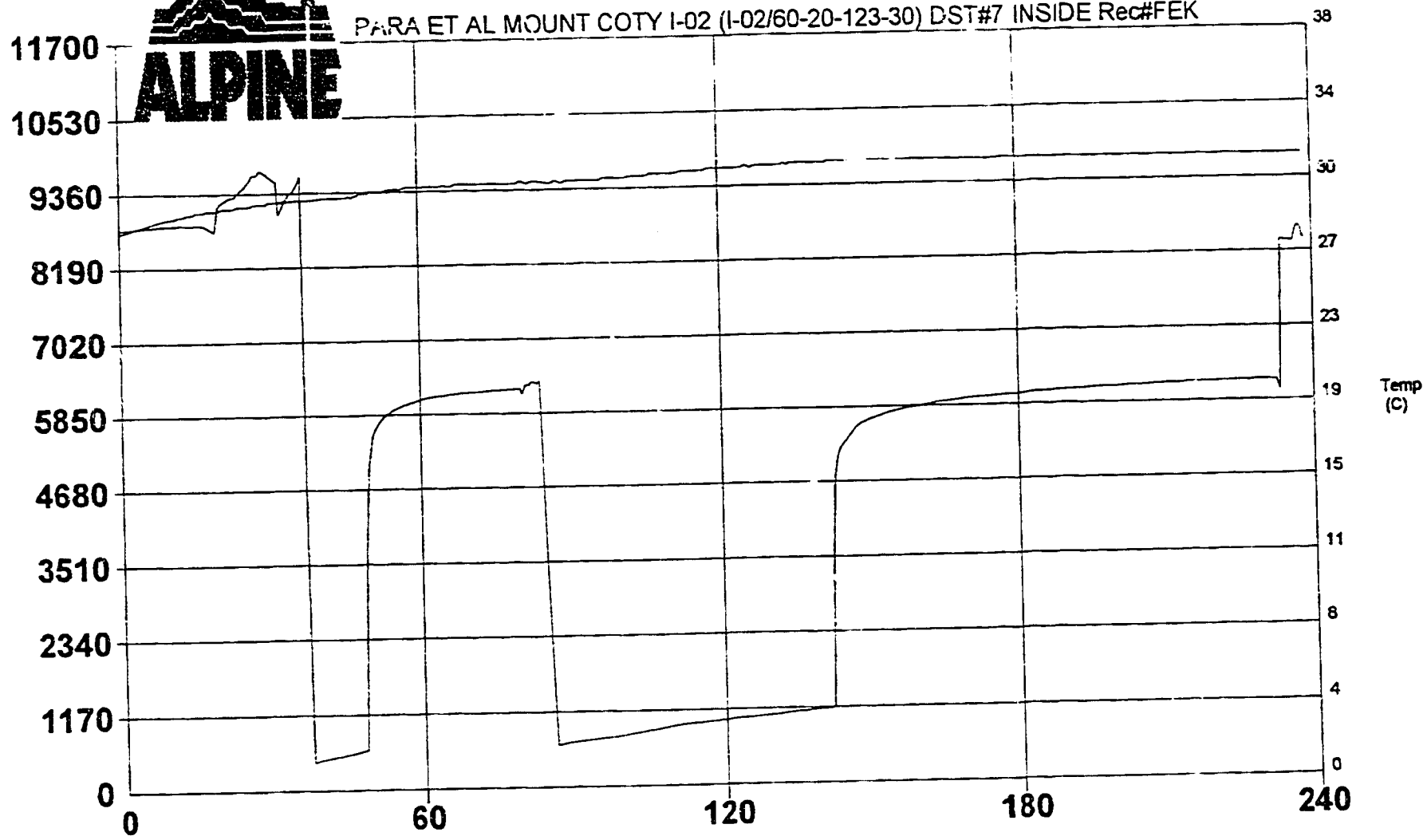
s/n 65 PARAMOUNT RES.LTD 60-20-123-30 T#2-8779 12/02/00 [redacted]



ALPINE

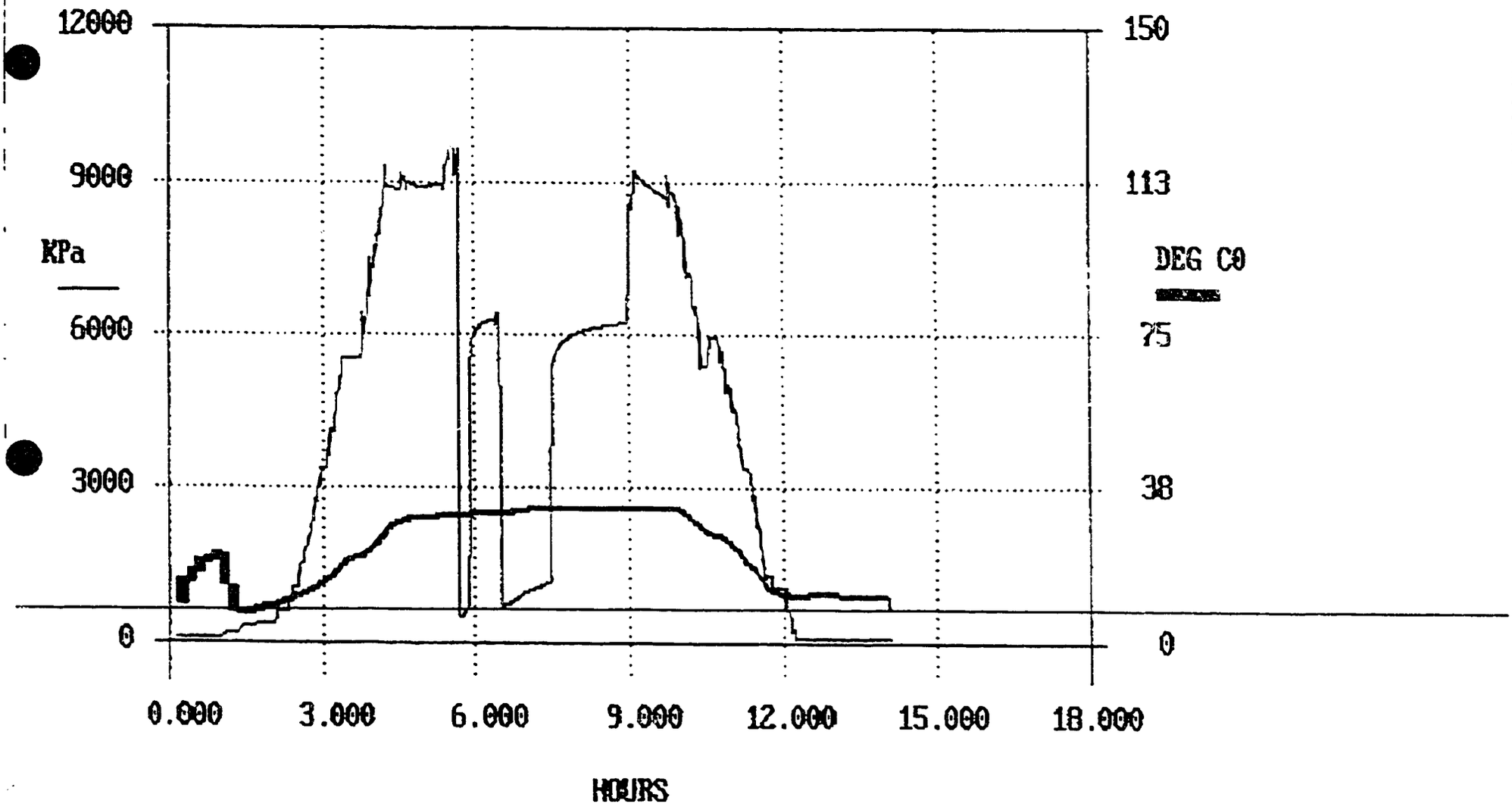
Time/Pressure Plot

PARA ET AL MOUNT COTY I-02 (I-02/60-20-123-30) DST#7 INSIDE Rec#FEK



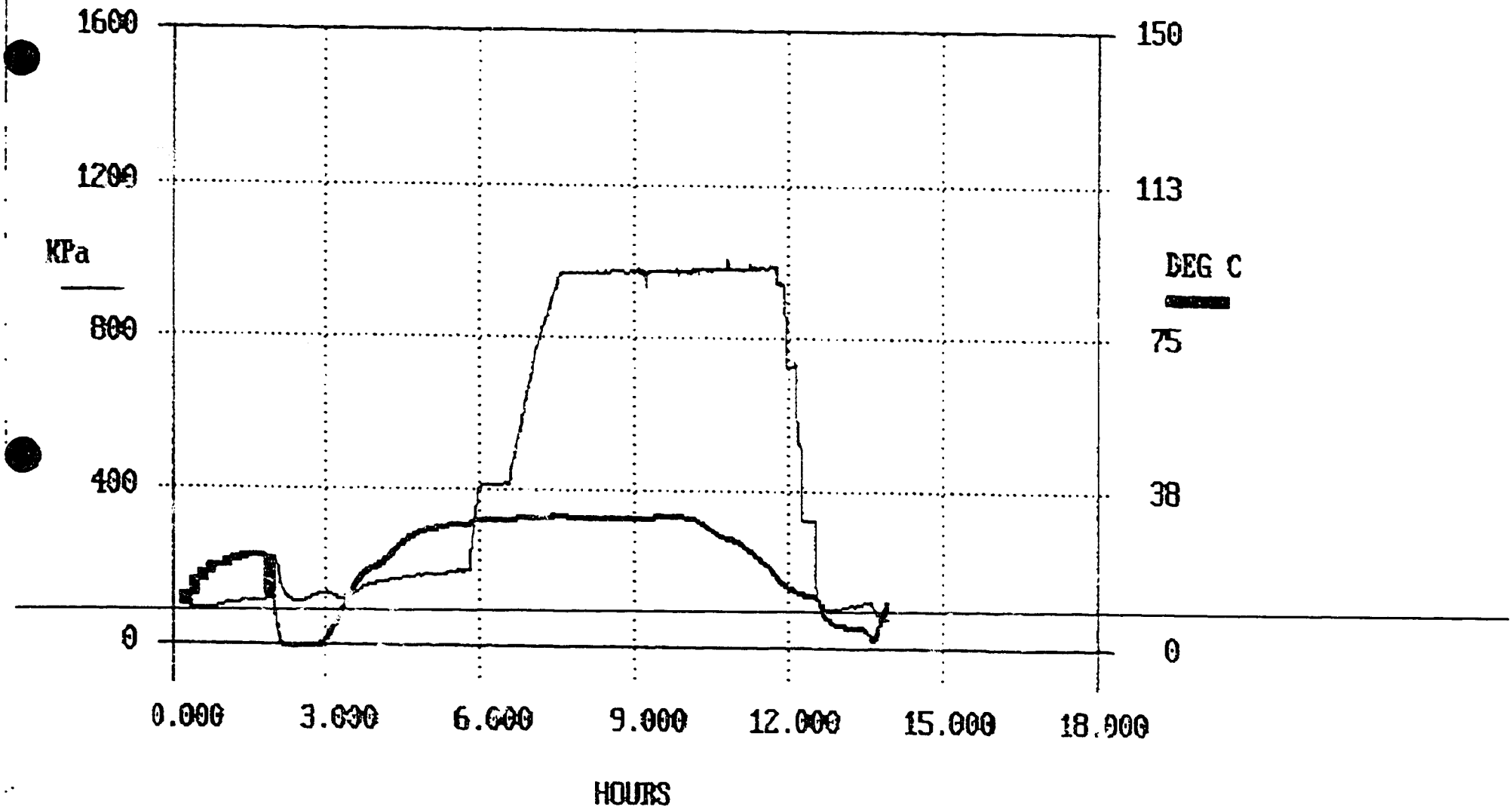
A Initial Hydrostatic - 8860
B Start of 1st Flow - 431
C End of 1st Flow - 616
D End of 1st Shutin - 6293
E Start of 2nd Flow - 650
F End of 2nd Flow - 1155
G End of 2nd Shutin - 6179
Q Final Hydrostatic - 8371

FILE: <C:\ALP_IN\C0200848.160>
s/n 160 PARAMOUNT RES.LTD 60-20-123-30 T@-8779 12/02/00 OUTSIDE



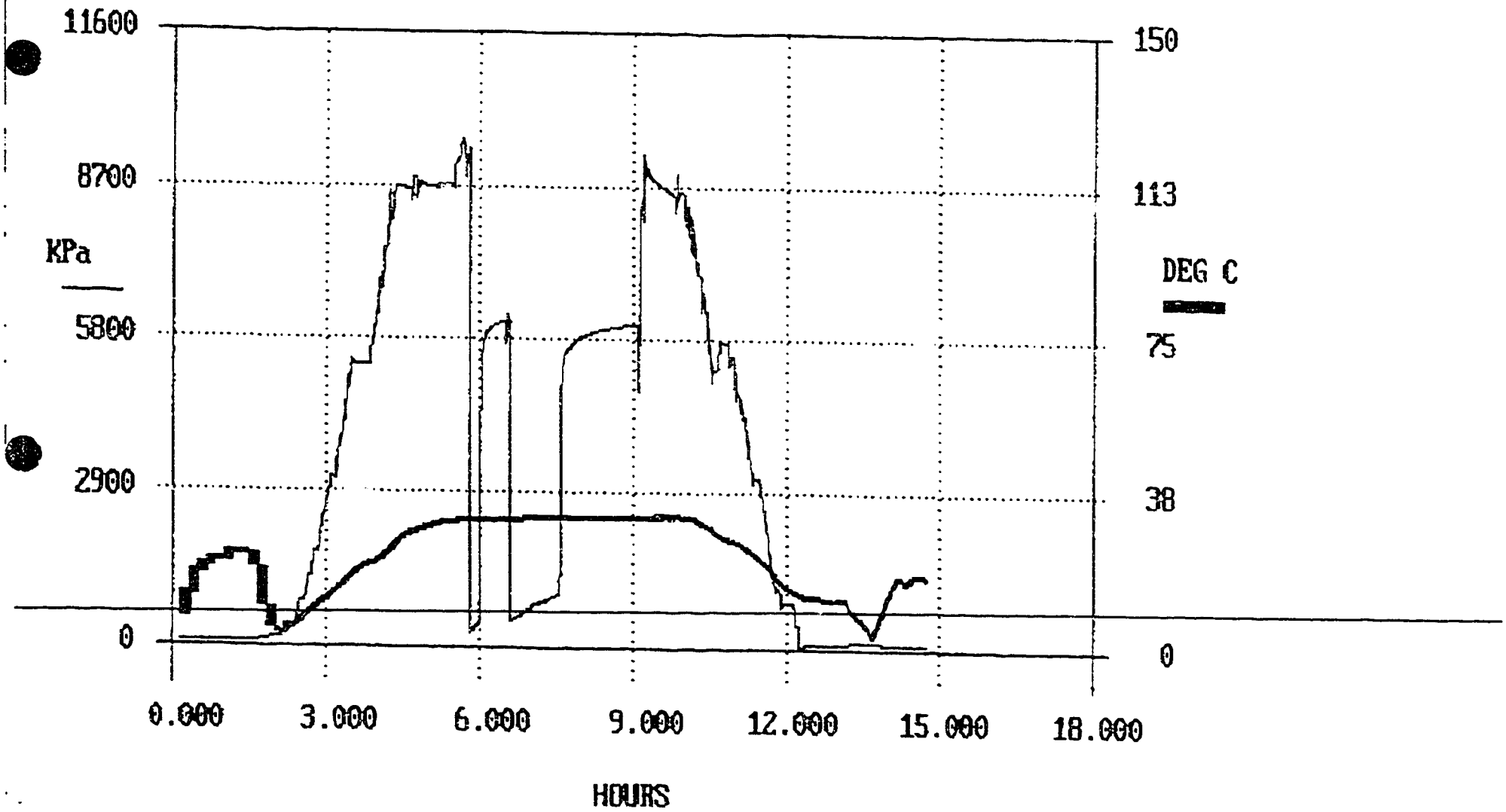
DEC 05 00 11:13 HP LaserJet4000 1403620464? P.08

FILE: <C:\ALP_IN\C0200833.066>
s/n 66 PARAMOUNT RES.LTD 60-20-123-30 TW2-8779 12/02/00 FLUID E



DEC-05-00 11:15 AM GaryJohannson 14036204647 P.09

FILE: <C:\ALP_IN\C0200837.133>
s/n 133 PARAMOUNT RES.LTD 60-20-123-30 T#2-8779 12/02/00 INSIDE



DEC-05-00 11:16 HP GARY JOHANSSON 14036284647 P.10

DST TOOL INFORMATION

(TWO PAGES)

AGAT Laboratories

DST TOOL INFORMATION

AGAT W/O #: 00E60651

COMPANY NAME: PARAMOUNT RESOURCES LTD.

LOCATION: I-02/60-20-123-30

RESULTS

D.S.T. #:	
B.H.S. #:	51
OPENING PRESSURE:	690 KPA
RECOVERY:	PB#11 20cc MUD (Thick) 18883 GAS 30856 GAS

AGAT ®Laboratories

DST TOOL INFORMATION

AGAT W/O #: 00E60651

COMPANY NAME: PARAMOUNT RESOURCES LTD.

LOCATION: I-02/60-20-123-30

RESULTS

D.S.T. #:

B.H.S. #: 36

OPENING PRESSURE: 1200 KPA

RECOVERY

PB#12	50 ml	MUD (Thin)
470		GAS
12838		GAS

COMPUTALOG COMPLETION REPORT

COMPUTALOG
Wellbore knowledge and solutions

COMPUTALOG LTD.
PetroCanada Centre
Suite 4500, 150 - 6th Avenue S.W.
Calgary, Alberta, Canada T2P 3Y7
Tel. (403) 218-2400 • Fax (403) 218-2401

COMPLETION

FOR

PARAMOUNT RESOURCES LIMITED

PARA ET AL MOUNT COTY I-02 NWT

FROM SURFACE LOCATION:

I-02 60-20-123-30 NWT

WELL FILE: **11040 C**

January 9, 2001

2001

COMPUTALOG DRILLING SERVICES
A DIVISION OF COMPUTALOG LTD
9204 - 37TH AVENUE
EDMONTON, AB. CANADA T6E 5L4
PHONE (780) 462-6300
FAX (780) 466-6002

COMPUTALOG DRILLING SERVICES
A DIVISION OF COMPUTALOG LTD
4500, 150 - 6TH AVENUE S.W.
CALGARY, AB. CANADA T2P 3Y7
PHONE (403) 218-2400
FAX (403) 218-2401

COMPUTALOG DRILLING SERVICES

Client : PARAMOUNT RESOURCES LTD.
Well Name : PARA ET AL MOUNT COTY I-02 NWT
Location : I-02/60-20-123-30 NWT

Date : 01/01/09
File : 11040C

Vertical Section Calculated Along Azimuth 49.75°
GR. ELEV. = 367.90m KB ELEV. = 372.95m

MD m	Inc deg	Azi deg	TVD m	Lat m	Dep m	V'Sect m	D'Leg °/30	Build °/30	Turn °/30
				TIE ON					
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
71.00	0.50	79.20	71.00	0.06	0.30	0.27	0.21	0.21	33.5
145.00	0.90	57.30	144.99	0.43	1.11	1.13	0.19	0.16	-8.9
220.00	1.50	41.00	219.98	1.49	2.25	2.68	0.27	0.24	-6.5
293.00	2.20	29.90	292.94	3.43	3.58	4.94	0.32	0.29	-4.6
315.14	2.50	24.10	315.06	4.24	3.98	5.78	0.52	0.41	-7.9
324.86	2.70	22.60	324.77	4.64	4.16	6.17	0.65	0.62	-4.6
334.24	2.20	17.90	334.14	5.02	4.30	6.52	1.72	-1.60	-15.0
343.96	1.60	5.00	343.86	5.33	4.37	6.78	2.26	-1.85	-39.8
353.41	1.10	340.60	353.30	5.55	4.35	6.90	2.38	-1.59	-77.5
362.72	0.70	284.60	362.61	5.65	4.27	6.90	2.95	-1.29	-180.5
371.87	0.70	241.70	371.76	5.63	4.16	6.82	1.68	0.00	-140.7
380.85	0.80	218.10	380.74	5.56	4.07	6.70	1.08	0.33	-78.8
390.42	0.80	209.80	390.31	5.45	4.00	6.57	0.36	0.00	-26.0
409.14	0.60	197.50	409.03	5.24	3.91	6.37	0.40	-0.32	-19.7
427.44	0.80	313.60	427.33	5.24	3.78	6.27	1.96	0.33	190.3
436.93	0.70	211.00	436.82	5.23	3.71	6.21	3.71	-0.32	-324.3
455.71	1.60	187.40	455.59	4.87	3.61	5.91	1.60	1.44	-37.7
473.50	1.10	180.80	473.38	4.46	3.58	5.61	0.88	-0.84	-11.1
482.88	0.80	173.50	482.76	4.30	3.59	5.52	1.03	-0.96	-23.3
491.89	0.40	150.10	491.77	4.21	3.61	5.48	1.54	-1.33	-77.9
501.17	0.30	100.20	501.05	4.18	3.65	5.49	1.00	-0.32	-161.3
518.72	0.50	59.50	518.60	4.21	3.76	5.59	0.57	0.34	-69.6
528.25	0.60	63.70	528.13	4.25	3.84	5.68	0.34	0.31	13.2
537.87	0.70	64.40	537.75	4.30	3.94	5.79	0.31	0.31	2.2
547.18	0.80	60.90	547.05	4.36	4.05	5.90	0.35	0.32	-11.3
556.83	0.90	70.60	556.70	4.42	4.18	6.04	0.54	0.31	31.2
566.39	0.90	76.00	566.26	4.46	4.32	6.18	0.27	0.00	16.9
576.03	0.90	102.50	575.90	4.46	4.47	6.29	1.28	0.00	82.5
584.89	1.00	113.20	584.76	4.42	4.61	6.37	0.69	0.34	36.2

COMPUTALOG DRILLING SERVICES

Client : PARAMOUNT RESOURCES LTD.
Well Name : PARA ET AL MOUNT COTY I-02 NWT
Location : I-02/60-20-123-30 NWT

Date : 01/01/99
File : 11040C

Vertical Section Calculated Along Azimuth 49.75°
GR. ELEV. = 367.90m KB ELEV. = 372.95m

MD m	Inc deg	Azi deg	TVD m	Lat m	Dep m	V'Sect m	D'Leg °/30	Build °/30	Turn °/30
594.28	1.00	137.00	594.15	4.32	4.74	6.41	1.32	0.00	76.0
603.99	1.20	146.60	603.86	4.18	4.85	6.40	0.84	0.62	29.7
613.51	1.10	172.50	613.37	4.00	4.92	6.34	1.65	-0.32	81.6
623.13	1.20	182.20	622.99	3.81	4.93	6.22	0.68	0.31	30.2
632.78	1.10	215.00	632.64	3.63	4.87	6.06	2.04	-0.31	102.0
642.43	1.30	238.30	642.29	3.50	4.72	5.87	1.62	0.62	72.4
652.10	1.20	241.60	651.96	3.39	4.54	5.66	0.38	-0.31	10.2
661.13	1.00	234.00	660.99	3.30	4.39	5.49	0.82	-0.66	-25.2
670.60	0.90	226.50	670.45	3.20	4.27	5.33	0.50	-0.32	-23.8
680.24	0.70	217.40	680.09	3.10	4.18	5.20	0.74	-0.62	-28.3
689.81	0.40	204.50	689.66	3.03	4.13	5.11	1.01	-0.94	-40.4
699.42	0.40	191.70	699.27	2.96	4.11	5.05	0.28	0.00	-40.0
708.99	0.20	184.90	708.84	2.91	4.10	5.02	0.64	-0.63	-21.3
718.13	0.20	200.70	717.98	2.88	4.10	4.99	0.18	0.00	51.9
727.07	0.10	216.70	726.92	2.86	4.09	4.97	0.36	-0.34	53.7
736.41	0.30	210.10	736.26	2.84	4.07	4.94	0.65	0.64	-21.2
745.88	0.50	211.10	745.73	2.78	4.04	4.88	0.63	0.63	3.2
755.24	0.70	214.30	755.09	2.70	3.98	4.78	0.65	0.64	10.3
764.50	0.90	209.90	764.35	2.59	3.92	4.66	0.68	0.65	-14.3
773.89	1.10	176.60	773.74	2.43	3.88	4.54	1.93	0.64	-106.4
783.51	1.20	178.30	783.36	2.24	3.89	4.42	0.33	0.31	5.3
792.99	0.90	213.60	792.84	2.08	3.85	4.28	2.21	-0.95	111.7
802.62	0.60	223.80	802.46	1.98	3.78	4.16	1.02	-0.93	31.8
812.07	0.40	237.60	811.91	1.93	3.72	4.08	0.74	-0.63	43.8
821.63	0.40	251.70	821.47	1.90	3.66	4.02	0.31	0.00	44.2
830.56	0.40	260.30	830.40	1.88	3.59	3.96	0.20	0.00	28.9
839.62	0.40	285.80	839.66	1.89	3.53	3.91	0.57	0.00	82.6
849.37	0.30	310.90	849.21	1.91	3.48	3.89	0.57	-0.31	78.8
858.85	0.40	351.10	858.69	1.96	3.46	3.90	0.82	0.32	127.2
868.36	0.60	47.40	868.19	2.03	3.49	3.97	1.59	0.63	177.8

COMPUTALOG DRILLING SERVICES

Client : PARAMOUNT RESOURCES LTD.
Well Name : PARA ET AL MOUNT COTY I-02 NWT
Location : I-02/60-20-123-30 NWT

Vertical Section Calculated Along Azimuth 49.75°
GR. ELEV. = 367.90m KB ELEV. = 372.95m

MD m	Inc deg	Azi deg	TVD m	Lat m	Dep m	V'Sect m	D'Leg °/30	Build °/30	Turn °/30
877.72	0.90	30.10	877.56	2.12	3.56	4.09	1.19	0.96	-55.4
896.00	1.20	359.90	895.84	2.44	3.63	4.35	1.02	0.49	-49.6
905.41	1.40	342.60	905.25	2.65	3.60	4.46	1.40	0.64	-55.2
915.27	1.30	289.80	915.10	2.80	3.46	4.45	3.66	-0.30	-160.6
923.81	1.50	282.70	923.64	2.86	3.26	4.33	0.93	0.70	-24.9
933.43	1.50	278.50	933.26	2.90	3.01	4.17	0.34	0.00	-13.1
942.97	1.20	273.40	942.80	2.93	2.79	4.02	1.02	-0.94	-16.0
952.57	0.80	251.70	952.39	2.91	2.62	3.88	1.70	-1.25	-67.8
961.68	0.80	224.20	961.50	2.85	2.52	3.76	1.25	0.00	-90.6
971.29	0.80	210.30	971.11	2.74	2.44	3.63	0.60	0.00	-43.4
980.82	0.60	208.80	980.64	2.64	2.38	3.52	0.63	-0.63	-4.7
990.46	0.70	201.10	990.28	2.54	2.33	3.42	0.41	0.31	-24.0
1000.10	0.60	201.20	999.92	2.44	2.29	3.33	0.31	-0.31	0.3
1009.69	0.70	199.40	1009.51	2.34	2.26	3.23	0.32	0.31	-5.6
1019.28	0.70	188.20	1019.10	2.22	2.23	3.14	0.43	0.00	-35.0
1028.92	0.80	195.10	1028.74	2.10	2.20	3.04	0.42	0.31	21.5
1038.54	1.00	185.60	1038.36	1.95	2.18	2.92	0.78	0.62	-29.6
1047.38	0.80	196.70	1047.20	1.82	2.15	2.82	0.90	-0.68	37.7
1057.00	0.60	238.00	1056.82	1.73	2.09	2.71	1.65	-0.62	128.8
1066.59	0.80	265.40	1066.40	1.69	1.98	2.61	1.20	0.63	85.7
1076.24	0.90	270.40	1076.05	1.69	1.84	2.49	0.39	0.31	15.5
1087.26	0.90	266.30	1087.07	1.68	1.67	2.36	0.18	0.00	-11.2
1096.98	0.90	273.10	1096.79	1.68	1.51	2.24	0.33	0.00	21.0
1106.60	0.90	271.10	1106.41	1.69	1.36	2.13	0.10	0.00	-6.2
1116.05	0.80	279.10	1115.86	1.70	1.22	2.03	0.49	-0.32	25.4
1125.36	0.90	289.30	1125.17	1.73	1.09	1.95	0.56	0.32	32.9
1134.74	0.60	307.30	1134.57	1.79	0.98	1.90	1.21	-0.96	57.4
1144.36	0.80	330.80	1144.19	1.88	0.91	1.91	1.08	0.62	73.8
1153.88	0.80	331.90	1153.69	1.99	0.84	1.93	0.06	0.00	3.9
1163.22	0.90	344.20	1163.02	2.12	0.79	1.97	0.67	0.32	39.9

COMPUTALOG DRILLING SERVICES

Client : PARAMOUNT RESOURCES LTD.
Well Name : PARA ET AL MOUNT COTY I-02 NWT
Location : I-02/60-20-123-30 NWT

Date : 01/01/09
File : 11040C

Vertical Section Calculated Along Azimuth 49.75°
GR. ELEV. = 367.90m KB ELEV. = 372.95m

MD m	Inc deg	Azi deg	TVD m	Lat m	Dep m	V'Sect m	D'Leg °/30	Build °/30	Turn °/30
1172.28	0.80	319.90	1172.08	2.24	0.73	2.00	1.23	-0.33	-80.5
1181.81	0.70	287.20	1181.61	2.31	0.63	1.97	1.36	-0.31	-102.9
1191.48	0.60	203.30	1191.28	2.28	0.56	1.90	2.71	-0.31	-260.3
1233.00	0.50	162.90	1232.80	1.90	0.52	1.63	0.28	-0.07	-29.2
1239.20	0.50	143.00	1239.00	1.86	0.55	1.62	0.84	0.00	-96.3
1248.80	0.30	118.90	1248.60	1.81	0.60	1.62	0.80	-0.63	-75.3
1258.37	0.50	106.80	1258.17	1.79	0.66	1.66	0.68	0.63	-37.9
1266.00	0.40	92.70	1265.80	1.78	0.72	1.69	0.58	-0.39	-55.4
1277.52	0.50	87.20	1277.32	1.78	0.81	1.76	0.28	0.26	-14.3
1287.14	0.70	87.50	1286.94	1.78	0.91	1.84	0.62	0.62	0.9
1296.70	0.50	59.60	1296.50	1.81	1.00	1.93	1.09	-0.63	-87.6
1305.81	0.40	265.00	1305.61	1.82	1.00	1.94	2.89	-0.33	-309.1
1315.31	0.90	262.50	1315.11	1.81	0.90	1.85	1.58	1.58	-7.9
1324.84	0.90	262.90	1324.64	1.79	0.75	1.73	0.02	0.00	1.3
1334.42	0.70	288.40	1334.22	1.80	0.62	1.63	1.26	-0.63	79.9
1343.99	0.50	290.60	1343.78	1.83	0.52	1.58	0.63	-0.63	6.9
1353.06	0.60	312.50	1352.85	1.88	0.45	1.56	0.76	0.33	72.4
1362.62	0.30	336.40	1362.41	1.94	0.40	1.56	1.09	-0.94	75.0
1372.11	0.60	197.30	1371.90	1.91	0.38	1.52	2.69	0.95	-439.7
1381.26	0.90	201.70	1381.05	1.80	0.34	1.42	1.00	0.98	14.4
1388.78	0.90	186.10	1388.57	1.69	0.31	1.33	0.97	0.00	-62.2
1397.91	0.80	206.40	1397.70	1.56	0.27	1.22	1.04	-0.33	66.7
1407.55	0.40	203.00	1407.34	1.47	0.23	1.12	1.25	-1.24	-10.6
1416.75	0.40	208.10	1416.54	1.41	0.20	1.07	0.12	0.00	16.6
1426.30	0.40	172.70	1426.09	1.35	0.19	1.02	0.76	0.00	-111.2
1434.24	0.20	159.50	1434.03	1.30	0.20	1.00	0.79	-0.76	-49.9
1443.89	0.30	135.10	1443.68	1.27	0.22	0.99	0.48	0.31	-75.9
1453.40	0.30	107.60	1453.19	1.25	0.27	1.01	0.48	0.00	-86.4
1462.66	0.40	89.90	1462.45	1.24	0.32	1.05	0.47	0.32	-57.3
1472.23	0.60	101.40	1472.02	1.23	0.42	1.10	0.77	0.63	36.1

COMPUTALOG DRILLING SERVICES

Client : PARAMOUNT RESOURCES LTD.
Well Name : PARA ET AL MOUNT COTY I-02 NWT
Location : I-02/60-20-123-30 NWT

Date : 01/01/09
File : 11040C

Vertical Section Calculated Along Azimuth 49.75°
GR. ELEV. = 367.90m KB ELEV. = 372.95m

MD m	Inc deg	Azi deg	TVD m	Lat m	Dep m	V'Sect m	D'Leg °/30	Build °/30	Turn °/30
1481.82	1.00	97.10	1481.61	1.21	0.54	1.19	1.26	1.25	-13.5
1491.36	1.30	99.30	1491.15	1.18	0.73	1.32	0.95	0.94	6.9
1511.10	1.10	157.00	1510.88	0.97	1.02	1.41	1.78	-0.30	87.7
1527.00	1.30	136.90	1526.78	0.70	1.20	1.37	0.87	0.38	-37.9
1539.00	1.10	113.60	1538.78	0.55	1.40	1.43	1.31	-0.50	-58.2
1548.91	1.40	91.40	1548.68	0.51	1.61	1.56	1.71	0.91	-67.2
1558.05	1.70	82.20	1557.82	0.53	1.86	1.76	1.28	0.98	-30.2
1567.64	1.60	79.50	1567.41	0.57	2.13	1.99	0.40	-0.31	-8.4
1578.19	1.80	59.60	1577.95	0.68	2.42	2.28	1.76	0.57	-56.6
1585.97	2.10	57.00	1585.73	0.82	2.64	2.55	1.21	1.16	-10.0
1595.55	2.90	53.10	1595.30	1.06	2.98	2.96	2.56	2.51	-12.2
1605.10	3.30	54.70	1604.84	1.37	3.40	3.48	1.29	1.26	5.0
1614.66	3.60	48.10	1614.38	1.73	3.85	4.05	1.56	0.94	-20.7
1625.15	3.80	53.30	1624.85	2.15	4.37	4.73	1.12	0.57	14.9
1634.78	2.30	57.60	1634.46	2.45	4.79	5.24	4.72	-4.67	13.4
1644.36	0.90	35.30	1644.04	2.61	5.00	5.50	4.72	-4.38	-69.8
1655.70	0.50	36.00	1655.38	2.72	5.08	5.64	1.06	-1.06	1.9
1662.61	0.20	317.80	1662.29	2.76	5.09	5.66	2.17	-1.30	-339.5
1672.18	0.70	292.40	1671.86	2.79	5.02	5.64	1.65	1.57	-79.6
1681.80	1.80	297.60	1681.47	2.88	4.83	5.55	3.45	3.43	16.2
1691.19	2.60	285.50	1690.86	3.01	4.50	5.38	2.94	2.56	-38.7
1697.00	3.20	284.90	1696.66	3.09	4.21	5.21	3.10	3.10	-3.1
			EXTRAPOLATED TD @ 1705.00m MD						
1705.00	3.20	284.90	1704.65	3.20	3.78	4.96	0.00	0.00	0.0

Bottom Hole Closure 4.95m Along Azimuth 49.75°

COMPUTALOG DRILLING SERVICES

COMPLETION REPORT

COMPANY: PARAMOUNT RESOURCES LIMITED
WELL: PARA ET AL MOUNT COTY I-02 NWT
LOCATION: I-02 60-20-123-30 NWT

FILE: 11040 C
DATE: 01-01-09
TYPE:

TOTAL DEPTH CO-ORDINATES

RECTANGULAR		POLAR	MAGNETIC DECLINATION
LAT: 3.2 m	DEP: 3.78 m	4.95 m @ AZ: 49.75°	

COMPLETED TVD: 1705 m

MEASURED DEPTH: 1704.65 m

WELL OFFSET CO-ORDINATES

SURFACE: ; SEC

COMMENTS:

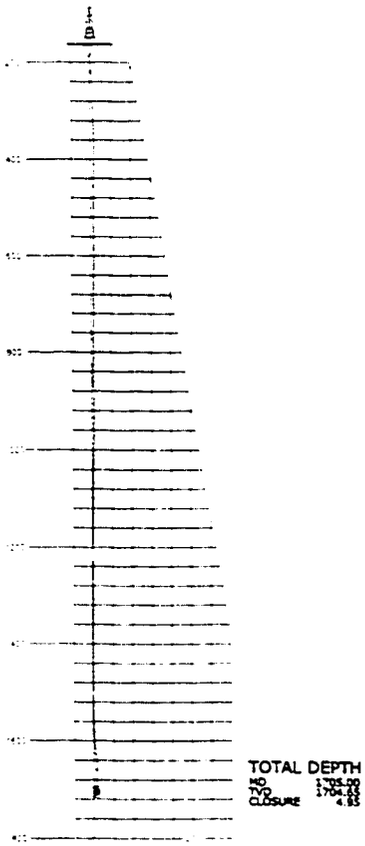
Completion Date: 2001-01-09

NOTE: DISTANCES AND DEPTHS ARE IN METERS AND DECIMALS
INCLINATION AND DIRECTION ARE IN DECIMAL DEGREES
METHOD OF SURVEY CALCULATION IS MINIMUM CURVATURE
DOGLEG, BUILD AND TURN ARE IN °/30m INTERVALS
(-) VALUES INDICATE SOUTH FOR LATITUDE AND WEST FOR DEPARTURE
ALL DEPTHS ARE BASED UPON KB ELEVATION

PARA ET AL MOUNT COTY 1-02

BOTTOM HOLE CLOSURE 4.95m @ AZ 49.75°

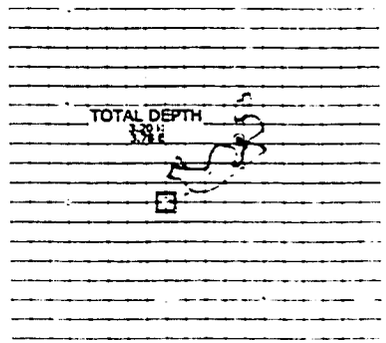
VERTICAL PROJECTION



TOTAL DEPTH
MD 1705.00
TVD 1704.65
CLOSURE 4.95

VERTICAL SEC CALCULATED ALONG AZ 49.75°

HORIZONTAL PROJECTION

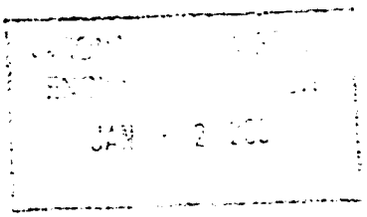


TOTAL DEPTH

COMPANY PARAMOUNT RESOURCES LTD

EXTENDED STATIC GRADIENT DATED DEC. 8 – 13 2000

PARAMOUNT RESOURCES LTD.
PARAMOUNT ET AL MOUNT COTY
I-02-60-20-123-30
Extended/Static Gradient
Dec 8-13/2000





SOLID PRODUCTION SERVICES LTD.

505 - 19th AVENUE. NISKU. ALBERTA T9E 7V9

PHONE: (780) 955-7525
FAX: (780) 955-3412
http://www.solidresources.com

GENERAL INFORMATION

Client Information:

Company: Paramount Resources Ltd.

Contact:

Phone: Fax: e-mail:

Site Information:

Contact:

Phone: Fax: e-mail:

Well Information:

Name: Paramount et al Mount Coty

Operator:

Location-Downhole: I-02-60-20-123-30

Location-Surface:

Test Information:

Company: Solid Production Services Ltd.

Representative:

Supervisor:

Test Type: Build Up Job Number: 0012036

Test Unit:

Start Date: 2000/12/08 Start Time: 14:52:00

End Date: 2000/12/13 End Time: 17:00:00

Report Date: 2000/12/15 Prepared By: Brad Spicer

Remarks: Qualified By:

WELL INFORMATION

Well Name : Paramount et al Mount Coty

Well Operator :

Well Location : I-02-60-20-123-30

Location-Surface :

Field : Mount Coty **Well Type : Vertical**

Pool :

Formation : Mattson Sand

Perforation Type :			Producing Through : Tubing	Size	73.00 mm
Pool Datum	m	CF	Elevation Referenced From	372.95 m	KB
Datum Depth	m	CF	Elevation Referenced To	367.90 m	CF
			Offset	5.05 m	

Production Intervals

Production Interval & MPP Reference To : KB MPP Pressure Reference : None

	From - m	To - m	Depth - m	Pressure - kPa
1.	1059.00	1067.00	1063.00	
2				
3.				
4.				
5				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

Remarks :

Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/13

Recorder

Paramount et al Mount Coty
Formation: Mattson Sand

Job Number: 0012036

Gauge Serial Number	71045	Gauge Type	ss2500	
Gauge Manufacturer	Spartek	Maximum Recorder Range	20685.00	kPa
Run Depth	1046.55000 m	Date of Last Calibration	2000/06/26	
Gauge Start Date	2000/12/08 15:17:58	Gauge Stop Date	2000/12/13 17:00:00	
Date Gauge On Bottom	2000/12/08 15:19:00	Date Gauge Off Bottom	2000/12/13 11:42:00	

Gauge Serial Number	71042	Gauge Type	ss2500	
Gauge Manufacturer	Spartek	Maximum Recorder Range	20685.00	kPa
Run Depth	1047.05000 m	Date of Last Calibration	2000/05/17	
Gauge Start Date	2000/12/08 15:17:58	Gauge Stop Date	2000/12/13 17:00:00	
Date Gauge On Bottom	2000/12/08 15:19:00	Date Gauge Off Bottom	2000/12/13 11:42:00	

Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/13

Paramount et al Mount Coty
Formation: Mattson Sand

Job Number: 0012036

	71045 Date	71045 Clk Time	71045 Pres.	71045 Temp.	71042 Date	71042 Clk Time	71042 Pres	71042 Temp
	yyyy/mm/dd	hh mm ss	kPa(a)	C	yyyy/mm/dd	hh mm ss	kPa(a)	C
1	2000/12/08	15:17:58	1366.81	17.41	2000/12/08	15:17:58	1372.77	19.30
2			On Bottom					
3	2000/12/08	15:18:57	1359.16	22.68	2000/12/08	15:18:57	1365.97	24.63
4	2000/12/08	15:51:57	1335.86	41.98	2000/12/08	15:51:57	1348.41	42.39
5	2000/12/08	16:26:58	250.04	41.92	2000/12/08	16:26:58	259.20	42.36
6	2000/12/08	17:01:57	422.38	41.95	2000/12/08	17:01:57	432.02	42.39
7	2000/12/08	17:36:57	491.89	41.98	2000/12/08	17:36:57	501.39	42.41
8	2000/12/08	18:11:58	477.53	41.98	2000/12/08	18:11:58	486.86	42.41
9	2000/12/08	18:46:57	485.89	41.96	2000/12/08	18:46:57	495.27	42.39
10	2000/12/08	19:21:57	507.87	41.94	2000/12/08	19:21:57	517.33	42.37
11	2000/12/08	19:56:58	546.99	41.94	2000/12/08	19:56:58	556.45	42.37
12	2000/12/08	20:31:57	585.12	41.93	2000/12/08	20:31:57	594.45	42.36
13	2000/12/08	21:06:57	629.35	41.93	2000/12/08	21:06:57	638.43	42.36
14	2000/12/08	21:41:58	672.53	41.93	2000/12/08	21:41:58	682.05	42.35
15	2000/12/08	22:16:57	716.28	41.93	2000/12/08	22:16:57	725.81	42.35
16	2000/12/08	22:51:57	767.44	41.93	2000/12/08	22:51:57	777.01	42.36
17	2000/12/08	23:26:58	817.82	41.92	2000/12/08	23:26:58	827.54	42.34
18	2000/12/09	00:01:57	868.88	41.92	2000/12/09	00:01:57	878.77	42.34
19	2000/12/09	00:36:57	922.83	41.92	2000/12/09	00:36:57	932.73	42.34
20	2000/12/09	01:11:58	976.87	41.92	2000/12/09	01:11:58	986.80	42.33
21	2000/12/09	01:46:57	1033.19	41.92	2000/12/09	01:46:57	1043.31	42.33
22	2000/12/09	02:21:57	1090.18	41.92	2000/12/09	02:21:57	1100.39	42.33
23	2000/12/09	02:56:58	1149.53	41.92	2000/12/09	02:56:58	1159.87	42.33
24	2000/12/09	03:31:57	1209.89	41.92	2000/12/09	03:31:57	1220.25	42.32
25	2000/12/09	04:06:57	1271.76	41.92	2000/12/09	04:06:57	1282.22	42.32
26	2000/12/09	04:41:58	1334.87	41.92	2000/12/09	04:41:58	1345.39	42.32
27	2000/12/09	05:16:57	1401.04	41.92	2000/12/09	05:16:57	1411.60	42.31
28	2000/12/09	05:51:57	1467.19	41.91	2000/12/09	05:51:57	1477.91	42.31
29	2000/12/09	06:26:58	1536.79	41.92	2000/12/09	06:26:58	1547.35	42.31
30	2000/12/09	07:01:57	1604.88	41.92	2000/12/09	07:01:57	1615.68	42.31
31	2000/12/09	07:36:57	1674.30	41.91	2000/12/09	07:36:57	1685.40	42.31
32	2000/12/09	08:11:58	1744.69	41.91	2000/12/09	08:11:58	1755.71	42.30
33	2000/12/09	08:46:57	1816.39	41.91	2000/12/09	08:46:57	1827.57	42.30
34	2000/12/09	09:21:57	1889.09	41.91	2000/12/09	09:21:57	1900.12	42.30
35	2000/12/09	09:56:58	1962.63	41.91	2000/12/09	09:56:58	1973.80	42.30
36	2000/12/09	10:31:57	2036.04	41.91	2000/12/09	10:31:57	2047.11	42.29
37	2000/12/09	11:06:57	2111.21	41.91	2000/12/09	11:06:57	2122.49	42.29
38	2000/12/09	11:41:58	2186.83	41.91	2000/12/09	11:41:58	2198.11	42.29
39	2000/12/09	12:16:57	2263.31	41.91	2000/12/09	12:16:57	2274.59	42.29
40	2000/12/09	12:51:57	2340.12	41.91	2000/12/09	12:51:57	2351.47	42.29
41	2000/12/09	13:26:58	2417.68	41.91	2000/12/09	13:26:58	2429.08	42.29
42	2000/12/09	14:01:57	2495.28	41.91	2000/12/09	14:01:57	2506.58	42.28
43	2000/12/09	14:36:57	2565.23	41.93	2000/12/09	14:36:57	2576.53	42.30
44	2000/12/09	15:11:58	2641.44	41.92	2000/12/09	15:11:58	2652.72	42.30
45	2000/12/09	15:46:57	2721.01	41.92	2000/12/09	15:46:57	2732.30	42.30
46	2000/12/09	16:21:57	2799.90	41.92	2000/12/09	16:21:57	2811.19	42.29
47	2000/12/09	16:56:58	2879.73	41.92	2000/12/09	16:56:58	2891.08	42.29

Print Filter Used: Nth Line = 35.000

Paramount Resources Ltd
I-02-60-20-123-30
Start Test Date 2000/12/08
Final Test Date 2000/12/13

Paramount et al Mount Coty
Formation Mattson Sand

Job Number 0012036

	71045 Date	71045 Clk Time	71045 Pres	71045 Temp	71042 Date	71042 Clk Time	71042 Pres	71042 Temp
48	2000/12/09	17:31:57	2960.14	41.92	2000/12/09	17:31:57	2971.31	42.28
49	2000/12/09	18:06:57	3040.28	41.91	2000/12/09	18:06:57	3051.39	42.28
50	2000/12/09	18:41:58	3121.39	41.91	2000/12/09	18:41:58	3132.38	42.28
51	2000/12/09	19:16:57	3202.08	41.91	2000/12/09	19:16:57	3213.29	42.28
52	2000/12/09	19:51:57	3282.91	41.91	2000/12/09	19:51:57	3294.01	42.28
53	2000/12/09	20:26:58	3364.70	41.91	2000/12/09	20:26:58	3375.60	42.28
54	2000/12/09	21:01:57	3446.69	41.91	2000/12/09	21:01:57	3457.58	42.28
55	2000/12/09	21:36:57	3528.94	41.91	2000/12/09	21:36:57	3539.81	42.28
56	2000/12/09	22:11:58	3610.91	41.91	2000/12/09	22:11:58	3621.68	42.28
57	2000/12/09	22:46:57	3694.02	41.91	2000/12/09	22:46:57	3704.80	42.27
58	2000/12/09	23:21:57	3776.72	41.91	2000/12/09	23:21:57	3787.51	42.27
59	2000/12/09	23:56:58	3859.63	41.91	2000/12/09	23:56:58	3870.47	42.27
60	2000/12/10	00:31:57	3942.08	41.91	2000/12/10	00:31:57	3952.79	42.27
61	2000/12/10	01:06:57	4025.13	41.91	2000/12/10	01:06:57	4035.73	42.27
62	2000/12/10	01:41:58	4107.82	41.91	2000/12/10	01:41:58	4118.56	42.27
63	2000/12/10	02:16:57	4190.61	41.91	2000/12/10	02:16:57	4201.28	42.27
64	2000/12/10	02:51:57	4273.59	41.91	2000/12/10	02:51:57	4284.28	42.27
65	2000/12/10	03:26:58	4356.63	41.91	2000/12/10	03:26:58	4367.11	42.27
66	2000/12/10	04:01:57	4438.64	41.91	2000/12/10	04:01:57	4449.27	42.27
67	2000/12/10	04:36:57	4521.23	41.91	2000/12/10	04:36:57	4531.81	42.27
68	2000/12/10	05:11:58	4603.93	41.91	2000/12/10	05:11:58	4614.43	42.27
69	2000/12/10	05:46:57	4686.18	41.91	2000/12/10	05:46:57	4696.68	42.27
70	2000/12/10	06:21:57	4768.15	41.91	2000/12/10	06:21:57	4778.55	42.27
71	2000/12/10	06:56:58	4849.69	41.91	2000/12/10	06:56:58	4860.21	42.27
72	2000/12/10	07:31:57	4931.12	41.91	2000/12/10	07:31:57	4941.58	42.27
73	2000/12/10	08:06:57	5012.20	41.90	2000/12/10	08:06:57	5022.69	42.27
74	2000/12/10	08:41:58	5093.83	41.90	2000/12/10	08:41:58	5104.43	42.27
75	2000/12/10	09:16:57	5174.70	41.90	2000/12/10	09:16:57	5185.37	42.26
76	2000/12/10	09:51:57	5254.80	41.91	2000/12/10	09:51:57	5265.34	42.27
77	2000/12/10	10:26:58	5335.55	41.90	2000/12/10	10:26:58	5346.02	42.26
78	2000/12/10	11:01:57	5415.14	41.90	2000/12/10	11:01:57	5425.64	42.26
79	2000/12/10	11:36:57	5494.79	41.90	2000/12/10	11:36:57	5505.25	42.26
80	2000/12/10	12:11:58	5573.98	41.90	2000/12/10	12:11:58	5584.58	42.26
81	2000/12/10	12:46:57	5652.71	41.90	2000/12/10	12:46:57	5663.25	42.26
82	2000/12/10	13:21:57	5731.10	41.90	2000/12/10	13:21:57	5741.69	42.26
83	2000/12/10	13:56:58	5809.53	41.90	2000/12/10	13:56:58	5820.00	42.26
84	2000/12/10	14:31:57	5887.03	41.90	2000/12/10	14:31:57	5897.66	42.26
85	2000/12/10	15:06:57	5964.39	41.90	2000/12/10	15:06:57	5974.97	42.26
86	2000/12/10	15:41:58	6041.26	41.90	2000/12/10	15:41:58	6051.88	42.26
87	2000/12/10	16:16:57	6117.60	41.89	2000/12/10	16:16:57	6128.25	42.26
88	2000/12/10	16:51:57	6193.75	41.90	2000/12/10	16:51:57	6204.13	42.26
89	2000/12/10	17:26:58	6269.80	41.89	2000/12/10	17:26:58	6280.35	42.26
90	2000/12/10	18:01:57	6345.27	41.89	2000/12/10	18:01:57	6355.88	42.26
91	2000/12/10	18:36:57	6420.07	41.89	2000/12/10	18:36:57	6430.73	42.26
92	2000/12/10	19:11:58	6494.41	41.89	2000/12/10	19:11:58	6504.93	42.26
93	2000/12/10	19:46:57	6568.35	41.89	2000/12/10	19:46:57	6578.91	42.25
94	2000/12/10	20:21:57	6642.02	41.89	2000/12/10	20:21:57	6652.66	42.25

Print Filter Used: Nth Line = 35.000

Fast

Paramount Resources Ltd
I-02-60-20-123-30
Start Test Date 2000/12/08
Final Test Date 2000/12/13

Paramount et al Mount Coty
Formation: Mattson Sand

Job Number 0012036

	71045 Date	71045 Clk Time	71045 Pres	71045 Temp	71042 Date	71042 Clk Time	71042 Pres	71042 Temp
	yyyy/mm/dd	hh:mm:ss	kPa a	C	yyyy/mm/dd	hh:mm:ss	kPa a	C
95	2000/12/10	20:56:58	6715.28	41.89	2000/12/10	20:56:58	6725.85	42.25
96	2000/12/10	21:31:57	6787.52	41.89	2000/12/10	21:31:57	6798.03	42.25
97	2000/12/10	22:06:57	6859.73	41.89	2000/12/10	22:06:57	6870.28	42.25
98	2000/12/10	22:41:58	6931.67	41.89	2000/12/10	22:41:58	6942.28	42.25
99	2000/12/10	23:16:57	7002.31	41.89	2000/12/10	23:16:57	7012.88	42.25
100	2000/12/10	23:51:57	7073.08	41.89	2000/12/10	23:51:57	7083.54	42.25
101	2000/12/11	00:26:58	7143.27	41.89	2000/12/11	00:26:58	7153.90	42.25
102	2000/12/11	01:01:57	7212.69	41.88	2000/12/11	01:01:57	7223.36	42.25
103	2000/12/11	01:36:57	7281.97	41.88	2000/12/11	01:36:57	7292.57	42.25
104	2000/12/11	02:11:58	7349.70	41.88	2000/12/11	02:11:58	7360.32	42.25
105	2000/12/11	02:46:57	7418.06	41.88	2000/12/11	02:46:57	7428.56	42.25
106	2000/12/11	03:21:57	7485.44	41.88	2000/12/11	03:21:57	7495.96	42.25
107	2000/12/11	03:56:58	7552.09	41.88	2000/12/11	03:56:58	7562.76	42.25
108	2000/12/11	04:31:57	7617.95	41.88	2000/12/11	04:31:57	7628.59	42.25
109	2000/12/11	05:06:57	7683.76	41.88	2000/12/11	05:06:57	7694.48	42.24
110	2000/12/11	05:41:58	7748.75	41.88	2000/12/11	05:41:58	7759.32	42.24
111	2000/12/11	06:16:57	7813.33	41.88	2000/12/11	06:16:57	7823.87	42.24
112	2000/12/11	06:51:57	7877.25	41.88	2000/12/11	06:51:57	7887.90	42.24
113	2000/12/11	07:26:58	7940.91	41.88	2000/12/11	07:26:58	7951.46	42.24
114	2000/12/11	08:01:57	8003.57	41.88	2000/12/11	08:01:57	8014.21	42.24
115	2000/12/11	08:36:57	8065.60	41.88	2000/12/11	08:36:57	8076.32	42.24
116	2000/12/11	09:11:58	8127.43	41.87	2000/12/11	09:11:58	8138.11	42.24
117	2000/12/11	09:46:57	8188.12	41.88	2000/12/11	09:46:57	8198.73	42.23
118	2000/12/11	10:21:57	8248.33	41.87	2000/12/11	10:21:57	8259.04	42.24
119	2000/12/11	10:56:58	8308.10	41.87	2000/12/11	10:56:58	8318.79	42.23
120	2000/12/11	11:31:57	8367.36	41.87	2000/12/11	11:31:57	8377.94	42.23
121	2000/12/11	12:06:57	8425.47	41.87	2000/12/11	12:06:57	8436.14	42.23
122	2000/12/11	12:41:58	8483.58	41.87	2000/12/11	12:41:58	8494.17	42.23
123	2000/12/11	13:16:57	8541.05	41.87	2000/12/11	13:16:57	8551.82	42.23
124	2000/12/11	13:51:57	8598.56	41.87	2000/12/11	13:51:57	8609.09	42.23
125	2000/12/11	14:26:58	8654.74	41.86	2000/12/11	14:26:58	8665.41	42.23
126	2000/12/11	15:01:57	8710.81	41.87	2000/12/11	15:01:57	8721.53	42.23
127	2000/12/11	15:36:57	8766.22	41.86	2000/12/11	15:36:57	8776.91	42.22
128	2000/12/11	16:11:58	8820.99	41.87	2000/12/11	16:11:58	8831.53	42.22
129	2000/12/11	16:46:57	8875.32	41.87	2000/12/11	16:46:57	8885.98	42.23
130	2000/12/11	17:21:57	8928.78	41.86	2000/12/11	17:21:57	8939.51	42.22
131	2000/12/11	17:56:58	8981.83	41.86	2000/12/11	17:56:58	8992.38	42.22
132	2000/12/11	18:31:57	9033.44	41.86	2000/12/11	18:31:57	9044.16	42.22
133	2000/12/11	19:06:57	9085.27	41.86	2000/12/11	19:06:57	9095.82	42.22
134	2000/12/11	19:41:58	9136.78	41.86	2000/12/11	19:41:58	9147.41	42.22
135	2000/12/11	20:16:57	9187.12	41.86	2000/12/11	20:16:57	9197.80	42.22
136	2000/12/11	20:51:57	9236.70	41.86	2000/12/11	20:51:57	9247.37	42.22
137	2000/12/11	21:26:58	9286.02	41.86	2000/12/11	21:26:58	9296.64	42.21
138	2000/12/11	22:01:57	9334.89	41.86	2000/12/11	22:01:57	9345.36	42.21
139	2000/12/11	22:36:57	9383.77	41.86	2000/12/11	22:36:57	9394.36	42.22
140	2000/12/11	23:11:58	9432.07	41.86	2000/12/11	23:11:58	9442.75	42.22
141	2000/12/11	23:46:57	9479.75	41.86	2000/12/11	23:46:57	9490.23	42.21

Print Filter Used. Nth Line = 35.000

Paramount Resources Ltd
I-02-60-20-123-30
Start Test Date 2000/12/08
Final Test Date 2000/12/13

Paramount et al Mount Coty
Formation Mattson Sand

Job Number: 0012036

	71045 Date	71045 Clk Time	71045 Pres.	71045 Temp.	71042 Date	71042 Clk Time	71042 Pres.	71042 Temp.
	yyyy/mm/dd	hh mm ss	kPa(a)	C	yyyy/mm/dd	hh mm ss	kPa(a)	C
142	2000/12/12	00:21:57	9526.66	41.85	2000/12/12	00:21:57	9537.24	42.21
143	2000/12/12	00:56:58	9573.66	41.85	2000/12/12	00:56:58	9584.34	42.21
144	2000/12/12	01:31:57	9619.67	41.86	2000/12/12	01:31:57	9630.36	42.21
145	2000/12/12	02:06:57	9665.36	41.86	2000/12/12	02:06:57	9676.03	42.21
146	2000/12/12	02:41:58	9710.42	41.86	2000/12/12	02:41:58	9720.57	42.21
147	2000/12/12	03:16:57	9755.20	41.86	2000/12/12	03:16:57	9765.29	42.21
148	2000/12/12	03:51:57	9799.64	41.85	2000/12/12	03:51:57	9809.72	42.20
149	2000/12/12	04:26:58	9843.13	41.85	2000/12/12	04:26:58	9853.22	42.20
150	2000/12/12	05:01:57	9885.98	41.86	2000/12/12	05:01:57	9895.96	42.20
151	2000/12/12	05:36:57	9928.13	41.85	2000/12/12	05:36:57	9938.28	42.20
152	2000/12/12	06:11:58	9969.63	41.85	2000/12/12	06:11:58	9979.68	42.20
153	2000/12/12	06:46:57	10010.72	41.85	2000/12/12	06:46:57	10020.93	42.20
154	2000/12/12	07:21:57	10051.42	41.85	2000/12/12	07:21:57	10061.29	42.19
155	2000/12/12	07:56:58	10091.22	41.85	2000/12/12	07:56:58	10101.35	42.20
156	2000/12/12	08:31:57	10130.78	41.85	2000/12/12	08:31:57	10140.93	42.20
157	2000/12/12	09:06:57	10169.96	41.85	2000/12/12	09:06:57	10180.26	42.20
158	2000/12/12	09:41:58	10208.33	41.85	2000/12/12	09:41:58	10218.63	42.20
159	2000/12/12	10:16:57	10246.39	41.85	2000/12/12	10:16:57	10256.58	42.19
160	2000/12/12	10:51:57	10284.10	41.85	2000/12/12	10:51:57	10294.35	42.20
161	2000/12/12	11:26:58	10321.80	41.85	2000/12/12	11:26:58	10332.03	42.19
162	2000/12/12	12:01:57	10358.93	41.85	2000/12/12	12:01:57	10369.04	42.19
163	2000/12/12	12:36:57	10396.59	41.84	2000/12/12	12:36:57	10406.75	42.19
164	2000/12/12	13:11:58	10433.89	41.85	2000/12/12	13:11:58	10444.09	42.19
165	2000/12/12	13:46:57	10470.32	41.84	2000/12/12	13:46:57	10480.51	42.19
166	2000/12/12	14:21:57	10506.49	41.85	2000/12/12	14:21:57	10516.65	42.19
167	2000/12/12	14:56:58	10542.21	41.85	2000/12/12	14:56:58	10552.42	42.19
168	2000/12/12	15:31:57	10577.47	41.85	2000/12/12	15:31:57	10587.58	42.19
169	2000/12/12	16:06:57	10611.84	41.85	2000/12/12	16:06:57	10621.98	42.19
170	2000/12/12	16:41:58	10645.43	41.84	2000/12/12	16:41:58	10655.75	42.19
171	2000/12/12	17:16:57	10678.23	41.84	2000/12/12	17:16:57	10688.46	42.19
172	2000/12/12	17:51:57	10710.66	41.84	2000/12/12	17:51:57	10720.87	42.19
173	2000/12/12	18:26:58	10742.34	41.84	2000/12/12	18:26:58	10752.58	42.18
174	2000/12/12	19:01:57	10773.35	41.84	2000/12/12	19:01:57	10783.55	42.18
175	2000/12/12	19:36:57	10804.00	41.85	2000/12/12	19:36:57	10814.25	42.19
176	2000/12/12	20:11:58	10834.24	41.84	2000/12/12	20:11:58	10844.54	42.19
177	2000/12/12	20:46:57	10863.99	41.84	2000/12/12	20:46:57	10874.24	42.19
178	2000/12/12	21:21:57	10893.65	41.84	2000/12/12	21:21:57	10903.97	42.18
179	2000/12/12	21:56:58	10922.76	41.84	2000/12/12	21:56:58	10933.00	42.18
180	2000/12/12	22:31:57	10950.83	41.84	2000/12/12	22:31:57	10961.11	42.18
181	2000/12/12	23:06:57	10978.79	41.84	2000/12/12	23:06:57	10988.88	42.18
182	2000/12/12	23:41:58	11006.43	41.84	2000/12/12	23:41:58	11016.72	42.18
183	2000/12/13	00:16:57	11034.04	41.84	2000/12/13	00:16:57	11044.18	42.18
184	2000/12/13	00:51:57	11061.97	41.85	2000/12/13	00:51:57	11072.09	42.18
185	2000/12/13	01:26:58	11089.65	41.84	2000/12/13	01:26:58	11099.95	42.18
186	2000/12/13	02:01:57	11116.96	41.84	2000/12/13	02:01:57	11127.12	42.18
187	2000/12/13	02:36:57	11143.87	41.84	2000/12/13	02:36:57	11154.04	42.18
188	2000/12/13	03:11:58	11170.42	41.84	2000/12/13	03:11:58	11180.60	42.18

Print Filter Used: Nth Line = 35.000

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/13

Paramount et al Mount Coty
Formation: Mattson Sand

Job Number: 0012036

	71045 Date	71045 Clk Time	71045 Pres.	71045 Temp.	71042 Date	71042 Clk Time	71042 Pres.	71042 Temp
	yyyy/mm/dd	hh:mm:ss	kPa(a)	C	yyyy/mm/dd	hh:mm:ss	kPa(a)	C
189	2000/12/13	03:46:57	11196.70	41.84	2000/12/13	03:46:57	11206.94	42.18
190	2000/12/13	04:21:57	11222.32	41.84	2000/12/13	04:21:57	11232.64	42.18
191	2000/12/13	04:56:58	11247.96	41.84	2000/12/13	04:56:58	11258.28	42.18
192	2000/12/13	05:31:57	11272.96	41.84	2000/12/13	05:31:57	11283.21	42.17
193	2000/12/13	06:06:57	11297.63	41.84	2000/12/13	06:06:57	11307.79	42.17
194	2000/12/13	06:41:58	11321.74	41.84	2000/12/13	06:41:58	11331.86	42.17
195	2000/12/13	07:16:57	11345.36	41.84	2000/12/13	07:16:57	11355.53	42.17
196	2000/12/13	07:51:57	11368.90	41.84	2000/12/13	07:51:57	11379.16	42.17
197	2000/12/13	08:26:58	11391.82	41.84	2000/12/13	08:26:58	11401.89	42.17
198	2000/12/13	09:01:57	11414.14	41.84	2000/12/13	09:01:57	11424.24	42.17
199	2000/12/13	09:36:57	11436.20	41.84	2000/12/13	09:36:57	11446.24	42.17
200	2000/12/13	10:11:58	11455.56	41.84	2000/12/13	10:11:58	11465.74	42.17
201	2000/12/13	10:46:57	11474.77	41.84	2000/12/13	10:46:57	11484.91	42.17
202	2000/12/13	11:21:57	11372.71	41.84	2000/12/13	11:21:57	11382.54	42.16
203	2000/12/13	11:40:57	11394.66	41.83	2000/12/13	11:40:57	11407.58	42.16
204			Off Bottom					

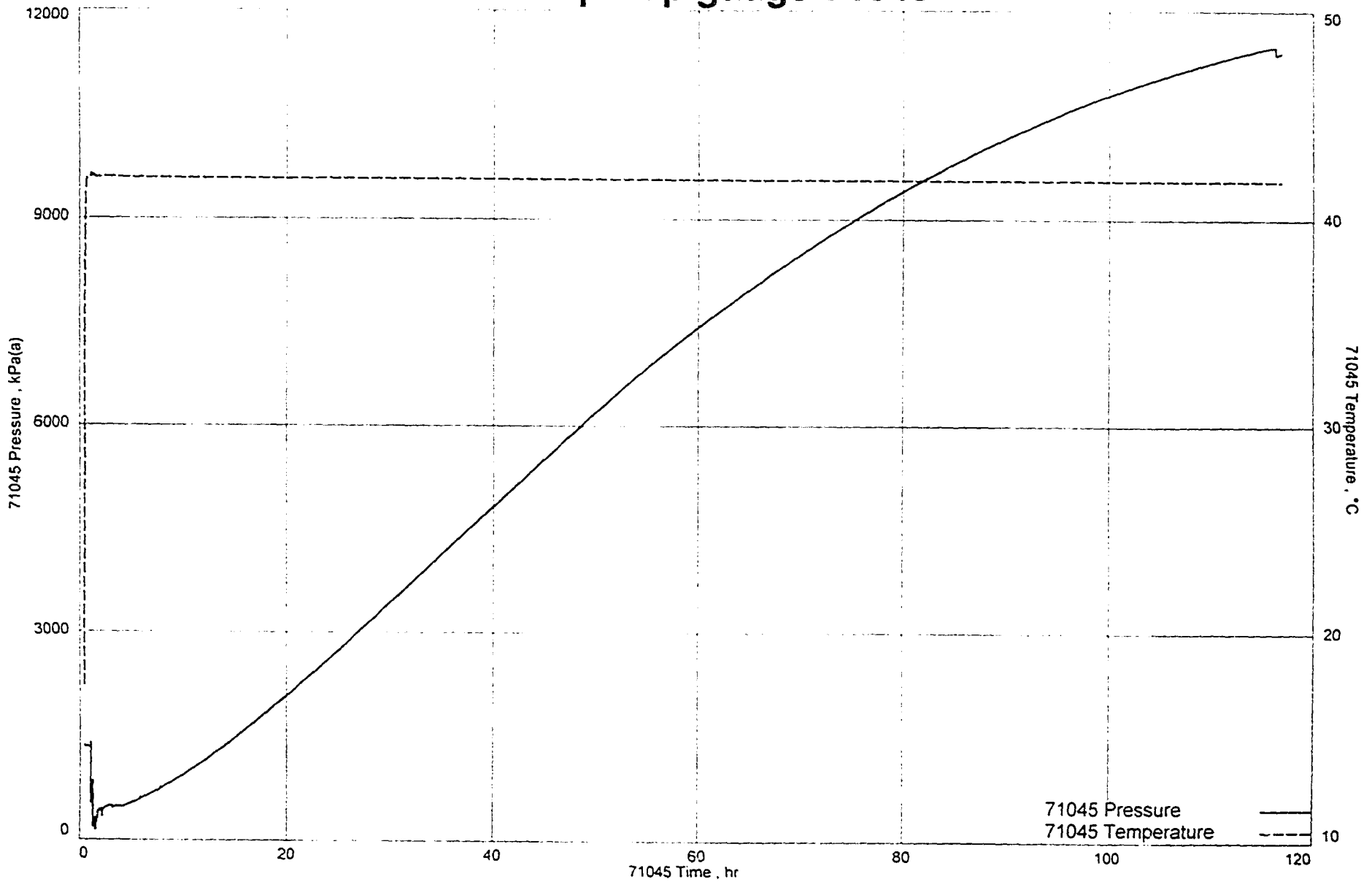
Print Filter Used: Nth Line = 35.000

Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/13

Paramount et al Mount Coty
Formation: Mattson Sand
Job Number: 0012036

Build Up-Top gauge-71045

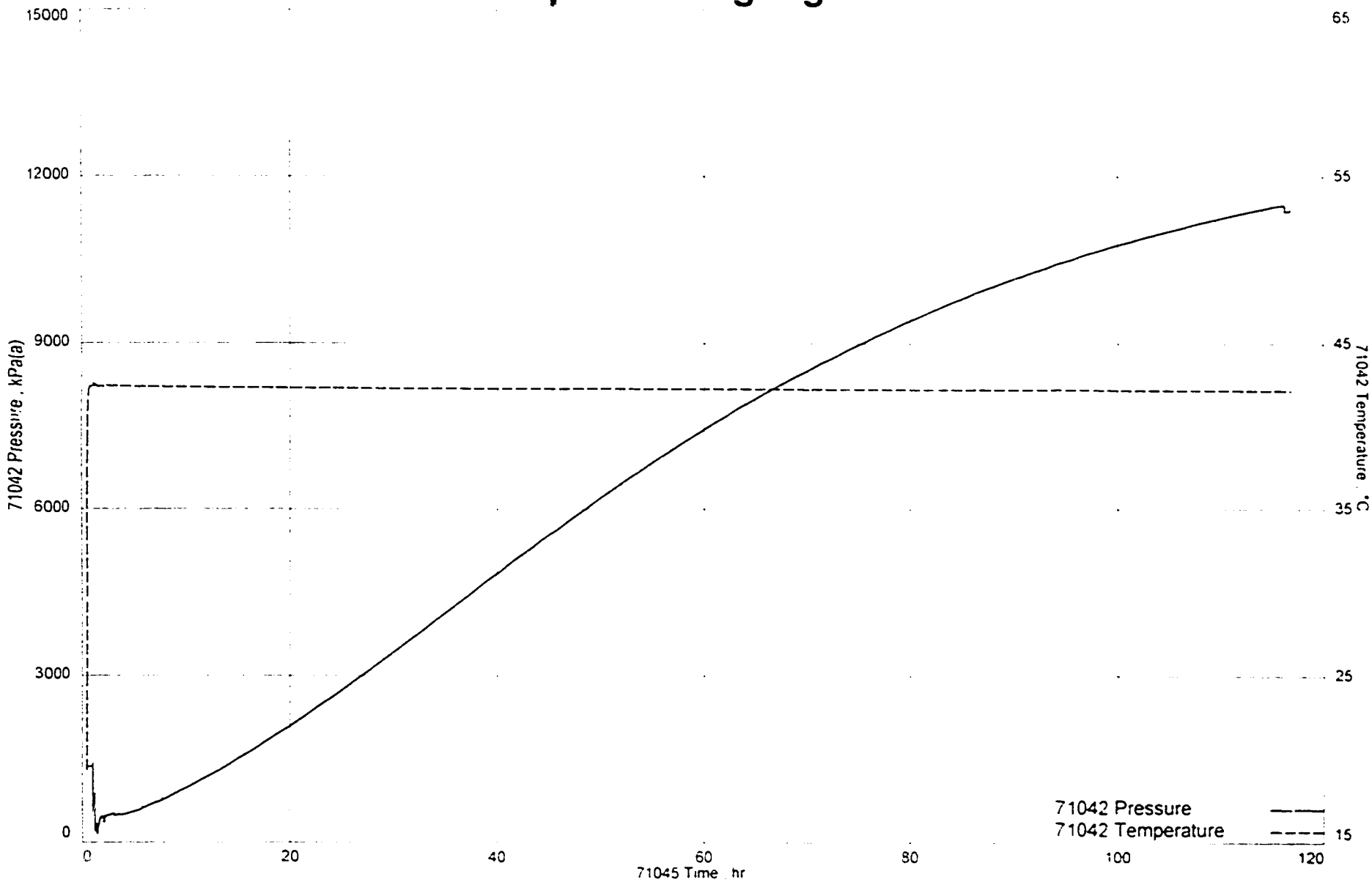


Fast

Paramount Resources Ltd
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/13

Paramount et al Mount Coty
Formation Mattson Sand
Job Number 0012036

Build Up-Bottom gauge-71042



Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/13
Final Test Date: 2000/12/13

Static Gradient
Top gauge 71045

Paramount et al Mount Coty
Formation: Mattson Sand

Gauge Serial Number	71045	Gauge Type	ss2500
Gauge Manufacturer	Spartek	Maximum Recorder Range	20685.00 kPa
Run Depth	1046.55000 m	Date of Last Calibration	2000/06/26
Gauge Start Date	2000/12/13 08:47:58	Gauge Stop Date	2000/12/13 17:00:00
Date Gauge On Bottom	2000/12/13 11:32:00	Date Gauge Off Bottom	2000/12/13 11:42:00

Test Data

Test/Prod Interval Top KB (TVD)	1059.00000 m	Base KB (TVD)	1067.00000 m
Pool Datum	m	Datum Depth	m
Tubing Pressure Initial	kPa(a)	Final	kPa(a)
Casing Pressure Initial	kPa(a)	Final	kPa(a)
Start Test Date	2000/12/13 08:47:00	Time Well Shut-In	

Depth m	Time hh.mm:ss	Duration min	Pressure kPa(a)	Gradient kPa/m	Temp. °C	Gradient °C/m
1046.55	11:38:58	171.97	11384.75		41.83	
				7.751		0.021
1024.55	11:50:58	12.00	11214.23		41.37	
				9.081		0.024
1004.55	11:57:57	7.00	11032.61		40.88	
				1.055		0.021
954.55	12:05:58	8.00	10979.84		39.83	
				0.947		0.019
904.55	12:14:58	9.00	10932.50		38.87	
				0.946		0.017
854.55	12:22:57	8.00	10885.21		38.02	
				0.958		0.015
804.55	12:28:57	6.00	10837.31		37.25	
				1.024		0.033
604.55	12:37:57	9.00	10632.57		30.64	
				0.856		0.026
304.55	12:46:57	9.00	10375.79		22.76	

Results

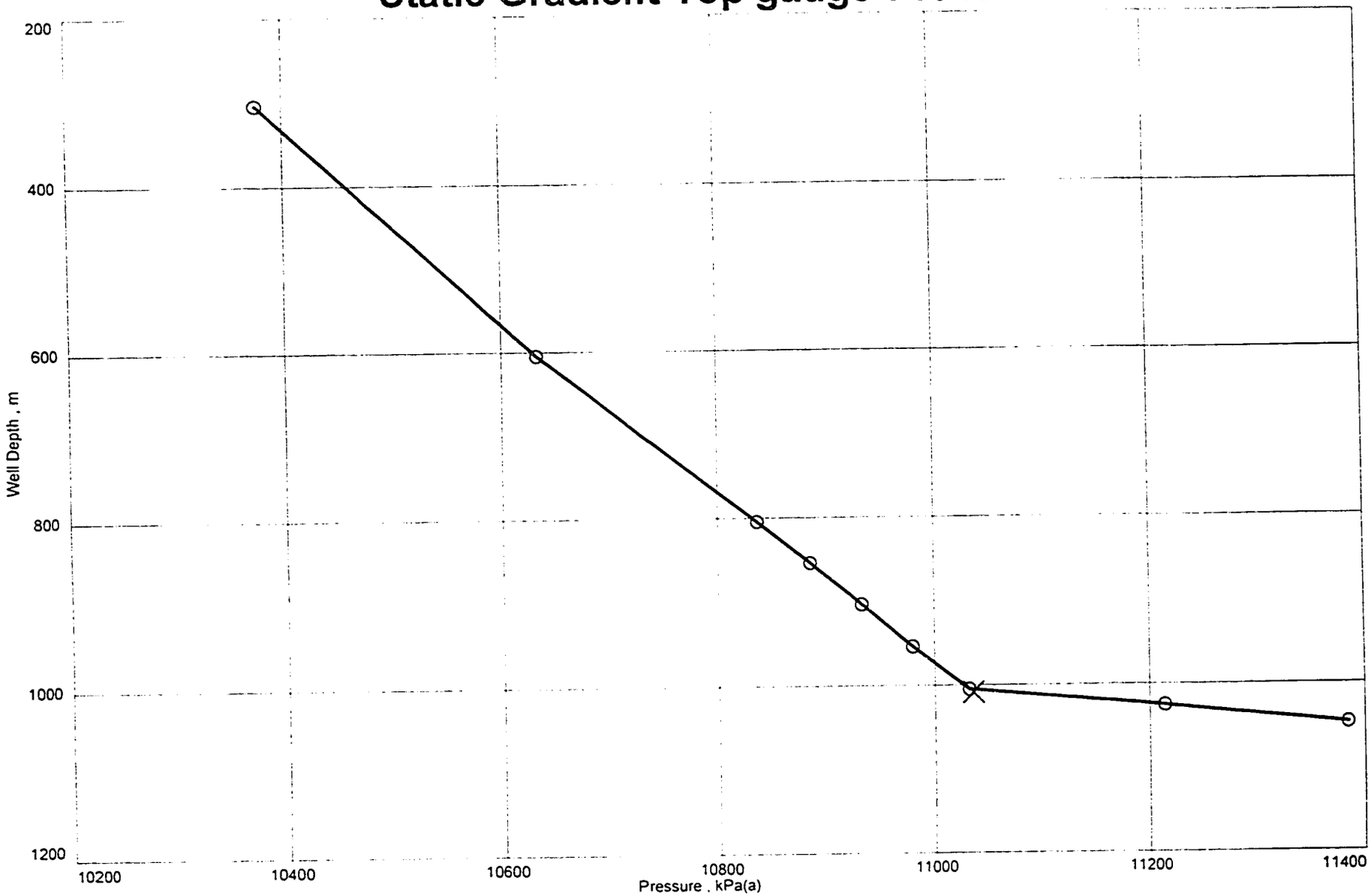
Gas Gradient	1.055 kPa/m	Gas/Liquid Interface	1008.19 m	11036.43 kPa(a)
Liquid Gradient	9.081 kPa/m			
		Well Datum (MPP)	**1063.00 m**	**11534.14 kPa(a)**

Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/13
Final Test Date: 2000/12/13

Paramount et al Mount Coty
Formation: Mattson Sand

Static Gradient-Top gauge-71045



Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/13
Final Test Date: 2000/12/13

Static Gradient
Bottom gauge 71042

Paramount et al Mount Coty
Formation: Mattson Sand

Gauge Serial Number	71042		Gauge Type	ss2500	
Gauge Manufacturer	Spartek		Maximum Recorder Range	20685.00	kPa
Run Depth	1047.05000	m	Date of Last Calibration	2000/05/17	
Gauge Start Date	2000/12/13 08:47:58		Gauge Stop Date	2000/12/13 17:00:00	
Date Gauge On Bottom	2000/12/13 11:32:00		Date Gauge Off Bottom	2000/12/13 11:42:00	

Test Data

Test/Prod Interval Top KB (TVD)	1059.00000	m	Base KB (TVD)	1067.00000	m
Pool Datum		m	Datum Depth		m
Tubing Pressure Initial		kPa(a)	Final		kPa(a)
Casing Pressure Initial		kPa(a)	Final		kPa(a)
Start Test Date	2000/12/13 08:47:00		Time Well Shut-In		

Depth m	Time hh:mm:ss	Duration min	Pressure kPa(a)	Gradient kPa/m	Temp. °C	Gradient °C/m
1047.05	11:40:57	173.95	11407.58		42.16	
				8.324		0.021
1025.05	11:51:57	11.00	11224.45		41.69	
				9.199		0.027
1005.05	11:58:57	7.00	11040.46		41.15	
				1.131		0.019
955.05	12:05:58	7.00	10983.89		40.21	
				0.938		0.020
905.05	12:15:57	10.00	10937.01		39.19	
				0.959		0.016
855.05	12:22:57	7.00	10889.05		38.41	
				0.943		0.017
805.05	12:29:58	7.00	10841.89		37.57	
				1.033		0.036
605.05	12:38:58	9.00	10635.39		30.45	
				0.834		0.022
305.05	12:45:57	7.00	10385.13		23.83	

Results

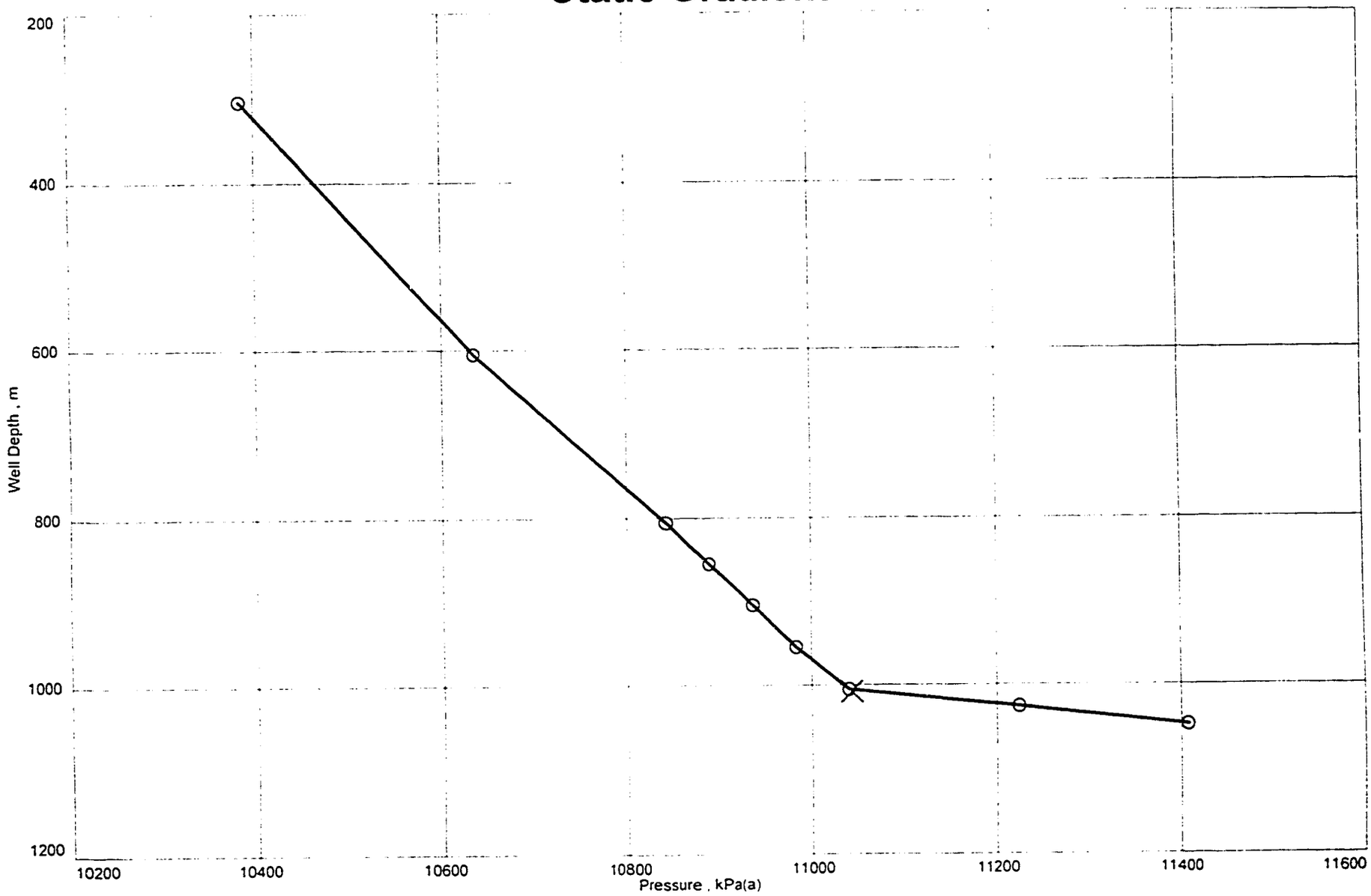
Gas Gradient	1.131	kPa/m	Gas/Liquid Interface	1007.43 m	11043.13 kPa(a)
Liquid Gradient	9.199	kPa/m			
			Well Datum (MPP)	**1063.00 m**	**11554.31 kPa(a)**

Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/13
Final Test Date: 2000/12/13

Paramount et al Mount Coty
Formation: Mattson Sand

Static Gradient



C:\My_Documents\paramount\Para-I-02-Dec-14-00-Etta\PARAMOUNT-I-02-sg-dec13.FKT 19-Dec-00 Ver 2.313

Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/08

Static Gradient
Top gauge 71045

Paramount et al Mount Coty
Formation: Mattson Sand

Job Number: 0012038

Gauge Serial Number	71045	Gauge Type	ss2500
Gauge Manufacturer	Spartek	Maximum Recorder Range	20685.00 kPa
Run Depth	1072 55000 m	Date of Last Calibration	2000/06/26
Gauge Start Date	2000/12/08 10.50.00	Gauge Stop Date	2000/12/08 12:30:00
Date Gauge On Bottom	2000/12/08 12:15 00	Date Gauge Off Bottom	2000/12/08 12:25:00

Test Data

Test/Prod Interval Top KB (TVD)	1059.00000 m	Base KB (TVD)	1067.00000 m
Pool Datum	m	Datum Depth	m
Tubing Pressure Initial	265.00 kPa(a)	Final	kPa(a)
Casing Pressure Initial	162.00 kPa(a)	Final	kPa(a)
Start Test Date	2000/12/08 10:50:00	Time Well Shut-In	

Depth m	Time hh:mm:ss	Duration min	Pressure kPa(a)	Gradient kPa/m	Temp. °C	Gradient °C/m
4.55	11:06:58	16.97	289.80		6.91	
304.55	11:15:42	8.75	293.15	0.011	11.14	0.014
604.55	11:26:42	11.00	294.03	0.003	19.50	0.028
804.55	11:35:42	9.00	293.79	-0.001	27.55	0.040
854.55	11:43:43	8.00	291.50	-0.046	31.56	0.080
904.55	11:51:42	8.00	289.17	-0.047	34.33	0 056
954.55	11:58:43	7.00	600.07	6.218	38.81	0.090
1004.55	12:06:58	8.25	1091.75	9.834	40.57	0.035
1042.55	12:12:58	6.00	1450.59	9.443	41.61	0.027
1064.45	12:23:57	11.00	1635.12	8.426	43.86	0.103
1072.55	12:31:27	7.50	1739.82	12.925	43.58	-0.035

Results

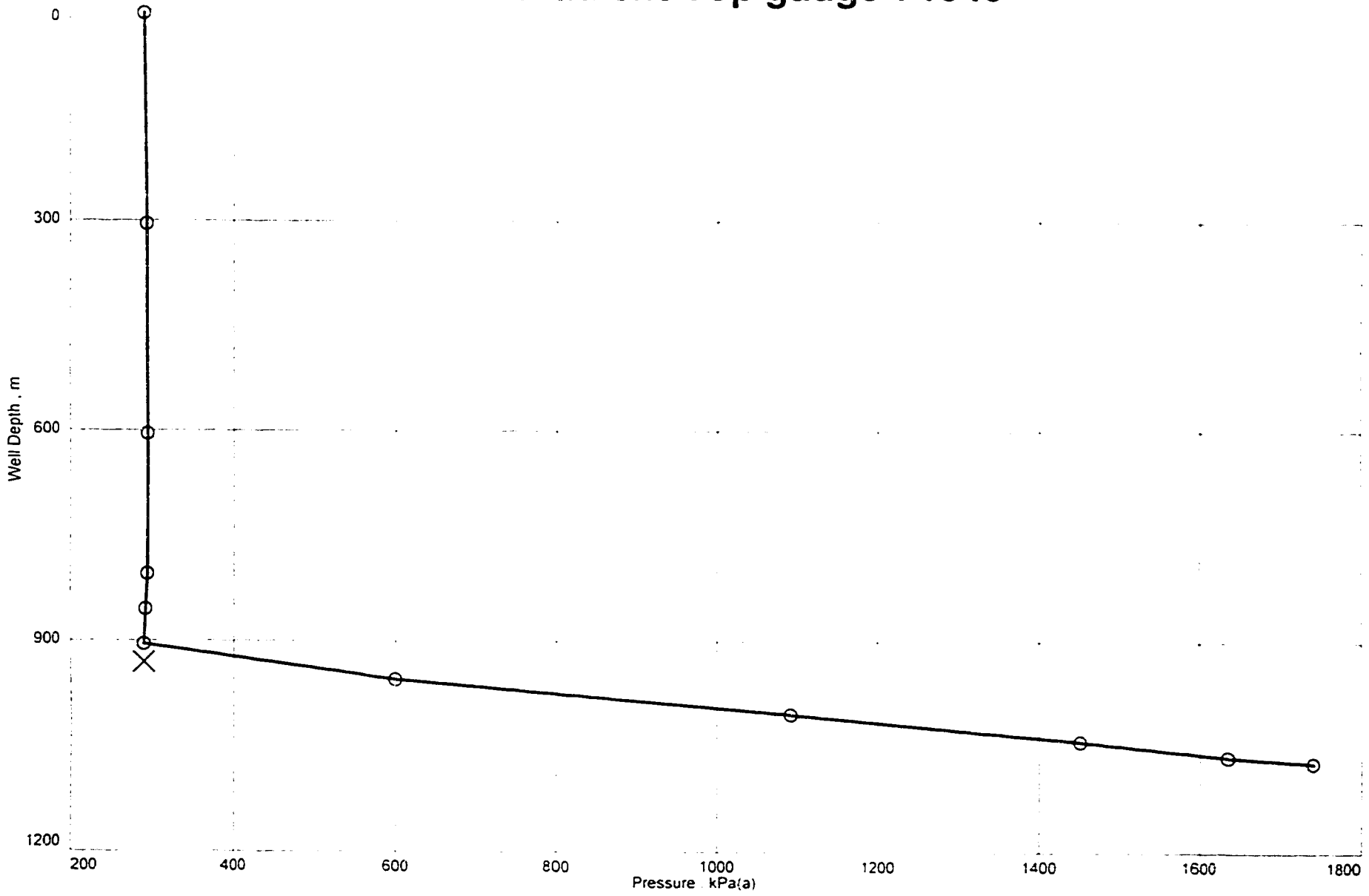
Gas Gradient	0.011 kPa/m	Gas/Liquid Interface	930.52 m	289.45 kPa(a)
Liquid Gradient	12.925 kPa/m			
		Well Datum (MPP)	**1063.00 m**	**1616.38 kPa(a)**

Fast

Paramount Resources Ltd
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/08

Paramount et al Mount Coty
Formation: Mattson Sand
Job Number: 0012038

Static Gradient-Top gauge-71045



Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/08

Static Gradient
Bottom gauge 71042

Paramount et al Mount Coty
Formation: Mattson Sand

Job Number: 0012038

Gauge Serial Number	71042	Gauge Type	ss2500
Gauge Manufacturer	Spartek	Maximum Recorder Range	20685.00 kPa
Run Depth	1073.05000 m	Date of Last Calibration	2000/05/17
Gauge Start Date	2000/12/08 10:50:00	Gauge Stop Date	2000/12/08 12:30:00
Date Gauge On Bottom	2000/12/08 12:15:00	Date Gauge Off Bottom	2000/12/08 12:25:00

Test Data

Test/Prod Interval Top KB (TVD)	1059.00000 m	Base KB (TVD)	1067.00000 m
Pool Datum	m	Datum Depth	m
Tubing Pressure Initial	265.00 kPa(a)	Final	kPa(a)
Casing Pressure Initial	162.00 kPa(a)	Final	kPa(a)
Start Test Date	2000/12/08 10:50:00	Time Well Shut-In	

Depth m	Time hh:mm:ss	Duration min	Pressure kPa(a)	Gradient kPa/m	Temp. °C	Gradient °C/m
5.05	11:06:58	16.97	287.59		7.22	
305.05	11:15:58	9.00	291.00	0.011	11.90	0.016
605.05	11:26:28	10.50	292.30	0.004	19.81	0.026
805.05	11:35:57	9.50	292.66	0.002	28.80	0.045
855.05	11:43:43	7.75	290.87	-0.036	33.16	0.087
905.05	11:51:58	8.25	288.87	-0.040	36.16	0.060
955.05	11:58:43	6.75	607.63	6 375	39.53	0.067
1005.05	12:06:58	8.25	1100.37	9.855	41.04	0.030
1043.05	12:12:58	6.00	1460.04	9.465	42.06	0.027
1064.95	12.23:57	11.00	1645.32	8.460	44.26	0.101
1073.05	12:31:12	7.25	1749.81	12.900	43.93	-0.041

Results

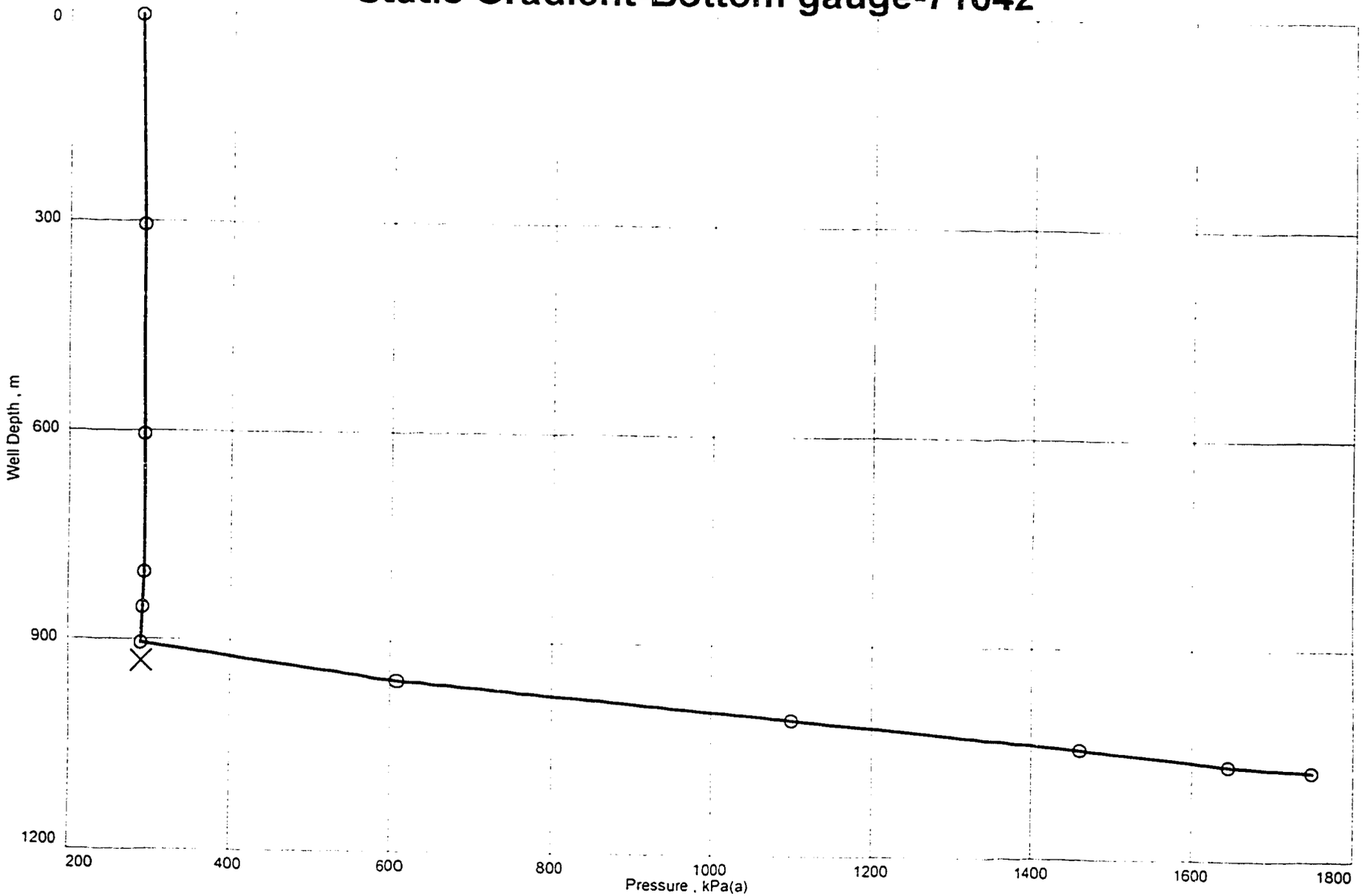
Gas Gradient	0.011 kPa/m	Gas/Liquid Interface	930.36 m	289.15 kPa(a)
Liquid Gradient	12.900 kPa/m			
		Well Datum (MPP)	**1063.00 m**	**1620.16 kPa(a)**

Fast

Paramount Resources Ltd.
I-02-60-20-123-30
Start Test Date: 2000/12/08
Final Test Date: 2000/12/08

Paramount et al Mount Coty
Formation. Mattson Sand
Job Number: 0012038

Static Gradient-Bottom gauge-71042



C:\My_Documents\paramount\Para-I-02-Dec-14-00-Ella\PARAMOUNT-I-02-sg-dec08 00 FKT 19 Dec 00 Ver 2 313

Fast

STATIC GRADIENTS DATED 13 MAR. 2001 AND 15 MAR. 2001

PARAMOUNT RESOURCES LTD.

PARAMOUNT MEDUSA HZ

Static Gradient

Mar 13/2001

Test Completed By
Solid Production Services
505 – 19th Ave
Nisku, Alberta
T9E-7V9
(780) 955-7525

GENERAL INFORMATION

Client Information:

Company: Paramount Resources Ltd.

Contact:

Phone: Fax: e-mail:

Site Information:

Contact:

Phone: Fax: e-mail:

Well Information:

Name: Para et al Mount Coty I-02

Operator:

Location-Downhole: Para et al Mount Coty I-02

Location-Surface:

Test Information:

Company: Solid Production Services Ltd.

Representative:

Supervisor:

Test Type: Static Gradient

Job Number: 0103124

Test Unit:

Start Date: 2001/03/13

Start Time: 08:25:00

End Date: 2001/03/13

End Time: 10:00:00

Report Date: 2001/03/19

Prepared By: Ella Berscheid

Remarks:

Qualified By:

WELL INFORMATION

Well Name : Para et al Mount Coty I-02

Well Operator :

Well Location : Para et al Mount Coty I-02

Location-Surface :

Field : Mount Coty **Well Type : Vertical**

Pool :

Formation : Fantasque

Perforation Type :			Producing Through : Tubing	Size	73.00 mm
Pool Datum	m	CF	Elevation Referenced From	372.95 m	KB
Datum Depth	m	CF	Elevation Referenced To	367.90 m	GL
			Offset	5.05 m	

Production Intervals

Production Interval & MPP Reference To : KB MPP Pressure Reference : None

	From - m	To - m		Depth - m	Pressure - kPa
1.	897.00	917.00	1.	907.00	
2.			2.		
3.			3.		
4.			4.		
5.			5.		
6.			6.		
7.			7.		
8.			8.		
9.			9.		
10.			10.		
11.			11.		
12.			12.		

Remarks :

Fast

Paramount Resources Ltd.
Para et al Mount Coty I-02
Start Test Date: 2001/03/13
Final Test Date: 2001/03/13

Static Gradient
Top gauge 71045

Para et al Mount Coty I-02
Formation: Fantasque

Job Number: 0103124

Top

Gauge Serial Number	71045		Gauge Type	ss2500	
Gauge Manufacturer	Spartek		Maximum Recorder Range	20685.00	kPa
Run Depth	892.55000	m	Date of Last Calibration	2000/07/26	
Gauge Start Date	2001/03/13 08:25:00		Gauge Stop Date	2001/03/13 10:00:00	
Date Gauge On Bottom	2001/03/13 09:36:00		Date Gauge Off Bottom	2001/03/13 09:41:00	

Test Data

Test/Prod Interval Top KB (TVD)	897.00000	m	Base KB (TVD)	917.00000	m
Pool Datum		m	Datum Depth		m
Tubing Pressure Initial	1788.00	kPa(a)	Final		kPa(a)
Casing Pressure Initial	108.00	kPa(a)	Final		kPa(a)
Start Test Date	2001/03/13 08:25:00		Time Well Shut-In		

Depth m	Time hh:mm:ss	Duration min	Pressure kPa(a)	Gradient kPa/m	Temp. °C	Gradient °C/m
4.55	08:48:27	23.45	1781.96		-5.42	
				4.259		0.042
304.55	08:54:27	6.00	3059.74		7.28	
				9.997		0.047
604.55	09:02:58	8.50	6058.91		21.33	
				10.184		0.066
704.55	09:08:58	6.00	7077.27		27.92	
				10.014		0.054
804.55	09:14:58	6.00	8078.66		33.37	
				10.204		0.051
854.55	09:20:58	6.00	8588.87		35.91	
				11.562		0.073
864.55	09:25:57	5.00	8704.49		36.64	
				10.932		0.037
874.55	09:30:27	4.50	8813.81		37.01	
				10.734		0.033
884.55	09:36:27	6.00	8921.15		37.34	
				10.893		0.017
892.55	09:41:27	5.00	9008.29		37.47	

Results

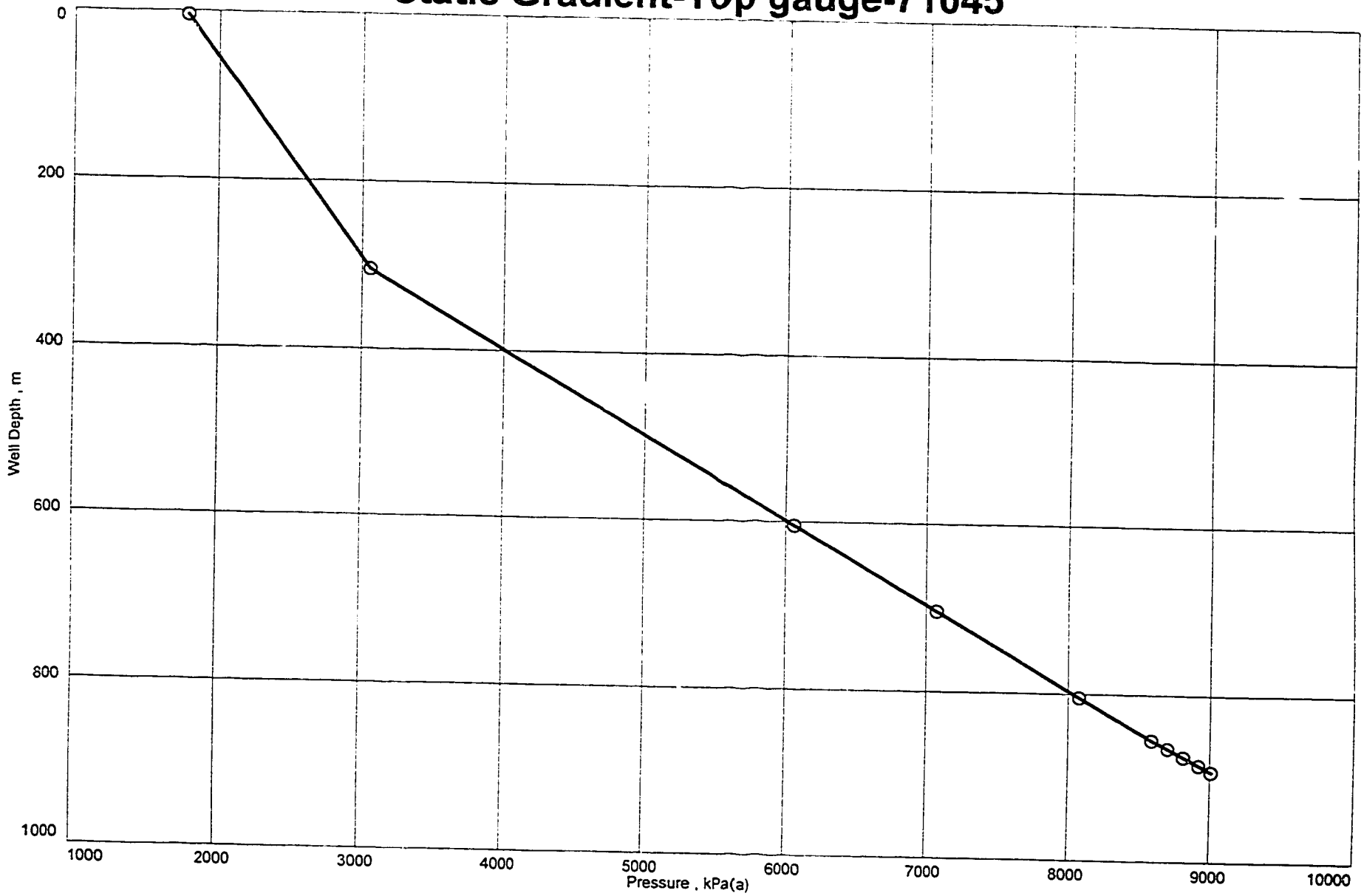
Gas Gradient	10.893	kPa/m	Gas/Liquid Interface	m	kPa(a)
Liquid Gradient		kPa/m			
			Well Datum (MPP)	**907.00 m**	**9165.70 kPa(a)**

Fast

Paramount Resources Ltd.
Para et al Mount Coty I-02
Start Test Date: 2001/03/13
Final Test Date: 2001/03/13

Para et al Mount Coty I-02
Formation: Fantasque
Job Number: 0103124

Static Gradient-Top gauge-71045



Fast

Paramount Resources Ltd.
Para et al Mount Coty I-02
Start Test Date: 2001/03/13
Final Test Date: 2001/03/13

Static Gradient
Bottom gauge 71042

Para et al Mount Coty I-02
Formation: Fantasque

Job Number: 0103124

Bottom

Gauge Serial Number	71042		Gauge Type	ss2500	
Gauge Manufacturer	Spartek		Maximum Recorder Range	20685.00	kPa
Run Depth	893.05000	m	Date of Last Calibration	2000/05/17	
Gauge Start Date	2001/03/13 08:25:00		Gauge Stop Date	2001/03/13 10:00:00	
Date Gauge On Bottom	2001/03/13 09:36:00		Date Gauge Off Bottom	2001/03/13 09:41:00	

Test Data

Test/Prod Interval Top KB (TVD)	897.00000	m	Base KB (TVD)	917.00000	m
Pool Datum		m	Datum Depth		m
Tubing Pressure Initial	1788.00	kPa(a)	Final		kPa(a)
Casing Pressure Initial	108.00	kPa(a)	Final		kPa(a)
Start Test Date	2001/03/13 08:25:00		Time Well Shut-In		

Depth m	Time hh:mm:ss	Duration min	Pressure kPa(a)	Gradient kPa/m	Temp. °C	Gradient °C/m
5.05	08:48:57	23.95	1794.50		-4.90	
305.05	08:54:27	5.50	3073.31	4.263	8.25	0.044
605.05	09:02:27	8.00	6073.53	10.001	21.72	0.045
705.05	09:08:58	6.50	7095.80	10.223	28.66	0.069
805.05	09:14:27	5.50	8096.81	10.010	33.70	0.050
855.05	09:20:27	6.00	8608.61	10.236	36.29	0.052
865.05	09:25:28	5.00	8724.56	11.595	37.00	0.071
875.05	09:30:27	5.00	8835.31	11.074	37.39	0.039
885.05	09:36:27	6.00	8942.42	10.711	37.69	0.030
893.05	09:41:27	5.00	9029.06	10.830	37.82	0.016

Results

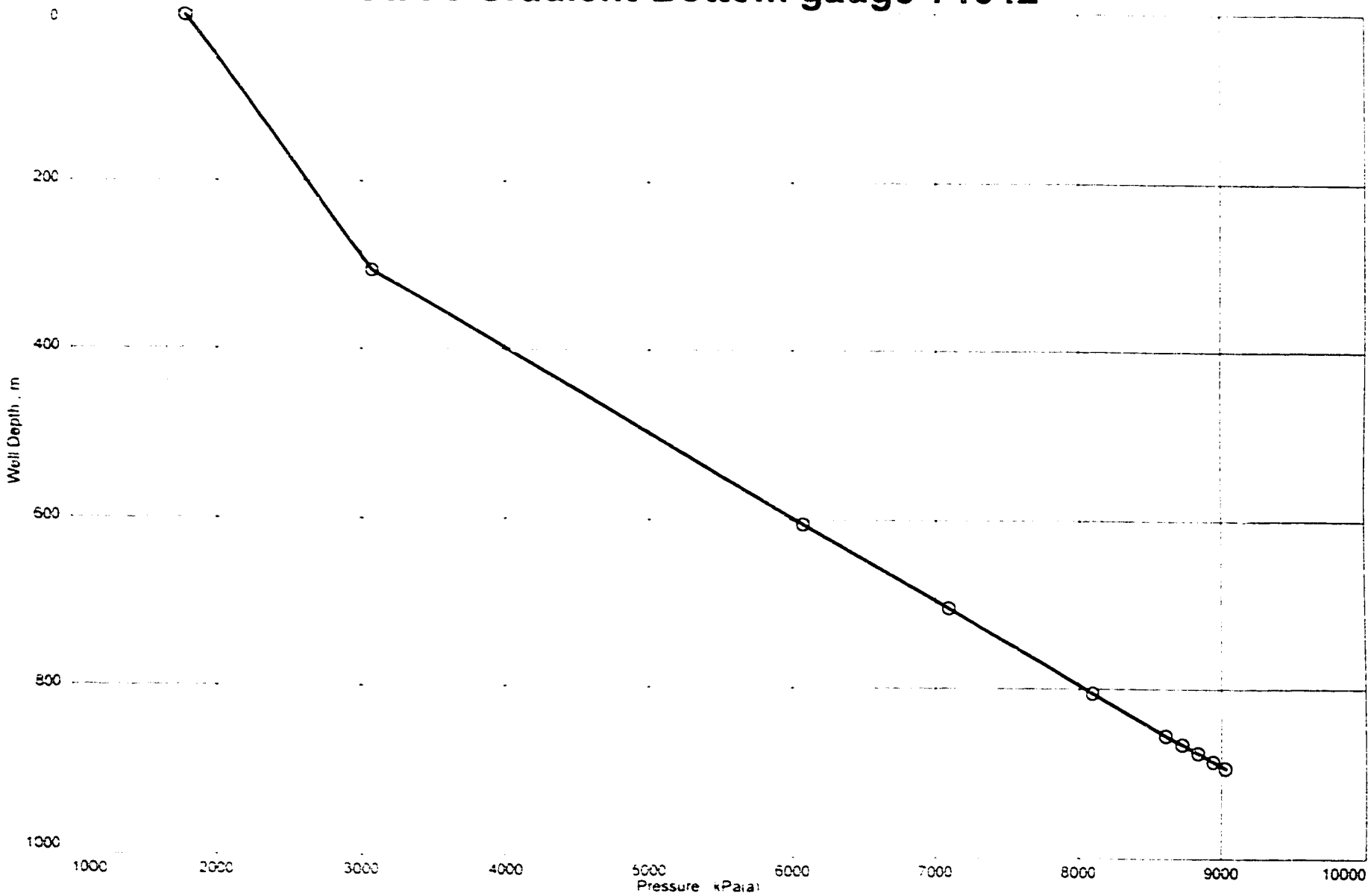
Gas Gradient	10.830	kPa/m	Gas/Liquid Interface	m	kPa(a)
Liquid Gradient		kPa/m			
			Well Datum (MPP)	**907.00 m**	**9180.13 kPa(a)**

Fast

Paramount Resources Ltd
Para et al Mount Coty I-02
Start Test Date 2001/03/13
Final Test Date 2001/03/13

Para et al Mount Coty I-02
Formation: Fantasque
Job Number: 0103124

Static Gradient-Bottom gauge-71042



© Mk Document [illegible] PARAMOUNT [illegible]

Fast

PARAMOUNT RESOURCES LTD.

PARA ET AL MOUNT COTY I 02

Static Gradient

Mar 15/2001

Test Completed By
Solid Production Services
505 – 19th Ave
Nisku, Alberta
T9E-7V9
(780) 955-7525

GENERAL INFORMATION

Client Information:

Company: Paramount Resources Ltd.

Contact:

Phone: Fax: e-mail:

Site Information:

Contact:

Phone: Fax: e-mail:

Well Information:

Name: Para et al Mount Coty I 02

Operator:

Location-Downhole: Para et al Mount Coty I 02

Location-Surface:

Test Information:

Company: Solid Production Services Ltd.

Representative:

Supervisor:

Test Type: Static Gradient

Job Number: 0103125

Test Unit:

Start Date: 2001/03/15

Start Time: 12:15:00

End Date: 2001/03/15

End Time: 13:30:00

Report Date: 2001/03/19

Prepared By: Ella Berscheid

Remarks:

Qualified By:

WELL INFORMATION

Well Name : Para et al Mount Coty I 02

Well Operator :

Well Location : Para et al Mount Coty I 02

Location-Surface :

Field : Mount Coty **Well Type : Vertical**

Pool :

Formation : Fantasque

Perforation Type :			Producing Through : Tubing	Size	73.00 mm
Pool Datum	m	CF	Elevation Referenced From	372.95 m	KB
Datum Depth	m	CF	Elevation Referenced To	367.90 m	GL
			Offset	5.05 m	

Production Intervals

Production Interval & MPP Reference To : KB MPP Pressure Reference : None

	From - m	To - m		Depth - m	Pressure - kPa
1.	897.00	917.00	1.	907.00	
2.			2.		
3.			3.		
4.			4.		
5.			5.		
6.			6.		
7.			7.		
8.			8.		
9.			9.		
10.			10.		
11.			11.		
12.			12.		

Remarks :

Paramount Resources Ltd.
Para et al Mount Coty I 02
Start Test Date: 2001/03/15
Final Test Date: 2001/03/15

Static Gradient
Top gauge 71045

Para et al Mount Coty I 02
Formation: Fantasque

Job Number: 0103125

Top

Gauge Serial Number	71045	Gauge Type	ss2500
Gauge Manufacturer	Spartek	Maximum Recorder Range	20685.00 kPa
Run Depth	905.55000 m	Date of Last Calibration	2000/06/26
Gauge Start Date	2001/03/15 12:15:00	Gauge Stop Date	2001/03/15 13:30:00
Date Gauge On Bottom	2001/03/15 13:02:00	Date Gauge Off Bottom	2001/03/15 13:12:00

Test Data

Test/Prod Interval Top KB (TVD)	897.00000 m	Base KB (TVD)	917.00000 m
Pool Datum	m	Datum Depth	m
Tubing Pressure Initial	868.00 kPa(a)	Final	kPa(a)
Casing Pressure Initial	120.00 kPa(a)	Final	kPa(a)
Start Test Date	2001/03/15 12:15:00	Time Well Shut-In	

Depth m	Time hh:mm:ss	Duration min	Pressure kPa(a)	Gradient kPa/m	Temp. °C	Gradient °C/m
4.55	12:27:28	12.47	753.37		-4.30	
				8.356		0.054
304.55	12:36:28	9.00	3260.11		11.76	
				9.895		0.031
604.55	12:43:27	7.00	6228.71		20.95	
				9.832		0.056
804.55	12:50:57	7.50	8195.07		32.10	
				9.719		0.072
854.55	12:56:57	6.00	8681.04		35.71	
				9.869		0.042
879.55	13:01:58	5.00	8927.77		36.75	
				9.806		0.037
905.55	13:11:57	10.00	9182.74		37.73	

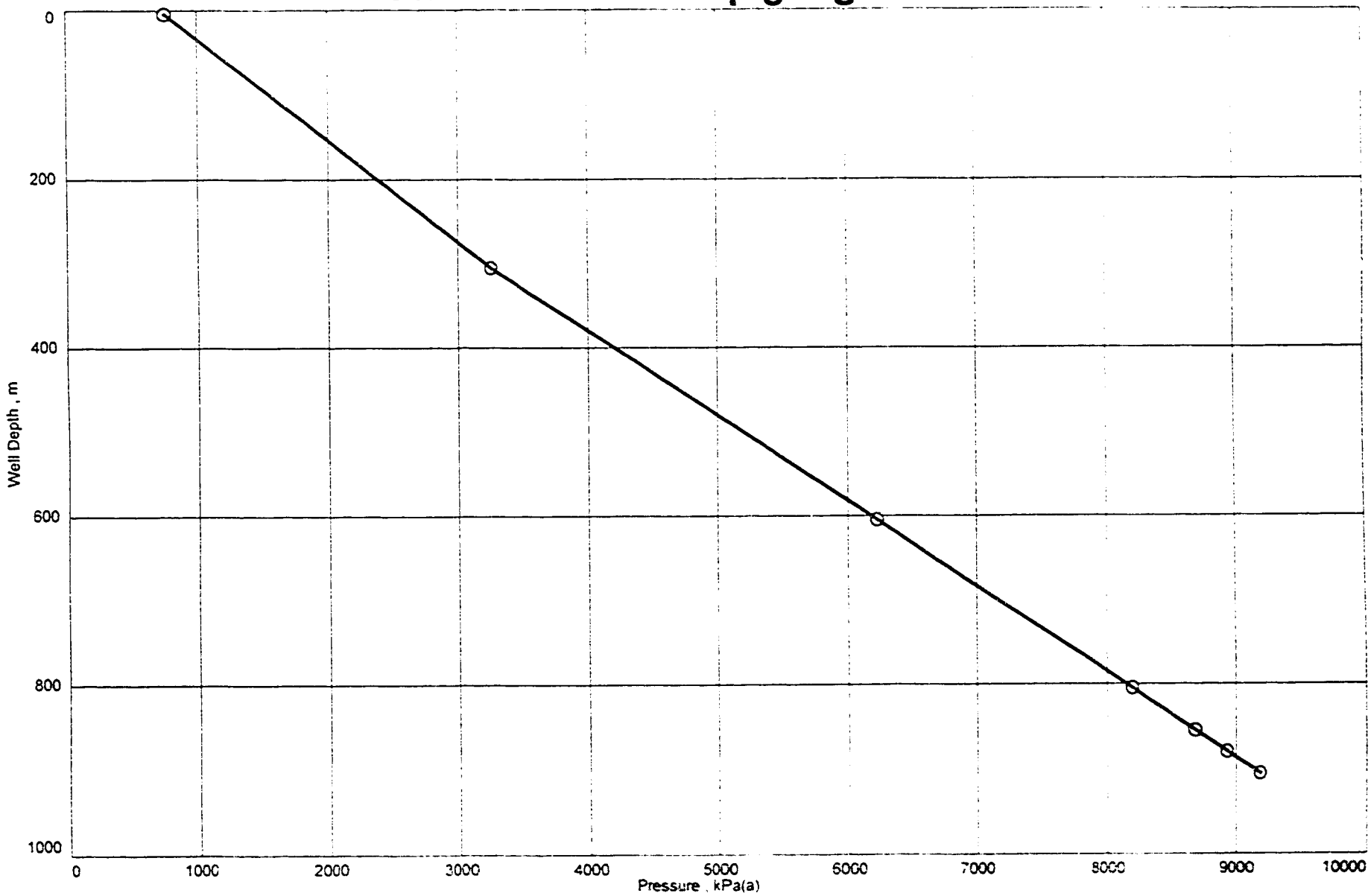
Results

Gas Gradient	9.806 kPa/m	Gas/Liquid Interface	m kPa(a)
Liquid Gradient	kPa/m		
		Well Datum (MPP)	**907.00 m 9196.95 kPa(a)**

Paramount Resources Ltd.
Para et al Mount Coty I 02
Start Test Date: 2001/03/15
Final Test Date: 2001/03/15

Para et al Mount Coty I 02
Formation: Fantasque
Job Number: 0103125

Static Gradient-Top gauge 71045



Fast

Paramount Resources Ltd.
Para et al Mount Coty I 02
Start Test Date: 2001/03/15
Final Test Date: 2001/03/15

Static Gradient
Bottom gauge 71042

Para et al Mount Coty I 02
Formation: Fantasque

Job Number: 0103125

Bottom

Gauge Serial Number	71042		Gauge Type	ss2500	
Gauge Manufacturer	Spartek		Maximum Recorder Range	20685.00	kPa
Run Depth	906.05000	m	Date of Last Calibration	2000/05/17	
Gauge Start Date	2001/03/15 12:15:00		Gauge Stop Date	2001/03/15 13:30:00	
Date Gauge On Bottom	2001/03/15 13:02:00		Date Gauge Off Bottom	2001/03/15 13:12:00	

Test Data

Test/Prod Interval Top KB (TVD)	897.00000	m	Base KB (TVD)	917.00000	m
Pool Datum		m	Datum Depth		m
Tubing Pressure Initial	868.00	kPa(a)	Final		kPa(a)
Casing Pressure Initial	120.00	kPa(a)	Final		kPa(a)
Start Test Date	2001/03/15 12:15:00		Time Well Shut-In		

Depth m	Time hh:mm:ss	Duration min	Pressure kPa(a)	Gradient kPa/m	Temp. °C	Gradient °C/m
5.05	12:27:28	12.47	756.66		-6.25	
305.05	12:36:28	9.00	3274.16	8.392	11.93	0.061
605.05	12:43:58	7.50	6245.18	9.903	22.00	0.034
805.05	12:50:27	6.50	8212.54	9.837	32.31	0.052
855.05	12:56:27	6.00	8700.37	9.757	36.04	0.074
880.05	13:01:58	5.50	8947.47	9.884	37.15	0.045
906.05	13:11:57	10.00	9202.51	9.809	38.08	0.036

Results

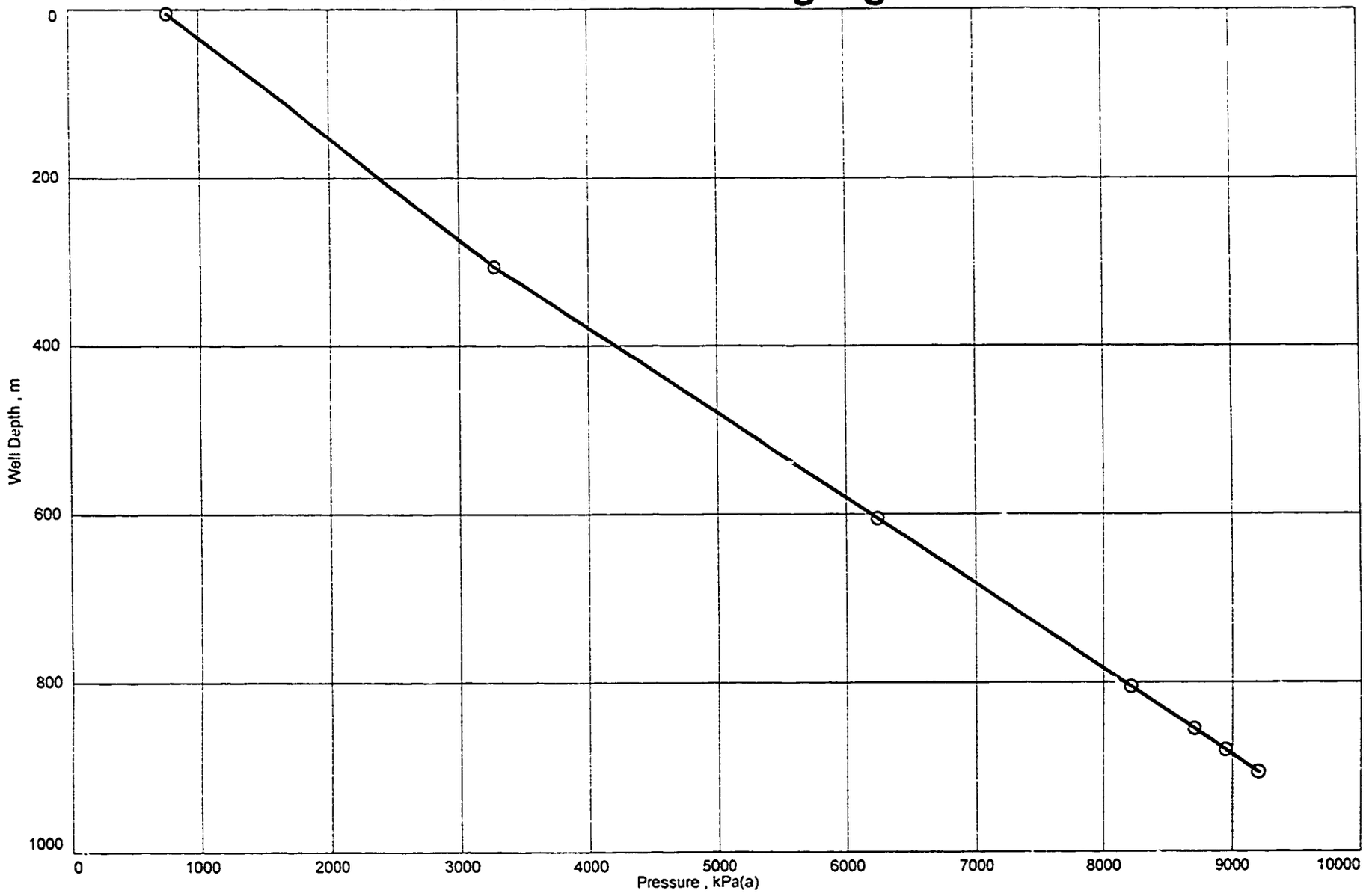
Gas Gradient	9.809	kPa/m	Gas/Liquid Interface	m	kPa(a)
Liquid Gradient		kPa/m			
			Well Datum (MPP)	**907.00 m**	**9211.82 kPa(a)**

Fast

Paramount Resources Ltd.
Para et al Mount Coty I 02
Start Test Date: 2001/03/15
Final Test Date: 2001/03/15

Para et al Mount Coty I 02
Formation: Fantasque
Job Number: 0103125

Static Gradient-Bottom gauge-71042



Fact

WELL TEST DATA – SWAB REPORT

PARAMOUNT RESOURCES LTD.

PARA et al MOUNT COTY

I-02

100/I-02-60-20-123-30/00

FANTASQUE

MAR 13-14, 2001

SWAB REPORT

Well Test Data

Contact

GRANT HARTER
Well Testing Manager

Nisku: (780) 955-7525

GENERAL INFORMATION

Client Information:

Company: PARAMOUNT RESOURCES LTD.

Contact: PARAMOUNT RESOURCES LTD.

Phone: Fax: e-mail:

Site Information:

Contact: WAYNE TOMM/ AL IRONSIDE

Phone: Fax: e-mail:

Well Information:

Name: PARA et al MOUNT COTY I-02

Operator: PARAMOUNT RESOURCES LTD.

Location-Downhole: I-02-60-20-123-30

Location-Surface: I-02

Test Information:

Company: SOLID PRODUCTION SERVICES LTD.

Representative: GRANT HARTER

Supervisor: RYAN WHITE

Test Type: SWAB Job Number: 074-SWAB

Test Unit: PT-501

Start Date: 2001/03/13 Start Time: 11:23:00

End Date: 2001/03/14 End Time: 12:00:00

Report Date: 2001/04/11 Prepared By: LAURA D. DOMINICK

Remarks: Qualified By:

WELL INFORMATION

Well Name : PARA et al MOUNT COTY I-02

Well Operator : PARAMOUNT RESOURCES LTD.

Well Location : I-02-60-20-123-30

Location-Surface : I-02

Field : MOUNT COTY **Well Type : Vertical**

Pool : UNDEFINED

Formation : FANTASQUE

Perforation Type :			Producing Through : Tubing	Size	73.00 mm
Pool Datum	m	KB	Elevation Referenced From	379.50 m	KB
Datum Depth	m	KB	Elevation Referenced To	367.90 m	GL
			Offset	11.60 m	

Production Intervals

Production Interval & MPP Reference To : KB MPP Pressure Reference : None

	From - m	To - m	Depth - m	Pressure - kPa
1.	897.00	917.00	907.00	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12				

Remarks

FaS

PARAMOUNT RESOURCES LTD.
I-02-60-20-123-30
Start Test Date: 2001/03/13
Final Test Date: 2001/03/14

FieldNotes
METER REPORT

RA et al MOUNT COTY I-02
Formation: FANTASQUE
Pool: UNDEFINED
Job Number: 074-SWAB

Oil Meter 1

	Produced Volume Incremental
Meter Type:	
Measurement Type:	
Columns for Produced Volume:	
Previous Oil Production:	0.000
Previous Water Production:	0.000 m^3

PARAMOUNT RESOURCES LTD.
I-02-60-20-123-30
Start Test Date: 2001/03/13
Final Test Date: 2001/03/14

PARA et al MOUNT COTY I-02
Formation: FANTASQUE
Pool: UNDEFINED
Job Number: 074-SWAB

	Date	Clock Time	Cum Time	Swab #	Swab Depth	Fld Level	Fld per Swab	Oil Per Swab	H2O per Swab	Tbg Pres	Csg Pres	Salinity	BSW	Sand	pH	Cum Oil	Cum Water
	yyyy/mm/d	hh:mm:s	hr				m^3	m^3	m^3	kPa(g)	kPa(g)	ppm	%	%		m^3	m^3
1	2001/03/13	10:00:00	0.00	0													
2		11:23:00	1.38	1	850	0.00	2.19	0.44	1.76	0	0	12444	80	0	7	0.44	1.76
3		11:35:00	1.58	2	850	600.00	0.63	0.09	0.54	0	0	12444	85	0	7	0.53	2.29
4		12:43:00	2.72	3	850	400.00	1.16	0.06	1.10	0	0	12444	95	0	7	0.59	3.39
5				SUMMARY													
6				CUMM FLUID SWABBED = 3.98 M³.													
7				CUMM WATER SWABBED = 3.39 M³.													
8				CUMM OIL SWABBED = 0.59 M³.													
9				SLIGHT BLOW ON WELL FOR APPROX 1 MINUTE AFTER SWAB.													
10		13:37:00	3.62	4	850	550.00	0.86	0.09	0.77	0	0	14222	90	0	7	0.68	4.17
11		14:41:00	4.68	5	850	550.00	1.01	0.10	0.91		0	12444	90	0	7	0.78	5.08
12				Tubing on strong vac.													
13		15:28:00	5.47	6	850	550.00	0.64	0.01	0.63		0	8889	99	0	7	0.78	5.71
14				Tubing on vac.													
15		16:03:00	6.05	7	850	700.00	0.37	0.00	0.37		0	8889	100	0	7	0.78	6.08
16				Tubing on vac. Trace oil.													
17		16:33:00	6.55	8	850	750.00	0.61	0.00	0.61		0	8889	100	0	7	0.78	6.69
18				Tubing on vac. Trace oil.													
19		17:14:00	7.23	9	850	639.00	0.64	0.00	0.64		0	5333	100	0	7	0.78	7.33
20				Tubing on vac.Trace oil. A.P.I ON OIL = 17.6 @ 15.6°C.													
21		17:44:00	7.73	10	850	717.00	0.40	0.01	0.39		0	5333	98	0	7	0.79	7.72
22				Tubing on vac.													
23		18:04:00	8.07	11	850	737.00	0.34	0.00	0.34		0	5333	99	0	7	0.80	8.06
24				Tubing on vac.													
25		18:36:00	8.60	12	850	694.00	0.47	0.00	0.47		0	5333	99	0	7	0.80	8.52
26				Tubing on vac.													
27				END OF SWABBING FOR DAY.													
28				SUMMARY.													
29				TOTAL # OF SWABS = 12.													
30				CUMM FLUID SWABBED = 9.32 m³.													
31				CUMM WATER SWABBED = 8.52 m³													
32				CUMM OIL SWABBED = 0.80 m³													

2001/03/13 10:00:00 To 2001/03/14 07:05:00

Oil	0.801	Cum.	0.801 m^3
Water	8.524	Cum.	8.524 m^3

Fast

PARAMOUNT RESOURCES LTD.
I-02-60-20-123-30
Start Test Date: 2001/03/13
Final Test Date: 2001/03/14

PARA et al MOUNT COTY I-02
Formation: FANTASQUE
Pool: UNDEFINED
Job Number: 074-SWAB

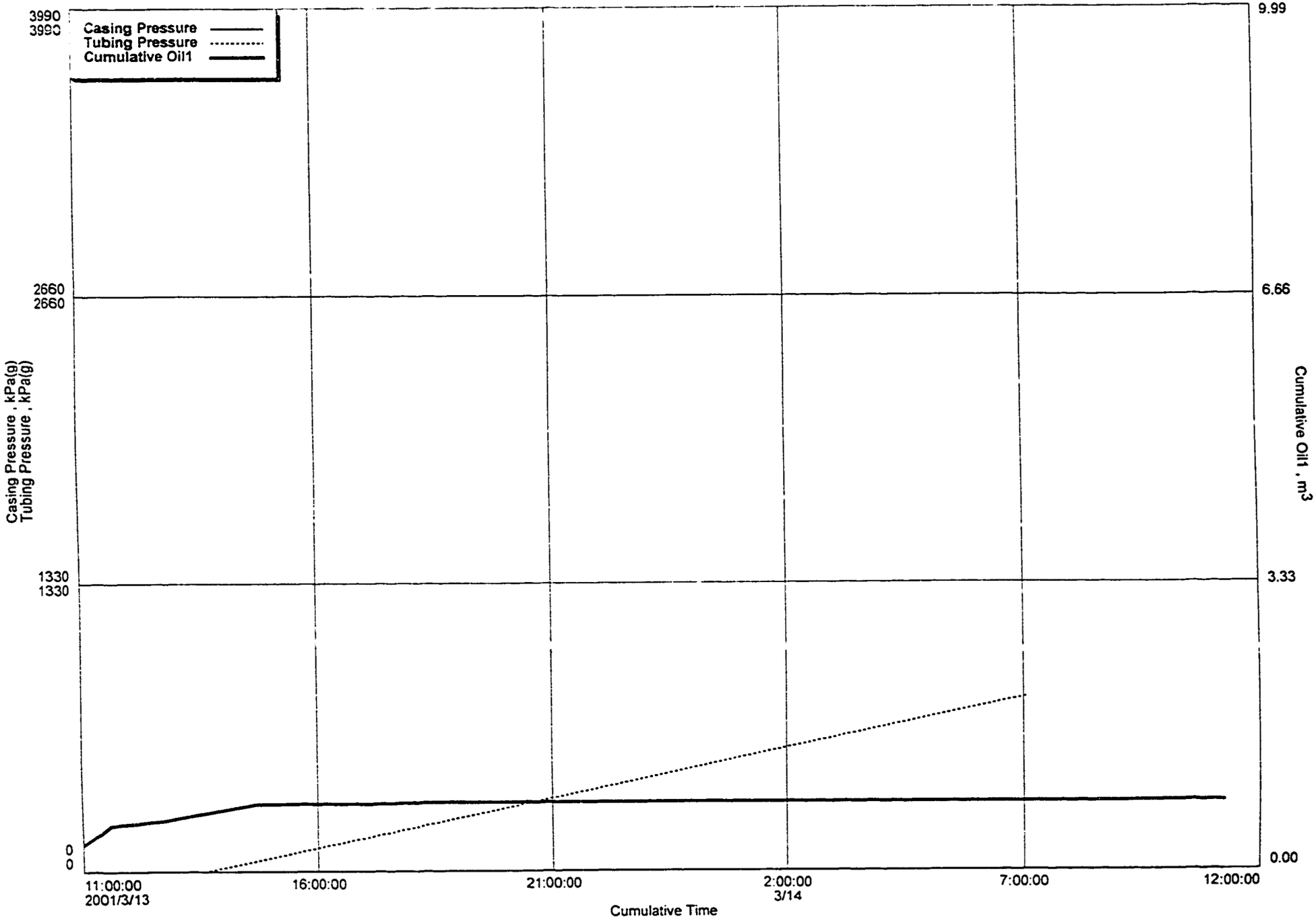
	Date	Clock Time	Cum Time	Swab #	Swab Depth	Fld Level	Fld per Swab	Oil Per Swab	H2O per Swab	Tbg Pres	Csg Pres	Salinity	BSW	Sand	pH	Cum Oil	Cum Water
	yyyy/mm/d	hh:mm:s	hr				m^3	m^3	m^3	kPa(g)	kPa(g)	ppm	%	%		m^3	m^3
33	2001/03/13	07:05:00	21.08							800	0						
34		08:04:00	22.07	Blow down well.													
35		08:10:00	22.17	Rig up to swab.													
36		08:39:00	22.65	1	850	100.00	2.20	0.00	2.20		0	7111	100	0	7	0.80	10.72
37				Tubing on vac.Trace oil in sample.													
38		09:06:00	23.10	2	850	586.00	0.80	0.00	0.80		0	5333	100	0	7	0.80	11.52
39				Tubing on vac. Trace oil in sample.													
40		09:35:00	23.58	3	850	594.00	0.76	0.01	0.75		0	5333	99	0	7	0.81	12.28
41				Tubing on vac.													
42		11:14:00	25.23	4	825	500.00	0.98	0.00	0.98		0	1779	100	0	7	0.81	13.26
43				Tubing on vac.													

2001/03/13 10:00:00 To 2001/03/14 07:05:00

Oil	0.801	Cum.	0.801	m^3
Water	8.524	Cum.	8.524	m^3

PARAMOUNT RESOURCES LTD.
I-02-60-20-123-30
Start Test Date: 2001/03/13
Final Test Date: 2001/03/14

PARA et al MOUNT COTY I-02
Formation: FANTASQUE
Pool: UNDEFINED
Job Number: 074-SWAB



Fas

AGAT® Laboratories

OIL ANALYSIS

Container Identification	Laboratory Number
PB-1	OE69349A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
897.00-917.00		FRAC MANIFOLD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)					
Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 13, 2001	Mar 20, 2001	Mar 05, 2001	H,H,D

Other Information

Sample Properties

Colour of Clean Oil	Colour Number ASTM D-1500
Dk. Brown	D-8 A.S.T.M.

B.S.& W. (Volume Fraction)

Water	Sediment	Total
Trace	Trace	Trace

Free Sediment
3 vol%

API Gravity @ 15°C
25.36

Density - After Cleaning

Relative	Absolute kg/m³
0.9021	901.3

Total Sulphur Mass Fraction	Pour Point / °C (A.S.T.M. D-97)
0.00543	-27

Viscosity

Temp °C	Absolute mPa*s	Kinematic mm²*s-1
20	76.35	85.00
30	36.58	41.00
40	19.59	22.10

Distillation

Volume Fraction	Temp / °C
0.05	71.9
0.10	92.2
0.15	104.3
0.20	124.5
0.25	143.8
0.30	159.9
0.35	177.1
0.40	203.4
0.45	228.7
0.50	251.0
0.55	269.2
0.60	296.5
0.65	316.7
0.70	337.0
0.75	366.3
F.B.P.	368.3

Method
A.S.T.M. -D86

Initial Boiling Point
46.6

Absolute Barometric Pressure (kPa)
88.5

Room Temp (°C)
21.0

Characterization Factor
11.7

200 °C Naphtha	275 °C Kerosene	350 °C Light Gas Oil
0.39	0.56	0.72

Recovered	Residue	Distillation Loss
0.78	0.19	0.03

Remarks:

BS&W performed on oil portion only. The distillation temperatures have been corrected to 101.3 kPa (abs).

AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 2A	WE69349B	WE69349A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
I-02	PARA ET AL MOUNT COTY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point		Separator	Reservoir	Source	Sampled	Received
897.00-917.00		FRAC MANIFOLD	Pressure (kPa)					
mKB			Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 14, 2001	Mar 20, 2001	Mar 30, 2001	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	753.0	0.239	32.8
K	39.5	0.013	1.0
Ca	30.0	0.010	0.7
Mg	35.3	0.011	1.5
Fe	0.9	Trace	Trace

Anions

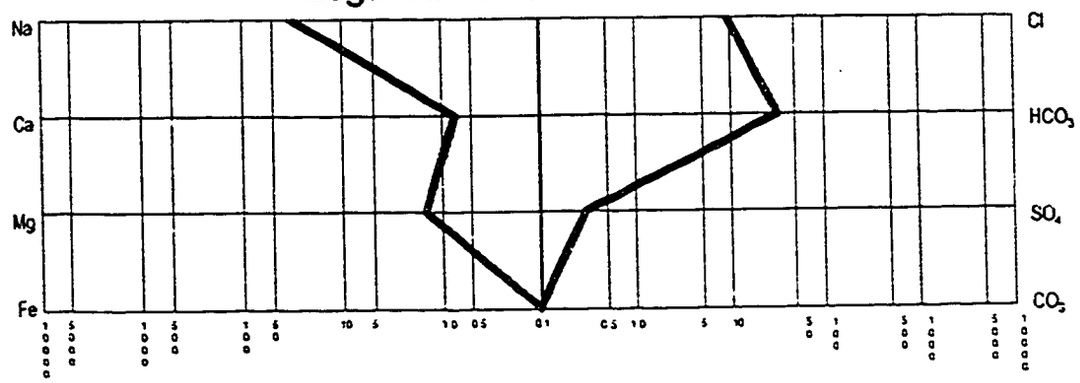
ION	mg/L	Mass Fraction	mmol/L
Cl	329.0	0.104	9.3
HCO_3	1936.8	0.614	31.7
SO_4	28.8	0.009	0.3
CO_3	Ni	Nil	Ni
OH	Ni	Nil	Ni

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	3153
Observed pH	8.29
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.002
Resistivity / OHM-m (25°C)	2.900
Salinity %	0.06

Total Cations	38.2	Total Anions	41.6

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 3B	WE69349A	WE69349B

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
I-02	PARA ET AL MOUNT COTY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point		Separator	Reservoir	Source	Sampled	Received
897.00-917.00		FRAC MANIFOLD	Pressure (kPa)					
mKB			Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 13, 2001	Mar 20, 2001	Mar 30, 2001	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	769.0	0.223	33.4
K	207.0	0.060	5.3
Ca	31.1	0.009	0.8
Mg	34.8	0.010	1.4
Fe	Trace	Trace	Trace

Anions

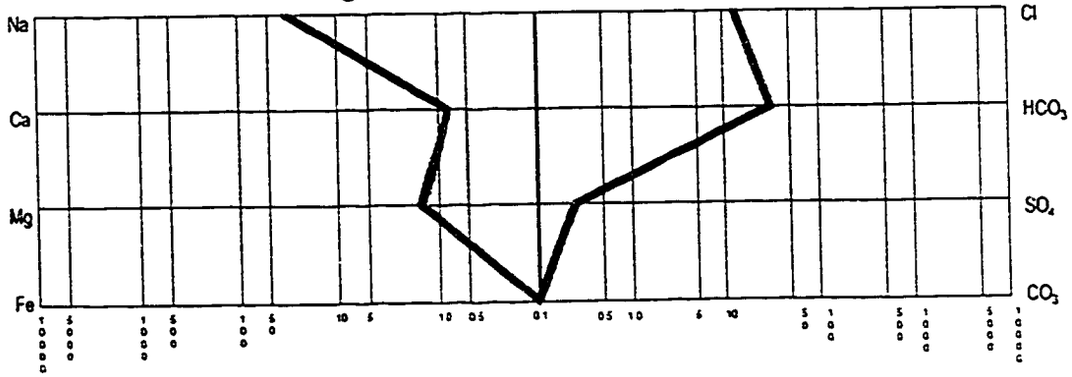
ION	mg/L	Mass Fraction	mmol/L
Cl	470.0	0.137	13.3
HCO_3	1906.3	0.554	31.2
SO_4	24.4	0.007	0.3
CO_3	Ni	Ni	Ni
OH	Ni	Ni	Ni

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	3442
Observed pH	8.27
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.003
Resistivity / OHM-m (25°C)	2.420
Salinity %	0.08

Total Cations	43.2	Total Anions	45.0

Logarithmic Pattern mmol/L



AGAT® Laboratories

WATER ANALYSIS

Container Identification	Previous Number	Laboratory Number
PB 4C	WE69349A	WE69349C

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation			
I-02	PARA ET AL MOUNT COTY I-02	KB m	379.50	GRD m	367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT COTY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point		Separator	Reservoir	Source	Sampled	Received
897.00-917.00		FRAC MANIFOLD	Pressure (kPa)					
mKB			Temperature (°C)					

Date Sampled	Date Received	Date Reported	Analyst
Mar 13, 2001	Mar 20, 2001	Mar 30, 2001	LN

Other Information

Cations

ION	mg/L	Mass Fraction	mmol/L
Na	724.0	0.059	31.5
K	4710.0	0.381	120.5
Ca	105.0	0.008	2.6
Mg	28.9	0.002	1.2
Fe	3.6	Trace	0.1

Anions

ION	mg/L	Mass Fraction	mmol/L
Cl	4749.0	0.384	134.0
HCO_3	2028.3	0.164	33.2
SO_4	16.4	0.001	0.2
CO_3	Ni	Ni	Ni
OH	Ni	Ni	Ni

Other Measurements

Measurement	Value
Total Dissolved Solids (Calculated) mg/L	12365
Observed pH	8.20
H2S (25°C) mg/L	N/D
Relative Density (25°C)	1.004
Resistivity / OHM-m (25°C)	0.552
Salinity %	0.85

Total Cations 159.7

Total Anions 167.5

Logarithmic Pattern mmol/L



WELL TEST DATA - FANTASQUE

PARAMOUNT RESOURCES LTD.

PARA et al MOUNT COTY

I-02

100/I-02-60-20-123-30/00

FANTASQUE

MAR 11-13, 2001

Well Test Data

Contact

GRANT HARTER
Well Testing Manager

Nisku: (780) 955-7525

GENERAL INFORMATION

Client Information:

Company: PARAMOUNT RESOURCES LTD.

Contact: PARAMOUNT RESOURCES LTD.

Phone: 403-290-3626 Fax: 403-266-6032 e-mail:

Site Information:

Contact: WAYNE TOMM/ AL IRONSIDE

Phone: Fax: e-mail:

Well Information:

Name: PARA et al MOUNT COTY I-02

Operator: PARAMOUNT RESOURCES LTD.

Location-Downhole: I-02-60-20-123-30

Location-Surface: I-02

Test Information:

Company:	SOLID PRODUCITON SERVICES LTD.		
Representative:	GRANT HARTER		
Supervisor:	RYAN WHITE		
Test Type:	SINGLE POINT TEST	Job Number:	074
Test Unit:	PT-501		
Start Date:	2001/03/11	Start Time:	07:30:00
End Date:	2001/03/13	End Time:	10:50:00
Report Date:	2001/04/11	Prepared By:	LAURA D. DOMINICK
Remarks:		Qualified By:	

WELL INFORMATION

Well Name : PARA et al MOUNT COTY I-02

Well Operator : PARAMOUNT RESOURCES LTD.

Well Location : I-02-60-20-123-30

Location-Surface : I-02

Field : MOUNT CODY **Well Type : Vertical**

Pool : UNDEEFINED

Formation : FANTASQUE

Perforation Type :			Producing Through : Tubing	Size	73.00 mm
Pool Datum	m	KB	Elevation Referenced From	379.50 m	KB
Datum Depth	m	KB	Elevation Referenced To	367.90 m	GL
			Offset	11.60 m	

Production Intervals

Production Interval & MPP Reference To : KB MPP Pressure Reference : None

	From - m	To - m		Depth - m	Pressure - kPa
1.	897.00	917.00	1.	907.00	
2.			2.		
3.			3.		
4.			4.		
5.			5.		
6.			6.		
7.			7.		
8.			8.		
9.			9.		
10.			10.		
11.			11.		
12.			12.		

Remarks :

Fast

PARAMOUNT RESOURCES LTD.
I-02-60-20-123-30
Start Test Date: 2001/03/11
Final Test Date: 2001/03/13

FieldNotes
METER REPORT

PARA et al MOUNT COTY I-02
Formation: FANTASQUE
Pool: UNDEEFINED
Job Number: 074

Gas Meter 1

Meter Type:	Orifice Meter	
Meter Size:	146.30	mm
Previous Gas Production:	0.000	10^3m^3
Tap Type:	Flange	
Tap Location:	Downstream	
Gas Gravity (G):	0.727	
CO_2:	6.38	%
H_2S:	0.00	%
N_2:	3.71	%
Critical Temperature (T_c):	212.57	K
Critical Pressure (P_c):	4753.93	kPa

Oil Meter 1

Meter Type:	Measured Rate	
Measurement Type:	Cumulative	
Columns for Measured Rate:		
Previous Oil Production:	0.000	m^3
Previous Water Production:	0.000	m^3

Oil Meter 2

Meter Type:	Produced Volume	
Measurement Type:	Cumulative	
Columns for Produced Volume:		
Previous Oil Production:	0.000	m^3
Previous Water Production:	0.000	m^3

PARAMOUNT RESOURCES LTD.
I-02-60-20-123-30
Start Test Date: 2001/03/11
Final Test Date: 2001/03/13

PARA et al MOUNT COTY I-02
Formation: FANTASQUE
Pool: UNDEEFINED
Job Number: 074

	Date	Clock Time	Cum Time	Choke Size	Orifice Sise	Tbg Pres	Tbg Tem	Csg Pres	Static Pres	Diff Pres	Mete Tem	Gas Rate	Cum Gas	Fld Vol	BSW	Inc Fld	Cum Fld	Inc Oil	Cum Oil	Inc BSW	BSW Vol
	yyyy/mm/d	hh:mm:s	hr	mm	mm	kPa(g)	°C	kPa(g)	kPa(g	kPa	°C	10^3m^3	10^3m^3	m^3	%	m^3	m^3	m^3	m^3	m^3	m^3
1	2001/03/11	07:02:00	0.00	0.00	0.00	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
2		07:30:00	0.47			10800		0													
3		07:45:00	0.72	Open tubing to bleed pressure to 0 Kpa.																	
4		09:00:00	1.97	Tubing bleed off.																	
5		13:20:00	6.30	Rig up to circulate.																	
6		14:35:00	7.55	Finished circulating 21.5 m^3.																	
7	2001/03/12	00:30:00	17.47																		
8		07:02:00	24.00																		
9	2001/03/12	07:15:00	24.22	140 Kpa on casing.																	
10		07:30:00	24.47	Bleed pressure to vessel.																	
11		15:55:00	32.88	Bar dropped.																	
12		15:55:20	32.89	Perforations shot.																	
13		16:00:00	32.97			330		200													
14		16:05:00	33.05			420		200													
15		16:10:00	33.13			470		200													
16		16:15:00	33.22			520		200													
17		16:30:00	33.47			590		225													
18		16:45:00	33.72			680		250													
19		17:00:00	33.97			820		300													
20		17:30:00	34.47			1120		350													
21		18:00:00	34.97			1410		350													
22		19:00:00	35.97			1920		400													
23		19:00:00	35.97	Bleed off casing.																	
24		20:00:00	36.97			2040		0													
25		21:00:00	37.97			2040		0													
26		22:00:00	38.97			2040		0													
27		23:00:00	39.97			2040		0													
28		23:59:59	40.97			2040		0													
29	2001/03/13	01:00:00	41.97			2040		0													
30		02:00:00	42.97			2040		0													
31		03:00:00	43.97			2040		0													

2001/03/11 07:02:00 To 2001/03/12 07:02:00

Gas	0.000	Cum.	0.000	10^3m^3
Oil	0.000	Cum.	0.000	m^3
Water	0.000	Cum.	0.000	m^3

PARAMOUNT RESOURCES LTD.
I-02-60-20-123-30
Start Test Date: 2001/03/11
Final Test Date: 2001/03/13

PARA et al MOUNT COTY I-02
Formation: FANTASQUE
Pool: UNDEEFINED
Job Number: 074

	Date	Clock Time	Cum Time	Choke Size	Orifice Sise	Tbg Pres	Tbg Tem	Csg Pres	Static Pres	Diff Pres	Mete Tem	Gas Rate	Cum Gas	Fld Vol	BSW	Inc Fld	Cum Fld	Inc Oil	Cum Oil	Inc BSW	BSW Vol
	yyyy/mm/d	hh:mm:s	hr	mm	mm	kPa(g)	°C	kPa(g)	kPa(g	kPa	°C	10^3m^3	10^3m^3	m^3	%	m^3	m^3	m^3	m^3	m^3	m^3
32	2001/03/13	04:00:00	44.97			2040		0													
33		05:00:00	45.97			2040		0													
34		06:00:00	46.97			2040		0													
35		07:00:00	47.97			2040		0													
36		08:00:00	48.97			2040		0													
37		08:00:00	48.97	Wireline on location to drop guns and run gradient.																	
38		10:50:00	51.80			2040		0													
39		10:50:00	51.80	Open well wide open 2".																	
40		10:50:30	51.81	Well dead.Rig up to swab.																	
41				REFER TO SWAB REPORT FOR SWAB INFORMATION.																	

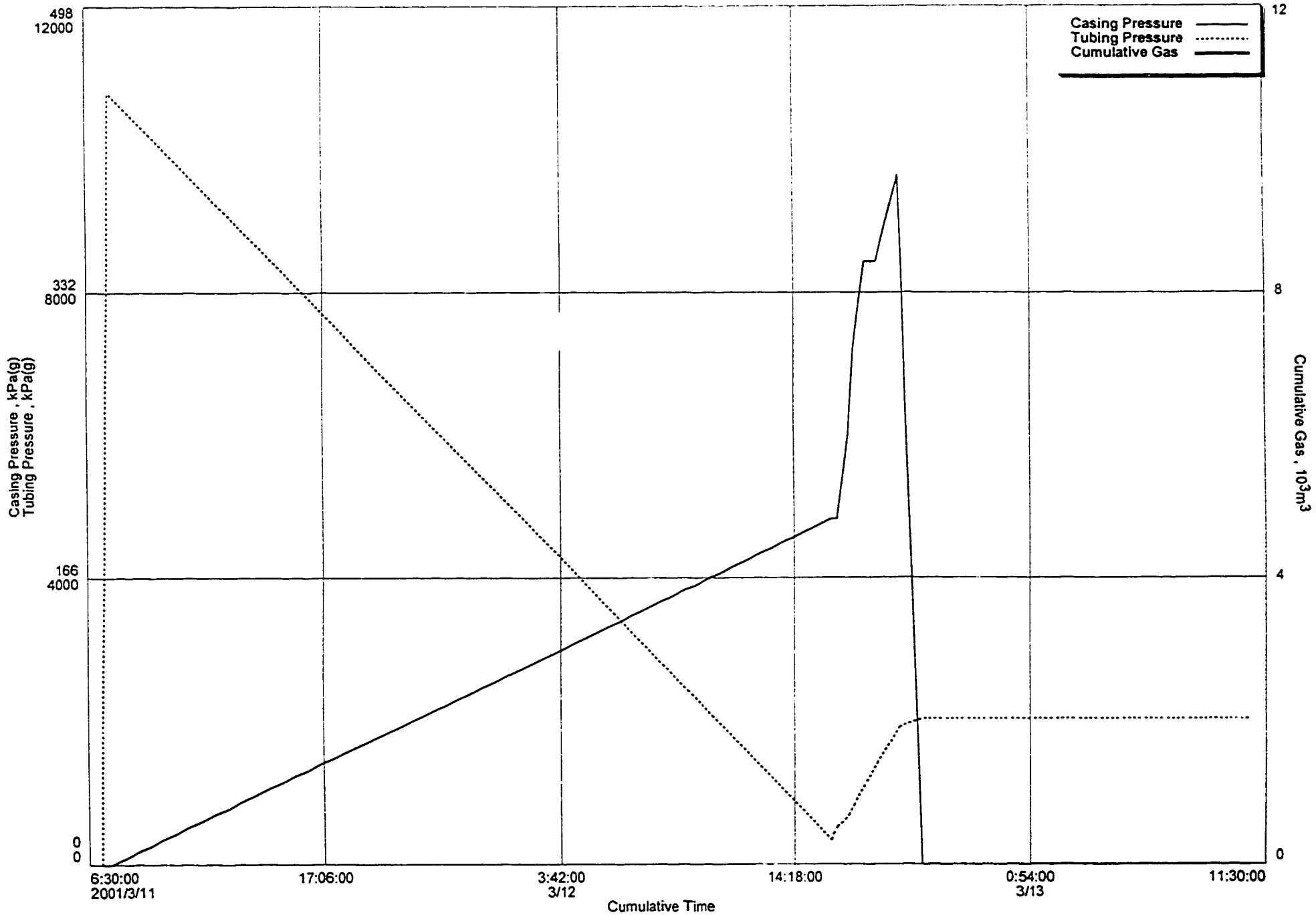
2001/03/12 07:02:00 To 2001/03/13 07:00:00

Gas	0.000	Cum.	0.000	10^3m^3
Oil	0.000	Cum.	0.000	m^3
Water	0.000	Cum.	0.000	m^3

Fast

PARAMOUNT RESOURCES LTD.
I-02-60-20-123-30
Start Test Date: 2001/03/11
Final Test Date: 2001/03/13

PARA et al MOUNT COTY I-02
Formation: FANTASQUE
Pool: UNDEEFINED
Job Number: 074



C:\VOLUME 31\Paramount Resources Ltd\Param I-02 J#074\I-02-60-20-123-30-PRD-MAR 11-13-01 FLD 11-Apr-01 Ver 1 653

Fast

AGAT® Laboratories

GAS ANALYSIS

Container Identification	Laboratory Number
AGAT 19561	GE69349A

Operator Name
PARAMOUNT RESOURCES LTD.

Unique Well Identifier	Well Name	Elevation
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m 379.50 GRD m 367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
897.00-917.00		WELLHEAD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			800	800	1200
Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Mar 14, 2001	Mar 20, 2001	Apr 03, 2001	LQ

Other Information

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	0.0010	0.0011	
He	TRACE	TRACE	
N2	0.0371	0.0396	
CO2	0.0638	0.0000	
H2S	0.0000	0.0000	
C1	0.7988	0.8532	
C2	0.0374	0.0399	
C3	0.0355	0.0379	130.4
IC4	0.0045	0.0048	19.6
NC4	0.0140	0.0150	58.9
IC5	0.0027	0.0029	13.2
NC5	0.0027	0.0029	13.1
C6	0.0014	0.0015	7.7
C7+	0.0011	0.0012	6.9
Total	1.0000	1.0000	249.8

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
39.60	42.28

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.727	0.673

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4704	212.5	4522	206.3

RELATIVE MOLECULAR MASS

Total Gas	C_{7+}
21.1	102.8

VAPOUR PRESSURE (Pentanes +)	H_2S g/m³
92.30 kPa	0.00

AGAT® Laboratories

GAS ANALYSIS

Container Identification	Laboratory Number
AGAT 21246	GE69349B

Operator Name
PARAMOUNT RESOURCES LTD

Unique Well Identifier	Well Name	Elevation
NOT AVAILABLE	PARA et al MOUNT CODY I-02	KB m 379.50 GRD m 367.90

Field or Area	Pool or Zone	Sampler's Company
MOUNT CODY	FANTASQUE	SOLID PRODUCTION SERVICES

Test Type	Test No.	Test Recovery	Name of Sampler

Test Interval or Perfs		Sampling Point
897.00-917.00		WELLHEAD
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			800	800	1100
Temperature (°C)					21

Date Sampled	Date Received	Date Reported	Analyst
Mar 14, 2001	Mar 20, 2001	Apr 03, 2001	LQ

Other Information

COMP	MOLE FRACTION		PETROLEUM LIQUID
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	mL • m³
H2	0.0008	0.0009	
He	TRACE	TRACE	
N2	0.0475	0.0508	
CO2	0.0644	0.0000	
H2S	0.0000	0.0000	
C1	0.7941	0.8487	
C2	0.0363	0.0388	
C3	0.0321	0.0343	117.9
IC4	0.0042	0.0045	18.3
NC4	0.0137	0.0146	57.7
IC5	0.0027	0.0029	13.2
NC5	0.0027	0.0029	13.1
C6	0.0009	0.0010	4.9
C7+	0.0006	0.0006	3.7
Total	1.0000	1.0000	228.8

GROSS HEATING VALUE MJ/m³
15° C AND 101.325 kPa

Air Free As Received	Moisture & Acid Gas Free
38.75	41.39

RELATIVE DENSITY (CALCULATED)

Moisture Free	Moisture & Acid Gas Free
0.724	0.670

PSEUDO CRITICAL PROPERTIES (CALCULATED)

As Sampled		Acid Gas Free	
pPc (abs) kPa	pTc K	pPc (abs) kPa	pTc K
4697	210.7	4512	204.3

RELATIVE MOLECULAR MASS

Total Gas	C_7+
21.0	100.2

VAPOUR PRESSURE (Pentanes +)

102.61 kPa

H_2S g/m³

0.00

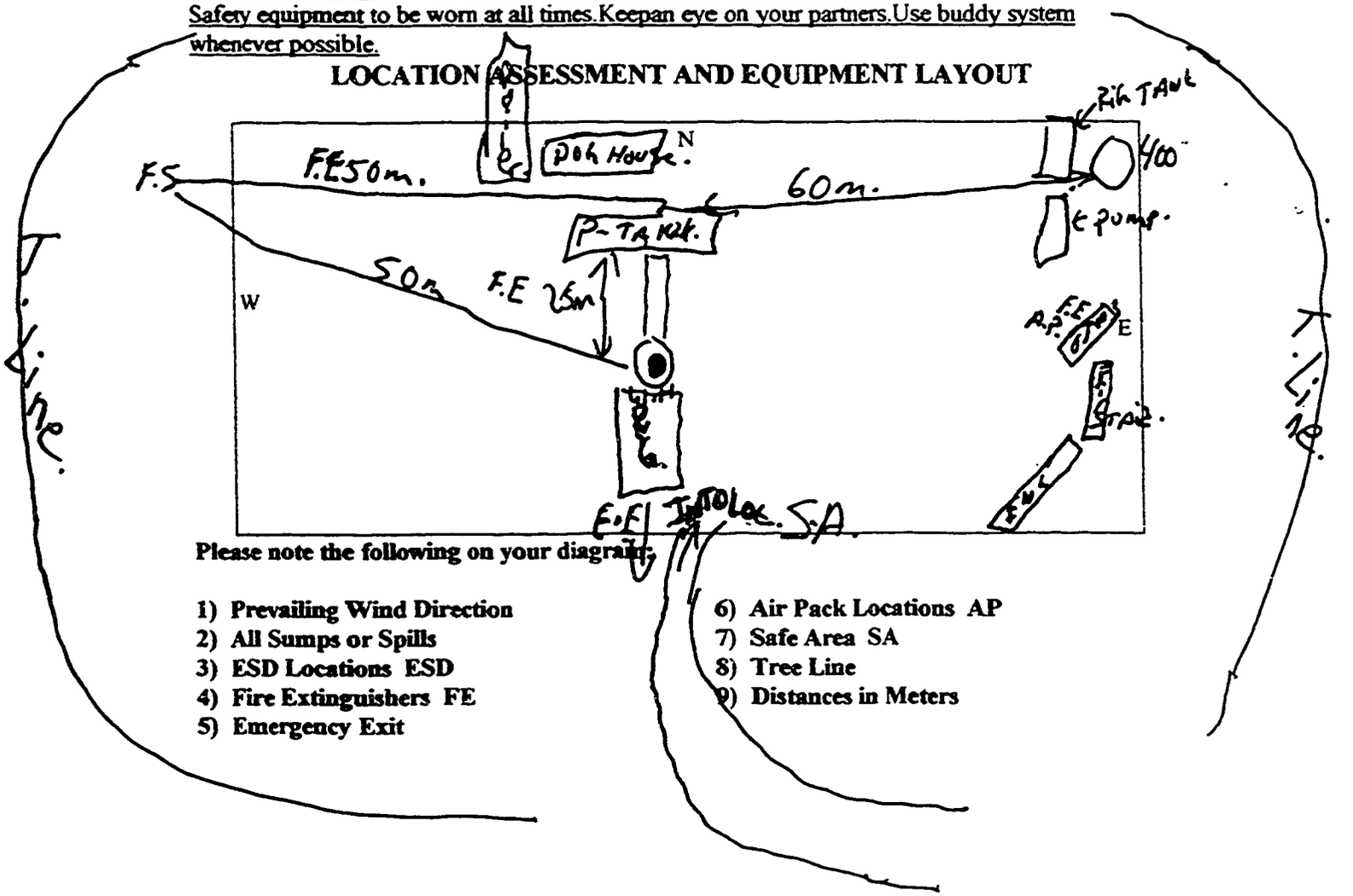
SOLID PRODUCTION SERVICES
PRE-JOB/SAFETY SUMMARY

Company: Paramount Resources Ltd
Location: I-02
Start Date: 01/03/11 **Company Rep:** Al Ironside
Directions to Lease: From Hwy 77 and Liard turnoff. Left towards Liard. Go to bottom of hill. Turn left at Paramount Petita ice bridge. Go across ice bridge and follow for approx 1.0 Km. Go left to Km 5. Right into.

Phone Numbers	Office	Mobile	Motel
Company Rep		403-861-3845	
Day Supervisor	780-955-7525	780-914-0045	
Night Supervisor	780-955-7525	780-499-2423	
Safety Supervisor			
RCMP	867-770-4221		
Hospital	250-774-6916		
Air Ambulance	867-770-3116		
OHS			

Pre-Job Discussion
Safety equipment to be worn at all times. Keepan eye on your partners. Use buddy system whenever possible.

LOCATION ASSESSMENT AND EQUIPMENT LAYOUT



Please note the following on your diagram:

1) **Prevailing Wind Direction**
2) **All Sumps or Spills**
3) **ESD Locations ESD**
4) **Fire Extinguishers FE**
5) **Emergency Exit**
6) **Air Pack Locations AP**
7) **Safe Area SA**
8) **Tree Line**
9) **Distances in Meters**

SOLID PRODUCTION SERVICES
SAMPLE INFORMATION & RECEIPT

COMPANY: Paramount Resources Ltd
LOCATION: I-02
OPERATED BY: Paramount
SAMPLE DATE: 01/03/14
FLOW RATE #: 0
FORMATION NAME AND ZONE: Fantasque

JOB #: 74
FIELD: Mount Coty

TIME: 0700 hrs

SEND RESULTS TO COMPANY ABOVE AND SOLID PRODUCTION SERVICES LTD.
ATTN: LYNETTE CHILEEN FAX # 955-3412

	CONTAINER #	PRESSURE	TEMP DEG C
WELLHEAD SAMPLES	1.00019561	800Kpa	
	2.00021246	800Kpa	
HIGH PRESS. GAS	1.____	____	
	2.____	____	
LOW PRESS. GAS	1.____	____	
	2.____	____	
HIGH PRESS. LIQUID	1.____	____	
	2.____	____	
LOW PRESS. LIQUID	1.____	____	
	2.____	____	

STOCK TANK SAMPLES (WATER): 3
NO. OF SAMPLES (OIL OR CONDENSATE): 1

PRODUCTION RATES: GAS 0 E3M^3/D OIL/COND____M3D H2O____M3D

PRESSURES:
TUBING 800
CASING 0
SEPARATOR 0

SAMPLES DELIVERED TO: Agat **BY:** Solid Prod

SAMPLES RECEIVED BY: Lance Olson **DATE:**

SOLID PRODUCTION SERVICES
PRE-JOB/SAFETY SUMMARY con't

	H2S	First Aid	CPR	WHMIS	TDGR
R.Whitw **Senior Supervisor**	☒	☒	☐	☒	☒
S.Truscott **Night Supervisor**	☒	☒	☐	☒	☒
T.Peterson **Day Operator**	☒	☒	☐	☒	☒
T.Wells **Night Operator**	☒	☒	☐	☒	☒
_____ **Day Assistant**	☐	☐	☐	☐	☐
_____ **Night Assistant**	☐	☐	☐	☐	☐

Company Rep - Personnel and Equipment Checklist

Personnel

	Poor	Fair	Good	Excellent
Knowledge	☐	☐	☐	☐
Conduct	☐	☐	☐	☐

Equipment

	Poor	Fair	Good	Excellent
Condition	☐	☐	☐	☐
Performance	☐	☐	☐	☐
Cleanliness	☐	☐	☐	☐

Company Rep Comments

_____

_____

_____

_____

_____

_____ _____

COMPANY REPRESENTATIVE **SOLID SENIOR SUPERVISOR**

SURVEY PLAN

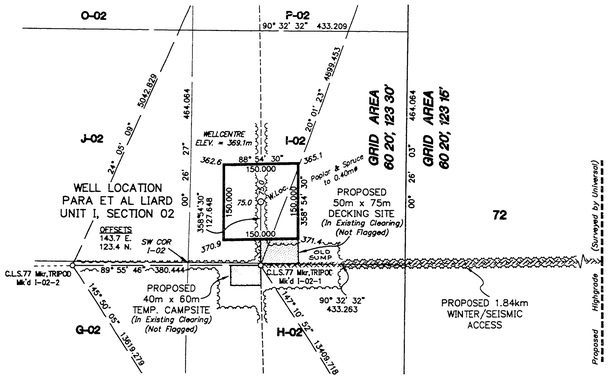
OVERSIZED

DOCUMENT

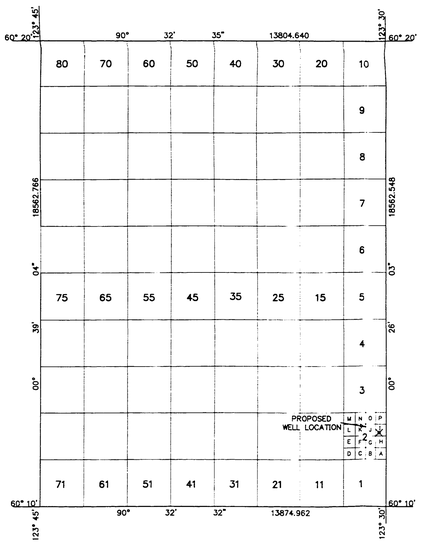
FILMED

ON

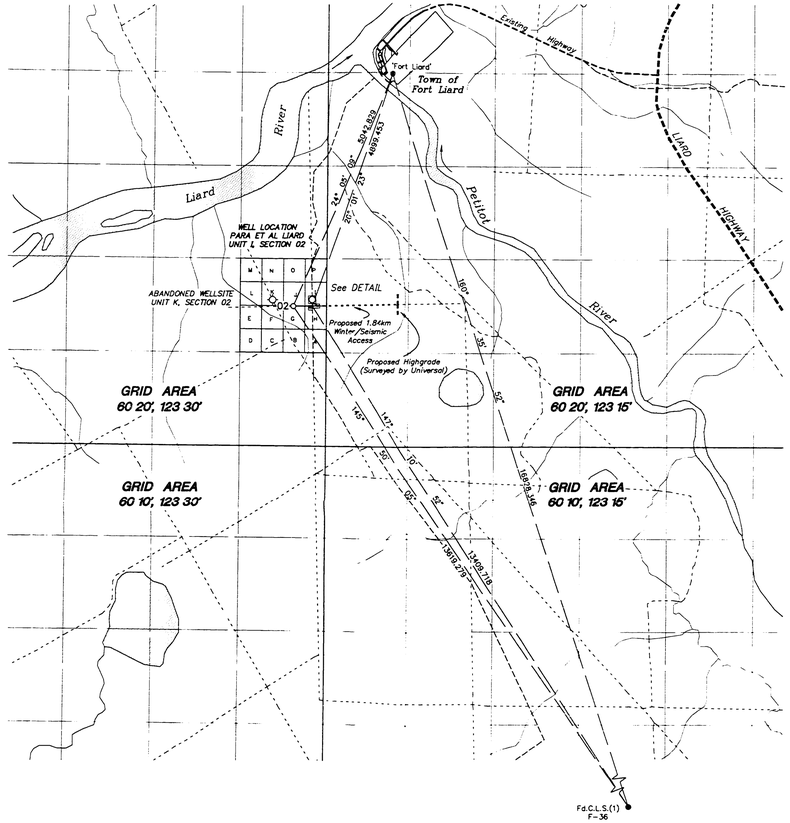
35mm



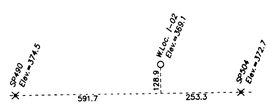
DETAIL
UNIT I, SECTION 02
SCALE 1:5,000



GRID AREA 60°20', 123°30'
SCALE 1:100,000



SHOT POINT DETAIL
NOT TO SCALE



AREAS REQUIRED:

WELLSITE:	150mx150m =	2.25 ha.
DECKING SITE:	50mx75m =	0.38 ha.
TEMP. CAMPSITE:	40mx60m =	0.24 ha.
TOTAL:		2.87 ha.

All coordinates shown are on 1927 North American Datum.
Wellsite control established using differentially corrected GPS observations.
Final coordinate values for control were transformed from NAD83 datum to NAD27 datum using National Transformation Version 2 program.
Geodetic Survey of Canada published coordinate values for monument 'Fort Liard' were held fixed. Adjusted values for Fd.C.L.S.(1) F-36 Grid Area 60°10', 123°15' and comparison to published coordinates are shown below.

GEOGRAPHIC AND UTM COORDINATES, (1927 NAD)

Station	Latitude	Longitude(W)	Northings	Eastings
CONTROL MONUMENTS				
Fort Liard(Publ. & Fixed)	60°13'59.011"	123°28'31.881"	6677255.686	473662.363
Fd.CLS(1) F-36 (Adj.)	60°05'27.349"	123°22'22.874"	6661390.140	479250.155
CLS(1) F-36 (Pub.)	60°05'27.349"	123°22'22.878"	6661390.164	479250.101
GRID AREA				
NE	60° 20' 00"	123° 30' 00"	6688433.574	472391.290
NW	60° 20' 00"	123° 45' 00"	6688564.420	458587.270
SE	60° 10' 00"	123° 30' 00"	6669871.559	472250.652
SW	60° 10' 00"	123° 45' 00"	6670002.853	458376.311
I-02, NE	60°11'45.001"	123°29'59.999"	6673119.912	472275.264
I-02, NW	60°11'45.027"	123°30'28.124"	6673124.007	471842.074
I-02, SE	60°11'30.001"	123°29'59.999"	6672655.861	472271.748
I-02, SW	60°11'30.027"	123°30'28.124"	6672659.962	471838.504
TRAVERSE STATIONS				
I-02-1	60°11'29.885"	123°30'18.576"	6672654.446	471985.553
I-02-2	60°11'29.775"	123°30'43.260"	6672653.978	471605.280
PROPOSED WELL				
I-02	60°11'34.008"	123°30'18.797"	6672782.014	471983.122

PLAN AND FIELD NOTES
OF SURVEY OF
PROPOSED EXPLORATORY WELL
PARA ET AL LIARD
IN UNIT I, SECTION 02
GRID AREA 60° 20' , 123° 30'
NORTHWEST TERRITORIES
CANADA OIL AND GAS LAND REGULATIONS

SCALE 1:50,000
0m 500m 1000m 2000m 3000m 4000m 5000m

SURVEYED FOR
PARAMOUNT RESOURCES LTD.

BY : R.O. BLACKALL, CLS
JULY, 1999.

LEGEND
UTM coordinates are computed for Zone 10, central meridian 123° W.
Bearings were derived from differentially corrected GPS Observations and are referred to Meridian 123° W.
Distances are expressed in metres and decimals thereof.
Distances shown in traverse are measured distances reduced to the horizontal at general ground level.
For the computation of coordinates measured distances have been reduced to the UTM plane by multiplying them by an average combined scale factor of 0.9995511. Coordinates were then adjusted to fit the control.
Distances shown on grid area subdivisions are UTM plane.
Authorized control monuments found ..... ●
Monuments placed ..... ○
Mkr. denotes metal marker post 2.0m long placed 0.30m IN.
Elevations were derived from Geodetic Survey of Canada Monument 'Fort Liard' Elev. = 216.299m

Survey was completed prior to drilling; therefore well as drilled may not necessarily agree with proposed location.

"Certified Correct and completed on the 03rd day of July, 1999.

R.O.Blackall _____ Canada Land Surveyor

Date: July 9, 1999

R.O'Brian Blackall
Comm. No. 1248

PARAMOUNT RESOURCES LIMITED

_____

WITNESS

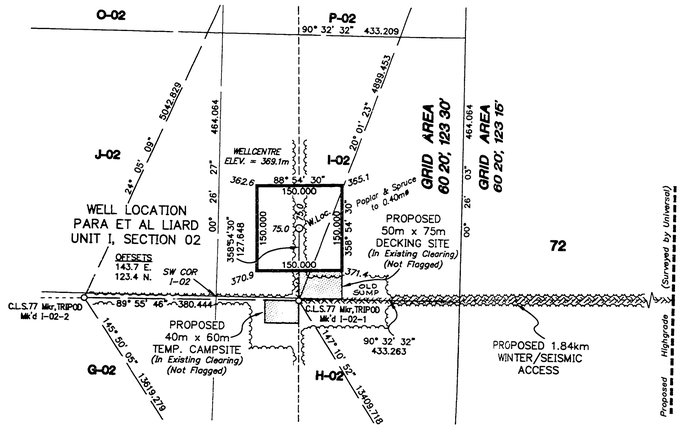
July 19, 2000
DATE

REV.No.	DESCRIPTION	DATE

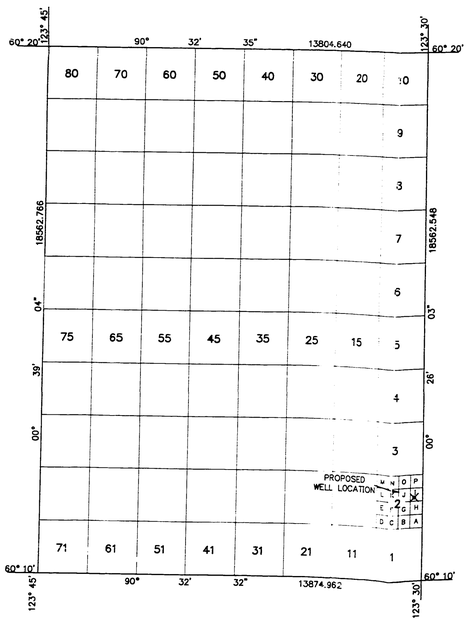
McELHANNEY
LAND SURVEYS LTD.
10014 – 97th Ave., Suite 202
Fort St. John, British Columbia
Phone:(250)787-0356, Fax:(250)787-0310

DATE : 99/07/08 JOB No.: 3111-07285WS LA BRC

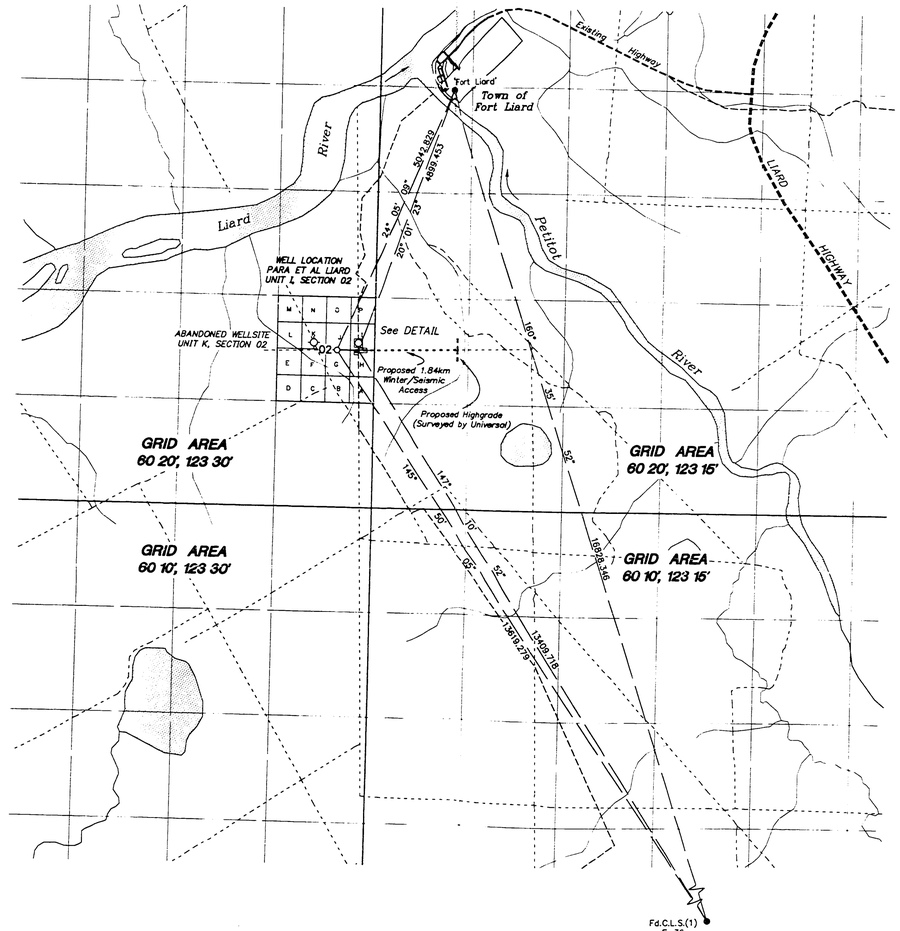
24X



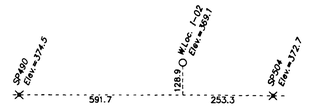
DETAIL
UNIT I, SECTION 02
SCALE 1:5,000



GRID AREA 60°20', 123°30'
SCALE 1:100,000



SHOT POINT DETAIL
NOT TO SCALE



AREAS REQUIRED:

WELLSITE:	150mx150m =	2.25 ha.
DECKING SITE:	50mx75m =	0.38 ha.
TEMP. CAMPSITE:	40mx60m =	0.24 ha.
TOTAL:		2.87 ha.

All coordinates shown are on 1927 North American Datum.
Wellsite control established using differentially corrected GPS observations.
Final coordinate values for control were transformed from NAD83 datum to NAD27 datum using National Transformation Version 2 program.
Geodetic Survey of Canada published coordinate values for monument 'Fort Liard' were held fixed. Adjusted values for Fd.CLS(1) F-36 Grid Area 60°10', 123°15' and comparison to published coordinates are shown below.

GEOGRAPHIC AND UTM COORDINATES, (1927 NAD)

Station	Latitude	Longitude(W)	Northings	Eastings
CONTROL MONUMENTS				
Fort Liard(Publ. & Fixed)	60°13'59.011"	123°28'31.881"	6677255.686	473662.363
Fd.CLS(1) F-36 (Adj.)	60°05'27.349"	123°22'22.874"	6661390.140	479250.165
CLS(1) F-36 (Pub.)	60°05'27.349"	123°22'22.876"	6661390.164	479250.101
GRID AREA				
NE	60° 20' 00"	123° 30' 00"	6688433.574	472391.290
NW	60° 20' 00"	123° 45' 00"	6688564.420	458587.270
SE	60° 10' 00"	123° 30' 00"	6669871.559	472250.652
SW	60° 10' 00"	123° 45' 00"	6670002.853	458376.311
I-02, NE	60°11'45.001"	123°29'59.999"	6673119.912	472275.264
I-02, NW	60°11'45.027"	123°30'28.124"	6673124.007	471842.074
I-02, SE	60°11'30.001"	123°29'59.999"	6672655.861	472271.748
I-02, SW	60°11'30.027"	123°30'28.124"	6672659.962	471838.504
TRAVERSE STATIONS				
I-02-1	60°11'29.885"	123°30'18.576"	6672654.446	471985.553
I-02-2	60°11'29.775"	123°30'43.260"	6672653.978	471605.280
PROPOSED WELL				
I-02	60°11'34.008"	123°30'18.797"	6672782.014	471983.122

PLAN AND FIELD NOTES
OF SURVEY OF
PROPOSED EXPLORATORY WELL
PARA ET AL LIARD
IN UNIT I, SECTION 02
GRID AREA 60° 20' , 123° 30'
NORTHWEST TERRITORIES
CANADA OIL AND GAS LAND REGULATIONS

SCALE 1:50,000
0m 500m 1000m 2000m 3000m 4000m 5000m

SURVEYED FOR
PARAMOUNT RESOURCES LTD.
BY : R.O. BLACKALL, CLS
JULY, 1999.

LEGEND
UTM coordinates are computed for Zone 10, central meridian 123° W.
Bearings were derived from differentialy corrected GPS Observations and are referred to Meridian 123° W.
Distances are expressed in metres and decimals thereof.
Distances shown in traverse are measured distances reduced to the horizontal at general ground level
For the computation of coordinates measured distances have been reduced to the UTM plane by multiplying them by an average combined scale factor of 0.9995511. Coordinates were then adjusted to fit the control.
Distances shown on grid area subdivisions are UTM plane.
Authorized control monuments found ..... ●
Monuments placed ..... ○
Mkr. denotes metal marker post 2.0m long placed 0.30m IN.
Elevations were derived from Geodetic Survey of Canada Monument 'Fort Liard' Elev. = 216.299m

Survey was completed prior to drilling, therefore well as drilled may not necessarily agree with proposed location.

"Certified Correct and completed on the 03rd day of July, 1999.
R.O.Blackall Canada Land Surveyor
Date: July 9, 1999

R.O'Brian Blackall
Comm. No. 1248

PARAMOUNT RESOURCES LIMITED
Wayne P. Jones

WITNESS
July 13, 2000
DATE

REV.No.	DESCRIPTION	DATE

McELHANNEY LAND SURVEYS LTD.
10014 - 97th Ave., Suite 202
Fort St. John, British Columbia
Phone:(250)787-0356, Fax:(250)787-0310

DATE : 99/07/08 JOB No.: 3111-07285WS LA BRC

TOUR

SHEETS

FOLD HERE →

143426

LICENCE NO.:

WELL NAME AND NO.:

OPERATOR:

CONTRACTOR:

SURFACE LOCATION:

UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Delayed Inspection Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Pasoteaux & Degasser Lines	Initial	Initial
(1) Rig Site Hazards and Safety Meeting (when crews change)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once every month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO.

FUEL

RIG | WHELER

TEMPERATURE °C

CURRENT CONDITIONS

WIND DIRECTION

ROAD

CODE NO.

TIME - HRS

OPER.	SET UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	Wire LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P	TEST B.O.P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	
MORN.	3																					
DAY	8																					
EVE.																						
TOTAL	11																					

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLY DOWN			m
TOTAL			m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T_i	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RWR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	1 2		1 2	

DEPTH (m)	DEVIATION (°)	DIRECTION

W. T.

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLY DOWN			m
TOTAL			m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T_i	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RWR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLY DOWN			m
TOTAL			m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T_i	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RWR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

43426

FOLD HERE →

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection (Weekly / Tubing Checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Location & Sour Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's, Flowlines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/week/crew/shift)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month/rig)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Hoists checked		Initial

YEAR | MONTH | DAY

RIG NO

FUEL = 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C

CURRENT CONDITIONS

WIND DIRECTION

ROAD

	O.D (mm)	MIN I.D (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN I.D (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG

TOTALS

SHALE SHAKER SCREENS

NO. TYPE

SCREENS CHANGED ... YES ... NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

MUD RECORD

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

AMOUNT X UNIT

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

MORNING TOUR

S.T. [illegible] 180 kPa

S.I.C.P. 0 kPa

[illegible] Dec.-02 Loss to Reservoir

NOTES Reduce Vis = 80 L Hole

DAY TOUR

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0		1	Rig Out Tugger Line, Rig Floor & Repair to Lay Derrick
0415	3½			Derrick (Layed Derrick Down @ 1130 hrs)
1145	1600	½	1	Rig Out & Clean Matting

NOTES Blow Down Boiler 4 x 200 = 800

Visually Inspect Derrick, ✓ Brakes & Linkage

EVENING TOUR

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	2400	8	22	~~Rig~~ Wait on Ice Bridge to Move

NOTES Check on Flood Boiler

FOLD HERE →

143425

LICENCE NO.:

WELL NAME AND NO.:

OPERATOR:

CONTRACTOR:

SURFACE LOCATION:

UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flexlines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/week/month)		Initial
(2) C.A.U.D.C. Rig Safety Inspection Checklist (once/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO. 1

FUEL 8.00

RIG | BOILER

TEMPERATURE °C

CURRENT CONDITIONS

WIND DIRECTION

ROAD

TIME - HRS

CODE NO: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

OPER.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	JNR. WORK	SAFETY MTG.					
MORN.																					
DAY						7½				1½									1	4	
EVE.						4															
TOTAL																					

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLYDOWN			m
TOTAL			m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRD PART CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTE

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLYDOWN			m
TOTAL			m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRD PART CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTE

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLYDOWN			m
TOTAL			m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRD PART CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTE

FOLD HERE →

43425

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines blessed	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarestack & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (min/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO.

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.					

TOTALS

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS SERVICES

MUD RECORD

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

MORNING TOUR

DAY TOUR

EVENING TOUR

DRILLER'S SIGNATURE

143424

FOLD HERE →

LICENCE NO.: 12548 | WELL NAME AND NO.: FA RIGHT FT AL I-02

OPERATOR: | CONTRACTOR:

SURFACE LOCATION: I - 02 | UNIQUE ID.: 200 I-02-[illegible]-13320

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) HPS Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Shots Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR | MONTH

RIG NO. 1

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

MORNING TOUR

TIME - HRS

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P	TEST B.O.P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.						1½	¼				¼										Mixed Up [illegible]	Hammer Drill 6.
DAY						5	½														2¾	
EVE.						4½	¼															
TOTAL						10	1				02										.75	

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	[illegible]
SIZE (mm)	[illegible]
IADC CODE	[illegible]
MFG.	[illegible]
TYPE	[illegible]
SERIAL NO.	[illegible]
JETS (mm)	[illegible]
DEPTH OUT (m)	[illegible]
DEPTH IN (m)	[illegible]
TOTAL METRES DRILLED (m)	[illegible]
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
17+H				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
1 2			

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
17+H				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

243424

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection
(2) Detailed Inspection-Weekly (using checklist)
(3) HPS Signs Posted (if required)
(4) Well License & Slick Diagram Posted
(5) Flare Lines Staked
(6) BOP Drills Performed
(7) Visually Inspect Derrick, Flarelines & Degasser Lines

(1) Rig Site Health and Safety Meeting (one/crew/month)
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)
(3) Mast Inspection Before Raising or Lowering
(4) Crown Saver Checked
(5) Motor Kills checked

YEAR / MONTH / DAY

RIG NO

FUEL @ 8:00

RIG / BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
							514.		

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
7"	32					167			

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG		

TOTALS

SHALE SHAKER(S) — NO. / TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP / TOP
MIDDLE / MIDDLE
BOTTOM / BOTTOM

RENTALS SERVICES

MORNING TOUR

MUD RECORD

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / RMVD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
17.41				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0600	1100	1	6	RUN 7" [illegible] & CSG SECTION
1100	1130	½	7	[illegible]
1130	1700	5½	6	[illegible]
		½	11	[illegible]
				[illegible]
				[illegible]
				[illegible]
				[illegible]
				[illegible]
				[illegible]

NOTES: [illegible]

6	1200		

DAY TOUR

MUD RECORD

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / RMVD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0600	0615	¼	7	RIG SERV (GREASE BLOWERS (CHECK OIL))
0615	1100	4¾	22	MAKE UP BIT NEW T.C.P. ON CHECK JACK
1100	1130	½	6	RUN 12 JTS. TBG. IN DERR.
	1600	5	6	PULL + LAY DOWN 72 JTS (W) PROTECTORS ON
			8	

NOTES: ✓ CREW SAFETY, WORK ASSIGNMENTS, ✓ BRAKES & WARNING, ✓ DEAD LINE ANCHOR
RECORDER RANGE 4 X 500 = 110 ?

8	1200	500	

EVENING TOUR

MUD RECORD

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / RMVD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
17.41				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

1100	1700	1	6	FINISH LAYING DOWN 72 JTS TUBING
1700	1720	½	22	PICK UP TCP + RUN IN HOLE
1720	2100	3½	6	RUN IN HOLE W/ TBG. PUT WATER CUSHION & SCALE TOOL
2100	2030	½	6	HOOK UP PUMP UNIT + SET FOR THE NIGHT
2030	2230	½	11	RIG OUT FOR HEAD + CAT
2230	2330	1	16	PERF
2330	0130	2	11	[illegible]
0130	0230	1	11	[illegible]
0230	0300	½	7	[illegible]

NOTES: [illegible]

DRILLER'S SIGNATURE

143423

FOLD HERE →

LICENCE NO.: 1884

WELL NAME AND NO.: Petro Mount Etal Mount City E-02

OPERATOR:

CONTRACTOR: Akita Drilling Ltd

SURFACE LOCATION: E-02

UNIQUE ID:

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection - Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Slack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C A O D C Rig Safety Inspection Checklist (once/y/month)		Initial
(3) Meet Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO: 51

FUEL 8:00

RIG: 7623 BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME - HRS

CODE NO	OPER.	POOH & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG		
	MORN.																							
	DAY																					.25	7.75	
	EVE.						4	1															3.5	
	TOTAL						11.25	3.5														.5	11.25	

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T_i	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRILLED RUN-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Solar Block

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	DSG
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T_i	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRILLED RUN-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	1 1/2			

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T_i	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRILLED RUN-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

243423

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection- Weekly (using checklist) — Initial / Initial
(3) HPS Signs Posted (if required) — Initial / Initial
(4) Well Licence & Stick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (once/week/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR / MONTH / DAY

RIG NO

FUEL @ 8:00

RIG / BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D (mm)	MIN I.D (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING									
DP									
LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.		
			.25		7.75
					3
					11.25

TOTALS: 3 / 1

SHALE SHAKERS — RENTALS SERVICES

NO | TYPE

SCREENS CHANGED YES NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

MUD RECORD

MORNING TOUR

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD R&R CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Black

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0	2:30	2	22	Finish Crewing Tubulars and Mixed Mud Pump Prior to TIH w/ Mud Motor

FOLD HERE →

143422

LICENCE NO.: 1884

WELL NAME AND NO.: [illegible] Cdn. I-02

OPERATOR: [illegible]

CONTRACTOR: [illegible] Drilling Ltd.

SURFACE LOCATION: I-02

UNIQUE ID.: 300 I-02 60 20 [illegible]

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [illegible] Cathcart

SIGNATURE OF CONTRACTOR'S RIG MANAGER: [illegible]

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Stack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flowlines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/quarter)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR: 91 | MONTH: 12

RIG NO.: 51

FUEL: 8 00

RIG | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME HRS.

CODE NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
	MORN.	2													6								
	DAY														9								
	EVE.															1							
	TOTAL	2													13	2							

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.		
SIZE (mm)		
IADC CODE		
MFG.		
TYPE		
SERIAL NO.		
JETS (mm)		
DEPTH OUT (m)		
DEPTH IN (m)		
TOTAL METRES DRILLED (m)		
TOTAL HOURS RUN		

CUTTING STRUCTURE

T	B	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Goldblock

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.		
SIZE (mm)		
IADC CODE		
MFG.		
TYPE		
SERIAL NO.		
JETS (mm)		
DEPTH OUT (m)		
DEPTH IN (m)		
TOTAL METRES DRILLED (m)		
TOTAL HOURS RUN		

CUTTING STRUCTURE

T	B	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.		
SIZE (mm)		
IADC CODE		
MFG.		
TYPE		
SERIAL NO.		
JETS (mm)		
DEPTH OUT (m)		
DEPTH IN (m)		
TOTAL METRES DRILLED (m)		
TOTAL HOURS RUN		

CUTTING STRUCTURE

T	B	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
17	14			

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

3422

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H2S Signs Posted (if required)	Initial	Initial
(4) Well Licenses & Stats Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Freeness & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/month/crew)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checked (once/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG No.

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	OD (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG. HEAD (m)	SET AT (m)
LAST CASING	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TUBING									
OPEN HOLE LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
	7"	[illegible]		62	171	[illegible]	12	5-P-80	National	280
	[illegible]	[illegible]		69	133	[illegible]	14	5-P-80	National	216
	DP 114	[illegible]	G-105	72	159	4½ IF	250			

SIZE OF BIT	FISHING	DIR. WORK	SAFETY MTG.		
			[illegible]	[illegible]	
		96	1		
		6	1		

MUD RECORD

TOTALS: 0 | 3 | 5 | 24

SHALE SHAKER(S)

NO | TYPE

SCREENS CHANGED YES NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTALS/SERVICES

[illegible]

METRES DRILLED

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
[illegible]	[illegible]		

DEPTH (m)	DEVIATION (°)	DIRECTION

Don Block

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	2[illegible]	2	1	Finish Tear out Stack
2[illegible]	3[illegible]	6	14	N. Dale up 2 7/8 B.O.P.

NOTES: Blow Down Boiler 8x 40L

5 | 11 | 490

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

MORNING TOUR

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Don Block

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0[illegible]	12[illegible]	4	14	Nipple up new stack.
1200				Change around blind
	15[illegible]	3	14	4 life rams 2 Mud Cyclone Middle
15[illegible]	16[illegible]	1	15	blind rams. Kelly hose, K.H line
				40 L antifreeze added to manifold
				Lines Low Pres 12 min each valve
				High 10,000

NOTES: ✓ Crown Saver 1 test chart added to manifold

5 | 11 | 490

DAY TOUR

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
17[illegible]				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
[illegible]	[illegible]	[illegible]		[illegible]
16[illegible]	17[illegible]	1	15	Pressure Test (Finish)
17[illegible]	18[illegible]	1	33	Winterize Manifold & Mud fold lines
19[illegible]	24[illegible]	6	22	Unload tubing, Dress tubing, Strap tubing

NOTES: Blow Down Boiler 2x 40L

5 | 11 | 490

EVENING TOUR

143421

FOLD HERE →

LICENCE NO.: 1804

WELL NAME AND NO.: Paramount Fed Mount Cory I-02

OPERATOR:

CONTRACTOR:

SURFACE LOCATION: I-02

UNIQUE ID: 100 I-02 60 201330

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Derrick Inspection- Weekly (using checklist)	Initial	Initial
(3) H2S Signs Posted (if req'd-each)	Initial	Initial
(4) Well License & Mast Diagram Posted	Initial	Initial
(5) Flare Lines Tested	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's Flameless & Degasser Lines	Initial	Initial
(1) Rig Safe Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection - Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

MORNING TOUR

TIME — CODE NO.

OPER.	TRG OF & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.					1½							0½									
DAY	3				5							17½									½
EVE.	3																				
TOTAL	11				6½							18½									1½

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152.	80		

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Block

DAY TOUR

TIME — CODE NO.

OPER.	TRG OF & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.																					
DAY																					
EVE.																					
TOTAL																					

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744	TD			

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Victor L

EVENING TOUR

TIME — CODE NO.

OPER.	TRG OF & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.																					
DAY																					
EVE.																					
TOTAL																					

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE				B	Gage	ODC	Reason Pulled	Total Run m/hr.
T	T_o	MDC	LOC					

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

43421

330

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection Weekly (using checklist) — Initial / Initial
(3) H2S Signs Posted (if required) — Initial / Initial
(4) Well License & Stick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (one crew, monthly) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR / MONTH / DAY

RIG NO

FUEL @ 8:00

RIG / BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
	171			72	171	FH-J	12	5-P-80	National	216
				64	158	4½ XH	54	8-P-80	National	216
	127			72	158	4½ XH	150			

15	19	20	21	22	23	24	25	26
SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.					
			H					
			H					
			H					

TOTALS

SHALE SHAKER(S)

NO / TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTALS SERVICES

MJ - Mud
MJ - 418438

MORNING TOUR

MUD RECORD — ☐ OPENED ☐ CLOSED

SOLIDS CONTROL

COUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	90		

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE: Todd Short

TIME LOG

FROM	TO	HRS	CODE
0	0630	6½	12
0630	0830	1½	5

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Run CSG
Break Circ & Circ & Cond MUD
[illegible]
[illegible]
[illegible]
[illegible]

NOTES: Crown Saver
Blow Down Boiler 4 - 90L

8 | 11 | 4/90

DAY TOUR

MUD RECORD — ☐ OPENED ☐ CLOSED

SOLIDS CONTROL

COUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744	TD			

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE:

TIME LOG

FROM	TO	HRS	CODE
0330	1100	7½	5
1100	1115	¼	21
1115	1300	1.75	12
1300	1600	3	1

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Circulate & condition Mud TO
Cement Casing
Safety Mtg.
Run Totco Survey.
Tear down BOP & Set slips
Casing Cement by BJ Services - Pumped 3
Lead Slurry - 115 sacks Fillers with 2% Bentonite Gel Cement
Tail Slurry - 230 sacks Class G Neat Cement with 0.2% NF-2 mixed @ 1.89 kg/l
Mixed Pumped 23.7 Tonnes Slurry @ 1.90 kg/l with NF-2 mixed
Displacement - 12.7 m³ Slurry - Drop Plug - Displace
Cement with 24.5 m³ Water - Bump Plug with 1700

NOTES: ✓ Crown Saver Drill - Well Control - Rig Move - Blow Down Boiler - Pit Level Training - Pit Gain - Flow Check.

4 | 11 | 4/90

EVENING TOUR

MUD RECORD — ☐ OPENED ☐ CLOSED

SOLIDS CONTROL

COUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE:

TIME LOG

FROM	TO	HRS	CODE
1600	2400	8	1

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Tear out Bop's set slips

NOTES: Blow Down Boiler 2 x 40L

BOILER HRS RAN: [illegible] STACK TEMP: [illegible] MAXIMUM EXPERIENCED HOOKLOAD: [illegible] SURVEY TOPIC: [illegible]

7 | 11 | 4/90

143420

FOLD HERE →

DAILY CHECKS	OPR.	R.M.
(1) Daily Work Around Inspection		
(2) Detailed Inspection-Weekly (using Checklist)		
(3) H2S Signs Posted (if required)		
(4) Well Licence & Stack Diagram Posted		
(5) Flare Lines Staked		
(6) BOP Drills Performed		
(7) Visually Inspect BOP's - Flarelines & Degasser Lines		
(1) Rig Site Health and Safety Meeting (once/crew/month)		
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		
(3) Mast Inspection Before Raising or Lowering		
(4) Crown Saver Checked		
(5) Motor Kills checked		

YEAR 95 MONTH 12

RIG NO 51

FUEL - 8 0

RIG 1042 BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LICENCE NO.: 1594

WELL NAME AND NO.: Fairmount [Cal] Mount Coty I-02

OPERATOR: [illegible]

CONTRACTOR: [illegible]

SURFACE LOCATION: I-02

UNIQUE ID.: 500 I 02 W 20 12330

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER: [illegible]

TIME HRS — CODE NO

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P	TEST B.O.P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	
MORN.					7 1/4	1/4																WOT + Fuel
DAY					3.5	5																1/2
EVE.						3 1/2						5 1/4									1/4	
TOTAL					11/4	13 1/2 1/4						5 1/4									1 1/4	1/2

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

		LENGTH
		.25 m
Dogsub	222	.25 m
B/S	171	.86 m
D.C.	171	55.64 m
Jars	171	6.06 m
x10	168	.76 m
HWDP	114	267.64 m
		m
		m
		m
		m
68 D.P.	STANDS	1240.65 m
X D.P.	SINGLES	9.45 m
KELLYDOWN		12.40 m
TOTAL		1744.00 m
WT. OF DC		14 1000 daN
WT. OF STRING		70 1000 daN

BIT RECORD

BIT NO.	2 RR
SIZE (mm)	222
IADC CODE	
MFG.	Smith
TYPE	F-17H
SERIAL NO.	LY 4872
JETS (mm)	3 x 13
DEPTH OUT (m)	
DEPTH IN (m)	1744
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD ADDITIVES USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORR'G	ROTARY R.P.M.
1744			

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
7400	152	90	

DEPTH (m)	DEVIATION (°)	DIREC

Todd Block

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

		LENGTH
		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLYDOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	10:30
DENSITY kg/m³	1070
FUNNEL VIS. - (S/L)	64
W.L. (cm³)	7.0
pH	10.0

MUD ADDITIVES USED

PRODUCT	AMOUNT X UNIT
Bentonite	25 SK
Soda Ash	1 SK
Caustic	5 SK
Soltex	1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORR'G	ROTARY R.P.M.
1744	TD		

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
7500	152	90	
1800		55	

DEPTH (m)	DEVIATION (°)	DIRECTIO

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

		LENGTH
		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLYDOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD ADDITIVES USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORR'G	ROTARY R.P.M.
1744			

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

Todd Block

FOLD HERE →

420

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	initial	initial
(2) Detailed Inspection-Weekly (using checklist)	initial	initial
(3) HPS Signs Posted (if required)	initial	initial
(4) Well Licenses & Stick Diagram Posted	initial	initial
(5) Flare Lines Staked	initial	initial
(6) ROP Drills Performed	initial	initial
(7) Visually inspect BOP's - Flowlines & Degasser Lines	initial	initial
(1) Rig Site Health and Safety Meeting minimum 6 months		initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (circle month)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motor Kills checked		initial

YEAR | MONTH | DAY

RIG NO.

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

	OD (mm)	MIN ID (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

FISHING | DIR. WORK | SAFETY MTG.

UD Tools

1/2 5

1/4

1/4 1/2

TOTALS

3 NO. TYPE

SCREENS CHANGED YES NO

TOP TOP

MIDDLE MIDDLE

BOTTOM BOTTOM

MORNING TOUR

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG HRS CORE/C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7400	152	90	

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	00:30	1/2	12	Finish LID Tools+tools
00:30	00:45	1/4	7	Rig Service c/o Blind Rams
00:45	09:30	3/4	5	RIH w/ Bit
09:30	05:45	1 1/4	5	Break circ + C/O
5:45	06:30	3/4	6	TIH
06:30	03:00	1 1/2	5	Break Circ + Circ

NOTES: Crown Saver Test • Blind Rams Test • Kelly Cock Set Down Blow Down Boiler 1/4 = 30L

Tool Pusher | 8 | 11 | 1440

DAY TOUR

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG HRS CORE/C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1744	7900			

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7500	152	90	

7900 55 mud

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
08:00	11:30	3.50	5	Circulate + condition Mud
11:30	16:00	#5	6	Pump out & Hoist to L/D drill string
				EL = Schlumberger

NOTES: Crown Saver

X Rig 1170

EVENING TOUR

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG HRS CORE/C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
16:00	20:30	4 1/2	11	L/D drill string
20:30	21:00	1/2	12	STRAP CSG
21:00	21:30	1/2	12	Rig to Run CSG
21:30	21:45	1/4	21	Safety MTG
21:45	24:00	2 1/4	12	& Run CSG

NOTES: Crown Saver Blow Down Boiler 1/4 = 30L

DRILLER'S SIGNATURE

Tool Pusher | 8 | 11 | 1440

143419

FOLD HERE →

LICENCE NO.: 1824
WELL NAME AND NO.: Paramount Etal Mount Coty I-02
OPERATOR: Paramount Resources Ltd
CONTRACTOR: Nor-Tex Drilling Ltd
SURFACE LOCATION: -02
UNIQUE ID.: 300I 02 60 20 12330
SIGNATURE OF OPERATOR'S REPRESENTATIVE: Mike Gallagher
SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H*S Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Slack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR: 90 MONTH: 2
RIG NO.: 51
FUEL @ 8.00
RIG / BOILER
WEATHER: TEMPERATURE / CURRENT CONDITIONS / WIND DIRECTION / ROAD

TIMES

OPER	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.						5½	¼									1¼						
DAY						7¼	¼									2						3
EVE.						2¼										2¼						3
TOTAL						7	½									6½						6

MORNING TOUR

DRILLING ASSEMBLY

BIT RECORD

BIT NO.
SIZE (mm)
IADC CODE
MFG.
TYPE
SERIAL NO.
JETS (mm)
DEPTH OUT (m)
DEPTH IN (m)
TOTAL METRES DRILLED (m)
TOTAL HOURS RUN
CUTTING STRUCTURE: T | Tg | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.
D.P. STANDS
D.P. SINGLES
KELLYDOWN
TOTAL
WT. OF DC
WT. OF STRING
HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

MUD RECORD

TIME
DENSITY kg/m³
FUNNEL VIS. - (S/L)
W.L. (cm³)
pH

PRODUCT | AMOUNT X UNIT

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD. RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

Lorrie Bloom

DAY TOUR

DRILLING ASSEMBLY

BIT RECORD

BIT NO.
SIZE (mm)
IADC CODE
MFG.
TYPE
SERIAL NO.
JETS (mm)
DEPTH OUT (m)
DEPTH IN (m)
TOTAL METRES DRILLED (m)
TOTAL HOURS RUN
CUTTING STRUCTURE: T | Tg | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.
D.P. STANDS
D.P. SINGLES
KELLYDOWN
TOTAL
WT. OF DC
WT. OF STRING
HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

MUD RECORD

TIME
DENSITY kg/m³
FUNNEL VIS. - (S/L)
W.L. (cm³)
pH

PRODUCT | AMOUNT X UNIT

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD. RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Graham Ice

EVENING TOUR

DRILLING ASSEMBLY

BIT RECORD

BIT NO.
SIZE (mm)
IADC CODE
MFG.
TYPE
SERIAL NO.
JETS (mm)
DEPTH OUT (m)
DEPTH IN (m)
TOTAL METRES DRILLED (m)
TOTAL HOURS RUN
CUTTING STRUCTURE: T | Tg | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.
D.P. STANDS
D.P. SINGLES
KELLYDOWN
TOTAL
WT. OF DC
WT. OF STRING
HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

MUD RECORD

TIME
DENSITY kg/m³
FUNNEL VIS. - (S/L)
W.L. (cm³)
pH

PRODUCT | AMOUNT X UNIT

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD. RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)
1748				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

Lorrie Bloom

FOLD HERE →

43419

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once per month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once ng month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR 92 | MONTH 7 | DAY —

RIG NO 7

FUEL @ 8:00

RIG | BOILER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING	244.5	220	53.57	TOSCO	J-55	34	714.12	5.00	719
TUBING OR LINER									

WEATHER	TEMPERATURE °C
	CURRENT CONDITIONS
	WIND DIRECTION
	ROAD

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)
171	165		62	171	5½ FH	12	3-P-50	National	216
DP 114	29.45		69	158	4½ XH	34	7-P-30	National	216
DP 114	29.77	GRE	72	158	4½ FH	20			

EQUIPMENT	FISHING	DIR. WORK	SAFETY MTG.
Crown's Tech			
			3
			3
			6

TOTALS	SHALE SHAKER(S)	RENTALS SERVICES
	NO TYPE	
8	SCREENS CHANGED ☐YES ☐NO	NJS - 3744
3	TOP TOP	AMJ - 345067
8	MIDDLE MIDDLE	
24	BOTTOM BOTTOM	

MORNING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLG HRS CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7			

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

PUMP UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

FROM	TO	HRS	CODE
0	04:15	9¼	16
04:15	04:30	¼	7
04:30	09:00	3½	6

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Test BOP
R.S. service C/O Annular
P.O.O.H FC @ 1075, 678, 747, 418, 60
Ran MWD FS - 1134 - 1140 - Mottled Formation
Weak Air Blow - No Gas to Surface
Recovered 5m³ - drilling mud and slightly salty water

NOTES Crown Saver, Drilling Anchors, Brakes & Linkage, Fast Remote Choke, Blow Down Boiler 4x = 90L

DRILLER'S SIGNATURE [illegible] | 8 | 11 | 430

DAY TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLG HRS CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
				—

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

PUMP UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

FROM	TO	HRS	CODE
05:30	11:00	3	22
11:00	11:30	.25	7
11:30	14:00	2.5	16
14:00	18:00	2.5	16

Service tools & change extension
Rig Service & blind rams, check.
RIH w/ SCS & MP - stop in
Rotate to pump up packers
& run DST #7 703m - 720m
Ran DST #6 - 1093.1 - 1098.2 - Mottled
Very Weak Air Blow - Dec Gas to Surface
Reversed 17.0 L Slightly Salty Water

NOTES Crown Saver

DRILLER'S SIGNATURE [illegible] | 8 | 15 | 270

EVENING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLG HRS CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
4744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

PUMP UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

FROM	TO	HRS	CODE
16:00	18:00	2.5	16
18:00	21:00	3	7
21:00	24:00	3	22

DST #7
Hoist DST FC 1 std 5, MP & SCS
Handle tools UD Test Tool

Ran DST #7 - 703m - 720m - Chinkle Formation
Weak Air Blow - No Gas to Surface
Recovered 21.0 l Fresh Water

NOTES Crown Saver, Fast Remote Choke
Blow Down Boiler 4x = 80L

DRILLER'S SIGNATURE [illegible] | 8 | 11 | 410

FOLD HERE →

143418

LICENCE NO.: 1884

WELL NAME AND NO.: Paramount Etal Mount Coty

OPERATOR: Paramount Resources Ltd.

CONTRACTOR: Akita Drilling Ltd.

SURFACE LOCATION: I-07

UNIQUE ID.: 300I02 60 20 12 330

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [signature]

SIGNATURE OF CONTRACTOR'S RIG MANAGER: [signature]

DAILY CHECKS — OPR. / R.M.

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

DAY | MONTH

RIG NO. 71

FUEL @ 8:00

RIG 11448 BOILER

WEATHER: TEMPERATURE / CURRENT CONDITIONS / WIND DIRECTION / ROAD

TIME-HRS

	COCC. NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.								3/4										3½					¼	
DAY								1										-						Mud Tanks - 1
EVE.								3½										3½						2
TOTAL								5 3/4										11					¼	3

DRILLING ASSEMBLY (At End of Tour)

			m
	DST		36.46 m
6	DC		53.64 m
	X/O		.76 m
10	HWDP		309.64 m
			m
			m
			m
			m
			m
36	D.P.	STANDS	685.05 m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		1145.58 m
WT. OF DC		14.	1000 daN
WT. OF STRING		40	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

MATERIALS USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152.			

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Block

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

MATERIALS USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

[signature]

DRILLING ASSEMBLY (At End of Tour)

			m
	DST		49.18 m
6	DC	171	55.64 m
	X/O	168	.76 m
10	HWDP	114	367.64 m
			m
			m
			m
			m
			m
			m
33	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC		14	1000 daN
WT. OF STRING		35	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

MATERIALS USED

PRODUCT	AMOUNT X UNIT
Lignosulfonate	1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

[signature]

FOLD HERE →

418

DAILY CHECKS — OPR. A.M. / P.M.

(1) Daily Walk Around Inspection — Initial
(2) Delayed Inspection-Weekly (using checklist) — Initial
(3) H²S Signs Posted (if required) — Initial
(4) Well License & Stick Diagram Posted — Initial
(5) Flare Lines Staked — Initial
(6) BOP Drills Performed — Initial
(7) Visually inspect BOP's - Flexibles & Degasser Lines — Initial

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

Year | Month | Day

RIG NO 1

FUEL @ 8:00

RIG 174+3 | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING	244.5	226	59.12	[illegible]	J-55	34	1412	2.00	1414
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)
	171	165		62	171	5½ FH	12	B-P-80	National	216
	HW 4½	82.45		64	173	4½ XH	34	B-P-80	National	216
	DP 114	20.97	E	92	133	4½ XH	250			

CASING	DIR. WORK	SAFETY MTG.	22	23	24	25	26
		1/4					
			Monkeeds - 1				
			2				
		1/4	3				

TOTALS

	SHALE SHAKER(S)	RENTAL'S SERVICES
8	NO TYPE	
	SCREENS CHANGED ☐ YES ☐ NO	BJ - 1716
8	TOP / TOP	AMJ - 343034
8	MIDDLE / MIDDLE	
24	BOTTOM / BOTTOM	

MORNING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152.			

DEPTH (m)	DEVIATION (°)	DIRECTION

UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

0	02:15	2¼	6
02:15	02:30	¼	28
02:30	08:00	5½	16

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIH w/ DST = 5 Stands in
Safety MTG
2nd Hour Pump, Packers & Test = 5

NOTES: Crown Saver, Deadman Anchors, Brakes & Linkage, Fuse, Remote Choke, Flow Down Bailer 4½ = 90L

DRILLER'S SIGNATURE: Lindsay Brecht — 8 | 11 | 1490

DAY TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

18:00	—	2	18
15:00	15:00	4	2
15:00	15:00	1	22

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

DST = 5
Deflate Packer & Next DST
EC Cut Lips, Mpacks & Hone
Manifold Test + Choke Manifold
Service Test

NOTES: Floor Saver

DRILLER'S SIGNATURE: [illegible] — 8 | 11 | 1490

EVENING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

16:00	18:00	2	22
18:00	24:00	¼	6
2:30	23:00	1½	16
23:00	23:15	¼	16
23:15	24:00	¾	16

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Change Intruct & Service Tools
Rih strap - EC SCS Pump -
2nd Hour Pump Packers & Test = 6
Deflate Packers
Re Pump Packer & Test = 6

NOTES: Crown Saver, Function Remote Choke. Flow Down Bailer 4½ = 90L

DRILLER'S SIGNATURE: [illegible] — 9 | 11 | 1490

FOLD HERE →

143417

LICENCE NO.: 1834

WELL NAME AND NO.: Amoco Mobil et al Mount Cotton

OPERATOR: Crumont Resources Ltd

CONTRACTOR: Akita D... Ltd

SURFACE LOCATION: I-02

UNIQUE ID.: 300I02 1020 1530

SIGNATURE OF OPERATOR'S REPRESENTATIVE: WA Cathcart

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	initial	initial
(2) Detailed Inspection-Weekly (using Checklist)	initial	initial
(3) H²S Signs Posted (if required)	initial	initial
(4) Well License & Sites Diagram Posted	initial	initial
(5) Flare Lines Staked	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually Inspect BOP's - Flexibles & Degasser Lines	initial	initial
(1) Rig Site Health and Safety Meeting (once/month/Rig)	initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month/Rig)	initial	
(3) Mast Inspection Before Raising or Lowering	initial	
(4) Crown Saver Checked	initial	
(5) Motor Rolls checked	initial	

DAY | MONTH | RIG NO. 5

FUEL | RIG | BOILER

TEMPERATURE

CURRENT CONDITIONS

WIND DIRECTION

ROAD

TIME-HRS — CODE NO.

OPER.	TRIP UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG			
MORN.					3½	1/4		3/4								1/2					1/4	2 3/4		
DAY					1½	1½										1/4								
EVE.					3/4	3½		1/2																3X
TOTAL					3/4	5¾	1/2	1/2	3/4							6¾					1/4	2 3/4		3X

DRILLING ASSEMBLY (At End of Tour)

			LENGTH
			m
2	Test Tool		53.96 m
6	DC	171	55.61 m
1	4½ XO	165	.76 m
	3½	172	.86 m
110	HWDP	114	329.64 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT
Soda Ash	7 Sax
Used in Boiler	
Feed Water	

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLG RMKS CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Block

DRILLING ASSEMBLY (At End of Tour)

			LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLG RMKS CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Block

FOLD HERE →

143417

DAILY CHECKS — OPR. — RIG

FUEL — H2O

TEMPERATURE
CURRENT CONDITIONS
WIND DIRECTION
ROAD

OD — WT — GRADE — NO OF JOINTS — TOTAL(m) LENGTH — KB TO CSG HEAD (m) — SET AT (m)

DC OD SIZE — NEAR MAKE-UP — MAKE — TOOL JOD — TYPE THREAD — NO OF JOINTS

PUMP TYPE — PUMP MANUFACTURER — STROKE LTH

TOTALS

SCREENS CHANGED YES NO
TOP
MIDDLE
BOTTOM

MUD RECORD

METRES DRILLED

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

FROM	TO	DRD RMR CORE C	ROTARY R.P.M.	WT ON BIT
1744				

LINER SIZE	S.P.M.	LINER SIZE	S.P.M.

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

NOTES

DAY TOUR

EVENING TOUR

MUD RECORD

UNIT X UNIT	HOURS/RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

METRES DRILLED

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

FROM	TO	DRD RMR CORE C	ROTARY R.P.M.	WT ON BIT
1744				

LINER SIZE	S.P.M.	LINER SIZE	S.P.M.

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

NOTES

MUD RECORD

UNIT X UNIT	HOURS/RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

METRES DRILLED

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

FROM	TO	DRD RMR CORE C	ROTARY R.P.M.	WT ON BIT
1744				

LINER SIZE	S.P.M.	LINER SIZE	S.P.M.

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

NOTES

143416

FOLD HERE →

LICENCE NO. | WELL NAME AND NO. | OPERATOR | CONTRACTOR | SURFACE LOCATION | UNIQUE ID

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. / R.M.

(1) Daily Work Around Inspection
(2) Lifetime Inspection Weekly (using checklist)
(3) H²S Signs Posted (if required)
(4) Well Licensee & Stack Diagram Posted
(5) Flare Lines Staked
(6) BOP Drills Performed
(7) Visually Inspect BOP's - Flarelines & Degasser Lines

(1) Rig Site Health and Safety Meeting (once/month)
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)
(3) Mast Inspection Before Raising or Lowering
(4) Crown Saver Checked
(5) Motor Kills checked

YEAR | MONTH | DAY

RIG NO.

FUEL

PUMPS | BOILER

WEATHER: TEMPERATURE °C | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TOUR NOTES

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DLW SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.																						
DAY																						
EVE.																						
TOTAL																						

DRILLING ASSEMBLY (MORNING TOUR)

	D.P.	STANDS	
	D.P.	SINGLES	
	KELLYDOWN		
	TOTAL		
WT. OF DC			
WT. OF STRING			

BIT RECORD (MORNING TOUR)

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | T | MDC | LOC | B | Gage | OOC | Reason Pulled | Total Run m/hr

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD (MORNING TOUR)

MUD PROPERTIES: MEASURED / ESTIMATED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED / SOLIDS CONTROL

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED (MORNING TOUR)

FROM	TO	DRD. RMR. CORR'C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (DAY TOUR)

			.35 m
	DC-11	222	.35 m
	H/S	171	.80 m
6	DC	171	54.71 m
	Jars	171	9.66 m
	X/O	168	.76 m
6	H.W.	114	57.04 m
			431.76 m
			m
			m
			m
68	D.P.	STANDS	1240.65 m
X	D.P.	SINGLES	9.45 m
	KELLYDOWN		12.96 m
	TOTAL		1744 m
WT. OF DC			kg/m
WT. OF STRING			kg/m

BIT RECORD (DAY TOUR)

BIT NO.	2 RR
SIZE (mm)	222
IADC CODE	
MFG.	Smith
TYPE	F-4
SERIAL NO.	JW 7[illegible]
JETS (mm)	3 x 13
DEPTH OUT (m)	
DEPTH IN (m)	1744 m
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | T | MDC | LOC | B | Gage | OOC | Reason Pulled | Total Run m/hr

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD (DAY TOUR)

MUD PROPERTIES: MEASURED / ESTIMATED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED / SOLIDS CONTROL

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED (DAY TOUR)

FROM	TO	DRD. RMR. CORR'C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6760	152	85	152	

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (EVENING TOUR)

			.35 m
	DC-SUB		.35 m
	H/S		.80 m
L	DC	171	54.64 m
	Jars		9.66 m
X	X/O		.76 m
40	H.W.D.P.	114	257.04 m
			m
	E/O		431.76 m
			m
			m
28	D.P.	STANDS	1240.65 m
1	D.P.	SINGLES	9.45 m
	KELLYDOWN		12.96 m
	TOTAL		1744.00 m
WT. OF DC			kg/m
WT. OF STRING			kg/m

BIT RECORD (EVENING TOUR)

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | T | MDC | LOC | B | Gage | OOC | Reason Pulled | Total Run m/hr

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD (EVENING TOUR)

MUD PROPERTIES: MEASURED / ESTIMATED

TIME	1730
DENSITY kg/m³	1240
FUNNEL VIS. - (S/L)	61
W.L. (cm³)	
pH	
PVT m³	37.4

MUD MATERIALS ADDED / SOLIDS CONTROL

PRODUCT	AMOUNT X UNIT
Soda Ash	1 SX
Bar. Te	15 SX

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED (EVENING TOUR)

FROM	TO	DRD. RMR. CORR'C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744	TD			

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7400 -	152	90		
3000 -		55		

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

143416

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Derrick Inspection Weekly (use log checklist)	Initial	Initial
(3) HPS Signs Posted (if required)	Initial	Initial
(4) Well License & Slack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOPs - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.D.D.C. Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast Inspection Before Hoisting or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Master Rotts checked		Initial

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	OD (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
171									
DP 114									

SQUEEZE CEMENT | FISHING | DIR. WORK | SAFETY MTG

TOTALS

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED ? YES NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS SERVICES

MUD RECORD

METRES DRILLED

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

MORNING TOUR

FROM	TO	DRLD RMR CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTES

MUD RECORD

METRES DRILLED

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

DAY TOUR

FROM	TO	DRLD RMR CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1744				
6760				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	25	152	

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTES

MUD RECORD

METRES DRILLED

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

EVENING TOUR

FROM	TO	DRLD RMR CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1744	TD			

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7400	152	50	

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTES

143415

FOLD HERE →

LICENCE NO.: [illegible]

WELL NAME AND NO.: [illegible]

OPERATOR: [illegible]

CONTRACTOR: [illegible]

SURFACE LOCATION: [illegible]

UNIQUE ID: [illegible]

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [illegible]

SIGNATURE OF CONTRACTOR'S RIG MANAGER: [illegible]

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Stick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (once/crew/month) — Initial
(2) C A O D C Rig Safety Inspection Checklist (once/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR | MONTH

RIG NO.

FUEL 8:00

RIG | BOILER

WEATHER: TEMPERATURE / CURRENT CONDITIONS / WIND DIRECTION / ROAD

TIME - HRS

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

OPER.	PICK UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	[illegible]
MORN.																						
DAY						3¾															¼	4
EVE.																2.5						
TOTAL																1.5					.5	6.25

DRILLING ASSEMBLY (At End of Tour)

				m
				m
				m
				m
				m
				m
				m
				m
				m
	D.P.	STANDS		m
	D.P.	SINGLES		m
	KELLYDOWN			m
	TOTAL			m
WT. OF DC				1000 daN
WT. OF STRING				1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T1 | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT | AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)

DEPTH (m)	DEVIATION (°)	DIREC

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

				m
				m
				m
				m
				m
				m
				m
				m
				m
	D.P.	STANDS		m
	D.P.	SINGLES		m
	KELLYDOWN			m
	TOTAL			m
WT. OF DC				1000 daN
WT. OF STRING				1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T1 | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT | AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.
617.2m			

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)

DEPTH (m)	DEVIATION (°)	DIRECTI

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

	Ex. + Pads		4189	m
	B/S	172	.76	m
#5	DC	171	46.34	m
	X/O	168	.76	m
40	HWDP	114	367.64	m
				m
				m
				m
				m
67	D.P.	STANDS	7271.76	m
	D.P.	SINGLES		m
	KELLYDOWN			m
	TOTAL			m
WT. OF DC			19	1000 daN
WT. OF STRING			45	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T1 | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT | AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.
617.44			

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)

DEPTH (m)	DEVIATION (°)	DIRECTION

EVENING TOUR

FOLD HERE →

143415

DAILY CHECKS

	OPR. Initial	R.M. Initial
(1) Daily Walk Around Inspection		
(2) Detailed Inspection-Weekly (using checklist)		
(3) H²S Signs Posted (if required)		
(4) Well License & Stick Diagram Posted		
(5) Flare Lines Staked		
(6) BOP Drills Performed		
(7) Visually inspect BOP's - Flarelines & Degasser Lines		
(1) Rig Site Health and Safety Meeting (one/crew/month)		
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		
(3) Mast Inspection Before Raising or Lowering		
(4) Crown Saver Checked		
(5) Motor Kills checked		

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

	20	21	22	23	24	25	26
SQUEEZE CEMENT							
FISHING							
DIR. WORK							
SAFETY MTG							

TOTALS

SHALE SHAKER(S) — NO. | TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS/SERVICES

MORNING TOUR

MUD RECORD

SOLIDS CONTROL EQUIPMENT

COUNT X UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

TIME LOG

FROM	TO	HRS	CODE

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

MUD RECORD

SOLIDS CONTROL EQUIPMENT

COUNT X UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
6174				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

Todd Rourke

TIME LOG

FROM	TO	HRS	CODE
0800			22
	1900	4	
1900	1915	1/4	21
1915	0800	12 3/4	6

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Handle Tools, make up test tools
thaw out test tool
Safety mtg.
RTH w/ DST - Strap in.

NOTES

Run Line Anchors, Brake Linkages, Chain Guard, Test Kimsih Choke
Blow Down Boiler 4 hrs = 80L

EVENING TOUR

MUD RECORD

SOLIDS CONTROL EQUIPMENT

COUNT X UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
6174				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

TIME LOG

FROM	TO	HRS	CODE
1600	1730	1/2	6
1730	2400	6 1/2	11

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIH Picking up Singles
Hook up Flow Line, Work on Brakes & Test DST #2

NOTES

Equipment Derrick - Crown Saver, Parkers and Linkage
Blow down 3 hrs
Functional Test C. Lo.

BOILER | HRS. RAN | STACK TEMP.

MAXIMUM EXPERIENCED HOOKLOAD | SAFETY TOPIC

DST | 2798

143414

FOLD HERE →

LICENCE NO.: 1581 | WELL NAME AND NO.: Paramount et al Mount City J-02

OPERATOR: Paramount Resources Ltd. | CONTRACTOR: Akita Drilling Ltd

SURFACE LOCATION: J-02 | UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: WA Callihoo | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial
(2) Detailed Inspection Weekly (using checklist) — Initial
(3) H2S Signs Posted (if required) — Initial
(4) Well License & Slick Diagram Posted — Initial
(5) Flare Lines Staked — Initial
(6) BOP Drills Performed — Initial
(7) Visually Inspect BOP's - Flexibles & Degasser Lines — Initial

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR | MONTH 11 | DAY

RIG NO 51

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME-HRS — CODE NO.

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.											8											
DAY											8											
EVE.						2	25				8											
TOTAL						2	25				24										5.25	

5.25

DRILLING ASSEMBLY (At End of Tour)

			m
12	D.C	17¼	111.60 m
40	H.W.D.P	111	367.64 m
			m
			m
			m
			m
	IN		m
	Derrick		m
			m
			m
65	D.P.	STANDS	1234.36 m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

LOG

MUD ADDITIVES ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRD R&R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

RU 12

DRILLING ASSEMBLY (At End of Tour)

			m
17	D.C	171	111.60 m
40	H.W.D.P	114	367.64 m
			m
	IN		m
	DERRICK		m
			m
			m
			m
			m
65	D.P.	STANDS	1234.36 m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME			
DENSITY kg/m³	1		
FUNNEL VIS. - (S/L)		0	
W.L. (cm³)			
pH			6

MUD ADDITIVES ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRD R&R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

Tool Rod

DRILLING ASSEMBLY (At End of Tour)

			m
	Tools		41.15 m
1	D.C	171	55.41 m
	X-O	113	.76 m
40	H.W.D.P	114	367.36 m
			m
			m
			m
			m
			m
			m
14	D.P.	STANDS	467.11 m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE: ☐ WATER BASED ☐ OIL BASED

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

MUD ADDITIVES ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRD R&R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

143414

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection
(2) Detailed Inspection (Weekly) (items checked)
(3) HS Signs Posted (if required)
(4) Well Licensee & Site Diagram Posted
(5) Flare Lines Staked
(6) BOP Drills Performed
(7) Weekly Inspect BOPs - Flareness & Degasser Lines
(1) Rig Site Health and Safety Meeting (where/month/month)
(2) CAODC Rig Safety Inspection Checklist (this cycle/month)
(3) Mast Inspection Before Raising or Lowering
(4) Crown Saver Checked
(5) Motor Kills checked

YEAR / MONTH / DAY — RIG NO. — FUEL @ 8:00 — RIG / BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING / TUBING OR LINER

OD (mm)	MIN ID (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

BLIND RAMS	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG

TOTALS

PUMP MAKE

NO. TYPE

SCREENS CHANGED YES / NO

TOP / TOP

MIDDLE / MIDDLE

BOTTOM / BOTTOM

MUD RECORD

METRES DRILLED

FROM	TO	DRLG HRS/CONN'G	ROTARY R.P.M.	WT ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

MORNING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLG HRS/CONN'G	ROTARY R.P.M.	WT ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

DAY TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLG HRS/CONN'G	ROTARY R.P.M.	WT ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

DRILLER'S SIGNATURE

EVENING TOUR

FOLD HERE →

143413

LICENCE NO.: 1281

WELL NAME AND NO.: Paramount et al Mount Cl. I-12

OPERATOR: Paramount Resources Ltd.

CONTRACTOR: [illegible]

SURFACE LOCATION: I-12

UNIQUE ID: [illegible]

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [signature]

SIGNATURE OF CONTRACTOR'S RIG MANAGER: [signature]

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Sour Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR: [illegible] MONTH: [illegible] DAY: [illegible]

RIG NO.: [illegible]

FUEL @ 8:00

RIG: [illegible] BOILER: [illegible]

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME HRS

OPER.	MOVE UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.					4	3½	1¼														
DAY					1½						5½										
EVE.											4										
TOTAL					5½	3½	1¼				9½										

DRILLING ASSEMBLY

	DC	223	15 m
	DC	133	56 m
	Stab	133	1 m
	DC	171	38 m
	Stab	132	1 m
	DC	171	38 m
	DC	171	38 m
	DC	171	38 m
	Jars	171	38 m
	DC	171	38 m
	Xo	172	1 m
	HWDP	172	171 m
15	D.P.	STANDS	1230.00 m
2	D.P.	SINGLES	18 m
	KELLYDOWN		9.56 m
	TOTAL		1741.00 m
WT. OF DC		25	1000 daN
WT. OF STRING		72	1000 daN

BIT RECORD

BIT NO.	22
SIZE (mm)	7 7/8 in
IADC CODE	537
MFG.	smith
TYPE	F117H
SERIAL NO.	LY4572
JETS (mm)	3 x 12 3
DEPTH OUT (m)	1741
DEPTH IN (m)	1725
TOTAL METRES DRILLED (m)	16
TOTAL HOURS RUN	2.25

CUTTING STRUCTURE T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								1.2

HOLE DRAG: [illegible]

TORQUE AT BOTTOM: 3500

FILL ON BOTTOM (m): 0

MUD RECORD

MUD TYPE: WATER BASED ☑ OIL BASE ☐

TIME	12:00
DENSITY kg/m³	1275
FUNNEL VIS. - (S/L)	80
W.L. (cm³)	6.5
pH	10.5
°C	37.0

MUD MATERIALS ADDED SINCE LAST REPORT

PRODUCT	AMOUNT X UNIT
Gel	5 sx
Barite	10 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1741				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8000	152	90	152	

3300 52

DEPTH (m)	DEVIATION (°)	DIRECTION

1741 20

DRILLING ASSEMBLY

1	DC		11.60 m
2	MWD		27.64 m
			m
			m
			m
			m
			m
			m
			m
			m
15	D.P.	STANDS	1234.20 m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG:

TORQUE AT BOTTOM:

FILL ON BOTTOM (m):

MUD RECORD

MUD TYPE: WATER BASED ☐ OIL BASE ☐

TIME	
DENSITY kg/m³	L
FUNNEL VIS. - (S/L)	O
W.L. (cm³)	G
pH	

MUD MATERIALS ADDED SINCE LAST REPORT

PRODUCT	AMOUNT X UNIT
[illegible]	1 sx
Kwik Seal	15 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION
1739	5°	

Drlg 21m

DRILLING ASSEMBLY

12	DC		111.60 m
13	HWDP		27.64 m
			m
			m
			m
			m
			m
			m
			m
			m
2	D.P.	STANDS	18 m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG:

TORQUE AT BOTTOM:

FILL ON BOTTOM (m):

MUD RECORD

MUD TYPE: WATER BASED ☑ OIL BASE ☐

TIME	
DENSITY kg/m³	L
FUNNEL VIS. - (S/L)	O
W.L. (cm³)	G
pH	

MUD MATERIALS ADDED SINCE LAST REPORT

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE: [signature]

FOLD HERE →

3413

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (4 required) — Initial / Initial
(4) Well License & Stick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (once/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month) — Initial
(3) Meet Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR | MONTH | DAY

HIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER
TEMPERATURE °C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

	O.D. (mm)	MIN I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

29	30	31	32	33	34	35	36
FREEZE UP	FISHING	DIR. WORK	SAFETY MTG.				

TOTALS

SHALE SHAKER(S)
NO. | TYPE
SCREENS CHANGED ☐ YES ☐ NO
TOP | TOP
MIDDLE | MIDDLE
BOTTOM | BOTTOM

RENTALS SERVICES

MORNING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1741				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8000	152	90	142

REDUCED SPEED

3300

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION

BOILER CHECKS

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
		7½	5	Cond Mud and Circ
			7	Rig Service & Hydril Pipe
				Hole Trip Hydril 1741 to 1738 m RIH
				(Ck Fill) RIH
				Circ Hole Clean
			5	Cond Mud & Circ (Trip Sub)
				Wash 1738 to 1741 m
				Drill Pipe → TMD 5.11
				TCV 5.24
				— .19

NOTES ✓ Crownsaver, Deadline Anchors, Derrick and Lifting Equipment, Functional Run-Tests Choke Manifold (Pipe Rams)

BIT / BHA

BIT NO.	SIZE	MAKE	TYPE	SERIAL NO.	JETS	DEPTH OUT	FOOTAGE	HOURS	ROP
8	11	470							

DRILLER(S) SIGNATURE

BOILER	MAXIMUM EXPERIENCED HOOKLOAD	DAYWORK CONTRACT

DAY TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED SPEED

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
1738	5°	

BOILER CHECKS

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1230	4½	6	Hoist to Log FCO 1078, 489, 145 On Bank
1330	1600	3½	11	Log Hole. 3" run at 3Em @ 1400
				Strap Depth - 1744.82
				Measured Depth - 1744.00
				DIFF 1.82 Deeper
				Hevi-Wate 480.55 TMV 10.46
				Tally 479.24 TCV 10.46
				DIL +1.31 DIFF .00
				+ .52 DIFF

NOTES Blind Drive Driller 4X - 80L

BIT / BHA

BIT NO.	SIZE	MAKE	TYPE	SERIAL NO.	JETS	DEPTH OUT	FOOTAGE	HOURS	ROP
8	11	470							

DRILLER(S) SIGNATURE

BOILER	MAXIMUM EXPERIENCED HOOKLOAD	DAYWORK CONTRACT

EVENING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1744				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED SPEED

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION

BOILER CHECKS

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	24	8	11	Log Hole.

NOTES Blind Drive Driller 4X - 80L

BIT / BHA

BIT NO.	SIZE	MAKE	TYPE	SERIAL NO.	JETS	DEPTH OUT	FOOTAGE	HOURS	ROP
8	11	470							

DRILLER(S) SIGNATURE

BOILER	MAXIMUM EXPERIENCED HOOKLOAD	DAYWORK CONTRACT

FOLD HERE →

143412

LICENCE NO.: 1280 | WELL NAME AND NO.: Paramount et al Nawi City I-62

OPERATOR: Paramount Resources Ltd | CONTRACTOR: A.K.E. Well Ltd

SURFACE LOCATION: I-62 | UNIQUE ID.: I-62 [illegible]

SIGNATURE OF OPERATOR'S REPRESENTATIVE: Alva Callihoo | SIGNATURE OF CONTRACTOR'S RIG MANAGER: [illegible]

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Slack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR | MONTH | DAY

RIG NO: 51

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME-HRS

COD. NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
	MORN.		6			1.5		.25														
	DAY		7¾					¼														
	EVE.		7					¾														
	TOTAL		20.7			1.5		1.25														

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

			LENGTH
			.25 m
	Varel	222	.19 m
	3/5	172	.86 m
	Reamer	222	1.44 m
	D.C	171	18.50 m
	Reamer	222	1.91 m
	D.C	171	18.50 m
	Jar	171	6.06 m
	D.C	171	55.70 m
	X/O	11.8	.80 m
	H.W.D.P	114	37.24 m
	D.P.	STANDS	1234.06 m
	D.P.	SINGLES	m
	KELLY DOWN		6.17 m
	TOTAL		1731.00 m
WT. OF DC		35	1000 daN
WT. OF STRING		72	1000 daN

BIT RECORD

BIT NO.	23
SIZE (mm)	222
IADC CODE	617Y
MFG.	Smith
TYPE	F47H
SERIAL NO.	LY4872
JETS (mm)	3 x 10.3
DEPTH OUT (m)	—
DEPTH IN (m)	1705
TOTAL METRES DRILLED (m)	26
TOTAL HOURS RUN	11.25

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	15
TORQUE AT BOTTOM	3400
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☐ WATER BASED ☐ OIL BASED

TIME	02:00	04:00	06:00
DENSITY kg/m³	1280	1280	1280
FUNNEL VIS. - (S/L)	65	62	80
W.L. (cm³)	6.5		
pH	10.0	10.0	10.5
PVT	37.7	37.7	37.9

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	Tons
Caustic	1 on

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMKS CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1705	1714	9	55	25

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7900	152	90	152	

3300	54

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

			m
	Dog Leg	222	.18 m
	3/5	172	.86 m
	Reamer	222	1.44 m
2	D.C	171	18.50 m
	Reamer	222	1.91 m
11	D.C	171	37.40 m
	Jar	171	6.06 m
6	D.C	171	55.70 m
	X/O	11.8	.80 m
10	H.W.D.P	114	367.24 m
85	D.P.	STANDS	1234.06 m
4	D.P.	SINGLES	m
	KELLY DOWN		6.17 m
	TOTAL		1731.00 m
WT. OF DC		35	1000 daN
WT. OF STRING		72	1000 daN

BIT RECORD

BIT NO.	23
SIZE (mm)	222
IADC CODE	617Y
MFG.	Smith
TYPE	F47H
SERIAL NO.	LY4872
JETS (mm)	3 x 10.3
DEPTH OUT (m)	—
DEPTH IN (m)	1705
TOTAL METRES DRILLED (m)	26
TOTAL HOURS RUN	11.25

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	15
TORQUE AT BOTTOM	3400
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☐ WATER BASED ☐ OIL BASED

TIME	9:00	12:00	15:00
DENSITY kg/m³	1290	1290	1270
FUNNEL VIS. - (S/L)	70	80	70
W.L. (cm³)	6.5	6.5	6.5
pH	10.5	10.5	10.5
PVT	38.5	38.7	39.1

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
2	1290	1150	2190

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMKS CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1714	1731	17	55	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7600	152	90	152	

3500	53

DEPTH (m)	DEVIATION (°)	DIRECTION

Jacked Block

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Dog Leg	222	.18 m
	3/5	172	.86 m
	Reamer	222	1.44 m
2	D.C	171	18.50 m
	Reamer	222	1.91 m
11	D.C	171	37.40 m
	Jar	171	6.06 m
6	D.C	171	55.70 m
	X/O	11.8	.80 m
10	H.W.D.P	114	367.24 m
85	D.P.	STANDS	1234.06 m
4	D.P.	SINGLES	m
	KELLY DOWN		6.17 m
	TOTAL		1731.00 m
WT. OF DC		35	1000 daN
WT. OF STRING		72	1000 daN

BIT RECORD

BIT NO.	23
SIZE (mm)	Smith
IADC CODE	617Y
MFG.	Smith
TYPE	F47H
SERIAL NO.	LY4872
JETS (mm)	3 x 10.3
DEPTH OUT (m)	1731
DEPTH IN (m)	1705
TOTAL METRES DRILLED (m)	29
TOTAL HOURS RUN	13.5

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	10
TORQUE AT BOTTOM	3400
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☐ WATER BASED ☐ OIL BASED

TIME	18:00	20:00	22:00
DENSITY kg/m³	1270	1270	1275
FUNNEL VIS. - (S/L)	70	68	80
W.L. (cm³)	6.5	6.5	6.5
pH	10.5	10.5	10.5
PVT	39.6	40.0	40.2

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMKS CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1731	1744	13	55	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7800	152	90	152	

3250	52

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

FOLD HERE →

43412

2

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using IT-access)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN I.D (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

14 15 20 21 22 23 24 25 26

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.

TOTALS

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS SERVICES

AMT

MUD RECORD

:00	04:00	06:00
80	1280	1280
5	62	80
5		
0	10.0	10.5
7	37.7	37.9

UNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / RMR / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1705	1711	9	55	25

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7900	152	10	152	

REDUCED PUMP SPEED

3300 @ 51 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

MORNING TOUR

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

	01:00	3	2	
			7	
	08:00	3	2	

NOTES ✓ Crown Saver, Drilling Parameters, Rotating Hose

Function Test Choke Manifold, Pipe Rams, Blind Rams

0 | 11 | 90 | 52 300 | 2798

MUD RECORD

00	12:00	15:00
90	1270	1270
0	80	70
	6.5	6.5
5	10.5	10.5
5	38.7	39.1

UNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	2	1290	1150	2190

METRES DRILLED

FROM	TO	DRLD / RMR / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1714	1721	17	55	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7600	152	90	152	

REDUCED PUMP SPEED

3500 @ 53 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE: Todd Block

DAY TOUR

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0600	0900	1	2	Drill F/1714-1718
0900	0915	1/4	7	Rig service c/o Annular ✓RSPP
0915	1600	6 1/4	2	Drill F/1718-1731

NOTES Crown Saver, Drilling Anchor, Bolts Dialogue, Fine Remote Choke

3 Row Down 3 Collars 4 x 8"

6 | 11 | 90 | 52 300 | Horn Service | 2948

MUD RECORD

00	20:00	22:00
0	1270	1275
	88	80
	6.5	6.5
	10.5	10.5
5	40.0	40.2

T X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / RMR / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1731	1744	13	55	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7800	152	90	152	

REDUCED PUMP SPEED

3250 @ 53 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

EVENING TOUR

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

1600	1900	3	2	Drill F/1733-1737
1900	1915	1/4	7	Rig service c/o Upper Rams ✓RSPP
1915	2315	4	2	Drill F/1737-1744
2315	2400	.25	5	Circ. & Cond. for Trip

NOTES Crown Saver, Drilling Anchor, Bolts Dialogue, Remote Choke

Function Test 3 Row Annular 11 x 30L

BOILER HRS RAN | STOCK TANK | EXPERIENCED FLOORHAND | TOURPUSHER

2 | 11 | 90 | 52 300 | 2798

143411

FOLD HERE →

LICENCE NO.:	WELL NAME AND NO.:
1884	Paramount et al Mount Cate I-02
OPERATOR:	**CONTRACTOR**
Paramount Resources Ltd	AK Tuffiliaq Ltd
SURFACE LOCATION:	**UNIQUE ID.:**
I-02	
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**
MA Callihoo	

DAILY CHECKS	OPR.	R.M.
(1) Daily Work Around Inspection	Initial	Initial
(2) Detailed Inspection Weekly (using checklist)	Initial	Initial
(3) HPS Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Sign Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's, Flarelines & Degasser Lines	Initial	Initial
(1) Rig Safe Health and Safety Meeting (once/month)		Initial
(2) C.A.O.D.E. Rig Safety Inspection Checklist (once/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR	MONTH	DAY

RIG NO. 21

FUEL 8.00

PRO. | BOILER

TEMPERATURE °C

CURRENT CONDITIONS

WIND DIRECTION

ROAD

TIME-HRS

CODE NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
	MORN.		7.5					.5			.5												
	DAY		5			1	1¼	1¼			½												
	EVE.						1.5	.5	.5	.5												1.25	
	TOTAL		12.5			1	2.75	2.25	.5	.5	1.25											1.25	

DRILLING ASSEMBLY (At End of Tour)

			22 m
	Tools		23.36 m
4	DC		37.74 m
	Jar		6.06 m
6	DC		74.41 m
	X/O		.90 m
40	HWDP		367.64 m
			m
			m
			m
			m
62	D.P.	STANDS	1176.54 m
X	D.P.	SINGLES	7.63 m
	KELLYDOWN		4.07 m
	TOTAL		1705.00 m
WT. OF DC			29 1000 daN
WT. OF STRING			73 1000 daN

BIT RECORD

BIT NO.	22
SIZE (mm)	222
IADC CODE	6 4 7 Y
MFG.	Smith
TYPE	F6704
SERIAL NO.	LY7412
JETS (mm)	3 X 10.3
DEPTH OUT (m)	1705
DEPTH IN (m)	1663
TOTAL METRES DRILLED (m)	42
TOTAL HOURS RUN	26 1/11

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	OOC	Reason Pulled	Total Run m/hr
								1.4

HOLE CONDITION

HOLE DRAG	5-10
TORQUE AT BOTTOM	4300
FILL ON BOTTOM (m)	

MUD RECORD

TIME	16:00	9:00	12:00
DENSITY kg/m³	1280	1280	1280
FUNNEL VIS. - (S/L)	69	63	60
W.L. (cm³)	7.0	7.6	7.0
pH	10.5	10.5	10.5
PV / YP	37.6	38.1	38.7

MUD ADDITIVES ADDED

PRODUCT	AMOUNT X UNIT
Gel	15

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRD/REAM CORE/C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1648	1705	7	55	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8200	152		152	

3500 53

DEPTH (m)	DEVIATION (°)	DIRECTION
1641	2.6	285.5
1697	3.2	284.4

Lead Hook

DRILLING ASSEMBLY (At End of Tour)

			22 m
	Tools		23.36 m
4	DC		37.74 m
	Jar		6.06 m
6	DC		74.41 m
	X/O		.90 m
40	HWDP		367.64 m
			m
			m
			m
			m
62	D.P.	STANDS	1176.54 m
X	D.P.	SINGLES	7.63 m
	KELLYDOWN		4.07 m
	TOTAL		1705.00 m
WT. OF DC			29 1000 daN
WT. OF STRING			73 1000 daN

BIT RECORD

BIT NO.	22
SIZE (mm)	222
IADC CODE	6 4 7 Y
MFG.	Smith
TYPE	F6704
SERIAL NO.	LY7412
JETS (mm)	3 X 10.3
DEPTH OUT (m)	1705
DEPTH IN (m)	1663
TOTAL METRES DRILLED (m)	42
TOTAL HOURS RUN	26 1/11

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	OOC	Reason Pulled	Total Run m/hr
								1.4

HOLE CONDITION

HOLE DRAG	5-10
TORQUE AT BOTTOM	4300
FILL ON BOTTOM (m)	

MUD RECORD

TIME	16:00	9:00	12:00
DENSITY kg/m³	1280	1280	1280
FUNNEL VIS. - (S/L)	69	63	60
W.L. (cm³)	7.0	7.6	7.0
pH	10.5	10.5	10.5
PV / YP	37.6	38.1	38.7

MUD ADDITIVES ADDED

PRODUCT	AMOUNT X UNIT
Gel	15

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRD/REAM CORE/C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1648	1705	7	55	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8200	152		152	

3500 54

DEPTH (m)	DEVIATION (°)	DIRECTION
1641	2.6	285.5
1697	3.2	284.4

Lead Hook

DRILLING ASSEMBLY (At End of Tour)

			22 m
	Drlst	22	14 m
	STK	172	1.06 m
	Reamer	222	1.44 m
2	DC	171	18.5 m
	Reamer	222	1.94 m
4	DC	171	37.46 m
	Jar	171	6.06 m
6	DC	171	55.2 m
	X/O		.90 m
40	HWDP	114	367.64 m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	22	23
SIZE (mm)	222	222
IADC CODE	6 4 7 Y	6 2 7 Y
MFG.	Smith	Smith
TYPE	F6704	F47H
SERIAL NO.	LY7412	LY12772
JETS (mm)	3 x 10.3	3 x 10.3
DEPTH OUT (m)	1705	
DEPTH IN (m)	1663	1705
TOTAL METRES DRILLED (m)	42	
TOTAL HOURS RUN	26 1/11	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	OOC	Reason Pulled	Total Run m/hr

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	02:00	
DENSITY kg/m³	1280	
FUNNEL VIS. - (S/L)	62	
W.L. (cm³)		
pH	10.0	
PV / YP		

MUD ADDITIVES ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRD/REAM CORE/C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
NOC				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

FOLD HERE →

3411

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — mins / mins
(2) Derrick Inspection Weekly (when due) — mins / mins
(3) H2S Signs Posted (if required) — mins / mins
(4) Well Location & Site Diagram Posted — mins / mins
(5a) Flare Lines Staked — mins / mins
(5b) BOP Data, Pressures — mins / mins
(7) Visually Inspect BOPs, Functions & Diagram Lines — mins / mins
(1) Rig Site Health and Safety Meeting (once per month) — mins
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once per year) — mins
(3) Mast Inspection Before Raising or Lowering — mins
(4a) Crown Saver Checked — mins
(5a) Motor Kills checked — mins

YEAR / MONTH / DAY
RIG NO.

FUEL @ 8:00

RIG / BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING / TUBING / LINER

O.D (mm)	MIN I.D (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE (m)

SAFETY MTG.	DIR. WORK	FISHING

SHALE SHAKERS — TOTALS

NO.	TYPE	SCREENS CHANGED YES / NO	SIZE
1			
2	TOP / MIDDLE / BOTTOM	TOP / MIDDLE / BOTTOM	

MORNING TOUR

MUD RECORD

	12:00	04:00
	1240	1280
	69	68
	7	7.0
	10.5	10.5
	36.7	36.9

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILLED / CORED	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1609	1624	15	55	23

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8200	152	70	152

3300 — 53

DEPTH (m)	DEVIATION (°)	DIRECTION
1624	1	227.6

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

		7		R. Service C/O Water Kelly Cock, HPKR's
		3 1/2		Drill 1624-1647
		7 1/2		Drill 1647-1684

NOTES: Service Rig, Function Pipe Rams & Annular, Check Crown-O-Matic, Function Blind Rams & Choke Manifold, Function Test Choke Manifold Valves to 2000 psi, Function Test Kelly Cock & Safety Valve to 2000 psi, Function Test Upper & Lower Pipe Rams to 2000 psi, Function Test Annular to 1500 psi, Function Test Blind Rams to 2000 psi

FOLD HERE →

143410

LICENCE NO. 1281 | WELL NAME AND NO. [illegible] Cl. I-12

OPERATOR [illegible] | CONTRACTOR [illegible]

SURFACE LOCATION I-12 | UNIQUE ID [illegible]

SIGNATURE OF OPERATOR'S REPRESENTATIVE MH Calliker | SIGNATURE OF CONTRACTOR'S RIG MANAGER [illegible]

DAILY CHECKS

	OPR.	R.M.
(1) Daily Work Around Inspection	initial	initial
(2) Derrick Inspection Weekly (using checklist)	initial	initial
(3) [illegible]	initial	initial
(4) Well Location & Sour Gas(s) Posted	initial	initial
(5) Flare Lines Staked	initial	initial
(6) BOP Lines Pressure Tested	initial	initial
(7) Visually Inspect BOP's - Pressures & Diagnose Leaks	initial	initial
(1) Hold Safe Health and Safety Meeting (once/week/month)		initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Master Bolts Checked		initial

YEAR | MONTH | DAY

HRS. NO. 5

FUEL = 8:00

RIG 71 | BOILER

WEATHER: TEMPERATURE °C | CURRENT CONDITIONS | WIND DIRECTION | ROAD

OPER.	DRLG & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	CIRC MUD & COND.	TRIPS	RIG SERVICE	REPAIR RIG	WAIT ON CEMENT	DEV SURVEY	WIRE LINE	RUN CASING & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	P&A (Explain)	DIR. WORK	SAFETY MTG.
MORN.		12								12											2
DAY		7½																			
EVE.																					
TOTAL		19½								12											2

BIT RECORD

11	DC	171	171	0	2	2	1	1	1	1
	Jar	171	171	0	2	2	1	1	1	1
9	DC	171	171	0	2	2	1	1	1	1
	X/O	168	168	0	2	2	1	1	1	1
10	NUDP	114	114	0	2	2	1	1	1	1

43410

FOLD HERE →

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Plans Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's Pumpmen & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C A O D C Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING / TUBING / LINER

O.D (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG

TOTALS

SHALE SHAKER(S) — RENTALS SERVICES

NO | TYPE

SCREENS CHANGED YES NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

MUD RECORD

MUD TYPE USED

MUD COUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	CORE/CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1163	1166	3	55	12-15

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8200	152	152	91

REDUCED PUMP SPEED

3000	@	@	50

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
1656	.5	21.0

TIME LOG

		24		Tri Flow Pit Flow Check
		1	22	Handle Tools Function Motor Inspect Bent Sub
		.5	7	Reference Elevations Rig
		1	22	Change Hole Openers
		1	6	R.I.H. Slip Flow ✓
		.5	5.0	Test BOP
		1.5	6	R.I.H
		.5	5	Picking and Check Stands 1656m
		2.5	11	Survey @ 1656m
		12.5	2	Drill F/1163-1166

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES ✓ Crewmember Training Parker Technical Limited Functional Pump Check Choke Manifold = 45 Hz = 50 Flow

8 | 11 | 47.0 | Pit Drill | 2748

MUD RECORD

12	12:00	15:00
50	1250	1250
	65	65
.5	7.5	6.5
.0	10.1	10.0
.8	33.2	33.4

MUD COUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	CORE/CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1666	1676	10	55	28

DAY TOUR

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8200	152	152	10

REDUCED PUMP SPEED

3000	@	@	50

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
1663	.2	317

TIME LOG

08:00	11:30	3½	2	Drill F/1666-1670
11:30	11:45	¼	7	Rig Service C/O Lower Pipe Rams ✓RSPP
11:45	12:00	¼	10	Survey @ 1662
12:00	16:00	4	2	Drill F/1670-1676

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES Function Test Annular, 3½" Pipe Rams, Kelley Valves, Remote Choke Close Lower Pipe Rams 0.4 - 40L

8 | 11 | 47.0 | 31000 | Spec Serv | 2748

MUD RECORD

0	20:00	22:00
0	1280	1280
	66	68
	6.0	
0	10.0	10.0
6	35.1	35.1

MUD COUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	CORE/CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1676	1689	13	55	25

EVENING TOUR

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8400	152	140	10

REDUCED PUMP SPEED

3500	@	33	@

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
1675	1	

DRILLER'S SIGNATURE

TIME LOG

16:00	18:00	2½	2	Drill F/1676-1680
18:00	18:30	½	7	Rig Service C/O Lower Pipe rams ✓RSPP
18:30	18:45	¼	10	Survey @ 1675m
18:45	21:00	2¼	2	Drill F/1680-1689

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES Function Test Annular, 3½" Pipe Rams, Kelley Valves, Remote Choke Close Lower Pipe Rams = 40L ✓

SOLIDS | MAINTENANCE RECORD | 2715 | 2715

143409

FOLD HERE →

LICENCE NO.: 1264

WELL NAME AND NO.: PARAMOUNT ET AL MOUNT CITY I-02

OPERATOR: PARAMOUNT RESOURCES LTD.

CONTRACTOR: FRASTE DRILLING

SURFACE LOCATION: I-02

UNIQUE ID: 2.0m2.20.1123300

SIGNATURE OF OPERATOR'S REPRESENTATIVE: MA Callihoo

SIGNATURE OF CONTRACTOR'S RIG MANAGER: Nick Foran

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Slick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C A O D C Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR 10 MONTH 11 RIG NO 51 FUEL @ 8:00 RIG BOILER

WEATHER: TEMPERATURE / CURRENT CONDITIONS / WIND DIRECTION / ROAD

TIME-HRS

CODE NO	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND MUD & CIRC	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR WORK	22 SAFETY MTG	23 B.O.P. Drill	24
	MORN.		7.0								.5													
	DAY		7.5								.5													
	EVE.		4			1	2½	1/4			1/4											.25		
	TOTAL		18.5			1	2½	3/4			1											1/4		
																						1/2		

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		31.26 m
4	D.C	171	37.25 m
	Jar	171	6.06 m
8	D.C	171	74.42 m
1	X/O	168	.90 m
40	HWDP	114	367.64 m
			m
			m
			m
			m
			m
59	D.P.	STANDS	1119.29 m
XX	D.P.	SINGLES	19.46 m
	KELLYDOWN		3.95 m
	TOTAL		1166.00 m
WT. OF DC		22	1000 daN
WT. OF STRING		71	1000 daN

BIT RECORD

BIT NO.	21
SIZE (mm)	222
IADC CODE	6 3 7 Y
MFG.	Smith
TYPE	F5700
SERIAL NO.	LY4791
JETS (mm)	3 x 19
DEPTH OUT (m)	1663
DEPTH IN (m)	1625
TOTAL METRES DRILLED (m)	38
TOTAL HOURS RUN	23

CUTTING STRUCTURE: T | T_0 | MDC | LOC | B | Gage | OOC | Reason Pulled | Total Run m/hr — 1.5

HOLE CONDITION

HOLE DRAG	10 50
TORQUE AT BOTTOM	3500
FILL ON BOTTOM (m)	2.4

MUD RECORD

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME	08:00	10.00	12.00
DENSITY kg/m³	1275	1280	1280
FUNNEL VIS. - (S/L)	55	57	57
W.L. (cm³)	6.5	6.5	7.0
pH	10.	10.0	9.5
	31.3	31.2	31.6

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	5 x
Envirotic	

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

SHALE SHAKER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DAILY MTRS CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1650	1660	10	20	23

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
9500	152	105	152	

2800 — 53

DEPTH (m)	DEVIATION (°)	DIRECTION
1645	.9	35.3

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		31.26 m
4	D.C	171	37.20 m
1	Jar	171	6.06 m
8	DC	171	74.42 m
1	X/O	168	.90 m
40	HWDP	114	367.44 m
			m
			m
			m
			m
			m
60	D.P.	STANDS	1138.44 m
	D.P.	SINGLES	m
	KELLYDOWN		7.53 m
	TOTAL		1663.28 m
WT. OF DC		28	1000 daN
WT. OF STRING		72	1000 daN

BIT RECORD

BIT NO.	21
SIZE (mm)	222
IADC CODE	6 3 7 Y
MFG.	Smith
TYPE	F5700
SERIAL NO.	LY4791
JETS (mm)	3 x 19
DEPTH OUT (m)	1663
DEPTH IN (m)	1625
TOTAL METRES DRILLED (m)	38
TOTAL HOURS RUN	23

CUTTING STRUCTURE: T | T_0 | MDC | LOC | B | Gage | OOC | Reason Pulled | Total Run m/hr — 1.4

HOLE CONDITION

HOLE DRAG	10 50
TORQUE AT BOTTOM	3500
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME	16.00	20.00	
DENSITY kg/m³	1280	1280	
FUNNEL VIS. - (S/L)	57	59	
W.L. (cm³)		9.0	
pH	9.5	10.0	
	32.4	33.5	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	2 x
Envirotic	1 x
Lime	15 ca

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

SHALE SHAKER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DAILY MTRS CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1660	1663	3	25	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
9700	152	105	152	

7900 — 53

DEPTH (m)	DEVIATION (°)	DIRECTION
1693	1.3	41.0

EVENING TOUR

DRILLER'S SIGNATURE

FOLD HERE →

43409

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H2S Signs Posted (if required)	Initial	Initial
(4) Well Licence & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flexibles & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (on crewmonth)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

FREEZE VALVE	FISHING	DIR. WORK	SAFETY MTG.	B.O.P DRILL

SHALE SHAKER(S)

NO.	TYPE

SCREENS CHANGED — YES — NO

	TOP	BOTTOM
	MIDDLE	MIDDLE
	BOTTOM	BOTTOM

RENTALS SERVICES

WORK	FOR

MUD RECORD

	SAMPLED	OBSERVED
	3200	
	1280	
	58	
	7.5	
	10	
	33.7	

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD PUMPS CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1145	1165	10	25	25

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	105	152	

REDUCED PUMP SPEED

	@	SPM	@	SPM
3200	@	53	@	

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1126	3.7	63.3
1635	2.3	57.6

DRILLER'S SIGNATURE

MORNING TOUR

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
6		3	7	RIG SERVICE + TESTING BOWER PREVENTERS 35K
15	7	3	2	DRILLING 11 - 11

NOTES: CREW SAFETY, PPE, HOUSEKEEPING, PARKED & LINABLE

1 ACT = DRILL CREW, PRIMARY FUNCTION & WORK AREA

11	417	-X5		1198

MUD RECORD

	SAMPLED	OBSERVED
	10:00	12:00
	1280	1280
	57	57
	6.5	7.0
	10.0	9.5
	31.2	31.6

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD PUMPS CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1650	1660	10	20	28

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	105	152	

REDUCED PUMP SPEED

	@	SPM	@	SPM
2800	@	53	@	

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1645	.9	22.3

DRILLER'S SIGNATURE

DAY TOUR

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0700	1400	7	2	Drill F/1650-1659
1400	1500	.25	7	R. Service C/O Upper Pipe rams 3 1/2" ✓ R.S.P.P
1500	1515	.25	11	Survey @ 1645m
1515	1600	.25	23	T.O.O.H. Drill
1515	1700	.5	2	M/U BHA F/ 1659 - 1660

NOTES: ✓ Crewmember Safety Topic: Pinch Points and Lockout Tagout Procedures

Function Test Crown-O-Matic 45 Sec - Both Fluids

11	417	No Incidents		1798

MUD RECORD

	SAMPLED	OBSERVED
	20:00	
	1280	1171
	59	
	7.0	
	10.0	
	33.5	

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD PUMPS CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1660	1663	3	25	28

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	105	152	

REDUCED PUMP SPEED

	@	SPM	@	SPM
2900	@	53	@	

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1695	1.3	41.0

DRILLER'S SIGNATURE

EVENING TOUR

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	2000	4	2	Dr. 11 = 1660 - 1663.
2000	2015	1/4	7	R. Service
2015	2030	1/4	23	T.O.O.H. Drill
2030	2130	1	5	C/O BHA Scook
2130	2145	1/4	10	Survey 6/16'18
2145	0400	2 1/4	6	T.I.H. F/3 = FC @ 1558, 1656, 1695 < 1

NOTES: Crewmember Safety Topic: Pinch Points, Lockout Tagout, Hand Removal Tools

Slow Down To 1/2 BOL

2	11	470		2749

143408

FOLD HERE →

LICENCE NO.: 1854 | WELL NAME AND NO.: PARAMOUNT ET AL MOUNT COTT I-C2

OPERATOR: PARAMOUNT [illegible] | CONTRACTOR: [illegible] LTD

SURFACE LOCATION: I-C2 | UNIQUE ID.: 200102620112335C

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [signature] | SIGNATURE OF CONTRACTOR'S RIG MANAGER: [signature]

DAILY CHECKS — OPR. A.M. / P.M.

(1) Daily Walk Around Inspection — Initial
(2) Derailed Inspection Weekly (rotating checklist) — Initial
(3) H2S Signs Posted (if required) — Initial
(4) Well License & Stack Diagram Posted — Initial
(5) Flare Lines Secured — Initial
(6) BOP Function Tested — Initial
(7) Visually Inspect BOP, Choke Manifold, Flowline & Degasser Lines — Initial
(8) [illegible] — Initial
(9) [illegible] — Initial
(10) [illegible] — Initial
(11) [illegible] — Initial

YEAR 00 | MONTH 11 | DAY 21 | RIG NO. 31

FUEL — 8 00

ENG. | BOILER

TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME-HRS

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B O P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.		1.75			1	1	1.25			.5											
DAY		1.25			.5	.5	.5		.5											.5	
EVE.		7.25								.5											
TOTAL		10			1.5	1.5	1.75		.5	1										.5	

DRILLING ASSEMBLY (At End of Tour)

			3 m
			336 m
4	DC		3.[illegible] m
	[illegible]	1	4.[illegible] m
	[illegible]		4.[illegible] m
	XO	168	5.40 m
410	HWDP	1111	26.[illegible] m
			m
			m
			m
			m
5	D.P.	STANDS	[illegible] m
	D.P.	SINGLES	[illegible] m
	KELLY DOWN		m
	TOTAL		[illegible] m
WT. OF DC		7	1000 daN
WT. OF STRING		24	1000 daN

BIT RECORD

BIT NO.	2C
SIZE (mm)	222
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	C21241
JETS (mm)	[illegible]
DEPTH OUT (m)	1137
DEPTH IN (m)	1117
TOTAL METRES DRILLED (m)	20
TOTAL HOURS RUN	[illegible]

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

									1.9

HOLE CONDITION

HOLE DRAG	[illegible]
TORQUE AT BOTTOM	3 [illegible]
FILL ON BOTTOM (m)	

MUD RECORD

	INCREASE	DECREASE
TIME	12:00	[illegible]
DENSITY kg/m³	1200	12[illegible]
FUNNEL VIS. - (S/L)	61	[illegible]
W.L. (cm³)	7.5	7.[illegible]
pH	10	10.
Pvt m³	35.0	34.3

MUD ADDITIONS

PRODUCT	AMOUNT X UNIT
BARITE	[illegible]

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

MORNING TOUR

METRES DRILLED

FROM	TO	ENG. SPEED CONTROL	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1121	1137	4	[illegible]	25

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
[illegible]	1[illegible]	98	152	

[illegible] | 53

DEPTH (m)	DEVIATION (°)	DIRECTION
1113	3.6	44.1
1131	9.2	50.7

[signature]

DRILLING ASSEMBLY (At End of Tour)

			25 m
	TOOLS		31.26 m
41	DC	171	37.[illegible] m
	TAS	171	[illegible] m
9	DC	171	71.[illegible] m
	XO	168	80 m
410	HWDP	111	91.[illegible] m
			m
	TUBE	FILL	[illegible] m
			m
			m
52	D.P.	STANDS	[illegible] m
	D.P.	SINGLES	m
	KELLY DOWN		16.33 m
	TOTAL		[illegible] m
WT. OF DC		22	1000 daN
WT. OF STRING		71	1000 daN

BIT RECORD

BIT NO.	2
SIZE (mm)	222
IADC CODE	6 2 7 Y
MFG.	Sm.H
TYPE	FS70D
SERIAL NO.	LY4791
JETS (mm)	2 x 19
DEPTH OUT (m)	
DEPTH IN (m)	1125
TOTAL METRES DRILLED (m)	3
TOTAL HOURS RUN	[illegible]

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

									[illegible]

HOLE CONDITION

HOLE DRAG	[illegible]
TORQUE AT BOTTOM	[illegible]
FILL ON BOTTOM (m)	0

MUD RECORD

	INCREASE	DECREASE	
TIME	16.00	18.00	2200
DENSITY kg/m³	1200	1270	1275
FUNNEL VIS. - (S/L)	55	60	57
W.L. (cm³)	60	60	72
pH	10.0	10.5	10.5
	32.4	329	32.9

PRODUCT	AMOUNT X UNIT
Gel	[illegible] sxs
Caustic	1 Gs
Starlo	1 [illegible]
Biolos	1 [illegible]
Lignco	[illegible] x

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

FROM	TO	ENG. SPEED CONTROL	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1125	[illegible]	3	0	2

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
[illegible]	150	145	152	

[illegible] | 52

DEPTH (m)	DEVIATION (°)	DIRECTION

[signature]

DRILLING ASSEMBLY (At End of Tour)

			25 m
	TOOLS		31.26 m
21	DC	171	[illegible] m
	TAS	171	[illegible] m
9	DC	171	[illegible] m
	XO	[illegible]	[illegible] m
410	HWDP	111	[illegible] m
			m
			m
			m
			m
51	D.P.	STANDS	[illegible] m
	D.P.	SINGLES	[illegible] m
	KELLY DOWN		[illegible] m
	TOTAL		[illegible] m
WT. OF DC		[illegible]	1000 daN
WT. OF STRING		[illegible]	1000 daN

BIT RECORD

BIT NO.	2
SIZE (mm)	222
IADC CODE	6 2 7 Y
MFG.	Sm.H
TYPE	FS70D
SERIAL NO.	LY4791
JETS (mm)	2 x 19
DEPTH OUT (m)	IN
DEPTH IN (m)	1125
TOTAL METRES DRILLED (m)	[illegible]
TOTAL HOURS RUN	[illegible]

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

									[illegible]

HOLE CONDITION

HOLE DRAG	[illegible]
TORQUE AT BOTTOM	[illegible]
FILL ON BOTTOM (m)	

MUD RECORD

TIME	[illegible]
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	[illegible]

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

HOURS RUN	INTAKE DENSITY	OVERFLOW DENSITY	UNDERFLOW DENSITY

FROM	TO	ENG. SPEED CONTROL	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1132	1143	17	0	3
			3	34

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
[illegible]	[illegible]	1	[illegible]	

[illegible] | 53

DEPTH (m)	DEVIATION (°)	DIRECTION
[illegible]	7.0	59.5
[illegible]	4.0	[illegible]

FOLD HERE →

3408

DAILY CHECKS

TEMPERATURE

CURRENT CONDITIONS

WIND DIRECTION

ROAD

PUMP TYPE

PUMP MANUFACTURER

0			
.0			
.0	3.3		

NT X UNIT

00	18.00	32.0	
70	12.70	13.7	
	60	7	
		7.2	
	10.5		
.4	329	32.1	

T X UNIT

T X UNIT

143407

FOLD HERE →

LICENCE NO: 1524 | WELL NAME AND NO: PANA ... TA: ... CITY I-12

OPERATOR: | CONTRACTOR: 2 ...

SURFACE LOCATION: 1 ... | UNIQUE ID: ... 26 ... 23 ...

SIGNATURE OF OPERATOR'S REPRESENTATIVE: ... A Sullivan | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. | R.M.

(1) Daily Work Around Inspection — initial | initial
(2) Derrick Inspection Weekly (using Checklist) — initial | initial
(3) H2S Signs Posted (if required) — initial | initial
(4) Well Licenses & Slips Displayed — initial | initial
(5) Flare Lines Staked — initial | initial
(6) BOP Drill Performed — initial | initial
(7) Visually Inspect BOP's - Hoselines & Equipment Lines — initial | initial

(1) Rig Site Health and Safety Meeting (once monthly) — initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/quarter) — initial
(3) Mast Inspection Before Raising or Lowering — initial
(4) Crown Saver Checked — initial | PT
(5) Mast Rails checked — initial

YEAR 80 | MONTH 11 | RIG NO 51

FUEL ... BOILER

TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

OPER	SLIP & REAM	DRILL ACTUAL	REAMING	CORING	CIRC MUD & COND	TRIPS	RIG SERVICE	REPAIR RIG	LOST CIRC DRILL	DEV SURVEY	WASH LINE	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG
MORN																					1
DAY							25														
EVE																					
TOTAL																					

MORNING TOUR

BIT RECORD

BIT NO: 20
SIZE (mm): 222
MDC CODE:
MFG:
TYPE:
SERIAL NO: 7:211
JETS: 3x13
DEPTH OUT:
DEPTH IN:
TOTAL METRES DRILLED:
TOTAL HOURS RUN: 4

CUTTING STRUCTURE: T | I | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

T.S

HOLE DRAG:
TORQUE AT BOTTOM:
FILL ON BOTTOM:

D.P. STANDS:
D.P. SINGLES:
KELLY/DOWN:
TOTAL:
WT OF DC:
WT OF STRING:

MUD RECORD

TIME	5:30	
DENSITY kg/m³	1270	
FUNNEL VIS. - (S/L)	6	
W.L. (cm³)	7.2	
pH	10	
PVT m³	33.1	

PRODUCT | AMOUNT X UNIT

HOURS RUN | ROUGE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

HOURS RUN | SUCTION DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DIAMOND BIT WOB (kN)	ROTARY R.P.M.
1517	1542	6	55

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
	152	90	152

53

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

BIT RECORD

BIT NO: 20
SIZE (mm): 222
MDC CODE:
MFG: Reed
TYPE: EHP53
SERIAL NO: 211H
JETS: 3x13
DEPTH OUT:
DEPTH IN: 1517
TOTAL METRES DRILLED: 25
TOTAL HOURS RUN: 4

CUTTING STRUCTURE: T | I | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

T | C | 171 | 7 | 1/16 | 1/16 | CT | TD | 4 | 6.25

HOLE DRAG: Slight
TORQUE AT BOTTOM: 2000
FILL ON BOTTOM: 20

D.P. STANDS: 16 | 96
D.P. SINGLES: 2 | 12
KELLY/DOWN: 1 | 6
TOTAL: 1614
WT OF DC: 63
WT OF STRING: 70

MUD RECORD

TIME	10:00	12:00	14:00
DENSITY kg/m³	1275	1275	1280
FUNNEL VIS. - (S/L)	54	54	52
W.L. (cm³)	7.5	7.5	7.5
pH	9.5	10.5	10.5
PVT m³	34.6	34.2	34.3

PRODUCT | AMOUNT X UNIT

Gel	16 sxs		
Caustic	1 ...		

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

HOURS RUN | SUCTION DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DIAMOND BIT WOB (kN)	ROTARY R.P.M.
1517	1666	13	55

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
2150	152	90	152

3250 | 53

DEPTH (m)	DEVIATION (°)	DIRECTION
1578	2 1/2	57 0
1598	2 9	52 1

EVENING TOUR

BIT RECORD

BIT NO: 20
SIZE (mm): 222
MDC CODE:
MFG: Reed
TYPE: EHP53
SERIAL NO: C212H
JETS: 3x13
DEPTH OUT:
DEPTH IN: 1517
TOTAL METRES DRILLED: 25
TOTAL HOURS RUN: 4

CUTTING STRUCTURE: T | I | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

T | C | 171 | 7 | 1/16 | 1/16 | CT | TD | 4 | 6.25

HOLE CONDITION
HOLE DRAG:
TORQUE AT BOTTOM:
FILL ON BOTTOM:

D.P. STANDS:
D.P. SINGLES:
KELLY/DOWN: 1 | 6
TOTAL:
WT OF DC:
WT OF STRING:

MUD RECORD

TIME	16:00	18:00	22:00
DENSITY kg/m³	1280	1280	1285
FUNNEL VIS. - (S/L)	62	55	61
W.L. (cm³)	7.5	7.0	7.7
pH	10.5	10.5	10
PVT m³	34.3	34.5	34.8

PRODUCT | AMOUNT X UNIT

Gel	8 sx		

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

1 | 30 | 1305 | 1115 | 2015

HOURS RUN | SUCTION DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DIAMOND BIT WOB (kN)	ROTARY R.P.M.
1621	1631	15	55

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
3250	152	90	152

2250 | 55

DEPTH (m)	DEVIATION (°)	DIRECTION
1600	2 3	54.7

FOLD HERE →

43407

DAILY CHECKS

	OPR.	R.M.
(1) Daily Work Around Inspection	Initial	Initial
(2) Derrick Inspection Weekly (using Checklist)	Initial	Initial
(3) HS Signs Posted (if required)	Initial	Initial
(4) Well License & Site Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's: Flexibles & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (crew/crew/month)		Initial
(2) CAODC Rig Safety Inspection Checklist (crew/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR MONTH DAY

RIG NO -1

FUEL @ 8:00

RIG BOILER

WEATHER

	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. I.D. (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

SQUEEZE CEMENT	PERFING	DIR. WORK	SAFETY MTG

TOTALS

SHALE SHAKER(S)

NO. TYPE

SCREENS CHANGED YES NO

TOP TOP

MIDDLE MIDDLE

BOTTOM BOTTOM

RENTALS SERVICES

MUD RECORD

	5.70	
	1270	
	62	
	7.3	
	10	
	33.1	

MUD UNIT X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLD/RUN CORED	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1577				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
3	152	90	152	

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

0	100	1	22	RIG TOOLS, PICK UP DRILL PIPE PICK UP DRILLS
100	130	.5	C	DRILL
130			2	DRILLED
1445	2	1.75	C	DRILL
2	400	1.5	5	DRILL F/1577 - 1593 (TOP OF BASAL QUARTZ)
400		1	2	DRILL F/1593 - 1593

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES: CREW SAFETY MEETING, PRE-TOUR CHECKS & RIG INSPECTIONS

EQUIPMENT FLUTH CHECK

3 11 0700

MUD RECORD

00	12:00	1400
75	1275	1280
	54	52
5	7.5	7.5
	10.5	10.5
4	34.2	34.3

MUD UNIT X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
2.0			

DAY TOUR

METRES DRILLED

FROM	TO	DRLD/RUN CORED	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1593	1606	13	55	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2-150	152	90	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
1578	2.1	57.0
1590	2.9	58.1

TIME LOG

0500	1245	7.75	2	DRILL F/1593 - 1603
1245	1300	.25	7	RIG SERVICE & UPPER PIPERAMS 3½" / RSB
1300		2.5	2	DRILL F/1603 - 1606
1500	1600	1	1	SURVEY

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

✓ SAFETY TOPICS

NOTES: ✓ CROWN SAVER, DRILLING LINE, BRAKES, BRAKE LINKAGE, FUNCTIONAL REMOTE CHOKE, ACCUMULATOR FLUID LEVEL & PRESSURE, BOP FLUID

3 11 1470 TK 000 to QU 2798

MUD RECORD

00	18:00	22:00
80	1280	1285
2	55	61
5	7.0	7.7
5	10.5	10
3	34.5	34.8

MUD UNIT X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1 30	1205	1119	1215

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD/RUN CORED	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1606	1631	15	55	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2-150	152	90	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
1606	2.3	54.7

TIME LOG

1600	1900	3	2	DRILL F/1606 - 1613
1900	1915	.25	7	RIG SERVICE & UPPER PIPERAMS 3½" / RSB
1915	2130	2.5	2	DRILL F/1613 - 1631
2130	2400	2.5	10	SURVEY

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES: ✓ CROWN SAVER, DRILLING LINE, BRAKES, BRAKE LINKAGE, FUNCTIONAL REMOTE CHOKE, BOP FLUID LEVEL & PRESSURE

DRILLER'S SIGNATURE

BOILER GAS RAW gh STACK TEMP

ACCUMULATOR EXPERIENCED HOOKEDAD

SAFETY TOPICS

3 11 420 2747

FOLD HERE →

143406

LICENCE NO.: 1884

WELL NAME AND NO.: PARAMOUNT ET AL MOUNT CT-4 I-02

OPERATOR: PARAMOUNT RESOURCES LTD

CONTRACTOR: [illegible] DRILLING LTD

SURFACE LOCATION: I-02

UNIQUE ID.: 2AD-NWP-2-6-20-11-23-3-00

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [illegible]

SIGNATURE OF CONTRACTOR'S RIG MANAGER: [illegible]

DAILY CHECKS — OPR. / R.M.

	OPR. Initial	R.M. Initial
(1) Daily Walk Around Inspection	[illegible]	
(2) Detailed Inspection-Weekly (using checklist)		
(3) H²S Signs Posted (if required)		
(4) Well Licensee & Shot Diagram Posted		
(5) Flare Lines Staked		
(6) BOP Drills Performed		
(7) Visually inspect BOP's - Flarelines & Degasser Lines		
(1) Rig Site Health and Safety Meeting (one/crew/month)		
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		
(3) Mast Inspection Before Raising or Lowering		
(4) Crown Saver Checked		
(5) Motor Kills checked		

YEAR: 00 MONTH: 11 RIG NO.: 51 FUEL @ 8:0

RIG / BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME-HRS

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P	TEST B.O.P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	[illegible]
MORN.		7.25					.25			.5												
DAY		7.5					.25			.25												
EVE.		1.25					.25			.25											1.5	
TOTAL		16			25	41	75			1											1.5	

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	TOOLS		24.13 m
4	DC	171	31.20 m
	JAR	171	6.06 m
5	DC	171	74.40 m
	X/O	114	.90 m
46	HWDP	114	367.64 m
			m
			m
			m
			m
55	D.P.	STANDS	1042.19 m
	D.P.	SINGLES	9.59 m
	KELLY DOWN		10.25 m
	TOTAL		1573 m
WT. OF DC		26	1000 daN
WT. OF STRING		69	1000 daN

BIT RECORD

BIT NO.	19
SIZE (mm)	222
IADC CODE	617
MFG.	Hughes
TYPE	EP1403
SERIAL NO.	C30ZH
JETS (mm)	3 x 10.3
DEPTH OUT (m)	1547
DEPTH IN (m)	1521
TOTAL METRES DRILLED (m)	26
TOTAL HOURS RUN	13.5

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 1.9

HOLE CONDITION: HOLE DRAG: TOP 40 DOWN; TORQUE AT BOTTOM: 3700; FILL ON BOTTOM (m):

MUD RECORD

	1	2	3
TIME	1:30	3:30	6:00
DENSITY kg/m³	1275	1265	1280
FUNNEL VIS. - (S/L)	52	53	51
W.L. (cm³)	7.5	7.4	7.4
pH	10	10	10
PVT m³	31.2	30.5	31.0

MUD ADDITIVES / COST

PRODUCT	AMOUNT X UNIT
GEL	18 SX

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	
1556	1573	17	55	

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
8250	152	90	152

3300 — 53

DEPTH (m)	DEVIATION (°)	DIREC
1547	1.4	91
1573	1.7	7..

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		24.13 m
4	DC	171	37.20 m
	Jar	171	6.06 m
5	DC	171	74.40 m
	X/O	114	.90 m
46	HWDP	114	367.64 m
			m
			m
	EHP	5	10.42 m
52	D.P.	STANDS	1042.19 m
	D.P.	SINGLES	m
	KELLY DOWN		12.37 m
	TOTAL		1573.17 m
WT. OF DC		28	1000 daN
WT. OF STRING		70	1000 daN

BIT RECORD

BIT NO.	19
SIZE (mm)	222
IADC CODE	617
MFG.	Hughes
TYPE	EP1403
SERIAL NO.	C30ZH
JETS (mm)	3 x 10.3
DEPTH OUT (m)	—
DEPTH IN (m)	1547
TOTAL METRES DRILLED (m)	26
TOTAL HOURS RUN	21

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 1.2

HOLE CONDITION: HOLE DRAG: 5 to 50 over; TORQUE AT BOTTOM: 4000; FILL ON BOTTOM (m): 21

MUD RECORD

	1	2	3
TIME	8:00	10:00	14:00
DENSITY kg/m³	1280	1275	1276
FUNNEL VIS. - (S/L)	52	60	72
W.L. (cm³)	7.0	6.0	7.0
pH	10.0	10.5	10.5
PVT m³	31.4	31.2	24.8

MUD ADDITIVES / COST

PRODUCT	AMOUNT X UNIT
Gel	1 sks
Caustic	1
Barite	20
[illegible]	14

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	
1573	1585	12	55	

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
8100	152	90	152

2800

DEPTH (m)	DEVIATION (°)	DIRECTI
1567	1.6	75.9

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		24.13 m
4	DC	171	37.20 m
	Jar	171	6.06 m
5	DC	171	74.40 m
	X/O	114	.90 m
46	HWDP	114	367.64 m
			m
			m
			m
			m
51	D.P.	STANDS	1111.92 m
	D.P.	SINGLES	7.51 m
	KELLY DOWN		5.26 m
	TOTAL		1567.11 m
WT. OF DC		28	1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	19
SIZE (mm)	222
IADC CODE	617
MFG.	Hughes
TYPE	EP1403
SERIAL NO.	C30ZH
JETS (mm)	3x 10.3
DEPTH OUT (m)	1587
DEPTH IN (m)	1547
TOTAL METRES DRILLED (m)	40
TOTAL HOURS RUN	32.25

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 1.3

HOLE CONDITION: HOLE DRAG: ; TORQUE AT BOTTOM: ; FILL ON BOTTOM (m):

MUD RECORD

	1	2	3
TIME	16:00		
DENSITY kg/m³	1275		
FUNNEL VIS. - (S/L)	70		
W.L. (cm³)	7.4		
pH	10.5		
PVT m³	24.8		

MUD ADDITIVES / COST

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	
1585	1587	2	55	

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
8300	152	90	152

3250 — 53

DEPTH (m)	DEVIATION (°)	DIRECTION
1577	1.8°	59.6

DRILLER'S SIGNATURE

FOLD HERE →

43406

2.

DAILY CHECKS — OPR. — R.M.

(1) Daily Walk Around Inspection — Initial — Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial — Initial
(3) H*S Signs Posted (if required) — Initial — Initial
(4) Well License & Strick Diagram Posted — Initial — Initial
(5) Flare Lines Staked — Initial — Initial
(6) BOP Drills Performed — Initial — Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial — Initial

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR 80 | MONTH 11 | DAY 17

RIG NO 51

FUEL @ 8:00

RIG | BOILER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING	244.5	229.	59.4	[illegible]	J-55	24	1[illegible].17	5.0	516
TUBING OR LINER									

WEATHER

TEMPERATURE °C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)
	171	[illegible]		72	171	[illegible]	12	TRIPLEX	NATIONAL	216
	146	[illegible]		76	[illegible]	[illegible]	[illegible]	[illegible]	NATIONAL	216
	171/146	29.77	[illegible]	72	171	[illegible]	[illegible]			

	20	21	22	23	24	25	26
SQUEEZE CEMENT							
FISHING							
DIR. WORK							
SAFETY MTG.	[illegible]						
	1.5						
	1.5						

TOTALS

SHALE SHAKER(S) — RENTALS SERVICES

NO. | TYPE
SCREENS CHANGED YES NO
TOP | TOP
MIDDLE | MIDDLE
BOTTOM | BOTTOM

MJ 5332
AMT 31999

MUD RECORD

30	3:30	6:00
75	1285	1280
2	53	51
5	7.4	7.4
9	10	10
31.2	30.5	31.0

AMOUNT X UNIT: 9 SX

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	D&D R&R CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1556	1572	17	55	25

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8250	152	90	152	

REDUCED PUMP SPEED

3300		52	

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1547	1.4	91.1
1567	1.7	[illegible]

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	330	3.5	2	DRILL F/1556 - 1572
330	345	.25	7	RIG SERVICE C/O H.C.L. ICE ✓ RSPD
345	730	3.75	2	DRILL F/ 1572 - 1572
730	800	.5	10	SURVEY

NOTES: [illegible]

DRILLER'S SIGNATURE

8 | 11 | 416 | 77 | | 2747

MORNING TOUR

MUD RECORD

3:00	10:00	14.00
280	12.75	1275
52	60	72
7.0	6.0	7.0
10.0	10.5	10.5
31.4	31.2	29.8

AMOUNT X UNIT: 9 SX

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	D&D R&R CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1573	1575	12	55	25
				28

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8100	152	90	152	90

REDUCED PUMP SPEED

2800			50

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1567	1.6	75.9

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0915	1.25	2	Drill F/1573 - 1575
0915	0930	.25	7	Rig Service c/o Hyd. Hose ✓ R.S.P
0930	1515	5.75	2	Drill F/1575 - 1585
1515	1700	1.75	10	Survey @ 1567

NOTES: [illegible]

DRILLER'S SIGNATURE

8 | 11 | 465 | 78 000 L01 | | 2798

DAY TOUR

MUD RECORD

3:00		
27.5		
70		
7.4		
10.5		
29.8		

AMOUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	D&D R&R CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1585	1597	2	55	28

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8300	152	90	152	

REDUCED PUMP SPEED

3240		53	

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1577	1.8	59.6

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1715	1.25	2	Drill F/1585 - 1587
1715	1730	.25	10	Survey @ 1577
1730	1745	.75	5	Circ. for TOH
1745	1815	.25	7	Rig Service c/o Hyd. Hose
1815	2230	4.25	6	TOH C/O Bit Flow/C 5x14 WOB 1102, 509, 141
2230	2400	1.5	22	Change Motor-Change Motor-PDC-Change Roller Reamer-Bit Sub-Bit Brk Flex Jt. Monel-DC's-Change Blades on Stabilizers

NOTES: [illegible]

DRILLER'S SIGNATURE

BOILER HRS RUN | STACK TEMP | EXPERIENCED HOOKLOAD | RATED HOOKLOAD

8 | 11 | [illegible] | 78 | | 2716

EVENING TOUR

143405

FOLD HERE →

LICENCE NO.: 1984

WELL NAME AND NO.: PARAMOUNT ET AL MOUNT CITY J-02

OPERATOR: PARAMOUNT RESOURCES LTD.

CONTRACTOR: ARIA (A.E.) LTD

SURFACE LOCATION: I-02

UNIQUE ID: J-0102 62-112 3300

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [illegible]

SIGNATURE OF CONTRACTOR'S RIG MANAGER: [illegible]

DAILY CHECKS — OPR. / R.M.

(1) Daily Weir Amount Inspection — daily — DAL / [illegible]
(2) Diesel Inspection Weekly (spring phase) — daily — [illegible]
(3) H2S Safety Procedure Reviewed — daily — [illegible]
(4) Well Licensee & Stack Diagram Posted — daily — [illegible]
(5) Flare Lines Staked — daily — [illegible]
(6) BOP Drills Performed — daily — [illegible]
(7) Visually Inspect BOP's - Pressures & Diagnostic Lines — daily — [illegible]
(1) Rig Site Health and Safety Meeting (minutes/month) — daily — [illegible]
(2) CAODC Rig Safety Inspection Checklist (upon rig move) — daily — [illegible]
(3) Mast Inspection Before Raising or Lowering — daily — [illegible]
(4) Crown Saver Checked — daily — [illegible]
(5) Motor Kills checked — daily — [illegible]

YEAR 80 | MONTH 11 | DAY 21 | RIG NO. 51

FUEL 6.00 | H2O | BOILER

TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME — CODE NO.

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P	TEST B.O.P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	A
MORN.		5.5			1	1.5																
DAY																						
EVE.		11.5			.5	1	2.5															
TOTAL		11.5			1.5	1.5	2.5															

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	T.C.		2.12 m
1	D.C	171	7.32 m
	T.C.	171	6.06 m
3	D.C	171	71.40 m
	X/O	168	.90 m
4	L.C.P.	171	3.76 m
			m
	DIA	SLUG	m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	19
SIZE (mm)	222
IADC CODE	
MFG.	[illegible]
TYPE	[illegible]
SERIAL NO.	[illegible]
JETS (mm)	[illegible]
DEPTH OUT (m)	[illegible]
DEPTH IN (m)	[illegible]
TOTAL METRES DRILLED (m)	[illegible]
TOTAL HOURS RUN	12.5

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

								22

HOLE DRAG: [illegible]
TORQUE AT BOTTOM: [illegible]
FILL ON BOTTOM (m): [illegible]

MUD RECORD

TIME	[illegible]	23:30	6:00
DENSITY kg/m³	1270	1270	1275
FUNNEL VIS. - (SAL)	57	55	58
W.L. (cm³)	7.5	7.0	6.6
pH	10.5	10	10
[illegible]	34.2	30.9	34.1

PRODUCT	AMOUNT X UNIT
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

HOURS RUN	MUD DENSITY (kg/m³)	CHLORIDE CONTENT DENSITY (kg/m³)	HARDNESS CONTENT DENSITY (kg/m³)

FROM	TO	LOSS (cc/30 min)	ROTARY RPM	BIT RPM
[illegible]	[illegible]	11	60	42

	LOSS (cc/30 min)	pH	LOSS (cc/30 min)	pH
[illegible]	152	9.0	152	

3000 | 53

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	T.C.		2.12 m
1	D.C	171	7.32 m
	T.C.	171	6.06 m
3	D.C	171	71.40 m
	X/O	168	.90 m
4	L.C.P.	171	3.76 m
			m
	DIA	SLUG	m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	14
SIZE (mm)	222
IADC CODE	
MFG.	Hughes
TYPE	[illegible]
SERIAL NO.	[illegible]
JETS (mm)	3 x 12.7
DEPTH OUT (m)	
DEPTH IN (m)	1547
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

HOLE DRAG:
TORQUE AT BOTTOM:
FILL ON BOTTOM (m):

TIME	1930		23:30
DENSITY kg/m³	1270		1270
FUNNEL VIS. - (SAL)	57		55
W.L. (cm³)	7.5		7.0
pH	10		10
[illegible]	31.2		30.9

PRODUCT	AMOUNT X UNIT
Stabilo	1 SK
Flo Lose	1 SK
LiGco	1 SK
Gel	

HOURS RUN	MUD DENSITY (kg/m³)	CHLORIDE CONTENT DENSITY (kg/m³)	HARDNESS CONTENT DENSITY (kg/m³)

FROM	TO	LOSS (cc/30 min)	ROTARY RPM	BIT RPM
[illegible]	[illegible]			

	LOSS (cc/30 min)	pH	LOSS (cc/30 min)	pH
	K2		K2	

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			.21 m
	T.C.		24.12 m
1	D.C	171	7.32 m
	T.C.	171	6.06 m
4	D.C	171	71.40 m
	X/O	168	.90 m
5	L.C.P.	168	3.76 m
			m
			m
			m
			m
	D.P.	STANDS	21.42 m
	D.P.	SINGLES	2.12 m
	KELLYDOWN		12.60 m
	TOTAL		[illegible] m
WT. OF DC			20 1000 daN
WT. OF STRING			69 1000 daN

BIT RECORD

BIT NO.	19
SIZE (mm)	222
IADC CODE	
MFG.	Hughes
TYPE	EP4G09
SERIAL NO.	C23H
JETS (mm)	3x 10 3
DEPTH OUT (m)	IN
DEPTH IN (m)	1547
TOTAL METRES DRILLED (m)	1
TOTAL HOURS RUN	1.25

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

								1.4

HOLE DRAG: [illegible]
TORQUE AT BOTTOM: [illegible]
FILL ON BOTTOM (m): [illegible]

TIME	1930		23:30
DENSITY kg/m³	1270		1270
FUNNEL VIS. - (SAL)	57		55
W.L. (cm³)	7.5		7.0
pH	10.0		10
[illegible]	31.28		30.9

PRODUCT	AMOUNT X UNIT
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

HOURS RUN	MUD DENSITY (kg/m³)	CHLORIDE CONTENT DENSITY (kg/m³)	HARDNESS CONTENT DENSITY (kg/m³)

FROM	TO	LOSS (cc/30 min)	ROTARY RPM	BIT RPM
[illegible]	[illegible]	9	[illegible]	[illegible]

	LOSS (cc/30 min)	pH	LOSS (cc/30 min)	pH
3300	K2	9.0	K2	

3450 | 5°

DEPTH (m)	DEVIATION (°)	DIRECTION
[illegible]	1.7	171.9
[illegible]	1.0	173.6

FOLD HERE →

3405

-02

DAILY CHECKS — OPR. — R.M.

(1) Daily Walk Around Inspection
(2) Detailed Inspection-Weekly rusing (Checklist)
(3) H'S Signs Posted W requirements
(4) Weir Lubricate & Stem Diagram Posting
(5) Flare Lines Hooked
(6) BOP Drills Performed
(7) Visually inspect BOP's - Flarelines & Degasser Lines

(1) Rig Site Hazard and Safety Meeting conducted/recorded
(2) C A D D C Rig Safety Inspection Checklist currently/month
(3) Mast Inspection Before Raising or Lowering
(4) Crown Saver Checked
(5) Motor Kills checked

FUEL @ 8:00

TEMPERATURE °C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

O.D (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS kg/m	GRADE	MIN. I.D. TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE (in)

TOTAL

SCREENS CHANGED ✓ YES NO

TOP
MIDDLE
BOTTOM

METRES DRILLED — TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

FROM	TO	ROTARY R.P.M.

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTES

FOLD HERE →

143404

LICENCE NO. 1629 WELL NAME AND NO. [illegible]

OPERATOR [illegible] CONTRACTOR [illegible]

SURFACE LOCATION [illegible] UNIQUE ID [illegible]

SIGNATURE OF OPERATOR'S REPRESENTATIVE [illegible] SIGNATURE OF CONTRACTOR'S RIG MANAGER [illegible]

DAILY CHECKS

	OPR.	R.M.
[illegible]		
[illegible]		
[illegible]		
[illegible]		
[illegible]		
[illegible]		
[illegible]		
[illegible]		
[illegible]		
[illegible]		

YEAR [illegible] MONTH 11 DAY [illegible]

REG. NO. [illegible]

FUEL [illegible]

REG. BOILER

TEMPERATURE

CURRENT CONDITIONS

WIND DIRECTION

ROAD

OPER.	HRS. ACTUAL	REMARKS	LUBRIG	HOLE SIZE & DEPTH	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	BOP PR. TEST	RUN CASE & CEMENT	WAIT ON CEMENT	SLIP & CUT DRILL LINE	TEST B.O.P.	DIRECT. SURVEY	PLUG BACK	SQUEEZE CEMENT	REMARKS	DIR. WORK	SAFETY MTG.
MORN.																				
DAY																				
EVE.	7																			
TOTAL		7																		

BIT RECORD

BIT NO.	
SIZE	
MDC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS	
DEPTH OUT	
DEPTH IN	
TOTAL METRES DRILLED	
TOTAL HOURS RUN	
CUTTING STRUCTURE T / B / G / OC / L / Reason Trips Run	
HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

D.P. STANDS

D.P. SINGLES

KELLYDOWN

TOTAL

WT. OF DC

WT. OF STRING

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. (Sec.)			
W.L. (cm³)			
pH			

PRODUCT AMOUNT X UNIT

HOURS/RUN	AVG. DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	LOG (min/C.C.)	ROTARY R.P.M.	WT. ON BIT (kg)
15[illegible]				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

MORNING TOUR

BIT RECORD

BIT NO.	12
SIZE	222
MDC CODE	
MFG.	[illegible]
TYPE	[illegible]
SERIAL NO.	[illegible]
JETS	[illegible]
DEPTH OUT	[illegible]
DEPTH IN	[illegible]
TOTAL METRES DRILLED	[illegible]
TOTAL HOURS RUN	[illegible]
CUTTING STRUCTURE T / B / G / OC / L / Reason Trips Run	
HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

D.P. STANDS [illegible]

D.P. SINGLES [illegible]

KELLYDOWN

TOTAL 1541.0

WT. OF DC

WT. OF STRING

MUD RECORD

TIME	10:00	12:00	1400
DENSITY kg/m³	1260	1270	1275
FUNNEL VIS. (Sec.)	60	70	75
W.L. (cm³)	7.5	7.0	7.5
pH	10.0	10.0	10.0
		30.7	30.5

PRODUCT AMOUNT X UNIT

Gel	10 sks
Caustic	1 sk
Staflo	1 sk
Lignite	2 sks
[illegible]	[illegible]

HOURS/RUN	AVG. DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	LOG (min/C.C.)	ROTARY R.P.M.	WT. ON BIT (kg)
K[illegible]	1519	9	50-60	K-2

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5500	152	90	152	

325m 53

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

BIT RECORD

BIT NO.	12
SIZE	222
MDC CODE	
MFG.	[illegible]
TYPE	[illegible]
SERIAL NO.	[illegible]
JETS	[illegible]
DEPTH OUT	[illegible]
DEPTH IN	[illegible]
TOTAL METRES DRILLED	[illegible]
TOTAL HOURS RUN	[illegible]
CUTTING STRUCTURE T / B / G / OC / L / Reason Trips Run	
HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

D.P. STANDS

D.P. SINGLES

KELLYDOWN

TOTAL

WT. OF DC

WT. OF STRING

MUD RECORD

TIME	17:00	2030	2300
DENSITY kg/m³	1275	1275	1275
FUNNEL VIS. (Sec.)	85	87	94
W.L. (cm³)		7.5	7.6
pH	10.5	10.5	10.5
	30.4	30.9	32.00

PRODUCT AMOUNT X UNIT

HOURS/RUN	AVG. DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	LOG (min/C.C.)	ROTARY R.P.M.	WT. ON BIT (kg)
1519	1536	17	60	3-2

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	152	90	152	

335m 53

DEPTH (m)	DEVIATION (°)	DIRECTION
1515	1.0	157.0

NIGHT TOUR

FOLD HERE →

404

DAILY CHECKS | OPR | R.M.

FUEL @ 8:00

TEMPERATURE C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

	OD (mm)	MIN ID (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING									
CASING									
LINER									

	DC DP SIZE (mm)	LINEAR MASS kg/m	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

MUD RECORD

TOTALS

SHALE SHAKERS

SCREENS CHANGED YES NO

TOP / MIDDLE / BOTTOM

RENTALS SERVICES

MORNING TOUR

METRES DRILLED

FROM	TO	LENGTH MADE CORE C	ROTARY R.P.M.	WT. ON BIT (1000 lbs)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG | DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

MUD UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

MUD RECORD

12:00	14:00
1270	1275
70	75
70	7.5
10.0	10.0
30.7	30.5

METRES DRILLED

FROM	TO	LENGTH MADE CORE C	ROTARY R.P.M.	WT. ON BIT (1000 lbs)
1514	1519	9		

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5.5in	152	90	152

DEPTH (m)	DEVIATION (°)	DIRECTION
3250	53	

TIME LOG | DETAILS OF OPERATION IN SEQUENCE AND REMARKS

08:00	09:00	1.0	K.H	
09:00	12:00	3.0	Linkage in Room F/1490 - 1514	
12:00	15:00	3.0	Drill F/1514 - 1519	
15:00	15:30	0.7	R. Service Crown Upthrow Unit ✓ R.S.P	
15:30	16:00	0.5	Replace Hydraulic Rubber	

NOTES

Total Hours 11 | Total Hours 17.0 | Cum. Hours Credit 2798

MUD UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

MUD RECORD

2030	2300
1575	1275
87	64
7.5	7.6
10.5	10.5
30.5	32.00

METRES DRILLED

FROM	TO	LENGTH MADE CORE C	ROTARY R.P.M.	WT. ON BIT (1000 lbs)
1519	1536	17	60	20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5.5	152	90	152

DEPTH (m)	DEVIATION (°)	DIRECTION
3300	53	
1519	1.0	

TIME LOG | DETAILS OF OPERATION IN SEQUENCE AND REMARKS

15:30	20:00	4.5	2	Drill F/1519 - 1524
20:00	20:30	0.5	7	Rig Service / Function Hydril 12SEC ✓ RSPP
20:30	00:00	3.5	2	Drill F/1524 - 1536
00:00	07:00	7.0	12	Short Trip

NOTES

DRILLER'S SIGNATURE | TOOLPUSHER | SUPERVISOR

FOLD HERE →

143403

LICENCE NO.: 1564

WELL NAME AND NO.: PARAMOUNT ET AL MOUNT CLEVE I-62

OPERATOR: PARAMOUNT

CONTRACTOR:

SURFACE LOCATION:

UNIQUE ID:

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Waste Amount Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H2S Signs Posted (if required)	Initial	Initial
(4) Well Licenses & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 77 | MONTH | DAY

RIG NO 51

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME - HRS

CODE NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.																					
DAY		6.75					.5			.5										.25	1.25
EVE.		2.25																			
TOTAL		9.0					.5			.5										.25	1.25

DRILLING ASSEMBLY (At End of Tour)

			LENGTH
			.25 m
	Tools		30.42 m
4	D.C	171	372.2 m
	Jar	171	6.06 m
8	D.C.	171	71.40 m
	X/O	168	.80 m
40	H.W.D.P.	114	367.64 m
	Pup		1.1 m
			m
51	D.P.	STANDS	1705.05 m
	D.P.	SINGLES	9.54 m
	KELLY DOWN		12.96 m
	TOTAL		1586.31 m
WT. OF DC			22 1000 daN
WT. OF STRING			68 1000 daN

BIT RECORD

BIT NO.	17
SIZE (mm)	222
IADC CODE	9 1 7 Y
MFG.	Smith
TYPE	F80DPS
SERIAL NO.	LY6723
JETS (mm)	3x19
DEPTH OUT (m)	—
DEPTH IN (m)	1490
TOTAL METRES DRILLED (m)	16
TOTAL HOURS RUN	6

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 2.7

HOLE CONDITION

HOLE DRAG	10 - 5
TORQUE AT BOTTOM	4000
FILL ON BOTTOM (m)	2

MUD RECORD

MUD TYPE: WATER BASED

	0300	1200	0200
TIME	10:00	12:00	02:00
DENSITY kg/m³	1260	1260	1260
FUNNEL VIS. - (S/L)	90	70	70
W.L. (cm³)	8.0		8.5
pH	10.0	10.0	10.0
P.V.T. m³		29.5	29

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Desco	1 ea
Ligco	3 ea
Staflo	1 ea
Bioloss	1 ea
Caustic	1 ea
Barite	20 sx
CFL	7 L

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DRILLING FLUID CONDITIONER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DEGASSER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRILL FOR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1490	1506	16	50	30
			15	30

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
1000	152	115	152	
3000		53		

DEPTH (m)	DEVIATION (°)	DIRECTION
1476	1.0	97.1
1492	1.3	99.3

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

			LENGTH
			.25 m
	Tools		30.42 m
4	D.C	171	372.2 m
	Jar	171	6.06 m
8	D.C.	171	71.40 m
	X/O	168	.80 m
40	H.W.D.P.	114	367.64 m
	Pup		1.1 m
			m
51	D.P.	STANDS	1705.05 m
	D.P.	SINGLES	9.54 m
	KELLY DOWN		12.96 m
	TOTAL		1586.31 m
WT. OF DC			22 1000 daN
WT. OF STRING			68 1000 daN

BIT RECORD

BIT NO.	17
SIZE (mm)	222
IADC CODE	9 1 7 Y
MFG.	Smith
TYPE	F80DPS
SERIAL NO.	LY6723
JETS (mm)	3x19
DEPTH OUT (m)	1510
DEPTH IN (m)	1490
TOTAL METRES DRILLED (m)	20
TOTAL HOURS RUN	6.5

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG	10 - 5
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: WATER BASED

	1600	1800	2200
TIME	1600	1800	2200
DENSITY kg/m³	1260	1260	1275
FUNNEL VIS. - (S/L)	70	72	62
W.L. (cm³)	8.0	7.5	7.6
pH	10.0	10.5	10.5
P.V.T. m³	28.3	29.2	29.3

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Barite	1.5 t

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DRILLING FLUID CONDITIONER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DEGASSER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRILL FOR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1496	1510	4	50	30

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8000	152	115	152	
3000		53		

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

3403

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well Licensee & Slack Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Fog Site Health and Safety Meeting (once/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG. HEAD (m)	SET AT (m)

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

TOURS	DRILLING	FISHING	DIR. WORK	SAFETY MTG.

SHALE SHAKER(S)

NO | TYPE

SCREENS CHANGED: YES / NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS SERVICES

MUD RECORD

USED / CLOSED

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD FOR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
14				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
115		115	

REDUCED HOLE SPEED

90% | 70%

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
3:00	3:30	3	6	TRIP C B.T, HWDP, DC, JARS, STAB
		17½	22	DRILL OUT CEMENT, FLOAT, SHOE & 3m NEW FORMATION
				CIRCULATE HOLE CLEAN FOR FIT
5:30	7:00	1½	6	RIG SERVICE
7:00	7:30	½	2	FIT @ SHOE TEST
7:30	24:00	16½	2	DRILL

TMV 9.3
TCV 9.3
BT .62

NOTES

Pit Watch Pulled Up Into Use - Tested And Function Proven Satisfactory

5 | H | 470

MUD RECORD

00	12:00	02:00
0	12.60	12.60
.	70	70
		8.5
0	10.0	10.0
	29.5	29

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD FOR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1490	1506	16	50	30
			1[illegible]	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11[illegible]	152	115	152

REDUCED HOLE SPEED

3000 | 90% | 53 | 70%

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1476	1.2	97.1
1492	1.3	96.2

DRILLER'S SIGNATURE

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
08:00	08:45	.75	3	Rear T. 8Stm F/ 1475 - 1490
08:45	10:45	2	2	Drill F/ 1490 - 1496
10:45	11:00	.25	7	Rig Service C/O Leak Pipeman Hose RSPP
11:00	15:00	4	2	Drill F/ 1496 - 1506
15:00	15:30	.5	5	TJ Surveys
15:30	16:00	.5	2	Circulating Hole Cln Sliding

NOTES

Crownsaver Deadline Anchors Broken on Linkage Functional Rest Choke Blocked Open 0.3 = Bad Fluid Dynamics (Gas) Cut Drill, Slow Trip

9 | H | 470 | 78 000 daN | 2R99

MUD RECORD

2	18:00	22.00
2	1260	1275
2	72	62
0	7.5	7.6
	10.5	10.5
3	29.2	29.3

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1				

METRES DRILLED

FROM	TO	DRLD FOR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1496	1510	4	50	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
1[illegible]00	152	115	152

REDUCED HOLE SPEED

3000 | 90% | 57 | 70%

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
16:00	17:30	2½	2	Drill F/ 1506 - 1510
18:30	22:00	3½	5	Circ up Samples, Decide to Mud
22:00	23:30	2½	2	[illegible] Function Test 13 5/8"
23:30	24:00	½	6	Trip C B.T PC, 1502, 1145, 927, SH

NOTES

Crownsaver Deadline Hook Fouled on Linkage, Hydraulic Line C.O. Repaired

Fuel Check Chkd

BOILER | BHA RUN | STABILIZERS | MAKE | BIT RECORD | JET SIZES | DEPTH OUT | FOOTAGE | HOURS | ACCUM. HRS | DULL GRADE

2 | 11½ | 47½ | 1 | 1½

143402

FOLD HERE →

LICENCE NO.: 1884
WELL NAME AND NO.: Paramount Etal Mount Coty I-02
OPERATOR: Paramount Resources Ltd
CONTRACTOR: AK Ltd Drilling Ltd
SURFACE LOCATION: I-02
UNIQUE ID.: 2001026020112 3300
SIGNATURE OF OPERATOR'S REPRESENTATIVE:
SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Work Amount Inspection	initial	initial
(2) Detailed Inspection-Weekly during Operations	initial	initial
(3) H2S Signs Posted (if required)	initial	initial
(4) Well Licence & Stack Diagram Posted	initial	initial
(5) Flare Lines (demo)	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually Inspect BOP's - Flowlines & Degasser Lines	initial	initial
(1) Rig Site Health and Safety Meeting (one person/24hr)		initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/90 days)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motor Kills (checked)		initial

FUEL — S.O.C.

BOILER

TEMPERATURE
CURRENT CONDITIONS
WIND DIRECTION
ROAD

MORNING TOUR

TIME — CODE NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG	
MORN.		5 3/4			3/4	5	3/4															
DAY		2	12																		3/4	
EVE.		4.75																				
TOTAL		11	12		1.5	6	11.75			.5											2	.5

DRILLING ASSEMBLY (At End of Tour)

			LENGTH
	Tools		.25 m / 28.72 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.64 m
40	HWDP	114	37.64 m
			m
			m
			m
50	D.P.	STANDS	447.42 m
	D.P.	SINGLES	m
	KELLYDOWN		8.83 m
	TOTAL		1471.8 m
WT. OF DC		28	1000 daN
WT. OF STRING		68	1000 daN

BIT RECORD

BIT NO.	15
SIZE (mm)	222
IADC CODE	7 3 7
MFG.	Hughes
TYPE	ATJ-377X
SERIAL NO.	6212W
JETS (mm)	3 X 14
DEPTH OUT (m)	1471
DEPTH IN (m)	1442
TOTAL METRES DRILLED (m)	29
TOTAL HOURS RUN	19

CUTTING STRUCTURE

T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								1.5

HOLE CONDITION

HOLE DRAG	6000 - 7000
TORQUE AT BOTTOM	3200
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: GUMMER BASED

TIME	1:00	2:00	6.00
DENSITY kg/m³	1270	1270	
FUNNEL VIS. - (S/L)	60	60	
W.L. (cm³)	7.5	7.5	
pH	9.5	10.0	
PVT	39.6	39.9	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	2 Tn
Caustic	1 Sk
Flake	1 Sk

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRO-RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1467	1471	4	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10200	152	115	152	

3500 — 53

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Block

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

			LENGTH
			.25 m
	Tools		28.72 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.64 m
40	HWDP	114	37.64 m
			m
			m
			m
50	D.P.	STANDS	447.42 m
	D.P.	SINGLES	m
	KELLYDOWN		8.83 m
	TOTAL		1471.8 m
WT. OF DC		28	1000 daN
WT. OF STRING		68	1000 daN

BIT RECORD

BIT NO.	16
SIZE (mm)	222
IADC CODE	7 3 7
MFG.	Hughes
TYPE	ATJ-377X
SERIAL NO.	6212W
JETS (mm)	3 X 14
DEPTH OUT (m)	1471
DEPTH IN (m)	1471
TOTAL METRES DRILLED (m)	6
TOTAL HOURS RUN	2

CUTTING STRUCTURE

T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								3

HOLE CONDITION

HOLE DRAG	6000
TORQUE AT BOTTOM	3700
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: GUMMER BASED

TIME	1500		
DENSITY kg/m³	1270		
FUNNEL VIS. - (S/L)	80		
W.L. (cm³)	8.0		
pH	10.0		

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRO-RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1471	1477	6	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11200	152	115	152	

3200 — 51

DEPTH (m)	DEVIATION (°)	DIRECTION
1476	1	89.9

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

			LENGTH
			.25 m
	Tools		3.05 m
11	D.C	171	32.26 m
	Jar	171	6.06 m
8	D.C	171	74.40 m
	X/O	168	.80 m
40	H.W.D.P	114	37.64 m
			m
	Drill	5 1/2	5.70 m
			m
			m
51	D.P.	STANDS	469.98 m
	D.P.	SINGLES	m
	KELLYDOWN		12.76 m
	TOTAL		1490.76 m
WT. OF DC		28	1000 daN
WT. OF STRING		68	1000 daN

BIT RECORD

BIT NO.	16
SIZE (mm)	222
IADC CODE	7 3 7
MFG.	Hughes
TYPE	ATJ-377X
SERIAL NO.	6212W
JETS (mm)	3 X 14
DEPTH OUT (m)	1490
DEPTH IN (m)	1471
TOTAL METRES DRILLED (m)	19
TOTAL HOURS RUN	7.5

CUTTING STRUCTURE

T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	4200
FILL ON BOTTOM (m)	Full

MUD RECORD

MUD TYPE: WATER BASED

TIME	16:00	20:00	
DENSITY kg/m³	1270	1270	
FUNNEL VIS. - (S/L)	100	140	
W.L. (cm³)	4.0	4.0	
pH	10.0	10.0	
Pit	37.0	34.7	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	15 Sx
Soda Ash	1 Sx
Lignite	2 Sx
Caustic	1 Sx
Barite	16 Sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRO-RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1477	1490	13	50	

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
Duo	152	115	152	

3240 — 54

DEPTH (m)	DEVIATION (°)	DIRECTION
1484	1.6	101.7

FOLD HERE →

43402

DAILY CHECKS — OPR. / R.M.

(1) Daily Rig Activities Inspection
(2) Derrick Inspection (Weekly Monthly Tour Hand)
(3) H²S Signs Posted (if required)
(4) Well Licence & Plot Diagram (if Valid)
(5) Flare Lines Shield
(6) BOP Drills Performed
(7) Biweekly Inspect BOP's Hydraulics & Safety Valves
(1) Rig Site Health and Safety Meeting (Minimum Monthly)
(2) A.G.D.C. Rig Safety Inspection Checklist (Quarterly Month)
(3) Weekly Inspection Before Rigging up or Lowering
(4) Crown Saver Checked
(5) Motor Rats Checked

MONTH DAY — FUEL @ 8:00 — BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	OD (mm)	MIN I.D (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING	508	330		IPSCO	J55	39	1702	2.0	514
TUBING									
OTHER									

DRILL PIPE SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN I.D (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS
171	45		92	171	5½ FH	12
114	30.45		89	158	4½ XH	91
114	30.77	GS	92	158	4½ XH	DC

PUMP TYPE	PUMP MANUFACTURER	STROKE (Th mm)
B-P-30	National	210
B-P-60	National	216

	LOST CIRC.	FISHING	DIR. WORK	SAFETY MTG

TOTALS: 8 / 9 / 9 / 24

SHALE SHAKER(S) — NO. 2 TYPE DF1S 500's

SCREENS CHANGED YES NO

	TOP	BOTTOM
	145	
MIDDLE		
BOTTOM 1165		1165

RENTAL SERIAL NO.
BIT - 3174
MWD - 307717

MUD RECORD

00	3:00	6.00
70	12.70	
10	60	
.5	0.5	
.5	10.0	
4.6	34.7	

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
SK				
SK				

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1467	1471	4	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	115	152	

REDUCED PUMP SPEED

3500	40 SPM	53	60 SPM	

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE: Todd Blouw

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	03:00	3/4	2	Drill F/1467-1471
03:00	04:00	3/4	5	Circ & Ream hole Samples
04:00	04:30	1/4	8	Rig service C/O Lower Pipe Rams, Visual
04:30	07:00	3	6	Trip for Bit FC01465, 1366, 559, 519, 144
07:00	09:00	3/4	32	Handle tools change Bit, Bank B.H. 20/500, Out on Driller Reamer. Function Pipe Rams on Derrick

T.C.V. 1.22
T.W.V. 4.13
D.T.F. .09

NOTES: Crown saver, Deadline Anchors, Brakes, Linkages, Fast, Remote, Choke, Blind, Drawworks, Boiler 4x=80L

9 | 11 | 470 — 3848

MUD RECORD

.00	20:00	
70	12.70	
10	110	
.0	8.0	
.0	10.0	
7.0	34.7	

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
SK				
SK				

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1471	1477	4	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	115	152	

REDUCED PUMP SPEED

3200	40 SPM	51	60 SPM	

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
1474	.4	23.1

DRILLER'S SIGNATURE: [illegible]

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
5:00	9:15	1.25	22	Hang off BOP's, Change out DT Hose, Bonnet
9:15	10:00	.75	6	R.U.H.
10:00	10:30	.25	7	Rig Service, Grease Crown, Wash Pipe & Swivel
10:30	12:15	2	1	D.H.
12:15	13:30	1.25	3	Ream T. Bottom, Filling, 1471
13:30	15:30	2	2	Drill F/1471-1477
15:30	15:45	.25	22	D.H. Hose, Bonnet, Change 8" Liner
15:45	16:15	.5	4	Survey

NOTES: Crown Saver, Deadline Anchors, Brakes, Linkages, Fast, Remote, Choke, Blind, Drawworks, Boiler 4x=80L

9 | 11 | 470 — -78 — 1846

MUD RECORD

.00	20:00	
70	12.70	
00	110	
.0	8.0	
.0	10.0	
7.0	34.7	

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
SK				
SK				

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1477	1490	4	50	

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	115	152	

REDUCED PUMP SPEED

3200	40 SPM	51	60 SPM	

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
1481		

DRILLER'S SIGNATURE:

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
11:00	20:00	4.5	2	Drill F/1477-1487
20:00	20:15	.25	22	B.O.P. Drill
20:15	21:00	.75	7	Rig Service C/O Upper Pipe Rams, Swab
21:00	22:00	1.25	2	Drill F/1487-1490
22:00	22:30	.5	4	Survey
22:30	23:15	.75	5	Circ & Condition
23:15	24:00	.75	6	Trip [illegible] Bit F/1487, 1366

NOTES: [illegible]

FOLD HERE →

143401

LICENCE NO. | WELL NAME AND NO. | OPERATOR | CONTRACTOR | SURFACE LOCATION | UNIQUE ID | SIGNATURE OF OPERATOR'S REPRESENTATIVE | SIGNATURE OF CONTRACTOR'S RIG MANAGER

DAILY CHECKS — OPR. / R.M.

YEAR 90 | MONTH 7 | RIG NO 7

FUEL < 8 00

RIG 540 | BOILER

TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME SHEET

	OPER.	SLIP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & TC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG	
MORN	4		3½	12½																	1/4	3½	Tools
DAY																							
EVE	7½																						
TOTAL	15½		3½	12½		½															¼	3½	

DRILLING ASSEMBLY

			m
	10 DC's		312 m
6	DC	171	37.22 m
	Jar	171	2.06 m
5	DC	171	74.45 m
	X/O	168	.40 m
40	HWDP	114	367.64 m
			m
			m
			m
			m
			m
48	D.P.	STANDS	1054.95 m
2	D.P.	SINGLES	3.76 m
	KELLYDOWN		8.42 m
	TOTAL		1443.2 m
WT. OF DC	23	1000 daN	
WT. OF STRING	67	1000 daN	

BIT RECORD

BIT NO.	15
SIZE (mm)	222
IADC CODE	737
MFG.	Hughes
TYPE	ATJ-22MDX
SERIAL NO.	621ZW
JETS (mm)	3 x 14
DEPTH OUT (m)	
DEPTH IN (m)	1442
TOTAL METRES DRILLED (m)	1
TOTAL HOURS RUN	3/4

CUTTING STRUCTURE

T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD — MORNING TOUR

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / WASH CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1442	1443	1	50	10

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
1800	152	115	152	

DEPTH (m)	DEVIATION (°)	DIRECTION

2000 Check

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	7 DC's		216.72 m
4	DC	171	37.20 m
	Jar	171	2.06 m
2	DC	171	74.40 m
	X/O	168	.40 m
40	HWDP	114	373.64 m
			m
			m
			m
			m
			m
49	D.P.	STANDS	953.56 m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		1451.4 m
WT. OF DC	23	1000 daN	
WT. OF STRING	69	1000 daN	

BIT RECORD

BIT NO.	15
SIZE (mm)	222
IADC CODE	737
MFG.	Hughes
TYPE	ATJ-22MDX
SERIAL NO.	621ZW
JETS (mm)	3 x 14
DEPTH OUT (m)	1451
DEPTH IN (m)	1442
TOTAL METRES DRILLED (m)	9
TOTAL HOURS RUN	2.25

CUTTING STRUCTURE

T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								1.7

HOLE DRAG	1000
TORQUE AT BOTTOM	2500
FILL ON BOTTOM (m)	N/A

MUD RECORD — DAY TOUR

TIME	09:30	13:00	15:30
DENSITY kg/m³	1275	1275	1275
FUNNEL VIS. - (S/L)	67	65	65
W.L. (cm³)	7.5	7.9	8.2
pH	10	10	10
[illegible]	35.4	36.1	36.7

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / WASH CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1443	1456	13	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
9900	152		152	115

2400 | 50

DEPTH (m)	DEVIATION (°)	DIRECTION
1432	.2	154.5

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		29.72 m
4	DC	171	37.20 m
	Jar	171	2.06 m
8	DC	171	74.40 m
	X/O	168	.40 m
40	HWDP	114	367.64 m
			m
			m
			m
			m
			m
50	D.P.	STANDS	947.52 m
	D.P.	SINGLES	m
	KELLYDOWN		4.31 m
	TOTAL		1467.30 m
WT. OF DC	23	1000 daN	
WT. OF STRING	69	1000 daN	

BIT RECORD

BIT NO.	15
SIZE (mm)	222
IADC CODE	737
MFG.	Hughes
TYPE	ATJ-22MDX
SERIAL NO.	621ZW
JETS (mm)	3 x 14
DEPTH OUT (m)	
DEPTH IN (m)	1442
TOTAL METRES DRILLED (m)	25
TOTAL HOURS RUN	15/4

CUTTING STRUCTURE

T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								1.6

HOLE DRAG	2000
TORQUE AT BOTTOM	2500
FILL ON BOTTOM (m)	

MUD RECORD — EVENING TOUR

TIME	1500	20:00	23:00
DENSITY kg/m³	1270	1270	1270
FUNNEL VIS. - (S/L)	57	60	60
W.L. (cm³)	8.0	7.5	7.5
pH	10	10.0	10.0
[illegible]	28.3	29.6	29.9

PRODUCT	AMOUNT X UNIT
Gel	2 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / WASH CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1456	1467	11	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10500	152	115	152	

3450 | N7

DEPTH (m)	DEVIATION (°)	DIRECTION
1441	.3	135.1
1443	.3	107.6

FOLD HERE →

43401

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection		
(2) Derrick Inspection-Weekly (using Checklist)		
(3) H²S Signs Posted (if required)		
(4) Well Location & Site Diagram Posted		
(5) Flare Lines Staked		
(6) BOP Drills Performed		
(7) Visually Inspect BOP's, Flarelines & Diagnostic Lines		
(1) Rig Site Hazard and Safety Meeting (once/month)		
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		
(3) Mast Inspection Before Raising or Lowering		
(4) Crown Saver Checked		
(5) Motor Kills checked		

YEAR 2 | MONTH | DAY

RIG NO 7

FUEL @ 8:00

RIG 540 | ROLLER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
	171			62	171		12			
						4½ XH	54			
						4½ XH	90			

SQUEEZE CEMENT	PRIMING	DIR. WORK	SAFETY MTG.	
		1/4	3½	
		1/4	3½	

SHALE SHAKER(S) — RENTALS SERVICES

TOTALS	
	NO. TYPE
8	SCREENS CHANGED ☐ YES ☐ NO
9	TOP / TOP
9	MIDDLE / MIDDLE
24	BOTTOM / BOTTOM

MORNING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLG/RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1412	1443	1	50	10-32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
1800	152	115	152	

DEPTH (m) | DEVIATION (°) | DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0	03:30	3½	32	No. of Tools / Ay, Dave Roik - Rumors, Change motor, B.+
03:30	03:45	1/4	7	R.S. service C/O 3 1/2 and 2 cones
03:45	04:45	1	6	RIH
04:45	05:00	1/4	20	T.S. + MWD
05:00	06:30	1½	6	RIH
06:30	07:15	3/4	5	Break Circ & Wash to Btm
07:15	08:30	3/4	2	Dr. 11 F/1442 - 1443

NOTES: Rig Crew Safety Meeting, Derrick Inspection, Service Rig, Change Motor, Rig Service, Rig Repair, Remote Choke, 3 1/2 and 2 cones, 3 1/2 IF, 4X = 80L

2000 Block — 8 | 11 | 470

UNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

MUD RECORD

30	13:00	15:30
75	1275	1275
7	65	65
.5	7.9	7.2
	10	10
.4	36.1	36.7

METRES DRILLED

FROM	TO	DRLG/RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1443	1456	13	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
9900	152		152	115

3700 — 50

DEPTH (m) | DEVIATION (°) | DIRECTION

1432 | .2 | N.E.

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

8:00	12:00	4	2	DRILL F/1443 - 1447
12:00	12:15	.25	7	RIG SERVICE FUNCTION DRILL TEST BOPE
12:15	12:30	.25	1	SURVEY
12:30	16:30	4	2	DRILL F/1447 - 1456

NOTES: Rig Crew Safety Meeting, Derrick Inspection, Service Rig, Function Drill Test BOPE, Survey, Shutdown Connection 4X = 80L Fluid

8 | 11 | 460 | 76 | 2798

MUD RECORD

30	20:00	22:00
70	1270	1270
1	60	60
0	8.5	7.5
2	10.0	10.0
.3	39.6	39.4

METRES DRILLED

FROM	TO	DRLG/RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1456	1467	11	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10500	152	115	152	

3750 — 47

DEPTH (m) | DEVIATION (°) | DIRECTION

1441 | 2 | N.E.

1453 | 3 | 76

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

16:30	17:00	.25	7	RIG SERVICE FUNCTION TEST BOPE
17:15	23:45	7½	2	DRILL F/1456 -
23:45	24:00	1/4	10	Total Surveys

NOTES:

11 | 470 | 3284

FOLD HERE →

143400

LICENCE NO.: 1884 | WELL NAME AND NO.: PARAMOUNT ET AL MOUNT COTT I-02

OPERATOR: PARAMOUNT - SUNCOR ET AL | CONTRACTOR: PD 176 ET AL

SURFACE LOCATION: I-02 | UNIQUE ID.: 2001026020112330

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [signature] | SIGNATURE OF CONTRACTOR'S RIG MANAGER: [signature]

DAILY CHECKS (OPR. / R.M.)

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Shck Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR: 20 | MONTH: 11 | RIG NO.: 51 | FUEL @ 8:00 | RIG: 11760 | BOILER

WEATHER: TEMPERATURE / CURRENT CONDITIONS / WIND DIRECTION / ROAD

TIMES (HRS)

	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
	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	
MORN.		1/2			4 1/2	5 1/4	1/4															1 Tools	
DAY		11.25			.5	1.25	.25		.25	.25										.5		2	
EVE.		1/2			1	3	1/4				1/4												
TOTAL		12 1/4			5 1/4	9 1/4	5 1/4	1/4	.25	.5										.5	1/4	3	

DRILLING ASSEMBLY (At End of Tour)

	Tools		32.14 m
11	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	114	367.64 m
			m
			m
			m
			m
47	D.P.	STANDS	841.10 m
X	D.P.	SINGLES	4.20 m
	KELLYDOWN		10.86 m
	TOTAL		1428.30 m
WT. OF DC	28	1000 daN	
WT. OF STRING	66	1000 daN	

BIT RECORD

BIT NO.	13	14
SIZE (mm)	222	222
IADC CODE	6 4 7 Y	7 3 7
MFG.	Smith	Hughes
TYPE	F670D	ATJ-S77DX
SERIAL NO.	LY7413	6222W
JETS (mm)	3 x 19	3 x 14
DEPTH OUT (m)	1428	
DEPTH IN (m)	1346	1428
TOTAL METRES DRILLED (m)	32	
TOTAL HOURS RUN	12.25	

CUTTING STRUCTURE: T, T_o, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

	MORNING TOUR		
TIME	100		
DENSITY kg/m³	1230		
FUNNEL VIS. - (S/L)	75		
W.L. (cm³)	7.5		
pH	10.0		
P/F	26.6		

MUD TREATMENT USED

PRODUCT	AMOUNT X UNIT
Barite	15 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	BAD HOLE / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000)
1428	1428	0	90	3

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
11600	152		152

DEPTH (m)	DEVIATION (°)	DIREC

Lubbock

DRILLING ASSEMBLY (At End of Tour)

	Tools		32.14 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	114	367.64 m
			m
			m
			m
			m
43	D.P.	STANDS	809.87 m
	D.P.	SINGLES	m
	KELLYDOWN		7.66 m
	TOTAL		1436 m
WT. OF DC	28	1000 daN	
WT. OF STRING	67	1000 daN	

BIT RECORD

BIT NO.	14
SIZE (mm)	222
IADC CODE	7 3 7
MFG.	Hughes
TYPE	ATJ-S77DX
SERIAL NO.	6222W
JETS (mm)	3 x 19
DEPTH OUT (m)	IN
DEPTH IN (m)	1428
TOTAL METRES DRILLED (m)	10
TOTAL HOURS RUN	4.75

CUTTING STRUCTURE: T, T_o, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr. — 2.1

HOLE DRAG 6000

TORQUE AT BOTTOM 3600

FILL ON BOTTOM (m)

MUD RECORD

	DAY TOUR		
TIME	12:00	14:30	16:00
DENSITY kg/m³	1260	1280	1290
FUNNEL VIS. - (S/L)	85	74	70
W.L. (cm³)	7.5	7.5	7.5
pH	10	9.5	10.0
P/F	2.1	33.6	34.2

MUD TREATMENT USED

PRODUCT	AMOUNT X UNIT
Caustic	1 SX
Lig-Co	2 SX
Soda Ash	1 SX

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	BAD HOLE / CORE-C	ROTARY R.P.M.
1428	1438	10	30/35

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
5500	152		152

2750

DEPTH (m)	DEVIATION (°)	DIRECTI
1416	.4	208.1

Dan Fox

DRILLING ASSEMBLY (At End of Tour)

	Tools		32.14 m
11	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	111	357.64 m
			m
			m
			m
			m
44	D.P.	STANDS	809.85 m
X	D.P.	SINGLES	4.26 m
	KELLYDOWN		9.20 m
	TOTAL		1442.2 m
WT. OF DC	24	1000 daN	
WT. OF STRING	67	1000 daN	

BIT RECORD

BIT NO.	14
SIZE (mm)	222
IADC CODE	7 3 7
MFG.	Hughes
TYPE	ATJ-S77DX
SERIAL NO.	6222W
JETS (mm)	3 x 19
DEPTH OUT (m)	1442
DEPTH IN (m)	1428
TOTAL METRES DRILLED (m)	14
TOTAL HOURS RUN	3.75

CUTTING STRUCTURE: T, T_o, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr. — 1.6

HOLE DRAG 7000

TORQUE AT BOTTOM 3600

FILL ON BOTTOM (m)

MUD RECORD

	EVENING TOUR		
TIME	17:00	20:00	
DENSITY kg/m³	1280	1280	
FUNNEL VIS. - (S/L)	67	65	
W.L. (cm³)	7.0	7.0	
pH	10.	10.0	
P/F	34.9	33.8	

MUD TREATMENT USED

PRODUCT	AMOUNT X UNIT
Barite	10 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	BAD HOLE / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000)
1438	1442.2	4.2	90	3

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
12500	152		152

2900

DEPTH (m)	DEVIATION (°)	DIRECTION
1426	.4	172.7

Dan Fox

FOLD HERE →

143400

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (4 required)	Initial	Initial
(4) Well Licensee & Sick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOPs - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Safe Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO 51

FUEL @ 8:00

RIG | BOILER

WEATHER

	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)
171						12	B-P-40		216
					-1/2XH	54	B-P-30		216
					4½XH	30			

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTALS SERVICES

MUD RECORD

MOUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

OPERATOR'S SIGNATURE

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

TOTAL

MORNING TOUR

MUD RECORD

MOUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

OPERATOR'S SIGNATURE

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

TOTAL

DAY TOUR

MUD RECORD

MOUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

OPERATOR'S SIGNATURE

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

TOTAL

EVENING TOUR

FOLD HERE →

143399

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (use ✓ Checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visual Inspect BOP's - Function Test - Kelly Hoses Lines	Initial	Initial
(1) Rig Safe Health and Safety Meeting (bi-weekly/monthly)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 20 | MONTH 11 | DAY 22

RIG NO. 51

FUEL ~ 5.0L

RIG 11-449 | BOILER

TEMPERATURE	°C
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LICENCE NO.: 13241

WELL NAME AND NO.: Paramount Hz Nisku Corp I-02

OPERATOR: Paramount Resources Ltd

CONTRACTOR: HR Drilling Ltd

SURFACE LOCATION: I - 02

UNIQUE ID: 2021D060 2011 2300

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

CODE NO.

TIME-HRS	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG.	Hours for Tours
	MORN.					7/4	6	1/4	BS														
	DAY		5.75			.75	1	.25			.5										.25		1
	EVE.		7½					1/4			1/2												
	TOTAL																						

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.14 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
46	HWDP	114	347.64 m
			m
			m
			m
			m
45	D.P.	STANDS	854.17 m
1	D.P.	SINGLES	9.15 m
	KELLYDOWN		12.46 m
	TOTAL		1394.77 m
WT.OFDC			78 1000 daN
WT.OFSTRING			66 1000 daN

BIT RECORD

BIT NO.	13
SIZE (mm)	222
IADC CODE	6 4 7 4
MFG.	Smith
TYPE	F1.70D
SERIAL NO.	JLY7413
JETS (mm)	3 x 15
DEPTH OUT (m)	
DEPTH IN (m)	1396
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE

T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	T	R	P
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			
PVT			

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	CAD/RAM CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1396				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.14 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
46	HWDP	114	347.64 m
			m
			m
			m
			m
47	D.P.	STANDS	871.10 m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT.OFDC			24 1000 daN
WT.OFSTRING			66 1000 daN

BIT RECORD

BIT NO.	13
SIZE (mm)	222
IADC CODE	6 4 7 4
MFG.	Smith
TYPE	F1.70DR
SERIAL NO.	JLY7413
JETS (mm)	3 x 19
DEPTH OUT (m)	1413
DEPTH IN (m)	1396
TOTAL METRES DRILLED (m)	17
TOTAL HOURS RUN	5.25

CUTTING STRUCTURE

T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								3.3

HOLE DRAG	5000
TORQUE AT BOTTOM	3000 - 4000
FILL ON BOTTOM (m)	

MUD RECORD

TIME	11:00	13:30	16:00
DENSITY kg/m³	1290	1285	1290
FUNNEL VIS. - (S/L)	65	74	74
W.L. (cm³)	6.7	7.0	7.2
pH	10	10	10
PVT m³	38.0	37.9	36.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	7 25 x
Soda Ash	1 x
Caustic	1 x

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	CAD/RAM CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1396	1413	17	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11300	152	INT	152

DEPTH (m)	DEVIATION (°)	DIRECTION
35 m	60	
1395	.9	186.1
1397	.9	206.0

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.14 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
46	HWDP	114	347.64 m
			m
			m
			m
			m
47	D.P.	STANDS	871.10 m
X	D.P.	SINGLES	20.70 m
	KELLYDOWN		12.46 m
	TOTAL		1413.00 m
WT.OFDC			1000 daN
WT.OFSTRING			1000 daN

BIT RECORD

BIT NO.	13
SIZE (mm)	222
IADC CODE	6 4 7 4
MFG.	Smith
TYPE	F1.70DR
SERIAL NO.	JLY7413
JETS (mm)	3 x 19
DEPTH OUT (m)	1428
DEPTH IN (m)	1396
TOTAL METRES DRILLED (m)	32
TOTAL HOURS RUN	13.75

CUTTING STRUCTURE

T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								2.3

HOLE DRAG	5000
TORQUE AT BOTTOM	3000
FILL ON BOTTOM (m)	

MUD RECORD

TIME	17:30	20:00	23:00
DENSITY kg/m³	1290	1280	1280
FUNNEL VIS. - (S/L)	74	77	75
W.L. (cm³)	7.2	7.5	7.5
pH	10	10.5	10.5
PVT m³	37.0	36.0	34.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	CAD/RAM CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1413	1428	15	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11300	152	INT	152

DEPTH (m)	DEVIATION (°)	DIRECTION
3500	59	
1407	.4	203.0

FOLD HERE →

43399

DAILY CHECKS — OPR. — R.M.

TEMPERATURE °C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

SIZE	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

SCRP SIZE	MEAN MASS	GRADE	MIN % TOLERANCE	TYPE THREAD	NO OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

TOTALS

SCREENS CHANGED YES NO

TOP TOP MIDDLE MIDDLE BOTTOM BOTTOM

24

MUD RECORD

UNIT X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	BKD RMVR CORE C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1396				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	152		

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

DAY TOUR

MUD RECORD

UNIT X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	BKD RMVR CORE C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1396	1413	17	5	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11300	152		152

DEPTH (m)	DEVIATION (°)	DIRECTION
1395	.9	
1397	.9	

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

8:00	8:15	.25	20	TEST M.W.D.
8:15	9:15	1	1	RIH
9:15	10:30	.75	5	WASH TO BOTTOM (1377-1396)
10:30	12:45	2.25	2	DRILL F/1396 - 1413
12:45		.25	7	SURVEY
13:00	15:00	2	2	DRILL F/1413 -

NOTES

DAY TOUR

MUD RECORD

UNIT X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	BKD RMVR CORE C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1413	1428	15	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11300	152	152	152

DEPTH (m)	DEVIATION (°)	DIRECTION
1407	.5	

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

16:00	19:45	3¾	2	DRILL F/1413 - 1428
19:45	20:00	¼	7	S. SERVICE C/O UPPER PIPE RAMS 3hr
20:00	23:45	3¾	2	DRILL F/1428 - 1428
23:45	24:00	¼	10	SURVEY

NOTES

DRILLER SIGNATURE

BOILER — RES. RAM — STRUCTURE — MACHINERY — EXPERIENCED HOOKLOAD — SAFETY STOPCK

FOLD HERE →

143398

LICENCE NO. 1334 | WELL NAME AND NO. Paramount Fed Mount Cory 2-02

OPERATOR [illegible] | CONTRACTOR [illegible]

SURFACE LOCATION 7-12 | UNIQUE ID [illegible]

SIGNATURE OF OPERATOR'S REPRESENTATIVE | SIGNATURE OF CONTRACTOR'S RIG MANAGER [illegible]

DAILY CHECKS	OPR.	R.M.
1. Daily Work Area Inspection	Initial	Initial
2a. Derrick Inspection - Weekly Lacing / Pinpoints	Initial	Initial
3. H2S Signs Posted - If required	Initial	Initial
4. Wind Indicator & Work Daylight Posted	Initial	Initial
5. Flare Lines Staked	Initial	Initial
6. BOP Drills Performed	Initial	Initial
7. Visually Inspect BOP & Flowlines & Diagram Hung	Initial	Initial
1. Rig Site Hazard and Safety Meeting (each new shift)	Initial	
2. CAUDE - Rig Safety Inspection Checklist completed	Initial	
3. Mast Inspection (before Raising or Lowering)	Initial	
4. Crown Saver Checked	Initial	
5. Motor Kills Checked	Initial	

YEAR 11 MONTH | RIG NO. 51 | FUEL 5.00 | RIG 12 | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME ANALYSIS

OPER	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG.	
MORN						4½																
DAY																						
EVE.																						
TOTAL																						

MORNING TOUR

DRILLING ASSEMBLY

			.25 m
	DOUBLE		32.14 m
4	DC	171	37.20 m
	DC	171	5.06 m
3	DC	171	74.40 m
	X/O	168	.90 m
40	HWDP	114	364.53 m
			m
			m
			m
			m
			m
43	D.P.	STANDS	316.43 m
1	D.P.	SINGLES	4.57 m
	KELLYDOWN		3.82 m
	TOTAL		1349.85 m
WT. OF DC			28 1000 daN
WT. OF STRING			166 1000 daN

BIT RECORD

BIT NO.	12
SIZE (mm)	222
IADC CODE	[illegible]
MFG.	[illegible]
TYPE	[illegible]
SERIAL NO.	[illegible]
JETS (mm)	[illegible]
DEPTH OUT (m)	
DEPTH IN (m)	1346
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

HOLE DRAG: 5000

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DAILY MAKE CORRECTION	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1349				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Block

DAY TOUR

DRILLING ASSEMBLY

			.25 m
	Tools		32.14 m
4	DC	171	37.20 m
	Jar	171	5.06 m
3	DC	171	74.40 m
	X/O	168	.90 m
40	HWDP	114	364.53 m
			m
			m
			m
			m
			m
44	D.P.	STANDS	317.52 m
	D.P.	SINGLES	3.96 m
	KELLYDOWN		7.34 m
	TOTAL		1372 m
WT. OF DC			28 1000 daN
WT. OF STRING			97 1000 daN

BIT RECORD

BIT NO.	12
SIZE (mm)	222
IADC CODE	[illegible]
MFG.	[illegible]
TYPE	[illegible]
SERIAL NO.	[illegible]
JETS (mm)	[illegible]
DEPTH OUT (m)	[illegible]
DEPTH IN (m)	1349
TOTAL METRES DRILLED (m)	23
TOTAL HOURS RUN	[illegible]

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

									3.4

HOLE DRAG: [illegible]

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	[illegible]	[illegible]	[illegible]
DENSITY kg/m³	[illegible]	[illegible]	[illegible]
FUNNEL VIS. - (S/L)	[illegible]	[illegible]	[illegible]
W.L. (cm³)	[illegible]	[illegible]	[illegible]
pH	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

MUD MATERIALS USED

PRODUCT	AMOUNT X UNIT
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DAILY MAKE CORRECTION	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1349	1372	23	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11 [illegible]	152	152	11

2500 | 50

DEPTH (m)	DEVIATION (°)	DIRECTION
1304	.5	240.4
1353	.6	312.5

[illegible]

EVENING TOUR

DRILLING ASSEMBLY

			.25 m
	Tools		32.14 m
4	DC	171	37.20 m
	Jar	171	5.06 m
9	DC	171	74.40 m
	X/O	168	.90 m
40	HWDP	114	364.53 m
			m
			m
			m
			m
			m
45	D.P.	STANDS	357.17 m
X	D.P.	SINGLES	9.51 m
	KELLYDOWN		12.46 m
	TOTAL		1394.21 m
WT. OF DC			28 1000 daN
WT. OF STRING			97 1000 daN

BIT RECORD

BIT NO.	12
SIZE (mm)	222
IADC CODE	[illegible]
MFG.	[illegible]
TYPE	[illegible]
SERIAL NO.	[illegible]
JETS (mm)	[illegible]
DEPTH OUT (m)	1394
DEPTH IN (m)	1372
TOTAL METRES DRILLED (m)	22
TOTAL HOURS RUN	14.4

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

									33

HOLE DRAG: [illegible]

TORQUE AT BOTTOM: [illegible]

FILL ON BOTTOM (m)

MUD RECORD

TIME	17.30	[illegible]	1300
DENSITY kg/m³	1330	1280	1280
FUNNEL VIS. - (S/L)	69	[illegible]	65
W.L. (cm³)	9.6	[illegible]	7.5
pH	10	[illegible]	10.5
[illegible]	36.6	[illegible]	[illegible]

MUD MATERIALS USED

PRODUCT	AMOUNT X UNIT
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1	1330	1160	1243

METRES DRILLED

FROM	TO	DAILY MAKE CORRECTION	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1372	1396	24	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10 [illegible]	152	115	152

2500 | 50

DEPTH (m)	DEVIATION (°)	DIRECTION
1312	.3	336.4
1372	.6	147.3
1381	.9	206.7

DRILLER

Todd Block

FOLD HERE →

43398

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	initial	initial
(2) Derrick Inspection Weekly (Yearly) Checklist	initial	initial
(3) H²S Signs Posted (if required)	initial	initial
(4) Well Licence & Stick Diagram Posted	initial	initial
(5) Flare Lines Staked	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually Inspect BOP's - Flanges & Gaskets Leaks	initial	initial
(1) Rig Site Health and Safety Meeting (once-crew-month)		initial
(2) C.A.G.D.C. Rig Safety Inspection Checklist (once/month)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motion Kills Checked		initial

YEAR | MONTH | DAY

RIG NO. 54

FUEL @ 8:00

HRS | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING / TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG
		1/4	[illegible]
		[illegible]	[illegible]
		1/4	[illegible]

TOTALS: 24

SHALE SHAKER(S)

NO. [illegible] TYPE [illegible] 500's

SCREENS CHANGED ☐ YES ☐ NO

TOP [illegible] TOP [illegible]

MIDDLE [illegible] MIDDLE [illegible]

BOTTOM [illegible] BOTTOM [illegible]

RENTALS SERVICES

MD - 5734

AMS - 301628

MORNING TOUR

MUD RECORD

[illegible]

METRES DRILLED

FROM	TO	DRLG MWD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1349				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
		152	

REDUCED SPEED

DEPTH (m) | DEVIATION (°) | DIRECTION

[illegible]

TIME LOG

0	0930	1½	6
0930	0[illegible]	13½	22
0[illegible]	0[illegible]	½	7
330	[illegible]	½	6
[illegible]	[illegible]	1½	20
[illegible]	[illegible]	¾	2
[illegible]	[illegible]	¼	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Trip for Bit

Hook in tools, [illegible]

R/U service clu 3 la/rams

R/H

T/S - MWD

RT H - [illegible]

[illegible]

R/U - Flo - Line to Mud Pumps - Circulate

[illegible]

Function Test Diverter, Close Remote Choke

Loaded Block

MUD RECORD

[illegible]

MOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

MUD RECORD

1200	1300	1300
80	1285	[illegible]
73	69	72
9	7.5	[illegible]
10	10	10
36.8	37.1	37.6

SOLIDS CONTROL

MOUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1	SK			
2	SX			
3	SK			
4	SX			
5	[illegible]			
6	25X			

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG MWD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1349	1372	23	5	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
[illegible]	[illegible]	[illegible]	115

REDUCED SPEED

[illegible]

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1304	[illegible]	[illegible]
1358	.6	312.5

TIME LOG

[illegible]	[illegible]	[illegible]	5
[illegible]	[illegible]	[illegible]	2
[illegible]	11[illegible]	[illegible]	7
11[illegible]	1[illegible]	[illegible]	3
[illegible]	[illegible]	[illegible]	[illegible]

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

[illegible] CIRC WASH TO BOTTOM

DRILL F/1304 - 1350

[illegible] SERVICE F. [illegible] - [illegible] 1 2SPP

DRILL F/1350 - 1372

[illegible]

NOTES

[illegible]

[illegible]

DRILLER SIGNATURE

[illegible]

BOILER | HRS RAN | STACK TEMP | PREFERENCED HOOKLOAD | SPEED TO POWER

5 | 15 | 420 | 72 | FOOTAGE READING 2747

EVENING TOUR

MUD RECORD

1730	2000	2300
300	1280	1280
69	65	65
7.6	7.5	7.5
0	.5	10.5
38.0	37.1	35.2

SOLIDS CONTROL

MOUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1	3X			
2	5SK			

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1	1320	1180	1320

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG MWD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1372	1396	24	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10700	152	115	152

REDUCED SPEED

2600 @ [illegible] [illegible] @ 50

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1372	.7	336.4
1372	.6	149.3
1391	.1	201.9

TIME LOG

1400	1745	1¾	2
17[illegible]	1[illegible]	[illegible]	7
1[illegible]	2349	1¼	2
2349	2400	¼	10

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

DRILL F/1372 - 1377

R/S SERVICE, A/C HOSE ISSUE J 2SPP

DRILL F/1377 - 1396

Total Surveys.

NOTES

[illegible]

[illegible] Day Boiler

DRILLER SIGNATURE

[illegible]

BOILER | HRS RAN | STACK TEMP | PREFERENCED HOOKLOAD | SPEED TO POWER

FOLD HERE →

143397

LICENCE NO.: 1334

WELL NAME AND NO.: 10-2 Tourmont et al Ft. St. John-City I-02

OPERATOR: Pure Energy Resources Ltd.

CONTRACTOR: Precision Drilling Co.

SURFACE LOCATION: I-02

UNIQUE ID.: 100/I-02-083-14W6/3300

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) HPS Signs Posted (if required)	Initial	Initial
(4) Well License & Sour D.agram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect dOP's - Flares, & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C A O D C Rig Safety Inspection Checklist (one/mo/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills chkoued		Initial

YEAR | MONTH | DAY

RIG NO

FUEL 8:00

PUMP 358 | BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME HRS

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
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG		
MORN.		3¼			1	2¼	¼														¼		
DAY		2			¾	3	¾			¾										¾	2½		
EVE.		6¼			¼	1¼	¼																
TOTAL		10¾			2¼	7	1¼			¾										¾	3¾		

DRILLING ASSEMBLY (At End of Tour)

	Bit Sub		.35 m
	Tools		32.14 m
11	DC	171	37.20 m
	Jar	171	6.06 m
3	DC	171	74.40 m
	X/O	168	.30 m
40	HWDP	114	36.13 m
			m
			m
			m
			m
12	D.P.	STANDS	747.37 m
	D.P.	SINGLES	m
	KELLY DOWN		10.34 m
	TOTAL		1329.39 m
WT. OF DC		79	1000 daN
WT. OF STRING		65	1000 daN

BIT RECORD

BIT NO.	10
SIZE (mm)	222
IADC CODE	7 4 7
MFG.	Hughes
TYPE	ATJ-22RD
SERIAL NO.	136X3
JETS (mm)	3X 19
DEPTH OUT (m)	1327
DEPTH IN (m)	1291
TOTAL METRES DRILLED (m)	41.0
TOTAL HOURS RUN	19

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

									2.1

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	5400
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME	0400
DENSITY kg/m³	1300
FUNNEL VIS. - (S/L)	77
W.L. (cm³)	9.2
pH	10
PV/YP	29/7

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Soda Ash	2 X
Flocc	
Lignite	
Pac	

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1			2216

MORNING TOUR

METRES DRILLED

FROM	TO	GRD. MTR. CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1320	1327	7	50	35

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10800	152		152	114

2500		30	50

DEPTH (m)	DEVIATION (°)	DIRECTION
1305	.9	265

Todd Block

DRILLING ASSEMBLY (At End of Tour)

	Bit Sub		.35 m
	Tools		32.14 m
11	DC	171	37.20 m
	Jar	171	6.06 m
2	DC	171	74.46 m
	X/O	168	.30 m
40	HWDP	114	36.13 m
			m
			m
			m
			m
42	D.P.	STANDS	797.37 m
	D.P.	SINGLES	9.57 m
	KELLY DOWN		7.12 m
	TOTAL		1334 m
WT. OF DC		28	1000 daN
WT. OF STRING		66	1000 daN

BIT RECORD

BIT NO.	11
SIZE (mm)	222
IADC CODE	4 4 7 4
MFG.	Hughes
TYPE	J67
SERIAL NO.	LX 1791
JETS (mm)	3 X 19
DEPTH OUT (m)	1319
DEPTH IN (m)	1312
TOTAL METRES DRILLED (m)	7
TOTAL HOURS RUN	2

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

									3.5

HOLE CONDITION

HOLE DRAG	5700
TORQUE AT BOTTOM	4700
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME	14.00	18.00
DENSITY kg/m³	1300	1330
FUNNEL VIS. (S/L)	72	72
W.L. (cm³)	7.5	7.5
pH	10	10
PV/YP	29/7	29/8

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	GRD. MTR. CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1327	1334	7	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11150	152		152	114

2500			50

DEPTH (m)	DEVIATION (°)	DIRECTION
1315	.7	263.5

DRILLING ASSEMBLY (At End of Tour)

	Bit Sub		.35 m
	Tools		32.14 m
11	DC	171	37.20 m
	Jar	171	6.06 m
3	DC	171	74.46 m
	X/O	168	.30 m
40	HWDP	114	36.13 m
			m
			m
			m
			m
43	D.P.	STANDS	816.44 m
1	D.P.	SINGLES	1.57 m
	KELLY DOWN		7.12 m
	TOTAL		1334.55 m
WT. OF DC		28	1000 daN
WT. OF STRING		66	1000 daN

BIT RECORD

BIT NO.	11
SIZE (mm)	222
IADC CODE	4 4 7 4
MFG.	Hughes
TYPE	J67
SERIAL NO.	LX 1791
JETS (mm)	3 X 19
DEPTH OUT (m)	1334
DEPTH IN (m)	1327
TOTAL METRES DRILLED (m)	7
TOTAL HOURS RUN	7¼

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

									3

HOLE CONDITION

HOLE DRAG	5700
TORQUE AT BOTTOM	4700
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME	1800	
DENSITY kg/m³	1330	
FUNNEL VIS. - (S/L)	72	
W.L. (cm³)	7.5	
pH	10.0	
PV/YP	29/7	29/8.1

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	GRD. MTR. CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1334	1339	15	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10800	152		152	114

2500			50

DEPTH (m)	DEVIATION (°)	DIRECTION
1334	.7	262.7
1339	.7	238.4

DRILLER'S SIGNATURE

FOLD HERE →

3397

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial ____ / Initial ____
(2) Detailed Inspection Weekly (using checklist) — Initial ____ / Initial ____
(3) H²S Sig. a Posted (if required) — Initial ____ / Initial ____
(4) Well Licenses & Stick Diagram Posted — Initial ____ / Initial ____
(5) Flare Lines Staked — Initial ____ / Initial ____
(6) BOP Drills Performed — Initial ____ / Initial ____
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial ____ / Initial ____

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial ____
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial ____
(3) Mast Inspection Before Raising or Lowering — Initial ____
(4) Crown Saver Checked — Initial ____
(5) Motor Kills checked — Initial ____

YEAR | MONTH | DAY

RIG NO. 1

FUEL @ 8:00

RIG 7R-58 | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
244.5	226	59.7	Dalmo	J-55	57	1340.12	5.0	1341

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
171	125		82	171	5½FH	12	5-P-80	National	216
114 HW	52.45		65.3	158	4½XH	53	3-P-80	National	216
114 DP	24.77	E	92	158	4½XH	250			

	FISHING	DIR. WORK	SAFETY MTG.	
				Rig Service
		.25		2.5
		¼		Trip ¼

SHALE SHAKER(S) — **RENTALS SERVICES**

TOTALS: 3 / 3 / 24

	SHALE SHAKER(S)	RENTALS SERVICES
NO.	2 TYPE Brandt	Ajax 246980
SCREENS CHANGED	☑ YES ☐ NO	MJ 986
TOP	TOP	
MIDDLE	MIDDLE	
BOTTOM	BOTTOM	

MORNING TOUR

MUD RECORD

NT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
X				
<	1	200		2610
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILLED / CORED	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1320	1327	7	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10800	152	152	115

7500		30	50

DEPTH (m)	DEVIATION (°)	DIRECTION
1305	.9	265.0

Tool Block

TIME LOG

FROM	TO	HRS	CODE
0	0¹⁵	¼	7
0¹⁵	0³³⁰	3¼	2
0³³⁰	0⁴³⁰	1	5
0⁴³⁰	0⁷⁴⁵	3¼	6
0⁷⁴⁵	2⁸⁵⁰	2	12
2⁸⁵⁰	3⁰⁰	¼	7

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Rig Service c/o Lower Pipe Rams, VRS
Drill F/ 1320 - 1327
Circ & Bottoms up sample
POOH For Bit #10 FCO 320. 1214.746 SN BG
Handle tools ONBAR

TMV 5.07
TCV 5.57
DIFF .1

NOTES: VC Crown Saver, Drilling Anchors, Brakes & Linkages, Func Remote Choke
Blow Down Boiler W/ Tool Pusher

8 | 11 | 470°

DAY TOUR

MUD RECORD

0	18:00		
0	1280		
	73		
	7.5		
	10		
	34.0		

NT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILLED / CORED	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1327	1334	7	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11150	152	152	115

2600			51

DEPTH (m)	DEVIATION (°)	DIRECTION
1315	.7	212.5

TIME LOG

FROM	TO	HRS	CODE
6³⁰	10³⁰	2.5	22
10³⁰	11¹⁵	.75	6
11¹⁵	11³⁰	.25	20
11³⁰	12⁴⁵	1.25	4
12⁴⁵	13³	.75	5
13³⁰	14³⁰	1	2
14³⁰	14⁴⁵	.25	7
14⁴⁵	15⁴⁵	1	2
15⁴⁵	16³⁰	.75	4

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Install Trip Tank, Mix Mud & Rollers, Function Rams, BOP Drill
R.S.M.
Check Mud Tank
R.I.H.
Break Circ & Wash to Btm Drill F/1332-1334
Drill F/1327-1330
Rig Service Function Test Diverter & BOP
Drill F/1330 - 1334
Trip Out

NOTES: Water Well Sampling & Monitoring Analysis, Drilling Chemicals
Function Test Mast Circ Pit Blow Down Choke Manifold

8 | 11 | 470 | 71 | 2848

EVENING TOUR

MUD RECORD

0			
0.2			
F			

NT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILLED / CORED	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1334	1349	15	50	32

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10830	152	152	115

2500			50

DEPTH (m)	DEVIATION (°)	DIRECTION
1334	.7	347.7
1334	.7	288.4

TIME LOG

FROM	TO	HRS	CODE
16³⁰	21⁴⁵	5¼	2
21¾	22⁰⁰	3/4	5
22⁰⁰	22¹⁵	¼	7
22¹⁵	24⁰⁰	1¾	6

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Drill F/1334 - 1349
Circ & Btm up sample.
Rig Service
Trip for Bit FCO 1345. 12¼ 775 SN 150908

TMV 8.42
TCV 8.68
DIFF .26

NOTES: VC Crown Saver, Drilling Anchors, Brakes & Linkages, Func Remote Choke
Blow Down Boiler W/ DOL

DRILLER'S SIGNATURE

BOILER: HRS RUN | SMOKE

5 | 11

2147

143396

FOLD HERE →

LICENCE NO.: 1884

WELL NAME AND NO.: PARAMOUNT ETAL MOUNT COTY I 02

OPERATOR: PARAMOUNT RESOURCES LTD

CONTRACTOR: ALTA DRLG LTD

SURFACE LOCATION: I-02

UNIQUE ID.: 200 102 (02 011)3300

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	initial	initial
(2) Derrickad Inspection-Weekly (using checklist)	initial	initial
(3) HPS Signs Posted (if required)	initial	initial
(4) Well Licensee & Stick Diagram Posted	initial	initial
(5) Flare Lines Staked	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually inspect BOP's - Flanges & Degasser Lines	initial	initial
(1) Rig Site Health and Safety Meeting (minimum/month)		initial
(2) C.A.O.D.C. Rig Safety Inspection (Inspector (ensuring/monthly)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motor Kills checked		initial

YEAR 20 | MONTH 11 | DAY 8

RIG NO. 51

FUEL 8.00

RIG 7632 | BOILER

TEMPERATURE

CURRENT CONDITIONS

WIND DIRECTION

ROAD

TIME - HRS

CODE NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P	TEST B.O.P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
	MORN.		3/4			1	13/4	1/4		3/4											1/4		3 1/4
	DAY		7.5					.25			.25												
	EVE.		1/2					.25			1/4												
	TOTAL		8 1/4			1	1 3/4	3/4		3/4	1/2										1/4		3 1/4

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.84 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
34	D.P.	STANDS	740.47 m
X	D.P.	SINGLES	9.50 m
	KELLYDOWN		12.96 m
	TOTAL		1283.81 m

WT. OF DC: 1000 daN

WT. OF STRING: 1000 daN

BIT RECORD

BIT NO.	10
SIZE (mm)	222
IADC CODE	7 4 7
MFG.	Hughes
TYPE	ATJ-22D
SERIAL NO.	126XB
JETS (mm)	3 x 14
DEPTH OUT (m)	
DEPTH IN (m)	1281
TOTAL METRES DRILLED (m)	2.5 !
TOTAL HOURS RUN	3/4

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLG FROM CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1281	BIT	1	50	20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10700	172	115		

DEPTH (m)	DEVIATION (°)	DIRECTION

Scott Block

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.84 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
34	D.P.	STANDS	740.47 m
X	D.P.	SINGLES	9.50 m
	KELLYDOWN		12.96 m
	TOTAL		1283.81 m

WT. OF DC: 28 1000 daN

WT. OF STRING: 65 1000 daN

BIT RECORD

BIT NO.	10
SIZE (mm)	222
IADC CODE	7 4 7
MFG.	Hughes
TYPE	ATJ-22D
SERIAL NO.	Y26XE
JETS (mm)	3 x 14
DEPTH OUT (m)	
DEPTH IN (m)	1281
TOTAL METRES DRILLED (m)	2.5
TOTAL HOURS RUN	3/4

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								3.4

HOLE CONDITION

HOLE DRAG: SLOW ↓

TORQUE AT BOTTOM: 4200

FILL ON BOTTOM (m)

MUD RECORD

TIME	08:00	11:00	15:00
DENSITY kg/m³	1275	1285	1290
FUNNEL VIS. - (S/L)	75	76	74
W.L. (cm³)	6.5	7.0	7.0
pH	9.0	10	10
KCl	34.1	36.3	37.3

PRODUCT	AMOUNT X UNIT
Caustic	1 SK
	1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLG FROM CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1282	1301	19	[illegible]	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11200	152	105	152	

3700 | 60

DEPTH (m)	DEVIATION (°)	DIRECTION
1301	.5	57.2

Scott Block

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.84 m
4	DC	171	37.20 m
	Jar	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
41	D.P.	STANDS	715.70 m
X	D.P.	SINGLES	4.11 m
	KELLYDOWN		12.96 m
	TOTAL		1320.81 m

WT. OF DC: 28 1000 daN

WT. OF STRING: 65 1000 daN

BIT RECORD

BIT NO.	10
SIZE (mm)	222
IADC CODE	7 4 7
MFG.	Hughes
TYPE	ATJ-22D
SERIAL NO.	Y26XE
JETS (mm)	3 x 14
DEPTH OUT (m)	
DEPTH IN (m)	1281
TOTAL METRES DRILLED (m)	39
TOTAL HOURS RUN	15 3/4

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								2.5

HOLE CONDITION

HOLE DRAG: 5000

TORQUE AT BOTTOM: 4000

FILL ON BOTTOM (m)

MUD RECORD

TIME	18:00	[illegible]	2:00
DENSITY kg/m³	1290	[illegible]	1290
FUNNEL VIS. - (S/L)	75	[illegible]	75
W.L. (cm³)	7.5	[illegible]	8.0
pH	10	10.0	10.5
	36.9	41.1	41.4

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLG FROM CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1301	1320	19	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10900	152		152	115

21.0 | 60

DEPTH (m)	DEVIATION (°)	DIRECTION
1301	.7	57.2
1296	.5	54.6

Scott Block

FOLD HERE →

143396

DAILY CHECKS	OPR.	R.M.
(1) Daily Work Around Inspection	initial	initial
(2) Onboard Inspection-Weekly safety checklist	initial	initial
(3) HPS Signs Posted at requirements	initial	initial
(4) Well Licenses & Stack Diagram Posted	initial	initial
(5) Flare Lines Staked	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	initial	initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motor Kills checked		initial

YEAR 19[illegible] MONTH 11 DAY 24

RIG NO 51

FUEL @ 8:00

RIG [illegible] BOILER

	TEMPERATURE °C
	CURRENT CONDITIONS
	WIND DIRECTION
	ROAD

LAST CASING / TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
	[illegible]	224	[illegible]	[illegible]	[illegible]	34	514.12	5.0	[illegible]

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
171	166		62	171	5 1/2 FH	12	SP-80	NATIONAL	216
114	62.46		44.5	171	4 1/2 IH	53	6-12 S	NATIONAL	216
114	29.77	GRADE	92	116	4 1/2 FH	240			

BJ'S	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	[illegible]
			1/4	3 1/4	
			1/4	3/4	

TOTALS: 8 / 3 / 3 / 24

SHALE SHAKER'S — No. [illegible] TYPE [illegible]

SCREENS CHANGED ☑ YES ☐ NO

TOP [illegible] TOP [illegible]

MIDDLE [illegible] MIDDLE [illegible]

BOTTOM [illegible] BOTTOM [illegible]

RENTALS SERVICES

BAJ - 6199

AMJ - 24-5364

MUD RECORD

AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1231	1241	1	5[illegible]	20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10700	152	115		

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER'S SIGNATURE: Sandi Block

TIME LOG

0	03[illegible]	3 [illegible]		[illegible] tools change out D motor & Roller Reamers
[illegible]	[illegible]	[illegible]	3	RIG Service C/O Blind Rams
03:30	4:05	3/4	6	RIH W/ Bit #10.
04:05	04:30	1/4	20	Tag + Ream WD
04:30	5:15	3/4	9	Slip & Cut 19m
05:15	06:15	1	6	RIH
06:15	07:15	1	5	Break Circ Work to Btm
07:15	09:00	3/4	2	Drill 1291-1282

NOTES: Crown Saver, Drill Line Anchors, Brakes & Linkages, Func Remote Choke, Slow Down Saver 4X = 80L

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

MORNING TOUR

MUD RECORD

8:00	11:00	15:00
1275	1285	1290
75	76	74
6.5	7.0	7.0
9.0	10	10
34.1	36.3	37.3

AMOUNT X UNIT: 1 SK; 1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1272	1301	29	[illegible]	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11200	152	115	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
1[illegible]	[illegible]	[illegible]

DRILLER'S SIGNATURE: Sandi Block

TIME LOG

8[illegible]	8[illegible]	.3[illegible]	7	RIG SERVICE, Functi... UPR & KELLY Cock ✓ RSPP
8:15	15[illegible]	.75	2	DRILL F/1282-1301
15[illegible]	16[illegible]	.25	10	SURVEY
				REAMED FROM + BROKE
				[illegible]

NOTES: [illegible] Crown Saver, Drill Line Anchors, Brakes & Linkages, Func Remote Choke, Slow Down Saver 4X = 80L

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

DAY TOUR

8 | 11 | 450 | 70 | 3747

MUD RECORD

1800	[illegible]:00	[illegible]:00
1290	[illegible]	1270
75	[illegible]7	73
7.5	[illegible].5	8.0
10	10.0	10.5
36.8	[illegible].7	[illegible].4

AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1301	1320	19	50	32

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10800	152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION
13[illegible]	[illegible]	[illegible]
1296	.5	59.6

DRILLER'S SIGNATURE: Sandi Block

TIME LOG

1[illegible]	16[illegible]	.[illegible]	7	RIG SERVICE, Functi... UPPER KELLY COCK, & RSPP
16[illegible]	23[illegible]	7/12	2	Dr. 11 = 1301 - 1320
23[illegible]	2400	1/4	10	Total Surveys

NOTES: [illegible] Crown Saver, Drill Line Anchors, Brakes & Linkages, Func Remote Choke, Slow Down Saver 4X = 80L

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

EVENING TOUR

N | 11 | 480 | 2795

FOLD HERE →

143395

LICENCE NO.: 1854
WELL NAME AND NO.: PARAMOUNT ET AL MOUNT COTY I-02
OPERATOR: PARAMOUNT RES 1-0
CONTRACTOR: AKITA DRG 1-0
SURFACE LOCATION: 1-07
UNIQUE ID.: 300102007 011 23300
SIGNATURE OF OPERATOR'S REPRESENTATIVE:
SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	initial	initial
(2) Detailed Inspection-Weekly (using checklist)	initial	initial
(3) H²S Signs Posted (if required)	initial	initial
(4) Well Licensee & Stick Diagram Posted	initial	initial
(5) Flare Lines Seared	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	initial	initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motor Kills checked		initial

YEAR | MONTH
RIG NO: 51
FUEL = 8 00
RIG | BOILER
WEATHER TIME: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME HRS — CODE NO

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.		7½					¼			¼												
DAY		7¼					¼			¼											¼	
EVE.					1																	
TOTAL		17.5			1		.7			.5											.5	

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.10 m
41	DC	171	37.20 m
1	Jars	171	6.06 m
8	DC	171	74.40 m
1	X/O	168	.90 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
39	D.P.	STANDS	740.47 m
	D.P.	SINGLES	m
	KELLYDOWN		5.59 m
	TOTAL		1266.0 m
WT. OF DC		25	1000 daN
WT. OF STRING		62	1000 daN

BIT RECORD

BIT NO.	4
SIZE (mm)	222
IADC CODE	7 3 7
MFG.	HUGHES
TYPE	ATJ-5770
SERIAL NO.	G20ZW
JETS (mm)	3 X 19
DEPTH OUT (m)	
DEPTH IN (m)	1249
TOTAL METRES DRILLED (m)	19
TOTAL HOURS RUN	10¾

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE DRAG	2-3000
TORQUE AT BOTTOM	1866
FILL ON BOTTOM (m)	

MUD RECORD

TIME	0100	03:00	0600
DENSITY kg/m³	1310	1290	1290
FUNNEL VIS. - (S/L)	75	75	71
W.L. (cm³)	6.0	6.5	6.3
pH	7.5	10.5	10.5
F.V.T	30.0	31.2	31.7

PRODUCT	AMOUNT X UNIT
Gel	5 SAXO
Caustic	1 SAXO
BERITE	35SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
3	1340	1160	1510

DAY TOUR

METRES DRILLED

FROM	TO	CORE/BBR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1254	1266	12	45	35

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10590	152	115	152	

3600 | 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1248	.3	116.9

1266 C/O

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.10 m
4	DC	171	37.20 m
	Jars	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.90 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
39	D.P.	STANDS	740.47 m
X	D.P.	SINGLES	9.50 m
	KELLYDOWN		6.36 m
	TOTAL		1276.29 m
WT. OF DC		28	1000 daN
WT. OF STRING		63	1000 daN

BIT RECORD

BIT NO.	4
SIZE (mm)	222
IADC CODE	7 3 7
MFG.	Hughes
TYPE	ATJ-5770
SERIAL NO.	G20ZW
JETS (mm)	3 X 19
DEPTH OUT (m)	
DEPTH IN (m)	1248
TOTAL METRES DRILLED (m)	28
TOTAL HOURS RUN	18

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 1.6

HOLE DRAG	2-3000
TORQUE AT BOTTOM	2503
FILL ON BOTTOM (m)	

MUD RECORD

TIME	0900	12:00	15:00
DENSITY kg/m³	1280	1280	1285
FUNNEL VIS. - (S/L)	67	70	75
W.L. (cm³)	6.5	6.5	6.0
pH	10.5	10	10
F.V.T	32.9	33.0	35.0

PRODUCT	AMOUNT X UNIT
GEL	10 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	CORE/BBR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1266	1276	10	45	30

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10600	152	115	152	

4000 | 59

DEPTH (m)	DEVIATION (°)	DIRECTION
1258	.5	106.8

Tool Stuck

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.10 m
4	DC	171	37.20 m
	Jars	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.90 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
39	D.P.	STANDS	740.47 m
X	D.P.	SINGLES	9.50 m
	KELLYDOWN		11.66 m
	TOTAL		1281.57 m
WT. OF DC		28	1000 daN
WT. OF STRING		63	1000 daN

BIT RECORD

BIT NO.	4
SIZE (mm)	222
IADC CODE	7 3 7
MFG.	Hughes
TYPE	ATJ-5770
SERIAL NO.	G20ZW
JETS (mm)	3 X 19
DEPTH OUT (m)	1273
DEPTH IN (m)	1248
TOTAL METRES DRILLED (m)	33
TOTAL HOURS RUN	22.5

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 1.6

HOLE DRAG	3000
TORQUE AT BOTTOM	2200
FILL ON BOTTOM (m)	

MUD RECORD

TIME	18:00	1:00	
DENSITY kg/m³	1285	1290	
FUNNEL VIS. - (S/L)	77	76	
W.L. (cm³)	6.5	6.0	
pH	10	10.5	
PVT	35.7	37.7	

PRODUCT	AMOUNT X UNIT
Caustic	1 SK
BARITE	15 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	CORE/BBR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1276	1281	5	40	35

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10700	152	115	152	

3900 | 59

DEPTH (m)	DEVIATION (°)	DIRECTION
1266	.4	52.7

Tool Stuck

FOLD HERE →

3395

DAILY CHECKS	OPR.	R.M
(1) Daily Visual Accurate Inspection		
(2) Detailed Inspection Monthly (and by Unit Use)		
(3) PTS Signs Posted at Wellsite		
(4) Well Location & Sour Diagram Posted		
(5) Forms on Hand (Spare)		
(6) BOP Drills Performed		
(7) Visually Inspect BOP's, Flowlines & Diagram Lines		
(1) Rig Site Health and Safety Meeting (Crew/month)		
(2) C.A.O.D.C. Rig Safety Inspection Checklist (Crew/month)		
(3) Mast Inspection Before Raising or Lowering		
(4) Crown Saver Checked		
(5) Motor Runs (Hours)		

DAY / MONTH / YEAR

RIG NO.

FUEL @ 8:00

KM's / BOILER #

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

	FISHING	DR WORK	SAFETY MTG

TOTALS

SHALE SHAKERS: NO | TYPE | DRY | SCR

SCREENS CHANGED YES NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS

MS:

MWS:

MORNING TOUR

MUD RECORD

03:00	0600
1290	1255
75	71
6.5	6.5
10.5	10.5
31.2	31.7

NT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
X40				
X40				
X				
	8	1346	1112	2210
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILLING HOURS CORR'D	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1154	1266	12	45	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10540	152	115	152

3600 | 59

DEPTH (m)	DEVIATION (°)	DIRECTION
1248	.3	116.9

TIME LOG

0001	0330	3½	2	DRILL F/1154 TO 1266
0330	0400	½	7	K.SERV FUNCTION RAMS
0400	0515	1¼	11	SURVEY
0515	0600	¾	2	DRILL F/1266 - 1266

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES: ✓ SPARKS FULL DRAWWORKS BRAKES, BRAKES & LINKAGES, FLUID RESERVOIR

BLEW DOWN BOTH FR 4X708 = 908

LACK — 8 | 1.5 | 440 | ESTD | 2748

DAY TOUR

MUD RECORD

12:00	15:00
1280	1285
70	75
6.5	6.0
10	10
33.3	35.0

NT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
5X				
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILLING HOURS CORR'D	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1266	1276	10	45	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10600	152	115	152

4000 | 59

DEPTH (m)	DEVIATION (°)	DIRECTION
1258	.5	106.3

TIME LOG

0600	1330	5½	2	DRILL F/1266 - 1273 ~~CIRC~~ ~~SURVEY~~
1330	1345	¼	7	K. SERVICE C/O UPPER PIPE RAMS
1345	1400	¼	22	30° DRILL
1400	1545	1¼	2	DRILL F/1273 - 1276
1545	1600	¼	10	TOOL SURVEY

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES: CROWN SAVER, DRILLING ANNULUS, BLEED OFF LINES, FLOW, REMOTE CHOKE

BLEW DOWN 3 LINES 4X.084

Jabek Khan — 8 | 11 | 1130 | 2747

EVENING TOUR

MUD RECORD

1600	1900
1285	1290
72	72
6.0	6.0
10.2	10.2
34.7	34.7

NT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
X				
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILLING HOURS CORR'D	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1276	1291	5	45	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
10700	152	115	152

3900 | 58

DEPTH (m)	DEVIATION (°)	DIRECTION
	.4	92.1

TIME LOG

1600	1830	2½	2	DRILL F/1276 - 1291
1830	1900	½	22	R.S.P. DRILL WELL ~~CIRC~~ EDRI 70 SEC
1900	1930	.5	5	CIRC
1930	1945	.25	5	REPAIR RSPP SENSOR
1945	2000	.25	5	CIRC & RSPP
2000	2030	.5	7	PUMP SWIVEL PACKING & WASH PIPE
2030	2100	.5	10	PUMP 2 BBL HI-VIS, 20 BBL WATER &
2100	2330	2½	23	DRILLING

FV .72
CV 3.36
DIFF .36

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES: CROWN SAVER, DRILLING ANNULUS, BLEED OFF LINES, FLOW, REMOTE CHOKE

BLEW DOWN BOTH 3 LINES 4X.084

8 | 11 | 2115 | 2747

143394

FOLD HERE →

LICENCE NO.: 1884
WELL NAME AND NO.: PARAMOUNT-F-AI MOUNT CITY I-02
OPERATOR: PARAMOUNT RES I-D
CONTRACTOR: HORIZON DRLG
SURFACE LOCATION: I-02
UNIQUE ID.: 100/12-02-011-23W1
SIGNATURE OF OPERATOR'S REPRESENTATIVE:
SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS (OPR. / R.M.)
(1) Daily Walk Around Inspection
(2) Detailed Inspection-Weekly (using checklist)
(3) H²S Signs Posted (if required)
(4) Well Licensee & Stick Diagram Posted
(5) Flare Lines Staked
(6) BOP Drills Performed
(7) Visually Inspect BOP's - Flarelines & Degasser Lines
(1) Rig Site Health and Safety Meeting (one/crew/month)
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)
(3) Mast Inspection Before Raising or Lowering
(4) Crown Saver Checked
(5) Motor Kills checked

YEAR 2012 | MONTH 11 | DAY 6
RIG NO 51
FUEL @ 8:00
RIG | BOILER
WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME-HRS — CODE NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
	MORN.		7½								¼												
	DAY		11½			½	½	½			¼										½	1	
	EVE.																						
	TOTAL																						

DRILLING ASSEMBLY (At End of Tour)

			25 m
	Tools		32.14 m
4	DC	171	37.20 m
1	Subs	171	6.06 m
8	DC	171	74.40 m
1	X/O	168	.80 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
37	D.P.	STANDS	709.07 m
X	D.P.	SINGLES	4.60 m
	KELLY DOWN		11.39 m
	TOTAL		1243.00 m
WT. OF DC		28	1000 daN
WT. OF STRING		68	1000 daN

BIT RECORD

BIT NO.	8
SIZE (mm)	222
IADC CODE	7 3 7 Y
MFG.	SMITH
TYPE	F70B
SERIAL NO.	L55686
JETS (mm)	3 x 19
DEPTH OUT (m)	RUN
DEPTH IN (m)	1183
TOTAL METRES DRILLED (m)	~~54~~ 60
TOTAL HOURS RUN	15 ¾

CUTTING STRUCTURE: T, T₀, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	02:00	04:00	
DENSITY kg/m³	1300	1300	
FUNNEL VIS. - (S/L)	75	75	
W.L. (cm³)	6.0	5.0	
pH	10.0	10.5	
PVT	32.5	33.1	

PRODUCT	AMOUNT X UNIT
Gel	5 sks
Caustic	1 sks

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1206	1183	25	45	33

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
13710	152	115	115	

DEPTH (m)	DEVIATION (°)	DIRECTION
4140	60	
1200	Mud Trouble at Surface	
1210		

DRILLING ASSEMBLY (At End of Tour)

			25 m
	Tools		32.14 m
11	DC	171	37.20 m
	Subs	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	114	366.13 m
			m
			m
			m
			m
38	D.P.	STANDS	721.30 m
	D.P.	SINGLES	m
	KELLY DOWN		7.18 m
	TOTAL		1248.42 m
WT. OF DC		28	1000 daN
WT. OF STRING		62	1000 daN

BIT RECORD

BIT NO.	8
SIZE (mm)	222
IADC CODE	7 3 7 Y
MFG.	Smith
TYPE	F70D
SERIAL NO.	L55686
JETS (mm)	3 x 19
DEPTH OUT (m)	1248
DEPTH IN (m)	1183
TOTAL METRES DRILLED (m)	65
TOTAL HOURS RUN	19½

CUTTING STRUCTURE: T, T₀, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr.

	3.3
HOLE DRAG	2-3000
TORQUE AT BOTTOM	3400
FILL ON BOTTOM (m)	

MUD RECORD

TIME	9:00	12:00	15:00
DENSITY kg/m³	1320	1320	
FUNNEL VIS. - (S/L)	70	69	
W.L. (cm³)	6.2	6.0	
pH	10.8	10.2	
PVT	32.4	32.8	

PRODUCT	AMOUNT X UNIT
Caustic	1 sks

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1243	1248	5	45	33

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
12500	152	115		

DEPTH (m)	DEVIATION (°)	DIRECTION
4100	57	

Locked Block

DRILLING ASSEMBLY (At End of Tour)

			25 m
	Tools		32.14 m
11	DC	171	37.20 m
1	Subs	171	6.06 m
8	DC	171	74.40 m
1	X/O	168	.80 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
38	D.P.	STANDS	721.30 m
	D.P.	SINGLES	m
	KELLY DOWN		12.76 m
	TOTAL		1254.70 m
WT. OF DC		28	1000 daN
WT. OF STRING		62	1000 daN

BIT RECORD

BIT NO.	9
SIZE (mm)	222
IADC CODE	1 3 7
MFG.	Hughes
TYPE	ATJ-57D
SERIAL NO.	6207N
JETS (mm)	3 x 19
DEPTH OUT (m)	
DEPTH IN (m)	1248
TOTAL METRES DRILLED (m)	6
TOTAL HOURS RUN	3½

CUTTING STRUCTURE: T, T₀, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr.

HOLE DRAG	2-3000
TORQUE AT BOTTOM	2845
FILL ON BOTTOM (m)	

MUD RECORD

TIME	18:00	22:00	
DENSITY kg/m³		1330	
FUNNEL VIS. - (S/L)		80	
W.L. (cm³)		6.5	
pH		10.5	
PVT		31.0	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1248	1254	6	45	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11500	152	115	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
3390	58	
1233	42.5	42.5
1239	43.5	43.5

FOLD HERE →

43394

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Sour Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO. 51

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
	171	166		62	171	5" H90	12	Sp-50	National	216
HW	114	62.46		62.5	139	4½ XH	3	Sp-50	National	216
DP	114	31.77	G-E	92	105	4½ XH	250			

MUD RECORD

FREEZE MENT	FISHING	DIR. WORK	SAFETY MTG.	
				HANDLE TOOLS
		½		1

SHALE SHAKER(S)

TOTALS 24

NO. 2 TYPE DFTS 585

SCREENS CHANGED ☐ YES ☐ NO

TOP	17[illegible]	TOP	[illegible]
MIDDLE	16[illegible]	MIDDLE	17[illegible]
BOTTOM	16[illegible]	BOTTOM	16[illegible]

RENTALS/SERVICES

IIS: 3153

AMS: 242081

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1208	1243	35	45	33

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
13710	152	115	115	
4100		60		

DEPTH (m)	DEVIATION (°)	DIRECTION
1200	Mud Tour	
1210		

TIME LOG

0001	0715	7¼	2	Drill F/1208 TO 1243.
0715	0800	¾	10	Service Both 12¼ and 12¼ Mud Tools Service Rig.
			¾	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES ✓ Crown Saver, Derrick Anchors, Brakes & Linkages, Function Kelly Hose. Blow Down Boiler 4x20L : 80L.

MORNING TOUR

MUD RECORD

00	04:00					
00	1300					
5	75					
0	5.0					
0	10.5					
0	33.1					

NT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
2 KO				
140				

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1243	1248	5	45	33

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
12500	152	115		
4100		57		

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

0800	815	¼	1	Rig Service & Annular / RSPP
815	1200	¾	2	Drill F/1243 - 1248
1200	1215	¾	1	Circ & Btm hole sample
1215	1545	3	6	P.O.O.H.
1545	1600	¼	2	Handle tools Change roller reamers

TMV 8.35
TCV 9.25
DIFF .90

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES Crown Saver, Derrick Anchors, Brakes & Linkages, Function Kelly Hose. Blow Down Boiler 4x20L : 80L.

DAY TOUR

MUD RECORD

0	12:00	15:00				
0	1320					
	64					
	6.0					
8	10.4					
4	33.0					

T X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1248	1251	6	45	28

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11500	152	115	152	
3390		58		

DEPTH (m)	DEVIATION (°)	DIRECTION
1233	142.8	142.5
1235	143.5	143.6

TIME LOG

1600	1700	1	12	Handle tools Change MWD tools
1700	1800	1	6	RIH
1800	1830	½	20	TEST MWD
1830	1945	1¼	6	RIH
1945	2015	½	5	Break Circ & Wash to Btm.
2015	2030	¼	10	Survey
2030	2345	3¼	2	Drill F/1251 - 1254
2345	2400	¼	7	Rig Slip Further Drill Kelly Cock
			8	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES ✓ Crown Saver, Derrick Anchors, Brakes & Linkages, Function Kelly Hose. Blow Down Boiler 4x20L : 80L. Dump Pit & Clean Suction Tank @ 2030 hrs.

EVENING TOUR

DRILLER'S SIGNATURE

8	20.5	440	6500	2577

143393

FOLD HERE →

LICENCE NO.: 1804 | WELL NAME AND NO.: PENN WEST ET AL MULLIN CITY 7-02

OPERATOR: [illegible] | CONTRACTOR: [illegible]

SURFACE LOCATION: 7-02 | UNIQUE ID: [illegible]

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [illegible] | SIGNATURE OF CONTRACTOR'S RIG MANAGER: [illegible]

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial 2	Initial
(4) Well Licensee & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial 5	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kill Checked		Initial

YEAR [illegible] | MONTH 11 | DAY [illegible]

RIG NO 51

FUEL 8:00

RIG | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME - HRS

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	
MORN.		5½			1	1½				½											Safety Talk.	
DAY					3¼	4¾	¼															7/11
EVE.		7½					½			½												
TOTAL																						

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		22.10 m
4	DC	171	37.36 m
1	Subs	171	6.00 m
6	DC	171	71.46 m
1	X/O	168	.90 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
			m
31	D.P.	STANDS	615.32 m
1	D.P.	SINGLES	9.06 m
	KELLY DOWN		9.24 m
	TOTAL		1153.56 m

WT. OF DC 25 1000 daN

WT. OF STRING 61 1000 daN

BIT RECORD

BIT NO	7
SIZE (mm)	222
IADC CODE	
MFG.	SMITH
TYPE	F57DC
SERIAL NO.	LY1795
JETS (mm)	3X19
DEPTH OUT (m)	1163
DEPTH IN (m)	1147
TOTAL METRES DRILLED (m)	36
TOTAL HOURS RUN	14¼

CUTTING STRUCTURE T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG 2-3000

TORQUE AT BOTTOM 3300

FILL ON BOTTOM (m) NIL

MUD RECORD

TIME	02:00	04:00
DENSITY kg/m³	1300	1300
FUNNEL VIS. - (S/L)	70	73
W.L. (cm³)	6.0	6.0
pH	10.5	10.5

PRODUCT	AMOUNT X UNIT
GEL	5 SX
BARITE	45 SX

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLD (Meas) CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1173	1183	10	45	30

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
1177	152	115	152	115

4400 | 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1163	.9	314.2

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.10 m
4	DC	171	37.36 m
	Subs	171	6.06 m
8	DC	171	74.46 m
	X/O	168	.90 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
			m
34	D.P.	STANDS	645.32 m
X	D.P.	SINGLES	4.06 m
	KELLY DOWN		12.96 m
	TOTAL		1187.28 m

WT. OF DC 28 1000 daN

WT. OF STRING 61 1000 daN

BIT RECORD

BIT NO.	8
SIZE (mm)	222
IADC CODE	7 3 7 Y
MFG.	Smith
TYPE	F70D
SERIAL NO.	LS5686
JETS (mm)	3X19
DEPTH OUT (m)	
DEPTH IN (m)	1183
TOTAL METRES DRILLED (m)	4
TOTAL HOURS RUN	1

CUTTING STRUCTURE T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
8	9			1	2			

HOLE DRAG 2-3000

TORQUE AT BOTTOM 2500

FILL ON BOTTOM (m) NIL

MUD RECORD

TIME			15:00
DENSITY kg/m³			1300
FUNNEL VIS. - (S/L)			75
W.L. (cm³)			6.0
pH			10.5
FLT			30.0

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLD (Meas) CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1183	1187	4	45	10-30

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11600	152	115		

4250 | 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1172	.8	314.9

2nd Bit Run

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		37.10 m
1	DC	171	37.36 m
1	Subs	171	6.06 m
8	DC	171	74.10 m
1	X/O	168	.90 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
			m
30	D.P.	STANDS	693.57 m
	D.P.	SINGLES	m
	KELLY DOWN		5.17 m
	TOTAL		1208.57 m

WT. OF DC 28 1000 daN

WT. OF STRING 61 1000 daN

BIT RECORD

BIT NO.	8
SIZE (mm)	222
IADC CODE	7 3 7 Y
MFG.	Smith
TYPE	F70D
SERIAL NO.	LS5686
JETS (mm)	3 X 19
DEPTH OUT (m)	DRG.
DEPTH IN (m)	1183.
TOTAL METRES DRILLED (m)	21
TOTAL HOURS RUN	2¾

CUTTING STRUCTURE T	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG 2-3000

TORQUE AT BOTTOM 2500

FILL ON BOTTOM (m) [illegible]

MUD RECORD

TIME	12:00	20:00	23:00
DENSITY kg/m³	1300	1300	1300
FUNNEL VIS. - (S/L)	72	72	70
W.L. (cm³)	6.0	6.0	6.0
pH	10.5	10.5	10.5
FLT	30.5	31.4	31.4

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD (Meas) CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1187	1208	21	45	33

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
12500	152	115		

3730 | 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1181	.7	267.2
1191	.6	303.7

FOLD HERE →

43393

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Bi-weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Slack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR MONTH DAY

RIG NO.

FUEL @ 8:00

RIG SCALER

	OD (mm)	MIN I.D. (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

WEATHER

TEMPERATURE °C

CURRENT CONDITIONS

WIND DIRECTION

ROAD

DC DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
				H.A.P. Tours
				T/U

TOTALS

SHALE SHAKER(S)

NO. TYPE

SCREENS CHANGED YES NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTAL SERVICES

PVT:

HWS:

MUD RECORD

2:00	04:00	
3:00	13:00	
70	73	
6.0	6.0	
10.5	10.5	

MORNING TOUR

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
5X				
5X				

METRES DRILLED

FROM	TO	DRLD / Reamed / CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1173	1183	10	45	20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	115	152	115

1500 — 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1183	.9	[illegible]

TIME LOG

0001	0700	24	2	Drill F/1173 - 1175
0700	0830	1½	10	Slip
0830	0500	22½	2	Drill F/1175 - 1183
0500	0600	1	5	C.I. BOP Hose Swivel 1183.5m
0600	1500	9	6	POOH to Pick up #7 Flex Dc 1175

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES ✓ Crown Saver, Blocks/Hook/Bail 4x200 = 800
Check COM Pump #2 = 0.350m

F 11 4.0 — 2697

MUD RECORD

		15:00
T	T	13:00
R	R	7.5
T	T	6.0
T	T	10.5
		0.0

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLD / Reamed / CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1183	1187	4	45	10-30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11600	152	115	

4250 — 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1172	.8	34.6

TIME LOG

0800	1000	2	6	POOH FCO 577.150 ON THE Bank
1000	1030	½	7	R.S. Service c/o Blind Rams
1030	1030	¼	12	Handle Tools Dog sub
1030	1215	1¾	6	RIH W 3-8
1215	1300	¾	20	Test MWD
1300	1400	1	6	RIH
1400	1445	¾	5	Break circ and wash to Btm.
1445	1545	1	2	Drill F/1183 - 1187.
1545	1600	¼	10	Survey

TMU 7.58
TCU 8.73
DIFF 1.15

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES Crown Saver, Deadline Anchors, Brakes & Linkages, Floor, Remote Choke
Blow Down Boiler 4x = 80L Check Scott Air Packs

2nd Bit Run — 8 | 11 | 4.0 | 64000 | 2697

MUD RECORD

5:00	20:00	23:00
13:00	13:00	13:00
72	70	70
6.0	6.0	6.0
10.5	10.5	10.5
31.4	31.4	31.4

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD / Reamed / CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
1187	1266	21	45	23

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
12500	152	115	

3730 — 61

DEPTH (m)	DEVIATION (°)	DIRECTION
1141	.7	27.2
1191	.6	2.2

TIME LOG

1600	2300	7	2	Drill F/1187 - 1266
2300	2315	¼	10	Survey
2315	2330	½	7	Rig Serv - Function Annular - Close 15 sec
2330	2400	½	2	Drill F/1266 - 1205

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES Crown Saver, Deadline Anchors, Brakes & Linkages, Floor, Remote Choke
Blow Down Boiler

DRILLER'S SIGNATURE

R 10.7 [illegible] — 61.00 — 2697

FOLD HERE →

143392

LICENCE NO.:	WELL NAME AND NO.:
1684	PARAMOUNT E+AL MOUNT COTY I-02
OPERATOR:	CONTRACTOR:
PARAMOUNT RES LTD	NABORS DRG LTD
SURFACE LOCATION:	UNIQUE ID:
I-02	200/02 LC2011/2700
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licence & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR	MONTH	DAY
	11	

RIG NO. 51

FUEL 8.00

H²S | BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME-HRS (CODE NO.)

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P	TEST B.O.P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	
MORN.																						
DAY		1			1/4	3 1/4	1/4		1	1/4										1/2		3 1/2
EVE		2 1/4					1/2			1/2												
TOTAL		3 1/4					50															

DRILLING ASSEMBLY (At End of Tour)

			25 m
1	TOOLS		32.10 m
4	DC	171	37.20 m
1	SUBS	171	6.06 m
8	DC	171	74.40 m
1	X/O	168	.84 m
40	HWDP	114	369.13 m
			m
			m
			5199.9 m
			m
			m
32	D.P.	STANDS	607.96 m
1	D.P.	SINGLES	9.48 m
	KELLYDOWN		10.37 m
	TOTAL		1197.19 m
WT. OF DC		20	1000 daN
WT. OF STRING		60	1000 daN

BIT RECORD

BIT NO.	6
SIZE (mm)	222
IADC CODE	637
MFG.	HUGHES
TYPE	A-3 J33FG
SERIAL NO.	L5LDL
JETS (mm)	3X15.9
DEPTH OUT (m)	1147
DEPTH IN (m)	1011
TOTAL METRES DRILLED (m)	56
TOTAL HOURS RUN	15

CUTTING STRUCTURE T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr
								3.7

HOLE DRAG 1-2000

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	02:00
DENSITY kg/m³	1296
FUNNEL VIS. - (S/L)	52
W.L. (cm³)	6.0
pH	10.5
PV	29

PRODUCT	AMOUNT X UNIT
BARITE	15

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	CORE NUMBER CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1142	1197	5	45	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
13.500	132	116	

3780 60 1

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			25 m
	TOOLS		32.10 m
4	DC	171	37.20 m
	JARS	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.84 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
			m
32	D.P.	STANDS	607.96 m
1	D.P.	SINGLES	9.48 m
	KELLYDOWN		12.96 m
	TOTAL		1149.76 m
WT. OF DC		28	1000 daN
WT. OF STRING		60	1000 daN

BIT RECORD

BIT NO.	7
SIZE (mm)	222
IADC CODE	
MFG.	Smith
TYPE	F57OD
SERIAL NO.	LY4795
JETS (mm)	3X14
DEPTH OUT (m)	
DEPTH IN (m)	1147
TOTAL METRES DRILLED (m)	2
TOTAL HOURS RUN	1 1/4

CUTTING STRUCTURE T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr

HOLE DRAG 3000

TORQUE AT BOTTOM 2500

FILL ON BOTTOM (m) 1011

MUD RECORD

TIME		1500
DENSITY kg/m³		1300
FUNNEL VIS. - (S/L)		72
W.L. (cm³)		6.0
pH		4.5
PV		24.3

PRODUCT	AMOUNT X UNIT
GEL	5 SK
LIGNITE	1 SK
LIME	1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	CORE NUMBER CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1147	1149	2	45	10-20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11500	132	115	

3750 50

DEPTH (m)	DEVIATION (°)	DIRECTION
1134	.5	307.3

DRILLING ASSEMBLY (At End of Tour)

			25 m
	Tools		32.10 m
4	DC	171	37.20 m
	Jars	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.84 m
40	HWDP	114	369.13 m
			m
			m
			m
			m
			m
34	D.P.	STANDS	645.32 m
	D.P.	SINGLES	m
	KELLYDOWN		8.56 m
	TOTAL		1173.51 m
WT. OF DC		24	1000 daN
WT. OF STRING		61	1000 daN

BIT RECORD

BIT NO.	7
SIZE (mm)	222
IADC CODE	
MFG.	Smith
TYPE	F57OD
SERIAL NO.	LY4795
JETS (mm)	3X14
DEPTH OUT (m)	
DEPTH IN (m)	1147
TOTAL METRES DRILLED (m)	26
TOTAL HOURS RUN	8 1/2

CUTTING STRUCTURE T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr

HOLE DRAG 2-3000

TORQUE AT BOTTOM 2500

FILL ON BOTTOM (m)

MUD RECORD

TIME	17:00	21:00	2400
DENSITY kg/m³	1200	1300	1300
FUNNEL VIS. - (S/L)	55	73	73
W.L. (cm³)	6.0	6.0	6.0
pH	10.5	10.5	10.5
PV	17	29.3	30.5

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	CORE NUMBER CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1149	1173	24	45	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11700	132	115	

4750 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1144	.8	330.0
1153	.9	331.7

FOLD HERE →

8392

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection Weekly (Log Checklist)	Initial	Initial
(3a) HPS Signs Posted (if required)	Initial	Initial
(4) Well License & Block Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Data Performed	Initial	Initial
(7) Visually inspect BOP's - Flexibles & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once a month/daily)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month/daily)	Initial	
(3) Hoist Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kats checked	Initial	

YEAR MONTH DAY

RIG NO. 41

FUEL @ 8:00

HRS BOILER

	OD (mm)	MIN I.D. (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING	244.5	224.1	47.0	Dalmine	J-55	21	874.16	5.0	874
TUBING OR LINER									

WEATHER

	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC-DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
171	61.6	G-105	76	177.8	4½ XH	12	Ep-60	National	216
4½ IF	62.78	G-105	92	177.8	4½ XH	53	Ep-60	National	216
4½ IF	29.77	G-105	92	177.8	4½ XH	252			

TOTALS	SHALE SHAKER(S)	RENTALS/SERVICES
	MK TYPE LCM-2E	
	SCREENS CHANGED YES NO	MS
3	TOP 120 TOP 120	AME
	MIDDLE MIDDLE	
	BOTTOM BOTTOM	

DIR. WORK	SAFETY MTG.	
1/4	2 1/2	

MUD RECORD

00		
76		
5		

T X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1142	1147	5	45	20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
177.8	132	116	

3750 60

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

0001	0315	2¼	2
0315	0330	1	5
0330	0700	3½	6
0700	0800	1	2

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Drill F/1142m - 1147
C&C Clean hole for trips.
POOH F/1147m. Flow check @ 1110, 1084, 955, 394 and 100H.
Handle BHA

MW 3.08
CV 7.81
Diff .27

NOTES: ✓ Morning Safety
Lic. Nurse Visit 07/06/02

R | III | 440 | 2718

MUD RECORD

		1500
		1380
R		72
	I	6.0
	D	4.5
		24.3

T X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
SK				
SK				

METRES DRILLED

FROM	TO	CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1147	1149	2	45	10-20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
177.8	115		

11500

3750 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1134	.6	307.3

TIME LOG

0800	1030	2½	22
1030	1130	1	6
1130	1230	1	9
1230	1245	¼	6
1245	1400	1¼	6
1400	1415	¼	7
1415	1530	1¼	2
1530	1545	¼	7
1545	1600	¼	10

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Handle Tools. Changed rollers in reamers.
RIH w/ 3.5" DP
Slip & Cut 14m
20 Jts + MWD
RIH
Break circ
Drill F/1147 - 1149
Rig service c/o Lower 2 pipe rams
Survey

NOTES: Crown Saver Drill, Fire, Anchors, Brakes - Linkages, Fuel, Remote Choke.
Weekly Derrick Inspection

R | III | 440 | 2697

MUD RECORD

00	21:00	2400
0	13:00	13:00
	T3	T3
	6.0	6.0
	10.5	10.5
	29.3	30.5

T X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1149	1173	24	45	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
177.8	115		

11700

4750 58

DEPTH (m)	DEVIATION (°)	DIRECTION
1144	.8	330.0
1153	.9	321.7

TIME LOG

1600	1830	2½	2
1830	1845	¼	7
1845	2230	4½	2
2330	2400	½	10

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Drill F/1149 - 1156
Rig service c/o Hoppercelly Lock.
Drill F/1156 - 1173
Rig Surveys

NOTES: Crown Saver, Drill, Fire, Anchors, Brakes, Linkages, Fuel, Remote Choke.
Weekly Derrick Inspection

R | III | 440 | Crew | 2697

143391

FOLD HERE →

LICENCE NO.: 1884
WELL NAME AND NO.: PARAMOUNT FT AL MOUNT CLEAR I-02
OPERATOR: PARAMOUNT RES. LTD.
CONTRACTOR: HERA DRG. LTD.
SURFACE LOCATION: I-07
UNIQUE ID: 200/12-07-011-23W4
SIGNATURE OF OPERATOR'S REPRESENTATIVE:
SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using Checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Slick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Weekly Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (crew/environment)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (crew/mgr/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 2000 MONTH N DAY 04
RIG NO. 51
FUEL 8:00
RIG | BOILER
WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME-HRS (CODE NO.)

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.																					
DAY		11½					¼			¼											
EVE.		7½					¼			¾											
TOTAL		19			1½		1			1											

DRILLING ASSEMBLY (At End of Tour)

			25 m
	Tools		32.10 m
41	DC	171	37.20 m
	Jars	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	114	366.13 m
			m
	BHA		511.79 m
			m
			m
30	D.P.	STANDS	588.76 m
1	D.P.	SINGLES	5.70 m
	KELLY DOWN		
	TOTAL		1095 m
WT. OF DC		20	1000 daN
WT. OF STRING		57	1000 daN

BIT RECORD

BIT NO.	6
SIZE (mm)	222
IADC CODE	637
MFG.	HUGHES
TYPE	ATJ55SRG
SERIAL NO.	L50DL
JETS (mm)	3x15.9
DEPTH OUT (m)	
DEPTH IN (m)	1091
TOTAL METRES DRILLED (m)	4
TOTAL HOURS RUN	1

CUTTING STRUCTURE: T | T_O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD — MORNING TOUR

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)
1091	1095	4	45-50	20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5440	152	115		

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			25 m
	Tools		32.10 m
41	DC	171	37.20 m
	Jars	171	6.06 m
8	DC	171	74.40 m
	X/O	168	.80 m
40	HWDP	114	366.13 m
			m
			m
			m
			m
31	D.P.	STANDS	588.70 m
	D.P.	SINGLES	m
	KELLY DOWN		12.96 m
	TOTAL		1021.60 m
WT. OF DC		28	1000 daN
WT. OF STRING		60	1000 daN

BIT RECORD

BIT NO.	6
SIZE (mm)	222
IADC CODE	637
MFG.	Hughes
TYPE	ATJ55SRG
SERIAL NO.	L50DL
JETS (mm)	3x15.9
DEPTH OUT (m)	
DEPTH IN (m)	1091
TOTAL METRES DRILLED (m)	2730
TOTAL HOURS RUN	0½

CUTTING STRUCTURE: T | T_O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.: 35

HOLE CONDITION: HOLE DRAG: 1-2000 | TORQUE AT BOTTOM: 2500 | FILL ON BOTTOM (m)

MUD RECORD — DAY TOUR

TIME	4:00	12:00	15:00
DENSITY kg/m³	1240	1250	1280
FUNNEL VIS. - (S/L)	70	60	70
W.L. (cm³)	6.5	5.5	7.2
pH	10.0	10.0	10.0
Pvt	31.4	32.4	32.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	6 sx
Starch	1 sx
Lime	1 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)
1075	1121	26	45	30

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
12500	152	115		
4000		38		

DEPTH (m)	DEVIATION (°)	DIRECTION
1037	8.9	266.3
1046	.4	273.1

Total 31 bbls

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tools		32.10 m
4	DC	171	37.20 m
1	Jars	171	6.06 m
8	DC	171	74.40 m
1	X/O	168	.80 m
40	HWDP	114	366.13 m
			m
	Bit		5.25 m
			m
			m
			m
22	D.P.	STANDS	607.46 m
1	D.P.	SINGLES	9.16 m
	KELLY DOWN		5.62 m
	TOTAL		1116.92 m
WT. OF DC		28	1000 daN
WT. OF STRING		60	1000 daN

BIT RECORD

BIT NO.	6
SIZE (mm)	222
IADC CODE	637
MFG.	Hughes
TYPE	ATJ55SRG
SERIAL NO.	L50DL
JETS (mm)	3x15.9
DEPTH OUT (m)	DRG
DEPTH IN (m)	1091
TOTAL METRES DRILLED (m)	51
TOTAL HOURS RUN	15½

CUTTING STRUCTURE: T | T_O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.: 3.3

HOLE CONDITION: HOLE DRAG: 1-2 | TORQUE AT BOTTOM: Loose | FILL ON BOTTOM (m)

MUD RECORD — EVENING TOUR

TIME	18:00	20:00	24:00
DENSITY kg/m³	1280	1285	1300
FUNNEL VIS. - (S/L)	70	82	62
W.L. (cm³)	5.0	5.5	5.3
pH	10.0	10.5	10.5
Pvt	32.6	35.4	28.8

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)
1121	1172	20	45	30

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
12500	152	TK		
3750		54		

DEPTH (m)	DEVIATION (°)	DIRECTION
1106	.9	271.1
1116	.9	274.1
1125	.9	269.3

FOLD HERE →

243391

DAILY CHECKS

	OPR.	R.M.
(1) Daily Work Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (tubing checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 2000 | MONTH 11 | DAY 04

RIG NO. 51

FUEL @ 8:00

RIG | BOILER

WEATHER	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING	244.5	226	53.57	IPSCO	J55	37	474.12	4.50	519
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
171	147		62	171	5 H90	12	8P-80	NATIONAL	216
127	42.90		69.6	165	4.5 XH	53	8P-50	NATIONAL	216
127	29.77	GRE	92	165	4.5 XH	250			

18	19	20	21	22	23	24	25	26
SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.					

TOTALS: 8

SHALE SHAKER(S)

	TYPE	
2	DFS 500s	
SCREENS CHANGED	☐ YES ☑ NO	
TOP	170	TOP 165
MIDDLE	165	MIDDLE 165
BOTTOM	165	BOTTOM 165

RENTALS SERVICES

MS 6443

AMS ~~2709~~ 2709 95

MUD RECORD

PUMP DISCHARGE

UNT X UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091	1095	4	45-50	20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	113		

5440

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

FROM	TO	HRS	CODE
0001	0130	1½	6
0130	0345	2½	20
0345	0830	5	1
0830	0930	1	5
0930	0930	2	6
0930	0700	½	5
0700	0800	1	2

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIH

TEST MWD

RIH - 5 STAND DP

CIRC @ 759 m

RIH + TAG TOP OF DP. LAY DOWN 12 JTS

KELLY UP BREAK CIRC

DRILL 22 m/HR HOLE F/1061-1065

NOTES ✓ CROWN SAVER BLOCK DOWN CORNER 4X20 = 60 DAN.

BIT RECORD

	8	11	440			

MUD RECORD

30	12:00	15:00
70	12.50	12.80
0	60	70
.5	7.5	7.5
0.0	10.0	10.0
1.4	32.4	32.5

PUMP DISCHARGE

UNT X UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
SK				
SK				

METRES DRILLED

FROM	TO	DRLD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1095	1121	26	45	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	115		

12500

4000 @ 58 @

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
1087	8.9	266.3
1096	.4	273.1

TIME LOG

FROM	TO	HRS	CODE
0900	1015	2¼	2
1015	1030	¼	7
1030	1545	5¼	2
1545	1600	¼	10

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

DRILL F/1095-1102

Rig Service C/O Annular

DRILL F/1102-1121

Total Surveys

NOTES Crown saver Dog Hitcrackers, Brake Linkages, Func. Remote Choke. Blind Ram Rams: 4x = 80L

BIT RECORD

Lobi Block	8	11	440	65000	Fall ARREST	2748

MUD RECORD

00	20:00	24.00
80	12.85	13.00
0	82	82
.0	5.5	5.5
.0	10.5	10.5
.5	35.4	20.8

PUMP DISCHARGE

UNT X UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD / REAM / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1121	1142	20	45	30

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	115		

12250

3750 @ 56 @

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
1106	.9	271.1
1116	.9	279.1
1125	.9	277.3

TIME LOG

FROM	TO	HRS	CODE
1600	1615	¼	7
1615	2330	7¾	2
2330	2400	½	10

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Rig Service C/O LODER & DeRoos

DRILL F/1121-1142

Total Surveys

NOTES Crown Saver, Dog Hitcrackers, Brake Linkages, Func. Remote Choke. Blind Ram Choke Manifold + Cuttings Silker Tank Rams.

DRILLER'S SIGNATURE

BOP DRILL | HRS. RAN | STACK TEMP. | WORKING EXPERIENCED ROUGHNECKS

4 | 11 | 4400

DAILY TOTAL 2811

FOLD HERE →

143390

LICENCE NO.: 1881

WELL NAME AND NO.: PARAMOUNT ET AL MOUNT CITY I-02

OPERATOR: PARAMOUNT - DRL 1-0

CONTRACTOR: AK-1 DRL 1-0

SURFACE LOCATION: I-02

UNIQUE ID: UWI - 200 NE 6 81 11 33 60

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS (OPR. / R.M.)

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well Licence & Stick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Panelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (once/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/quarter/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR 2000 | MONTH 11 | DAY
RIG NO. 51
FUEL 8.00
RIG | BOILER
TEMPERATURE
CURRENT CONDITIONS
WIND DIRECTION
ROAD

TIME-HRS

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
OPER.	MOVE UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG.	BOP DRLS
MORN.					5½	2	¼														¼	
DAY					½	4½	¼												1	¼		
EVE.						3														1¾		
TOTAL																						

CODE NO.	23	24
OPER.	Mentic Tools	
MORN.		
DAY	1¾	
EVE.	2½	
TOTAL		

DRILLING ASSEMBLY (At End of Tour)

			.35 m
	3/5	160	.60 m
40	HWDP	114	368.13 m
			m
			m
			m
			m
			m
			m
			m
36	D.P.	STANDS	691.92 m
1	D.P.	SINGLES	4.29 m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING		121 000	1000 daN

BIT RECORD

BIT NO.	5
SIZE (mm)	222
IADC CODE	637
MFG.	Hughes
TYPE	FP-53
SERIAL NO.	K79DV
JETS (mm)	3 x 15.9
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE	T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

MUD RECORD

TIME	01²⁰	03²⁰	05²⁰
DENSITY kg/m³	1150	1260	1280
FUNNEL VIS. - (S/L)	108	96	86
W.L. (cm³)	6	6.5	7.8
pH	10	10	10
PV	29.2	29.6	30.6

PRODUCT	AMOUNT X UNIT
BARITE	685x
GEL	55x
STAFIX	1 5x
LIGCO	2 5x

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG MUD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1011				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152.	110		

DEPTH (m)	DEVIATION (°)	DIRECTION

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

	O/S.	212	1.22 m
	X/O		.3 m
	X/O		.35 m
	Jar		2.17 m
	X/O		.3 m
40	HWDP		368.13 m
	~~DP~~		m
			m
			m
			m
			m
36	D.P.	STANDS	1919.80 m
1	D.P.	SINGLES	4.29 m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING		450 000	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE	T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

MUD RECORD

TIME			1300
DENSITY kg/m³			1290
FUNNEL VIS. - (S/L)			150
W.L. (cm³)			2.0
pH			10.0
PV			20.0

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG MUD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

			.35 m
	TOOLS		22.10 m
4	DC	171	37.20 m
1	JAR	171	6.66 m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	6
SIZE (mm)	222
IADC CODE	637
MFG.	HUGHES
TYPE	ATJ-55
SERIAL NO.	L500L
JETS (mm)	3X15.9
DEPTH OUT (m)	
DEPTH IN (m)	1091
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE	T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG MUD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

EVENING TOUR

FOLD HERE →

3390

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — initial / initial
(2) Detailed Inspection-Weekly rotating checklist — initial / initial
(3) H²S Signs Posted (if required) — initial / initial
(4) Well Location & Sites Diagram Posted — initial / initial
(5) Flare Lines Staked — initial / initial
(6) TOP Tests Performed — initial / initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines — initial / initial

(1) Rig Site Health and Safety Meeting (once/month/crew) — initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month/rig) — initial
(3) Mast Inspection Before Raising or Lowering — initial
(4) Crown Saver Checked — initial
(5) Master Kelly checked — initial

YEAR / MONTH / DAY

RIG NO. 31

FUEL @ 8:00

RIG / BOILER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

	O.D (mm)	MIN I.D (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL J O.D (mm)	TYPE THREAD	NO OF JOINTS
	171			62	171		

PUMP TYPE	PUMP MANUFACTURER	STROKE (m)

FREEZE EVENT	FISHING	DIR WORK	SAFETY MTG.	BOP DRILL	Hands Tools
	1				1 3/4
		17.			2"

TOTALS

8	
5	

SHALE SHAKER

NO. TYPE	
SCREENS CHANGED YES / NO	
TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

MUD RECORD

	03⁰⁰	05
	12⁰⁰	12³⁰
	9C	5x
	6.5	7.8
	10	10
2.	29.6	30.6

UNIT X UNIT

	HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
6Sx				
5x				
5x				
5x				

	HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1011				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152.			

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0001	0130	1½	5	Pull 5 stands HWDP + Handle Tools
0130	0145	¼	22	PJSM on Crew
0145	0200	¼	7	Rig Service on Hydril - Check Misc
0200	0600	4	5	POOH - Condition Mud
0600	0800	2	6	POOH from 1011 to 171 5" DP + DC's

NOTES: Crew on Crown Saver, Function Test 4x24hrs = 80hrs

MUD RECORD

	8.00	
	11.90	
	8.0	
	10.0	
	20.0	

UNIT X UNIT

	HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0800	0900	1	6	POOH TO 5" DP. TOH W/ 5" DP. TOH W/ BHA.
0900	0915	¼	7	Rig Service. C/O Blind Rams.
0915	1100	1¾	23	Handle Fishing Tools.
1100	1245	1¾	6	RIH W/ Fishing Tool
1245	1315	½	5	Circ
1315	1418	1	19	Fish in - Test tools
1418	1630	2¼	6	POOH with Fishing tools FL@964

NOTES: Crown Saver 24hr line Hardness, Brakes, Kelly, Func. Rams, Choke, Blowdown Sub.

MUD RECORD

UNIT X UNIT

	HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

1600	1800	2	6	Finish POOH to CDB69. On Back
1800	2115	3¼	23	Handle Tools. Breakdown Fishing & Test tools
2115	2300	1¾	26	Pick Up Directional Tools & Make Up Same.
2300	2400	1	6	RIH to 1011 m/Rig 6

TDU 5.68
TFU 5.85
Jars .17

NOTES: Crown Saver Function Tested 4x 10hr = 80hrs

DAY TOUR

EVENING TOUR

FOLD HERE →

143389

LICENCE NO.: 1654	WELL NAME AND NO.: PARAMOUNT F-A1 MOUNT COTY I-02
OPERATOR: PARAMOUNT RESOURCES LTD.	CONTRACTOR: AKITA DRG LTD
SURFACE LOCATION: I-02	UNIQUE ID.: UWI 100/02/602 01123300
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Strip Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flare Lines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR 87 | MONTH | DAY 2

RIG NO. 51

FUEL = 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME HRS

CODE	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
	MORN.					6	12½	¾															
	DAY						6																2
	EVE.					½	7																
	TOTAL																						

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY/DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	02 30	05 30	
DENSITY kg/m³	1250	1275	
FUNNEL VIS. - (S/L)	93	97	
W.L. (cm³)	6.0	6.0	
pH	9.0	10	
PVT		32.0	

PRODUCT	AMOUNT X UNIT
BARITE	110 SK
CAUSTIC	3 SK
LIGCO	1 SK
PUREBORE	1 SK
SODA ASH	1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)
1091				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
4½	152			

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY/DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)
1091				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

John Black

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY/DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING	44CC	1000 daN

BIT RECORD

BIT NO.	5
SIZE (mm)	222
IADC CODE	637
MFG.	HUGHES
TYPE	ATJ-55SK
SERIAL NO.	KT8DN
JETS (mm)	3K15.9
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)
1091				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	152	112		

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

43389

300

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H'S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checked (one/rig/month)		Initial
(3) Meat Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO 51

FUEL @ 8:00

RIG | BOILER

WEATHER

	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING	244.5	226	53.57	IPSCO	J55	39	511.12	5.0	514
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
	171	105		62	171	5" H.D.	12	EP-80	NATIONAL	216
HO	114	62.45		68.6	156	4.5 XH	53	EP-80	NATIONAL	216
DP	114	29.77	G+E	92	156	4.5 XH	250			

DUE EXAMINATION	FISHING	DIR. WORK	SAFETY MTG.					
			2					

TOTALS

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED ☐ YES ☑ NO

	TOP	TOP
		165
	MIDDLE	MIDDLE
		165
	BOTTOM	BOTTOM
		165

RENTALS SERVICES

MS 589

Ent 21128

MORNING TOUR

MUD RECORD

	05
	1275
	97
	6.0
	10
	32.0

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
5K				
5K				
5K				
5K				

METRES DRILLED

FROM	TO	DRLD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152			

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0001	0030	1/2	5	Circ + Raise Density
0030	0045	1/4	7	Rig Serv.
0045	0615	5 1/2	5	Circ + Raise Density
0615	0800	1 3/4	6	P.O.O.H. w/DST

NOTES ✓ Crown Saver, Deadline Anchors, Brakes and Linkage

Blow Down Boiler 4x20 = 80 L Fuel

DAY TOUR

MUD RECORD

UNIT X UNIT

METRES DRILLED

FROM	TO	DRLD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1145	3 3/4	6	POOH w/DST FCO 3 bottom 952, 574, 396, 238
1145	[illegible]	[illegible]	22	Handle tools Breakdown Test tool
BHR	1600	2 1/4	6	RIH To Retrieve DST.

TMV 7.35
TCU 5.91
DF 1.54

NOTES

Blow Down Boiler 4x = 80 L Fuel

Tool Pusher

R 11 440

EVENING TOUR

MUD RECORD

UNIT X UNIT

METRES DRILLED

FROM	TO	DRLD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	112		

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1615	1/4	7	Rigservice C/O UPPER Kelly Cock
1615	2030	4 1/4	6	D.O.O.H. w/ DST FCO 1080, 946, 810, 350 BHA
2030	2315	2 3/4	6	RIH w/Bit To Top Of Fish
2315	2400	3/4	5	Kelly UP Break Circ + Tag Top Of Fish @ 1065
			8	

NOTES Crown Saver, Deadline Anchors, Brakes, Linkages, Floor, Rotary Chain

Blow Down Boiler [illegible] = 80 L Fuel

DRILLER'S SIGNATURE

[signature]

FOLD HERE →

143388

LICENCE NO.: 1884

WELL NAME AND NO.: PARAMOUNT ETAL MOUNT COTY I-02

OPERATOR: PARAMOUNT RESOURCES LTD

CONTRACTOR: NORTH DRLG LTD

SURFACE LOCATION: I-02

UNIQUE ID.: UWI 200/02 602 01123300

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Stick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR: 06 MONTH: 11

RIG NO.: 51

FUEL: 6:00

RIG | BOILER

WEATHER: TEMPERATURE / CURRENT CONDITIONS / WIND DIRECTION / ROAD

TIME-HRS

CODE NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.		
	MORN.					2	5																BOPD: 11	
	DAY						7 1/4															1		
	EVE.					3/4	3/4										6					1/4		1/4
	TOTAL					2 3/4	13 1/2	1/4									6					1/4	1	1/4

DRILLING ASSEMBLY (At End of Tour)

			m
			m
	DC		m
			m
	DC		m
			m
			m
			m
			m
29	D.P.	STANDS	549.09 m
	D.P.	SINGLES	9.45 m
	KELLYDOWN		10.96 m
	TOTAL		481.24 m
WT. OF DC			24 1000 daN
WT. OF STRING			59 1000 daN

BIT RECORD

BIT NO.	5
SIZE (mm)	222
IADC CODE	637
MFG.	SMITH
TYPE	ATJ-33BX
SERIAL NO.	KP7DV
JETS (mm)	3 x 12.7
DEPTH OUT (m)	1491
DEPTH IN (m)	1452
TOTAL METRES DRILLED (m)	39
TOTAL HOURS RUN	1.25

CUTTING STRUCTURE T1	TO	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
A	7			1	1			12

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	1:00	3:00
DENSITY kg/m³	1200	1220
FUNNEL VIS. - (S/L)	43	75
W.L. (cm³)		
pH	9.5	10
PVT m³	34.1	34.0

PRODUCT	AMOUNT X UNIT
Barite	47 SX
GEL	6 SX
Caustic	1 SK
GEL	6 SX
Caustic	40 SX

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000)
1491				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
152		152

3900 61

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T1	TO	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME		
DENSITY kg/m³		
FUNNEL VIS. - (S/L)		
W.L. (cm³)		
pH		

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000)
1051				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
K2		K2

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T1	TO	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME		
DENSITY kg/m³		
FUNNEL VIS. - (S/L)		
W.L. (cm³)		
pH		

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
5000	50	80

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

43388

-02

23300

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) HS Signs Posted (& squared)	Initial	Initial
(4) Well License & Slick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 90 | MONTH 11 | DAY 01

RIG NO. 51

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING	244.5	226	47.7	IPSCO	J-55	31	514.12	5.0	514
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)
	171	71.5		72	171	5½ H90	12	8P-50	NATIONAL	211
	146	42.05		69.9	158	4½ XH	53	6P-50	NATIONAL	216
	146	29.37	G+E	92	158	NC 46	260			

19	20	21	22	23	24	25	26
SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	NA			
			1				
			¼		¼		
			¼	1	¼		

TOTALS

SHALE SHAKER(S): NO. 2 TYPE DERRICK; SCREENS CHANGED ☐ YES ☐ NO

	TOP	TOP
	11"	11"
	MIDDLE	MIDDLE
8	11"	11"
21	BOTTOM	BOTTOM
	11"	11"

RENTALS SERVICES

MT 5753

AMJS 279292

ANADRILL 1 20SAT ABL Glycol.

TECHNICAL

MUD RECORD

1:00	3:00
12:00	12:20
1.3	75
1.5	10
34.1	34.0

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
7 SX				
2 SX				
SK				
SX				
20 SX				
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED — MORNING TOUR

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152		152	

3900 | 61

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — MORNING TOUR

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	1:00	1	6	TRIP OUT FC, 97', 7/8 [illegible] BIT
1:00	3:00	2	5	CIRC + COND MUD [illegible]
3:00	7:00	4	6	[illegible] FC, [illegible] 7/8, 7.7/8 SHT, [illegible]
7:00	8:00	1	22	L/D [illegible]

NOTES: [illegible] ANNULAR PREVENTER 4" - GULF VALVE

9 | 11 | 410

MUD RECORD

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED — DAY TOUR

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DAY TOUR

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
[illegible]	[illegible]	[illegible]	22	[illegible]
[illegible]	07:00	25	7	[illegible]
[illegible]	11:00	25	22	[illegible]
11:00	[illegible]	1	6	RIH W/ [illegible]
12:00	[illegible]	2	9	[illegible]
12:15	16:00	2¾	C	[illegible]

NOTES: [illegible] Functional Remote Choke [illegible]

8 | 11 | 410

MUD RECORD

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED — EVENING TOUR

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1091				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5000	152	80	

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — EVENING TOUR

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
16:00	16:45	¾	6	RIH W/ TEST TOOL
16:45	17:00	¼	21	Safety MTG
17:00	17:15	¼	23	B.O.P. Drill
17:15	22:45	5½	16	DST #1 open 10m
22:45	23:15	½	16	Reverse Circ Tst + fluid
23:15	01:00	¾	5	Circ & raise Mud density

NOTES:

TOOLPUSHER'S SIGNATURE: [signature]

3 | 11 | 440

FOLD HERE →

143387

LICENCE NO.: 1284

WELL NAME AND NO.: PARAMOUNT ETAL MOUNT COLT J-02

OPERATOR: PARAMOUNT RESOURCES LTD

CONTRACTOR: ATCO DRLG

SURFACE LOCATION: J-02

UNIQUE ID.: UWI 300J026020112233.0

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	initial	initial
(2) Detailed Inspection (Weekly Using Checklist)	initial	initial
(3) H2S Signs Posted (if required)	initial	initial
(4) Well Licence & Shrs Diagram Posted	initial	initial
(5) Place Lines Staked	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually Inspect BOP's - Flowlines & Diagonal Lines	initial	initial
(1) Rig Site Health and Safety Meeting (Documented Monthly)		initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (Documented Monthly)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motor Kills checked		initial

YEAR | MONTH | DAY

RIG NO. 51

FUEL | FEED

TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME - HRS

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.		7	.5		3.5	1.5	.25			.5											
DAY		5			5																
EVE.		11.5			11.5																
TOTAL		23.5	.5		20	1.5	.25			.5											

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	T.C.		17.5 m
			31.13 m
			m
			m
			m
			m
			m
			m
			m
			m
21	D.P.	STANDS	534.42 m
	D.P.	SINGLES	9.12 m
	KELLYDOWN		6.96 m
	TOTAL		1066 m
WT. OF DC		2	1000 daN
WT. OF STRING		59	1000 daN

BIT RECORD

BIT NO.	5
SIZE (mm)	222
IADC CODE	637
MFG.	Hughes
TYPE	ATJ-55SRG
SERIAL NO.	K7EDV
JETS (mm)	3 x 15.9
DEPTH OUT (m)	IN
DEPTH IN (m)	1052
TOTAL METRES DRILLED (m)	14
TOTAL HOURS RUN	2

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr
								7

HOLE DRAG 5000

TORQUE AT BOTTOM 3500

FILL ON BOTTOM (m)

MUD RECORD

TIME	0230	0500	0830
DENSITY kg/m³	1100	1110	1120
FUNNEL VIS. - (S/L)	43	42	43
W.L. (cm³)	7.5	7.5	
pH	8.5	10	10
	31.6	36.6	36.2

PRODUCT	AMOUNT X UNIT
Caustic	1 SK

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	ROP/ROT CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1052	1066	14	50	2

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	
1	152	110	152	

3100 | 64

DEPTH (m)	DEVIATION (°)	DIRECTION
1039	.7	157.1
1048	.8	196.7

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	T.C.		32.86 m
4	D.C.	171	37.21 m
	Jar	171	1.46 m
3	D.C.	171	28.12 m
	X/O	114	.81 m
10	HWDP	114	309.12 m
			m
			m
			m
			m
	RH:	5@ 911	m
			m
54	D.P.	STANDS	504.19 m
	D.P.	SINGLES	m
	KELLYDOWN		5.27 m
	TOTAL		1077.07 m
WT. OF DC		20	1000 daN
WT. OF STRING		59	1000 daN

BIT RECORD

BIT NO.	5
SIZE (mm)	222
IADC CODE	637
MFG.	Hughes
TYPE	ATJ-55SRG
SERIAL NO.	K7EDV
JETS (mm)	3 x 15.9
DEPTH OUT (m)	—
DEPTH IN (m)	1052
TOTAL METRES DRILLED (m)	25
TOTAL HOURS RUN	5

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr
								5

HOLE DRAG

TORQUE AT BOTTOM 3000

FILL ON BOTTOM (m) Tag

MUD RECORD

TIME	0800	1500	1500
DENSITY kg/m³	1130	1160	1160
FUNNEL VIS. - (S/L)	52	65	68
W.L. (cm³)	7	6	6.5
pH	10	10	10
	31.20	35.20	34.60

PRODUCT	AMOUNT X UNIT
Barite	65 SK
Gel	20 SK
Starch	1 SK
Caustic	1 SK
Lime	1 SK

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	ROP/ROT CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1066	1077	11	50	3

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	
1	152	110	152	

3100 | 56

DEPTH (m)	DEVIATION (°)	DIRECTION
1058	0.6	236

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Tricone		32.10 m
4	DC	171	37.20 m
	Jar	171	1.46 m
3	DC	171	28.46 m
	X/O	114	.81 m
10	HWDP	114	309.12 m
			m
			m
			m
			m
54	D.P.	STANDS	504.19 m
	D.P.	SINGLES	9.12 m
	KELLYDOWN		5.27 m
	TOTAL		1077.07 m
WT. OF DC		20	1000 daN
WT. OF STRING		59	1000 daN

BIT RECORD

BIT NO.	5
SIZE (mm)	222
IADC CODE	637
MFG.	Hughes
TYPE	ATJ-55SRG
SERIAL NO.	K7EDV
JETS (mm)	3 x 15.9
DEPTH OUT (m)	1041
DEPTH IN (m)	1052
TOTAL METRES DRILLED (m)	54
TOTAL HOURS RUN	14.5

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr
								4.1

HOLE DRAG 4000

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	1800	20:00	22:30
DENSITY kg/m³	1160	1170	1190
FUNNEL VIS. - (S/L)	69	72	65
W.L. (cm³)	6.8		6.5
pH	10	10	10
	38.5	39.6	39.6

PRODUCT	AMOUNT X UNIT
Barite	40 SK

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	ROP/ROT CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1077	1091	29	50	25

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	
1	152	110	152	

3100 | 61

DEPTH (m)	DEVIATION (°)	DIRECTION
1077	.5	315 NW
1077	.9	230 SW

FOLD HERE →

3387

2

2.0

DAILY CHECKS

	OPR.	R.M.
(1) Daily Visual Inspection		
(2) Inspect Hoisting Equipment		
(3) Verify Brake Pressure & Inspection		
(4) Weld Locknuts & Stem Diagram Posted		
(5) Pipe Lines Secured		
(6) BOP Drills Performed		
(7) Visually Inspect BOP's, Pressurize & Diagnose Leaks		
(1) Rig Safe Health and Safety Meeting		
(2) C.A.O.D.C. Rig Safety Inspection Checklist		
(3) Weld Inspection Before Planning or Lowering		
(4) Crown Saver Checked		
(5) Motor Mufflers Checked		

FUEL & H2O

TEMPERATURE C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

DC-OP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. I.D. (mm)	TOOL J T.O.D. (mm)	TYPE THREAD	NO. OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

PERSONNEL	DIR. WORK	SAFETY MTG.

TOTAL

NO. TYPE

SCREENS CHANGED YES NO

TOP TOP

MIDDLE MIDDLE

BOTTOM BOTTOM

MUD RECORD

	0500	
	1110	
	42	
	7.5	
	10	
8	36.6	

MORNING TOUR

METRES DRILLED

FROM	TO	BHA RUN / CORE #	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

3100 61

DEPTH (m)	DEVIATION (°)	DIRECTION
1039	.4	
1042	.8	

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

			RUN IN

NOTES

8 | 11 | HR | | 3655

MUD RECORD

	1500	
	1160	
	65	
	6	
	10	
20	35.20	

DAY TOUR

METRES DRILLED

FROM	TO	BHA RUN / CORE #	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

3100 56

DEPTH (m)	DEVIATION (°)	DIRECTION
1058		

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
SX				
SX				
SX				
SX				

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

8 | 11 | HR | | 3903

MUD RECORD

	2000	
	1170	
	75	
	10	
S	39.6	

EVENING TOUR

METRES DRILLED

FROM	TO	BHA RUN / CORE #	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

3100 61

DEPTH (m)	DEVIATION (°)	DIRECTION

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

8 | 11 | HR | | 4203

FOLD HERE →

143386

DAILY CHECKS	OPR.	R.M.
(1) Daily Weak Amount Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Schematic & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flexibles & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/90 days)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 90 | MONTH 10 | DAY 5 | RIG NO 51

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

LICENCE NO.: 1994

WELL NAME AND NO.: PARAMOUNT ET AL DAWSON CITY I-62

OPERATOR: PARAMOUNT RESOURCES LTD.

CONTRACTOR: ARCTIC DRILLING LTD.

SURFACE LOCATION: I-62

UNIQUE ID.: UWI 300I626201123300

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

TIME HRS.

OPER	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	DRILL TEST	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG.
MORN.		7.5																			
DAY		5																			
EVE.						13														.5	
TOTAL		13								1										.5	

MORNING TOUR

DRILLING ASSEMBLY

				.25 m
	MOTOR			m
				m
				m
2				m
				m
				m
				m
				m
				m
24	D.P.	STANDS		m
	D.P.	SINGLES		m
	KELLYDOWN			m
	TOTAL			m
WT. OF DC				1000 daN
WT. OF STRING				1000 daN

BIT RECORD

BIT NO.	4							
SIZE (mm)	222							
IADC CODE	637							
MFG.								
TYPE	ATJ-55SRL							
SERIAL NO.	L51DL							
JETS (mm)	3x15.9							
DEPTH OUT (m)	1N							
DEPTH IN (m)	922							
TOTAL METRES DRILLED (m)	110							
TOTAL HOURS RUN	24.5							

CUTTING STRUCTURE T	T₂	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr
								4.5

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	02.00	05.30	6:10
DENSITY kg/m³	1120	1095	1100
FUNNEL VIS. - (S/L)	48	47	47
W.L. (cm³)	8.0	6.5	6.5
pH	10	10	10
[illegible]	36.3	37.6	37.6

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG-RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1007	1033	26	50	20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
[illegible]	152	110	152

59

DEPTH (m)	DEVIATION (°)	DIRECTION
1000	.6	201.2
1009	.7	199.4
1019	7	[illegible]

DAY TOUR

DRILLING ASSEMBLY

				m
				m
				m
				m
2				m
				m
				m
				m
				m
				m
23	D.P.	STANDS		m
2	D.P.	SINGLES		m
	KELLYDOWN			m
	TOTAL			m
WT. OF DC				1000 daN
WT. OF STRING				1000 daN

BIT RECORD

BIT NO.	4							
SIZE (mm)	222							
IADC CODE	637							
MFG.								
TYPE								
SERIAL NO.	L51DL							
JETS (mm)	[illegible]							
DEPTH OUT (m)	1052							
DEPTH IN (m)	922							
TOTAL METRES DRILLED (m)	130							
TOTAL HOURS RUN	8.25							

CUTTING STRUCTURE T	T₂	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr
								11

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	06.45	11.45	
DENSITY kg/m³	1090	1110	
FUNNEL VIS. - (S/L)	50	46	
W.L. (cm³)	7.5	8	
pH	10	10	
[illegible]	37.4	36.7	

PRODUCT	AMOUNT X UNIT
[illegible]	10 SX

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
3	1120	1110	1090
	CENT 2.		

METRES DRILLED

FROM	TO	DRLG-RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1033	1052	19	50	[illegible]

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
[illegible]	152	110	152

[illegible] | 57

DEPTH (m)	DEVIATION (°)	DIRECTION
1028	.8	195.1
1038	1.0	186.6

EVENING TOUR

DRILLING ASSEMBLY

				.25 m
				m
				m
				m
2	NMDC	172	18.75	m
		222	1.71	m
21	DC	171	222.5	m
		171	1.15	m
2	DC	171	[illegible]	m
				m
24	DP	114	[illegible]	m
	D.P.	STANDS		m
	D.P.	SINGLES		m
	KELLYDOWN			m
	TOTAL			m
WT. OF DC				1000 daN
WT. OF STRING				1000 daN

BIT RECORD

BIT NO.	4		5					
SIZE (mm)	222		222					
IADC CODE	637		637					
MFG.	[illegible]		[illegible]					
TYPE	ATJ-55SRL		ATJ-55SRL					
SERIAL NO.	L51DL		K20DV					
JETS (mm)	3x15.9		3x15.9					
DEPTH OUT (m)	[illegible]							
DEPTH IN (m)	[illegible]		1052					
TOTAL METRES DRILLED (m)	[illegible]							
TOTAL HOURS RUN	[illegible]							

CUTTING STRUCTURE T	T₂	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			
[illegible]			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG-RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1052				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	152		152

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

3386

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) HSE Signs Posted (if required)	Initial	Initial
(4) Well License & Slick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

WEATHER	
TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

	FISHING	DIR. WORK	SAFETY MTG
		.5	
		.5	

TOTALS

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED YES NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS SERVICES

MJ

Amt 277017

MORNING TOUR

MUD RECORD

.10	05:30	6:10	
.0	1095	1100	
.8	47	47	
.0	6.5	6.5	
.0	10	10	
.3	37.6	37.6	

NT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMKS CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1007	1033	26	50	20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6500	152	110	152	

59

DEPTH (m)	DEVIATION (°)	DIRECTION
1000	.4	201.2
1009	.7	194

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	4:45	4.75	2	DRILL F/1007-1033
4:45	5:00	.25	7	RIG SERVICE C/O BIT, WASH & REAM
5:00	7:15	2.25	2	DRILL F/1033-
7:15	7:30	.25	10	T/ SURVEY

NOTES: ...R CHANGE, GAS ANALYSIS, DIA-DRIVE DRAWORKS, ...DRAWWORKS BOILER HYD. FOLD FLUID, INJECTION PUMP TO CHOKE

8 | 11 | NIL | 59 | 3705

DAY TOUR

MUD RECORD

	11.2		
70	1110		
	46		
5	8		
0	10		
.4	36.7		

NT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
3	1120	1100	1940
	CENT #2		

METRES DRILLED

FROM	TO	DRLG RMKS CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1033	1052	19	60-70	30

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6500	152	110	152	

57

DEPTH (m)	DEVIATION (°)	DIRECTION
1033	.5	194.1
1038	1.0	194.6

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
7:30	11:00	3	2	DRILL F/1033-1052
11:00	11:30	.25	7	RIG SERVICE C/O TOP DRIVE ...V.S.P.
11:30	13:30	2	2	DRILL F/1052-
13:30	13:45	.25	10	SURVEY
13:45	15:45	.25	2	C/O ... C/O MUD PUMP #1
15:45	16:00	.25	6	TRIP FOR BIT
				FLOW @ 1052. 955 m ...

NOTES: ...Crossover Drilling Valves Replaced and Leaks ... Replaced Rotating Head Bearing Assembly ... Oil Filled

8 | | | 69.00 | | 765

EVENING TOUR

MUD RECORD

NT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMKS CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1052				

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
	152		152	

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
19:00	19:30	.5	6	TRIP IN W/ BIT #2 FLOW @ 58.221 m³/min
19:30	22:45	4.5	22	... TEST ... CHANGE OUT RAMS + CHECK POWER UP + TEST RAMS.
22:45	23:30	.75	6	RUN IN HOLE
23:30	24:00	.5	22	TEST MWD

NOTES: ... FILL UP LINE

FOLD HERE →

143385

LICENCE NO.: 1884

WELL NAME AND NO.: PARAMOUNT ET AL ... T-02

OPERATOR: PARAMOUNT ...

CONTRACTOR: ...

SURFACE LOCATION: I-02

UNIQUE ID: UWI 200102102011233 00

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using Checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licence & Shot Diagram Posted	Initial	Initial
(5) Flare Lines Tested	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Hazard and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motion Rate (if applied)		Initial

YEAR 2010 | MONTH 11 | DAY 2

RIG NO 51

FUEL @ 8:00

PHONE | BOILER

WEATHER: TEMPERATURE °C | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME-HRS

CODE NO	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG.	20	21	22	23	24
	MORN.																										
	DAY																										
	EVE.																										
	TOTAL																										

DRILLING ASSEMBLY (At End of Tour)

			.26 m
			5.31 m
			.45 m
			.53 m
			.91 m
			1.71 m
			37.23 m
			1.83 m
			.91 m
			2.13 m
22	D.P.	STANDS	411.71 m
	D.P.	SINGLES	m
	KELLYDOWN		12.96 m
	TOTAL		947.43 m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	4
SIZE (mm)	222
IADC CODE	6 3 7
MFG.	[illegible]
TYPE	[illegible]
SERIAL NO.	L5171
JETS (mm)	3 x 11.9
DEPTH OUT (m)	IN
DEPTH IN (m)	923
TOTAL METRES DRILLED (m)	24
TOTAL HOURS RUN	3.7

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr: 6.41

HOLE CONDITION

HOLE DRAG: 30P 30 DOWN

TORQUE AT BOTTOM: 2600

FILL ON BOTTOM (m):

MUD RECORD

MUD TYPE: ☐ WATER BASED ☐ OIL BASED

TIME	23:30	5:30	
DENSITY kg/m³	1010	1040	
FUNNEL VIS. - (S/L)	41	39	
W.L. (cm³)			
pH	8.5	9.5	
[illegible]	22.0	33.9	

PRODUCT	AMOUNT X UNIT
[illegible]	1 SK
[illegible]	5 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
5	1100	1070	1110
	TRIP #2		
8	1100	1070	2130

MORNING TOUR

METRES DRILLED

FROM	TO	DRLG. MUD CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
910	923	13	50	2-3
923	947	24	50	2-3

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5700	152	115	152	

2400 | | 51

DEPTH (m)	DEVIATION (°)	DIRECTION
914	1.3	244.8
923	1.5	252.7

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	[illegible]	171	8.31 m
	[illegible]	222	1.71 m
2	[illegible]	172	92 m
	[illegible]	171	18.29 m
	[illegible]	222	1.71 m
21	D.C.	171	37.20 m
	[illegible]	171	6.01 m
21	D.C.	171	31.40 m
	X-O	168	.90 m
4.4	[illegible]	171	39.62 m
21	D.P.	STANDS	462.57 m
	D.P.	SINGLES	m
	KELLYDOWN		9.17 m
	TOTAL		947.43 m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	4
SIZE (mm)	222
IADC CODE	6 3 7
MFG.	Hughes
TYPE	[illegible]
SERIAL NO.	L5171
JETS (mm)	3 x 11.9
DEPTH OUT (m)	
DEPTH IN (m)	923
TOTAL METRES DRILLED (m)	59
TOTAL HOURS RUN	10

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr: 5.9

HOLE CONDITION

HOLE DRAG: [illegible] N

TORQUE AT BOTTOM: 2500

FILL ON BOTTOM (m): Dole

MUD RECORD

MUD TYPE: ☐ WATER BASED ☐ OIL BASED

TIME	08	12	14
DENSITY kg/m³	1090	1090	1080
FUNNEL VIS. - (S/L)	45	43	45
W.L. (cm³)	11	9.5	9.5
pH	11.5	10	9
[illegible]	36.9	37.6	37.40

PRODUCT	AMOUNT X UNIT
Soda Ash	1 SK
Lig Pac	2 SK
Caustic	2 SK
Gel	4 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
3			
	CENT #2		
3			

DAY TOUR

METRES DRILLED

FROM	TO	DRLG. MUD CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
947	782	35	50	13-20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6000	152	110	152	

2000 | | 51

DEPTH (m)	DEVIATION (°)	DIRECTION
923	1.5	239.5
943	.2	237.4
962	.8	241.7
981	.3	224.2

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	[illegible]	171	8.31 m
	[illegible]	222	1.71 m
2	[illegible]	172	[illegible] m
	[illegible]	222	1.71 m
21	D.C.	171	37.34 m
	[illegible]	171	6.06 m
5	D.C.	171	46.63 m
	[illegible]	[illegible]	[illegible] m
	[illegible]	[illegible]	[illegible] m
	D.P.	STANDS	411.74 m
	D.P.	SINGLES	3.04 m
	KELLYDOWN		5.21 m
	TOTAL		1007 m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	4
SIZE (mm)	222
IADC CODE	6 3 7
MFG.	Hughes
TYPE	[illegible]
SERIAL NO.	L5171
JETS (mm)	3 x 15.9
DEPTH OUT (m)	IN
DEPTH IN (m)	923
TOTAL METRES DRILLED (m)	84
TOTAL HOURS RUN	17.25

CUTTING STRUCTURE: T | To | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr: 4.9

HOLE CONDITION

HOLE DRAG: 30-40

TORQUE AT BOTTOM: 2500

FILL ON BOTTOM (m):

MUD RECORD

MUD TYPE: ☐ WATER BASED ☐ OIL BASED

TIME	17	20:30	3:00
DENSITY kg/m³	1100	1090	1095
FUNNEL VIS. - (S/L)	51	45	45
W.L. (cm³)	7.5	8.0	[illegible]
pH	10	10	10
[illegible]	38.6	36.8	36.9

PRODUCT	AMOUNT X UNIT
Soda Ash	1 SK
Caustic	1 SK
L.G.C.	1 SK
Bi-Lins	1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	CENT #2		

EVENING TOUR

METRES DRILLED

FROM	TO	DRLG. MUD CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
982				20
982	1007	25	50	15-20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5000	152	110	152	

2750 | | 59

DEPTH (m)	DEVIATION (°)	DIRECTION
991	.9	216.3
990	.6	208.8
999	.7	201.1

FOLD HERE →

43385

-02

3300

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H'S Signs Posted (if required)	Initial	Initial
(4) Well License & Slack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOPs - Flarelines & Diverter Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR	MONTH	DAY
20	11	21

RIG NO 51

FUEL @ 8:00

RIG | BOILER

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
	244.5	221	53.6	IPSCO	J-55	39	1714.12	5.0	1714

WEATHER	
TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
	171	[illegible]		62	171	[illegible]	12	[illegible]	NATIONAL	216
	[illegible]	62.46		62.5	[illegible]	[illegible]	63	[illegible]	NATIONAL	216
	DP 114	29.27	G-105	92	159	NC 50 (4 1/2 IF)	250			

18	19	20	21	22	23	24	25	26
SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	HANDLE PIPE				
		.5		1.5				
		.5		1.5		.5		

TOTALS: 9

SHALE SHAKER(S)

NO.	TYPE
3	[illegible]

SCREENS CHANGED ☑ YES ☐ NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTALS/SERVICES

MS 523

275777

MUD RECORD

	6:30	9:30
	10 90	1090
	41	39
	4.5	4.5
	33.0	33.9

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	8	1100	1090	2110

CENT #2

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	8	1100	1090	2130

METRES DRILLED — MORNING TOUR

FROM	TO	DRLD/ REAM. CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
910	923	13	50	2-3
923	947	24	50	20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6700	152	115	152	

RECORDED PUMP SPEED: 2400 @ @ 51

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
914	1.3	[illegible]
923	1.5	[illegible]

DRILLER'S SIGNATURE: [illegible]

TIME LOG — MORNING TOUR

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	3:30	1.5	22	CHANGE OUT BIT + BIT SUB, CHANGE ROTORS IN MOTOR
3:30	1:15	.75	6	RUN IN
1:15	1:45	.5	2	TEST ORIENT.
1:45	3:00	1.25	6	R.I.H.
3:00	3:30	.5	3	REAM F/910 - 923
3:30	6:00	2.5	2	DRILL F/923 - 947
6:00	6:15	.25	7	DISCONNECT FUNCTION HYDRO TORQUE VALVE
6:15	7:30	1.25	2	DRILL F/937-947
7:30	8:00	.5	10	TOTAL SURVEYS

NOTES: USE 4in SLIP & DRAWWORKS & AIR SCRAPER + LUBRICATE BETWEEN COVERS U-TOOL FLUID FUNCTION REMOTE CHOKE

6	11	4 1/2	58	CASH PAYOR	3756

MUD RECORD

	12 hr	4 hr
	1090	1080
	48	45
	9.5	9.5
	10	9
6.9	37.6	37.40

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
SK				
SK				
SK				
K	3			

CENT #2

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	3			

METRES DRILLED — DAY TOUR

FROM	TO	DRLD/ REAM. CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
947	982	35	50	12-20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6000	152	110	152	

RECORDED PUMP SPEED: 2000 @ @ 51

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
932	1.5	[illegible]
942	1.2	[illegible]
952	.5	[illegible]
961		[illegible]

DRILLER'S SIGNATURE: [illegible]

TIME LOG — DAY TOUR

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0500	10:30	2.5	2	Drill F/947-959
10:30	10:45	.5	23	Fix Chain w/ll
10:45	11:45	1	2	Drill F/959-966
11:45	12:00	.25	7	Rig Service c/o Hydril Func. VRSRP
1200	1500	3	2	Drill F/966-982
1500	1600	1	10	Total Surveys
				✓ Fire Extinguishers

NOTES: ✓ Crownsaver Deadline Anchors Pinch and Linkage Annular Element in 4 hr Test Hydril Function and Remote Choke

5	11	4 1/2	58.000		3806

MUD RECORD

	20:30	23:00
	1090	1095
	45	045
	8.0	
	10	10
3.6	36.8	36.9

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED — EVENING TOUR

FROM	TO	DRLD/ REAM. CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
982				20
982	1007	25	50	14-20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
8000	152	110	152	

RECORDED PUMP SPEED: 3785 @ 59 @

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION
971	.5	[illegible]
990	.6	[illegible]
999	.7	[illegible]

DRILLER'S SIGNATURE: [illegible]

TIME LOG — EVENING TOUR

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
11:00	19:45	2.75	2	Drill F/982-994
19:45	20:00	.25	7	Rig Service c/o TDS Packing Unit VRSRP
20:00	23:30	3.5	2	Drill F/994-1007
23:30	24:00	.5	10	Total Surveys

NOTES: ✓ Crownsaver Deadline Anchors Pinch and Linkage Function Remote Choke

8	11	4 1/2			3825

FOLD HERE →

143384

LICENCE NO.: 1584

WELL NAME AND NO.: PARAMOUNT ETAL MOUNT COLY I-02

OPERATOR: PARAMOUNT RESOURCES LTD

CONTRACTOR: JOHN D. PIL. LTD

SURFACE LOCATION: I-02

UNIQUE ID.: UWI 300/02602011332.00

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kats checked		Initial

YEAR 00 | MONTH 1 | DAY 06

RIG NO. 51

FUEL = 8:00

RIG | BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME-HRS

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
CPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.		5.5			1.0	10.5	.25			.5												
DAY		13.5				2	.25			1											.25	
EVE.		3.5			1.5	7.5	.5													.5	.5	
TOTAL		22.5			2.5	20	1			1.5										1	1.25	

DRILLING ASSEMBLY (At End of Tour)

			3 m
	BIT	171	6.31 m
	F/S	171	m
		222	m
		172	m
3		172	m
		222	6.71 m
		171	m
		171	m
			m
	D.P. STANDS		m
	D.P. SINGLES		6.50 m
	KELLY DOWN		7.26 m
	TOTAL		521.75 m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	2
SIZE (mm)	222
IADC CODE	5 4 7 X
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	3 x 12.7
DEPTH OUT (m)	576
DEPTH IN (m)	721
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	22

CUTTING STRUCTURE T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
3	7	RG	4			LT	TD	7

HOLE CONDITION

HOLE DRAG	200 daN Drag
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

	USED	USED
TIME	02.00	
DENSITY kg/m³	1095	
FUNNEL VIS. - (S/L)	39	
W.L. (cm³)	10.5	
pH	9.5	
Pv/Yp	36.1	

MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
GEL	31
STAFIL	1
LIG CO	1
BARITE	10

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRD PRIOR CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
558	576	18	50	20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
9500	152	105	152	

3500 | 64

DEPTH (m)	DEVIATION (°)	DIRECTION
554	3E. 3	310.9
558	.4	354.1

DRILLING ASSEMBLY (At End of Tour)

			25 m
	MWD	171	6.31 m
	F/S	173	m
	Reamer	222	1.71 m
	Monel	172	m
2	D.M.D.C	172	1.09 m
	Reamer	222	1.71 m
4	D.C	171	m
	D.C	171	m
	X/O	149	.30 m
22	H.W.D.P	114	269.12 m
14	D.P.	STANDS	895.01 m
1	D.P.	SINGLES	8.95 m
	KELLY DOWN		12.96 m
	TOTAL		1211.15 m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	3
SIZE (mm)	222
IADC CODE	617
MFG.	Hughes
TYPE	ETJ 1 SINC
SERIAL NO.	K38DK
JETS (mm)	3 x 15.9
DEPTH OUT (m)	
DEPTH IN (m)	876
TOTAL METRES DRILLED (m)	24
TOTAL HOURS RUN	2.75

CUTTING STRUCTURE T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	2-3 daN up
TORQUE AT BOTTOM	3 daN
FILL ON BOTTOM (m)	5.14 Fill

MUD RECORD

	USED	USED
TIME		16.00
DENSITY kg/m³		1090
FUNNEL VIS. - (S/L)		46
W.L. (cm³)		8.5
pH		9.0
25 m³		32.9

MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	1100	1070	2120

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	1100	1090	2050

DAY TOUR

METRES DRILLED

FROM	TO	DRD PRIOR CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
876	900	24	5-50	K-20

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
0000	152	115	152	

3000 | 58

DEPTH (m)	DEVIATION (°)	DIRECTION
868	.6	47.4
877	.4	30.1
896	Bit	

DRILLING ASSEMBLY (At End of Tour)

			25 m
	MWD	171	6.31 m
	F/S	173	m
	Reamer	222	1.71 m
	Monel	172	.57 m
2	D.M.D.C	172	14.79 m
	Reamer	222	1.71 m
4	D.C	171	37.20 m
	D.C		m
	X/O		m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		9.96 m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	3
SIZE (mm)	222
IADC CODE	617
MFG.	Hughes
TYPE	ETJ 1 SINC
SERIAL NO.	K38DK
JETS (mm)	3 x 15.9
DEPTH OUT (m)	923
DEPTH IN (m)	876
TOTAL METRES DRILLED (m)	47
TOTAL HOURS RUN	6

CUTTING STRUCTURE T	T₀	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								7.4

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

	USED	USED
TIME	18.00	20:30
DENSITY kg/m³	1090	1090
FUNNEL VIS. - (S/L)	45	40
W.L. (cm³)	8.5	
pH	9.0	8.5
21 m³	33.6	32.9

MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
BARITE	10 SX

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	1100	1090	2050

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
			2110

EVENING TOUR

METRES DRILLED

FROM	TO	DRD PRIOR CORE C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
900	923	23	50	22

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5300	K3		K2	

3600

DEPTH (m)	DEVIATION (°)	DIRECTION
896	1.2	360
905	1.1	340.6

FOLD HERE →

243384

-02

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection
(2) Detailed Inspection- Weekly (using checklist)
(3) H²S Signs Posted (if required)
(4) Well Licensee & Stick Diagram Posted
(5) Flare Lines Staked
(6) BOP Tests Performed
(7) Weekly Actuated BOP's - Pipe Rams & Diagonal Lines
(1) Rig Site Health and Safety Meeting (date/time/monthly)
(2) C.A.O.D.C. Rig Safety Inspection Checklist (yearly/monthly)
(3) Mast Inspection Before Raising or Lowering
(4) Crown Saver Checked
(5) Master Kills checked

YEAR / MONTH / DATE — RIG NO

FUEL = 8:00

RIG / BOILER

TEMPERATURE °C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

OD (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL (m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE (in/mm)

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.

TOTALS

TYPE
SCREENS CHANGED YES NO
TOP / TOP
MIDDLE / MIDDLE
BOTTOM / BOTTOM

MUD RECORD

METRES DRILLED

FROM	TO	DRLG HRS/CORE HRS	ROTARY R.P.M.	WT ON BIT (1000 kg)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

MORNING TOUR

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG HRS/CORE HRS	ROTARY R.P.M.	WT ON BIT (1000 kg)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

DAY TOUR

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG HRS/CORE HRS	ROTARY R.P.M.	WT ON BIT (1000 kg)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

EVENING TOUR

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG HRS/CORE HRS	ROTARY R.P.M.	WT ON BIT (1000 kg)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

FOLD HERE →

143383

LICENCE NO.: 1281 | WELL NAME AND NO.: Paramount et al Mount Cotton I-02

OPERATOR: Paramount Resources Ltd | CONTRACTOR: Pkt Petroleum Ltd

SURFACE LOCATION: I-02 | UNIQUE ID:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. / R.M.

(1) Daily Wash Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well Licensee & Sites Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flexlines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (once/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR | MONTH | RIG NO. 4

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME HRS

OPER	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN.		5½				11½	¼			½											
DAY		7				12				½											
EVE		7				4½				½											
TOTAL		19½				27½	¼			1½											

MORNING TOUR

DRILLING ASSEMBLY At End of Tour

			.25 m
Motor	171	3.31 m	
[illegible]	171	.91 m	
[illegible]	222	1.70 m	
[illegible]	172	.93 m	
[illegible]	172	11.96 m	
DC	171	77.20 m	
[illegible]	171	1.06 m	
[illegible]	171	.91 m	
[illegible]	171	.32 m	
D.P.	STANDS	227.11 m	
D.P.	SINGLES	9.21 m	
KELLY DOWN		36.72 m	
TOTAL		763.00 m	
WT. OF DC		2½ 1000 daN	
WT. OF STRING		52 1000 daN	

BIT RECORD

BIT NO.	2
SIZE (mm)	222
IADC CODE	5 4 7 X
MFG.	Smith
TYPE	E35
SERIAL NO.	LW4060
JETS (mm)	3 x 14.9
DEPTH OUT (m)	
DEPTH IN (m)	721
TOTAL METRES DRILLED (m)	42
TOTAL HOURS RUN	5.5

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 7.6

HOLE DRAG	SA 5↓
TORQUE AT BOTTOM	2700 - 4000
FILL ON BOTTOM (m)	

MUD RECORD

TIME	01:30	04:00
DENSITY kg/m³	1070	1070
FUNNEL VIS. - (S/L)	36	40
W.L. (cm³)		
pH	9.5	9.5
PVJ	34.2	33.8

PRODUCT	AMOUNT X UNIT
CMC	19
SAPP	1
LIGNITE	1

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8			
8			

METRES DRILLED

FROM	TO	DRLG. FOR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
721	763	42	50	15

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6"	152	115	152

2100 — 63

DEPTH (m)	DEVIATION (°)	DIRECTION
709	.2	184.9
717	.2	20.7
727	.1	216.7
736	.3	210.1
745	.5	211.1

DAY TOUR

DRILLING ASSEMBLY At End of Tour

			.25 m
Motor	171	3.31 m	
215	173	48 m	
[illegible]	222	1.70 m	
[illegible]	172	.93 m	
[illegible]	172	11.96 m	
Rami	322	1.71 m	
D.C	171	77.20 m	
[illegible]	171	1.06 m	
[illegible]	11.9	.32 m	
[illegible]	171	11.96 m	
D.P.	STANDS	227.11 m	
D.P.	SINGLES	9.21 m	
KELLY DOWN		36.72 m	
TOTAL		763.00 m	
WT. OF DC		2½ 1000 daN	
WT. OF STRING		52 1000 daN	

BIT RECORD

BIT NO.	2
SIZE (mm)	222
IADC CODE	5 4 7 X
MFG.	Smith
TYPE	E35
SERIAL NO.	LW4060
JETS (mm)	3 x 14.9
DEPTH OUT (m)	
DEPTH IN (m)	721
TOTAL METRES DRILLED (m)	42
TOTAL HOURS RUN	5.5

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 7.6

HOLE DRAG	5 - 10
TORQUE AT BOTTOM	2500
FILL ON BOTTOM (m)	0.0

MUD RECORD

TIME	08:00	11:00	15:00
DENSITY kg/m³	1090	1100	1100
FUNNEL VIS. - (S/L)	45	43	41
W.L. (cm³)	7.5	8	8.5
pH	10.0	9.5	9.5
PVJ	33.0	33.6	33.8

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
2	1100	1090	1130
6	1120	1090	
8	1120	1090	1130

METRES DRILLED

FROM	TO	DRLG. FOR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
763	807	44	70	10
			90	15

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7000	152	115	152

3290 — 67

DEPTH (m)	DEVIATION (°)	DIRECTION
755	.7	214.2
761	.9	209.9
773	1.12	
783	1.2	
792	.9	

EVENING TOUR

DRILLING ASSEMBLY At End of Tour

			.25 m
[illegible]	171	3.31 m	
[illegible]	172	.91 m	
[illegible]	222	1.70 m	
[illegible]	172	.93 m	
[illegible]	172	11.96 m	
[illegible]	322	1.71 m	
D.C	171	77.20 m	
[illegible]	171	1.06 m	
[illegible]	171	.91 m	
[illegible]	171	.32 m	
D.P	STANDS	227.11 m	
D.P	SINGLES	9.21 m	
KELLY DOWN		36.72 m	
TOTAL		763.00 m	
WT. OF DC		2½ 1000 daN	
WT. OF STRING		52 1000 daN	

BIT RECORD

BIT NO.	2
SIZE (mm)	222
IADC CODE	5 4 7 X
MFG.	Smith
TYPE	E35
SERIAL NO.	LW4060
JETS (mm)	3 x 14.9
DEPTH OUT (m)	
DEPTH IN (m)	721
TOTAL METRES DRILLED (m)	42
TOTAL HOURS RUN	5.5

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 7.6

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	20:00	23:00	
DENSITY kg/m³	1100	1090	
FUNNEL VIS. - (S/L)	38	39	
W.L. (cm³)			
pH	10	10	
PVJ	34.9	35.0	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
0			
4			

METRES DRILLED

FROM	TO	DRLG. FOR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
807	858	51	50	15-20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6"	152	115	152

2800 — 63

DEPTH (m)	DEVIATION (°)	DIRECTION
802	.6	
821	.4	321.7
830	.4	200.3
[illegible]	.4	207.9

FOLD HERE →

3383

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H'S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flowlines & Degasser Lines	Initial	Initial
(1) Rig Safe Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER	
TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

23	24	25	26

TOTALS	SHALE SHAKER(S)	RENTALS SERVICES
	NO. TYPE	
	SCREENS CHANGED ☐ YES ☐ NO	
	TOP / TOP	
	MIDDLE / MIDDLE	
	BOTTOM / BOTTOM	

SLIP/CUT DRILLING LINE	FISHING	DIR. WORK	SAFETY MTG.

MORNING TOUR

MUD RECORD

	04:00	
	1070	
	40	
	9.5	
	33	

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8			
8			

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
721	763	42	50	17-19

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5740	152	115	126

2100	@ 63	@

DEPTH (m)	DEVIATION (°)	DIRECTION
703	.2	184.3
717	.2	.7
727	.1	216.7
736	.3	211.1
745		211

TIME LOG

0	1	1.0	1	RIH
1	1	.5	7	Rig Service / Function Annular Pipe Rams
1	7	5.0	2	Drill F721 - 763
7	8	1	1	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES ✓Crown Saver, Deduct Tubulars, Deadline Anchors

5	11	410	

DAY TOUR

MUD RECORD

11:00		15
1100		1100
43		41
8		8.5
9.5		9.5
0	33.6	33.6

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1	1130	1040	1130
6	1130	1070	1130
8	1130	1070	1130

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
763	807	44	50	10
			40	10

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7000	152	115	152

3250	@ 67	@

DEPTH (m)	DEVIATION (°)	DIRECTION
755	.7	214.3
767	.9	219.9
777	1.2	
787	1.2	
797	.7	

TIME LOG

0900	1300	4.0	2	Drill F763 - 797
1300	1400	.5	7	Rig Service c/o Upper Kelly cock ✓R.S.P.P
1400	1700	3.0	2	Drill F797 - 807
1700	1800	1.0	10	T.I. Survey
				Ground Crown and Blocks

NOTES ✓Crownsaver, Deduct Tubulars, Brakes and Linkage, Hydraulic Hose
Functional Remote Choke, Blowdown Hose - 80L Fluid

2	11	410°	60 000 daN	Crown Saver	3705

EVENING TOUR

MUD RECORD

	2300	
	1090	
	39	
	10	
9	35.0	

UNIT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
9			
9			

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
807	858	51	50	14-20

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6000	152	115	152

2800	@ 63	@

DEPTH (m)	DEVIATION (°)	DIRECTION
802	.6	
821	.0	214.7
830	.4	210.2
	.4	

TIME LOG

1800	1800	2.0	2	Drill F807 - 826
1800	1900	1.0	7	Rig Service OK H.C.R Test ✓R.S.P.P
1900	2200	3.0	2	Drill F826 - 858
2200	2400	2.0	7	

NOTES ✓Crownsaver, Deduct Tubulars, Brakes and Linkage
Functional Remote Choke

5	11	410	56 000 daN	Crown Saver	3756

FOLD HERE →

143382

LICENCE NO.: 1254

WELL NAME AND NO.: PARAMOUNT ETAL MOUNT CITY J-02

OPERATOR: PARAMOUNT RESOURCES LTD

CONTRACTOR: ALTA DRILLING LTD

SURFACE LOCATION: J-02

UNIQUE ID.: WOJ 300/P26 020/12 33 00

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) HPS Signs Posted / (required) — Initial / Initial
(4) Well Licence & Sour Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flexlines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR 90 | MONTH 12 | DAY 31

RIG NO. 51

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME-HRS — CODE NO.

OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	[illegible]	[illegible]
MORN.		5.75					.25			1					.75							.25	
DAY		5.5					.5			2												.25	
EVE.		2.5			.5	.25	.25													.5			.5
TOTAL		13.75			.5	.25	.75			3					.75					.5		.5	.5

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Mot 2	F1	8.31 m
	F15	173	.43 m
	Reamer	222	1.70 m
	Monel	172	.93 m
2	Mon DC	172	18.79 m
	Reamer	222	1.71 m
4	DC	171	37.30 m
5	DC	171	37.43 m
	XO	168	.80 m
3	DP	STANDS	573.31 m
	DP	SINGLES	m
	KELLYDOWN		12.96 m
	TOTAL		870.03 m

WT. OF DC — WT. OF STRING: 49 (1000 daN)

BIT RECORD

BIT NO.	1
SIZE (mm)	222
IADC CODE	1 1 6
MFG.	Hughes
TYPE	GT-S1
SERIAL NO.	W3124
JETS (mm)	3 x 15.9
DEPTH OUT (m)	1N
DEPTH IN (m)	514
TOTAL METRES DRILLED (m)	74
TOTAL HOURS RUN	6.25

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 11.8

HOLE DRAG

TORQUE AT BOTTOM: 4000

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE: WATER BASED ☐ OIL BASED ☐

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

MUD ADDITIVES USED

PRODUCT	AMOUNT X UNIT
Bicarb	3 SX
Soda Ash	1 SK
Gel	40
Caustic	1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLD OFF CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
511	590	74	110	25

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6400	152		152	

2500 — 57

DEPTH (m)	DEVIATION (°)	DIRECTION
517	.5	59.5
526	.6	63.7
538	.7	64.4
[illegible]	[illegible]	60.9
556	.9	72.6

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Mot	171	8.31 m
	FIS	173	.43 m
	Reamer	222	1.70 m
	Monel	172	.93 m
2	Mon DC	172	18.79 m
	Reamer	222	1.71 m
15	DC	171	37.20 m
9	DC	171	37.43 m
	XO	168	.80 m
9	Mon DC	171	265.13 m
X	DP	SINGLES	9.61 m
	KELLYDOWN		5.54 m
	TOTAL		726.60 m

WT. OF DC: 29 (1000 daN) — WT. OF STRING: 50 (1000 daN)

BIT RECORD

BIT NO.	1
SIZE (mm)	222
IADC CODE	1 1 6
MFG.	Hughes
TYPE	GT-S1
SERIAL NO.	W3124
JETS (mm)	3 x 15.9
DEPTH OUT (m)	
DEPTH IN (m)	514
TOTAL METRES DRILLED (m)	192
TOTAL HOURS RUN	11.75

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 16.3

HOLE DRAG: 5-10 rec drag

TORQUE AT BOTTOM: 3700

FILL ON BOTTOM (m): 2nd

MUD RECORD

MUD TYPE: WATER BASED ☑ OIL BASED ☐

TIME	0830	1200	1500
DENSITY kg/m³	1030	1040	1050
FUNNEL VIS. - (S/L)	39	43	42
W.L. (cm³)		11	10
pH	10.5	10.5	10
Bit °		37.3	37.0

MUD ADDITIVES USED

PRODUCT	AMOUNT X UNIT
Gel	25 SX
Starch	25 X
Lignosulphonate	15 X

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8			

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLD OFF CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
590	706	116	40	25
				10-15

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6400	152		152	

[illegible] — 65

DEPTH (m)	DEVIATION (°)	DIRECTION
586	.9	76.2
601	1.2	146.6
642	1.3	239.3
661	1.0	231.0
680	.7	207.4

NV 19

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Mot	171	8.31 m
	FIS	173	.43 m
	Reamer	222	1.70 m
	Monel	172	.93 m
2	Mon DC	172	18.79 m
15	DC	171	37.20 m
9	DC	171	37.43 m
	XO	168	.80 m
9	Mon DC	171	265.13 m
9	DP	STANDS	171.09 m
X	DP	SINGLES	9.61 m
	KELLYDOWN		5.54 m
	TOTAL		726.60 m

WT. OF DC: 29 (1000 daN) — WT. OF STRING: 50 (1000 daN)

BIT RECORD

BIT NO.	1	2
SIZE (mm)	222	222
IADC CODE	1 1 6	5 4 7 Y
MFG.	Hughes	Smith
TYPE	GT-S1	F35
SERIAL NO.	W3124	LW4460
JETS (mm)	3 x 15.9	3 x 15.9
DEPTH OUT (m)	721	
DEPTH IN (m)	514	721
TOTAL METRES DRILLED (m)	207	
TOTAL HOURS RUN	14.25	

CUTTING STRUCTURE: T | T0 | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr. — 14.5

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE: WATER BASED ☑ OIL BASED ☐

TIME	1800		
DENSITY kg/m³	1060		
FUNNEL VIS. - (S/L)	41		
W.L. (cm³)	10		
pH	10		
Bit °			

MUD ADDITIVES USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD OFF CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
706	720	14	130	10-15
720	721	1	130	25

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7300	152			

2500 — 65

DEPTH (m)	DEVIATION (°)	DIRECTION
699	.4	191.7

FOLD HERE →

382

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Slack Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR 05 | MONTH 12 | DAY 26

RIG NO 51

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING	244.5	220	53.57	IPSCO	J-55	29	514.12	5.5	514
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
	171	108.5		72	171	5½ FH	12	5" DS-50	NATIONAL	711
	171	120.5		69.5	190	4½ IF	43	5" DS-50	NATIONAL	711
	146 DP	29.27	G-105	92	178	4½ XH	24			

FISHING	DIR. WORK	SAFETY MTG.					
			.25				
			.25				
	.5		.5				
	.5		.5				

TOTALS: 8 / 8 / 24

SHALE SHAKER(S): NO. 2 TYPE DERRICK; SCREENS CHANGED ☐ YES ☐ NO; TOP; MIDDLE; BOTTOM

RENTALS SERVICES: A.T. 343; A.T.S. 230513

MORNING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRD-RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
513	590	74	110	25

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6400	152		152	

REVISED PUMP SPEED: 2500 @ 57 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
517	.5	59.5
528	.6	62.7
538	.7	64.4
[illegible]	[illegible]	70.7
556	[illegible]	76

TIME LOG

0	2:15	2.25	2	DRILL F/513 - 523
2:15	2:30	.25	22	B.O.P. DRILL
2:30	2:45	.25	7	RIG SERVICE/FUNCTION HYDRIL 12 SEC VRSRP
2:45	3:30	.75	15	LEAK OFF TEST
3:30	7:00	3.5	2	DRILL F/523 - 591
7:00	8:00	1	10	TRIP S.D. 45

NOTES: Jar hammer drill 2, Pump #1 leaking at piston rod, Function Annular

Function Pipe rams, Blind rams, HCR, Choke manifold FUNCTION PERFORMED SATISFACTORILY

1 m 1 2/3

8 | 11 | 410

DAY TOUR

MUD RECORD

12.2	15.0
1010	1050
43	42
11	10
10.5	10
37.3	37.0

METRES DRILLED

FROM	TO	DRD-RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
590	706	116	90	25
				KK

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6400	152	115	152	

REVISED PUMP SPEED: 2[illegible] @ 65 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
592	.7	7.2
601	1.2	11.6
612	1.3	245.3
661	1.0	231.0
680	.7	247.1

TIME LOG

0800	0815	.75	2	Drill F/590 - 598
0815	0900	.25	22	B.O.P. Drill w/crew well secure in 60 sec
0900	1030	1.5	2	Drill F/598 - 627
1030	1045	.25	7	Rig Service c/o Top Pipe rams Hyd VRSRP
1045	1330	2.75	2	Drill F/627 - 700
1330	1400	.5	3	Control Drill F/700 - 706
1400	1600	2	10	Trip Surveys

NOTES: Crew work for Hazardness. Perkins oil leak

Function Annular choke manifold = not Chk

8 | 11 | 410 | 60.000 daN | work operations | 3958

EVENING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRD-RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
706	720	14	90	10-15
720	721	1	90	KK

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7300	152	115		

REVISED PUMP SPEED: 2[illegible] @ 65 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
699	[illegible]	191.7

TIME LOG

1100	1730	1.5	2	Control Drill F/706 - 720
1730	1830	1	8	Drill F/720 - 721
1830	1845	.25	7	Rig Service c/o Bottom Pipe rams Hyd VRSRP
1845	1915	.5	5	Mud pump #1
1915	2230	3.25	6	Trip for BIT, FC 712 (TP, 516, 332, [illegible]
2230	2330	.5	23	Hanging tong + chain and dies [illegible]
2330	2400	.5	1	R.I.H.
2400	2	2	28	[illegible]

NOTES: Crew work for Drilling Perkins Exhaust Leakage

DRILLER'S SIGNATURE | DOUBLE CHECKED BY | MAGNETIC DECLINATION CORRECTION | SURVEYED BY

8 | 11 | 410

FOLD HERE →

143381

LICENCE NO.: 1824

WELL NAME AND NO.: Paramount Petrol Mount Coty I-02

OPERATOR: Paramount Resources Ltd.

CONTRACTOR: AKITA Drilling Ltd.

SURFACE LOCATION: I-02

UNIQUE ID.: UWI 200102602011233 00

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS	OPR.	R.M.
(1) Daily Work Around Inspection	initial	initial
(2) Derrick Inspection Weekly (using checklist)	initial	initial
(3) H2S Sign Posted (if required)	initial	initial
(4) Well Location & Sour Diagram Posted	initial	initial
(5) Flare Line Staked	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually Inspect BOP's - Flowlines & Degasser Lines	initial	initial
(1) Rig Site Hazard and Safety Meeting (once/crew/month)		initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motor Kills checked		initial

YR./MTH. | MONTH | DAY

RIG NO.

FUEL | $ 00

H2C | BLOWER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME - HRS

CODE NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.			
	MORN.														8										
	DAY														2	3.25									
	EVE.		.5			7.25										2					5		2	25	
	TOTAL		.5			7.25									10	5.25					5		2	25	

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T1	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRD. REAM. CORE C.	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Fold Block

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	1
SIZE (mm)	222
IADC CODE	1 1 6
MFG.	Hughes
TYPE	GT-S1
SERIAL NO.	W3124
JETS (mm)	3x 15.9
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T1	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRD. REAM. CORE C.	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Motor	171	8.31 m
	FIS	173	.49 m
	Reamer	222	1.70 m
	Stabilizer	172	.93 m
2	NUMSX	172	18.79 m
	Reamer	222	1.71 m
9	DC	171	32.76 m
2	DC	171	5.46 m
	X/O	168	.64 m
HCTubDP		171	59.12 m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	1
SIZE (mm)	222
IADC CODE	1 1 6
MFG.	Hughes
TYPE	GT-S1
SERIAL NO.	W3124
JETS (mm)	3x 15.9
DEPTH OUT (m)	
DEPTH IN (m)	514
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T1	To	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRD. REAM. CORE C.	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514	516			

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6 7/8	152	155	152

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

3381

DAILY CHECKS	OPR.	R.M.
(1) Daily driller's report/sign	initial	initial
(2) Detailed inspection 1 weekly (Tubing check list)	initial	initial
(3) H²S Signs Posted (if required)	initial	initial
(4) Well Licences & Stick Diagram Present	initial	initial
(5a) Flare Lines Staked	initial	initial
(5b) BOP Drills Performed	initial	initial
(7) Visually inspect BOP's - Pneumatic & Degasser Lines	initial	initial
(1) Rig Site Health and Safety Meeting (once/month/well)	initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month/well)	initial	
(3) Mast Inspection Before Raising or Lowering	initial	
(4) Crown Saver Checked	initial	
(5) Motor Kills checked	initial	

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

HRS | BOILER

	TEMPERATURE °C	CURRENT CONDITIONS	WIND DIRECTION	ROAD
WEATHER				

LAST CASING TUBING OR LINER

O.D (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS

PUMP TYPE | PUMP MANUFACTURER | STROKE LTH (mm)

TOTALS

SHALE SHAKERS

NO. | TYPE

SCREENS CHANGED YES NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

PSHNG	DIR WORK	SAFETY MTG

MORNING TOUR

MUD RECORD

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

T X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE'G	ROTARY R.P.M.	WT ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	0800	8	14	Moved in

NOTES Blow Down Boiler 4X = 80 Liters.

Todd Bleed — 8 | 11 | 420

DAY TOUR

MUD RECORD

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

T X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE'G	ROTARY R.P.M.	WT ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
800	1200	4	14	NIPPLE UP.
		2	15	[illegible]
				[illegible]
				VISUAL [illegible]
				[illegible]

NOTES [illegible]

[illegible] — 8 | 11 | 410

EVENING TOUR

MUD RECORD

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

T X UNIT

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE'G	ROTARY R.P.M.	WT ON BIT (1000 daN)
514	516			

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6 1/2	152	6 1/2	152

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

				DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1800	2	15	Pressure Test B.O.P Hydril To/Rams
				10 min each Inside B.O.P Stabbing Valve and Kill Line
				and Manifold Using Mud Pump Mud 42 PCF
1800	2000	2	22	Pressure Test Backup Test Same
2000	2100	1	5	TIH w/ DC's.
2100	2130	0	2	Test Csg.
2130	2200	0	1	Drill out cement, Float Collar, Guide Shoe & 4m New Hole
2200	2230	0	1	Circulate & Condition Mud for Leak Off Test
2230	2400	0	1	Test Formation @ 514m - Leak off

NOTES [illegible] Leakoff

FOLD HERE →

143380

LICENCE NO.: 1084

WELL NAME AND NO.: Encumount Fital Mount Coty 2-02

OPERATOR: Provident Resources Ltd

CONTRACTOR: HP 3 Drilling Ltd

SURFACE LOCATION: 2-02

UNIQUE ID: INI SDN 226 2011 5300

SIGNATURE OF OPERATOR'S REPRESENTATIVE: INA Kelusion

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. R.M.

	OPR. Initial	R.M. Initial
(1) Daily Walk Around Inspection		
(2) Detailed Inspection Weekly (using checklist)		
(3) H2S Signs Present (if required)		
(4) Well Licence & Stick Diagram Posted		
(5) Flare Lines Staked		
(6) BOP Drills Performed		
(7) Visually inspect BOP's Flexlines & Degasser Lines		

	Initial
(1) Rig Site Health and Safety Meeting (where/when/with)	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (where/month)	
(3) Mast Inspection Before Raising or Lowering	
(4) Crown Saver Checked	
(5) Motor Kills checked	

YEAR: 2 | MONTH: 12 | DAY: 02

RIG NO.: 51

FUEL @ 8:00

RIG: 12720 | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

OPER.	SLIP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.				
MORN.		1										3/4									1/2				
DAY		.75										1.5	4								.25		1.5		
EVE.													2											4 1/2	
TOTAL		1.75										5 3/4	6								.75	1/2	1 1/2	4 1/2	

MORNING TOUR

BIT RECORD

		BIT NO.	
12¼	1160	SIZE (mm)	
8½	30	IADC CODE	
4	6 1/8	MFG.	
		TYPE	
		SERIAL NO.	
		JETS (mm)	
		DEPTH OUT (m)	
		DEPTH IN (m)	
		TOTAL METRES DRILLED (m)	
		TOTAL HOURS RUN	
D.P. STANDS		CUTTING STRUCTURE: T / G / 2 / IADC / LOC / B / Gage / ODC / Reason Pulled / Total Run m/hr	
D.P. SINGLES			
KELLYDOWN			
TOTAL		HOLE DRAG	NIL
WT. OF DC (1000 daN)		TORQUE AT BOTTOM	
WT. OF STRING (1000 daN)		FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT
Drill	15K

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
1450	152	130	

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Block

DAY TOUR

BIT RECORD

		BIT NO.	
		SIZE (mm)	
		IADC CODE	
		MFG.	
		TYPE	
		SERIAL NO.	
		JETS (mm)	
		DEPTH OUT (m)	
		DEPTH IN (m)	
		TOTAL METRES DRILLED (m)	
		TOTAL HOURS RUN	
D.P. STANDS		CUTTING STRUCTURE: T / G / 2 / IADC / LOC / B / Gage / ODC / Reason Pulled / Total Run m/hr	
D.P. SINGLES			
KELLYDOWN			
TOTAL		HOLE DRAG	
WT. OF DC (1000 daN)		TORQUE AT BOTTOM	
WT. OF STRING (1000 daN)		FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

EVENING TOUR

BIT RECORD

		BIT NO.	
		SIZE (mm)	
		IADC CODE	
		MFG.	
		TYPE	
		SERIAL NO.	
		JETS (mm)	
		DEPTH OUT (m)	
		DEPTH IN (m)	
		TOTAL METRES DRILLED (m)	
		TOTAL HOURS RUN	
D.P. STANDS		CUTTING STRUCTURE: T / G / 2 / IADC / LOC / B / Gage / ODC / Reason Pulled / Total Run m/hr	
D.P. SINGLES			
KELLYDOWN			
TOTAL		HOLE DRAG	
WT. OF DC (1000 daN)		TORQUE AT BOTTOM	
WT. OF STRING (1000 daN)		FILL ON BOTTOM (m)	

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Block

FOLD HERE →

43380

- 02

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection Weekly (Tubing checked)	Initial	Initial
(3) H2S Signs Posted (if required)	Initial	Initial
(4) Well License & Slice Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's, Flarelines & Derrickset Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO 31

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS
171	105		62	171	5 H-90	12
114 HWDP	62.45		57.8	153	4½ IF	3
114 DP	24.77	E	92	153	4½ IF	250

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
8-P-80	National	216
8-P-80	National	216

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	RIG SERVICE	TRIPPING	DRILLING
			4.00	1/2		4.50
			.25		1.5	
						4½
			.25	½	1½	4½

TOTALS	SHALE SHAKER(S)	RENTALS SERVICES
3	NO. / TYPE	MI - 2410
8	SCREENS CHANGED YES NO	AMJ - 270539
9	TOP / TOP	
24	MIDDLE / MIDDLE	
	BOTTOM / BOTTOM	

MUD RECORD

USED		

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
X				
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	130		

REDUCED ROTARY SPEED

	@		@

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION

Todd Blow

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0	0730	½	22	L/D 9" Collars
0730	1130	4	12	Rig to Run CSG + Run CSG
1130	0730	1	5	Circ
0730	0830	½	12	Cement + CSG

NOTES

Displ Down 3½" 4X = 80 BBL FLUID

8 | 11 | 42

RUN CSG

MUD RECORD

USED		

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED ROTARY SPEED

	@		@

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0700	0745	.75	5	CIRC
0745	0800	.25	21	SAFETY MEETING
0800	0900	1	12	RU TO CEMENT CSG
0900	1400	41	13	CEMENT.
1400	1530	1.5	23	TEAR OUT DIVERTER, CUT CSG CONDUCTOR
1530	1700	.5	12	RIG UP TO CEMENT

NOTES

Displ Down 3½" 4X = 80 BBL FLUID

8 | 12 | 210

RUN CSG

MUD RECORD

USED		

UNIT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
514				

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

REDUCED ROTARY SPEED

	@		@

DEVIATION SURVEYS

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1700	1730	1.5	12	RU TO CEMENT
1730	1900	2	13	W.O.C
1900	2400	4½	24	Wait on Sow!

NOTES

Displ Down 3½" 4X = 80 BBL FLUID

8 | 18 | 420

RUN CSG

FOLD HERE →

143379

LICENCE NO.: 1294

WELL NAME AND NO.: Paramount Etal Mount Cody I-02

OPERATOR: Paramount Resources Ltd

CONTRACTOR: Akita Drilling Ltd

SURFACE LOCATION: I-02

UNIQUE ID.: UWI 300I070620120133W0

SIGNATURE OF OPERATOR'S REPRESENTATIVE: Wm Gallinson

SIGNATURE OF CONTRACTOR'S RIG MANAGER: Mark McPhee

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licensee & Slick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Hearth and Safety Meeting (once/crew/month)		Initial
(2) C A O D C Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 99 MONTH 12 DAY 6

RIG NO. 51

FUEL @ 8:00

RIG 5724 BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME-HRS

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
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.		
MORN.			2½		½					½													
DAY			6.5		.25	.25	.25			.25													
EVE.																							
TOT.																							

DRILLING ASSEMBLY (At End of Tour)

	Bit		.35 m
	B/S	225	1.22 m
2	D.C	225	13.59 m
	X/O	168	.44 m
	X/O	168	.51 m
12	DC	171	111.60 m
	X/O	168	.90 m
33	HWDP	114	375.14 m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		9.34 m
	TOTAL		1149.00 m
WT. OF DC		28	1000 daN
WT. OF STRING		42	1000 daN

BIT RECORD

BIT NO.	ARR	7ARR
SIZE (mm)	311	311
IADC CODE	116	
MFG.	Hughes	Hughes
TYPE	ATC1	GT-S1
SERIAL NO.	71DM	G2774
JETS (mm)	3x17.5	3x17.5
DEPTH OUT (m)	448	
DEPTH IN (m)	350	449
TOTAL METRES DRILLED (m)	118	
TOTAL HOURS RUN	9.25	

CUTTING STRUCTURE: T, T0, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr.

12.8

HOLE CONDITION

HOLE DRAG	2-5000
TORQUE AT BOTTOM	4200
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: WATER BASED ☐ OIL BASED ☐ GAS CUT ☐

TIME	0145	0230
DENSITY kg/m³	1080	1085
FUNNEL VIS. - (S/L)	48	52
W.L. (cm³)		
pH	9.5	9.5
PVT m³	24.	28.1

MUD MATERIALS ADDED — SOLIDS CONTROL

PRODUCT	AMOUNT X UNIT
Gel	2 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLG. RMR. CORES C.	ROTARY R.P.M.	WT. ON BIT (1000daN)
423	448	25	170	8-9

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11600	152	105	152	105

DEPTH (m)	DEVIATION (°)	DIRECTION
438	1°	

Lost Blast

DRILLING ASSEMBLY (At End of Tour)

	Bit		.35 m
	B/S	225	1.22 m
2	D.C	2.25	13.59 m
	X/O	216	.44 m
	X/O	168	.51 m
12	DC	171	111.60 m
	X/O	168	.90 m
31	HWDP	114	355.74 m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		12.96 m
	TOTAL		497.29 m
WT. OF DC		28	1000 daN
WT. OF STRING		45	1000 daN

BIT RECORD

BIT NO.	7A R2	
SIZE (mm)	311	
IADC CODE		
MFG.	Hughes	
TYPE	GT-S1	
SERIAL NO.	G 2774 H	
JETS (mm)	3x17.5	
DEPTH OUT (m)	IN	
DEPTH IN (m)	448	
TOTAL METRES DRILLED (m)	49	
TOTAL HOURS RUN	6.5	

CUTTING STRUCTURE: T, T0, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr.

7.5

HOLE CONDITION

HOLE DRAG	NIL
TORQUE AT BOTTOM	3000 - 4000
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: WATER BASED ☐ OIL BASED ☐ GAS CUT ☐

TIME	9:00	12:00 1500
DENSITY kg/m³	1075	1100 1100
FUNNEL VIS. - (S/L)	65	92 84
W.L. (cm³)		
pH	9.5	9.0 9.0
PVT m³		26.0 25.3

MUD MATERIALS ADDED — SOLIDS CONTROL

PRODUCT	AMOUNT X UNIT
GEL	9 SX

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLG. RMR. CORES C.	ROTARY R.P.M.	WT. ON BIT (1000daN)
448	497	49	170	8-9
				6-8

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11480	152	105	152	105

DEPTH (m)	DEVIATION (°)	DIRECTION
466	1.75	
495	.75	

DRILLING ASSEMBLY (At End of Tour)

	Bit		.35 m
	B/S	225	1.22 m
2	D.C	225	13.59 m
	X/O	216	.44 m
	X/O	168	.51 m
12	DC	171	111.60 m
	X/O	168	.90 m
40	HWDP	114	369.17 m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLYDOWN		12.97 m
	TOTAL		514 m
WT. OF DC		28	1000 daN
WT. OF STRING		45	1000 daN

BIT RECORD

BIT NO.	7ARR	
SIZE (mm)	311	
IADC CODE		
MFG.	Hughes	
TYPE	GT-S1	
SERIAL NO.	G 2774	
JETS (mm)	3x17.5	
DEPTH OUT (m)	514	
DEPTH IN (m)	494	
TOTAL METRES DRILLED (m)	66	
TOTAL HOURS RUN	9	

CUTTING STRUCTURE: T, T0, MDC, LOC, B, Gage, ODC, Reason Pulled, Total Run m/hr.

2 2 WT A E 1/16 WT TD 7.3

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: WATER BASED ☐ OIL BASED ☐ GAS CUT ☐

TIME	1800	2130
DENSITY kg/m³	1095	1120
FUNNEL VIS. - (S/L)	94	72.
W.L. (cm³)		
pH	9.0	9
PVT m³	27.3	30.5

MUD MATERIALS ADDED — SOLIDS CONTROL

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLG. RMR. CORES C.	ROTARY R.P.M.	WT. ON BIT (1000daN)
497	514	17	170	5-7

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11500	152	105	152	105

DEPTH (m)	DEVIATION (°)	DIRECTION
510	3/4°	

Lost Blast

FOLD HERE →

379

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H'S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO 51

FUEL @ 8:00

RIG 5724 | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)
	5	5.90		7.4	9.5	7H90	2	8-P-80	National	216
	17	IDS		6.2	17.1	5.5H	12	8-P-80	National	216
	11.9	12.45		6.8	15.9	4½XH	53			

FISHING	DIR. WORK	SAFETY MTG.

TOTALS: NO. | TYPE

SHALE SHAKER(S)

SCREENS CHANGED ☐ YES ☐ NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS SERVICES

HMD 267 169

MJ 234

MORNING TOUR

MUD RECORD

5	03:30	
0	1085	
	85	
	9.5	
	281	

X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
1				

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMVR CORR'C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
423	448	25	170	8-9

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11600	152	105	152	105

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
438	1°	

2nd BHA

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
6:00	9:30	3½	3	Ream F/423-442
9:30	9:45	¼	10	Survey @ 439
9:45	13:00	3	3	Ream F/442-448
13:00	14:00	1	5	Circ
14:00	18:30	4½	6	POOH for B.H.A.
				Run.
				416.76
				D/K .35

NOTES: 31° Down 30 min 4x-80L

8 | 11 | 420

DAY TOUR

MUD RECORD

	12:30	15:00
	1:00	11:00
	92	84
	9.0	9.0
	260	253

X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
X				

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMVR CORR'C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
447	497	49	170	4-9

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11400	152	105	152	105

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
446	1.75	
495	.75	

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
6:00	8:15	2¼	6	R.I.H.
8:15	8:30	¼	5	Break Circ
8:30	11:30	3	3	Ream F/447-469
11:30	12:00	½	7	Rig Service & Function Kelly Cock
12:00	13:00	1	10	Survey @ 446
13:00	15:30	2½	3	Ream F/469-497
15:30	16:00	½	10	Survey @ 495

NOTES: Crown Saver, Derrick Inspection, Deadline Anchors

Pre-Tour Safety Meeting

8 | 49 | 420

EVENING TOUR

MUD RECORD

0	21:30	
5	1120	
	72	
	9	
3	30.5	

X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMVR CORR'C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
497	514	17	170	5-10

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
11500	152	105	152	105

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
5	3.5	

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
18:00	18:30	2.5	3	Ream F/497-514
18:30	19:00	.5	5	C.I.R.C.
19:00	21:00	2	1	Work Tight to Drill Collars
21:00	21:30	½	5	Circ
21:30	7:00	9½	10	~~Wash to Bottom~~ POOH for Survey @ 510
7:00	22:00	½	7	Rig Service.
22:00	24:00	2	14	Pull out of Hole & Lay Down DCs.

NOTES: Crown Saver, Deadline Anchors, Brakes & Linkages

Slow Down 30 min. 372

DRILLER'S SIGNATURE: Scott Elliott

5 | 190

143378

FOLD HERE →

LICENCE NO.: 1834

WELL NAME AND NO.: Fairmont Et al Mount Coal F-02

OPERATOR: Fairmont Resources Ltd

CONTRACTOR: Ensign Drilling Ltd

SURFACE LOCATION: F-02

UNIQUE ID: WPT 300/02602012/2300

SIGNATURE OF OPERATOR'S REPRESENTATIVE: Allan Callihoo

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	RIG
(1) Daily Mast Around Inspection		
(2) Derrick Inspection Weekly (using checklist)		
(3) H2S Signs Posted (if required)		
(4) Well Location & Shop Diagram Posted		
(5) Flare Lines Staked		
(6) BOP Drills Performed		
(7) Visually Inspect BOPs - Preventers & Dirty Lines		
(1) Rig Site Health and Safety Meeting (documented)		
(2) C.A.O.D.C. Rig Safety Inspection Checklist completed monthly		
(3) Mast Inspection Before Raising or Lowering		
(4) Crown Saver Checked		
(5) Master Valve checked		

COUE NO

TIME - HRS	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
	MORN.		1					1/4															
	DAY		2.5			.5	.75	.25			.75											1.25	
	EVE.			5 1/4																			
	TOTAL			5 1/4																		1.25	

DRILLING ASSEMBLY (At End of Tour)

			1 m
	Motor	222	231 m
	F/S	171	48 m
	Mud Stab	173	43 m
3	M/BIC	172	18.79 m
12	D.C	171	111.60 m
37	HWDP	114	342.56 m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		12.34 m
	TOTAL		1151.23 m
WT. OF DC		28	1000 daN
WT. OF STRING		92	1000 daN

BIT RECORD

BIT NO	5RR
SIZE (mm)	222
IADC CODE	
MFG.	Hycalog
TYPE	DT-C1
SERIAL NO.	K132T
JETS (mm)	3 x 12
DEPTH OUT (m)	IN
DEPTH IN (m)	330
TOTAL METRES DRILLED (m)	115
TOTAL HOURS RUN	23.25

CUTTING STRUCTURE

T	T_0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr
								7

HOLE DRAG	2000
TORQUE AT BOTTOM	2200
FILL ON BOTTOM (m)	

MUD RECORD

TIME	00.30	04.30	06.00
DENSITY kg/m³	1100	1090	1095
FUNNEL VIS - (S/L)	78	75	70
W.L. (cm³)			
pH	9	9.5	9.5
PV / YP	247.	27.	27.

PRODUCT	AMOUNT X UNIT
Gel	5 sx

FROM	TO			
153	1.5	42	30	9
1700	152	115		

DEPTH (m)	DEVIATION (°)	DIRECTION
444	2	24
498	2	
655	1.6	187
673	1.1	180.5

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	Motor	222	531 m
	F/S	171	.48 m
	Mud Stab	173	.43 m
2	M/BIC	172	18.79 m
39	HWDP	114	342.56 m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		12.34 m
	TOTAL		511.17 m
WT. OF DC		24	1000 daN
WT. OF STRING		43	1000 daN

BIT RECORD

BIT NO	5RR
SIZE (mm)	222
IADC CODE	
MFG.	Hycalog
TYPE	DT-C1
SERIAL NO.	K132T
JETS (mm)	3 x 12.5
DEPTH OUT (m)	511
DEPTH IN (m)	330
TOTAL METRES DRILLED (m)	181
TOTAL HOURS RUN	25.75

CUTTING STRUCTURE

T	T_0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr
								7.1

HOLE DRAG	2000
TORQUE AT BOTTOM	2200
FILL ON BOTTOM (m)	

MUD RECORD

TIME	21:00	11:30	1800
DENSITY kg/m³	1010	1090	1095
FUNNEL VIS - (S/L)	71	70	80
W.L. (cm³)			
pH	9.0	9.0	9.0
PV / YP	26.4	23.0	1950

PRODUCT	AMOUNT X UNIT
Gel	27 sx

FROM	TO			
494	514	19	20	
6400	162	115	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
452		17.5
491	.4	15.1
580	.2	102.7

DRILLING ASSEMBLY (At End of Tour)

			.35 m
	B/S	225	1.02 m
2	D.C	225	18.53 m
	S/B	218	.94 m
	F/S	168	.51 m
12	D.C	171	111.60 m
	S/B	168	.40 m
30	HWDP	114	277.31 m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		12.34 m
	TOTAL		403.85 m
WT. OF DC		24	1000 daN
WT. OF STRING		42	1000 daN

BIT RECORD

BIT NO	6RR2
SIZE (mm)	311
IADC CODE	111
MFG.	Hycalog
TYPE	GT-C1
SERIAL NO.	L71DM
JETS (mm)	3 x 12.5
DEPTH OUT (m)	—
DEPTH IN (m)	330
TOTAL METRES DRILLED (m)	73
TOTAL HOURS RUN	5.75

CUTTING STRUCTURE

T	T_0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr

HOLE CONDITION

HOLE DRAG	2000
TORQUE	2200
FILL ON BOTTOM (m)	

MUD RECORD

TIME	20:00	24:00	
DENSITY kg/m³	1090	1080	
FUNNEL VIS - (S/L)	96	70	
W.L. (cm³)			
pH	9.5	9.5	
PV / YP	201	263	

PRODUCT	AMOUNT X UNIT
Gel	5 sx
Caustic	1 sx

FROM	TO			
330	423	8	17	34
1040	162	165	132	

DEPTH (m)	DEVIATION (°)	DIRECTION
352	1°	
389	7/8°	
518	1°	

FOLD HERE →

43378

DAILY CHECKS

TEMPERATURE
CLARITY
CONDITIONS

PUMP TYPE
PUMP MANUFACTURER

30 64 30 26 00
100 1090 .0
12 75 10
15
47 27

LINE X LINE

2

2000
1090 1080
90 80
15 15
201 203

2 11:32 1600
10 1092 1.95
1 76
2 10
4 13 @ 1150

11 2301

FROM TO

DEPTH DEVIATION DIRECTION

FROM TO

DEPTH DEVIATION DIRECTION

FROM TO

DEPTH DEVIATION DIRECTION

FOLD HERE →

143377

LICENCE NO. 524 | WELL NAME AND NO. [illegible] | CONTRACTOR [illegible] | UNIQUE ID AWE 300 [illegible]

SURFACE LOCATION [illegible] | SIGNATURE OF OPERATOR'S REPRESENTATIVE [illegible]

SIGNATURE OF CONTRACTOR'S RIG MANAGER: [illegible]

DAILY CHECKS — OPR. / R.M.

(1) Daily Work Around Inspection — Initial / Initial
(2) Datamine Inspection-Witness (using Checklist) — Initial / Initial
(3) H2S Signs Posted (if required) — Initial / Initial
(4) Well Locations & Sites Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial ✓ / Initial
(6) BOP Drills Performed — Initial ✓ / Initial
(7) Visually Inspect BOPs - Flarelines & Degasser Lines — Initial ✓ / Initial

(1) H2S Site Health and Safety Meeting (once/crew month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial ✓
(5) Master Rams checks 3 — Initial ✓

YEAR 79 | MONTH 10 | DAY NO. 51

FUEL = 8 00

RIG 560 | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

CREW	HRS ON TOUR	DRILL ACTUAL	REAMING	CORING	CIRC MUD & COND	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG	
MORN																					1/2	
DAY	6.5									1.5												
EVE																						
TOTAL																					1/2	

BIT RECORD

BIT NO.	5RR
SIZE (mm)	222
IADC CODE	
MFG.	HUGHES
TYPE	GT-S1
SERIAL NO.	[illegible]
JETS (mm)	3 X 17.5
DEPTH OUT (m)	
DEPTH IN (m)	330
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T | L | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

HOLE DRAG	2000
TORQUE AT BOTTOM	2000
FILL ON BOTTOM (m)	N.C.

D.P. STANDS
D.P. SINGLES
KELLYDOWN
TOTAL

WT. OF DC 28
WT. OF STRING 37

MUD RECORD

TIME	05:00	06.00
DENSITY kg/m³	1080	1020
FUNNEL VIS. - (S/L)	78	71
W.L. (cm³)		
pH	9.	9
T PV	22.5	23.0

PRODUCT	AMOUNT X UNIT
Gel	5 sk.

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLD MTRS CORED	ROTARY R.P.M.	WT. ON BIT (1000's)
330	[illegible]		35	

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
5500	152	152

~~5500~~

DEPTH (m)	DEVIATION (°)	DIRECT

Todd Block

BIT RECORD

BIT NO.	5RR
SIZE (mm)	222
IADC CODE	
MFG.	HUGHES
TYPE	GT-S1
SERIAL NO.	[illegible]
JETS (mm)	
DEPTH OUT (m)	IN
DEPTH IN (m)	330
TOTAL METRES DRILLED (m)	51
TOTAL HOURS RUN	9.5

CUTTING STRUCTURE: T | L | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr — 9.5

HOLE DRAG	2000
TORQUE AT BOTTOM	2300
FILL ON BOTTOM (m)	

D.P. STANDS
D.P. SINGLES
KELLYDOWN 10.42
TOTAL 411

WT. OF DC 28
WT. OF STRING 39

MUD RECORD

TIME	07:00	12:00	15:00
DENSITY kg/m³	1080	1090	1095
FUNNEL VIS. - (S/L)	75	75	70
W.L. (cm³)			
pH	8.5	8.5	8.5
PV/YP	23.4	24.2	23.4

PRODUCT	AMOUNT X UNIT
Gel	5 sx
Caustic	1 sk
Soda Ash	1 sk

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLD MTRS CORED	ROTARY R.P.M.	WT. ON BIT (1000's)
356	411	55	30	5

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
6000	152	115	152

DEPTH (m)	DEVIATION (°)	DIRECTION
343	1.6	282.4
353	1.1	340.6
371	.7	241.7
3[illegible]	.8	218.1
370	.8	209.

BIT RECORD

BIT NO.	5RR
SIZE (mm)	222
IADC CODE	
MFG.	HUGHES
TYPE	GT-S1
SERIAL NO.	[illegible]
JETS (mm)	
DEPTH OUT (m)	IN
DEPTH IN (m)	330
TOTAL METRES DRILLED (m)	123
TOTAL HOURS RUN	16¼

CUTTING STRUCTURE: T | L | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr — 7.6

HOLE DRAG	2000
TORQUE AT BOTTOM	2400
FILL ON BOTTOM (m)	

D.P. STANDS
D.P. SINGLES
KELLYDOWN
TOTAL

WT. OF DC 28
WT. OF STRING 40

MUD RECORD

TIME	18:00	21.00	23:45
DENSITY kg/m³	1095	1099	1100
FUNNEL VIS. - (S/L)	80	74	82
W.L. (cm³)			
pH	9.0	9.5	9.
PV/YP	24.1	24.5	24.1

PRODUCT	AMOUNT X UNIT
Gel	7 sx

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD MTRS CORED	ROTARY R.P.M.	WT. ON BIT (1000's)
411	453	42	30	2

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)
7200	152	115	152

DEPTH (m)	DEVIATION (°)	DIRECTION
409	.6	219.4
427	.3	213.6
436	.7	211.2

Todd Block

FOLD HERE →

3377

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		Initial
(3a) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 09 MONTH 05 DAY 12

RIG NO 51

FUEL @ 8:00

RIG 210 BOILER

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

WEATHER	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)
			71			2	B-7-80	National	210
						2	B-7-80	National	216
			82.1	153	5½ FH	53			

SURFACE CASING	FISHING	DIR. WORK	SAFETY MTG
			1½
			1½

TOTALS	SHALE SHAKER(S)		RENTALS SERVICES
	NO 2 TYPE Derrick	5 x 3	IMS 3727
2	SCREENS CHANGED ☐ YES ☐ NO		IMS 265351
5	TOP	TOP	
3	MIDDLE	MIDDLE	
24	BOTTOM	BOTTOM	

MUD RECORD

	05:00	06:00
	1080	1020
	72	71
	9.	9.
	22.5	25.0

MORNING TOUR

INT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
350	356	6	55	2-4

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5500	152		152	115

DEPTH (m)	DEVIATION (°)	DIRECTION

Cold Rock

TIME LOG

0:00	01:30	1½	2	Pick up Dir tools.
01:30	04:00	2½	6	RIH + test MWD
04:00	07:30	3½	2	Drill F/330-
07:30	07:45	¼	7	Rig service
07:45	08:00	¼	10	Total Surveys.

NOTES: Crown Saver Drill Line Brakes & Linkages
Blow Down Boiler 4x = 80L

9.1 104 +20

MUD RECORD

0:00	12:00	15:00
50	1090	1095
5	75	70
5	8.5	8.5
.4	24.2	23.4

DAY TOUR

INT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
356	411	55	30	5-14

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
6000	152	115	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
343	1.6	207.4
353	1.1	340.6
371	.7	241.7
390	.9	217.1
370	.8	209.7

Todd Block

TIME LOG

7:00	8:00	.25	7	RIG SERVICE
8:00	14:30	6.25	2	DRILL F/356-411
14:30	15:00	1.5	10	TOTAL SURVEYS

NOTES: Crown Saver Drill Line Brakes & Linkages
Blow Down Boiler 4x = 80L

8 HRS 410

EVENING TOUR

MUD RECORD

00	21:00	23:45
45	1090	1100
0	74	64
0	9.5	9.
.1	24.5	24.1

INT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMVR CORE-C	ROTARY R.P.M.	WT ON BIT (1000 daN)
411	453	42	30	5-14

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7200	152	115	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
409	.6	219.4
429	.3	313.6
436	.7	211.3

Todd Block

TIME LOG

16:00	21:00	5	2	DRILL F/411-410
21:00	21:15	¼	7	Rig Service
21:15	23:00	1¾	2	Drill F/440-453.
23:00	24:00	1	10	Total Surveys.

NOTES: Crown Saver Drill Line Brakes & Linkages
Blow Down Boiler 4x = 80L

9 HRS 410.

FOLD HERE →

143376

LICENCE NO.: 1824

WELL NAME AND NO.: Paramount et al Mount Cot I-02

OPERATOR: Trimm Trucking Ltd.

CONTRACTOR: Akita Drilling Ltd.

SURFACE LOCATION: I-02

UNIQUE ID.: UWI 300102602301233300

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Stick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Safe Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR: 00 | MONTH: 10 | RIG NO.: 51 | FUEL @ 8:00 | RIG: 10-KH | BOILER

WEATHER: TEMPERATURE / CURRENT CONDITIONS / WIND DIRECTION / ROAD

TIME - HRS

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR R/O	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.		5¾				1¼	¼			¼												
DAY			5.25		.25	1.75	.25			.5												
EVE.			3¾			2	¼			¼											1 3/4	
TOTAL		5¾	9		.25	5¼	3/4			1											1 3/4	

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	3½	170	.37 m
2	DC	171	111.60 m
	HWDP	160	30 m
22	HWDP	114	21.79 m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLYDOWN		4.33	m
TOTAL		330.62	m
WT. OF DC	28		1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	1RR
SIZE (mm)	222
IADC CODE	
MFG.	Hughes
TYPE	GT-S1
SERIAL NO.	K03ZJ
JETS (mm)	3x 12.5
DEPTH OUT (m)	320
DEPTH IN (m)	257
TOTAL METRES DRILLED (m)	73
TOTAL HOURS RUN	24

CUTTING STRUCTURE T1	T0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	00:30	04:00	06:15
DENSITY kg/m³	1100	1080	1070
FUNNEL VIS. - (S/L)	78	65	75
W.L. (cm³)			
pH	9.0	9.0	9.0
TPV	20.5	24.3	26.4

PRODUCT	AMOUNT X UNIT
Caustic - 1 Bags	
Gel - 12 "	

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8	1070	1060	1790

MORNING TOUR

METRES DRILLED

FROM	TO	DRLD/RMVD CORE/C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
315	330	15	190	2

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7100	152	100	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
325	3°	

Sold Block

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	CA	225	1.22 m
2	DC	218	18.58 m
	HWDP	168	.51 m
	HWDP	168	.30 m
	HWDP	168	.94 m
12	DC	171	111.60 m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLYDOWN		6.41	m
TOTAL		308	m
WT. OF DC			1000 daN
WT. OF STRING		37	1000 daN

BIT RECORD

BIT NO.	2A
SIZE (mm)	311
IADC CODE	1 1 6
MFG.	Hughes
TYPE	GT-C1
SERIAL NO.	L71DM
JETS (mm)	3x14
DEPTH OUT (m)	IN
DEPTH IN (m)	257
TOTAL METRES DRILLED (m)	51
TOTAL HOURS RUN	5.25

CUTTING STRUCTURE T1	T0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
								9.7

HOLE DRAG 1000

TORQUE AT BOTTOM 6-1200

FILL ON BOTTOM (m)

MUD RECORD

TIME	11:00	14:00	16:00
DENSITY kg/m³	1095	1085	1085
FUNNEL VIS. - (S/L)	65	66	65
W.L. (cm³)			
pH	9.	8.5	8.5
PVT m³	23.4	23.5	24.

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLD/RMVD CORE/C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
257	308	51	200	3

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
5	152	95	152	9

DEPTH (m)	DEVIATION (°)	DIRECTION
271	1.75	
299	2	

Lost Block

DRILLING ASSEMBLY (At End of Tour)

			.35 m
	3½	225	1.22 m
2	DC	218	18.58 m
	HWDP	168	.51 m
	HWDP	168	.30 m
	HWDP	168	.44 m
12	DC	171	111.60 m
30	HWDP	114	154.54 m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLYDOWN		12.30	m
TOTAL		330.62	m
WT. OF DC	28		1000 daN
WT. OF STRING		37	1000 daN

BIT RECORD

BIT NO.	2A
SIZE (mm)	311
IADC CODE	1 1 6
MFG.	Hughes
TYPE	GT-C1
SERIAL NO.	L71DM
JETS (mm)	3x14
DEPTH OUT (m)	330
DEPTH IN (m)	257
TOTAL METRES DRILLED (m)	73
TOTAL HOURS RUN	9

CUTTING STRUCTURE T1	T0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

TIME	19:45
DENSITY kg/m³	1090
FUNNEL VIS. - (S/L)	72.
W.L. (cm³)	
pH	9.0
	23.9

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD/RMVD CORE/C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
308	330	22	200	3-4

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
7100	152	40	152	90

DEPTH (m)	DEVIATION (°)	DIRECTION
326	3°	

Lost Block

FOLD HERE →

376

DAILY CHECKS — OPR. R.M.

(1) Daily Walk Around Inspection — Initial AT / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Slick Diagram Posted — Initial ✓ / Initial
(5) Flare Lines Staked — Initial ✓ / Initial
(6) BOP Drills Performed — Initial ✓ / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial ✓ / Initial

(1) Rig Site Health and Safety Meeting (once/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR 97 | MONTH 1 | DAY 3

RIG NO 1

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
225	[illegible]		74	225	7 H90	2	G-2-80	NOV-Orion	216
171	105		62	171	5 H90	12	G-2-80	NOV-Orion	216
114	42.45		59.8	158	4½ XH	53			

FISHING	DIR. WORK	SAFETY MTG.	0 1 02 03 04 05 06
			13/4
			1 1/4

TOTALS

SHALE SHAKER(S) — RENTALS/SERVICES

2	TYPE DFS 500's		AMS 26.14
8	SCREENS CHANGED ☐ YES ☐ NO		AMS 26-248
8	TOP	TOP	
5	MIDDLE	MIDDLE	
24	BOTTOM	BOTTOM	

MORNING TOUR

MUD RECORD

26	04:00	06.15
	1080	1070
	65	75
	9.0	9.0
5	24.3	26.4

K UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
P-38				
	8	1070	1060	1790

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
315	330	15	140	3.

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	100	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
325	3°	

TIME LOG

0°	14:5	14½	2	Drill F/315-330
14:5	3:00	7/8	7	Rig Service. C/O upper Kelly Cock
03:00	05:30	3½	2	Drill F/320-329
5:30	[illegible]	[illegible]	[illegible]	Survey @ 325
[illegible]	[illegible]	½	?	Drill F/329-330
6:30	08:00	1½	6	P.O.O.H. to run 12¼ D.T. L/D 17" HWDP

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES: Crown Saver, Drilline Anchors, Brakes & Linkages
Shut Down Boiler 4hrs = 80L

Gold Block

8 | 10.5 | 110.

DAY TOUR

MUD RECORD

	14:00	16:00
	1085	1085
	66	65
	8.5	8.5
	23.3	24.

K UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
257	308	51	200	3-4

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	95	152	95

DEPTH (m)	DEVIATION (°)	DIRECTION
277	1.75	
299	2	

TIME LOG

8:00	9:45	0.5	6	P.O.O.H. Pick 12¼ BIT, R/U
9:45	10:00	.25	5	WASH F/245-257
10:00	12:00	2	3	REAM RAT HOLE F/257-276
12:00	12:30	.5	10	SURVEY 271
12:30	13:45	1.25	3	DRILL F/277-299
13:45	14:00	.25	7	RIG SERVICE
14:00	15:00	1.0	3	REAM F/299-310
15:00	15:15	.25	10	SURVEY @ 299
15:15	[illegible]	.5	3	REAM F/308-310

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES: Crown Saver, Drilline Anchors, Brakes & Linkages
Pit Drum Boiler 4hrs = 80L Shut Down

9 | 11.5 | 410 | Working in 4th String

EVENING TOUR

MUD RECORD

	19:45	
	1090	
	72.	
	9.2	
	23.9.	

K UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
308	330	22	200	3-4

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
152	40	152	40

DEPTH (m)	DEVIATION (°)	DIRECTION
326	3°	

TIME LOG

16:00	19:45	3¾	3	REAM F/308-330
19:45	20:00	¼	10	Survey @ 326
20:00	20:15	¼	7	Rig Service
20:15	22:15	2	6	POOH to pick up Dir tools - Pump out
22:15	24:00	1¾	22	Pick Dir Tools

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES: Crown Saver, Drilline Anchors, Brakes & Linkages
Shut Down Boiler 4hrs = 80L

DRILLER'S SIGNATURE: Gold Block

5 | 15.5 | 710

143375

FOLD HERE →

LICENCE NO.: 1284

WELL NAME AND NO.: Fairmount Fed Pool Crk I-02

OPERATOR: Canadian Occidental Petroleum Ltd.

CONTRACTOR: Nabors Drilling Ltd.

SURFACE LOCATION: 2-32-1-5W5

UNIQUE ID: 0100/02-32-001-05W5/00

SIGNATURE OF OPERATOR'S REPRESENTATIVE: M.A. Callihan

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using Checklist) — Initial / Initial
(3) HPS Signs Posted (if required) — Initial / Initial
(4) Well Licensee & Sign Diagram Posted — Initial / Initial
(5a) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually Inspect BOP's, Flowlines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (crossbournemouth) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (underground/hydro) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR | MONTH | DAY

RIG NO: 5

FUEL: 6000

RIG: 530 | USED: 2463

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME - HRS

CODE NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WAIT ON LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG.
	MORN.		3½				1½															
	DAY		7½					.25			.25											
	EVE.		7½					1½			½											
	TOTAL		18½				1½															

DRILLING ASSEMBLY (At End of Tour)

				.25 m
	BS	170	.87	m
12	DC	171	111.60	m
	X/O	160	.80	m
15	HWDP	114	138.71	m
				m
				m
				m
				m
				m
				m
				m
				m

D.P. STANDS: m
D.P. SINGLES: m
KELLYDOWN: 12.96 m
TOTAL: 265.14 m
WT. OF DC: 28 1000 daN
WT. OF STRING: 31 1000 daN

BIT RECORD

BIT NO	2A	IKR
SIZE (mm)	311	222
IADC CODE	1 1 6	
MFG.	[illegible]	[illegible]
TYPE	FC	GT-S1
SERIAL NO	L7:DA1	K032J
JETS (mm)	3x17.5	3x17.5
DEPTH OUT (m)	257	
DEPTH IN (m)	232	257
TOTAL METRES DRILLED (m)	25	
TOTAL HOURS RUN	3¾	

CUTTING STRUCTURE: T | O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

HOLE DRAG: 2000-3000
TORQUE AT BOTTOM: 1000
FILL ON BOTTOM (m): —

MUD RECORD

TIME	04:45	0630
DENSITY kg/m³	1080	1090
FUNNEL VIS. - (S/L)	78	90
W.L. (cm³)		
pH	9.5	9.0
	19.0	22.4

PRODUCT	AMOUNT X UNIT
Gel	20 sx

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	SPM	ROTARY R.P.M.	WT. ON BIT (tonnes)
257	265	6	140	3.

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2200	152	100	152	

DEPTH (m)	DEVIATION (°)	DIRECTION

Toolpusher

DRILLING ASSEMBLY (At End of Tour)

			.24 m
	BS	170	.87 m
12	DC	171	111.60 m
	X/O	160	.80 m
19	HWDP	114	176.71 m
			m
			m
			m
			m
			m
			m
			m
			m

D.P. STANDS: m
D.P. SINGLES: m
KELLYDOWN: 11.66 m
TOTAL: 300 m
WT. OF DC: 29 1000 daN
WT. OF STRING: 32 1000 daN

BIT RECORD

BIT NO	1AR
SIZE (mm)	222
IADC CODE	
MFG.	HUGHES
TYPE	GT-S1
SERIAL NO	K032J
JETS (mm)	3x17.5
DEPTH OUT (m)	257
DEPTH IN (m)	257
TOTAL METRES DRILLED (m)	43
TOTAL HOURS RUN	11.25

CUTTING STRUCTURE: T | O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr — 3.8

HOLE DRAG: 2000
TORQUE AT BOTTOM: 600
FILL ON BOTTOM (m):

MUD RECORD

TIME	[illegible]	1200	1430
DENSITY kg/m³	[illegible]	[illegible]	1110
FUNNEL VIS. - (S/L)	54	[illegible]	58
W.L. (cm³)			
pH	7.5	[illegible]	8.5
[illegible]	[illegible]	24.3	25.0

PRODUCT	AMOUNT X UNIT
Gel	

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	SPM	ROTARY R.P.M.	WT. ON BIT (tonnes)
265	360	100	190	3-6
		35		

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2300	152	100	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
270	1.75	

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	BS	170	.87 m
12	DC	171	111.60 m
	X/O	160	.40 m
			[illegible] m
21	HWDP	119	143.92 m
			m
			m
			m
			m
			m
			m
			m
			m

D.P. STANDS: m
D.P. SINGLES: m
KELLYDOWN: 7.56 m
TOTAL: 315.03 m
WT. OF DC: 29 1000 daN
WT. OF STRING: 33 1000 daN

BIT RECORD

BIT NO	1RR
SIZE (mm)	222
IADC CODE	
MFG.	HUGHES
TYPE	GT-S1
SERIAL NO.	K032J
JETS (mm)	3x17.5
DEPTH OUT (m)	
DEPTH IN (m)	257
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	18¾

CUTTING STRUCTURE: T | O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr

HOLE DRAG: 2000
TORQUE AT BOTTOM: 700
FILL ON BOTTOM (m):

MUD RECORD

TIME	17:00	19:45	23:45
DENSITY kg/m³	1110	1120	1100
FUNNEL VIS. - (S/L)	63	64	70
W.L. (cm³)			
pH	8.5	8.5	8.5
	27.7	[illegible]	20.0

PRODUCT	AMOUNT X UNIT
Gel	38 sx

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	SPM	ROTARY R.P.M.	WT. ON BIT (tonnes)
300	315	100	190	3

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2300	152	100	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
297	2°	

Toolpusher

FOLD HERE →

43375

DAILY CHECKS — OPR. / RIG

(1) Daily Walk Around Inspection — initial / initial
(2) Detailed Inspection Weekly (using checklist) — initial / initial
(3) HHS Signs Posted (if required) — initial / initial
(4) Well License & Slick Diagram Posted — initial / initial
(5) Flare Lines Staked — initial / initial
(6) BOP Drills Performed — initial / initial
(7) Visually Inspect BOP's - Flexibleness & Degasser Lines — initial / initial

(1) Rig Site Health and Safety Meeting (once/month) — initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month) — initial
(3) Mast Inspection Before Raising or Lowering — initial
(4) Crown Saver Checked — initial
(5) Motor Kills Checked — initial

YEAR / MONTH / DAY — RIG NO

FUEL @ 8:00 — RIG / BOILER

WEATHER — TEMPERATURE °C / CURRENT CONDITIONS / WIND DIRECTION / ROAD

CASING / TUBING OR LINER

OD (mm)	MIN I.D (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS

PUMP TYPE / PUMP MANUFACTURER / STROKE (cm)

SQUEEZE CEMENT	PERMIT	DRL WORK	SAFETY MTG

TOTAL 24

BIT RECORD — NO. / TYPE

SCREENS CHANGED YES NO
TOP / TOP
MIDDLE / MIDDLE
BOTTOM / BOTTOM

MUD RECORD

04:45	06:30
1080	1090
78	90
9.5	9.0
19.0	32.4

UNIT X UNIT — 12 SX

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)
4			

METRES DRILLED — MORNING TOUR

FROM	TO	BHA RUN CORE #	ROTARY R.P.M.	WT. ON BIT (1000 kg)
257	265		140	3

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2200	152	100	152

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

NOTES

Todd Block — 24 4/10

MUD RECORD

1200	1430
100	1110
90	8.5
8.5	8.5
24.3	25.0

UNIT X UNIT

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)

METRES DRILLED — DAYLIGHT TOUR

FROM	TO	BHA RUN CORE #	ROTARY R.P.M.	WT. ON BIT (1000 kg)
265	360	35	120	3-6

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2300	152	100	152

DEPTH (m)	DEVIATION (°)	DIRECTION
270	1.75	

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

8:00	11	3	2	DRILL 265-274
11	11	3:30	7	RIG SERVICE
11:30	11	2	10	
11	12	4.5	3	274-300

NOTES

B.C.P OKAY

5 10.5 4/10

MUD RECORD

19:45	23:45
1120	1100
60	70
85	85
27	300

UNIT X UNIT — 12 SX

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)

HOURS/RUN	DENSITY (ppm)	OVERFLOW DENSITY (ppm)	UNDERFLOW DENSITY (ppm)

METRES DRILLED — EVENING TOUR

FROM	TO	BHA RUN CORE #	ROTARY R.P.M.	WT. ON BIT (1000 kg)
300	315	35	110	3

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2300	152	100	152

DEPTH (m)	DEVIATION (°)	DIRECTION
297	2°	

TIME LOG — DETAILS OF OPERATION, SEQUENCE AND REMARKS

11:30	11:30	.5	2	DRILL 315-318
11	12	3.5	1	DRILL 318-327
11	23:45	7	3	DRILL 327-345
23:45	24:00	1/4	7	Rig Service

NOTES

Todd Block — 5 10.5 4/10

FOLD HERE →

143374

LICENCE NO: 12811 | WELL NAME AND NO: Paramount et al Mount Cr. I-02

OPERATOR: Paramount Resources Ltd. | CONTRACTOR: Akita Drilling Ltd.

SURFACE LOCATION: 1-02 | UNIQUE ID:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: MH Gallicher | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS — DPR. | R.M.

(1) Daily Week Ahead Inspection — DPR initial — R.M. initial
(2) Diesel Inspection (weekly (using checklist)) — DPR initial — R.M. initial
(3) H2S Signs (Posted (if required)) — DPR initial — R.M. initial
(4) Well Licensee & Stack Diagram Posted — DPR initial — R.M. initial
(5) Flare Lines Staked — DPR initial — R.M. initial
(6) BOP Drills (Performed) — DPR initial — R.M. initial
(7) Weekly Inspect BOP's - Flarelines & Degasser Lines — DPR initial — R.M. initial
(1) Rig Site Hazard and Safety Meeting (crew/supervisor) — initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month) — initial
(3) Mast Inspection Before Raising or Lowering — initial
(4) Ground Tester Checked — initial
(5) Mast Lights checked — initial

YEAR | MONTH | DAY | RIG NO: 51 | FUEL – 6.00 | MFG | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

OPER	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR WORK	SAFETY MTG
MORN																					
DAY	12					12															
EVE																					
TOTAL	12					12															

DRILLING ASSEMBLY

			.35 m
1	B/S	225	1.27 m
2	D.C	214	18.54 m
6	X/O	168	.71 m
6	X/O	168	.80 m
6	X/O	168	.44 m
10	D.C	171	111.20 m
10	4" DP	114	203.27 m
			m
			m
			m
			m
			m
			m
			m
	D.P. STANDS		m
	D.P. SINGLES		m
	KELLYDOWN		5.21 m
	TOTAL		332.47 m
WT OF DC		20	1000 daN
WT OF STRING		32	1000 daN

BIT RECORD

BIT NO	1RR	
SIZE (mm)	311	
IADC CODE		
MFG	Hughes	
TYPE	GT-C1	
SERIAL NO	G277H	
JETS (mm)	3 x 17.5	
DEPTH OUT (m)	232	
DEPTH IN (m)	0	
TOTAL METRES DRILLED (m)	232	
TOTAL HOURS RUN	15.25	

CUTTING STRUCTURE: T | B | Gage | ODC | Reason Pulled | Total Run m/hr

							15

HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

MUD RECORD

TIME	0115	0315	0515
DENSITY kg/m³	1135	1070	1110
FUNNEL VIS. - (S/L)	76	52	55
W.L. (cm³)			
pH	9.5	10	10.5
	TOT		

PRODUCT	AMOUNT X UNIT
Gel	20 sx
Caustic	25 sx
Soda Ash	10
Lime	15 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DRLD/ REAM CORE'G	ROTARY R.P.M.	WT. ON BIT (1000 daN)
191	232	26	195	5-8

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
4500	152	80	152	80

DEPTH (m)	DEVIATION (°)	DIRECTION
199	1.5°	
226	1.25°	

BIT RECORD

BIT NO	1RR	2A
SIZE (mm)	311	311
IADC CODE		116
MFG	Hughes	
TYPE	GT-C1	GT-C1
SERIAL NO	G277H	279DM
JETS (mm)	3 x 17.5	3 x 17.5
DEPTH OUT (m)	232	
DEPTH IN (m)	0	232
TOTAL METRES DRILLED (m)	232	
TOTAL HOURS RUN	15.25	

CUTTING STRUCTURE: T | B | MDC | LOC | Gage | ODC | Reason Pulled | Total Run m/hr

HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

DRILLING ASSEMBLY

			.35 m
1	B/S	225	1.27 m
2	D.C	214	18.54 m
6	X/O	168	.71 m
6	X/O	168	30 m
6	X/O	168	1.44 m
16	D.C	171	111.20 m
10	4" DP	114	203.27 m
			m
			m
			m
			m
			m
			m
			m
	D.P. STANDS		m
	D.P. SINGLES		m
	KELLYDOWN		5.21 m
	TOTAL		335.64 m
WT OF DC			1000 daN
WT OF STRING		32	1000 daN

MUD RECORD

TIME			
DENSITY kg/m³			
FUNNEL VIS. - (S/L)			
W.L. (cm³)			
pH			

PRODUCT	AMOUNT X UNIT
Gel	5 sx
Caustic	5 sx
Soda Ash	
Lime	2 sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLD/ REAM CORE'G	ROTARY R.P.M.	WT. ON BIT (1000 daN)
232	235	3	160	5

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
4400	152	100	152	100

DEPTH (m)	DEVIATION (°)	DIRECTION

BIT RECORD

BIT NO	2A	
SIZE (mm)	311	
IADC CODE	116	
MFG	Hughes	
TYPE	GT-C1	
SERIAL NO	279DM	
JETS (mm)	3 x 17.5	
DEPTH OUT (m)		
DEPTH IN (m)	232	
TOTAL METRES DRILLED (m)		
TOTAL HOURS RUN		

CUTTING STRUCTURE: T | B | MDC | LOC | Gage | ODC | Reason Pulled | Total Run m/hr

HOLE DRAG
TORQUE AT BOTTOM
FILL ON BOTTOM (m)

DRILLING ASSEMBLY

			.35 m
1	B/S	225	1.27 m
2	DC	214	18.54 m
6	X/O	168	.71 m
6	X/O	168	.80 m
6	X/O	168	.44 m
16	D.C	171	111.20 m
10	4" DP		m
			m
			m
			m
			m
			m
			m
			m
	D.P. STANDS		m
	D.P. SINGLES		m
	KELLYDOWN		m
	TOTAL		m
WT OF DC			1000 daN
WT OF STRING			1000 daN

MUD RECORD

TIME	1800	2000	2300
DENSITY kg/m³	1080	1090	1
FUNNEL VIS. - (S/L)	54	120	1
W.L. (cm³)			
pH	10	10.5	10.5

PRODUCT	AMOUNT X UNIT
Gel	4½ sx

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD/ REAM CORE'G	ROTARY R.P.M.	WT. ON BIT (1000 daN)
235	257	22	170	5-8

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
4100	152	95	152	95

DEPTH (m)	DEVIATION (°)	DIRECTION
257		

DRILLER'S SIGNATURE: Dan Fox

FOLD HERE →

43374

02

3.00

DAILY CHECKS — OPR. / R.M.

(1) Daily Work Around Inspection — Initial
(2) Delivered Inspection (Weekly Tubing Checklist) — Initial
(3) H²S Signs Posted (if required) — Initial
(4) Work Licence & Stab Diagram Posted — Initial
(5) Flare Lines Staked — Initial
(6) HOP Drills Performed — Initial
(7) Weekly Inspect BOP's, Fluidlines & Degasser Lines — Initial

(1) Rig Site Health and Safety Meeting (chairman/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (chairman/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Master Kelly checked — Initial

YEAR / MONTH / DAY

RIG NO.

FUEL @ 8:00

BOILER

WEATHER

TEMPERATURE °C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

	OD (mm)	MIN ID (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

SQUEEZE / CEMENT	FISHING	DIR. WORK	SAFETY MTG

TOTALS

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED YES NO

TOP | TOP
MIDDLE | MIDDLE
BOTTOM | BOTTOM

RENTALS SERVICES

MORNING TOUR

MUD RECORD

2100	0300	0500
1030	1070	1110
78	82	85
1.5	10	10.5

UNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
05X				
10				
15X				

METRES DRILLED

FROM	TO	BHA RUN / CORE #	ROTARY R.P.M.	WT. ON BIT (1000 daN)
191	232	2	195	5-8

LINER SIZE (mm)	S.P.M	LINER SIZE (mm)	S.P.M
1500	152	152	

DEPTH (m)	DEVIATION (°)	DIRECTION
199	1.5°	
226	1.25°	

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
	0230	1½	2	Drill F/191-202
0230	0300	½	10	Survey @ 199m
0300	0400	1	2	Drill F/202-208
0400	0500	1	5	Mix + Pump LCM (1 sack 1m³/1 min)
0500	0600	1	2	Drill F/208-220
0600	0700	1	7	Rig Service c/o Hyd. Hose
0700	0800	1	10	Survey @ 221m
0800	1100	3	2	Drill F/220-232
1100	1200	1	5	Circ
1200	0600	18	2	Trip for Bit

NOTES

Crown saver, Deadline Anchors, Brakes & Linkages
Blowdown Boiler HX = 4" FLOW

DAY TOUR

MUD RECORD

UNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
35X				
2X				
3X				

METRES DRILLED

FROM	TO	BHA RUN / CORE #	ROTARY R.P.M.	WT. ON BIT (1000 daN)
232	235	3	120	7

LINER SIZE (mm)	S.P.M	LINER SIZE (mm)	S.P.M
152 (X)	152	152	120

DEPTH (m) | DEVIATION (°) | DIRECTION

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0200	0430	1½	6	Trip for bit Dump Sour 4HWDP
0430	0945	5½	7	Rig Service
0945	1145	2	6	TIH
1145	1515	½	2	Drill F/232-235
1515	1600	¾	6	Trip for Inner Ring

NOTES

Crown saver, Deadline Anchors, Brakes & Linkages
Blowdown Boiler HX = 4" FLOW

EVENING TOUR

MUD RECORD

1700	2000	2300
1050	1090	1090
120	120	120
10.5	10.5	10.5

NT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
5X				
1				
5X				

METRES DRILLED

FROM	TO	BHA RUN / CORE #	ROTARY R.P.M.	WT. ON BIT (1000 daN)
235	257	22	170	5-8

LINER SIZE (mm)	S.P.M	LINER SIZE (mm)	S.P.M
4100	152	152	65

DEPTH (m) | DEVIATION (°) | DIRECTION

TIME LOG

FROM	TO	HRS	CODE	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1800	2	6	TIH
1800	2030	2½	5	CIRC + Condition MUD AND COND. CIRC
2030	2300	2½	2	DRILL F/235-257
2300	2400	½	10	SURVEY

NOTES

DRILLER'S SIGNATURE

BOILER

MAXIMUM EXPERIENCED HOOKLOAD

SAFETY TOPIC

FOLD HERE →

143373

LICENCE NO.: 1251 | WELL NAME AND NO.: Penn West et al Mount Cutty 1-02

OPERATOR: Penn West Petroleum Ltd. | CONTRACTOR: Extendrill (1985) Ltd.

SURFACE LOCATION: 1-02 | UNIQUE ID: UWI 100 02 12 53 W6

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [signature] | SIGNATURE OF CONTRACTOR'S RIG MANAGER: [signature]

DAILY CHECKS (OPR. / R.M.)

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Slick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flameless & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (once/crew/month) — Initial
(2) C A O D C Rig Safety Inspection Checklist (once/quarter/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Mutmr Kats checked — Initial

YEAR 97 | MONTH 1 | DAY 7

RIG NO. 51

FUEL @ 8:00.

RIG 1241 | BOILER

WEATHER: TEMPERATURE °C | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME - HRS

CODE NO.	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P	TEST B O P	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	
	MORN.		3/4			1/2		1/4			1/4											1	
	DAY		2			4 1/2	1	1/4			1/4												
	EVE.		3/4			4 3/4	3	1/4			1/4							1					
	TOTAL		9 1/2			9	4	3/4			1 1/2											1	

DRILLING ASSEMBLY (At End of Tour)

				LENGTHS
				.35 m
	8 1/2	225	1.22	m
2	D.C	218	14.58	m
	X10	168	.41	m
	X10	166	.90	m
	X10	168	.44	m
12	D.C	171	111.60	m
	HWDP	114	18.04	m
				m
				m
				m
				m
	D.P.	STANDS		m
	D.P.	SINGLES		m
	KELLYDOWN		12.91	m
	TOTAL		164.1K	m
WT. OF DC			27	1000 daN
WT. OF STRING			27	1000 daN

BIT RECORD

BIT NO.	1RR
SIZE (mm)	311
IADC CODE	
MFG.	Hughes
TYPE	GT-51
SERIAL NO.	G277H
JETS (mm)	3x 17.5
DEPTH OUT (m)	—
DEPTH IN (m)	0
TOTAL METRES DRILLED (m)	164.1
TOTAL HOURS RUN	11.75

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD — MORNING TOUR

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME	01	04	06
DENSITY kg/m³	1041	1050	1066
FUNNEL VIS. - (S/L)	36	50	43
W.L. (cm³)			
pH	8	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Detergent	1 Pail
Caustic	1 bag
Gel	25 sx
Sawdust	1 sx

SOLIDS CONTROL

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	3			

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
53	146	93	190	5

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
4500	152	140	152	140

DEPTH (m)	DEVIATION (°)	DIRECTION
60	3/4°	
88	1°	
141	2 1/4	

NOT

DRILLING ASSEMBLY (At End of Tour)

				LENGTHS
				.35 m
	8 1/2	225	1.22	m
9	D.C	215	14.58	m
	X10	168	.51	m
	X10	166	.90	m
	X10	168	.44	m
12	D.C	171	111.60	m
1	HWDP	114	18.04	m
				m
				m
				m
				m
	D.P.	STANDS		m
	D.P.	SINGLES		m
	KELLYDOWN		12.46	m
	TOTAL		164.55	m
WT. OF DC				1000 daN
WT. OF STRING				1000 daN

BIT RECORD

BIT NO.	1RR
SIZE (mm)	311
IADC CODE	
MFG.	Hughes
TYPE	GT-51
SERIAL NO.	G277H
JETS (mm)	3x 17.5
DEPTH OUT (m)	—
DEPTH IN (m)	0
TOTAL METRES DRILLED (m)	164.1
TOTAL HOURS RUN	11.75

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD — DAY TOUR

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME	0700		18:30
DENSITY kg/m³	1060		1080
FUNNEL VIS. - (S/L)	39		60
W.L. (cm³)			
pH	9.5		9.5
PVT m³	22.6		

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	6 Sx
Caustic	2 sx
Lime	1 Sx
Sawdust	2 Sx
Permaseal	1

SOLIDS CONTROL

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
146	161	15	190	5

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
3000	152	90	152	80

DEPTH (m)	DEVIATION (°)	DIRECTION
146	1°	

NOT

DRILLING ASSEMBLY (At End of Tour)

				LENGTHS
				.35 m
	8 1/2	225	1.22	m
2	D.C	218	14.58	m
	X10	168	.91	m
	X10	166	.90	m
	X10	168	.44	m
12	D.C	171	111.60	m
6	HWDP	114	55.40	m
				m
				m
				m
				m
	D.P.	STANDS		m
	D.P.	SINGLES		m
	KELLYDOWN		12.46	m
	TOTAL		176.55	m
WT. OF DC			28	1000 daN
WT. OF STRING			30	1000 daN

BIT RECORD

BIT NO.	1RR
SIZE (mm)	311
IADC CODE	
MFG.	Hughes
TYPE	GT-51
SERIAL NO.	G277H
JETS (mm)	3x 17.5
DEPTH OUT (m)	—
DEPTH IN (m)	0
TOTAL METRES DRILLED (m)	164.1
TOTAL HOURS RUN	11.75

CUTTING STRUCTURE: T | T₀ | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG 15 units

TORQUE AT BOTTOM 2500

FILL ON BOTTOM (m)

MUD RECORD — EVENING TOUR

MUD TYPE: ☑ WATER BASED ☐ OIL BASED

TIME	19	23	
DENSITY kg/m³	1110	1120	
FUNNEL VIS. - (S/L)	65	80	
W.L. (cm³)			
pH	10.5	10	
PVT m³	22.5	20.2	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	10 Sx

SOLIDS CONTROL

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
161	191	30	190	5-8

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
3900	142	80	152	80

DEPTH (m)	DEVIATION (°)	DIRECTION
170	1	

NOT

FOLD HERE →

43373

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well Licensee & Slick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's Flarelines & Degasser Line — Initial / Initial

(1) Rig Site Health and Safety Meeting (once/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Ch'd — Initial
(5) Motor Kills che... — Initial

YEAR / MONTH / DAY

RIG NO 1

FUEL @ 8:00

RIG / BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS
	171						
	114						

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.

TOTALS

SHALE SHAKER(S) — RENTALS/SERVICES

NO. / TYPE

SCREENS CHANGED YES / NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

MORNING TOUR

MUD RECORD

	09	06
10	1050	1060
08	50	43
	95	95

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	3			

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILL HOUR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
62	111	3	110	5

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
1500	142	142	140

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
60	3/4°	
88	1°	
101	3/4°	

DRILLER'S SIGNATURE

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

FROM	TO	CODE	TIME (hrs)	DETAILS
00	02	2	2	Drill F/50-62 Circ Lcm 1.25 lb/ Survey
02	03	5	1	Survey @ 62
03	04	2	1	Drill F/62-71
04	05	1	1	Displaced Flushing
05	06	2	1	Drill F/71-90
06	09	2	3	Survey @ 88m
09	10	2	1	Drill F/88-101
10	11	5	1	Rig Service c/o Upm Kellycock
11	12	2	1	Drill F/101-118
12	17	5	5	Survey @ 114m
17	18	2	1	Drill F/118-132
18	24	5	6	Mix and Pump LCM Circulate @ 115m

NOTES: Drill F/132-146

Hydraulic Line Failure Replaced Line

MUD RECORD

00		18:30
060		1080
9		80
		95
7.6		

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
Tank				
Tank				
3				
-304				
18.2	1			
Tank				

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILL HOUR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
146	161	15	100	5

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2400	142	142	80

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
146	1	

DRILLER'S SIGNATURE

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

FROM	TO	CODE	TIME (hrs)	DETAILS
2300	0800	14	9	Rig Service
0815	0830	14	15	Survey @ 146m
0830	0900	14	2	Drill F/146-155
0900	1130	2½	5	Mix and Pump LCM
1130	1300	1½	2	Drill F/155-161
1300	1500	2	3	Mix LCM
1500	1600	21	6	POOH

NOTES

EVENING TOUR

MUD RECORD

1138		
1120		
80		
10		
20.2		

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRILL HOUR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
161	191	30	110	5-8

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
3900	142	142	80

REDUCED PUMP SPEED

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
170		

DRILLER'S SIGNATURE

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

FROM	TO	CODE	TIME (hrs)	DETAILS
1600	1700	1	6	POOH
1700	1830	1½	5	Mix LCM
1830	2400	2	6	RIH
2400	2100	21	5	Top Drill Hole + Circ & Prm Cm
2100	2100	21	2	Drill F/161-173
2100	2200	21	1	Rig Service c/o Lower Kellycock
2200	2400	21	10	Survey @ 170m
2400	0100	1½	2	Drill F/173-191

NOTES: Hydraulic Line Failure Broken and Leakage

Drill F/191-192 = 1½ Hrs

BOILER

NO. OF EXPERIENCED ROUGHNECKS

NO. OF TOOLPUSHERS

NO. OF SHORTERS

Mud Loss 400 bbl

FOLD HERE →

143372

LICENCE NO.: 1884

WELL NAME AND NO.: Para FTol Mount Cath T-02

OPERATOR: Paramount Resources LTD.

CONTRACTOR: 4K Drilling LTD

SURFACE LOCATION: T-02.

UNIQUE ID:

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Area Around Inspection	initial	initial
(2) L...d Inspection-Weekly (using checklist)	initial	initial
(3) H*S Signs Posted (if required)	initial	initial
(4) Well Licence & Stack Diagram Posted	initial	initial
(5) Flare Lines Staked	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Visually inspect BOP's - Flowlines & Degasser Lines	initial	initial
(1) Rig Site Health and Safety Meeting (once/crew/week)		initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)		initial
(3) Mast Inspection (Before Raising or Lowering)		initial
(4) Crown Saver Checked		initial
(5) Motor Kills checked		initial

Date: 13 12 10

Rig No: 5

FUEL ... BBLS

Rig: ... Boiler: ...

TEMPERATURE °C

CURRENT CONDITIONS

WIND DIRECTION

ROAD

TIME HRS

CODE NO.	OPER.	MOVE UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG	
	MORN.																						
	DAY																						
	EVE.		1.5								5												
	TOTAL		1.5								5												

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLY DOWN			m
TOTAL			m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

	MORNING	EVENING
TIME		
DENSITY kg/m³		
FUNNEL VIS. - (S/L)		
W.L. (cm³)		
pH		

MUD WATER ADDED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D R&R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY (At End of Tour)

			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLY DOWN			m
TOTAL			m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	1RR
SIZE (mm)	311
IADC CODE	
MFG.	Hughes
TYPE	GT-51
SERIAL NO.	6277H
JETS (mm)	3x19.5
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

	MORNING	EVENING
TIME		
DENSITY kg/m³		
FUNNEL VIS. - (S/L)		
W.L. (cm³)		
pH		

MUD WATER ADDED

PRODUCT	AMOUNT X UNIT
GEL	15 SK
Caustic	1 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D R&R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Void Block

DRILLING ASSEMBLY (At End of Tour)

			.25 m
	R/S	226	1.22 m
2	D.C	21X	18.56 m
	X/O	16B	.51 m
	X/O	11.6	.20 m
	X/O	15R	.44 m
2	D.C	171	226 m
			18.74 m
			m
			m
			m
D.P.	STANDS		m
D.P.	SINGLES		m
KELLY DOWN		12.96	m
TOTAL		93.55	m
WT. OF DC		15	1000 daN
WT. OF STRING		15	1000 daN

BIT RECORD

BIT NO.	1RR
SIZE (mm)	311
IADC CODE	
MFG.	Hughes
TYPE	GT-51
SERIAL NO.	6277H
JETS (mm)	3x19
DEPTH OUT (m)	
DEPTH IN (m)	0
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

	MORNING	EVENING
TIME	21 00	23 30
DENSITY kg/m³	1020	1040
FUNNEL VIS. - (S/L)	45	45
W.L. (cm³)		
pH	9.5	9.0

MUD WATER ADDED

PRODUCT	AMOUNT X UNIT
GEL	55 SK

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D R&R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
0	53	53	190	5

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.
2800	K2	190	K2	90

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

3372

DAILY CHECKS — OPR — R.M.

(1) Daily Rig Around Inspection
(2) Derrick Inspection (Weekly outing of helmets)
(3) H²S Signs, Posted at required
(4) Weekly Lubrication & Work Diagram Posted
(5) Flow Lines Tested
(6) BOP Drills Performed
(7) Weekly Inspect BOP's - Functions & Daggerboard Lines

(1) Rig Safe Health and Safety Meeting (once/month/crew)
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/month)
(3) Weld Inspection (before Passing or Lowering)
(4) Crown Saver Checked
(5) Master Kelly checked

FUEL @ 8:00

WEATHER
TEMPERATURE °C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

CASING / LINER / TUBING / OPEN HOLE

O.D (mm)	MIN. I.D (mm)	kg/m	MAKE	GRADE	NO OF JOINTS	TOTAL(m) LENGTH	KB TO CSG HEAD (m)	SET AT (m)

DRILL STRING

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS

PUMP TYPE — PUMP MANUFACTURER — STROKE (m)

PUMP TYPE	PUMP MANUFACTURER	STROKE (m)

FISHING	DRL WORK	SAFETY MTG.

TOTALS

NO.	TYPE

SCREENS CHANGED YES NO

	TOP	TOP
	MIDDLE	MIDDLE
	BOTTOM	BOTTOM

MORNING TOUR

MUD RECORD

METRES DRILLED

FROM	TO	DRLD RMVD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

K.B. - Ground - 5.05 m

Corrected Ground Elevation - 317.9 m

NOTES

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DRLD RMVD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

08:00	16:00	8	22	Waiting on water - Fill Mud Tanks with water - Mix Spud Mud

NOTES

Blow down Boiler 3x 20L Fuel

MUD RECORD

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

Drill Bit

8 | 9 | 340

EVENING TOUR

METRES DRILLED

FROM	TO	DRLD RMVD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
0	5	53	90	5
2800	K2	90	K2	90

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

16:00	22:00	6	22	Waiting on Water - Rig in Continental Labs Mud Logger - Check Water Tank + Fill - Work Pre Spud Safety Meeting With Crew
22:00	22:15	15		Spud in - Drill 5 - 21 m
22:15	22:30	15		Survey @ 21 m - 1/4°
22:30	24:00	1.5		Drill 21 - 53 m

NOTES

FOLD HERE →

143371

LICENCE NO.

WELL NAME AND NO.:

OPERATOR

CONTRACTOR

SURFACE LOCATION

UNIQUE ID

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Mast Ground Inspection	Initial	Initial
(2) Derrick Inspection (monthly safety drawings)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well Licence & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Tested	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOPs - Pressures & Diagram Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (minutes/month)		Initial
(2) C A O D C Rig Safety Inspection Checklist (once/month)		Initial
(3) Mast Inspection (Before Raising or Lowering)		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO.

FUEL = 8.00

RIG | BOILER

TEMPERATURE

CURRENT CONDITIONS

WIND DIRECTION

ROAD

HOURS

OPER	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.
MORN																					
DAY																					
EVE																					
TOTAL																					

DRILLING ASSEMBLY

	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
D.P. STANDS	m
D.P. SINGLES	m
KELLYDOWN	m
TOTAL	m
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE

T	T_0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MORNING TOUR

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY

	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
D.P. STANDS	m
D.P. SINGLES	m
KELLYDOWN	m
TOTAL	m
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE

T	T_0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

DAY TOUR

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLING ASSEMBLY

	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
D.P. STANDS	m
D.P. SINGLES	m
KELLYDOWN	m
TOTAL	m
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE

T	T_0	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

EVENING TOUR

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

3371

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) HPS Signs Posted (if required)	Initial	Initial
(4) Well Licensed & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's, Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (once/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

FISHING	DIR. WORK	SAFETY MTG.						

TOTALS

SHALE SHAKER(S) — NO. | TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTALS/SERVICES

MORNING TOUR

MUD RECORD

X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RS-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

DAY TOUR

MUD RECORD

X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RS-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

8:00	12:00	4	HELD DIVERTER.
12:00	2:00	2	INSTALL CSG. + WELD.
			TEST DIVERTER SYSTEM + TRIP AIR DIVERTER + HAIR VALVE

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

David Bisset

EVENING TOUR

MUD RECORD

X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RS-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

FOLD HERE →

143370

LICENCE NO.:	WELL NAME AND NO.:
OPERATOR:	CONTRACTOR:
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H'S Signs Posted (if required)	Initial	Initial
(4) Well License & Slack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flareness & Degasser Lines	Initial	Initial
(1) Rig Site Hazard and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO.

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE; CURRENT CONDITIONS; WIND DIRECTION; ROAD

TIME - HRS

CODE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
MORN.																					Move Rig	Weld Conductor
DAY																						
EVE.																						
TOTAL																						

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

D.P.	STANDS
D.P.	SINGLES
KELLYDOWN	
TOTAL	
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TYPE	
TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

D.P.	STANDS
D.P.	SINGLES
KELLYDOWN	
TOTAL	
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TYPE	
TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Lost Blank

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

D.P.	STANDS
D.P.	SINGLES
KELLYDOWN	
TOTAL	
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TYPE	
TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

243370

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Shot Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR | MONTH | DAY

RIG NO.

FUEL @ 8:00

RIG | BOILER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

21	22	23	24	25	26
SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	Move Rig	Weld Conductor

TOTALS

SHALE SHAKER(S)

NO.	TYPE
SCREENS CHANGED ☐ YES ☐ NO	
TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTALS/SERVICES

MORNING TOUR

MUD RECORD

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — **DETAILS OF OPERATION IN SEQUENCE AND REMARKS**

08⁰⁰	12⁰⁰	4	22	Move Rig
12⁰⁰	16⁰⁰	4	1	Rig UP
16⁰⁰	20⁰⁰	4	23	Weld Conductor Flange

NOTES

DAY TOUR

MUD RECORD

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — **DETAILS OF OPERATION IN SEQUENCE AND REMARKS**

08⁰⁰	12⁰⁰	4	22	Move Rig
12⁰⁰	16⁰⁰	4	1	Rig UP
16⁰⁰	20⁰⁰	4	23	Weld ON Conductor Flange

NOTES

Weld Blind

EVENING TOUR

MUD RECORD

COUNT X UNIT

	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — **DETAILS OF OPERATION IN SEQUENCE AND REMARKS**

NOTES

143369

FOLD HERE →

LICENCE NO.:	WELL NAME AND NO.:
OPERATOR:	CONTRACTOR:
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial ____	Initial ____
(2) Detailed Inspection-Weekly (using checklist)	Initial ____	Initial ____
(3) HHS Signs Posted (if required)	Initial ____	Initial ____
(4) Well License & Slack Diagram Posted	Initial ____	Initial ____
(5) Flare Lines Staked	Initial ____	Initial ____
(6) BOP Drills Performed	Initial ____	Initial ____
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial ____	Initial ____

(1) Rig Site Health and Safety Meeting (once/crew/month)	Initial ____
(2) C.A.O.D.C. Rig Safety Inspection Checklist (once/rig/month)	Initial ____
(3) Mast Inspection Before Raising or Lowering	Initial ____
(4) Crown Saver Checked	Initial ____
(5) Motor Kills checked	Initial ____

YEAR	MONTH	D
RIG NO	57	

FUEL ... 6 00

RIG | BOILER

WEATHER: TEMPERATURE | CURRENT CONDITIONS | WIND DIRECTION | ROAD

TIME - HRS

CODE NO	OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	
	MORN.	0																					Move Rig
	DAY	8																					4
	EVE.																						11
	TOTAL	8																					8

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
D.P.	STANDS	
D.P.	SINGLES	
KELLY DOWN		
TOTAL		
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE

T.	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
D.P.	STANDS	
D.P.	SINGLES	
KELLY DOWN		
TOTAL		
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE

T.	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
D.P.	STANDS	
D.P.	SINGLES	
KELLY DOWN		
TOTAL		
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE

T.	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD (M) / CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

8369

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	initial	initial
(2) Derrick Inspection (Weekly during Drilling)	initial	initial
(3) H²S Signs Posted (if required)	initial	initial
(4) Well Location & 25m Diagram Posted	initial	initial
(5) Flare Lines Staked	initial	initial
(6) BOP Drills Performed	initial	initial
(7) Monthly Inspect BOP's - Hydraulics & Diagram Lines	initial	initial
(1) Rig Site Hazard and Safety Meeting (documented monthly)		initial
(2) C.A.D.D.C. Rig Safety Inspection Checklist (documented monthly)		initial
(3) Mast Inspection Before Raising or Lowering		initial
(4) Crown Saver Checked		initial
(5) Motor Manufactured		initial

YEAR | MONTH | DAY

FUEL

BOILER

TEMPERATURE °C
CURRENT CONDITIONS
WIND DIRECTION
ROAD

OD (mm)	MIN. ID (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB TO CSG. HEAD (m)	SET AT (m)

DC/DP SIZE	LINEAR MASS	GRADE	MIN. ID	TOOL JT O.D.	TYPE THREAD	NO. OF JOINTS

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH (mm)

TOTALS	
NO. OF JTS.	
SCREENS CHANGED	YES NO
TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

CREW SAFETY	DIR. WORK	SAFETY MTG.
		Move Rig
		B

MORNING TOUR

MUD RECORD

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0500	1200	4	22	Move Rig ~~Rig Up~~
1200	1300	5	1	Rig Up

NOTES

DAY TOUR

MUD RECORD

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0800	1200	4	22	Move Rig
1200	2000	5	1	Rig UP
				Derrick Up @ 14:00hrs

NOTES

EVENING TOUR

MUD RECORD

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS/RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLG RUN CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

FOLD HERE →

143368

LICENCE NO..	WELL NAME AND NO.:
OPERATOR	CONTRACTOR.
SURFACE LOCATION.	UNIQUE ID.
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Visits Around Inspection	Initial	Initial
(2) Driveshaft Inspection-Weekly (using checklist)	Initial	Initial
(3) H2S Sign Posted (if required)	Initial	Initial
(4) Well Location & Stack Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kelly Checked		Initial

YEAR	MONTH	DAY
RIG NO		

FUEL @ 8:00

HRS	BOILER

WEATHER

TEMPERATURE	°C
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

TIME HRS

OPER	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG
MORN.																					
DAY																					
EVE.																					
TOTAL																					

DRILLING ASSEMBLY

At End of Tour

	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
D.P. STANDS	m
D.P. SINGLES	m
KELLYDOWN	m
TOTAL	m
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
		MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD CODE: MUD USED / MUD ADDED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD ADDED / MUD USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RWR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

MORNING TOUR

DRILLING ASSEMBLY

At End of Tour

	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
D.P. STANDS	m
D.P. SINGLES	m
KELLYDOWN	m
TOTAL	m
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
		MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD CODE: MUD USED / MUD ADDED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD ADDED / MUD USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RWR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

DRILLING ASSEMBLY

At End of Tour

	m
	m
	m
	m
	m
	m
	m
	m
	m
	m
D.P. STANDS	m
D.P. SINGLES	m
KELLYDOWN	m
TOTAL	m
WT. OF DC	1000 daN
WT. OF STRING	1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE								
		MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD CODE: MUD USED / MUD ADDED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD ADDED / MUD USED

PRODUCT	AMOUNT X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RWR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

	LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

EVENING TOUR

FOLD HERE →

3368

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) HFS Signs Posted (if required)	Initial	Initial
(4) Well License & Slick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect POP's - Flatness & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR | MONTH | DAY

RIG NO.

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

ZE	FISHING	DIR. WORK	SAFETY MTG
			1/4

TOTALS

SHALE SHAKER(S)

NO.	TYPE

SCREENS CHANGED YES NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTALS SERVICES

MORNING TOUR

MUD RECORD

X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMLD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTES

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0745	2200		22	Move Rig
0800	0830	1/4	21	

DAY TOUR

MUD RECORD

X UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMLD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTES

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

0745	2200		22	Move Rig
2200	0945	1/4	21	Safety Mtg

Held Block

EVENING TOUR

MUD RECORD

UNIT

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RMLD CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

NOTES

TIME LOG

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

143367

FOLD HERE →

DAILY CHECKS	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection Weekly (Using ch klist)	Initial	Initial
(3) HS Signs Posted (if required)	Initial	Initial
(4) Well Licence & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Safe Health and Safety Meeting (minimum/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (minimum of)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR	MONTH	DAY

RIG NO.

FUEL @ 8:00

RIG	BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LICENCE NO.:

WELL NAME AND NO.:

OPERATOR:

CONTRACTOR

SURFACE LOCATION:

UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER:

TIME - HRS

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
OPER.	PICK UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND MUD & CIRC	TRIPS	RIG SERVICE	REPAIR RIG	CUT O. L. DRIL. LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.			
MORN.																								
DAY																								
EVE.																								
TOTAL																								

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☐ SYNTHETIC ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD PMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☐ SYNTHETIC ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD PMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

Left Blank

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
		m
D.P.	STANDS	m
D.P.	SINGLES	m
KELLY DOWN		m
TOTAL		m
WT. OF DC		1000 daN
WT. OF STRING		1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE: ☐ SYNTHETIC ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD PMR CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

FOLD HERE →

367

DAILY CHECKS — OPR. / R.M.

(1) Daily Walk Around Inspection — Initial / Initial
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H*S Signs Posted (if required) — Initial / Initial
(4) Well License & Stick Diagram Posted — Initial / Initial
(5) Flare Lines Staked — Initial / Initial
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial

(1) Rig S*e Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial
(4) Crown Saver Checked — Initial
(5) Motor Kills Checked — Initial

YEAR — MONTH — DAY

RIG NO

FUEL @ 8:00

RIG — BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)
LAST CASING									
TUBING OR LINER									

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN ID (mm)	TOOL JT O D (mm)	TYPE THREAD	NO OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

FISHING	DIR. WORK	SAFETY MTG.	24	25	26	TOTALS

SHALE SHAKER(S) — NO. / TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP	TOP
MIDDLE	MIDDLE
BOTTOM	BOTTOM

RENTALS SERVICES

MORNING TOUR

MUD RECORD

UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

2:00	16:00	4	22	Fly From Niska
16:00	20:00	4	23	Move Rig

NOTES

DAY TOUR

MUD RECORD

UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

12:00	1:00	4	22	Fly From Niska
1:00	20:00	4	23	Move Rig

NOTES

Load Block

EVENING TOUR

MUD RECORD

UNIT	HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DRLD RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

LINER SIZE (mm)	S.P.M.	LINER SIZE (mm)	S.P.M.

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG — DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES