AUTHORITY TO DRILL A WELL

CANADA

Exploratory ☒ Delineation ☐
Development ☐ Service ☐

AUTHORITY TO DRILL A WELL

APPLICATION

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

Well Name in Full: Paramount Berkley Netla P-57

Operator: Paramount Resources Ltd. Drilling Program No.: -

Contractor: Precision Drilling Permit or Lease No.: EL 367

Drilling Rig or Unit: 379 Estimated Well Cost: 4,000,000

Location-Unit: P Section: 57 Grid Area: 60° 50' 122° 30'

Coordinates: Lat.: 60° 46' 50.680" Long.: 122° 39' 25.093"

Area: Ft. Liard Field/Pool: -

Elevation- /KB: 664 (ASL) GL: 659.5

Approx. Spud Date: January 10, 1999 Estimated Days on Location: 60

Anticipated Total Depth: 2360 m Target Horizon(s) ARNICA

EVALUATION PROGRAM

Ten-metre sample intervals N/A

Five-metre sample intervals N/A

Canned sample intervals As specified from under surface casing shoe to TD.

Conventional cores at N/A

Logs and Tests Resitivity and Porosity logs , DST may be called while drilling.

CASING AND CEMENTING PROGRAM

O.D	Weight:	Grade.	Setting Depth KB	Cementing Program (Volumes)
244.5	48.07	H-40	500	G + 1% CaCl2 48T
139.7	25.3	L-80	2360	Thermal and Fill 69T

B O P. Equipment: 21 mPa stack and manifold - B/U - spool, pipe ram, blind ram pipe ram, double choke and kill, annular and rotating head. Elastometers compatible with OBM. Diverter used for surface

Other Information:

Signed: [signature] Title: Drilling and Completions Consultant

Date: November 27, 1998 Company: Paramount Resources Ltd.

APPROVAL

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

Signed: [signature]
Chief Conservation Officer

Date: Nov 16/99

File: 9211-P33-12-1 , WID 1856
UWI 300P576050122300

Canada

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: Paramount Berkley Netla P-57 Area: Ft. Liard

Grid Area: 60° 50' 122° 30' Field/Pool: N/A

Permit or Lease No.: EL 367 Final Coordinates: Lat.: 60° 46' 50.680" Long: 122° 39' 25.093"

Drilling Unit: Precision 379 Elevations KB: 664.65 /GL: 659.5 m

Spud Date: Jan. 27, 1999 Rig Released: March 2, 1999 Total Depth: 2408 m

CASING AND CEMENTING

O.D.:	Weight:	Grade:	Depth Set:	Cement and Additives:
339.7	81.1	K-55	500	62T "G" + 1% CaCl2
177.8	34.2	L-80	2072	15.8T 1:1:2 + 1% R6 + .5% T10
				19.2T 0:1:0 + .8% NFL2 + .1% R6

PLUGGING PROGRAM

Approval of the following program was obtained by (person) ..... from

(person) ..... by means of

..... on ..... 19 .

Type of Plug:	Interval:	Felt:	Cement and Additives:
Suspension	2203 - 2408		6.5T Thermal 40Ft
			.5% T10 + 3% R6
	1970 - 2203	Logged	6.5T - as above

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: 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. Damm Title: Drilling Manager

for Name: Phil Christie Date: May 17, 1999

Acknowledged by: T. W. Baker
Engineering Branch

Date: June 7/99

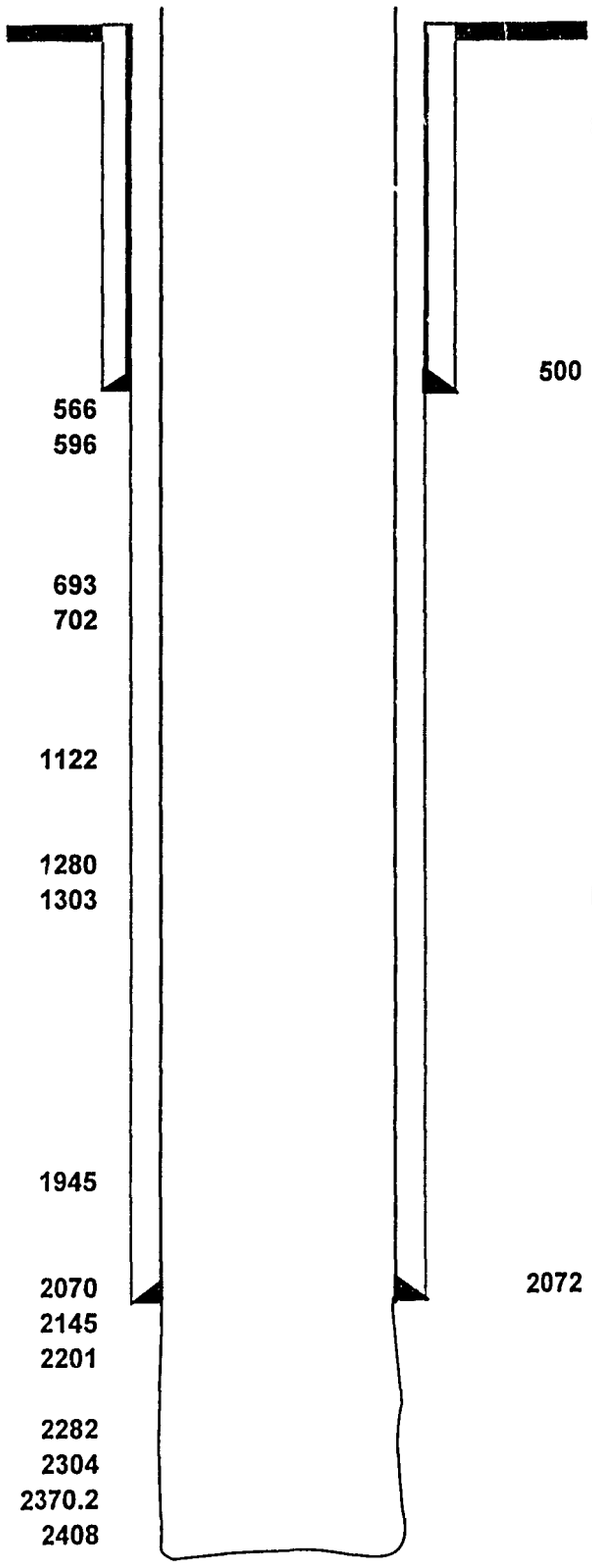
File: 9211-P33-12-1, WID 1856

UWI 300P576050122300

Well Status
Suspended ☒
Completed ☐
Abandoned ☐

Canada

PARAMOUNT BERKLEY NETLA P-57
ACTUAL (as of April, 1999)



LOG TOPS	
SCATTER	566
GARBUTT	596
EXSHAW	693
KOTCHO	702
TETCHO	1122
KAKISA	1280
FT. SIMPSON	1303
MUSKWA	1945
SLAVE POINT	2070
WATT MTN	2145
DEVONIAN	2201
HEADLESS	2282
LANDRY	2304
ARNICA	2370.2
TOTAL DEPTH	2408

500

2072

Surface Hole: Drilled 444 mm hole to 500 m. Ran 339 mm 81.1 kg/m, K55, ST&C casing to 500 m KB. Cemented to surface.

Intermediate Hole: Drilled 222 mm hole to 2072 m. Ran 177 mm 34,2 kg/m, L80 LT&C casing to 2072 m KB. Calculated cement top 450 m KB.

Main Hole: Drilled 156 mm hole to 2408 m KB.

Plug #2: 1970 - 2203 m KB
Plug #1: 2203 - 2408 m KB

FINAL WELL REPORT

FINAL WELL REPORT

PARAMOUNT BERKLEY
NETLA P-57
60^0 50' 122^0 30'

N.E.B. COPY

Paramount Resources Ltd.

FINAL WELL REPORT

PARAMOUNT BERKLEY NETLA P-57

60^0 50' 122^0 30'

Latitude 60^0 46' 50.680" Longitude 122^0 39' 25.093"

Prepared By: S. Maaskant, C.E.T.
Date: April 30, 1999

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1. INTRODUCTION

Summary

Paramount Resources Ltd. drilled Netla P-57 to evaluate the gas potential of the Devonian. Precision rig 379 drilled this well in early 1999, rig releasing March 2, 1999. The well is presently suspended.

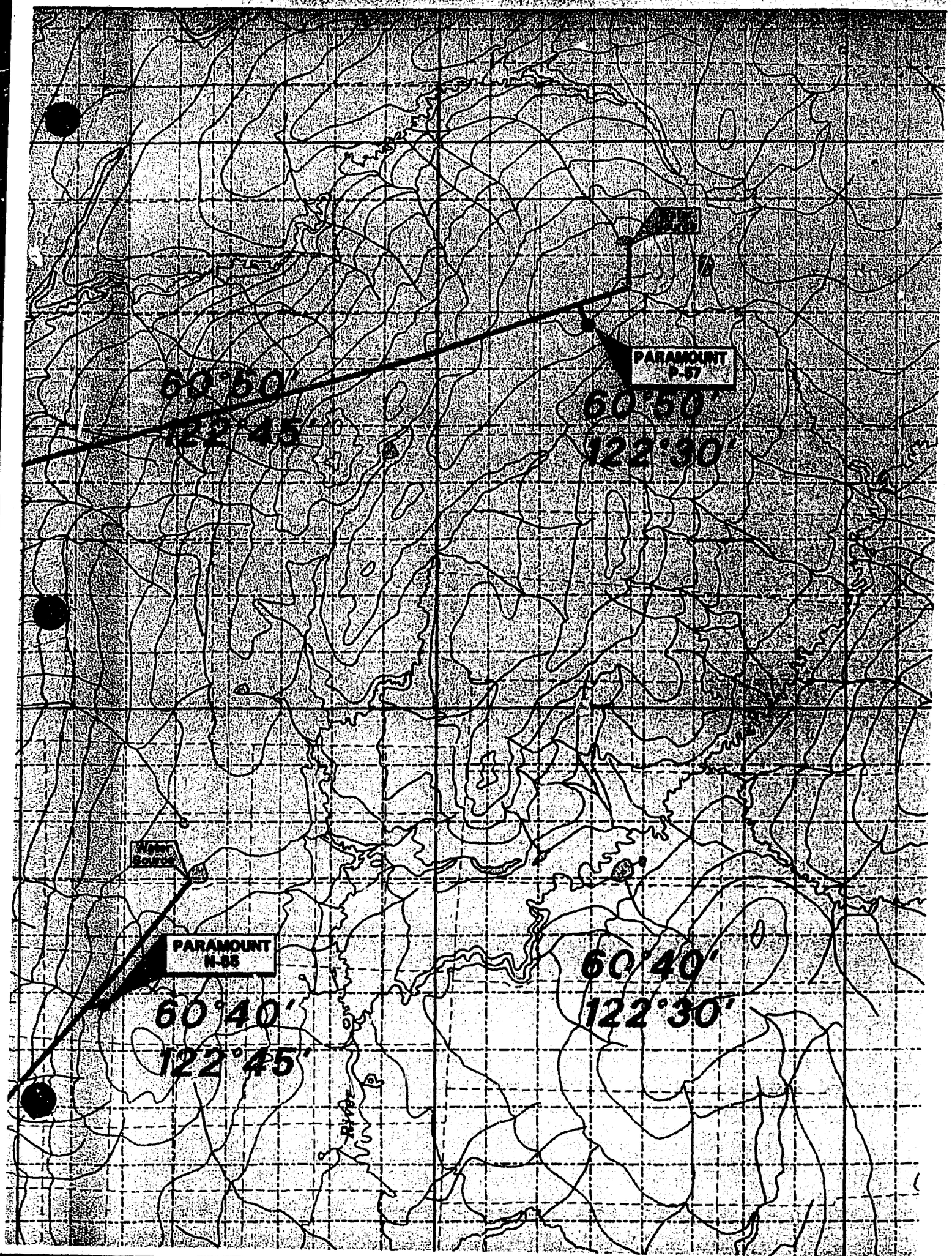
Surface hole was drilled with a gel chemical mud system encountering minor losses which were easily healed.

Calcium chloride invert was used to drill intermediate hole. Minor losses were easily controlled in the lower Fort Simpson - Upper Muskwa. Open hole logs bridged off 15 meters off bottom so were run from that depth.

Main hole was drilled with nitrified invert through a closed system until excessive produced water dictated overbalanced drilling. The well was finished with invert trouble free. Open hole logs and three drill stem tests were run

The well has been suspended with a continuous cement column from total depth into the intermediate casing.

Location Map (Following Page)


PARAMOUNT
P-57
60°50'
122°30'
60°50'
122°45'
Water Source
PARAMOUNT
N-85
60°40'
122°45'
60°40'
122°30'

2. GENERAL DATA

WELL NAME:	Paramount Berkley Netla P-57
EXPLORATION AGREEMENT:	EL 367
DRILLING AUTHORITY:	1856 Issued January 16. 1999
GRID AREA:	60^0 50' 122^0 30'
CO-ORDINATES:	Latitude 60^0 46' 50.680" Longitude 122^0 39' 25.093"
UNIQUE WELL IDENTIFIER:	300P576050122300
LESSOR:	Paramount Resources Ltd.
OPERATOR:	Paramount Resources Ltd. 4000, 350 – 7 Ave. S.W. Calgary, Alberta T2P 3W5
DRILLING CONTRACTOR:	Precision Drilling Limited 1000, 112 - 4 Ave. S.W. Calgary, Alberta
DRILLING RIG:	Precision 379
POSITION KEEPING:	N/A
SUPPORT CRAFT:	N/A
DRILLING UNIT PERFORMANCE	N/A
DIFFICULTIES & DELAYS:	N/A

3. SUMMARY OF DRILLING OPERATIONS

ELEVATIONS: G.L.: 659.5 m
K.B.: 664.65 m

TOTAL DEPTH: Drilled: 2408 m
Logged: 2400 m
Plug Back: 1970 m

SPUD DATE: January 27, 1999 - 0100 hrs

COMPLETED DRILLING DATE: February 24, 1999

RIG RELEASE: March 2, 1999 - 2000 hrs

WELL STATUS: Suspended

HOLE SIZES: Also See Attached Bit Record

	HOLE SIZE mm	CSG SIZE mm	WT Kg/m	GRADE	LANDED M
Surface	**444**	**339.7**	**81.1**	**K55, ST&C**	**500**
Intermediate	**222**	**177.8**	**34.2**	**L80, LT&C**	**2072**
Main	**156**	**N/A**			

CASING & CEMENTING: See Casing & Cementing Reports, and Wellhead diagram on following pages

SIDETRACKED HOLE: N/A

DRILLING FLUID:

See Attached Drilling Fluid Summary

Surface Hole: Gel Chemical

Intermediate: Calcium Chloride Invert

Main Hole: Calcium Chloride Invert

FISHING:

N/A

WELL KICKS:

N/A
(Note: A short section at the start of the main hole was drilled with nitrified invert..)

LEAK-OFF TESTS:

Gradient at 1643 m 17.4 kPa/m, no breakdown
NOTE: This gradient is to replace the one that was not done under the surface shoe

Gradient at 2075 m 19.74 kPa/m, no breakdown

TIME DISTRIBUTION:

See Attached within this section

DEVIATION SURVEY:

See Attached within this Section

ABANDONMENT PLUGS:

(Suspension Plugs) Cement reports included in this section.

Plug #1: 2203 m - 2408 m KB
Cemented with 6.5 tonnes Thermo/40F + 0.3% R6 + 0.5% T10

Plug #2: 1970 - 2203 m KB
Cemented with 6.5 tonnes Thermo/40F + 0.3% R6 + 0.5% T10

Logged at 1970 m KB

COMPOSITE WELL RECORD: See attached in the pouch at the end of this section

BIT RECORD

PARAMOUNT RESOURCES LTD.

BIT RECORD

WELL NAME Paramount Berkley Netla LOCATION P-57

Contractor Precision Rig No. 379 Field Fort Liard

Spud Date T.D. Date Rig Release Date

Bit No.	Size mm	Make & Type	Depth Out	Metres Drld.	Rotating Hours	Total Hours	Weight on Bit - daN	Bit RPM	Jets -- mm			Pump Pr.	Pump Out	Dull Condition		
									1.0	2.0	3.0	Pa or MPa	m3/min	T	B	G
1	311	L127	26	26	3.50	3.50	3000	100	18.0	18.0	18.0	2500	1.3	6	1	1
2RT	311	SDGH	125	99	14.50	18.00	6000	120	18.0	18.0	18.0	3300	1.5	4	4	1
3	311	GT1	500	375	35.25	53.25	8000	100	20.0	20.0	20.0	3300	1.5	3	2	1
4	444	S335	115	115	24.75	78.00	4000	110	17.5	17.5	17.5	4900	2.58	3	5	1
5	444	L121- RR	491	376	40.25	118.25	4000	110	15.9	15.9	15.9	7400	2.58	3	4	1
4RR	444	S335	500	9	3.00	121.25	6000	120	17.5	17.5	17.5	7400	2.58	3	5	1
6	222	FDS2	901	401	52.00	173.25	8000	120	11.1	11.1	11.1	8700	1.25	1	1	1
7	222	GT18	2072	1171	106.75	280.00	9000	105	11.9	11.9	11.9	9600	1.4	3	3	1
8	156	HP53A	2324	252	43.25	323.25	6000	70	20.0	20.0	20.0	4400	0.39			
9	156	HZS84FSN	2408	84	36.75	360.00	6000	70	18.0	18.0	18.0	3800	0.74			

Remarks

BIT_REC.xls

CASING & CEMENTING REPORTS

PARAMOUNT RESOURCES LTD.

CASING SUMMARY

WELL NAME Paramount Berkley Notte LOCATION P-57-60-50-123-30 DATE 99-02-04
SURFACE (✓) INTERMEDIATE ( ) PRODUCTION ( ) LINER ( )

Size: 339.7 mm

KB: 5.0 m

KB - CF: 5.3 m

NO.	DESCRIPTION	MEASURED LENGTH	KB Depth
1	Weatherford Float Shoe	.45	499.55
1	Joint 339.7mm Casing	14.04	485.11
1	Weatherford Float Collar	.35	484.76
36	Joints 339.7mm Casing	486.44	5.30
	Scratchers		
10	Centralizers Mid Jt #1 - Top Jts #2-5-10-15-20-25-30-33-36		

Total String	501.28	
minus KB to Csg Top (STICK UP)	6.50	Cut-off
Landed Depth KB	500.00	Jt. Length
Hole Depth KB	500.10	
Distance Csg Landed Off Bottom	✓	

Cementing Company Nowsco
Wash-Type Water Volume: 3m³
Cement Type Lead Slurry Volume:
Additives
Cement Type Tail Slurry 0:1:0 G Volume: 62 Tonnes
Additives 1% CaCl2
Cement Type Above Stage Collar Volume:
Additives

Displacement Rate: Max 1.0 m3/min Average .8 m3/min
Calculated Cement Top(s): (fill) mKB (tail) Surface mKB
Returns: Mud Full Returns Cement 8-10 m3
String Wt. in Mud Wt of: 1110 kg/m3 = 34000 daN
Wt. set on slips: ✓ daN

Remarks: Ran 37 Joints Casing - Casing Went in Hole w/no Problems - Rig to Lines - Circ End Wash Casing - Cement Csg Full Returns while Cementing - Recovered 8-10m³ Slurry at Surface

Supervisor Wilbert Callihoo

PARAMOUNT RESOURCES LTD.

PIPE TALLY SHEET

DATE 99-02-04

PAGE 1 of 1

WELL NAME Paramount Berkley Nettle LOCATION P-57-60-20-123-20

Size 339.7mm Wt. 81.1 Kg/m Grade K55 Cplg Thread ERd-STuC

Joint	Length	Joint	Length	Joint	Length	Joint	Length	Joint	Length
1	14.04	11	14.10	21	13.90	31	13.36	41	
2	13.82	12	13.04	22	13.16	32	13.14	42	
3	12.54	13	13.80	23	14.20	33	14.10	43	
4	13.20	14	12.70	24	14.30	34	14.32	44	
5	14.04	15	12.84	25	13.88	35	13.02	45	
6	14.14	16	14.36	26	14.28	36	14.00	46	
7	13.10	17	13.86	27	13.88	37	13.86	47	
8	12.78	18	12.78	28	13.04	38		48	
9	12.90	19	13.64	29	12.90	39		49	
10	13.02	20	14.06	30	12.36	40		50	
A	133.58	B	135.18	C	135.90	D	95.80	E	

Joint	Length	Joint	Length	Joint	Length	Joint	Length	Joint	Length
51		61		71		81		91	
52		62		72		82		92	
53		63		73		83		93	
54		64		74		84		94	
55		65		75		85		95	
56		66		76		86		96	
57		67		77		87		97	
58		68		78		88		98	
59		69		79		89		99	
60		70		80		90		100	
F		G		H		I		J	

A	133.58	Column Subtotal
B	135.18	
C	135.90	
D	95.80	
E		
F		
G		
H		
I		
J		
Total	500.46	

Shoe Float .45

Collar Float .35

Other

.80

	JOINTS	LENGTH
Page Total		
Brought FWD		
Grand Total		

Joints on Location

Remarks: 4 Jts Not Run - 12.32 - 12.32 - 12.98 + 13.96

Unused Jts Returned to Yard at Base Camp

Supervisor Wilbert Callihoo

NOTE: Use a new page for each casing type. Number joints in order of running.
Indicate joints not run by * and do not include in total length.

PARA-PIPE_TAL.xls

CASING AND CEMENTING REPORT

WELL NAME	Para Berkley Nella	CASING TYPE	Intermediate
LOCATION	P-57	DATE	Feb. 17, 1999
SUPERVISOR	DAVE WILSON	HOLE SIZE(mm)	222
CEMENTERS	NOWSCO	T.D. (mKB)	2072

CASING

(as run in the hole - from the bottom, not including marker jts)

# JOINTS	O.D.	kg/m	GRADE	COUPLING	RGE	MAKE	LENGTH (m)
156	177.8	34.2	L-80	8 rd LTC	2 & 3	IPSCO	2073.08

CASING BOWL		ELEVATIONS	
MAKE	ABB	K.B. Elev.	664.65
TYPE	VG-100	GROUND Elev.	659.50
SIZE/RATING	339.7 X 21000	KB-GRD	5.15
SER #	23365-02	KB-CBF	5.30

GUIDE SHOE	0.45
FLOAT COLLAR	0.30
STAGE COLLAR	
MARKER JOINT	
MARKER JOINT	
TOTAL ON HOOK	2073.83
Stick Up	1.83
LANDED AT	2072.00
Top of Float Collar	2057.65
Top of Stage Collar	
Top of Marker Jt #1	
Top of Marker Jt #2	
Joints Out	200.12
Total Casing on Location	2273.20
Cut Off Length	

SCRATCHERS & STOP RINGS	
Type and Total No. Run:	
Intervals Scratched:	

CENTRALIZERS	
Type and Total No. Run:	25 Bow Spring
Joint #'s Centralized:	1,2,3,4, 5,7,10.15. Then every 10th jt to surface
(& Where Placed)	Collars
Stage Tool/ECP	

CEMENT

ITEM	Tonnes	Class	Type	Additives	Kg/m3	Vol	Rate
Pre-Flush			Diesel		900	3m3	1m3/min
			Nowflush		1000	3m3	1m3/min
			Scavenger		1200	3m3	.750l/min
Filler	14.4	1/1/02	"G"	.1%R-6			
				.5% T-10	1682	13.45m3	.96L/min
Tail-In	19.2	1/1/00	"G"	.8% NFL-2			
				>1% R-6	1901	14.5m3	.96L/min
Displacement			H2o		1000	1m3	.960L/min
			INVERT		970	41.5m3	.960L/min

CEMENTING

Start Mix Time (hrs)	11:22	Mud Wt (kg/m3)	970	Vol. Cmt Returns (m3)	Nil
Start Displ. Time (hrs)	2:38	Mud Vis (sec/l)	48	Vol. Lost Returns (m3)	Nil
Bump Plug Time (hrs)	12:55	YP (Pa)	2.3	Calc Cmt Top (mKB)	450
Bump Plug Press (KPa)	3500	Opn Hole Vol. (m3)		Csg Rotated?	
Floats Held OK?	Yes	From (mKB)	450	Slips Set With (daN)	50000
Pipe Recip. Until (m3 left)	Yes	To (mKB)	2072	Cmt Bin Requested?	Yes
Pipe Rot. Until (m3 left)		Cmt Head Type	Plugloaded	Bell Nipple Welded On?	
Cement Vol. Based on?	22m3	Init St Wt (daN)	56,000	Protector Plate On?	
plus % Excess	20%	Final St Wt (daN)	46,000	Primary Seal Install.?	Yes

COMMENTS

Encountered Cement plug from 13 3/8 csg when running 177.8mm csg, Layed down 10 jts 177.8mm, cleaned plug out of BOPs
Ran in casing and cemented same with no further problems

PIPE TALLY SHEET

PAGE: 1

WELL NAME: Para Berkley Netla P-57

DATE: Feb. 17. 1999

1	13.60	21	13.63	41	13.57	61	13.57	81	13.57
2	13.59	22	13.58	42	13.59	62	13.59	82	13.54
3	13.56	23	13.59	43	13.59	63	13.56	83	13.56
4	13.53	24	13.58	44	13.59	64	13.60	84	13.56
5	13.59	25	13.58	45	13.60	65	13.58	85	13.56
6	13.68	26	13.56	46	13.58	66	13.57	86	13.58
7	13.58	27	9.89	47	13.58	67	13.54	87	13.58
8	13.60	28	13.52	48	13.56	68	13.57	88	13.55
9	13.58	29	13.56	49	13.59	69	13.59	89	13.57
10	13.59	30	8.43	50	13.59	70	13.58	90	13.54
# 1-10	135.90	# 21-30	118.49	# 41-50	135.84	# 61-70	135.75	# 81-90	135.61

11	13.55	31	12.03	51	13.56	71	13.60	91	13.54
12	13.55	32	13.54	52	13.53	72	13.56	92	13.56
13	13.55	33	12.41	53	13.57	73	13.58	93	13.57
14	13.55	34	13.56	54	12.48	74	13.57	94	13.59
15	9.47	35	13.54	55	13.57	75	13.10	95	13.57
16	9.45	36	13.54	56	12.94	76	13.58	96	13.53
17	10.11	37	12.93	57	13.58	77	13.53	97	9.51
18	8.85	38	13.57	58	12.94	78	13.56	98	9.95
19	13.56	39	13.59	59	13.54	79	13.56	99	9.43
20	13.59	40	12.72	60	13.57	80	13.58	100	9.35 ##
# 11-20	119.23	# 31-40	131.43	# 51-60	133.28	# 71-80	135.22	#91-100	90.87

TUBING / CASING STRING

Intermediate

TUBING / CASING

O.D.	177.8	mm
Wt.	34.2	kg m
Grade	L-80	
Range	2 & 3	
Thread	8Rd	
Collar	LTC	
Make	Ipsco	

SUMMARY

# 1 - 20	255.13	m
# 21 - 40	249.92	m
# 41 - 60	269.12	m
# 61 - 80	270.97	m
# 81-100	226.48	m
TOTAL	1271.62	s

NOTE: Shade the joints which have been left out. Include marker joints in the pipe tally, and be sure to note between which jts they went in the hole.

ADD: TOTAL PAGE 1: 1271.62 m

ADD: TOTAL PAGE 2: _____ m

ADD: TOTAL PAGE 3: _____ m

TALLIED BY: DAVE WILSON & RIG CREW

TOTAL LENGTH OF STRING: 1271.62 m

REMARKS : _____

_____ TOTAL # OF JTS FROM PAGE 1

_____ TOTAL # OF JTS FROM PAGE 2

_____ TOTAL # OF JTS FROM PAGE 3

_____ TOTAL # OF JTS ON LOCATION

_____ Less # of JTS OUT

_____ TOTAL # OF JTS IN THE HOLE

PIPE TALLY SHEET

PAGE: 1 of 2

WELL NAME: Para Berkley Netla P-57

DATE: Feb. 17, 1999

1	13.58	21	12.93	41	13.57	61	**13.55	81	
2	13.59	22	13.60	42	13.57	62	**13.57	82	
3	13.59	23	13.57	43	13.58	63	**13.59	83	
4	13.85	24	13.59	44	13.57	64	**13.6	84	
5	13.55	25	13.57	45	13.56	65	**13.58	85	
6	13.58	26	13.56	46	13.56	66	**13.58	86	
7	13.83	27	13.57	47	13.56	67	**13.59	87	
8	13.55	28	13.56	48	13.57	68	**13.57	88	
9	13.57	29	13.58	49	13.59	69	**13.57	89	
10	13.67	30	13.57	50	13.55	70	**13.59	90	
# 1-10	136.36	# 21-30	135.10	# 41-50	135.68	# 61-70		# 81-90	

11	13.59	31	13.58	51	13.56	71	**13.57	91	
12	9.55	32	13.58	52	12.52	72	**13.6	92	
13	11.90	33	13.56	53	13.55	73		93	
14	13.61	34	13.58	54	12.58	74		94	
15	13.54	35	13.56	55	10.47	75		95	
16	13.55	36	13.55	56	13.56	76		96	
17	13.59	37	13.57	57	13.57	77		97	
18	13.57	38	13.58	58	13.46	78		98	
19	13.56	39	13.55	59	11.80	79		99	
20	13.65	40	13.59	60	13.54	80		100	
# 11-20	130.01	# 31-40	135.70	# 51-60	128.61	# 71-80		#91-100	

TUBING / CASING STRING

Intermediate

TUBING / CASING

O.D.	177.8	mm
Wt.	34.2	kg/m
Grade	L-80	
Range	2 & 3	
Thread	8Rd	
Collar	LTC	
Make	Ipsco	

SUMMARY

# 1 - 20	266.37	m
# 21 - 40	270.80	m
# 41 - 60	264.29	m
# 61 - 80		m
# 81-100		m
TOTAL	801.46	s

NOTE: Shade the joints which have been left out. Include marker joints in the pipe tally, and be sure to note between which jts they went in the hole.

ADD: TOTAL PAGE 1: 1271.62 m

ADD: TOTAL PAGE 2: 801.46 m

ADD: TOTAL PAGE 3: m

TALLIED BY: DAVE WILSON & RIG CREW

TOTAL LENGTH OF STRING: 2073.08 m

REMARKS :

___ TOTAL # OF JTS FROM PAGE 1

___ TOTAL # OF JTS FROM PAGE 2

___ TOTAL # OF JTS FROM PAGE 3

___ TOTAL # OF JTS ON LOCATION

___ Less # of JTS OUT

___ TOTAL # OF JTS IN THE HOLE

NOWSCO

1105932

CUSTOMER:	Service Order No.	Treatment Report No.	Job No.	Proposal No.	DATE:
Paramount	A2811				1999-01-24

ADDRESS:	JOB TYPE:
	Conductor Barrel

LOCATION:	WELL NAME:	CONTRACTOR:	PROVINCE:
P-57	P-57 NWT	O.K. Rat holer	NWT

Hole Size (mm):	Total Depthn (m):12	Mud Type :	Viscosity mPa's	Density kg/m3

	Size mm	Density kg/m	Grade	Depth m	Type of Plugs	
Casing or Liner	508	90		12		
	Size mm	Density kg/m	Grade	Depth m	Top mm	
				Total : m	Btm mm	
Drill Pipe or Tubing	Size mm	Density kg/m	Grade	Depth m	Type of Head	
	Size mm	Density kg/m	Grade	Depth m		

Perforations	From: (m)	To: (m)	PUMP OUT LINES:	RETURNS:	TYPE: Cement
	From: (m)	To: (m)	FLOAT HOLDING:	Full	AMT (m3)
	From: (m)	To: (m)	TYPE OF PACKER or SPECIAL TOOL:		DEPTH (m)

TEMPERATURE (°C)	MIXING WATER (°C)	DRY CEMENT (°C)	SLURRY (°C)
TIME ARRIVED AT LOCATION 09:00 99-01-24		TIME LEFT LOCATION 13:00 99-01-24	

CEMENT DATA

	AMOUNT, t	CEMENT BLEND	ADDITIVES	Density kg/m3 SLURRY	Density kg/m3 D.H. FOAMED	Yield, m3/t	Total Yield, m3 SLURRY	Total Yield, m3 D.H. FOAMED
Scavenger								
Fill								
Tail in	8.0	0-1-0"G"	2% CaCl2	1901		.757	6 0	
Fill								
Tail in	2.0	0-1-0"G"	Neat	1901		.757	1.5	

CASING OR LINER DATA

REMARKS	TIME Start	TIME Finish	RATE m3/min	PRESSURE, kPa Max.	PRESSURE, kPa Min.	Volume Pumped m3
Safety Meeting	11:20	11:30				
H2O ahead	11:30	11:40				3.0
Mix & pump slurry	11:40	11:55	.500			7.5
Displace slurry	11:55	12:00				2.0

PLUG BACK DATA

Plug #	Top (m)	Bottom (m)	Cement (t)	Displacement	Time Plug Down

PREFLUSH TYPE (m3)

1. H2O 3.0	3 .
2.	4

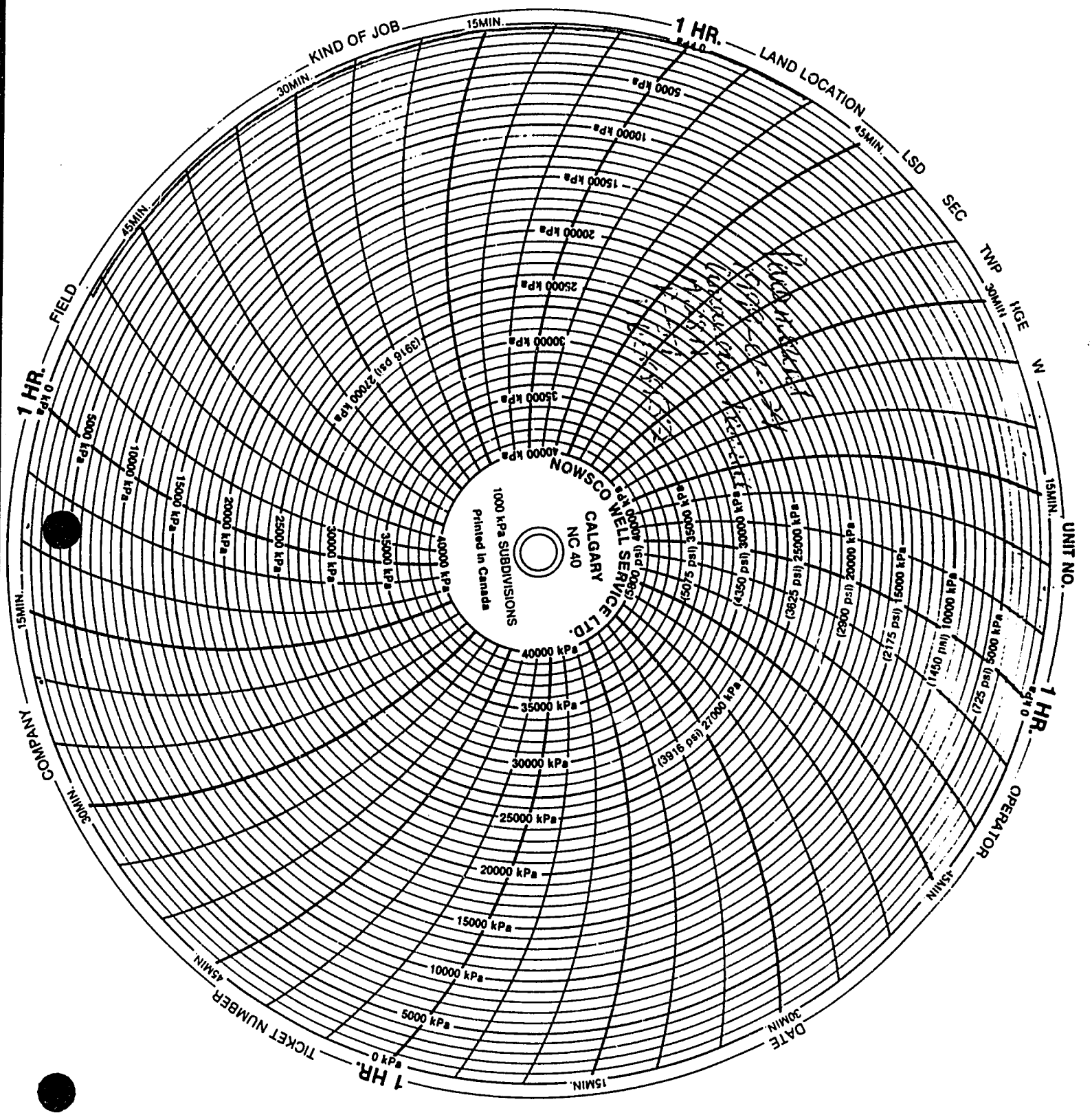
STAGE N2 RATIO (m3/m3)

1.	3.
2.	4.

SQUEEZE DATA (m3)

Total Slurry in Formation
Total Slurry in Casing
Total Backwashed
Total Slurry

NOWSCO REPRESENTATIVE: Gerald Schultz	CUSTOMER REPRESENTATIVE: Dave Lutz


KIND OF JOB
15MIN.
1 HR.
LAND LOCATION
45MIN.
LSD
SEC
TWP
RGE
W
UNIT NO.
1 HR.
OPERATOR
45MIN
DATE
30MIN
15MIN
1 HR.
TICKET NUMBER
45MIN
30MIN
15MIN
COMPANY
1 HR.
FIELD
45MIN
30MIN
15MIN
0 kPa
5000 kPa
10000 kPa
15000 kPa
20000 kPa
25000 kPa
30000 kPa
35000 kPa
40000 kPa
(5800 psi) 40000 kPa
(5075 psi) 35000 kPa
(4350 psi) 30000 kPa
(3825 psi) 25000 kPa
(2900 psi) 20000 kPa
(2175 psi) 15000 kPa
(1450 psi) 10000 kPa
(725 psi) 5000 kPa
0 kPa
(3916 psi) 27000 kPa
NOWSCO WELL SERVICE LTD.
CALGARY
NC 40
1000 kPa SUBDIVISIONS
Printed in Canada

1106530

CUSTOMER:	Service Order No.	Treatment Report No.	Job No.	Proposal No.	DATE:
[redacted]mount	A3024				1999-01-27

ADDRESS:	JOB TYPE:
	Circulation squeeze/cmt

LOCATION:	WELL NAME:	CONTRACTOR:	PROVINCE:
P-57	Paramount Berkley 57	Precision #379	NWT

Hole Size (mm): 311.15	Total Depth (m):25	Mud Type : gel chem	Viscosity mPa's 65	Density kg/m3 1050

	Size mm	Density kg/m	Grade	Depth m	Type of Plugs
Casing or Liner	508			12	Top mm / Size mm
	Size mm	Density kg/m	Grade	Depth m	Top mm / Size mm
				Total : m	
Drill Pipe or Tubing	Size mm 114.3	Density kg/m	Grade	Depth m 25	Type of Head
	Size mm	Density kg/m	Grade	Depth m	

Perforations	From: (m)	To: (m)	PUMP OUT LINES:	RETURNS:	TYPE: Cement
	From: (m)	To: (m)	FLOAT HOLDING:	Full	AMT (m3) 1.5
	From: (m)	To: (m)	TYPE OF PACKER or SPECIAL TOOL: Open drill pipe		DEPTH (m 25

TEMPERATURE (°C) -32	MIXING WATER (°C) 7	DRY CEMENT (°C)	SLURRY (°C)
TIME ARRIVED AT LOCATION 17:30		TIME LEFT LOCATION 21:00	

CEMENT DATA

	AMOUNT, t	CEMENT BLEND	ADDITIVES	Density kg/m3 SLURRY	Density kg/m3 D.H. FOAMED	Yield, m3/t	Total Yield, m3 SLURRY	Total Yield, m3 D.H. FOAMED
Scavenger								
[redacted]								
Tail in	7	0-1-0"G"	.2% CaCl2	1901		.757	5.499	
Fill								
Tail in								

CASING OR LINER DATA

PLUG BACK DATA

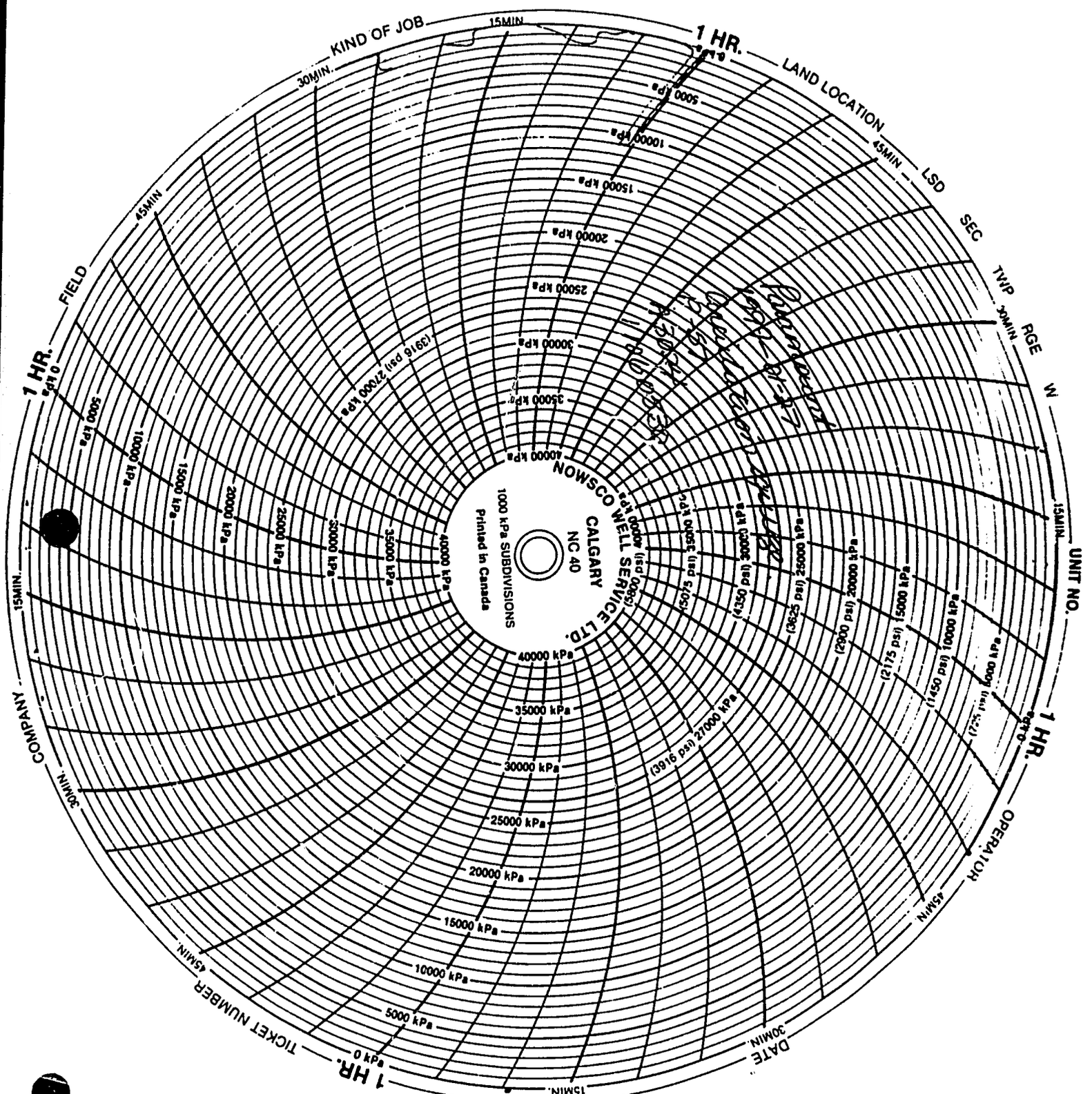
REMARKS	TIME Start	TIME Finish	RATE m3/min	PRESSURE, kPa Max.	PRESSURE, kPa Min.	Volume Pumped m3
P.J.S.M.	18:50	19:00				
Press test lines	19:00	19:01		11000	0	
Break circulation with H2O	19:01	19:14	.3	1900	0	2.5
Mix cmt	19:14	19:23	.5	2000	0	4.5
Shut in	19:23	19:24				
Mix cmt	19:24	19:26		1800	0	1.0
Rig						

Plug #	Top (m)	Bottom (m)	Cement (t)	Displacement	Time Plug Down

PREFLUSH TYPE (m3)	
1.	3.
2.	4.
STAGE N2 RATIO (m3/m3)	
1.	3.
2.	4.

SQUEEZE DATA (m3)
Total Slurry in Formation
Total Slurry in Casing
Total Backwashed
Total Slurry

NOWSCO REPRESENTATIVE: Marco Lehman	CUSTOMER REPRESENTATIVE: Dave Wilson


KIND OF JOB
15MIN
1 HR.
LAND LOCATION
30MIN.
45MIN
LSD
SEC
TWP
RGE
W
UNIT NO.
1 HR.
FIELD
45MIN
30MIN
15MIN
NOWSCO WELL SERVICE LTD.
CALGARY
NC 40
1000 kPa SUBDIVISIONS
Printed in Canada
COMPANY
OPERATOR
TICKET NUMBER
DATE
1 HR.
15MIN.
30MIN.
45MIN.
1 HR.
0 kPa
5000 kPa
10000 kPa
15000 kPa
20000 kPa
25000 kPa
30000 kPa
35000 kPa
40000 kPa
(3916 psi) 27000 kPa
(3625 psi) 25000 kPa
(3045 psi) 21000 kPa
(2900 psi) 20000 kPa
(2175 psi) 15000 kPa
(1450 psi) 10000 kPa
(725 psi) 5000 kPa
0 kPa

NOWSCO

1106078?

CUSTOMER: Paramount	Service Order No.: A2982	Treatment Report No.:	Job No.:	Proposal No.:	DATE: 1999-02-04
ADDRESS:			JOB TYPE: 339.7mm Surface		
LOCATION: P-57	WELL NAME: Paramount Berkley		CONTRACTOR: Precision #379		PROVINCE: NWT
Hole Size (mm): 444.5	Total Depthn (m):500	Mud Type : gel chem	Viscosity mPa's 50		Density kg/m3 1120

Casing or Liner	Size mm 339.7	Density kg/m 81.10	Grade K-55	Depth m 501.27	Type of Plugs	
	Size mm	Density kg/m	Grade	Depth m	Top mm 339.7	R
				Total : m	Btm mm	
Drill Pipe or Tubing	Size mm	Density kg/m	Grade	Depth m	Type of Head	
	Size mm	Density kg/m	Grade	Depth m	Swage	

Perforations	From: (m)	To: (m)	PUMP OUT LINES: No	RETURNS:	TYPE:
	From: (m)	To: (m)	FLOAT HOLDING:		AMT (m3)
	From: (m)	To: (m)	TYPE OF PACKER or SPECIAL TOOL: Float collar		DEPTH (m) 486.44

TEMPERATURE (°C) -30	MIXING WATER (°C) 15	DRY CEMENT (°C) -2	SLURRY (°C) 9
TIME ARRIVED AT LOCATION 20:00 99-02-04		TIME LEFT LOCATION 04:30 99-02-05	

CEMENT DATA				Density kg/m3		Yield, m3/t	Total Yield, m3	
	AMOUNT, t	CEMENT BLEND	ADDITIVES	SLURRY	D.H. FOAMED		SLURRY	D.H. FOAMED
Scavenger								
Fill	62	0-1-0°G°	1% CaCl2	1901		.757	46.9	
Tail in								
Fill								
Tail in								

CASING OR LINER DATA

REMARKS	TIME Start	TIME Finish	RATE m3/min	PRESSURE, kPa Max.	PRESSURE, kPa Min.	Volume Pumped m3
Safety Meeting						
Preflush	00:43	00:46	1	1500	1000	5
Pressure test	00:46	00:47		12500		
Mix cement	00:53	01:39	1.01	3000	1000	46.9
Drop plug	01:39	01:52				
Displacement	01:52	02:46	.726	6000	1000	39.22
Plug down	02:49			12500		

PLUG BACK DATA

Plug #	Top (m)	Bottom (m)	Cement (t)	Displacement	Time Plug Down

PREFLUSH TYPE (m3)

1.H2O 5.0	3 .
2.	4

STAGE N2 RATIO (m3/m3)

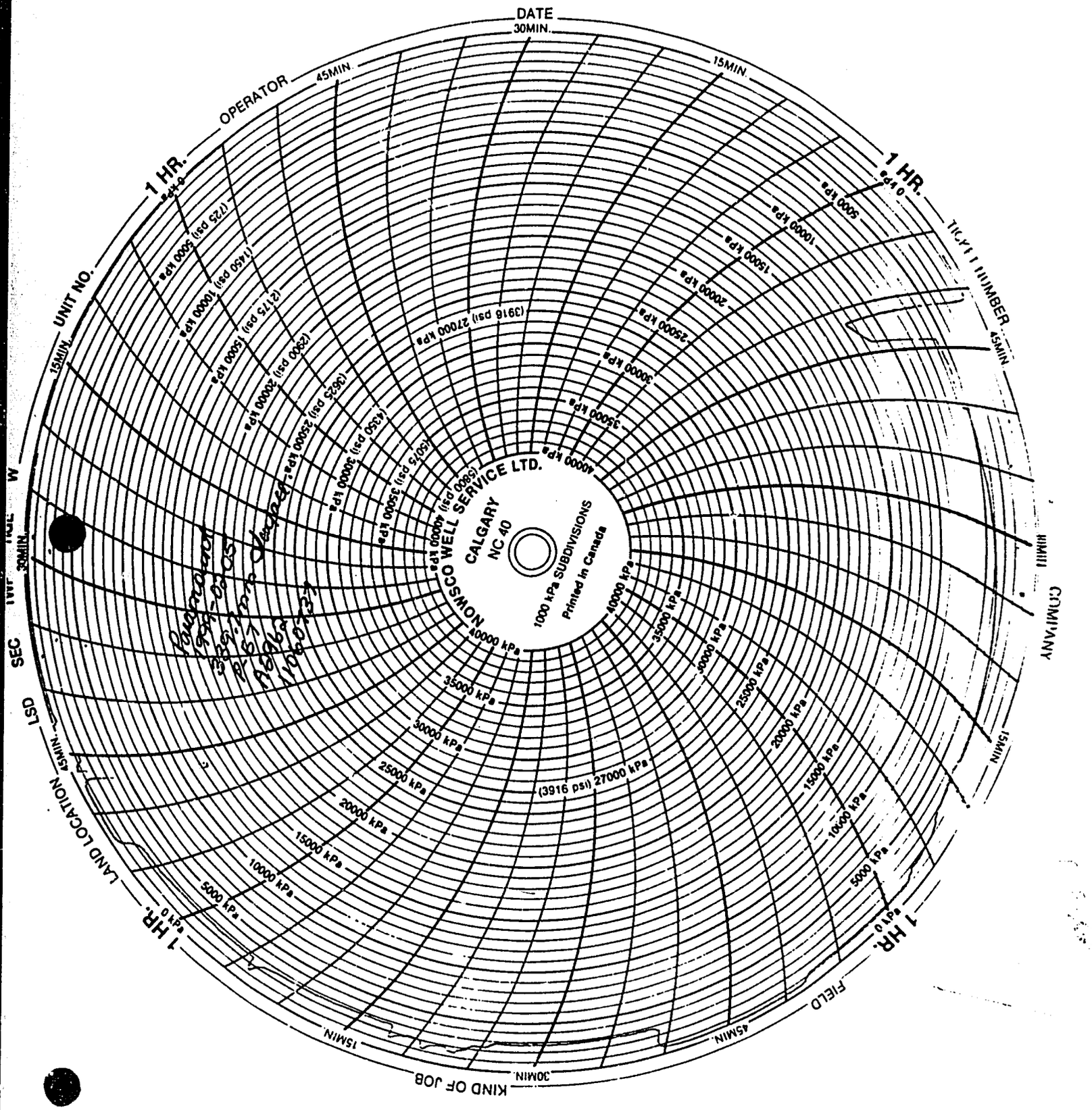
1.	3.
2.	4.

SQUEEZE DATA (m3)

Total Slurry in Formation
Total Slurry in Casing
Total Backwashed
Total Slurry

NOWSCO REPRESENTATIVE: Kennet Dickson

CUSTOMER REPRESENTATIVE: Wilbur Callihoo


DATE
30MIN.
15MIN.
1 HR.
OPERATOR
45MIN.
UNIT NO.
15MIN.
1 HR.
0 kPa
5000 kPa
10000 kPa
15000 kPa
20000 kPa
25000 kPa
30000 kPa
35000 kPa
40000 kPa
(725 psi) 5000 kPa
(1450 psi) 10000 kPa
(2175 psi) 15000 kPa
(2900 psi) 20000 kPa
(3625 psi) 25000 kPa
(4350 psi) 30000 kPa
(5075 psi) 35000 kPa
(5800 psi) 40000 kPa
(3916 psi) 27000 kPa
CALGARY
NC 40
1000 kPa SUBDIVISIONS
Printed in Canada
NOWSCO WELL SERVICE LTD.
TICKET NUMBER
45MIN.
15MIN.
1 HR.
0 kPa
5000 kPa
10000 kPa
15000 kPa
20000 kPa
25000 kPa
30000 kPa
35000 kPa
40000 kPa
FIELD
45MIN.
15MIN.
30MIN.
KIND OF JOB
LAND LOCATION
45MIN.
15MIN.
LSD
SEC
TWP
RGE
W
COMPANY

NOWSCO

1106045

CUSTOMER:	Service Order No.	Treatment Report No.	Job No.	Proposal No.	DATE
Paramount	A3541				1999-02-18
ADDRESS:			JOB TYPE: Intermediate		
LOCATION: P-57	WELL NAME: Paramount Berkley Netla		CONTRACTOR: Precision #379		PROVINCE: NWT

Hole Size (mm): 222	Total Depthn (m):2072	Mud Type : Invert	Viscosity mPa's 48	Density kg/m3 980

	Size mm	Density kg/m	Grade	Depth m	Type of Plugs	
Casing or Liner	177.8	34.23	L-80	2073.78	Top mm 177.8	R
	Size mm	Density kg/m	Grade	Depth m	Btm mm 177.8	R
			Total : 2073.78m			
Drill Pipe or Tubing	Size mm	Density kg/m	Grade	Depth m	Type of Head PI	
	Size mm	Density kg/m	Grade	Depth m		

Perforations	From: (m)	To: (m)	PUMP OUT LINES: No	RETURNS:	TYPE: Mud
	From: (m)	To: (m)	FLOAT HOLDING: Yes	Full	AMT (m3) 450
	From: (m)	To: (m)	TYPE OF PACKER or SPECIAL TOOL: Float collar		DEPTH (m) 2057.6

TEMPERATURE (°C) -9	MIXING WATER (°C) 15	DRY CEMENT (°C) -8	SLURRY (°C) 7
TIME ARRIVED AT LOCATION 07:00 99-02-18		TIME LEFT LOCATION 15:00 99-02-18	

CEMENT DATA

	AMOUNT, t	CEMENT BLEND	ADDITIVES	Density kg/m3 SLURRY	Density kg/m3 D.H. FOAMED	Yield, m3/t	Total Yield, m3 SLURRY	Total Yield, m3 D.H. FOAMED
Scavenger	1.409	1-1-2°G°	.1% R-6, .5% T-10	1300		2.128	3.00	
Fill	14.390	1-1-2°G°	.1% R-6, .5% T-10	1682		.935	13.454	
Tail In	19.2	0-1-0°G°	.6% NFL-2, .1% R-6	1901		.757	14.534	
Fill								
Tail In								

CASING OR LINER DATA

REMARKS	TIME Start	TIME Finish	RATE m3/min	PRESSURE, kPa Max.	PRESSURE, kPa Min.	Volume Pumped m3
P.J.S.M.	11:00					
Diesel	11:22	11:25	1.00	3200		3.00
Nowflush	11:25	11:28	1.00	3000		3.00
Press test	11:29	11:31		36500		
Mix scav cmt	11:35	11:39	.750	2500		3.00
Mix fill cmt	11:39	11:53	.961	3500	1000	13.454
Mix tail cmt	11:53	12:08	.968	3000		14.534
Drop plug	12:09	12:11				
Displacement (invert)	12:11	12:55	.960	15500		42.252
Bump plug	12:55			18500	15500	
Bleed lines	12:52			18500		

PLUG BACK DATA

Plug #	Top (m)	Bottom (m)	Cement (t)	Displacement	Time Plug Down

PREFLUSH TYPE (m3)

1.Diesel 3.0	3 .Scav 3.0
2.Nowflush 3.0	4

STAGE N2 RATIO (m3/m3)

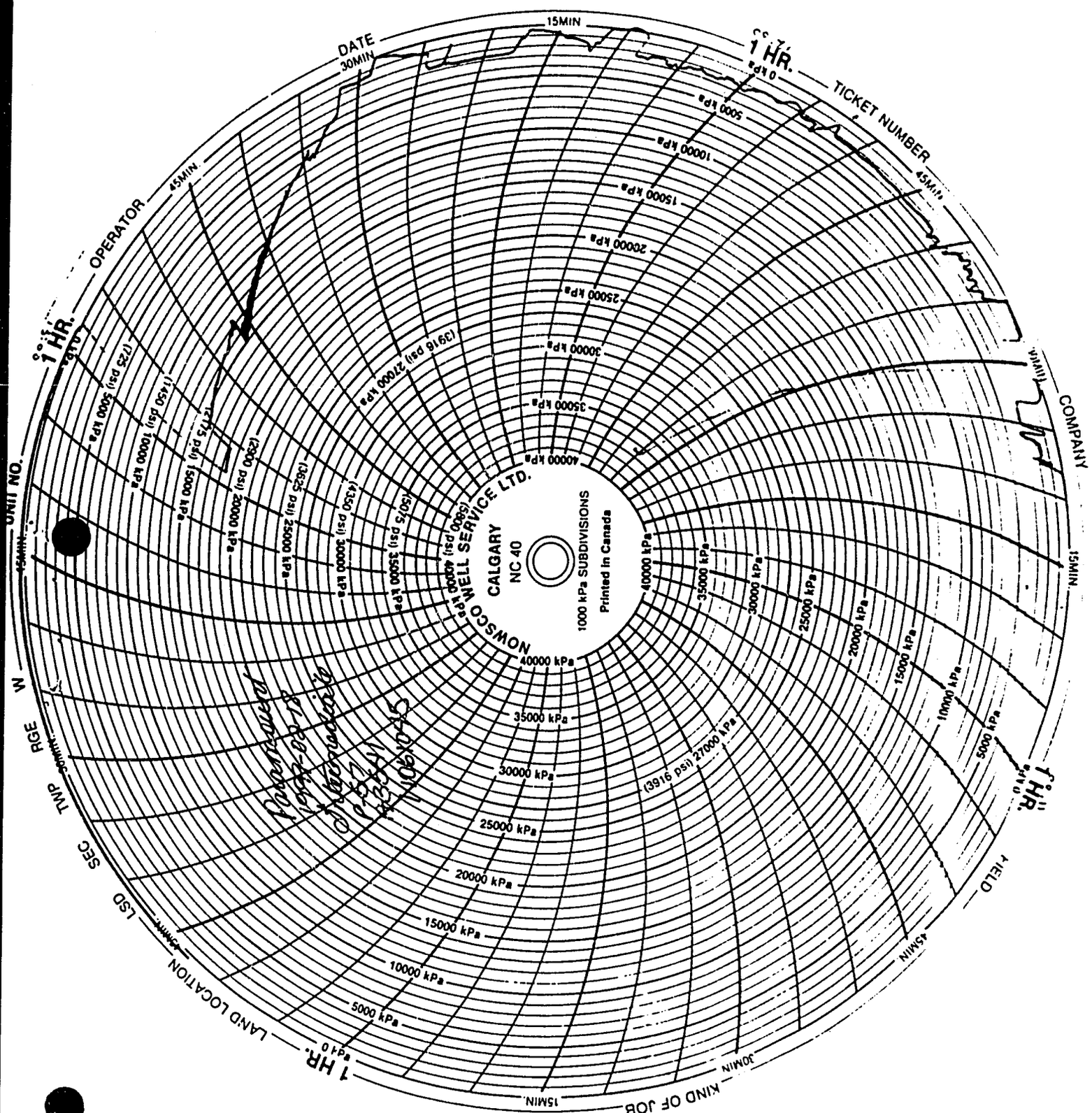
1.	3.
2.	4.

SQUEEZE DATA (m3)

Total Slurry in Formation
Total Slurry in Casing
Total Backwashed
Total Slurry

NOWSCO REPRESENTATIVE: Steve Sehn

CUSTOMER REPRESENTATIVE: Dave Wilson


DATE
30MIN
15MIN
1 HR.
0 kPa
5000 kPa
10000 kPa
15000 kPa
20000 kPa
25000 kPa
30000 kPa
35000 kPa
40000 kPa
TICKET NUMBER
45MIN
1HR.
COMPANY
15MIN
30MIN
45MIN
1 HR.
FIELD
KIND OF JOB
15MIN
30MIN
45MIN
1 HR.
LAND LOCATION
LSD
SEC
TWP
RGE
W
UNIT NO.
45MIN
30MIN
15MIN
1 HR.
OPERATOR
45MIN
NOWSCO WELL SERVICE LTD.
CALGARY
NC 40
1000 kPa SUBDIVISIONS
Printed in Canada
(725 psi) 5000 kPa
(1450 psi) 10000 kPa
(2175 psi) 15000 kPa
(2900 psi) 20000 kPa
(3625 psi) 25000 kPa
(4350 psi) 30000 kPa
(5075 psi) 35000 kPa
(5800 psi) 40000 kPa
(3916 psi) 27000 kPa
40000 kPa
35000 kPa
30000 kPa
25000 kPa
20000 kPa
15000 kPa
10000 kPa
5000 kPa
0 kPa

WELLHEAD

AJ INDUSTRIES

March 09, 1999

WELL FILE

PARAMOUNT RESOURCES LTD.

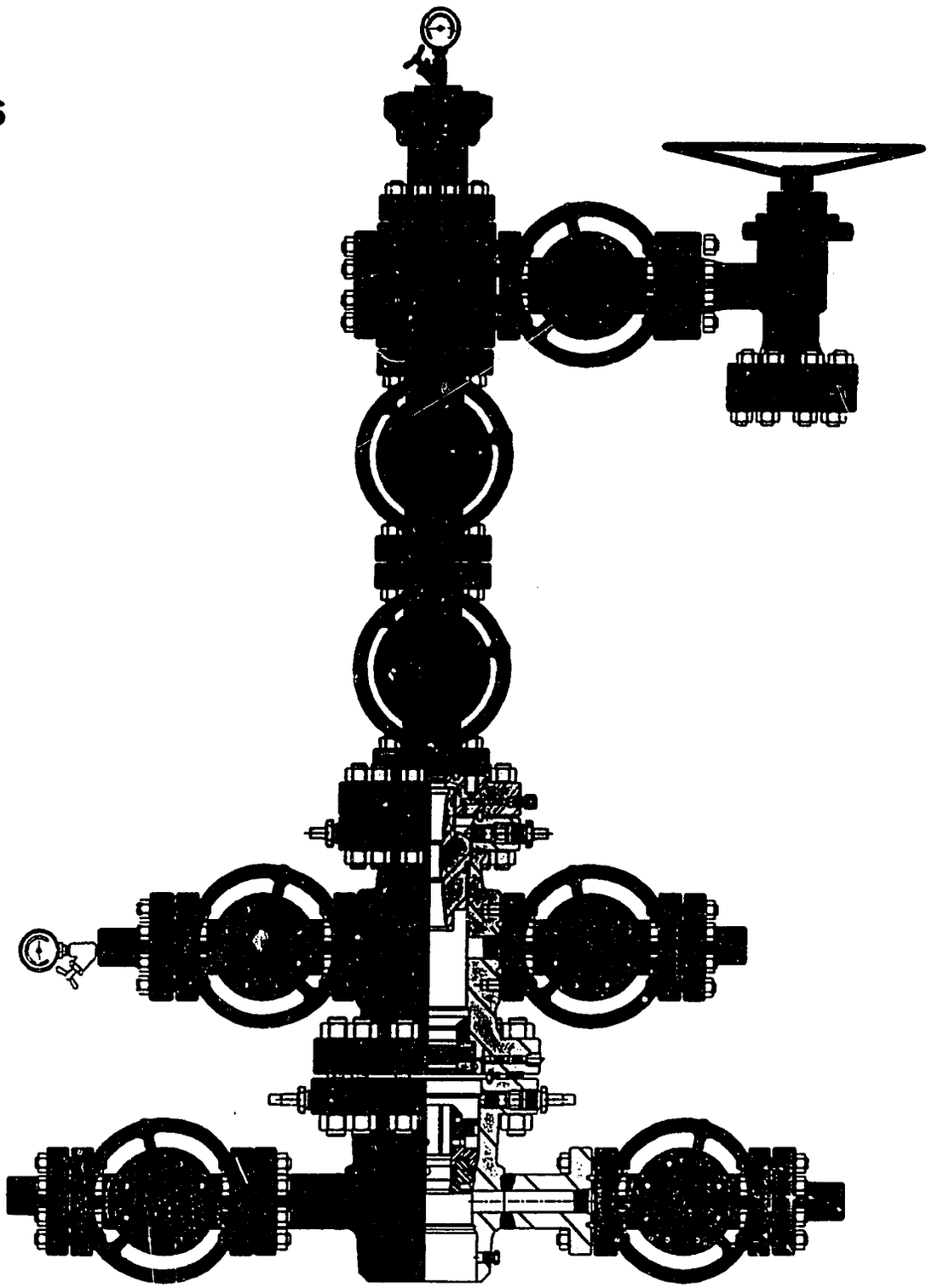
LOCATION: **P-57**

ITEM	SERIAL #
1.) Casing Bowl 13 5/8" 3M x 11 3/4" ODSO c/w 2-2" LPSO VG-100	#23388-02
2.) (2) Gate Valves 2 1/16" 3/5M FLGD c/w T-36 Trim VGC	N/A
3.) Tubing Head 13 5/8" 3M x 7 1/16" 3M c/w 2-2" SSO ABB VG-OF	#24062-01
4.) Tubing Hanger 7 1/16" x 3 1/2" EUE c/w BVPT PSL-1 ABB XP-1	#24051-01
5.) (2) Gate Valves 3 1/8" 3M FLGD c/w L, DD, PSL-1 Newco	#53048
	#53047
6.) (3) Gate Valves 2 1/16" 5M FLGD L, DD, PSL-1 VGC	#23492-22
	#23492-33
	#23455-25
7.) Adapter Flange 7 1/16" 3M x 3 1/8" 3M SSU ABB XP-1	#24045-01
8.) Studded Tee 3 1/8" 3M x 3 1/8" 3M x 2 1/16" 5M CRC	N/A
9.) BHTA 3 1/8" 3M FLGD x 3 1/2" EUE c/w Top Cap	#23556-04
10.) Choke Valve 2 1/16" 5M FXF L, DD, PSL-1 HF Intervals MasterFlow P-2	#P2-7588

MISC.

1.) Needle Valves
2.) Pressure Gauges
3.) Bull Plugs
4.) Studs & Nuts
5.) Ring Gaskets
6.) Casing Vent Assembly
7.) Etc...

AJ
INDUSTRIES





PARAMOUNT RESOURCES LTD.

A J INDUSTRIES. –

LOCATION : **P-57**

RE: 13 5/8" 3000# X 11 3/4" X 7 1/16" 3000# X 7" X 3 1/2"

FLOWING

DRILLING FLUID

BAKER HUGHES INTEQ

Well Name: **Paramount Berkley Netla (P57)**

Location: **- 60 - 5 / 122 - 3 -**

Spud Date (m/d/y): **1/28/99** Total Depth: **2408**

Completion Date: **3/2/99** Total Days: **36**

Contractor: **Precision 379**

Job ID: **28572** TSR: **Jody Kereliuk** Service(Y/N): **Yes**

Well Profile	Hole Size	Casing Size	Csg./Mud up Depth	Days	Mud System	Max. Mud Density	Maximum Deviation	Dev. Depth
Surface Hole	444		0	11	Gel Chemical	1120	0.75	479
Top Hole								
Intermediate	222		500	10	CaCl2 Invert	960	2.5	850
2nd Intermediate								
Liner								
Main Hole	156			7	CaCl2 Invert	960	2	2350

Lost Circulation Depths/Zones: Seepage losses (Lwr Ft Si Pressured Zones: none

H2S Zones: none Sloughing Zones: none

PROBLEMS AND COMMENTS

SURFACE HOLE: (444mm)

Rigged up diverter and spudded 311mm pilot hole. Drilled ahead to 12m and started to lose volume, mud started coming up the mouse hole. Waited on cementers to recement conductor barrel, and waited on cement for 8 hours. Drilled out cement in mouse hole and proceeded to drill ahead. Continued drilling ahead to 44m while mixing Bicarb to treat out cement contamination, mixing Desco to control rheologies. Drilled ahead to 341m with a 38 vis and started to pressure up (Mud Ring) then started to lose volume. Worked tight hole while mixing Sawdust and Kwikseal to heal losses. Once losses were healed, tripped for the mud ring. Hole was tight all the way out and had to back ream and pump out from 320m to 260m. Finished hoisting and pulled through mud ring when we got to the collars. Cleaned balled up bit and ran back in hole to 250m and tagged Mud Ring. Reamed mud ring to bottom while mixing Sapp through the drill pipe. Continued drilling ahead from 341m while mixing Detergent and Sapp to control mud rings. Drilled ahead to 500m and circulated for 1 hour prior to hoisting to pick up 444mm bit. Hoisted to 423m and it started to get tight. Pumped out and back reamed to 312m and then proceeded out of the hole without the pump. Changed out kelly and picked up 222mm collars, made up 444mm bit and started reaming 311mm hole. Treated out cement contamination with Bicarb again and drilled ahead to 185m still fighting mud rings. Drilled ahead from 185m to 390m still fighting mud rings. Had trouble getting to bottom after a survey so the vis was increased from 40 to 50 s/l to help clean the hole. Reamed ahead to 490m and circulated for 1 hour prior to pulling wiper trip. Hoisted to 420m and hole was tight again, picked up kelly and pumped out 3 singles. Continued out of the hole to 360m and picked up kelly again and pumped out another 4 singles. Finished hoisting, changed bit and ran back in hole.

INTERMEDIATE HOLE: (222mm)

Nippled up, pressure tested, ran in the hole and tagged cement at 484m. Displaced hole over to Invert by reverse circulating and then proceeded to drill cement from 484m to the shoe. Drilled through the shoe and continued drilling ahead at an ROP of 15-20 m/hr. Drilled ahead to 682m and pressured up after a survey was completed. Pulled 5 singles, broke circulation, and circulated hole clean while mixing Oilgel to raise the vis and Yield Point. Continued drilling ahead from 682m to 827m with the yield point raised from .5 to 2.5. No further problems cleaning the hole. Drilled ahead to 897m and survey was out 2 3/4 degrees. Circulated up sample and hoisted bit #1 to pick up directional tools. Made up motor and MWD assembly and ran in hole surveying every three stands. Finished running in and washed 3m of fill on bottom. Continued drilling ahead from 901m to 1101m rotating and sliding with no hole or fluid problems reported. Added Base Oil as we were drilling ahead to restore mud properties from water influx on previous well (M-23). Drilled ahead to 1199m and circulated up sample prior to hoisting to change out mud motor. Changed out motor and made up bit #2 RR (GT-18) and ran in hole with 4-5 m of fill reported on bottom. Continued drilling ahead rotating and sliding to 1204m, adding Base oil to the active system. Vis and Y.P are down from Base Oil additions, so Oilgel was mixed to maintain Y.P above 1.5. Continued drilling ahead from 1204m to 1647m with no hole or fluid problems reported. The vis is down to 42 s/l and the flowline temp is up to 41 degrees Celsius. Drilled from 1647m to 1869m, continuing to add Base oil to the active system. O/W ratio is at 94/6 from 85/15 at the start of the hole. Drilled ahead from 1869m to 1950m and started to notice seepage losses of .5 to .75 m3/hr. Mixed Soluflake, Ultraseal, Milplug, and Calcium carbonate to control seepage losses. Continued drilling ahead and continued to lose mud to the formation (Lower FORT SIMPSON, UPPER MUSKWA). Continued drilling ahead to 2062m with losses

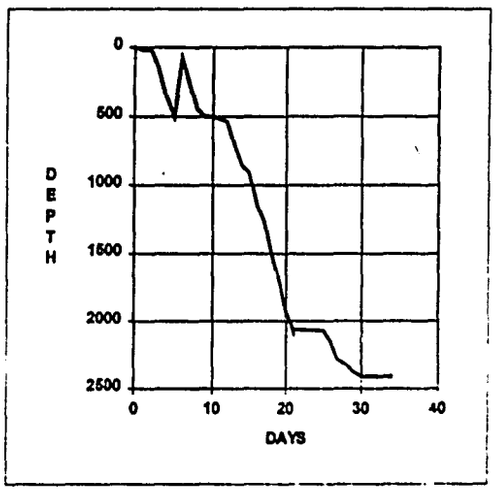
BAKER HUGHES INTEQ

Well Name:	**Paramount Berkley Netla (P57)**		
Location:	**- 60 - 5 / 122 - 3 -**		
Spud Date (m/d/y):	**1/26/99**	Total Depth:	**2408**
Completion Date:	**3/2/99**	Total Days:	**36**
Contractor:	**Precision 379**		
Job ID:	**28572** TSR: **Jody Kereliuk**	Service(Y/N):	**Yes**

down to less than .5m3/hr. Drilled ahead to 2072m (Intermediate casing point) and circulated up sample. The losses to the formation had healed. Pumped pill and hoisted to lay down directional tools. Laid down tools and ran back to bottom with 5m of fill reported on bottom. Circulated for 2 hours while mixing Oilgel to raise YP above 2.0 for logging. Pumped pill and hoisted to run logs. Rigged up loggers and ran logs to 2058m, bridged off (15m off bottom). Proceeded to log the hole and rigged out loggers. Made up Bit #2RR and ran in for clean out trip. Ran in to 2058m and washed 15m of fill to bottom. Circulated for 2 hours while mixing Oilgel to raise the YP above 2.5. Pumped pill and hoisted to run casing. Ran casing with no problems and washed the last joint to bottom. Circulated hole clean and cemented with no problems, left approximately 15m3 of Invert behind the casing. Nipplied up BOPS and rigged up Air Drillers, and Alpine test unit to drill underbalanced.

PRODUCTION SECTION: (156mm) Underbalanced Air/N2 Invert mist
Drilled out cement and shoe with Invert and drilled ahead to 2077m. Performed formation integrety test. Displaced the hole over to Air/Nitrogen and continued drilling ahead from 2077m to 2119m pumping 30-35 m3/min of Nitrogen and 250-300 Litres/min of Invert. Retort were completed every four hours to check for water influxes from the wellbore. Continued drilling ahead from 2119m to 2266m with no hole or fluid problems reported. The water content was constant at 6-8 % with no gas detected in the samples using the Garret Gas Train. Drilled ahead to 2315m and got a 1m drilling break in the LANDRY formation. Retort confirmed water influx from bottoms up sample. Sample was 80/20 O/W ratio. Pulled up and tried to displace hole to Invert but had no pump pressure or returns. Worked pipe pumping approximately 6-8 m3 to the formation. Pulled up and mixed LCM pill containing (Soluflake, Calcium Carbonate, Ultra seal, and Walnut hulls). Spotted pill on bottom and worked pipe to slowly get pump pressure, followed by returns at the shaker. Continued circulating monitoring volumes with losses appearing to be healed up. Drilled 5m and circulated bottoms up prior to hoisting bit #1B. Ran in with Bit #2 and washed 5m of fill on bottom. Continued drilling ahead from 2320m to 2359m while adding Base Oil to the active system to restore the O/W ratio. Drilled ahead to 2408m and TD was called. Pulled 15 stand wiper trip to the casing and ran back to bottom with 8m of fill reported. Circulated for 1.5 hours prior to hoisting for logs. The engineer did not want to raise the YP prior to logging against my advice. Pumped pill and hoisted to log. Ran in with logs and bridged off 8m off bottom (Fill). Logged with no problems and rigged out loggers while waiting on testers (12 hours). Made up DST #1 and tried to inflate packers with no success. Pulled out of hole, changed packers and ran in hole to test again. Had another packer failure, so hoisted DST #1 and ran in hole for clean out trip. Circulated on bottom for 1 hour and hoisted to run DST #3. Ran in with DST #3 and seat packers. Opened tool with no gas to surface. Finish testing, deflated packers and hoisted DST #3. Reversed circulate 2-3m3 of fluid from the drill pipe. Rigged out test tool, read and recorded recorders and ran in hole open ended to run cement plugs. Ran to bottom and displaced hole over to invert. Proceeded to run cement plugs with no problems. Transferred all Invert to storage tanks and then transferred to Base camp tank farm.

Product Used - Unit:	Quantity:
Bicarbonate of Soda - 22.7 kg	15
Calcium Carbonate - 25.0 kg	204
Calcium Chloride Fines - 40.0 kg	31
Carbotec L SEA - 55.0 G	2
Caustic Soda - 22.7 kg	5
~~CRW 132F - 210 l~~	1
DESCO - CHROME FREE - 11.4 kg	6
~~DFE 418 (ROP ENHANCER) - 55.0 G~~	3
Diesel Fuel - m³	59
Drilling Detergent Liq. - 20.0 l	5
Floor Dry - 11.4 kg	22
Kwik Seal Medium - 18.1 kg	34
Lime - 22.7 kg	45
Milbar - 40.0 kg	96
Miclean - 55.0 G	2
Milgel - 40.0 kg	217
Milgel - 45 .5 kg	50
Milplug (Walnut) Fine - 25.0 kg	52
OILGEL 3000 - 25	90



BAKER HUGHES INTEQ

Well Name: **Paramount Berkley Netla (P57)**

Location: **- 60 - 5 / 122 - 3 -**

Spud Date (m/d/y): **1/26/99** Total Depth: **2408**

Completion Date: **3/2/99** Total Days: **36**

Contractor: **Precision 379**

Job ID: **28572** TSR: **Jody Kereliuk** Service(Y/N): **Yes**

SAPP - 22.7 kg	1
Sawdust - 18.1 kg	280
Soda Ash - 40.0 kg	5
SOLUFLAKE F - 25	36
SOLUFLAKE M - 25 kg	10
ULTRA SEAL - XP - 11.4 KG	56

LEAK - OFF TESTS

FORMATION PRESSURE TEST

PRESSURE TESTERS LTD.
Box 6820, Fort St. John, B.C. V1J 4J3 Telephone 785-4540.

Oil Company PARAMOUNT RESOURCES LTD Date 99/02/20

Location PARAMOUNT BERKLEY NEILA P-57 Contractor PRECISION 379

Piston Size 3.175

Stroke Length 7.620

Depth of Casing 2072

Depth Drilled Out 2075

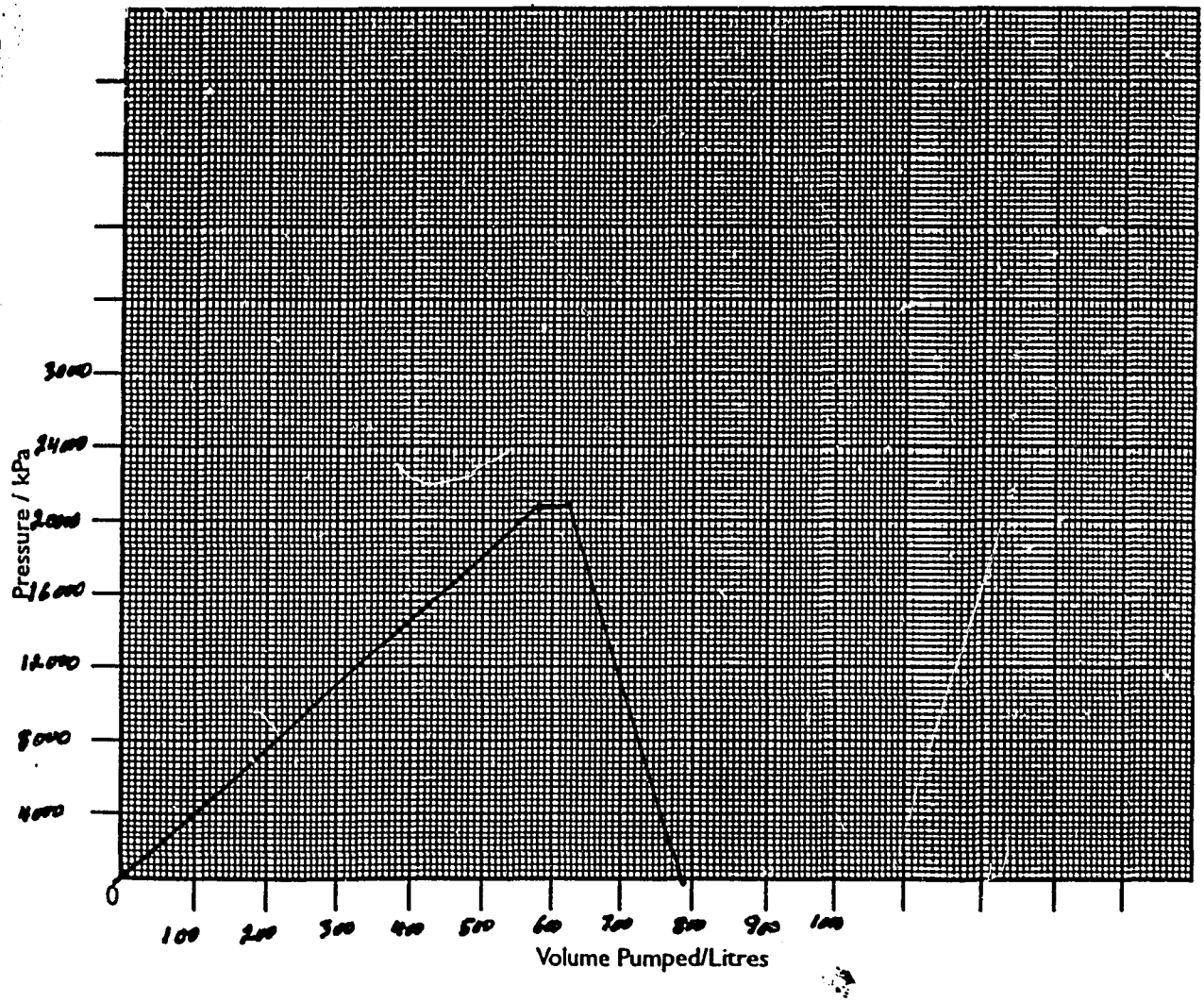
Gradient of Fluid in Hole 932

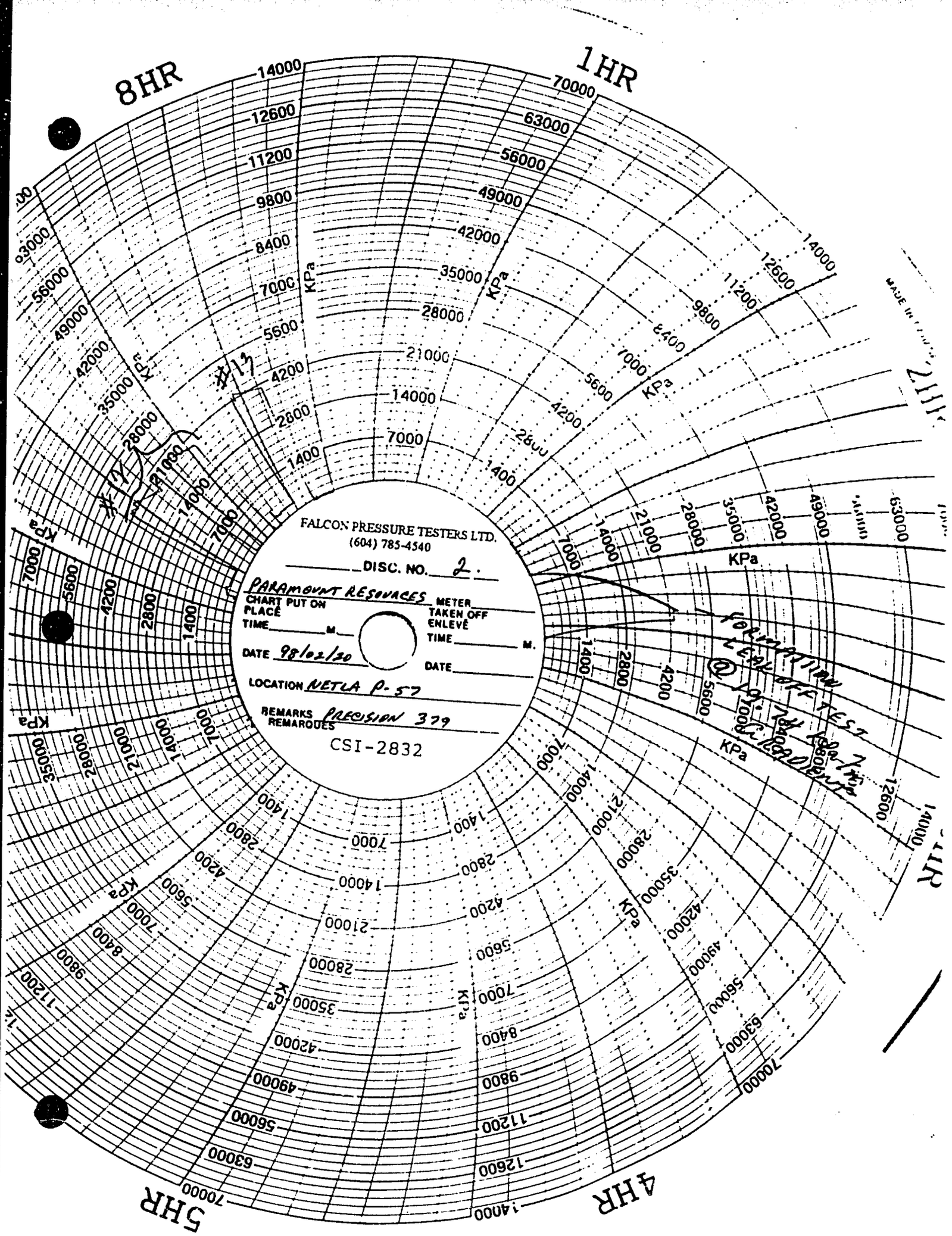
Hydrostatic Pressure 19311

Leak-Off Pressure 21600

Total Pressure at Shoe 40911

Formation Gradient 19.74




8HR
1HR
5HR
4HR
KPa
FALCON PRESSURE TESTERS LTD.
(604) 785-4540
DISC. NO. 2
PARAMOUNT RESOURCES
METER
CHART PUT ON PLACÉ
TAKEN OFF ENLEVÉ
TIME
M.
DATE 98/02/20
LOCATION NETLA P-57
REMARKS REMARQUES PRECISION 379
CSI-2832
#1
#2
#3
#4
Pressure Test
Leak off Test
Volume Pumped
Volume Recovered

FORMATION PRESSURE TEST

PRESSURE TESTERS LTD.
Box 6820, Fort St. John, B.C. V1J 4J3 Telephone 785-4540.

Oil Company Berkley Resources Ltd Date 13/02/99

Location Paramount Berkley Netla Contractor P.C 3

P-57 Lat 60° 47' 50.680 Long 122° 39' 25.09"

Piston Size

Stroke Length

Depth of Casing 500

Depth Drilled Out 1643

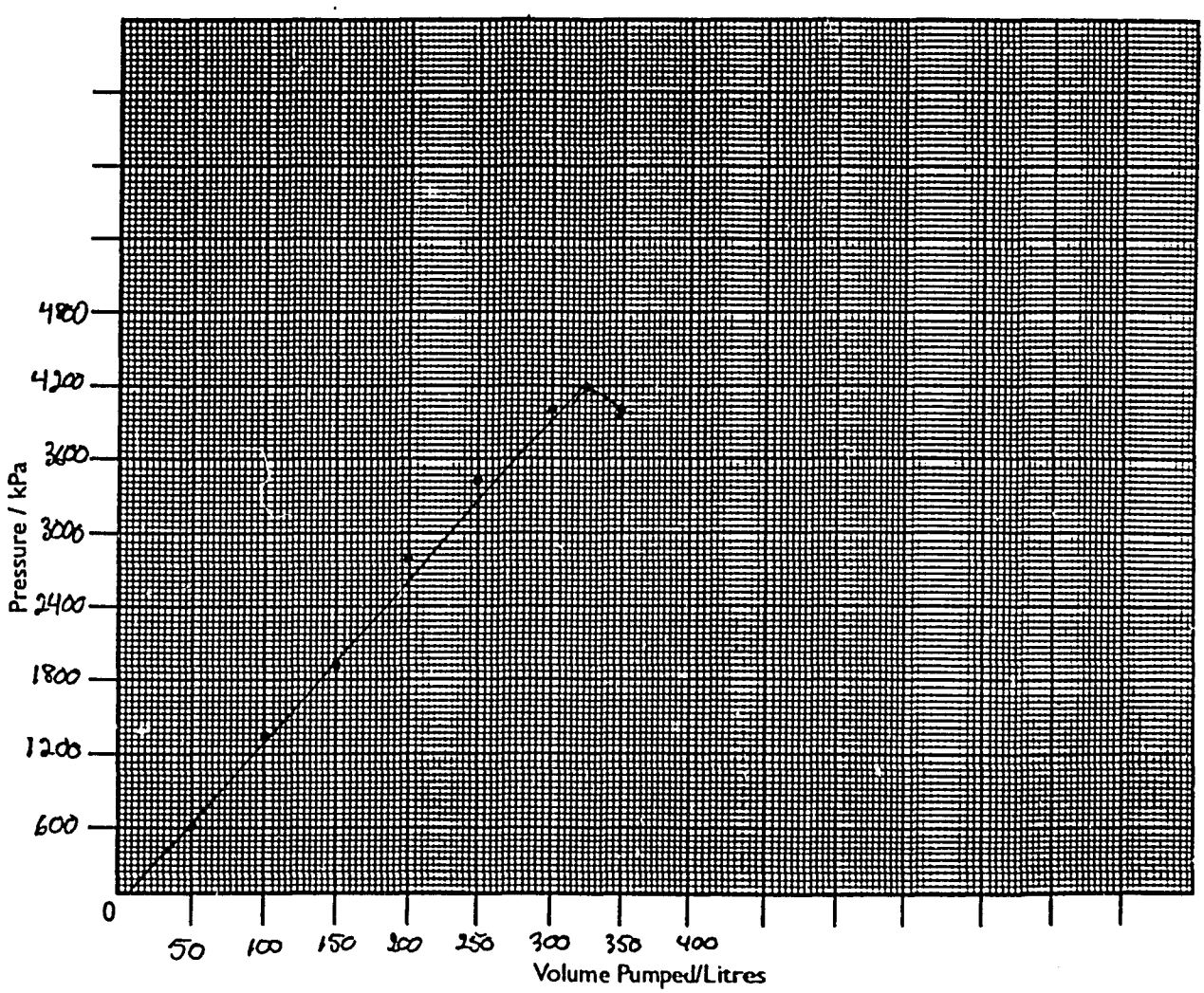
Gradient of Fluid in Hole 920 Kg/m³ x .00981 = 9.03 KPa/m

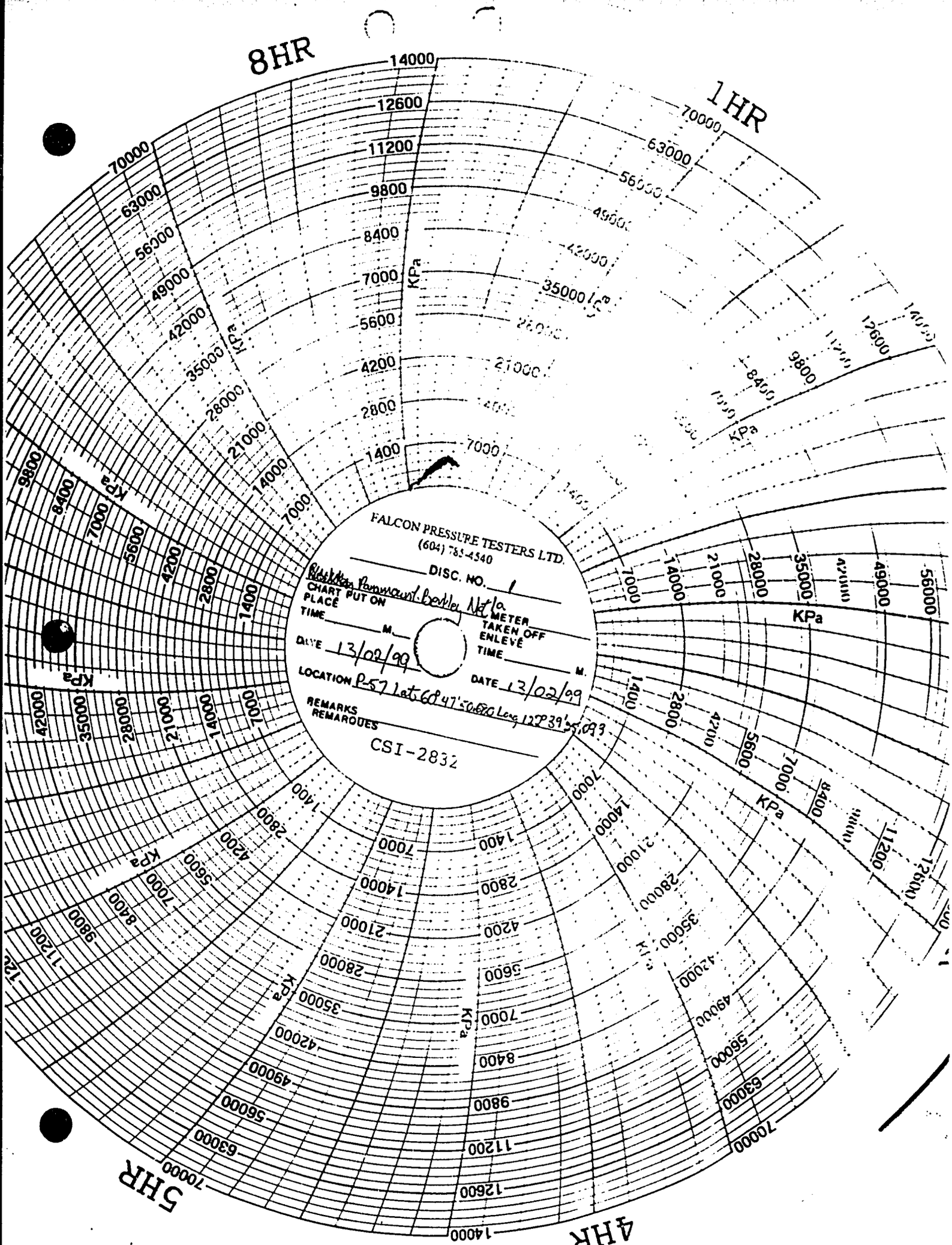
Hydrostatic Pressure 4512

Leak-Off Pressure 4200

Total Pressure at Shoe 8712

Formation Gradient 17.42




8HR
1HR
5HR
4HR
KPa
FALCON PRESSURE TESTERS LTD.
(604) 785-4540
DISC. NO. 1
CHART PUT ON
PLACÉ
METER
TAKEN OFF
ENLEVÉ
TIME
M.
DATE 13/02/09
LOCATION P-57 Lat 60°47'50.670 Long 127°39'35.093
DATE 13/02/09
REMARKS
REMARQUES
CSI-2832

TIME DISTRIBUTION

PARAMOUNT BERKLEY NETLA P-57

DRILLING TIME DISTRIBUTION

	JANUARY, 1999					FEBRUARY, 1999																							MARCH, 1999												OPERATION	TOTAL HRS
DATE	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4		
DAYS FROM SPUD	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
DRILLING	3.5	6	18.75	12.5	17.25	14	19.5	19.75	14.75	3			16.25	20.5	15.25	15.25	19.25	11.75	20.5	19.75	20.75	13				2	17.75	18.75	4.5	22.5	13.75										DRILLING	380.5
TRIPS			1.25	4.5	3.5	9	3.5	2.25	8	5.25		10.25			4	2.25		9.5				3.5	13.75	5.25		5.25			8		6			7.5		5.75			TRIPS	118.25
RIG SERVICE	0.25		0.5	0.75	0.75	0.75	0.5	0.5	0.25	0.5		0.75	0.5	0.5	0.5	1.5	0.75	0.75	0.75	0.75	0.75	0.75	1	0.5		0.5	0.75	0.75	1.5	0.75	0.75			0.25						RIG SERVICE	19.75
SURVEY			2	2	2	0.25	0.5	1	0.5	0.25			1	0.75	0.75	4.25	4	1.5	2.75	2.25	2.5	1.5						4.5	0.75	0.75	0.5									SURVEY	36.25
REAM & COND				2.25									2.5	2.25		0.5						5.25																		REAM & COND	12.75
COND MUD	3.5			1.25																																				COND MUD	4.75
CIRCULATE				0.75	0.5			0.5	0.5	8.5			0.75		0.5			0.5		0.75			2	1.75	2	0.5	2.25		5.75		2			1		3.25				CIRCULATE	33.75
RIG REPAIRS	0.5		1.5												0.5																									RIG REPAIRS	2.5
CSG & CMT		1.5								6.5	8.25													14.75	2.25															CSG & CMT	33.25
FISHING																																								FISHING	0
LOGGING																							7.25									12.5									LOGGING	19.75
CORING																																									CORING	0
TESTING																																		24	15.25	24	4				TESTING	67.25
WAITING TIME		16.5									6														6						1	11.5									WAITING TIME	41
NU & PT											9.75	6.5								0.5					13	12	0.75														NU & PT	42.5
DRILL OUT													2.75													3.75															DRILL OUT	6.5
LOST CIRC																																									LOST CIRC	0
LD DP & DC																								1.25														5	2		LD DP & DC	8.25
PLUG/ABAND																																						6			PLUG/ABAND	6
RIG UP OTHER	16											4.5																													RIG UP OTHER	20.5
SAFETY MTG	0.25												0.25											0.5	0.25		0.5														SAFETY MTG	1.75
HANDLE TOOL												2			2.5	0.25									0.5		2		3.5												10.75
TOTAL	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	2	TOTAL	866

DEVIATION SURVEYS

UNITED GeoCom Drilling Services

A Computalog Ltd. & Geoservices N.A. Ltd. Joint Venture

COMPLETION

FOR

PARAMOUNT RESOURCES LIMITED

PARAMOUNT BERKELY NELTA P-57

FROM SURFACE LOCATION:

WELL FILE: **9194 C**

99-03-29

UNITED GEOCOM DRILLING SERVICES
9204 - 37th AVENUE
EDMONTON, AB, CANADA T6E 5L4
PHONE: (780) 462-6300
FAX: (780) 466-6002

UNITED GEOCOM DRILLING SERVICES
2140 530 - 8 TH AVENUE, S.W.
CALGARY, AB, CANADA T2P 3S8
PHONE: (403) 218-2400
FAX: (403) 218-2401

UNITED GEOCOM DRILLING SERVICES

Client : PARAMOUNT RESOURCES LIMITED
Well Name : PARAMOUNT BERKELY NELTA P-57
Location :

Date : 1999-03-29
File : 9194C

Vertical Section Calculated Along AZ 210.00°

MD m	INC deg	DIR deg	TVD m	LAT m	DEP m	VS m	D'LEG °/30	BUILD °/30	TURN °/30
				TIE-ON					
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.0
536.00	0.90	331.90	536.00	0.25	-0.13	-0.15	0.75	0.75	-23.4
687.71	1.10	6.60	687.69	2.75	-0.53	-2.12	0.12	0.04	6.9
839.63	2.30	301.10	839.55	5.77	-2.97	-3.51	0.41	0.24	-23.9
887.50	2.00	300.50	887.38	6.69	-4.51	-3.54	0.19	-0.19	-0.4
896.83	2.20	302.10	896.71	6.87	-4.80	-3.55	0.67	0.64	5.1
906.52	1.60	290.10	906.39	7.01	-5.09	-3.53	2.22	-1.86	-37.2
915.89	1.30	281.60	915.76	7.08	-5.32	-3.47	1.18	-0.96	-27.2
925.26	1.10	264.30	925.13	7.09	-5.51	-3.39	1.32	-0.64	-55.4
935.62	1.10	249.70	935.49	7.05	-5.70	-3.25	0.81	0.00	-42.3
943.98	1.40	208.10	943.84	6.93	-5.82	-3.09	3.34	1.08	-99.0
953.62	1.80	205.60	953.48	6.69	-5.95	-2.82	1.26	1.24	-7.8
963.30	1.40	198.00	963.16	6.44	-6.05	-2.55	1.40	-1.24	-23.6
972.67	1.00	179.00	972.52	6.25	-6.08	-2.37	1.79	-1.28	-60.8
982.35	0.50	194.70	982.20	6.12	-6.09	-2.26	1.66	-1.55	48.7
992.03	0.60	154.50	991.88	6.04	-6.08	-2.19	1.21	0.31	-99.0
1001.41	0.90	146.50	1001.26	5.93	-6.02	-2.13	1.01	0.96	-25.6
1011.09	1.00	139.70	1010.94	5.80	-5.92	-2.07	0.47	0.31	-21.1
1020.41	1.20	138.00	1020.26	5.67	-5.80	-2.01	0.65	0.64	-5.5
1029.43	1.20	133.50	1029.28	5.53	-5.67	-1.96	0.32	0.00	-15.0
1039.11	1.00	140.30	1038.96	5.40	-5.54	-1.90	0.74	-0.62	21.1
1048.82	1.30	93.60	1048.66	5.33	-5.38	-1.92	2.94	0.93	-99.0
1058.51	1.40	93.50	1058.35	5.31	-5.15	-2.03	0.31	0.31	-0.3
1068.21	1.70	89.30	1068.05	5.31	-4.89	-2.15	0.99	0.93	-13.0
1077.19	1.60	109.30	1077.02	5.27	-4.64	-2.24	1.94	-0.33	66.8
1086.89	1.60	132.70	1086.72	5.13	-4.41	-2.24	2.01	0.00	72.4
1096.59	1.50	150.70	1096.42	4.93	-4.25	-2.14	1.53	-0.31	55.7
1105.93	1.70	149.50	1105.75	4.70	-4.12	-2.01	0.65	0.64	-3.9
1115.63	1.90	160.70	1115.45	4.43	-3.99	-1.84	1.25	0.62	34.6
1125.32	1.60	150.20	1125.13	4.16	-3.87	-1.66	1.36	-0.93	-32.5
1134.67	1.10	136.00	1134.48	3.98	-3.75	-1.57	1.92	-1.61	-45.6
1144.01	1.10	121.00	1143.82	3.87	-3.61	-1.55	0.92	0.00	-48.2
1153.70	0.70	83.70	1153.51	3.83	-3.47	-1.58	2.13	-1.24	-99.0
1162.62	0.50	86.80	1162.43	3.84	-3.38	-1.63	0.68	-0.67	10.4
1172.31	0.70	64.80	1172.12	3.86	-3.28	-1.71	0.93	0.62	-68.1
1174.72	1.20	133.00	1174.53	3.85	-3.25	-1.71	14.23	6.22	99.0
1182.02	0.60	45.70	1181.83	3.83	-3.16	-1.73	5.41	-2.47	-99.0

UNITED GEOCOM DRILLING SERVICES

Client : PARAMOUNT RESOURCES LIMITED
Well Name : PARAMOUNT BERKELY NELTA P-57
Location :

Date : 1999-03-29
File : 91940

Vertical Section Calculated Along AZ 210.00°

MD m	INC deg	DIR deg	TVD m	LAT m	DEP m	VS m	D'LEG °/30	BUILD °/30	TURN °/30
1191.50	0.70	46.10	1191.31	3.90	-3.09	-1.84	0.32	0.32	1.3
1200.88	0.70	53.30	1200.69	3.98	-3.00	-1.94	0.28	0.00	23.0
1210.58	0.60	77.60	1210.39	4.02	-2.90	-2.03	0.90	-0.31	75.2
1219.53	0.90	69.20	1219.33	4.06	-2.79	-2.12	1.07	1.01	-28.2
1229.19	0.60	54.60	1228.99	4.11	-2.68	-2.22	1.10	-0.93	-45.3
1238.20	0.80	60.20	1238.00	4.17	-2.59	-2.32	0.70	0.67	18.6
1247.90	0.70	76.00	1247.70	4.22	-2.47	-2.42	0.71	-0.31	48.9
1257.58	1.00	73.20	1257.38	4.26	-2.33	-2.52	0.94	0.93	-8.7
1266.81	0.60	61.30	1266.61	4.31	-2.21	-2.62	1.40	-1.30	-38.7
1275.81	0.40	89.90	1275.61	4.33	-2.14	-2.68	1.05	-0.67	95.3
1285.18	0.50	136.50	1284.98	4.30	-2.08	-2.68	1.18	0.32	99.0
1294.87	0.30	134.80	1294.67	4.25	-2.03	-2.67	0.62	-0.62	-5.3
1304.56	0.50	141.10	1304.36	4.20	-1.99	-2.64	0.63	0.62	19.5
1313.93	0.40	110.90	1313.73	4.16	-1.93	-2.63	0.81	-0.32	-96.7
1323.27	0.50	113.40	1323.07	4.13	-1.86	-2.64	0.33	0.32	8.0
1332.66	0.50	122.70	1332.46	4.09	-1.79	-2.65	0.26	0.00	29.7
1351.71	0.60	72.70	1351.51	4.07	-1.63	-2.72	0.75	0.16	-78.7
1370.74	0.60	54.30	1370.54	4.16	-1.45	-2.88	0.30	0.00	-29.0
1380.06	0.80	67.40	1379.85	4.22	-1.35	-2.98	0.82	0.64	42.2
1389.36	0.80	66.60	1389.16	4.27	-1.23	-3.08	0.00	0.00	-2.6
1398.69	0.60	59.90	1398.48	4.32	-1.13	-3.17	0.69	-0.64	-21.5
1408.34	1.00	57.00	1408.13	4.39	-1.01	-3.29	1.25	1.24	-9.0
1417.68	0.90	64.00	1417.47	4.46	-0.88	-3.43	0.49	-0.32	22.5
1427.01	1.10	142.70	1426.80	4.43	-0.76	-3.45	4.11	0.64	99.0
1436.35	1.40	149.30	1436.14	4.26	-0.65	-3.36	1.07	0.96	21.2
1445.68	1.40	147.80	1445.47	4.06	-0.53	-3.25	0.11	0.00	-4.8
1455.35	1.30	151.80	1455.13	3.87	-0.41	-3.14	0.43	-0.31	12.4
1465.04	1.30	148.70	1464.82	3.67	-0.30	-3.03	0.22	0.00	-9.6
1474.72	1.20	133.00	1474.50	3.51	-0.17	-2.95	1.10	-0.31	-48.7
1493.45	1.00	195.50	1493.22	3.22	-0.07	-2.75	1.85	-0.32	99.0
1503.16	0.70	221.80	1502.93	3.09	-0.14	-2.61	1.50	-0.93	81.3
1512.50	0.70	217.60	1512.27	3.01	-0.21	-2.50	0.17	0.00	-13.5
1522.18	0.60	210.70	1521.95	2.92	-0.27	-2.39	0.39	-0.31	-21.4
1531.84	0.70	208.40	1531.61	2.82	-0.32	-2.28	0.32	0.31	-7.1
1541.48	0.70	198.60	1541.25	2.71	-0.37	-2.16	0.37	0.00	-30.5
1551.15	0.60	201.80	1550.92	2.61	-0.41	-2.06	0.33	-0.31	9.9

UNITED GEOCOM DRILLING SERVICES

Client : PARAMOUNT RESOURCES LIMITED
Well Name : PARAMOUNT BERKELY NELTA P-57
Location :

Date : 1999-03-29
File : 91940

Vertical Section Calculated Along AZ 210.00°

MD	INC	DIR	TVD	LAT	DEP	VS	D'LEG	BUILD	TURN
m	deg	deg	m	m	m	m	°/30	°/30	°/30
1560.45	0.70	190.30	1560.22	2.51	-0.44	-1.95	0.53	0.32	-37.1
1569.90	1.10	181.70	1569.67	2.36	-0.45	-1.82	1.34	1.27	-27.3
1579.30	1.30	172.10	1579.07	2.17	-0.44	-1.66	0.90	0.64	-30.6
1588.98	1.10	176.40	1588.74	1.96	-0.42	-1.49	0.68	-0.62	13.3
1598.74	0.20	22.30	1598.50	1.89	-0.40	-1.43	3.94	-2.77	-99.0
1608.55	0.50	27.00	1608.31	1.94	-0.38	-1.49	0.92	0.92	14.4
1618.30	0.80	25.10	1618.06	2.04	-0.33	-1.60	0.93	0.92	-5.8
1628.04	0.60	21.90	1627.80	2.15	-0.28	-1.72	0.63	-0.62	-9.9
1637.84	0.60	28.20	1637.60	2.24	-0.24	-1.82	0.20	0.00	19.3
1647.59	0.30	16.00	1647.35	2.31	-0.21	-1.90	0.96	-0.92	-37.5
1657.34	0.40	23.50	1657.10	2.37	-0.19	-1.96	0.34	0.31	23.1
1667.09	0.40	28.50	1666.85	2.43	-0.16	-2.02	0.11	0.00	15.4
1676.87	0.60	47.20	1676.63	2.49	-0.10	-2.11	0.78	0.61	57.4
1686.87	0.70	42.20	1686.63	2.57	-0.02	-2.22	0.35	0.30	-15.0
1696.47	0.70	38.20	1696.23	2.66	0.05	-2.33	0.15	0.00	-12.5
1706.20	0.80	15.60	1705.96	2.78	0.11	-2.46	0.95	0.31	-69.7
1716.03	1.00	21.70	1715.79	2.92	0.16	-2.61	0.67	0.61	18.6
1725.78	0.70	23.80	1725.54	3.05	0.21	-2.75	0.93	-0.92	6.5
1735.48	0.10	287.10	1735.24	3.11	0.23	-2.81	2.22	-1.86	-99.0
1745.26	0.50	203.90	1745.02	3.07	0.20	-2.76	1.53	1.23	-99.0
1754.95	0.40	198.70	1754.71	3.00	0.17	-2.69	0.34	-0.31	-16.1
1764.71	0.40	209.90	1764.47	2.94	0.15	-2.62	0.24	0.00	34.4
1774.50	0.10	238.80	1774.26	2.91	0.12	-2.58	0.97	-0.92	88.6
1784.26	0.30	278.40	1784.02	2.91	0.09	-2.56	0.71	0.61	99.0
1794.02	0.30	271.00	1793.78	2.91	0.04	-2.54	0.12	0.00	-22.7
1803.74	0.50	318.00	1803.49	2.94	-0.02	-2.54	1.14	0.62	99.0
1813.47	0.50	343.50	1813.22	3.02	-0.06	-2.58	0.68	0.00	78.6
1823.22	0.60	318.90	1822.97	3.10	-0.10	-2.63	0.78	0.31	-75.7
1832.90	0.90	342.40	1832.65	3.21	-0.16	-2.70	1.31	0.93	72.8
1842.65	0.80	347.60	1842.40	3.35	-0.20	-2.80	0.39	-0.31	16.0
1852.38	1.10	340.50	1852.13	3.50	-0.24	-2.91	0.99	0.92	-21.9
1862.13	1.10	338.50	1861.88	3.68	-0.31	-3.03	0.12	0.00	-6.2
1871.88	0.80	359.20	1871.63	3.83	-0.34	-3.15	1.39	-0.92	63.7
1881.64	0.30	63.10	1881.39	3.91	-0.32	-3.23	2.21	-1.54	99.0
1891.38	0.50	130.20	1891.13	3.89	-0.26	-3.24	1.45	0.62	99.0
1920.61	0.20	169.70	1920.36	3.76	-0.16	-3.18	0.38	-0.31	40.5

UNITED GEOCOM DRILLING SERVICES

Client : PARAMOUNT RESOURCES LIMITED
Well Name : PARAMOUNT BERKELY NELTA P-57
Location :

Date : 1999-03-29
File : 9194C

Vertical Section Calculated Along AZ 210.00°

MD m	INC deg	DIR deg	TVD m	LAT m	DEP m	VS m	D'LEG °/30	BUILD °/30	TURN °/30
1930.36	0.30	151.30	1930.11	3.72	-0.14	-3.15	0.39	0.31	-56.6
1940.10	0.40	115.00	1939.85	3.69	-0.10	-3.14	0.73	0.31	-99.0
1949.84	0.50	36.30	1949.59	3.71	-0.04	-3.19	1.77	0.31	-99.0
1959.56	0.30	56.60	1959.31	3.75	0.00	-3.25	0.75	-0.62	62.7
1969.33	0.60	25.40	1969.08	3.81	0.05	-3.33	1.16	0.92	-95.8
1979.05	0.70	41.60	1978.80	3.90	0.11	-3.43	0.64	0.31	50.0
1988.79	0.70	41.60	1988.54	3.99	0.19	-3.55	0.00	0.00	0.0
1998.52	0.80	44.00	1998.26	4.09	0.27	-3.68	0.32	0.31	7.4
2008.25	0.70	56.80	2007.99	4.17	0.37	-3.79	0.60	-0.31	39.5
2027.72	0.60	222.50	2027.46	4.16	0.40	-3.80	1.99	-0.15	99.0
2037.50	0.60	235.90	2037.24	4.09	0.32	-3.70	0.43	0.00	41.1
2047.21	0.60	267.30	2046.95	4.06	0.23	-3.63	1.00	0.00	97.0
2056.98	0.50	71.60	2056.72	4.07	0.22	-3.64	3.35	-0.31	99.0
INTERMEDIATE CASING POINT									
2072.00	0.36	307.03	2071.74	4.12	0.24	-3.69	1.53	-0.28	-99.0
2165.00	1.00	307.03	2164.73	4.79	-0.64	-3.83	0.21	0.21	0.0
2272.00	1.50	307.03	2271.71	6.19	-2.50	-4.11	0.14	0.14	0.0
2315.00	2.00	307.03	2314.69	6.98	-3.55	-4.27	0.35	0.35	0.0
2352.00	2.00	307.03	2351.67	7.76	-4.58	-4.43	0.00	0.00	0.0
2395.00	2.75	307.03	2394.63	8.83	-6.00	-4.65	0.52	0.52	0.0
EXTRAPOLATED TD @ 2408.00m MD									
2408.00	2.98	307.03	2407.61	9.22	-6.52	-4.73	0.53	0.53	0.0

Closure to TD: 11.29m @ AZ 324.73°

UNITED GeoCom Drilling Services

COMPLETION REPORT

COMPANY: PARAMOUNT RESOURCES LIMITED
WELL: PARAMOUNT BERKELY NELTA P-57
LOCATION:

FILE: 9194 C
DATE: 99-03-29
TYPE: S

TOTAL DEPTH CO-ORDINATES

RECTANGULAR		POLAR	MAGNETIC DECLINATION
LAT: 9.22 m	DEP: -6.52 m	11.29 m @ AZ: 324.73°	

COMPLETED TVD: 2407.61 m MEASURED DEPTH: 2408 m

PROPOSED WELL

SURFACE: ; SEC
TARGET: ; SEC

SURFACE TO TARGET

RECTANGULAR		POLAR
LAT:	DEP:	@ AZ:

TARGET TVD: PROJECTED TD:

COMMENTS:

Completion Date: 99-03-29

NOTE: DISTANCES & DEPTHS ARE IN METRES AND DECIMALS.
INCLINATIONS & DIRECTION ARE IN DECIMAL DEGREES
METHOD OF CALCULATION: *MINIMUM CURVATURE*
Dleg/Build: °/30m Intervals.
(-) VALUES INDICATE SOUTH FOR LATITUDE & WEST FOR DEPARTURE.
ALL DEPTHS BASED ON KB ELEVATION

ABANDONMENT PLUGS

1106145

CUSTOMER:	Service Order No.	Treatment Report No.	Job No.	Proposal No.	DATE
Paramount	A2971				1999-03-02

ADDRESS:

JOB TYPE: Abandonment plugs

LOCATION:	WELL NAME:	CONTRACTOR:	PROVINCE:
P-57	Paramount Berkley Netha	Precision #379	NWT

Hole Size (mm): 156	Total Depthn (m):2408	Mud Type : H2O	Viscosity mPa's	Density kg/m3
				1000

	Size mm	Density kg/m	Grade	Depth m	Type of Plugs
Casing or Liner	177.8	34.23	J-55	2072	Top mm
	Size mm	Density kg/m	Grade	Depth m	Size mm
				Total : m	
Drill Pipe or Tubing	Size mm 101.6	Density kg/m 20.83	Grade E	Depth m 2408	Type of Head
	Size mm	Density kg/m	Grade	Depth m	

Perforations	From: (m)	To: (m)	PUMP OUT LINES:	RETURNS:	TYPE:
	From: (m)	To: (m)	FLOAT HOLDING:		AMT (m3)
	From: (m)	To: (m)	TYPE OF PACKER or SPECIAL TOOL: Openended pipe		2408

TEMPERATURE (°C) -10	MIXING WATER (°C) 20	DRY CEMENT (°C) 2	SLURRY (°C) 14
TIME ARRIVED AT LOCATION 17:00 99-03-01		TIME LEFT LOCATION 03:00 99-03-02	

CEMENT DATA

	AMOUNT, t	CEMENT BLEND	ADDITIVES	Density kg/m3 SLURRY	Density kg/m3 D.H. FOAMED	Yield, m3/t	Total Yield, m3 SLURRY	Total Yield, m3 D.H. FOAMED
Scavenger								
Plug 1A	6.5	Thermal 40F	.5% T-10, .3% R-6	1876		.759	5	
Tail In								
Plug 1B	6.5	Thermal 40F	.5% T-10, .3% R-6	1876		.759	5	
Tail In								

CASING OR LINER DATA

REMARKS	TIME Start	TIME Finish	RATE m3/min	PRESSURE, kPa Max.	PRESSURE, kPa Min.	Volume Pumped m3
Safety Meeting						
Preflush	23:15	23:16	1	4000	1000	1
Pressure test	23:09	23:10		20000		
Mix cement	23:16	23:21	1	4000	2000	5
Displacement	23:21	23:31	1.2	2000	1000	12.4
Plug down	23:31			2000		
Mix cement	01:10	01:16	.833	4000	2000	5
Displacement	01:16	01:25	1.23	2000	500	11.1
Plug down	01:25			2000		

PLUG BACK DATA

Plug #	Top (m)	Bottom (m)	Cement (t)	Displacement	Time Plug Down
1	2204	2408	6.5	12.4	23:31
2	1970	2204	6.5	11.1	01:25

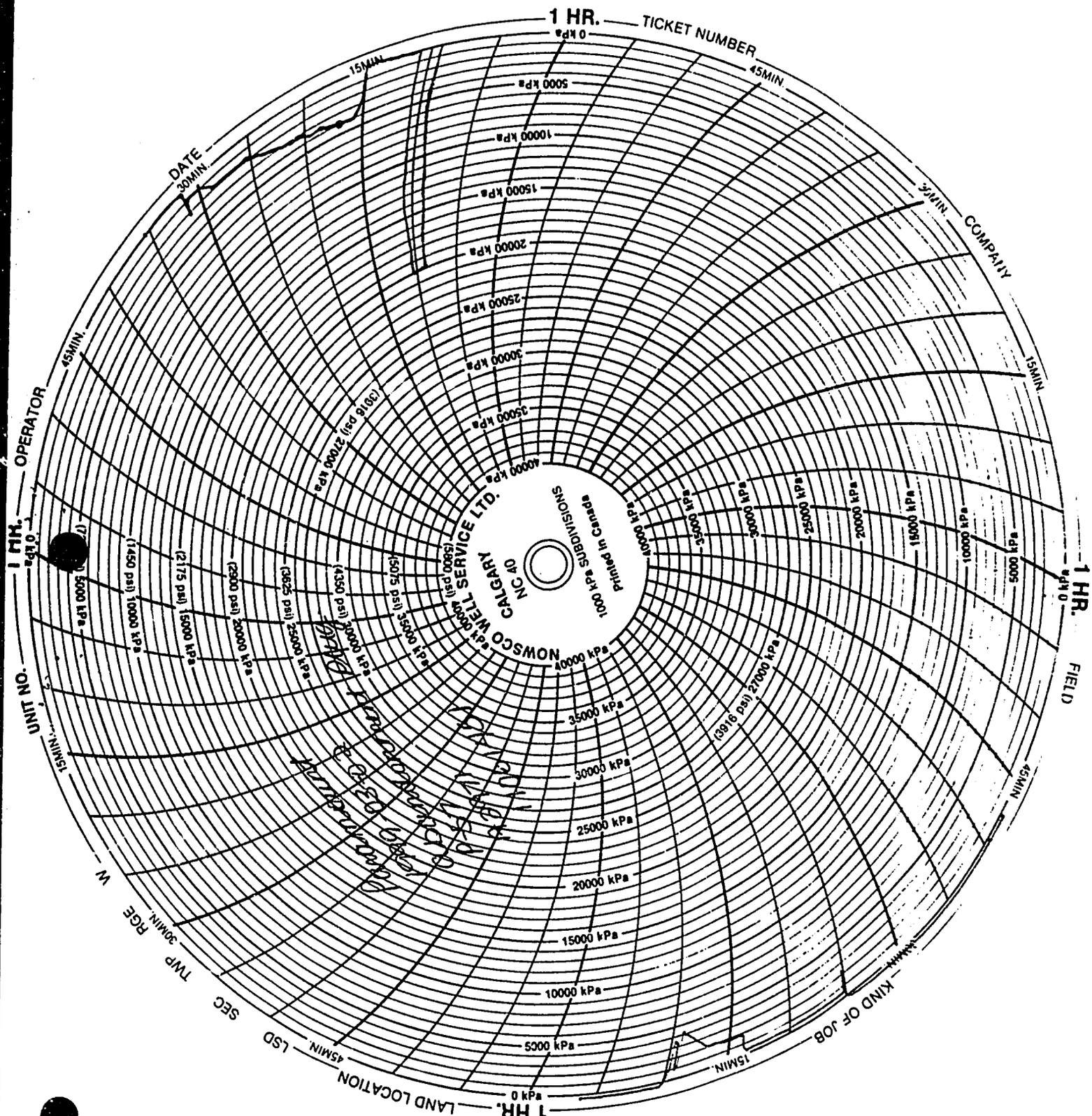
PREFLUSH TYPE (m3)	
1.H2O 1.0	3 .
2.	4

STAGE N2 RATIO (m3/m3)	
1.	3.
2.	4.

SQUEEZE DATA (m3)
Total Slurry in Formation
Total Slurry in Casing
Total Backwashed
Total Slurry

NOWSCO REPRESENTATIVE: Kennet Dickson

CUSTOMER REPRESENTATIVE: Dave Wilson


1 HR.
TICKET NUMBER
0 kPa
5000 kPa
10000 kPa
15000 kPa
20000 kPa
25000 kPa
30000 kPa
35000 kPa
40000 kPa
15MIN.
45MIN.
DATE
30MIN.
(3018 psi) 21000 kPa
COMPANY
OPERATOR
45MIN.
15MIN.
1 HR.
0 kPa
5000 kPa
10000 kPa
15000 kPa
20000 kPa
25000 kPa
30000 kPa
35000 kPa
40000 kPa
FIELD
UNIT NO.
15MIN.
(1450 psi) 10000 kPa
(2175 psi) 15000 kPa
(2900 psi) 20000 kPa
(3625 psi) 25000 kPa
(4350 psi) 30000 kPa
(5076 psi) 35000 kPa
(5800 psi) 40000 kPa
NOWSCO WELL SERVICE LTD.
CALGARY
NC 40
Printed in Canada
1000 kPa SUBDIVISIONS
W
RGE
30MIN.
TWP
SEC
LSD
45MIN.
LAND LOCATION
1 HR.
0 kPa
5000 kPa
10000 kPa
15000 kPa
20000 kPa
25000 kPa
30000 kPa
35000 kPa
40000 kPa
(3916 psi) 27000 kPa
15MIN.
KIND OF JOB
45MIN.

COMPOSITE WELL RECORD

HIGHWOOD
WELLSITE SERVICES INC.
41 Riverview Circle
COCHRANE, Alberta (403) 932-2916

COMPOSITE WELL HISTORY
DRILLING TIME
LITHOLOGY LOG

COMPANY: PARAMOUNT RESOURCES LTD
WELL: PARAMOUNT BERKLEY NETLA P-57
FIELD: NETLA
PROVINCE: NORTH WES TERR
LOCATION: LAT 60 degree 50 ' N LONG 122 degree 30 ' W

COORDINATES: 60 deg 50 ' '122 deg 30'
ELEVATIONS: GD 659.50 m , LOG MEASURED FROM KB
KB 664.65 m 5.2 m ABOVE GROUND
WELL TYPE: Gas Exploration TOTAL DEPTH: 2408.6 m
SPUD DATE: January 27/99 @1:3 T.D. DATE: February 24,1999
LICENCE No.: AFE No.:

CONTRACTOR: Precision Drilling CORES:
MUD TYPE: Gel Chem / Invert
MUD UP @: Surface
SAMPLES: 5.0 m Intervals
Paramount: suface to total depth
N.E.B.: surface to total depth
DSTs: Baker Hughes
DST #1 Landry 2299.0 - 2319.0 m
DST #2 Landry 2300.0 - 2320.0 m
DST #3 Landry 2306.0 - 2326.0 m

OPEN HOLE LOGS: BAKER HUGHES
CN-ZDL-GR-CAL: 501.0 - 2401.4 m
MAC-GR-CAL: 2000.0 - 2400.4 m
HDIL-GR: 501.0 - 2401.4 m
HDIP-GR: 2072.0 - 2400.4 m
SONIC/GR: 0 - 2072.0 m

SUPERVISION
GEOLOGICAL: JEFF BOULTER DRILLING: DAVE WILSON

HOLE SIZE		CASING SIZE		CASING DEPTH	
SURFACE:	444.5 mm	SURFACE:	339.7 mm	SURFACE:	501 m
INTERMEDIATE:	222 mm	INTERMEDIATE:	177.8 mm	INTERMEDIATE:	2072 m
MAIN:	156 mm	MAIN:	mm	MAIN:	m

REMARKS:

ROCK TYPE: CONGLOMERATE, SANDSTONE, SILTSTONE, SHALE, grey, SHALE, black, SHALE, coloured, MARLY, LIMESTONE, DOLOMITE, ANHYDRITE, COAL, CLAYSTONE, grey, CLAYSTONE, red, MARLSTONE, oil, MARLSTONE, dol, SALT, EVAPORITE, BRECCIA, IGNEOUS, basic, IGNEOUS, acidic, CANNOT INTERPRET, NO SAMPLE, CEMENT

ACCESSORIES: SANDY, SILTY, FELDSPAR, GLAUCONITE, CHERTY, ARGILLACEOUS, CARBONACEOUS, BITUMINOUS, CALCAREOUS, LIMESTONE arg, DOLOMITIC, DOLOMITE arg, ANHYDRITIC, ANHYDRITE arg, PHOSPHATE pel, FERRUGINOUS, GLAUCONITIC, BENTONITIC, KAOLINITIC, BIOCLASTIC, OOLITES, PELLETS, INTRACLASTS, FOSSILS, CHERT, FOSSILIFEROUS, BRACHIOPOD, OSTRACOD, CORAL, STROMATOPOROID, AMPHIPORA, ALGAL MATERIAL, PLANT REMAINS, BRECCIA frag, SANDSTONE arg, SILTSTONE arg, SHALE fiss, TUFFACEOUS

OIL SHOWS: EVEN STAINING, SPOTTY STAIN, FLUORESCES, QUESTIONABLE, FLUORESCENCE, DEAD ASPHALTIC

POROSITY TYPES: INTERCRYSTALLINE, VUGGY, FRACTURE, INTERGRANULAR, INTERPARTICLE, MOLDIC, ORGANIC, FRACTURE, VUGGY, EARTHY, PINPOINT, FENESTRAL

DUNHAM CLASSES: PK PACKSTONE, WK WACKESTONE, MD MUDSTONE, BD BOUNDSTONE, GR GRAINSTONE

SCALE 1:240

TOTAL GAS (units) 0 10 100
DRILLING TIMES (min/m) 0 20 10 50 100

DEPTH | POROSITY TYPE | OIL SHOWS | LITHOLOGY (CUTTINGS) | LITHOLOGY (CORE) | DESCRIPTIONS

cont.

SANDSTONE - clr to yel to reddish prng, vf to f gr, sbrnd to rd, mod srt, occ pr srt, in pt stks, fros gr, micas, cht, glacial lit, n vis por, n show.

SANDSTONE - clr to yel to reddish prng, uncons, f to m gr, occ c frag, mod srt, rd to sbrnd, mod to well cmt, micas, cht, glacial lit, n visible por, n show.

n spl bypass shakers;

SANDSTONE - clr to fros wh to yel wh, uncons, f gr, w srt, sbang to rd, sl sdrs, mnr arg gr, n visible por, n show;

SANDSTONE - clr to fros wh to yel wh, uncons, f gr, w srt, sbang to rd, sl sdrs, mnr arg gr, n visible por, n show;

SANDSTONE - clr to fros wh to yel & gry wh, uncons, f gr, w srt, sbang to rd, mnr arg gr, n visible por, n show;

SILTSTONE - lt brn to brn gy, v f to f sx, firm to fri, sft, dol, mica, arg, dy mtx, lte sd gr, fr;

SILTSTONE - brn gy to lt brn, v f to f sx, fri to sft, sdy, pt mica, arg, dy mtx, lt, gud to cpct;

SILTSTONE - brn gy to lt brn, v f to f sx, fri to sft, sdy, pt mica, arg, dy mtx, lt, gud to cpct;

SILTSTONE - lt brn to gy brn, v f to f sx, fri, sdy, micac, arg, dy mtx, lte sd gr, fr;

SILTSTONE - lt brn to gy brn, v f to f sx, fri to sft, sdy, micac, arg, dy mtx, lte sd gr, fr;

SILTSTONE - lt gy to brn to gy brn, v f to f sx, fri to sft, sdy, pt mica, pt cly mtx, fr, pt grd SHALE - f sm, f sx, sbsy str, firm, bldy, grd to SILTSTONE;

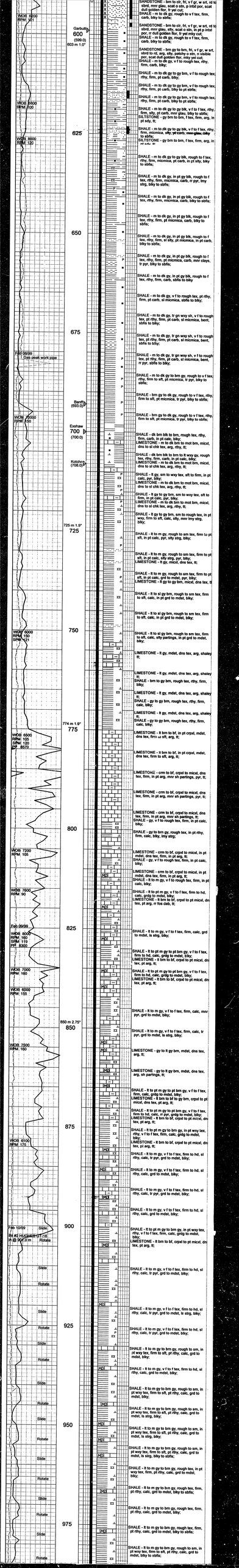
SANDSTONE - clr to wh, uncons, f gr, w srt, sbrd to rd, v p intgran por, n shw;

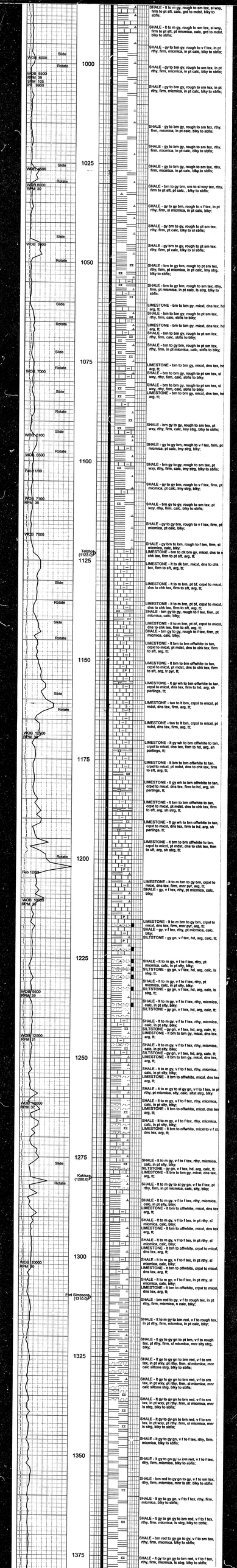
SILTSTONE - lt gy brn to gy brn, v f to f sx, fri to sft, sdy, micac, arg, lte sd gr, fr;

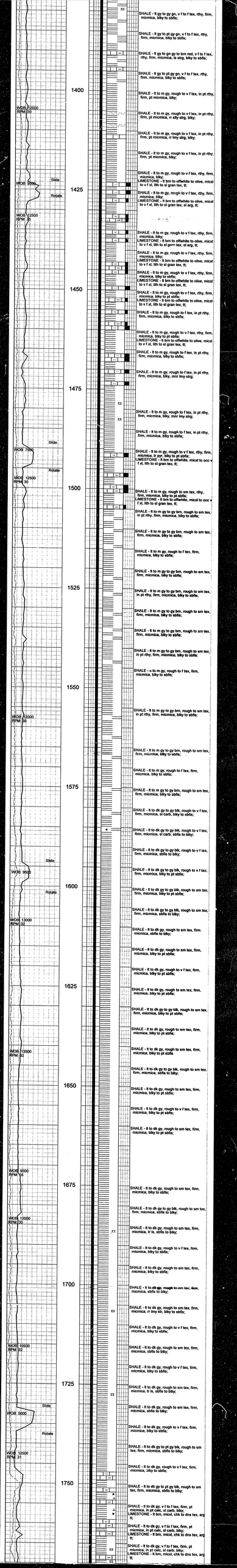
SILTSTONE - lt gy brn to gy brn, v f to f sx, fri to sft, sdy, micac, arg, pt cly mtx, lte sd gr, fr;

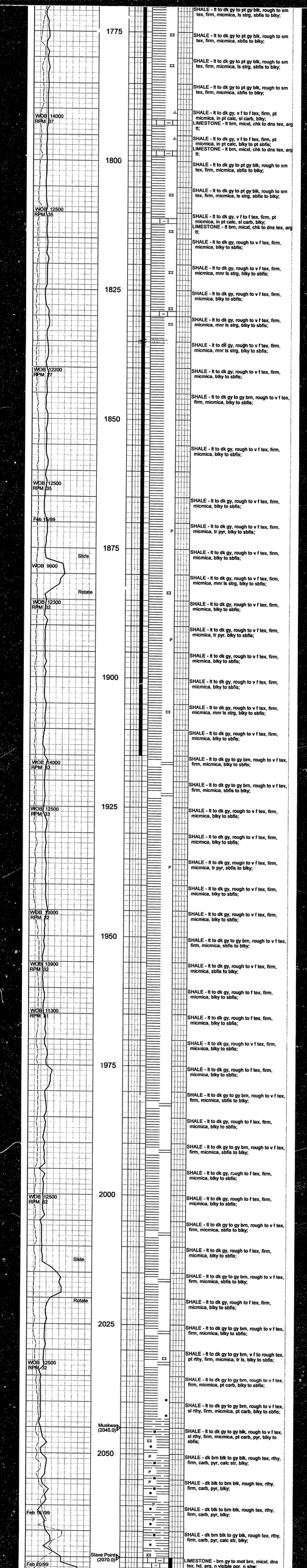
SILTSTONE - brn, v f to f sx, firm to fri

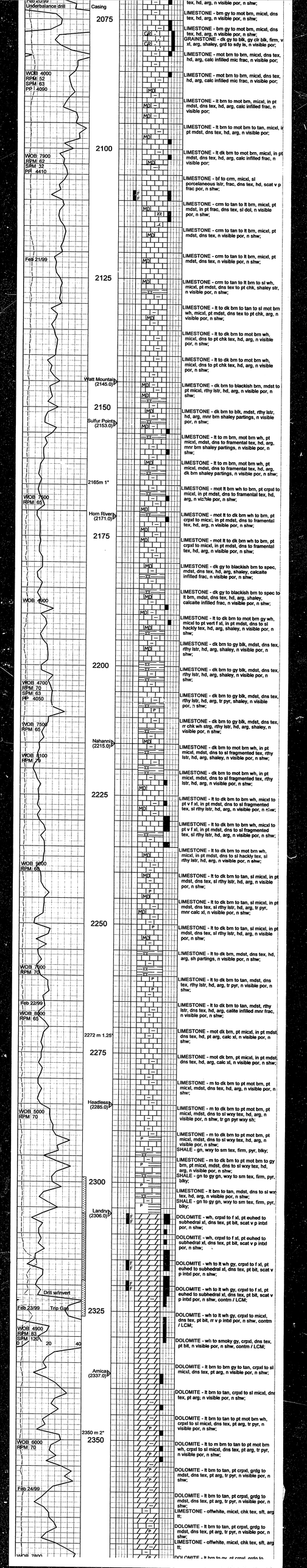
200
225
250
275
300
325
350
375
400
425
450
475
500
525
550
575
600
216 m 0.5°
232 m 0.5°
252 m 0.5°
271 m 0.25°
299 m 0.7°
319 m 0.25°
347 m 0.5°
374 m 0.75°
385 m 1.0°
403 m 0.75°
439 m 0.75°
441 m 0.75°
460 m 0.75°
479 m 0.75°
548.7m 1.0°
WOB 8000
RPM 70
SPM 120
WOB 8000
RPM 70
SPM 120
WOB 10000
RPM 70
SPM 120
WOB 8000
RPM 70
SPM 120
WOB 8000
RPM 70
SPM 120
WOB 6000
RPM 70
SPM 120
WOB 8000
RPM 70
SPM 120
WOB 8000
RPM 70
SPM 120
WOB 8


WOB 6000
RPM 101
Garbutt
600
(599.0
(603 m 1.0"
WOB 6000
RPM 100
WOB 8000
RPM 120
625
650
675
Fab 08/99
Gas shear work pipe
Banff
(693.0)
WOB 7000
RPM 150
Eyehaw
700
(700.0)
Kotcho
(708.0)
725 m 1.9"
725
WOB 6000
RPM 150
SPM 101
750
774 m 1.9"
775
WOB 6000
RPM 105
SPM 120
DP 8570
WOB 7200
RPM 105
800
WOB 7600
RPM 90
Fab 08/99
WOB 8000
RPM 160
SPM 110
DP 8300
WOB 7000
RPM 160
WOB 6000
RPM 150
850 m 2.75"
850
WOB 7200
RPM 160
875
WOB 8000
RPM 175
Fab 10/99
Slide
900
Slide
Rotate
925
Slide
Rotate
Slide
Rotate
950
Slide
Rotate
Slide
Rotate
Slide
Rotate
975
Slide
Rotate
SANDSTONE - brn to clr, fri, v f gr, w srt, rd to sbrd, mnr glau, scat o stn, p intcl por, scat dull golden flor, tr yel cut;
SHALE - m to dk gy, rough to v f tex, firm, carb, biky to stifix;
SANDSTONE - brn to clr, fri, v f gr, w srt, rd to sbrd, mnr glau, slty, scat o stn, in pt p intcl por, rr dull golden flor, tr yel cut;
SHALE - m to dk gy, rough to v f tex, firm, carb, biky to stifix;
SANDSTONE - brn gy to brn, fri, v f gr, w srt, sbrd to rd, arg, slty, patchy o stn, n visible por, scat dull golden flor, mky yel cut;
SHALE - m to dk gy, v f to rough tex, rthy, firm, carb, blky;
SHALE - m to dk gy to gy brn, v f to rough tex; rthy, firm, pt carb, blky;
SHALE - m to dk gy to gy brn, v f to rough tex, rthy, firm, pt carb, blky to pt stifix;
SHALE - m to dk gy to gy brn, v f to rough tex; rthy, firm, pt carb, blky to pt stifix;
SHALE - m to dk gy to gy blk, v f to f tex, rthy, firm, slty, pt carb, mnr glau, blky to stifix;
SILTSTONE - gy brn to brn, f tex, firm, arg, in pt soty, tr;
SHALE - m to dk gy to gy blk, v f to f tex, rthy, firm, micmica, slty, pt carb, mnr glau, blky to stifix;
SILTSTONE - gy brn to brn, f tex, firm, arg, in pt carb, tr;
SHALE - m to dk gy to gy blk, rough to f tex, rthy, firm, micmica, carb, rr pyr, blky to stifix;
SHALE - m to dk gy, in pt gy blk, rough to f tex, rthy, firm, micmica, carb, blky to stifix;
SHALE - m to dk gy, in pt gy blk, rough to f tex, rthy, firm, micmica, carb, rr pyr, tmy strg, blky to stifix;
SHALE - m to dk gy, in pt gy blk, rough to f tex, rthy, firm, micmica, carb, blky to stifix;
SHALE - m to dk gy, in pt gy blk, rough to f tex, rthy, firm, pt micmica, carb, blky to stifix;
SHALE - m to dk gy, in pt gy blk, rough to f tex, rthy, firm, sl slty, pt micmica, in pt carb, blky to stifix;
SHALE - m to dk gy, in pt gy blk, rough to f tex, rthy, firm, pt micmica, carb, mnr clays, tr pyr, blky to stifix;
SHALE - m to dk gy, in pt gy blk, rough to f tex, rthy, firm, carb, stifix to blky
SHALE - m to dk gy, v f to rough tex, pt rthy, firm, pt carb, sl micmica, stifix to blky;
SHALE - m to dk gy, tr gn wxy sh, v f to rough tex, pt rthy, firm, pt carb, sl micmica, bent, stifix to blky;
SHALE - m to dk gy, tr gn wxy sh, v f to rough tex, pt rthy, firm, pt carb, sl micmica, bent, rr pyr, stifix to blky;
SHALE - m to dk gy to gn brn, rough to v f tex; rthy, firm to sft, pt micmica, tr pyr, blky to stifix;
SHALE - brn gy to dk gy, rough to v f tex, rthy, firm to sft, pt micmica, tr pyr, blky to stifix;
SHALE - dk brn blk to brn, rough tex, rthy, firm, carb, in pt calc, blky;
LIMESTONE - m to dk brn to mot brn, micxl, dns to sl chk tex, arg, rthy, tr;
SHALE - dk brn blk to brn to lt wxy gy, rough tex, rthy, firm, carb, in pt calc, blky;
LIMESTONE - m to dk brn to mot brn, micxl, dns to sl chk tex, arg, rthy, tr;
SHALE - lt gy, sm to wxy tex, sft to firm, in pt calc, pyr, blky;
LIMESTONE - m to dk brn to mot brn, micxl, dns to sl chk tex, arg, rthy, tr;
SHALE - lt gy to gy brn, sm to wxy tex, sft to firm, in pt calc, pyr, blky;
LIMESTONE - m to dk brn to mot brn, micxl, dns to sl chk tex, arg, rthy, tr;
SHALE - lt gy to gy brn, sm to rough tex, in pt wxy, firm to sft, calc, slty, mnr lmy strg, blky;
SHALE - lt to m gy, rough to sm tex, firm to pt sft, in pt calc, pyr, slty strg, blky;
SHALE - lt to m gy, rough to sm tex, firm to pt sft, in pt calc, slty strg, pyr, blky;
LIMESTONE - lt gy, micxl, dns tex, tr;
SHALE - lt to m gy, rough to sm tex, firm to pt sft, in pt calc, grd to mdst, pyr, blky;
LIMESTONE - lt gy to gy brn, micxl, dns tex, tr
SHALE - lt to sl gy brn, rough to sm tex, firm to sft, calc, in pt grd to mdst, blky;
SHALE - lt to sl gy brn, rough to sm tex, firm to sft, calc, in pt grd to mdst, blky;
SHALE - lt to sl gy brn, rough to sm tex, firm to sft, calc, slty partings, in pt grd to mdst, blky;
LIMESTONE - lt gy, mdst, dns tex, arg, shaley lt;
LIMESTONE - lt gy, mdst, dns tex, arg, shaley lt;
LIMESTONE - lt gy brn, rough tex, rthy, firm, blky;
LIMESTONE - lt gy, mdst, dns tex, arg, shaley lt;
SHALE - gy to gy brn, rough tex, rthy, firm, calc, blky;
LIMESTONE - lt gy, mdst, dns tex, arg, shaley lt;
SHALE - gy to gy brn, rough tex, rthy, firm, calc, blky;
LIMESTONE - lt brn to bf, in pt crpxl, mdst, dns tex, firm to sft, arg, tr;
LIMESTONE - lt brn to bf, in pt crpxl, mdst, dns tex, firm to sft, arg, tr;
LIMESTONE - crm to bf, crpxl to micxl, dns tex, firm, in pt arg, mnr sh partings, pyr, tr;
LIMESTONE - crm to bf, crpxl to micxl, dns tex, firm, in pt arg, mnr sh partings, tr;
LIMESTONE - crm to bf, crpxl to micxl, dns tex, firm, in pt arg, mnr sh partings, tr;
LIMESTONE - crm to bf, crpxl to micxl, dns tex, firm, in pt arg, mnr sh partings, pyr, tr;
SHALE - gy to brn gy, rough tex, in pt rthy, firm, calc, blky, lmy strg;
LIMESTONE - crm to bf, crpxl to micxl, in pt mdst, dns tex, firm, in pt arg, tr;
SHALE - gy, v f to rough tex, firm, in pt calc, blky;
LIMESTONE - crm to bf, crpxl to micxl, in pt mdst, dns tex, firm, in pt arg, tr;
SHALE - lt to m gy, v f to f tex, firm to hd, calc, grdg to mdst, blky;
LIMESTONE - lt brn to bf, crpxl to pt micxl, dns tex, pt arg, tr, rr foss deb, tr;
SHALE - lt to m gy, v f to f tex, firm, calc, grd to mdst, ls strg, blky;
SHALE - lt to pt m gy to pt brn gy, v f to f tex, firm to hd, calc, grdg to mdst, blky;
LIMESTONE - lt brn to bf, crpxl to pt micxl, dns tex, pt arg, tr;
SHALE - lt to pt m gy to pt brn gy, v f to f tex, firm to hd, calc, grdg to mdst, blky;
LIMESTONE - lt brn to bf, crpxl to pt micxl, dns tex, pt arg, tr;
SHALE - lt to m gy, v f to f tex, firm, calc, mnr pyr, grd to mdst, blky;
SHALE - lt to m gy, v f to f tex, firm, calc, tr pyr, grd to mdst, ls strg, blky;
LIMESTONE - gy to lt gy brn, mdst, dns tex, arg, tr;
LIMESTONE - gy to lt gy brn, mdst, dns tex, arg, sh partings, tr;
SHALE - lt to pt m gy to pt brn gy, v f to f tex, firm, calc, grdg to mdst, blky;
LIMESTONE - lt brn to bf to gy brn, crpxl to pt micxl, dns tex, pt arg, tr;
SHALE - lt to pt m gy to pt brn gy, v f to f tex, firm to hd, calc, v pyr, grdg to mdst, blky;
LIMESTONE - lt brn to bf, crpxl to pt micxl, dns tex, pt arg, tr;
SHALE - lt to m gy, v f to f tex, firm, calc, grd to mdst, blky;
LIMESTONE - lt brn to bf, crpxl to pt micxl, dns tex, pt arg, tr;
SHALE - lt to m gy, v f to f tex, firm to hd, sl rthy, calc, tr pyr, grd to mdst, blky;
SHALE - lt to m gy, v f to f tex, firm to hd, sl rthy, calc, tr pyr, grd to mdst, ls strg, blky;
SHALE - lt to m gy, v f to f tex, firm to hd, sl rthy, calc, tr pyr, grd to mdst, blky;
SHALE - lt to m gy to brn gy, rough to sm, in pt wxy tex, firm to sft, pt rthy, calc, grd to mdst, blky;
SHALE - lt to m gy, v f to f tex, firm to hd, sl rthy, calc, grd to mdst, blky;
SHALE - lt to m gy to m gy brn, rough to sm, in pt wxy tex, firm to sft, pt rthy, calc, grd to mdst, blky;
SHALE - lt to m gy to brn gy, rough to sm, in pt wxy tex, firm to sft, pt rthy, calc, grd to mdst, ls strg, blky;
SHALE - lt to m gy to brn gy, rough to sm, in pt wxy tex, firm to sft, pt rthy, calc, grd to mdst, ls strg, blky to stifix;
SHALE - lt to m gy to brn gy, rough tex, in pt wxy tex, firm, pt rthy, calc, grd to mdst, blky;
SHALE - lt to m gy, rough to sm tex, firm to sft, pt rthy, calc, grd to mdst, blky to stifix;
SHALE - lt to m gy to brn gy, rough tex, firm, pt rthy, calc, grd to mdst, blky;
SHALE - lt to m gy to brn gy, rough tex, firm, pt rthy, calc, grd to mdst, blky to stifix;
SHALE - lt to m gy to brn gy, rough to sm, in pt wxy tex, firm to sft, pt rthy, calc, grd to mdst, ls strg, blky to stifix;


SHALE - lt to m gy, rough to sm tex, sl wxy, firm to pt sft, calc, grd to mdst, bky to sbfis;
SHALE - gy to brn gy, rough to v f tex, in pt rthy, firm, micmica, in pt calc, bky to sbfis;
WOB: 8500
RPM: 39
SPM: 105
PP: 9900
Slide
Rotate
1000
SHALE - gy to brn gy, rough to sm tex, in pt rthy, firm, micmica, in pt calc, bky to sbfis;
SHALE - gy to brn gy, rough to sm tex, in pt rthy, firm, micmica, in pt calc, bky to sbfis;
SHALE - gy to brn gy, rough to sm tex, rthy, firm, micmica, in pt calc, bky to sbfis;
SHALE - gy to brn gy, rough to sm tex, rthy, firm, micmica, in pt calc, bky to sbfis;
WOB: 8400
Slide
1025
SHALE - gy to brn gy, rough to sm tex, rthy, firm, micmica, in pt calc, bky to sbfis;
WOB: 8000
RPM: 38
Rotate
SHALE - brn to gy brn, sm to sl wcy tex, rthy, firm to pt sft, pt calc, , bky to sbfis;
SHALE - gy to gy brn, rough to v f tex, in pt rthy, firm, sl micmica, in pt calc, bky;
SHALE - gy brn to gy, rough to pt sm tex, rthy, firm, pt calc, bky to sl sbfis;
Slide
WOB: 8400
SHALE - gy brn to gy, rough to pt sm tex, rthy, firm, pt calc, bky to sl sbfis;
Rotate
1050
SHALE - brn to gy brn, rough to pt sm tex, rthy, firm, pt micmica, in pt calc, lmy strg, bky to sbfis;
SHALE - brn to gy brn, rough to sm tex, rthy, firm, pt micmica, in pt calc, si strg, bky to sbfis;
Slide
LIMESTONE - brn to brn gy, micxl, dns tex, hd arg, lt;
SHALE - brn to brn gy, rough to pt sm tex, rthy, firm, calc, sbfis to bky;
Rotate
LIMESTONE - brn to brn gy, micxl, dns tex, hd arg, lt;
SHALE - brn to brn gy, rough to pt sm tex, rthy, firm, calc, sbfis to bky;
Slide
SHALE - brn to gy brn, rough to pt sm tex, rthy, firm, in pt micmica, calc, sbfis to bky;
1075
Rotate
LIMESTONE - brn to brn gy, micxl, dns tex, hd arg, lt;
WOB: 7000
SHALE - brn to brn gy, rough to pt sm tex, sl wxy, rthy, firm, calc, sbfis to bky;
SHALE - brn to brn gy, rough to pt sm tex, sl wxy, rthy, firm, calc, sbfis to bky;
LIMESTONE - brn to brn gy, micxl, dns tex, hd arg, lt;
Slide
Rotate
SHALE - brn gy to gy, rough to sm tex, pt wxy, rthy, firm, calc, lmy strg, bky to sbfis;
Slide
WOB: 6100
SHALE - gy to gy brn, rough to v f tex, firm, pt micmica, pt calc, lmy strg, bky;
Rotate
WOB: 6500
1100
SHALE - brn gy to gy, rough to sm tex, pt wxy, rthy, firm, calc, lmy strg, bky to sbfis;
Feb 11/99
SHALE - gy to gy brn, rough to v f tex, firm, pt micmica, pt calc, lmy strg, bky;
WOB: 7100
RPM: 38
SHALE - brn gy to gy, rough to sm tex, pt wxy, rthy, firm, calc, bky to sbfis;
WOB: 7600
SHALE - gy to gy brn, rough to v f tex, firm, pt micmica, pt calc, bky;
SHALE - gy brn to brn, rough to f tex, firm, sl micmica, calc, bky;
Tetchos (1123.0)
LIMESTONE - brn to dk brn gy, micxl, dns to s chk tex, firm to pt sft, arg, lt;
1125
LIMESTONE - lt to dk brn, micxl, dns to chk tex, firm to sft, arg, lt;
Slide
LIMESTONE - lt to m brn, pt bf, crpst to micxl, dns to chk tex, firm to sft, arg, lt;
Rotate
LIMESTONE - lt to m brn, pt bf, crpst to micxl, dns to chk tex, firm to sft, arg, lt;
SHALE - brn gy to gy, rough to f tex, firm, pt micmica, calc, bky;
Slide
LIMESTONE - lt to m brn, pt bf, crpst to micxl, dns to chk tex, firm to sft, arg, lt;
SHALE - brn gy to gy, rough to f tex, firm, pt micmica, calc, bky;
Rotate
LIMESTONE - lt brn to brn offwhite to tan, crpst to micxl, pt mdst, dns to chk tex, firm to sft, arg, lt;
1150
LIMESTONE - lt brn to brn offwhite to tan, crpst to micxl, pt mdst, dns to chk tex, firm to sft, arg, lt pyr, lt;
LIMESTONE - lt gy wh to brn offwhite to tan, crpst to micxl, dns tex, firm to hd, arg, sh partings, lt;
Slide
LIMESTONE - tan to lt brn, crpst to micxl, pt mdst, dns tex, firm, arg, lt;
Rotate
WOB: 12500
RPM: 39
LIMESTONE - lt gy wh to brn offwhite to tan, crpst to micxl, dns tex, firm to hd, arg, sh partings, lt;
1175
LIMESTONE - lt brn to brn offwhite to tan, crpst to micxl, pt mdst, dns to chk tex, firm to sft, arg, lt;
LIMESTONE - lt gy wh to brn offwhite to tan, crpst to micxl, dns tex, firm to hd, arg, sh partings, lt;
LIMESTONE - lt brn to brn offwhite to tan, crpst to micxl, pt mdst, dns to chk tex, firm to sft, arg, sh strg, lt;
LIMESTONE - lt gy wh to brn offwhite to tan, crpst to micxl, dns tex, firm to hd, arg, sh partings, lt;
LIMESTONE - lt brn to brn offwhite to tan, crpst to micxl, pt mdst, dns to chk tex, firm to sft, arg, sh strg, lt;
Rotate
1200
Feb 12/99
LIMESTONE - lt to m brn to gy brn, crpst to micxl, dns lex, firm, mnr pyr, arg, lt;
SHALE - gy, v f tex, rthy, pt micmica, calc, bky;
WOB: 13000
RPM: 39
LIMESTONE - lt to m brn to gy brn, crpst to micxl, dns lex, firm, mnr pyr, arg, lt;
SHALE - gy, v f tex, rthy, pt micmica, calc, bky;
SILTSTONE - gy grn, v f tex, hd, arg, calc, lt;
1225
SHALE - lt to m gy, v f to f tex, rthy, pt micmica, calc, in pt slty, bky;
SILTSTONE - gy grn, v f tex, hd, arg, calc, ls strg, lt;
SHALE - lt to m gy, v f to f tex, rthy, pt micmica, calc, in pt slty, bky;
WOB: 9500
RPM: 39
SILTSTONE - gy grn, v f tex, hd, arg, calc, ls strg, lt;
SHALE - lt to m gy, v f to f tex, rthy, micmica, calc, in pt slty, bky;
SILTSTONE - gy grn, v f tex, hd, arg, calc, lt;
SHALE - lt to m gy, v f to f tex, rthy, micmica, calc, in pt slty, bky;
SILTSTONE - gy grn, v f tex, hd, arg, calc, lt;
LIMESTONE - lt brn to brn gy, micxl, dns tex, arg, lt;
WOB: 12500
RPM: 41
SHALE - lt to m gy, v f to f tex, rthy, micmica, calc, in pt slty, bky;
LIMESTONE - lt brn to offwhite, micxl, dns tex, arg, lt;
1250
SHALE - lt to m gy, v f to f tex, rthy, micmica, calc, in pt slty, bky;
LIMESTONE - lt brn to offwhite, micxl, dns tex, arg, lt;
SHALE - lt to m gy to sl gy gn, v f to f tex, in pt rthy, pt micmica, slty, calc, slist strg, bky;
SHALE - lt to m gy, v f to f tex, rthy, micmica, calc, in pt slty, bky;
WOB: 10000
RPM: 37
LIMESTONE - lt brn to offwhite, micxl, dns tex, arg, lt;
SHALE - lt to m gy, v f to f tex, rthy, micmica, calc, in pt slty, bky;
LIMESTONE - lt brn to offwhite, micxl to v f xl, dns lex, arg, lt;
1275
Slide
SHALE - lt to m gy, v f to f tex, rthy, micmica, calc, in pt slty, bky;
SILTSTONE - gy grn, v f tex, hd, arg, calc, lt;
LIMESTONE - lt brn to brn gy, micxl, dns tex, arg, lt;
Kakisas (1280.0)
Rotate
SHALE - lt to m gy to sl gy gn, v f to f tex, pt rthy, firm, in pt micmica, calc, slty, bky;
SHALE - lt to m gy, v f to f tex, rthy, micmica, calc, in pt slty, bky;
LIMESTONE - lt brn to offwhite, micxl, dns tex, arg, lt;
SHALE - lt to m gy, v f to f tex, in pt rthy, sl micmica, calc, bky;
LIMESTONE - lt brn to offwhite, micxl, dns tex, arg, lt;
SHALE - lt to m gy, v f to f tex, in pt rthy, sl micmica, calc, bky;
LIMESTONE - lt brn to offwhite, crpst to micxl, dns tex, arg, lt;
1300
SHALE - lt to m gy, v f to f tex, in pt rthy, sl micmica, calc, bky;
LIMESTONE - lt brn to offwhite, crpst to micxl, dns tex, arg, lt;
SHALE - lt to m gy, v f to f tex, in pt rthy, sl micmica, calc, bky;
LIMESTONE - lt brn to offwhite, crpst to micxl, dns tex, arg, lt;
Fort Simpsons (1310.0)
SHALE - brn red to gy, v f to rough tex, in pt rthy, firm, micmica, n calc, bky;
SHALE - lt to m gy to brn red, v f to rough tex, in pt rthy, firm, micmica, in pt calc, bky;
SHALE - lt gy to gy gn to pt brn, v f to rough tex, pt rthy, firm, sl micmica, mnr slty strg, bky;
1325
SHALE - lt gy to gy gn to brn red, v f to sm tex, in pt wxy, pt rthy, firm, sl micmica, mnr calc silstone strg, bky to sbfis;
SHALE - lt gy to gy gn to brn red, v f to sm tex, in pt wxy, pt rthy, firm, sl micmica, mnr calc silstone strg, bky to sbfis;
SHALE - lt gy to gy gn to brn red, v f to sm tex, in pt wxy, pt rthy, firm, sl micmica, mnr ls strg, bky to sbfis;
SHALE - lt gy to gy gn to brn red, v f to sm tex, in pt wxy, pt rthy, firm, sl micmica, mnr ls strg, bky to sbfis;
SHALE - lt gy to gy gn, v f to f tex, rthy, firm, micmica, bky to sbfis;
1350
SHALE - lt gy to grn gy, sl brn red, v f to f tex, rthy, firm, micmica, bky to sbfis;
SHALE - brn red to gy grn to gy, v f to sm tex, rthy, firm, micmica, mnr ls str, bky to sbfis;
SHALE - lt gy to gy gn, v f to f tex, rthy, firm, micmica, bky to sbfis;
SHALE - lt gy to gy gn to brn red, v f to f tex, rthy, firm, micmica, ls strg, bky to sbfis;
SHALE - brn red to gy gn to gy, v f to sm tex, rthy, firm, micmica, bky to sbfis;
1375
SHALE - lt gy to gy gn to brn red, v f to f tex, rthy, firm, micmica, ls strg, bky to sbfis;


1400
1425
1450
1475
1500
1525
1550
1575
1600
1625
1650
1675
1700
1725
1750
WOB 12500
RPM 35
Slide
WOB 9500
Rotate
WOB 12500
RPM 35
Slide
WOB 7500
Rotate
WOB 12500
RPM 30
WOB 12000
RPM 30
Slide
WOB 9500
Rotate
WOB 13000
RPM 32
WOB 13500
RPM 32
WOB 9500
RPM 35
WOB 13000
RPM 32
WOB 12000
RPM 32
Slide
WOB 5000
Rotate
WOB 12500
RPM 31
SHALE - lt gy to gy gn, v f to f tex, rthy, firm, micmica, bIky to sbfis;
SHALE - lt gy to gy gn, v f to f tex, rthy, firm, micmica, bIky to sbfis;
SHALE - lt gy to gn gy to brn red, v f to f tex, rthy, firm, micmica, ls strg, bIky to sbfis;
SHALE - lt gy to pt gy gn, v f to f tex, rthy, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to v f tex, in pt rthy, firm, pt micmica, bIky;
SHALE - lt to m gy, rough to v f tex, in pt rthy, firm, pt micmica, rr slty strg, bIky;
SHALE - lt to m gy, rough to v f tex, in pt rthy, frrm, pt micmica, rr lmy strg, bIky;
SHALE - lt to m gy, rough to v f tex, in pt rthy, firm, pt micmica, bIky;
SHALE - lt to m gy, rough to v f tex, rthy, firm, micmica, bIky;
LIMESTONE - lt brn to offwhite to olive, mical to v f xl, lith to sl gran tex, tt;
SHALE - lt to m gy, rough to v f tex, rthy, firm, micmica, bIky;
LIMESTONE - lt brn to offwhite to olive, mical to v f xl, lith to sl gran tex, sl arg, tt;
SHALE - lt to m gy, rough to v f tex, rthy, firm, micmica, bIky;
LIMESTONE - lt brn to offwhite to olive, mical to v f xl, lith to sl gran tex, tt;
SHALE - lt to m gy, rough to v f tex, rthy, firm, micmica, bIky;
LIMESTONE - lt brn to offwhite to olive, mical to v f xl, lith to sl gran tex, tt;
SHALE - lt to m gy, rough to v f tex, rthy, firm, micmica, bIky;
LIMESTONE - lt brn to offwhite to olive, mical to v f xl, lith to sl gran tex, tt;
SHALE - lt to m gy, rough to v f tex, rthy, firm, micmica, bIky to pt sbfis;
LIMESTONE - lt brn to offwhite to olive, mical to v f xl, lith to sl gran tex, tt;
SHALE - lt to m gy, rough to f tex, in pt rthy, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to f tex, in pt rthy, firm, micmica, bIky, mnr lmy strg;
SHALE - lt to m gy, rough to f tex, in pt rthy, firm, micmica, bIky, mnr lmy strg;
SHALE - lt to m gy, rough to f tex, in pt rthy, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to v f tex, rthy, firm, micmica, bIky to pt sbfis;
LIMESTONE - lt brn to offwhite to olive, mical to v f xl, lith to sl gran tex, tt;
SHALE - lt to m gy, rough to f tex, in pt rthy, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to f tex, in pt rthy, firm, micmica, bIky, mnr lmy strg;
SHALE - lt to m gy, rough to v f tex, rthy, firm, micmica, pr pyr, bIky to pt sbfis;
LIMESTONE - lt brn to offwhite, mical to occ v f xl, lith to sl gran tex, tt;
SHALE - lt to m gy to gy brn, rough to sm tex, in pt rthy, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to f tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, in pt rthy, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, in pt rthy, firm, micmica, bIky to sbfis;
SHALE - a to m gy, rough to f tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, in pt rthy, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to f tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy gy bIk, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis
SHALE - lt to dk gy to gy bIk, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, rr ls, sbfis to bIky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, rr lmy str, bIky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, rr ls, sbfis to bIky;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy gy bIk, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy to pt gy bIk, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy to pt gy bIk, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to m gy to gy brn, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to f tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy, rough to f tex, firm, micmica, bIky to sbfis;
SHALE - lt to m gy to gy brn, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy gy bIk, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy gy bIk, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to pt sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, rr ls, sbfis to bIky;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy, rough to sm tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy to pt gy bIk, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bIky to sbfis;
SHALE - lt to dk gy to pt gy bIk, rough to sm tex, firm, micmica, sbfis to bIky;
SHALE - lt to dk gy, v f to f tex, firm, pt micmica, in pt calc, sl carb, bIky;
LIMESTONE - lt brn, micxl, chk to dns tex, arg tt;
SHALE - lt to dk gy, v f to f tex, firm, pt micmica, in pt calc, sl carb, bIky;
LIMESTONE - lt brn, micxl, chk to dns tex, arg tt;
SHALE - lt to dk gy, v f to f tex, firm, pt micmica, in pt calc, sl carb, bIky;
LIMESTONE - lt brn, micxl, chk to dns tex, arg tt;


1775
1800
1825
1850
1875
1900
1925
1950
1975
2000
2025
2050
WOB 14000
RPM 87
WOB 12500
RPM 35
WOB 12200
RPM 87
WOB 12500
RPM 38
Feb 11/99
Slide
WOB 9000
Rotate
WOB 12300
RPM 82
WOB 14000
RPM 83
WOB 12500
RPM 83
WOB 12000
RPM 82
WOB 13900
RPM 82
WOB 11300
RPM 81
WOB 12500
RPM 82
Slide
Rotate
WOB 12500
RPM 82
Muskwa
(2045.0)
Feb 18/99
Slave Point
(2070.0)
Feb 20/99
SHALE - lt to dk gy to pt gy blk, rough to sm tex, firm, micmica, ls strg, sbfis to bilky;
SHALE - lt to dk gy to pt gy blk, rough to sm tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy to pt gy blk, rough to sm tex, firm, micmica, ls strg, sbfis to bilky;
SHALE - lt to dk gy to pt gy blk, rough to sm tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy, v f to f tex, firm, pt micmica, in pt calc, sl carb, bilky;
LIMESTONE - lt brn, micxl, chk to dns tex, arg lt;
SHALE - lt to dk gy, v f to f tex, firm, pt micmica, in pt calc, bilky to pt sbfis;
LIMESTONE - lt brn, micxl, chk to dns tex, arg lt;
SHALE - lt to dk gy to pt gy blk, rough to sm tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy to pt gy blk, rough to sm tex, firm, micmica, ls strg, sbfis to bilky;
SHALE - lt to dk gy, v f to f tex, firm, pt micmica, in pt calc, sl carb, bilky;
LIMESTONE - lt brn, micxl, chk to dns tex, arg lt;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, mnr ls strg, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, mnr ls strg, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, mnr ls strg, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, tr pyr, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, mnr ls strg, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, tr pyr, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, mnr ls strg, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, tr pyr, sbfis to bilky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy, rough to f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to v f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy, rough to f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy, rough to f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy, rough to f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy, rough to f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, sbfis to bilky;
SHALE - lt to dk gy, rough to f tex, firm, micmica, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, pt rthy, firm, micmica, tr ls, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, firm, micmica, pt carb, bilky to sbfis;
SHALE - lt to dk gy to gy brn, rough to v f tex, sl rthy, firm, micmica, pt carb, bilky to sbfis;
SHALE - lt to dk gy to gy blk, rough to v f tex, sl rthy, firm, micmica, pt carb, pyr, bilky to sbfis;
SHALE - dk brn blk to gy blk, rough tex, rthy, firm, carb, pyr, calc str, bilky;
SHALE - dk blk to brn blk, rough tex, rthy, firm, carb, pyr, bilky;
SHALE - dk blk to brn blk, rough tex, rthy, firm, carb, pyr, bilky;
SHALE - dk brn blk to gy blk, rough tex, rthy, firm, carb, pyr, calc str, bilky;
LIMESTONE - brn gy to mot brn, micxl, dns tex, hd, arg, n visible por, n shw;


Feb 20/99
Underbalance drill
Casing
2075
WOB 4000
RPM 52
SPM 83
PP / 4090
2100
WOB 7900
RPM 62
SPM 32
PP 4410
Feb 21/99
2125
Watt Mountain
(2145.0)
2150
Sulfur Point
(2153.0)
2165m 1*
WOB 7600
RPM 65
Horn River
(2171.0)
2175
WOB 8200
WOB 4700
RPM 70
SPM 63
PP 4050
2200
WOB 7500
RPM 65
Nahanni
(2215.0)
WOB 8100
RPM 79
2225
WOB 8900
RPM 65
WOB 7000
RPM 70
Feb 22/99
WOB 8600
RPM 65
2272 m 1.25*
2275
Headless
(2285.0)
WOB 5000
RPM 70
2300
Landry
(2306.0)
Drill w/invert
Feb 23/99
Trip Gas
2325
WOB 4900
RPM 83
SPM 120
0
20
40
Amica
(2337.0)
2350 m 2*
2350
WOB 6000
RPM 78
Feb 24/99
WOB 7800
GR
GR
MD
ZZ
F
P
LIMESTONE - bmn gy to mot brn, micxl, dns tex, hd, arg, n visible por, n shw;
LIMESTONE - bmn gy to mot brn, micxl, dns tex, hd, arg, n visible por, n shw; GRAINSTONE - dk gy to blk, gy clr blk, firm, v xl, arg, shaley, grd to sdy ls, n visible por;
LIMESTONE - mot brn to brn, micxl, dns tex, hd, arg, calc infilled mic frac, n visible por;
LIMESTONE - mot brn to brn, micxl, dns tex, hd, arg, calc infilled mic frac, n visible por;
LIMESTONE - lt brn to mot brn, micxl, in pt mdst, dns tex, hd, arg, calc infilled frac, n visible por;
LIMESTONE - lt brn to mot brn to tan, micxl, in pt mdst, dns tex, hd, arg, n visible por;
LIMESTONE - lt dk brn to mot brn, micxl, in pt mdst, dns tex, hd, arg, calc infilled frac, n visible por;
LIMESTONE - bf to crm, micxl, sl porcelaneous lstr, frac, dns tex, hd, scat v p frac por, n shw;
LIMESTONE - crm to tan to lt brn, micxl, pt mdst, in pt frac, dns tex, sl dol, n visible por, n shw;
LIMESTONE - crm to tan to lt brn, micxl, pt mdst, dns tex, n visible por, n shw;
LIMESTONE - crm to tan to lt brn, micxl, pt mdst, dns tex, n visible por, n shw;
LIMESTONE - crm to tan to lt brn to sl wh, micxl, pt mdst, dns tex to pt chk, shaley str, n visible por, n shw;
LIMESTONE - lt to dk brn to tan to sl mot brn wh, micxl, pt mdst, dns tex to pt chk, arg, n visible por, n shw;
LIMESTONE - lt to dk brn to mot brn wh, micxl, dns to pt chk tex, hd, arg, n visible por, n shw;
LIMESTONE - lt to dk brn to mot brn wh, micxl, dns to pt chk tex, hd, arg, n visible por, n shw;
LIMESTONE - dk brn to blackish brn, mdst to pt micxl, rthy lstr, hd, arg, n visible por, n shw;
LIMESTONE - dk brn to blk, mdst, rthy lstr, hd, arg, mmr brn shaley partings, n visible por, n shw;
LIMESTONE - lt to m brn, mot brn wh, pt micxl, mdst, dns to framental tex, hd, arg, mnr brn shaley partings, n visible por, n shw;
LIMESTONE - lt to m brn, mot brn wh, pt micxl, mdst, dns to framental tex, hd, arg, dk brn shaley partings, n visible por, n shw;
LIMESTONE - mot lt brn wh to brn, pt crpxl to micxl, in pt mdst, dns to framental tex, hd, arg, n visible por, n shw;
LIMESTONE - mot lt to dk brn wh to brn, pt crpxl to micxl, in pt mdst, dns to framental tex, hd, arg, n visible por, n shw;
LIMESTONE - mot lt to dk brn wh to brn, pt crpxl to micxl, in pt mdst, dns to framental tex, hd, arg, n visible por, n shw;
LIMESTONE - dk gy to blackish brn to spec, mdst, dns tex, hd, arg, shaley, calcaite infilled frac, n visible por, n shw;
LIMESTONE - dk gy to blackish brn to spec to lt brn, mdst, dns tex, hd, arg, shaley, calcaite infilled frac, n visible por, n shw;
LIMESTONE - lt to dk brn to mot brn gy wh, micxl to pt vert f xl, in pt mdst, dns to sl hackly tex, hd, arg, shaley, n visible por, n shw;
LIMESTONE - dk brn to gy blk, mdst, dns tex, rthy lstr, hd, arg, shaley, n visible por, n shw;
LIMESTONE - dk brn to gy blk, mdst, dns tex, rthy lstr, hd, arg, shaley, n visible por, n shw;
LIMESTONE - dk brn to gy blk, mdst, dns tex, rthy lstr, hd, arg, fr pyr, shaley, n visible por, n shw;
LIMESTONE - dk brn to gy blk, mdst, dns tex, rr chk wh strg, rthy lstr, hd, arg, shaley, n visible por, n shw;
LIMESTONE - dk brn to mot brn wh, in pt micxl, mdst, dns to sl fragmented tex, rthy lstr, hd, arg, shaley, n visible por, n shw;
LIMESTONE - dk brn to mot brn wh, in pt micxl, mdst, dns to sl fragmented tex, rthy lstr, hd, arg, n visible por, n shw;
LIMESTONE - lt to dk brn to brn wh, micxl to pt v f xl, in pt mdst, dns to sl fragmented tex, sl rthy lstr, hd, arg, n visible por, n shw;
LIMESTONE - lt to dk brn to brn wh, micxl to pt v f xl, in pt mdst, dns to sl fragmented tex, sl rthy lstr, hd, arg, n visible por, n shw;
LIMESTONE - lt to dk brn to mot brn wh, micxl, in pt mdst, dns to sl hackly tex, sl rthy lstr, hd, arg, n visible por, n shw;
LIMESTONE - lt to dk brn to tan, sl micxl, in pt mdst, dns tex, sl rthy lstr, hd, arg, n visible por, n shw;
LIMESTONE - lt to dk brn to tan, sl micxl, in pt mdst, dns tex, sl rthy lstr, hd, arg, tr pyr, mnr calc xl, n visible por, n shw;
LIMESTONE - lt to dk brn to tan, sl micxl, in pt mdst, dns tex, sl rthy lstr, hd, arg, n visible por, n shw;
LIMESTONE - lt to dk brn, mdst, dns tex, hd, arg, sh partings, n visible por, n shw;
LIMESTONE - lt to dk brn to tan, mdst, dns tex, rthy lstr, hd, arg, tr pyr, n visible por, n shw;
LIMESTONE - lt to dk brn to tan, mdst, rthy lstr, dns tex, hd, arg, calite infilled mmr frac, n visible por, n shw;
LIMESTONE - mot dk brn, pt micxl, in pt mdst, dns tex, hd, pt arg, calc xl, n visible por, n shw;
LIMESTONE - mot dk brn, pt micxl, in pt mdst, dns tex, hd, arg, calc xl, n visible por, n shw;
LIMESTONE - m to dk brn to pt mot brn, pt micxl, mdst, dns tex, hd, arg, n visible por, n shw;
LIMESTONE - m to dk brn to pt mot brn, pt micxl, mdst, dns to sl wxy tex, hd, arg, n visible por, n shw, tr gn pyr wxy sh;
LIMESTONE - m to dk brn to pt mot brn, pt micxl, mdst, dns to sl wxy tex, hd, arg, n visible por, n shw;
SHALE - gn, wxy to sm tex, firm, pyr, blky;
LIMESTONE - m to dk brn to pt mot brn to gy brn, pt micxl, mdst, dns to sl wxy tex, hd, arg, n visible por, n shw;
SHALE - gn to gy gn, wxy to sm tex, firm, pyr, blky;
LIMESTONE - lt brn to tan, mdst, dns to sl wxy tex, hd, arg, n visible por, n shw;
SHALE - gn to gy gn, wxy to sm tex, firm, pyr, blky;
DOLOMITE - wh, crpxl to f xl, pt euhed to subhedral xl, dns tex, pt blt, scat v p intxl por, n shw;
DOLOMITE - wh, crpxl to f xl, pt euhed to subhedral xl, dns tex, pt blt, scat v p intxl por, n shw;
DOLOMITE - wh to lt wh gy, crpxl to f xl, pt euhed to subhedral xl, dns tex, pt blt, scat v p intxl por, n shw;
DOLOMITE - wh to lt wh gy, crpxl to f xl, pt euhed to subhedral xl, dns tex, pt blt, scat v p intxl por, n shw, contm / LCM;
DOLOMITE - wh to lt wh gy, crpxl to micxl, dns tex, pt blt, rr v p intxl por, n shw, contm / LCM;
DOLOMITE - wh to smoky gy, crpxl, dns tex, pt blt, n visible por, n shw, contm / LCM;
DOLOMITE - lt brn to brn gy to tan, crpxl to sl micxl, dns tex, pt arg, n visible por, n shw;
DOLOMITE - lt brn to tan, crpxl to sl micxl, dns tex, pt arg, n visible por, n shw;
DOLOMITE - lt brn to tan to pt mot brn wh, crpxl to sl micxl, dns tex, pt arg, tr pyr, n visible por, n shw;
DOLOMITE - lt to m brn to tan to pt mot brn wh, crpxl to sl micxl, dns tex, pt arg, tr pyr, n visible por, n shw;
DOLOMITE - lt brn to tan, pt crpxl, grdg to mdst, dns tex, pt arg, tr pyr, n visible por, n shw;
DOLOMITE - lt brn to tan, pt crpxl, grdg to mdst, dns tex, pt arg, tr pyr, n visible por, n shw;
LIMESTONE - offwhite, micxl, chk tex, sft, arg tt;
DOLOMITE - lt brn to tan, pt crpxl, grdg to mdst, dns tex, pt arg, tr pyr, n visible por, n shw;
LIMESTONE - offwhite, micxl, chk tex, sft, arg tt;

BEST
COPY
ON FILE

4. GEOLOGY

Drill Cuttings	5 m interval surface to total depth
Sample Distribution:	One set bagged samples and Two sets of glass vials sent to G.S.C., Calgary Attention: Alan Scott
	One Set vials to Paramount
Cores	N/A
Lithology:	See following pages for descriptions
Stratigraphic Column	Attached in this section
Biostratigraphic Column	N/A

PARAMOUNT BERKLEY NETLA P-57

0-5:	Cement;
5-10:	Cement;
10-15:	SANDSTONE [100] - clear to yellow to reddish orange, unconsolidated. fine to medium grained, moderate sorting, rounded to sub angular. in part quartzose, frosted grains, micaceous, chert, glacial till, no visible porosity, no shows;
15-20:	SANDSTONE [100] - clear to yellow to reddish orange, unconsolidated, fine to medium grained, occasionally coarse fragments. moderate sorting, rounded to sub angular, in part quartzose, frosted grains, micaceous. chert. glacial till. no visible porosity, no shows;
20-25:	No sample bypass shakers;
25-30:	SANDSTONE [100] - clear to frosted white to yellowish white, unconsolidated, fine grained, well sorted, subangular to rounded, slightly quartzose. minor argillaceous grains, no visible porosity, no shows;
30-35:	SANDSTONE [100] - clear to frosted white to yellowish white, unconsolidated, fine grained, well sorted, subangular to rounded, slightly quartzose. minor argillaceous grains, no visible porosity, no shows;
35-40:	SANDSTONE [100] - clear to fosted white to partly light yellow, unconsolidated. clay and silty matrix, very fine to fine grained, well sorted, subangular to rounded, minor argillaceous grains, no visible porosity, no shows;
40-45:	SILTSTONE [100] - light brown to brownish grey, very fine to fine texture, firm to friable, in part sandy, micaceous, clay matrix, tight;
45-50:	SILTSTONE [100] - brownish grey to light brown, very fine to fine texture, friable to soft, sandy, partly micaceous, argillaceous, clay matrix, tight;
50-55:	SILTSTONE [100] - brownish grey to light brown, very fine to fine texture, friable to soft. sandy, partly micaceous, argillaceous, clay matrix, tight. grades to claystone;
55-60:	SILTSTONE [100] - brownish grey to light brown, very fine to fine texture, friable to soft, sandy, partly micaceous, argillaceous, clay matrix, tight, grades to claystone;
60-70:	SLITSTONE [70] - light brown to greyish brown, very fine to fine texture, friable, sandy, micaceous, argillaceous, clay matrix, tight; SANDSTONE [30] - greyish brown to grey, friable to unconsolidated, partly clay matrix, very fine grained, well sorted, subrounded to rounded. in part argillaceous, slightly micaceous, very poor intergranular porosity, no shows;
70-80:	SILTSTONE [80] - light grey to brown to greyish brown, very fine to fine texture, friable, sandy, argillaceous, partly micaceous, in part clay matrix, tight. partly grades to very fine grained sandstone; SHALE [20] - brown, fine texture, earthy lustre, firm, blocky, grades to claystone;

80-90: SANDSTONE [50] - clear to white yellow, unconsolidated, fine grained, well sorted, subrounded to rounded, very poor intergranular porosity, no shows;

90-95: SILTSTONE [100] - brown to brownish grey, fine texture, friable to partly firm, sandy, argillaceous, slightly micaceous, partly clay matrix, tight;

95-100: SILTSTONE [100] - brown to brownish grey, fine texture, friable to partly firm, sandy, argillaceous, slightly micaceous, partly clay matrix, loose sand grains, tight;

100-105: SILTSTONE [100] - brown to brownish grey, fine texture, friable to partly firm, sandy, argillaceous, slightly micaceous, partly clay matrix, loose sand grains, tight;

105-110: SILTSTONE [80] - brown to brownish grey, fine to very fine texture, firm to friable, sandy, argillaceous, in part clay matrix, tight;
SANDSTONE [20] - grey to greyish white to clear, friable to unconsolidated, very fine grained, well sorted, subrounded to rounded, no visible porosity, no shows;

110-115: SILTSTONE [70] - brown, very fine to fine texture, firm to friable, sandy, micaceous, argillaceous, tight;
SANDSTONE [30] - light greyish brown to grey to clear, friable to firm, partly calcareous, very fine to fine grained, well to moderately sorted, subrounded to rounded, minor argillaceous grains, partly micaceous, very poor intergranular porosity, no shows;

115-120: SILTSTONE [100] - brown to brownish grey, fine texture, friable to partly firm, sandy, argillaceous, slightly micaceous, partly clay matrix, loose sand grains, tight;

120-125: SILTSTONE [70] - brown, very fine to fine texture, firm to friable, sandy, micaceous, argillaceous, tight;
SANDSTONE [30] - light greyish brown to grey to clear, friable to firm, partly calcareous, very fine to fine grained, well to moderately sorted, subrounded to rounded, minor argillaceous grains, partly micaceous, very poor intergranular porosity, no shows;

125-130: SANDSTONE [100] - light grey to greyish white to greyish brown, friable to unconsolidated, very fine grained, well sorted, subrounded to rounded, micaceous, rare glauconite, partly argillaceous, scattered very poor intergranular porosity, no shows;

130-135: SANDSTONE [90] - greyish white to grey, friable to unconsolidated, partly calcareous, fine grained, moderate to well sorted, subangular to rounded, micaceous, limy stringers, partly argillaceous, no visible porosity, no shows;
SILTSTONE [10] - brown, very fine texture, firm to friable, argillaceous, tight;

135-140: SANDSTONE [90] - greyish white to grey, friable to unconsolidated, partly calcareous, very fine grained, well sorted, subrounded to rounded, micaceous, partly argillaceous, no visible porosity, no shows;
SILTSTONE [10] - brown, very fine texture, firm to friable, argillaceous, tight;

140-145:	SANDSTONE [100] - clear to greyish white, unconsolidated to friable, very fine to fine grained, well to moderately sorted, rounded to subrounded, partly frosted grains, scattered ver poor intergranular porosity, no shows:
145-150:	SANDSTONE [100] - clear to greyish white, unconsolidated to friable, very fine to fine grained, well to moderately sorted, rounded to subangular, argillaceous grains, micaceous, scattered very poor intergranular porosity, no shows;
150-160:	SANDSTONE [90] - light grey to clear to brownish grey, friable to unconsolidated, minor silty matrix, very fine to fine grained, well to moderately sorted, rounded subangular, micaceous, argillaceous, in part silty, no visible porosity, no shows: SILTSTONE [10] - brown, very fine texture, firm, argillaceous, tight:
160-165:	SANDSTONE [90] - clear to greyish white, unconsolidated to friable, very fine to fine grained, well to moderately sorted, rounded to subangular, argillaceous grains, micaceous, scattered very poor intergranular porosity, no shows; SHALE [10] - medium grey, rough texture, earthy, blocky;
165-170:	SILTSTONE [100] - light greyish brown, very fine texture, silky lustre, firm, micaceous, tight;
170-175:	SILTSTONE [100] - light greyish brown, very fine texture, silky lustre, firm, micaceous, in part sandy, tight;
175-180:	SILTSTONE [100] - light greyish brown to brown, very fine to fine texture, firm, micaceous, sandy, argillaceous, tight, minor sandstone stringers;
180-185:	SANDSTONE [90] - clear to yellowish white to brown, unconsolidated to friable, very fine to medium grained, moderate to well sorted, rounded to subrounded, colored chert, patchy very poor intergranular porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy lustre, blocky;
185-190:	SANDSTONE [80] - clear to greyish white to brownish yellow, unconsolidated to friable, very fine to fine grained, well sorted, subrounded to rounded, no visible porosity, no shows; SILTSTONE [20] - light brownish grey, very fine to fine texture, firm, sandy, argillaceous, tight;
190-195:	SANDSTONE [50] - clear to greyish white to brownish yellow, unconsolidated to friable, very fine grained, well sorted, subrounded to rounded, no visible porosity, no shows; SILTSTONE [50] - light brownish grey, very fine to fine texture, firm, sandy, argillaceous, tight;
195-200:	SANDSTONE [50] - clear to greyish white to brownish yellow, friable, very fine grained, well sorted, subrounded to rounded, no visible porosity, no shows; SILTSTONE [50] - light brownish grey, very fine to fine texture, firm, sandy, argillaceous, tight;

200-205:	SILTSTONE [70] - brown to greyish brown, very fine to fine texture, firm, in part sandy, argillaceous, tight; SANDSTONE [30] - greyish white, friable, very fine grained, well sorted, rounded to subrounded, in part micaceous, no visible porosity, no shows;
205-210:	SILTSTONE [90] - brown to brownish grey, very fine to fine texture, firm, slightly sandy, argillaceous, tight; SHALE [10] - grey to greyish brown, very fine to rough texture, earthy, blocky;
210-220:	SILTSTONE [70] - brown to brownish grey, very fine to fine texture, firm, slightly sandy, argillaceous, micaceous, tight; SHALE [10] - grey to greyish brown, very fine to rough texture, earthy, blocky; SANDSTONE [20] - grey to greyish white, friable, very fine grained, well sorted, subrounded to rounded, micaceous, no visible porosity, no shows;
220-225:	SHALE [100] - medium grey to greyish brown, rough to very fine texture, earthy, firm, partly micromicaceous, in part silty, blocky;
225-230:	SHALE [100] - medium grey to greyish brown, rough to very fine texture, earthy, firm, partly micromicaceous, in part silty, blocky;
230-235:	SHALE [100] - medium grey to greyish brown, rough to very fine texture, earthy, firm, partly micromicaceous, in part silty, blocky to subfissile;
235-240:	SHALE [80] - medium grey to greyish brown, rough to very fine texture, earthy, firm, partly micromicaceous, in part sandy, blocky to subfissile; SANDSTONE [20] - grey, friable, very fine grained, well sorted, rounded to subrounded, partly micaceous, slightly argillaceous, no visible porosity, no shows;
240-250:	SHALE [80] - medium to dark grey to greyish black, rough to very fine texture, earthy, firm, carbonaceous, partly micromicaceous, in part sandy, blocky to subfissile; SANDSTONE [20] - grey to greyish brown, friable, very fine grained, well sorted, rounded to subrounded, partly micaceous, slightly argillaceous, no visible porosity, no shows;
250-255:	SHALE [60] - medium grey, rough texture, earthy, partly micromicaceous, subfissile to blocky; SANDSTONE [40] - grey to white to clear, friable, partly calcareous, very fine grained, well sorted, subrounded to rounded, micaceous, partly argillaceous, rare glauconite, scattered very poor intergranular porosity, no shows;
255-260:	SHALE [50] - medium grey, rough texture, earthy, partly micromicaceous, subfissile to blocky; SANDSTONE [50] - grey to white to clear, friable, partly calcareous, very fine to fine grained, well sorted, subrounded to rounded, micaceous, partly argillaceous, rare glauconite, scattered very poor intergranular porosity, no shows;

260-265:	SHALE [60] - medium grey, rough texture, earthy, partly micromicaceous, subfissile to blocky; SANDSTONE [40] - grey to white to clear, friable, partly calcareous, very fine to fine grained, well sorted, subrounded to rounded, micaceous, partly argillaceous, rare glauconite, scattered very poor intergranular porosity, no shows;
265-270:	SHALE [100] - medium to dark grey to dark greyish brown, rough texture, earthy, firm, slightly carbonaceous, partly micromicaceous, subfissile to blocky;
270-275:	SHALE [100] - medium to dark greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
275-280:	SHALE [60] - medium to dark greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, rare glauconite, subfissile to blocky; SANDSTONE [40] - clear to yellow, unconsolidated, fine grained, well sorted, subangular to subrounded, rare chert, no visible porosity, no shows;
280-285:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
285-290:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
290-295:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
295-300:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, partly silty, subfissile to blocky;
300-305:	SHALE [100] - medium to dark grey, rough to fine texture, earthy, firm, micromicaceous, partly carbonaceous, sandy stringers, blocky to partly subfissile;
305-310:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, partly silty, subfissile to blocky;
310-315:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
315-320:	SHALE [100] - medium to dark grey to greyish brown, very fine to rough texture, earthy, micromicaceous, partly carbonaceous, silty, sandy stringers, blocky to partly subfissile;
320-325:	SHALE [80] - medium to dark grey, rough to fine texture, earthy, firm, partly micromicaceous, silty, blocky to subfissile; SANDSTONE [20] - grey, friable, very fine grained, well sorted, subrounded to rounded, argillaceous, silty, no visible porosity, no shows;
325-330:	SHALE [100] - medium to dark grey, very fine to rough texture, earthy, firm, micromicaceous, partly silty, blocky;

330-335: SHALE [100] - medium to dark grey, rough to partly smooth texture, earthy, firm, micromicaceous, silty, trace glauconite, partly sandy, blocky;

335-340: SHALE [70] - medium to dark grey, rough to partly smooth texture, earthy, firm, micromicaceous, silty, trace glauconite, partly sandy, blocky;
SANDSTONE [30] - light to dark grey, friable, siliceous, very fine grained, well sorted, subrounded to rounded, minor glauconite, no visible porosity, no shows;

340-345: SHALE [70] - medium to dark grey, rough to partly smooth texture, earthy, firm, micromicaceous, silty, trace glauconite, partly sandy, blocky;
SANDSTONE [30] - light to dark grey, friable, siliceous, very fine grained, well sorted, subrounded to rounded, partly argillaceous, minor glauconite, no visible porosity, no shows;

345-350: SHALE [60] - medium to dark grey, rough to partly smooth texture, earthy, firm, micromicaceous, silty, trace glauconite, partly sandy, blocky;
SANDSTONE [40] - light to dark grey, friable, in part calcareous, salt and pepper texture, very fine grained, well sorted, subrounded to rounded, argillaceous, glauconitic, no visible porosity, no shows;

350-355: SANDSTONE [100] - light to dark grey, clear to smoky yellow, friable to unconsolidated, in part calcareous, part salt and pepper texture, very fine to fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, no visible porosity, no shows;

355-360: SANDSTONE [100] - light to dark grey, clear to smoky yellow, friable to unconsolidated, in part calcareous, part salt and pepper texture, very fine to fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, shale partings, no visible porosity, no shows;

360-365: SANDSTONE [100] - light to dark grey, clear to smoky yellow, friable to unconsolidated, part salt and pepper texture, very fine to fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, shale partings, no visible porosity, no shows;

365-370: SANDSTONE [100] - light to dark grey, clear to smoky yellow, friable to unconsolidated, partly salt and pepper texture, very fine to fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, shale partings, no visible porosity, no shows;

370-375: SANDSTONE [100] - light to dark grey, friable, in part calcareous, slight salt and pepper texture, very fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, pyrite, scattered very poor intergranular porosity, no shows;

375-380: SANDSTONE [100] - light to dark grey, friable, in part calcareous, slight salt and pepper texture, very fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, pyrite, shale partings, scattered very poor intergranular porosity, no shows;

380-385: SANDSTONE [100] - light to dark grey, friable, in part calcareous, slight salt and pepper texture, very fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, pyrite, micaceous, shale partings, scattered very poor intergranular porosity, no shows;

385-390: SANDSTONE [90] - light grey to white to dark grey, friable, partly calcareous, very fine grained, well sorted, rounded to subrounded, minor glauconite, patchy very poor intergranular porosity, no shows;
SHALE [10] - medium to dark grey, rough texture, earthy, carbonaceous, blocky;

390-395: SANDSTONE [90] - light grey to white to dark grey, friable, partly calcareous, very fine grained, well sorted, rounded to subrounded, minor glauconite, patchy very poor intergranular porosity, no shows;
SHALE [10] - medium to dark grey, rough texture, earthy, carbonaceous, blocky;

395-400: SANDSTONE [90] - light grey to white, friable, partly calcareous, very fine to fine grained, well sorted, rounded to subrounded, minor glauconite, patchy very poor intergranular porosity, no shows;
SHALE [10] - medium to dark grey, rough texture, earthy, carbonaceous, blocky;

400-405: SANDSTONE [90] - light grey to white to dark grey, friable, partly calcareous, very fine grained, well sorted, rounded to subrounded, minor glauconite, patchy very poor intergranular porosity, no shows;
SHALE [10] - medium to dark grey, rough texture, earthy, carbonaceous, blocky;

405-410: SANDSTONE [100] - white to clear to light grey, friable, very fine grained, well sorted, rounded to subrounded, trace glauconite, scattered very poor intergranular porosity, no shows;

410-415: SANDSTONE [100] - white to clear to light grey, friable, in part calcareous, very fine grained, well sorted, rounded to subrounded, trace glauconite, scattered very poor intergranular porosity, no shows;

415-420: SANDSTONE [100] - white to clear to light grey, friable, in part calcareous, very fine grained, well sorted, rounded to subrounded, trace glauconite, shale partings, scattered very poor intergranular porosity, no shows;

420-425: SANDSTONE [90] - white to clear to greyish white, friable, slightly calcareous, very fine grained, well sorted, rounded to subrounded, glauconite, very poor to poor intergranular porosity, no shows;
SHALE [10] - medium to dark grey, rough texture, earthy, blocky;

425-430: SANDSTONE [80] - light to medium grey, friable to firm, very fine grained, well sorted, rounded to subrounded, glauconite, argillaceous streaks, no visible porosity, no shows;
SHALE [20] - medium to dark grey, rough texture, earthy, slightly carbonaceous, blocky;

430-435: SANDSTONE [90] - light to medium grey, friable to firm, very fine grained, well sorted, rounded to subrounded, argillaceous streaks, glauconite, pyrite, partly micaceous, no visible porosity, no shows;
SHALE [10] - medium to dark grey, rough texture, earthy, slightly carbonaceous, blocky;

435-445: SANDSTONE [90] - light to medium grey, friable to firm, very fine grained, well sorted, rounded to subrounded, argillaceous streaks, glauconite, pyrite, partly micaceous, no visible porosity, no shows;
SHALE [10] - medium to dark grey, rough texture, earthy, firm, slightly carbonaceous, blocky;

445-450: SANDSTONE [100] - light grey to greyish offwhite, friable to firm, very fine grained, well sorted, rounded to subrounded, in part argillaceous, no visible porosity, shale partings, no shows;

450-455: SHALE [50] - medium to dark grey to partly greyish black, rough to fine texture, earthy, firm, in part carbonaceous, blocky to subfissile;
SANDSTONE [50] - light to medium grey, firm to friable, very fine grained, well sorted, subrounded to rounded, argillaceous, shaley, no visible porosity, no shows;

455-460: SHALE [60] - medium to dark grey to partly greyish black, rough to fine texture, earthy, firm, in part carbonaceous, blocky to subfissile;
SANDSTONE [40] - light to medium grey, firm to friable, very fine grained, well sorted, subrounded to rounded, argillaceous, trace glauconite, shaley, no visible porosity, no shows;

460-465: SHALE [65] - medium to dark grey to greyish black, rough to fine texture, earthy, firm, slightly carbonaceous, silty, blocky to slightly subfissile;
SANDSTONE [35] - light greyish white to clear, friable to unconsolidated, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, in part very poor intergranular porosity, no shows;

465-475: SHALE [60] - medium to dark grey to greyish black, rough to fine texture, earthy, firm, silty, minor glauconite, slightly carbonaceous, blocky to slightly subfissile;
SANDSTONE [40] - light greyish white, friable, very fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, in part very poor intergranular porosity, no shows;

475-480: SHALE [70] - medium to dark grey to greyish black, rough texture, earthy, firm, silty, minor glauconite, slightly carbonaceous, blocky;
SANDSTONE [30] - light greyish white to grey, friable, very fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, partly micaceous, no visible porosity, no shows;

480-485: SHALE [50] - medium to dark grey to greyish black, rough texture, earthy, firm, silty, blocky;
SANDSTONE [50] - light greyish white to grey, friable, in part calcareous, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, no visible porosity, no shows;

485-490: SHALE [70] - medium to dark grey to greyish black, rough to smooth texture, earthy, firm, minor glauconite, partly carbonaceous, silty, blocky to subfissile; SANDSTONE [30] - light greyish white to grey, friable, in part calcareous, very fine to partly fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, partly silty, no visible porosity, no shows;

490-495: SHALE [60] - medium to dark grey to greyish black, rough to smooth texture, earthy, firm, minor glauconite, carbonaceous, silty, blocky to subfissile; SANDSTONE [40] - clear to light greyish white to grey, unconsolidated to friable, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, partly silty, no visible to poor intergranular porosity, no shows;

495-500: SHALE [40] - medium to dark grey to greyish black, rough to smooth texture, earthy, firm, minor glauconite, carbonaceous, silty, blocky to subfissile; SANDSTONE [60] - light greyish white to grey, firm to friable, calcareous, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, micaceous, clays, no visible to very poor intergranular porosity, no shows;

500-510: SHALE [90] - medium to dark grey to greyish black, rough to smooth texture, earthy, firm, minor glauconite, carbonaceous, silty, blocky to subfissile; SANDSTONE [10] - light greyish white to grey, firm to friable, calcareous, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, micaceous, clays, no visible to very poor intergranular porosity, no shows;

510-515: SHALE [90] - medium to dark grey, rough texure, earthy, firm to soft, carbonaceous, blocky to subfissile;
SILTSTONE [10] - grey to greyish brown, very fine texture, sandy, partly argillaceous, tight;

515-520: SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, micromicaceous, carbonaceous, minor glauconite, partly silty, blocky to subfissile;

520-525: SHALE [100] - medium to dark grey to greyish black, rough to fine texture, earthy, micromicaceous, carbonaceous, glauconite, silty, sandy stringers, blocky to subfissile;

525-530: SHALE [100] - medium to dark grey to greyish black, rough to fine texture, earthy, micromicaceous, carbonaceous, glauconite, silty, sandy stringers, blocky to subfissile;

530-535: SHALE [100] - medium to dark grey, rough to very fine texture, earthy, in part micromicaceous, slightly carbonaceous, blocky to subfissile;

535-540: SHALE [100] - medium to dark grey, rough to very fine texture, earthy, in part micromicaceous, slightly carbonaceous, rare pyrite, blocky to subfissile;

540-545: SHALE [100] - medium to dark grey, rough to very fine texture, earthy, in part micromicaceous, slightly carbonaceous, rare pyrite, minor sandstone stringers, blocky to subfissile;

545-550: SHALE [100] - medium to dark grey, rough to very fine texture, earthy, partly micromicaceous, in part carbonaceous, blocky to partly subfissile;

550-555: SHALE [100] - medium to dark grey, rough to very fine texture, earthy, partly micromicaceous, in part carbonaceous, blocky to partly subfissile;

555-560: SHALE [100] - medium to dark greyish black, rough to very fine texture, earthy, partly micromicaceous, carbonaceous, blocky to partly subfissile;

560-565: SHALE [100] - medium to dark grey to greyish black, rough to very fine texture, earthy, in part micromicaceous, carbonaceous, partly silty, blocky to subfissile;

SCATTER 570.0 m (94.65)

565-570: SHALE [100] - medium to dark grey to greyish black, rough to very fine texture, earthy, in part micromicaceous, carbonaceous, partly silty, blocky to subfissile;
SANDSTONE [trace] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, dull golden fluorescence, fair yellow cut;

570-575: SHALE [60] - medium to dark grey to greyish black, rough to very fine texture, earthy, in part micromicaceous, carbonaceous, partly silty, blocky to subfissile;
SANDSTONE [40] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, dull golden fluorescence, fair yellow cut;

575-580: SANDSTONE [80] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, dull golden fluorescence, fair yellow cut;
SHALE [20] - medium to dark grey, rough to very fine texture, firm, carbonaceous, blocky to subfissile;

580-585: SANDSTONE [30] - brown to clear to brownish grey, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, patchy dull golden fluorescence, fair yellow cut;
SHALE [70] - medium to dark grey, rough to very fine texture, firm, carbonaceous, blocky to subfissile;

585-590: SANDSTONE [70] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, scattered dull golden fluorescence, fair yellow cut;
SHALE [30] - medium to dark grey, rough to very fine texture, firm, carbonaceous, blocky to subfissile;

590-595: SANDSTONE [30] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, silty, scattered oil staining, in part poor intercrystalline porosity, rare dull golden fluorescence, fair yellow milky cut;
SHALE [70] - medium to dark grey, rough to very fine texture, firm, carbonaceous, blocky to subfissile;

GARBUTT 599.0 m (65.65)

595-600: SANDSTONE [10] - brownish grey to brown, friable. very fine grained. well sorted. subrounded to rounded, argillaceous, silty, patchy oil staining. no visible porosity. scattered dull golden fluorescence, milky yellow cut;
SHALE [90] - medium to dark grey, very fine to rough texture. earthy. firm. carbonaceous, blocky;

600-605: SHALE [100] - medium to dark grey to greyish brown. very fine to rough texture. earthy, firm, partly carbonaceous, blocky;

605-610: SHALE [100] - medium to dark grey to greyish brown, very fine to rough texture. earthy, firm, partly carbonaceous, blocky to partly subfissile;

610-615: SHALE [100] - medium to dark grey to greyish brown, very fine to rough texture. earthy, firm, partly carbonaceous, blocky to partly subfissile;

615-620: SHALE [90] - medium to dark grey to greyish black, very fine to fine texture, earthy, firm, silty, partly carbonaceous, minor glauconite, blocky to subfissile;
SILTSTONE [10] - greyish brown to brown, fine texture, firm. argillaceous, in part sandy, tight;

620-625: SHALE [90] - medium to dark grey to greyish black, very fine to fine texture, earthy, firm, micromicaceous, silty, partly carbonaceous, minor glauconite, blocky to subfissile;
SILTSTONE [10] - greyish brown to brown, fine texture, firm. argillaceous, in part sandy, tight;

630-635: SHALE [100] - medium to dark grey to greyish black, rough to fine texture, earthy. firm, micromicaceous, partly carbonaceous, in part silty, blocky to subfissile;

635-640: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, micromicaceous, carbonaceous, rare pyrite, limy stringers. blocky to subfissile;

640-645: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, micromicaceous, carbonaceous, blocky to subfissile;

645-650: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, partly micromicaceous, carbonaceous. blocky to subfissile;

650-655: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, slightly silty, partly micromicaceous. in part carbonaceous. blocky to subfissile;

655-660: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, partly micromicaceous, carbonaceous. minor clays. trace pyrite, blocky to subfissile;

660-665: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, carbonaceous, subfissile to blocky

665-670: SHALE [100] - medium to dark grey, very fine to rough texture, partly earthy, firm, partly carbonaceous, slightly micromicaceous, subfissile to blocky;

670-675: SHALE [100] - medium to dark grey, trace green waxy shale, very fine to rough texture, partly earthy, firm, partly carbonaceous, slightly micromicaceous, bentonite, subfissile to blocky;

675-680: SHALE [100] - medium to dark grey, trace green waxy shale, very fine to rough texture, partly earthy, firm, partly carbonaceous, slightly micromicaceous, bentonite, subfissile to blocky;

680-685: SHALE [100] - medium to dark grey, trace green waxy shale, very fine to rough texture, partly earthy, firm, partly carbonaceous, slightly micromicaceous, bentonite, rare pyrite, subfissile to blocky;

685-690: SHALE [100] - medium to dark grey to brownish grey, rough to very fine texture, earthy, firm to soft, partly micromicaceous, trace pyrite, blocky to subfissile;

EXSHAW 693.0 m (-28.35)

690-695: SHALE [100] - brownish grey to dark grey, rough to very fine texture, earthy, firm to soft, partly micromicaceous, trace pyrite, blocky to subfissile;

695-700: SHALE [100] - brownish grey to dark grey, rough to very fine texture, earthy, firm to soft, partly micromicaceous, trace pyrite, blocky to subfissile;

KOTCHO 702.0 m (-37.35)

700-705: SHALE [60] - dark brownish black to brown, rough texture, earthy, firm, carbonaceous, in part calcareous, blocky;
LIMESTONE [40] - medium to dark brown to mottled brown, microcrystalline, dense to slight chalky texture, argillaceous, earthy, tight;

705-710: SHALE [60] - dark brownish black to brown to light waxy grey, rough texture, earthy, firm, carbonaceous, in part calcareous, blocky;
LIMESTONE [40] - medium to dark brown to mottled brown, microcrystalline, dense to slight chalky texture, argillaceous, earthy, tight;

710-715:	SHALE [70] - light grey, smooth to waxy texture, soft to firm, in part calcareous, pyrite, blocky; LIMESTONE [30] - medium to dark brown to mottled brown, microcrystalline, dense to slight chalky texture, argillaceous, earthy, tight;
715-720:	SHALE [80] - light grey to greyish brown, smooth to waxy texture, soft to firm, in part calcareous, pyrite, blocky; LIMESTONE [20] - medium to dark brown to mottled brown, microcrystalline, dense to slight chalky texture, argillaceous, earthy, tight;
720-725:	SHALE [100] - light grey to greyish brown, smooth to rough texture, in part waxy, firm to soft, calcareous, silty, minor limy stringers, blocky;
725-730:	SHALE [100] - light to medium grey, rough to smooth texture, firm to partly soft, in part calcareous, pyrite, silty stringers, blocky;
730-735:	SHALE [80] - light to medium grey, rough to smooth texture, firm to partly soft, in part calcareous, silty stringers, pyrite, blocky; LIMESTONE [20] - light grey, microcrystalline, dense texture, tight;
735-740:	SHALE [80] - light to medium grey, rough to smooth texture, firm to partly soft, in part calcareous, grades to mudstone, pyrite, blocky; LIMESTONE [20] - light grey to greyish brown, microcrystalline, dense texture, tight;
740-745:	SHALE [100] - light to slightly greyish brown, rough to smooth texture, firm to soft, calcareous, in part grades to mudstone, blocky;
745-750:	SHALE [100] - light to slightly greyish brown, rough to smooth texture, firm to soft, calcareous, in part grades to mudstone, blocky;
750-755:	SHALE [100] - light to slightly greyish brown, rough to smooth texture, firm to soft, calcareous, silty partings, in part grades to mudstone, blocky;
755-760:	LIMESTONE [100] - light grey, mudstone, dense texture, argillaceous, shaley, tight;
760-765:	LIMESTONE [80] - light grey, mudstone, dense texture, argillaceous, shaley, tight; SHALE [20] - brown to greyish brown, rough texture, earthy, firm, blocky;
765-770:	LIMESTONE [60] - light grey, mudstone, dense texture, argillaceous, shaley, tight; SHALE [40] - grey to greyish brown, rough texture, earthy, firm, calcareous, blocky;
770-775:	LIMESTONE [40] - light grey, mudstone, dense texture, argillaceous, shaley, tight; SHALE [60] - grey to greyish brown, rough texture, earthy, firm, calcareous, blocky;
775-780:	LIMESTONE [100] - light brown to buff, in part cryptocrystalline, mudstone, dense texture, firm to soft, argillaceous, tight;
780-785:	LIMESTONE [100] - light brown to buff, in part cryptocrystalline, mudstone, dense texture, firm to soft, argillaceous, tight;
785-790:	LIMESTONE [100] - cream to buff, cryptocrystalline to microcrystalline, dense texture, firm, in part argillaceous, minor shale partings, pyrite, tight;

790-795: LIMESTONE [100] - cream to buff, cryptocrystalline to microcrystalline, dense texture, firm, in part argillaceous, minor shale partings, pyrite, tight;

795-800: LIMESTONE [90] - cream to buff, cryptocrystalline to microcrystalline, dense texture, firm, in part argillaceous, minor shale partings, tight;
SHALE [10] - grey, very fine to rough texture, firm, in part calcareous, blocky;

800-805: SHALE [100] - grey to brownish grey, rough texture, in part earthy, firm, calcareous, blocky, limy stringers;

805-810: LIMESTONE [90] - cream to buff, cryptocrystalline to microcrystalline, in part mudstone, dense texture, firm, in part argillaceous, tight;
SHALE [10] - grey, very fine to rough texture, firm, in part calcareous, blocky;

810-815: LIMESTONE [70] - cream to buff, cryptocrystalline to microcrystalline, in part mudstone, dense texture, firm, in part argillaceous, tight;
SHALE [30] - light to medium grey, very fine to rough texture, firm, in part calcareous, blocky;

815-825: SHALE [80] - light to partly medium grey, very fine to fine texture, firm to hard, calcareous, grading to mudstone, blocky;
LIMESTONE [20] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, rare fossil debris, tight;

825-830: SHALE [100] - light to medium grey, very fine to fine texture, firm, calcareous, grades to mudstone, limestone stringers, blocky;

830-835: SHALE [80] - light to partly medium grey to partly brownish grey, very fine to fine texture, firm to hard, calcareous, grading to mudstone, blocky;
LIMESTONE [20] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

835-845: SHALE [90] - light to partly medium grey to partly brownish grey, very fine to fine texture, firm to hard, calcareous, grading to mudstone, blocky;
LIMESTONE [10] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

845-850: SHALE [100] - light to medium grey, very fine to fine texture, firm, calcareous, minor pyrite, grades to mudstone, blocky;

850-855: SHALE [100] - light to medium grey, very fine to fine texture, firm, calcareous, trace pyrite, grades to mudstone, limestone stringers, blocky;

855-860: LIMESTONE [100] - grey to light greyish brown, mudstone, dense texture, argillaceous, tight;

860-865: LIMESTONE [100] - grey to light greyish brown, mudstone, dense texture, argillaceous, shale partings, tight;

865-870: SHALE [70] - light to partly medium grey to partly brownish grey, very fine to fine texture, firm, calcareous, grading to mudstone, blocky;
LIMESTONE [30] - light brown to buff to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

870-875: SHALE [90] - light to partly medium grey to partly brownish grey, very fine to fine texture, firm to hard, calcareous, rare pyrite, grading to mudstone, blocky; LIMESTONE [10] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

875-880: SHALE [90] - light to partly medium grey to brownish grey, in part waxy texture, earthy, very fine to fine texture, firm, calcareous, grading to mudstone, blocky; LIMESTONE [10] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

880-885: SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, blocky;

885-890: SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, grades to mudstone, blocky;

890-895: SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, blocky;

895-900: SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, grades to mudstone, blocky;

900-910: SHALE [80] - light to partly medium grey to brownish grey, in part waxy texture, earthy, very fine to fine texture, firm, calcareous, grading to mudstone, blocky; LIMESTONE [20] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

910-920: SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, blocky;

920-925: SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, limestone stringers, blocky;

925-930: SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, blocky;

930-935: SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, blocky;

935-940: SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, grades to mudstone, blocky;

940-945: SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, blocky;

945-950: SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, limestone stringers, blocky;

950-955: SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, limestone stringers, blocky;

955-960: SHALE [100] - light to medium grey to brownish grey, rough to smooth. in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone. limestone stringers, blocky to subfissile;

960-965: SHALE [100] - light to medium grey to brownish grey, rough texture. in part waxy texture, firm, partly earthy, calcareous, grades to mudstone. blocky;

965-970: SHALE [100] - light to medium grey to brownish grey, rough texture. firm, partly earthy, calcareous, grades to mudstone, blocky to subfissile;

970-975: SHALE [100] - light to medium grey to brownish grey, rough texture. firm, partly earthy, calcareous, grades to mudstone, blocky;

975-980: SHALE [100] - light to medium grey to brownish grey, rough texture. firm, partly earthy, calcareous, grades to mudstone, blocky to subfissile;

980-985: SHALE [100] - light to medium grey to brownish grey, rough to smooth. in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone. blocky to subfissile;

985-990: SHALE [100] - light to medium grey, rough to smooth texture, slightly waxy, firm to partly soft, calcareous, grades to mudstone, blocky to subfissile;

990-995: SHALE [100] - light to medium grey, rough to smooth texture, slightly waxy, firm to partly soft, partly micromicaceous, calcareous, grades to mudstone, blocky to subfissile;

995-1000: SHALE [100] - grey to brownish grey, rough to very fine texture, in part earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;

1000-1005: SHALE [100] - grey to brownish grey, rough to smooth texture, in part earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;

1005-1010: SHALE [100] - grey to brownish grey, rough to smooth texture, in part earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;

1015-1020: SHALE [100] - grey to brownish grey, rough to smooth texture, earthy. firm, micromicaceous, in part calcareous, blocky to subfissile;

1020-1025: SHALE [100] - grey to brownish grey, rough to smooth texture, earthy. firm, micromicaceous, in part calcareous, blocky to subfissile;

1025-1030: SHALE [100] - grey to brownish grey, rough to smooth texture, earthy. firm, micromicaceous, in part calcareous, blocky to subfissile;

1030-1035: SHALE [100] - brown to greyish brown, smooth to slight waxy texture. earthy, firm to partly soft, partly calcareous, , blocky to subfissile;

1035-1040: SHALE [100] - grey to greyish brown, rough to very fine texture, in part earthy, firm, slightly micromicaceous, in part calcareous, blocky;

1040-1045: SHALE [100] - greyish brown to grey, rough to partly smooth texture. earthy, firm, partly calcareous, blocky to slightly subfissile;

1045-1050: SHALE [100] - greyish brown to grey, rough to partly smooth texture, earthy, firm, partly calcareous, blocky to slightly subfissile;

1050-1055: SHALE [100] - brown to greyish brown, rough to partly smooth texture, earthy, firm, partly micromicaceous, in part calcareous, limy stringers, blocky to subfissile;

1055-1060: SHALE [100] - brown to greyish brown, rough to smooth texture, earthy, firm, partly micromicaceous, in part calcareous, limestone stringers, blocky to subfissile;

1060-1065: LIMESTONE [70] - brown to brownish grey, microcrystalline, dense texture, hard, argillaceous, tight;
SHALE [30] - brown to brownish grey, rough to partly smooth texture, earthy, firm, calcareous, subfissile to blocky;

1065-1070: LIMESTONE [30] - brown to brownish grey, microcrystalline, dense texture, hard, argillaceous, tight;
SHALE [70] - brown to brownish grey, rough to partly smooth texture, earthy, firm, calcareous, subfissile to blocky;

1070-1075: SHALE [100] - brown to greyish brown, rough to partly smooth texture, earthy, firm, in part micromicaceous, calcareous, subfissile to blocky;

1075-1080: LIMESTONE [10] - brown to brownish grey, microcrystalline, dense texture, hard, argillaceous, tight;
SHALE [90] - brown to brownish grey, rough to partly smooth texture, slightly waxy, earthy, firm, calcareous, subfissile to blocky;

1080-1090: SHALE [90] - brown to brownish grey, rough to partly smooth texture, slightly waxy, earthy, firm, calcareous, subfissile to blocky;
LIMESTONE [10] - brown to brownish grey, microcrystalline, dense texture, hard, argillaceous, tight;

1090-1095: SHALE [100] - brownish grey to grey, rough to smooth texture, partly waxy, earthy, firm, calcareous, limy stringers, blocky to subfissile;

1095-1100: SHALE [100] - grey to greyish brown, rough to very fine texture, firm, partly micromicaceous, partly calcareous, limy stringers, blocky;

1100-1105: SHALE [100] - brownish grey to grey, rough to smooth texture, partly waxy, earthy, firm, calcareous, limy stringers, blocky to subfissile;

1105-1110: SHALE [100] - grey to greyish brown, rough to very fine texture, firm, partly micromicaceous, partly calcareous, limy stringers, blocky;

1110-1115: SHALE [100] - brownish grey to grey, rough to smooth texture, partly waxy, earthy, firm, calcareous, blocky to subfissile;

1115-1120: SHALE [100] - grey to greyish brown, rough to very fine texture, firm, partly micromicaceous, partly calcareous, blocky;

TETCHO 1123.0 m (-458.35)

1120-1125: SHALE [80] - greyish brown to brown, rough to fine texture, firm. slightly micromicaceous, calcareous, blocky;
LIMESTONE [20] - brown to dark brownish grey, microcrystalline. dense to slight chalky texture, firm to partly soft, argillaceous. tight;

1125-1130: LIMESTONE [100] - light to dark brown, microcrystalline. dense to chalky texture, firm to soft, argillaceous, tight;

1130-1135: LIMESTONE [100] - light to medium brown, partly buff. cryptocrystalline to microcrystalline, dense to chalky texture, firm to soft, argillaceous. tight;

1135-1140: LIMESTONE [90] - light to medium brown, partly buff. cryptocrystalline to microcrystalline, dense to chalky texture, firm to soft, argillaceous, tight;
SHALE [10] - brownish grey to grey, rough to fine texture, firm, partly micromicaceous, calcareous, blocky;

1140-1145: LIMESTONE [90] - light to medium brown, partly buff, cryptocrystalline to microcrystalline, dense to chalky texture, firm to soft, argillaceous, tight;
SHALE [10] - brownish grey to grey, rough to fine texture, firm, partly micromicaceous, calcareous, blocky;

1145-1150: LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, tight;

1150-1155: LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture. firm to soft, argillaceous, trace pyrite, tight;

1155-1160: LIMESTONE [100] - light greyish white to brownish offwhite to tan, cryptocrystalline to microcrystalline, dense texture, firm to hard, argillaceous, shale partings, tight;

1160-1165: LIMESTONE [100] - tan to light brown, cryptocrystalline to microcrystalline, partly mudstone, dense texture, firm, argillaceous, tight;

1165-1170: LIMESTONE [100] - tan to light brown, cryptocrystalline to microcrystalline, partly mudstone, dense texture, firm, argillaceous, tight:

1170-1175: LIMESTONE [100] - light greyish white to brownish offwhite to tan, cryptocrystalline to microcrystalline, dense texture. firm to hard, argillaceous. shale partings, tight;

1175-1180: LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, tight;

1180-1185: LIMESTONE [100] - light greyish white to brownish offwhite to tan, cryptocrystalline to microcrystalline, dense texture, firm to hard, argillaceous, shale partings, tight;

1185-1190: LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, shale stringers, tight;

1190-1195: LIMESTONE [100] - light greyish white to brownish offwhite to tan, cryptocrystalline to microcrystalline, dense texture, firm to hard, argillaceous, shale partings, tight;

1195-1205: LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, shale stringers, tight;

1205-1215: LIMESTONE [80] - light to medium brown to greyish brown, cryptocrystalline to microcrystalline, dense texture, firm, minor pyrite, argillaceous, tight;
SHALE [20] - grey, very fine texture, earthy, partly micromicaceous, calcareous, blocky;

1215-1225: LIMESTONE [60] - light to medium brown to greyish brown, cryptocrystalline to microcrystalline, dense texture, firm, minor pyrite, argillaceous, tight;
SHALE [30] - grey, very fine texture, earthy, partly micromicaceous, calcareous, blocky;
SILTSTONE [10] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;

1225-1230: SHALE [70] - light to medium grey, very fine to fine texture, earthy, partly micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [30] - greyish green, very fine texture, hard, argillaceous, calcareous, limestone stringers, tight;

1230-1235: SHALE [90] - light to medium grey, very fine to fine texture, earthy, partly micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [10] - greyish green, very fine texture, hard, argillaceous, calcareous, limestone stringers, tight;

1235-1240: SHALE [90] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [10] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;

1240-1245: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [20] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;
LIMESTONE [10] - light brown to brownish grey, microcrystalline, dense texture, argillaceous, tight;

1245-1250: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [20] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;
LIMESTONE [10] - light brown to brownish grey, microcrystalline, dense texture, argillaceous, tight;

1250-1255: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
LIMESTONE [30] - light brown to offwhite, microcrystalline, dense texture, argillaceous, tight;

1255-1260: SHALE [100] - light to medium grey to slightly greyish green, very fine to fine texture, in part earthy, partly micromicaceous, silty, calcareous, siltstone stringers, blocky;

1260-1265: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
LIMESTONE [30] - light brown to offwhite, microcrystalline, dense texture, argillaceous, tight;

1265-1275: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
LIMESTONE [30] - light brown to offwhite, microcrystalline to very fine crystalline, dense texture, argillaceous, tight;

KAKISA 1280.0 m (-615.35)

1275-1280: SHALE [50] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [20] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;
LIMESTONE [30] - light brown to brownish grey, microcrystalline, dense texture, argillaceous, tight;

1280-1285: SHALE [100] - light to medium grey to slightly greyish green, very fine to fine texture, partly earthy, firm, in part micromicaceous, calcareous, silty, blocky;

1285-1290: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
LIMESTONE [30] - light brown to offwhite, microcrystalline, dense texture, argillaceous, tight;

1290-1295: SHALE [80] - light to medium grey, very fine to fine texture, in part earthy, slightly micromicaceous, calcareous, blocky;
LIMESTONE [20] - light brown to offwhite, microcrystalline, dense texture, argillaceous, tight;

1295-1300: SHALE [90] - light to medium grey, very fine to fine texture. in part earthy, slightly micromicaceous, calcareous, blocky;
LIMESTONE [10] - light brown to offwhite, cryptocrystalline to microcrystalline. dense texture, argillaceous, tight;

1300-1305: SHALE [90] - light to medium grey, very fine to fine texture. in part earthy. slightly micromicaceous, calcareous, blocky;
LIMESTONE [10] - light brown to offwhite, cryptocrystalline to microcrystalline. dense texture, argillaceous, tight;

FORT SIMPSON 1310.0 m (-645.35)

1305-1310: SHALE [80] - light to medium grey, very fine to fine texture. in part earthy, slightly micromicaceous, calcareous, blocky;
LIMESTONE [20] - light brown to offwhite, cryptocrystalline to microcrystalline. dense texture, argillaceous, tight;

1310-1315: SHALE [100] - brownish red to grey, very fine to rough texture, in part earthy, firm, micromicaceous, non calcareous, blocky;

1315-1320: SHALE [100] - light to medium grey to brownish red, very fine to rough texture, in part earthy, firm, micromicaceous, in part calcareous, blocky;

1320-1325: SHALE [100] - light grey to greyish green to partly brown, very fine to rough texture, partly earthy, firm, slightly micromicaceous, minor silty stringers. blocky;

1325-1330: SHALE [100] - light grey to greyish green to brownish red. very fine to smooth texture, in part waxy, partly earthy, firm, slightly micromicaceous, minor calcareous siltone stringers, blocky to subfissile;

1330-1335: SHALE [100] - light grey to greyish green to brownish red, very fine to smooth texture, in part waxy, partly earthy, firm, slightly micromicaceous, minor calcareous siltstone stringers, blocky to subfissile;

1335-1340: SHALE [100] - light grey to greyish green to brownish red, very fine to smooth texture, in part waxy, partly earthy, firm, slightly micromicaceous, minor limestone stringers, blocky to subfissile;

1340-1345: SHALE [100] - light grey to greyish green to brownish red, very fine to smooth texture, in part waxy, partly earthy, firm, slightly micromicaceous, minor limestone stringers, blocky to subfissile;

1345-1350: SHALE [100] - light grey to greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;

1350-1355: SHALE [100] - light grey to green grey to brownish red, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;

1355-1360:	SHALE [100] - brownish red to greyish green to grey, very fine to smooth texture, earthy, firm, micromicaceous, minor limestone streaks, blocky to subfissile;
1360-1365:	SHALE [100] - light grey to greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;
1365-1370:	SHALE [100] - light grey to green grey to brownish red, very fine to fine texture, earthy, firm, micromicaceous, limestone stringers, blocky to subfissile.
1370-1375:	SHALE [100] - brownish red to greyish green to grey, very fine to smooth texture, earthy, firm, micromicaceous, blocky to subfissile.
1375-1380:	SHALE [100] - light grey to green grey to brownish red, very fine to fine texture, earthy, firm, micromicaceous, limestone stringers, blocky to subfissile.
1380-1385:	SHALE [100] - light grey to greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;
1385-1390:	SHALE [100] - light grey to partly greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;
1390-1395:	SHALE [100] - light grey to green grey to brownish red, very fine to fine texture, earthy, firm, micromicaceous, limestone stringers, blocky to subfissile;
1395-1400:	SHALE [100] - light grey to partly greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;
1400-1405:	SHALE [100] - light to medium grey, rough to very fine texture, in part earthy, firm, partly micromicaceous, blocky;
1405-1410:	SHALE [100] - light to medium grey, rough to very fine texture, in part earthy, firm, partly micromicaceous, rare silty stringers, blocky;
1410-1415:	SHALE [100] - light to medium grey, rough to very fine texture, in part earthy, firm, partly micromicaceous, rare limy stringers, blocky;
1415-1420:	SHALE [100] - light to medium grey, rough to very fine texture, in part earthy, firm, partly micromicaceous, blocky;
1420-1425:	SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky; LIMESTONE [10] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;
1425-1435:	SHALE [60] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky; LIMESTONE [40] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, slightly argillaceous, tight;
1435-1440:	SHALE [70] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky; LIMESTONE [30] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, slightly argillaceous, tight;

1440-1445: SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky;
LIMESTONE [10] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;

1445-1450: SHALE [80] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky to subfissile;
LIMESTONE [20] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;

1450-1455: SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky to partly subfissile;
LIMESTONE [10] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;

1455-1460: SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky to subfissile;

1460-1465: SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky to partly subfissile;
LIMESTONE [10] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;

1465-1470: SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky to subfissile;

1470-1480: SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky, minor limy stringers;

1480-1485: SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky, minor limy stringers;

1485-1490: SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky to subfissile;

1490-1500: SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, trace pyrite, blocky to partly subfissile;
LIMESTONE [10] - light brown to offwhite, microcrystalline to occasionally very fine crystalline, lithographic to slight granular texture, tight;

1500-1505: SHALE [90] - light to medium grey, rough to smooth texture, earthy, firm, micromicaceous, blocky to partly subfissile;
LIMESTONE [10] - light brown to offwhite, microcrystalline to occasionally very fine crystalline, lithographic to slight granular texture, tight;

1505-1510: SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, in part earthy, firm, micromicaceous, blocky to subfissile;

1510-1515: SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm,
micromicaceous, blocky to subfissile;

1515-1520:	SHALE [100] - light to medium grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1520-1525:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1525-1530:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1530-1535:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1535-1540:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1540-1545:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1545-1555:	SHALE [100] - light to medium grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1555-1565:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1565-1570:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1570-1575:	SHALE [100] - light to medium grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1575-1580:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1580-1585:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, firm, micromicaceous, slightly carbonaceous, blocky to subfissile;
1585-1590:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, firm, micromicaceous, slightly carbonaceous, subfissile to blocky;
1590-1595:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
1595-1600:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, firm, micromicaceous, blocky to partly subfissile;
1600-1605:	SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;

1605-1610: SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1610-1615: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1615-1620: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;

1620-1625: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to partly subfissile;

1625-1630: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;

1630-1635: SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;

1635-1640: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;

1640-1645: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile

1645-1650: SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1650-1655: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;

1655-1660: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to partly subfissile;

1660-1675: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;

1675-1680: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to subfissile;

1680-1685: SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1685-1690: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, trace limestone, subfissile to blocky;

1690-1695: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1695-1700: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to subfissile;

1700-1705: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1705-1710: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, rare limy streaks, blocky to subfissile;

1710-1715: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1715-1720: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1720-1725: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1725-1730: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, trace limestone, subfissile to blocky;

1730-1735: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1735-1740: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1740-1745: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1745-1750: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1750-1755: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1755-1760: SHALE [80] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky;
LIMESTONE [20] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1760-1765: SHALE [90] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky;
LIMESTONE [10] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1765-1770: SHALE [95] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky;
LIMESTONE [05] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1770-1775: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, limestone stringers, subfissile to blocky;

1775-1780: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1780-1785: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, limestone stringers, subfissile to blocky;

1785-1790:	SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;
1790-1795:	SHALE [95] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky; LIMESTONE [05] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;
1795-1800:	SHALE [80] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, blocky to partly subfissile; LIMESTONE [20] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;
1800-1805:	SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;
1805-1810:	SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, limestone stringers, subfissile to blocky;
1810-1815:	SHALE [95] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky; LIMESTONE [05] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;
1815-1820:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
1820-1825:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;
1825-1830:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
1830-1835:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;
1835-1840:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;
1840-1845:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
1845-1855:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
1855-1865:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
1865-1870:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
1870-1875:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, trace pyrite, blocky to subfissile;

1875-1880: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1880-1885: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;

1885-1890: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1890-1895: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, trace pyrite, blocky to subfissile;

1895-1900: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1900-1905: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1905-1910: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;

1910-1915: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1915-1920: SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1920-1925: SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;

1925-1930: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1930-1935: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1935-1940: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, trace pyrite, subfissile to blocky;

1940-1945: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1945-1950: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1950-1955: SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;

1955-1960: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, subfissile to blocky;

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1960-1965:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1965-1970:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1970-1975:	SHALE [100] - light to dark grey, rough to very fine texture. firm, micromicaceous, blocky to subfissile;
1975-1980:	SHALE [100] - light to dark grey, rough to fine texture, firm. micromicaceous, blocky to subfissile;
1980-1985:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
1985-1990:	SHALE [100] - light to dark grey, rough to fine texture, firm. micromicaceous, blocky to subfissile;
1990-1995:	SHALE [100] - light to dark grey to greyish brown. rough to very fine texture, firm, micromicaceous, subfissile to blocky;
1995-2000:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
2000-2005:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
2005-2010:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
2010-2015:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
2015-2020:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
2020-2025:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
2025-2030:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
2030-2035:	SHALE [100] - light to dark grey to greyish brown. very fine to rough texture, partly earthy, firm, micromicaceous, trace limestone, blocky to subfissile;
2035-2040:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, partly carbonaceous, blocky to subfissile,
2040-2045:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, slightly earthy, firm, micromicaceous, partly carbonaceous, blocky to subfissile;

MUSKWA 2045.0 m (-1380.35)

2045-2050:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, slightly earthy, firm, micromicaceous, partly carbonaceous, pyrite, blocky to subfissile;
2050-2055:	SHALE [100] - dark brownish black to greyish black, rough texture, earthy, firm, carbonaceous, pyrite, calcareous streaks, blocky;
2055-2060:	SHALE [100] - dark black to brownish black, rough texture, earthy, firm, carbonaceous, pyrite, blocky;
2060-2065:	SHALE [100] - dark black to brownish black, rough texture, earthy, firm, carbonaceous, pyrite, blocky;
2065-2070:	SHALE [100] - dark brownish black to greyish black, rough texture, earthy, firm, carbonaceous, pyrite, calcareous streaks, blocky;
2070-2072:	LIMESTONE [100] - brownish grey to mottled brown, microcrystalline, dense texture, hard, argillaceous, no visible porosity, no shows;
2072-2075:	LIMESTONE [100] - brownish grey to mottled brown, microcrystalline, dense texture, hard, argillaceous, no visible porosity, no shows;
2075-2080:	LIMESTONE [30] - brownish grey to mottled brown, microcrystalline, dense texture, hard, argillaceous, no visible porosity, no shows; GRAINSTONE [70] - dark grey to black, greyish clear black, firm, very fine crystalline, argillaceous, shaley, grades to sandy limestone, no visible porosity;
2080-2085:	LIMESTONE [100] - mottled brown to brown, microcrystalline, dense texture, hard, argillaceous, calcite infilled micro fractures, no visible porosity;
2085-2090:	LIMESTONE [100] - mottled brown to brown, microcrystalline, dense texture, hard, argillaceous, calcite infilled micro fractures, no visible porosity;
2090-2095:	LIMESTONE [100] - light brown to mottled brown, microcrystalline, in part mudstone, dense texture, hard, argillaceous, calcite infilled fractures, no visible porosity;
2095-2100:	LIMESTONE [100] - light brown to mottled brown to tan, microcrystalline, in part mudstone, dense texture, hard, argillaceous, no visible porosity;
2100-2105:	LIMESTONE [100] - light dark brown to mottled brown, microcrystalline, in part mudstone, dense texture, hard, argillaceous, calcite infilled fractures, no visible porosity;
2105-2110:	LIMESTONE [100] - buff to cream, microcrystalline, slight porcelaneous lustre, fractured, dense texture, hard, scattered very poor fracture porosity, no shows;
2110-2115:	LIMESTONE [100] - cream to tan to light brown, microcrystalline, partly mudstone, in part fractured, dense texture, slightly dolomitic, no visible porosity, no shows;

2115-2120: LIMESTONE [100] - cream to tan to light brown, microcrystalline, partly mudstone, dense texture, no visible porosity, no shows;

2120-2125: LIMESTONE [100] - cream to tan to light brown, microcrystalline, partly mudstone, dense texture, no visible porosity, no shows;

2125-2130: LIMESTONE [100] - cream to tan to light brown to slightly white, microcrystalline, partly mudstone, dense texture to partly chalky, shaley streaks, no visible porosity, no shows;

2130-2135: LIMESTONE [100] - light to dark brown to tan to slightly mottled brownish white, microcrystalline, partly mudstone, dense texture to partly chalky, argillaceous, no visible porosity, no shows;

2135-2140: LIMESTONE [100] - light to dark brown to mottled brownish white, microcrystalline, dense to partly chalky texture, hard, argillaceous, no visible porosity, no shows;

2140-2145: LIMESTONE [100] - light to dark brown to mottled brownish white, microcrystalline, dense to partly chalky texture, hard, argillaceous, no visible porosity, no shows;

WATT MOUNTAIN 2145.0 m (-1480.35)

2145-2150: LIMESTONE [100] - dark brown to blackish brown, mudstone to partly microcrystalline, earthy lustre, hard, argillaceous, no visible porosity, no shows;

SULFUR POINT 2153.0 m (-1488.35)

2150-2155: LIMESTONE [100] - dark brown to black, mudstone, earthy lustre, hard, argillaceous, minor brown shaley partings, no visible porosity, no shows;

2155-2160: LIMESTONE [100] - light to medium brown, mottled brownish white, partly microcrystalline, mudstone, dense to framental texture, hard, argillaceous, minor brown shaley partings, no visible porosity, no shows;

2160-2165: LIMESTONE [100] - light to medium brown, mottled brownish white, partly microcrystalline, mudstone, dense to framental texture, hard, argillaceous, dark brown shaley partings, no visible porosity, no shows;

2165-2170: LIMESTONE [100] - mottled light brownish white to brown, partly cryptocrystalline to microcrystalline, in part mudstone, dense to framental texture, hard, argillaceous, no visible porosity, no shows;

HORN RIVER 2171.0 m (-1506.35)

2170-2175: LIMESTONE [100] - mottled light to dark brownish white to brown, partly cryptocrystalline to microcrystalline, in part mudstone, dense to framental texture. hard, argillaceous, no visible porosity, no shows;

2175-2180: LIMESTONE [100] - mottled light to dark brownish white to brown, partly cryptocrystalline to microcrystalline, in part mudstone, dense to framental texture. hard, argillaceous, no visible porosity, no shows;

2180-2185: LIMESTONE [100] - dark grey to blackish brown to speckled, mudstone, dense texture, hard, argillaceous, shaley, calcaite infilled fractures, no visible porosity, no shows;

2185-2190: LIMESTONE [100] - dark grey to blackish brown to speckled to light brown, mudstone, dense texture, hard, argillaceous, shaley, calcaite infilled fractures, no visible porosity, no shows;

2190-2195: LIMESTONE [100] - light to dark brown to mottled brownish grey white, microcrystalline to partly vert fine crystalline, in part mudstone, dense to slight hackly texture, hard, argillaceous, shaley, no visible porosity, no shows;

2195-2200: LIMESTONE [100] - dark brown to greyish black, mudstone, dense texture, earthy lustre, hard, argillaceous, shaley, no visible porosity, no shows;

2200-2205: LIMESTONE [100] - dark brown to greyish black, mudstone, dense texture, earthy lustre, hard, argillaceous, shaley, no visible porosity, no shows;

2205-2210: LIMESTONE [100] - dark brown to greyish black, mudstone, dense texture, earthy lustre, hard, argillaceous, trace pyrite, shaley, no visible porosity, no shows;

2210-2215: LIMESTONE [100] - dark brown to greyish black, mudstone, dense texture, rare chalky white stringers, earthy lustre, hard, argillaceous, shaley, no visible porosity, no shows;

NAHANNI 2215.0 m (-1550.35)

2215-2220: LIMESTONE [100] - dark brown to mottled brownish white, in part microcrystalline, mudstone, dense to slight fragmented texture, earthy lustre, hard, argillaceous, shaley, no visible porosity, no shows;

2220-2225: LIMESTONE [100] - dark brown to mottled brownish white, in part microcrystalline, mudstone, dense to slight fragmented texture, earthy lustre, hard, argillaceous, no visible porosity, no shows;

2225-2230: LIMESTONE [100] - light to dark brown to brownish white, microcrystalline to partly very fine crystalline, in part mudstone, dense to slight fragmented texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2230-2235: LIMESTONE [100] - light to dark brown to brownish white, microcrystalline to partly very fine crystalline, in part mudstone, dense to slight fragmented texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2235-2240: LIMESTONE [100] - light to dark brown to mottled brownish white, microcrystalline, in part mudstone, dense to slight hackly texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2240-2245: LIMESTONE [100] - light to dark brown to tan, slightly microcrystalline, in part mudstone, dense texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2245-2250: LIMESTONE [100] - light to dark brown to tan, slightly microcrystalline, in part mudstone, dense texture, slight earthy lustre, hard, argillaceous, trace pyrite, minor calcite crystals, no visible porosity, no shows;

2250-2255: LIMESTONE [100] - light to dark brown to tan, slightly microcrystalline, in part mudstone, dense texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2255-2260: LIMESTONE [100] - light to dark brown, mudstone, dense texture, hard, argillaceous, shale partings, no visible porosity, no shows;

2260-2265: LIMESTONE [100] - light to dark brown to tan, mudstone, dense texture, earthy lustre, hard, argillaceous, trace pyrite, no visible porosity, no shows;

2265-2270: LIMESTONE [100] - light to dark brown to tan, mudstone, earthy lustre, dense texture, hard, argillaceous, calite infilled minor fractures, no visible porosity, no shows;

2270-2275: LIMESTONE [100] - mottled dark brown, partly microcrystalline, in part mudstone, dense texture, hard, partly argillaceous, calcite crystals, no visible porosity, no shows;

2275-2280: LIMESTONE [100] - mottled dark brown, partly microcrystalline, in part mudstone, dense texture, hard, argillaceous, calcite crystals, no visible porosity, no shows;

2280-2285: LIMESTONE [100] - medium to dark brown to partly mottled brown, partly microcrystalline, mudstone, dense texture, hard, argillaceous, no visible porosity, no shows;

HEADLESS 2285.0 m (-1620.35)

2285-2290: LIMESTONE [100] - medium to dark brown to partly mottled brown, partly microcrystalline, mudstone, dense to slight waxy texture, hard, argillaceous, no visible porosity, no shows, trace green pyritic waxy shale;

2290-2295: LIMESTONE [95] - medium to dark brown to partly mottled brown, partly microcrystalline, mudstone, dense to slight waxy texture, hard, argillaceous, no visible porosity, no shows;
SHALE [05] - green, waxy to smooth texture, firm, pyritic, blocky;

2295-2300: LIMESTONE [90] - medium to dark brown to partly mottled brown to greyish brown, partly microcrystalline, mudstone, dense to slight waxy texture, hard, argillaceous, no visible porosity, no shows;
SHALE [10] - green to greyish green, waxy to smooth texture, firm, pyritic, blocky;

2300-2306: LIMESTONE [70] - light brown to tan, mudstone, dense to slight waxy texture, hard, argillaceous, no visible porosity, no shows;
SHALE [30] - green to greyish green, waxy to smooth texture, firm, pyritic, blocky;

LANDRY 2306.0 m (-1641.35)

2305-2309: DOLOMITE [100] - white, cryptocrystalline to fine crystalline, partly euhedral to subhedral crystals, dense texture, partly bituminous, scattered very poor intercrystalline porosity, no shows;

2309-2315: DOLOMITE [100] - white, cryptocrystalline to fine crystalline, partly euhedral to subhedral crystals, dense texture, partly bituminous, scattered very poor intercrystalline porosity, no shows;

2315-2320: DOLOMITE [100] - white to light white grey, cryptocrystalline to fine crystalline, partly euhedral to subhedral crystals, dense texture, partly bituminous, scattered very poor intercrystalline porosity, no shows;

2320-2325: DOLOMITE [100] - white to light white grey, cryptocrystalline to fine crystalline, partly euhedral to subhedral crystals, dense texture, partly bituminous, scattered very poor intercrystalline porosity, no shows, contaminated with LCM;

2325-2330: DOLOMITE [100] - white to light white grey, cryptocrystalline to microcrystalline, dense texture, partly bituminous, rare very poor intercrystalline porosity, no shows, contaminated with LCM;

2330-2335: DOLOMITE [100] - white to smoky grey, cryptocrystalline, dense texture, partly bituminous, no visible porosity, no shows, contaminated with LCM;

ARNICA 2337.0 m (-1672.35)

2335-2340: DOLOMITE [100] - light brown to brownish grey to tan, cryptocrystalline to slightly microcrystalline, dense texture, partly argillaceous, no visible porosity, no shows;

2340-2345: DOLOMITE [100] - light brown to tan, cryptocrystalline to slightly microcrystalline, dense texture, partly argillaceous, no visible porosity, no shows;

2345-2350: DOLOMITE [100] - light brown to tan to partly mottled brownish white, cryptocrystalline to slightly microcrystalline, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;

2350-2355: DOLOMITE [100] - light to medium brown to tan to partly mottled brownish white, cryptocrystalline to slightly microcrystalline, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;

2355-2360: DOLOMITE [100] - light brown to tan, partly cryptocrystalline, grading to mudstone, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;

2360-2365: DOLOMITE [90] - light brown to tan, partly cryptocrystalline, grading to mudstone, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;
LIMESTONE [10] - offwhite, microcrystalline, chalky texture, soft, argillaceous, tight;

2365-2370: DOLOMITE [95] - light brown to tan, partly cryptocrystalline, grading to mudstone, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;
LIMESTONE [05] - offwhite, microcrystalline, chalky texture, soft, argillaceous, tight;

2370-2375: DOLOMITE [90] - light brown to grey, partly cryptocrystalline, grading to mudstone, dense texture, partly argillaceous, partly anhydritic, trace pyrite, no visible porosity, no shows;
LIMESTONE [10] - offwhite, microcrystalline, chalky texture, soft, argillaceous, tight;

2375-2380: DOLOMITE [90] - grey to greyish brown to dark grey, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part anhydritic, slightly calcareous, no visible porosity, no shows;
LIMESTONE [10] - greyish offwhite, microcrystalline, slightly chalky texture, firm, argillaceous, no visible porosity, no shows;

2380-2385: DOLOMITE [100] - light to dark grey to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, dolomitic shale partings, no visible porosity, no shows;

2385-2390: DOLOMITE [100] - greyish brown, mudstone, dense texture, argillaceous, no visible porosity, no shows;

2390-2395: DOLOMITE [100] - light to dark grey to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, no visible porosity, no shows;

2395-2400: DOLOMITE [90] - light to dark grey to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, no visible porosity, no shows;
LIMESTONE [10] - dark brown, cryptocrystalline, fragmental texture, altered, argillaceous, tight;

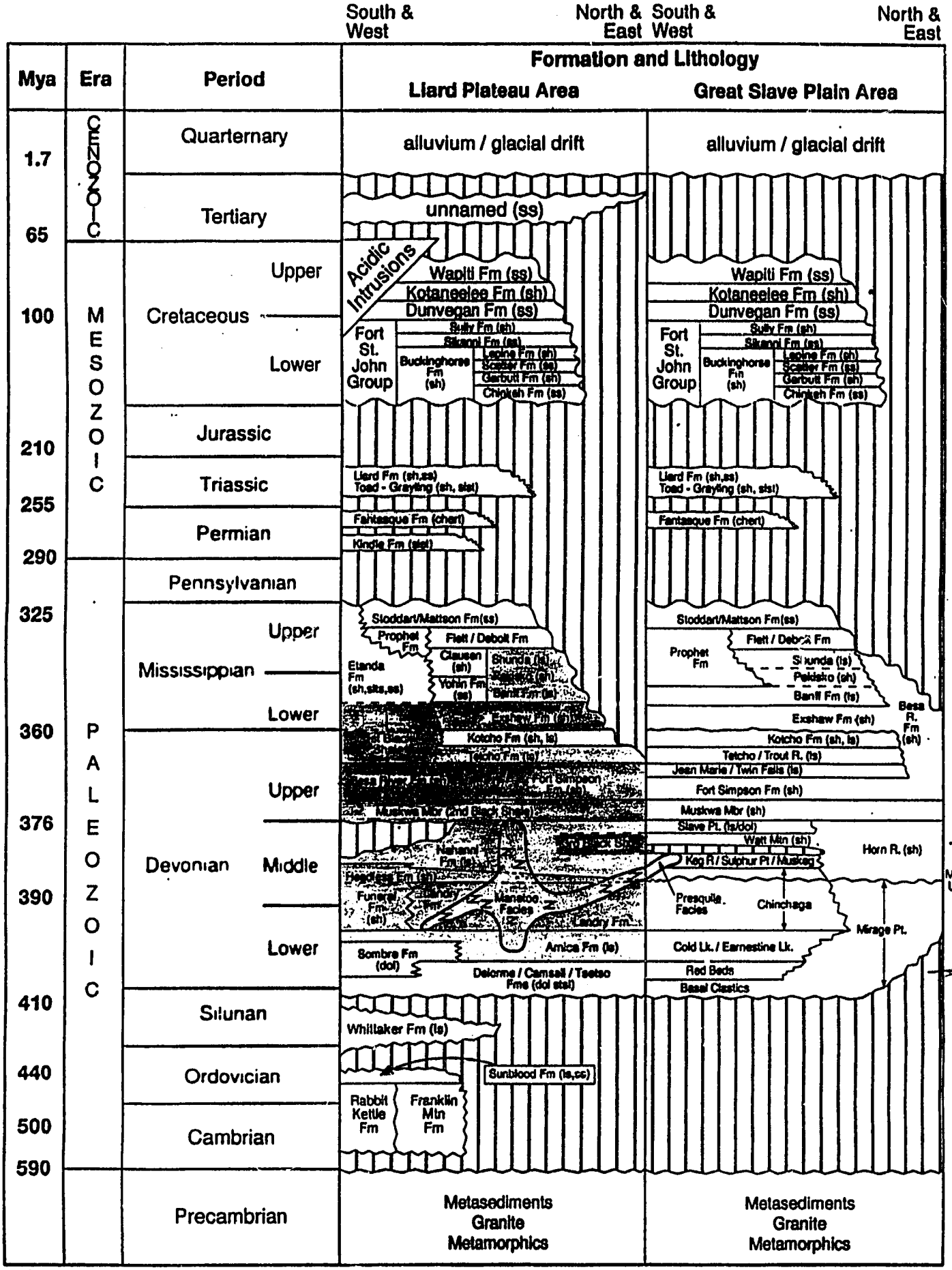
2400-2405: DOLOMITE [70] - light to dark grey to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, no visible porosity, no shows;
LIMESTONE [30] - dark brown, cryptocrystalline, fragmental texture, altered, argillaceous, tight;

2405-2408: DOLOMITE [70] - greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, slightly anhydritic, no visible porosity, no shows;
AHYDRITE [25] - offwhite to brownish orange, cryptocrystalline to microcrystalline, dense to chalky texture, tight;
LIMESTONE [05] - dark brown, cryptocrystalline, fragmental texture, altered, argillaceous, tight;

TOTAL DEPTH 2408.63 m FEBRUARY 24,1999 @ 22:00 hours

STRATIGRAPHIC COLUMN

Figure IV-1
Stratigraphic Chart



5. **WELL EVALUATION** Logs are in pockets at the back of binder

DOWNHOLE LOG SUMMARY
OPEN HOLE LOGS

DATE RUN	RUN #	TYPE	INTERVAL (m)
		BAKER HUGHES (ATLAS DIVISION)	
Feb 16/99	1	High Definition Induction Gamma Ray Caliper	500.5 - 2042.2
Feb 16/99	1	Compensated Z-Densilog,, Compensated Neutron Gamma Ray, X-Y Caliper	500.5 - 2035.2
Feb 16/99	1	Digital Acoustilog Gamma Ray, X-Y Caliper	SFC - 2050.6
Feb 16/99	2	Hexagonal Diplog, Gamma Ray, Stratagon Dip Analysis	2072 - 2385
Feb 16/99	2	Multipole Array Acoustilog, Gamma Ray, Caliper	2072 - 2392
Feb 25/99	2	High Definition Induction Gamma Ray Caliper	2072 - 2398.9
Feb 25/99	2	Compensated Z-Densilog,, Compensated Neutron, Gamma Ray, Caliper	2072 - 2391.4
Feb 25/99	2	Multipole Array Acoustilog, Gamma Ray, Caliper	2072 - 2392.9
Feb 25/99	2	Hexagonal Diplog, Gamma Ray	2072 - 2385
Mar 2/99		Cement Quality Plug	Plug 1 & 2

Other Logs: N/A

Synthetic Seismograms: N/A

Formation Stimulation: N/A

Formation & Production Tests: Three DSTs were run - reports are attached in this section
DST #1: 2299 - 2319 m Misrun
DST #2: 2299 - 2319 m Misrun
DST #3: 2306 - 2326 m

FORMATION TESTS

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 1

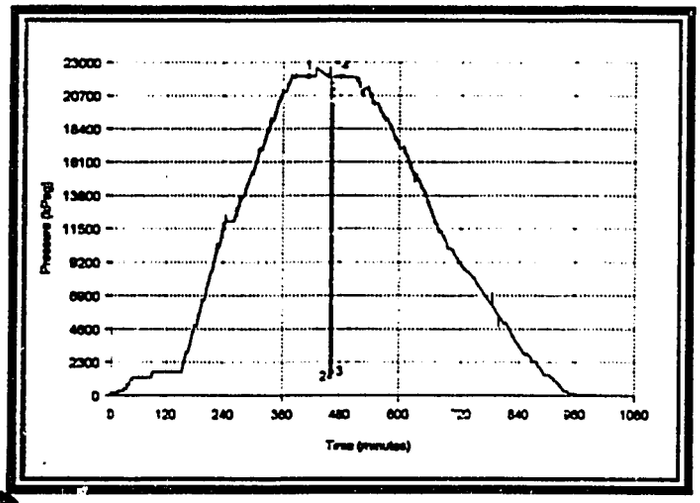
BAKER HUGHES

Baker Oil Tools

Formation: Tight Hole
Interval - from: 2,299.00 **to:** 2,319.00 meters

Test Date: 1999-02-26
Test Type : Inflate Straddle

Recorder# N60 at 2,301.00 meters



Blow Description:

PREFLOW: Weak air blow increasing to strong in 1 minute. No gas to surface.

Remarks:

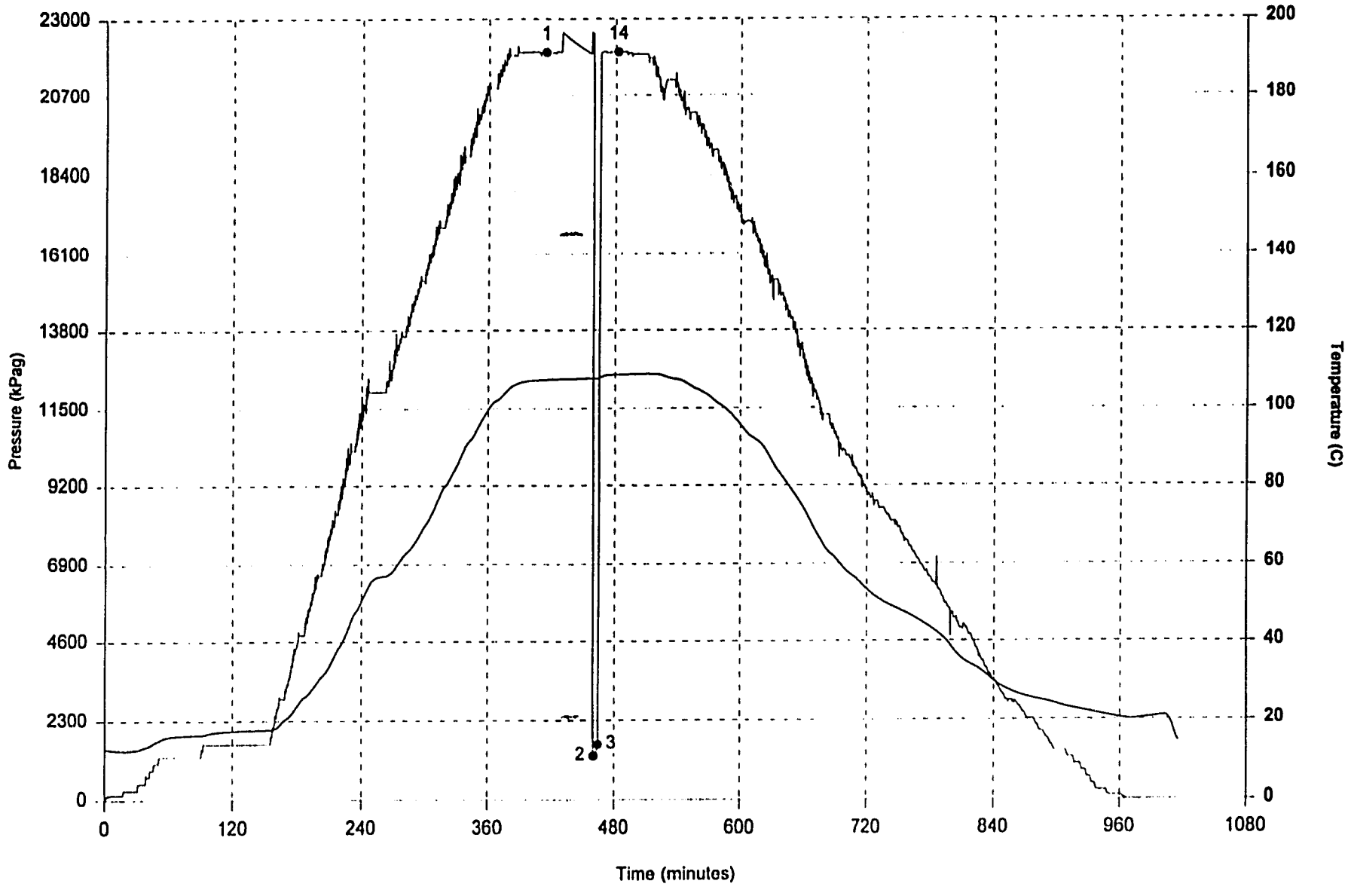
Misrun - lost the packer seat 4 minutes into the preflow. Unable to regain the seat.

Max Btm Hole Temperature @ FSI: 109.2 C

		Pressure (kPag)	*Time* (min)	*Extrapolated Pressure* (kPag)
1	Initial Hydrostatic	22002		
2	Start of 1st Flow	1242		
3	End of 1st Flow	1580	4.0	
14	Final Hydrostatic	22010		

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST #: 1
Recorder: N60

Pressure (kPag) at Critical Points:
1: 22002 14: 22010
2: 1242
3: 1580

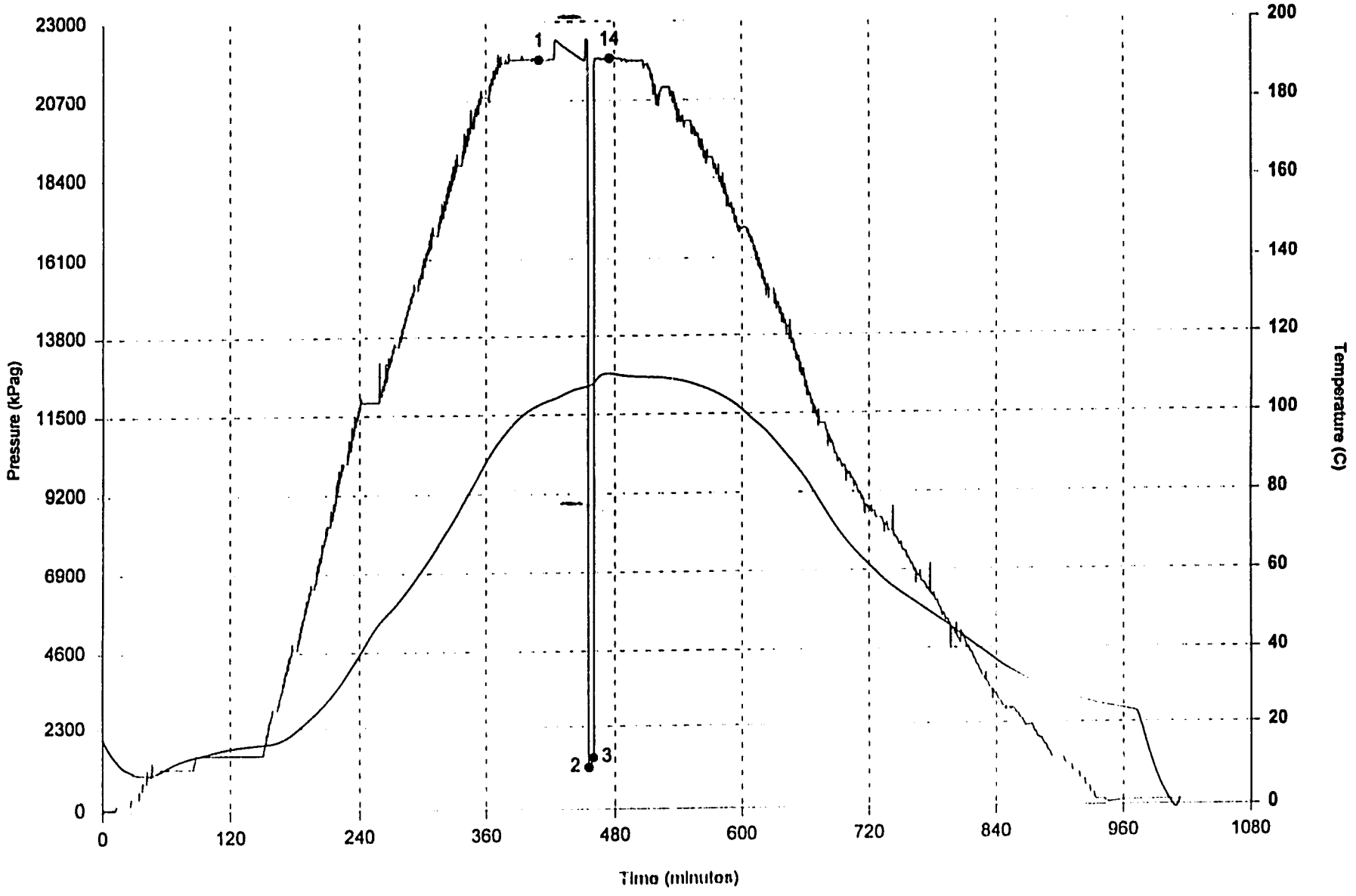


BAKER OIL TOOLS / LYNES DRILL STEM TESTING

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST #: 1
Recorder: N10

Pressure (kPag) at Critical Points:
1: 21887 14: 21914
2: 1117
3: 1391

Above Interval



BAKER OIL TOOLS / LYNES DRILL STEM TESTING

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 1

General Information:

Operator: Paramount Resources Ltd.
4000. 350 - 7th Avenue S.W.
Calgary Alberta T2P 3W5

Tester: Allan B
Ticket: 808893
Reverse Circulated? N
KB Elevation: 664.00 meters
Ground Elevat'n: 659.50 meters
Total Depth: 2,408.00 meters

Mud Data:

Weight: 950 kg/m3
Type: Invert
Viscosity: 44 s/l

Hole Data:

Drilled Hole Size: 156 mm
Hole Condition at Test Time: Good
Conditioned prior to this test? Y

Recorder Summary:

Recorder#	*Type*	*Position*	*Capacity*	*Units*	*Depth*	*Comments*
N19	ZI	Inside	34500	kPag	2,290.00	Above interval
22568	K-3	Outside	45700	kPag	2,301.00	
N60	ZI	Outside	34500	kPag	2,301.00	

Distributions:

Reports Sent To: Wayne Tomm

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 1

Tool Sequence:



Description	Length
Pump Out Sub	0.33 m
Double Pin Sub	0.30 m
Pump Out Sub	0.33 m
Recorder Carrier	1.38 m
Hydraulic Tool	1.50 m
Bottom Hole Sampler	1.03 m
Recorder Carrier	1.38 m
Hydraulic Jars	2.22 m
Safety Joint	0.65 m
Inflate Pump	2.38 m
Screen	1.16 m
Top Inflate Packer	1.78 m
Packer Stick Down	0.82 m
Port Sub	0.42 m
Recorder Carrier	2.06 m
Spacing	6.40 m
Cross Over Sub	0.30 m
Drill Collar	9.28 m
Cross Over Sub	0.30 m
Packer Stick Up	0.42 m
Bottom Inflate Packer	1.90 m
Perforations	0.61 m
Belly Spring	2.00 m

Tool String Length:	38.95 m
Drill Collar I.D.: 55 mm	105.27 m
Drill Pipe O.D.: 102 mm	2,193.72 m
Collar Pipe Total:	2,298.99 m
Stick Up:	14.43 m
Tool Above:	14.44 m
Interval Tested:	20.00 m
Bottom Hole Choke Size:	25.40 mm

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 1

Recorder# 22568

Depth: 2,301.00 m
Location: Outside

Recorder Type: K-3
Capacity: 45,700 kPag

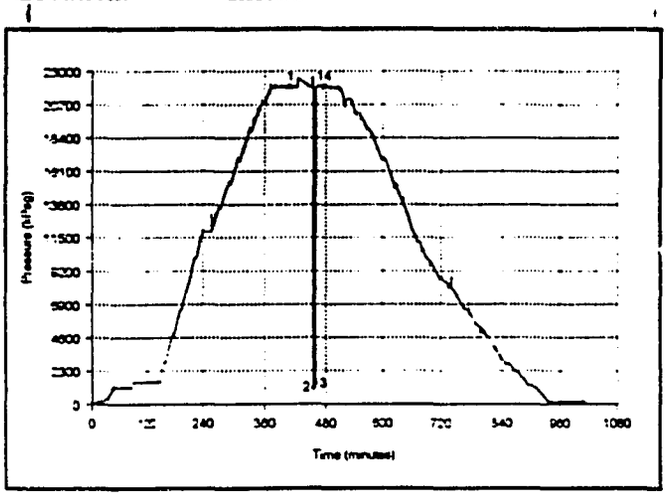
Stylus set light

		Pressure (kPag)	Time (min)
1	Initial Hydrostatic	22137	
2	Start of 1st Flow	1520	
3	End of 1st Flow	1561	4.0
14	Final Hydrostatic	22137	

Recorder# N19

Depth: 2,290.00 m
Temperature: 109.8 C
Location: Inside

Recorder Type: ZI
Capacity: 34,500 kPag
Comments: Above interval



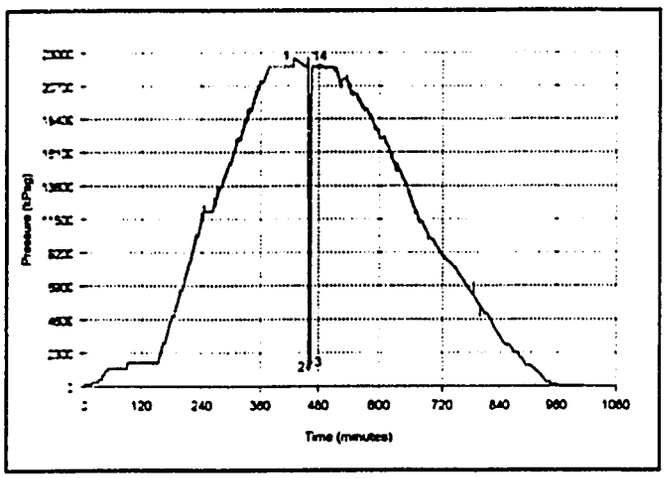
		Pressure (kPag)	Time (min)
1	Initial Hydrostatic	21887	
2	Start of 1st Flow	1112	
3	End of 1st Flow	1391	4.0
14	Final Hydrostatic	21914	

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 1

Recorder# N60

Depth: 2,301.00 m
Temperature: 109.2 C
Location: Outside

Recorder Type: ZI
Capacity: 34,500 kPag



		Pressure (kPag)	*Time (min)*
1	Initial Hydrostatic	22002	
2	Start of 1st Flow	1242	
3	End of 1st Flow	1580	4.0
14	Final Hydrostatic	22010	

BAKER HUGHES

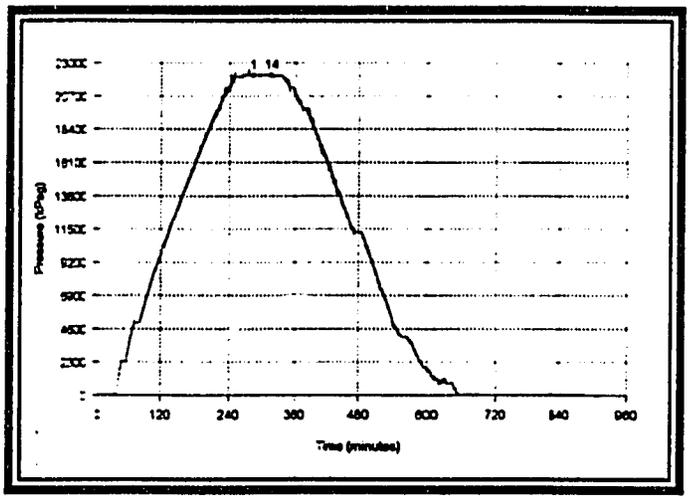
PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 2

Baker Oil Tools

Formation: Tight Hole
Interval - from: 2,299.00 **to:** 2,319.00 meters

Test Date: 1999-02-27
Test Type : Inflate Straddle

Recorder# N60 at 2,301.00 meters



Blow Description:

Misrun.

Remarks:

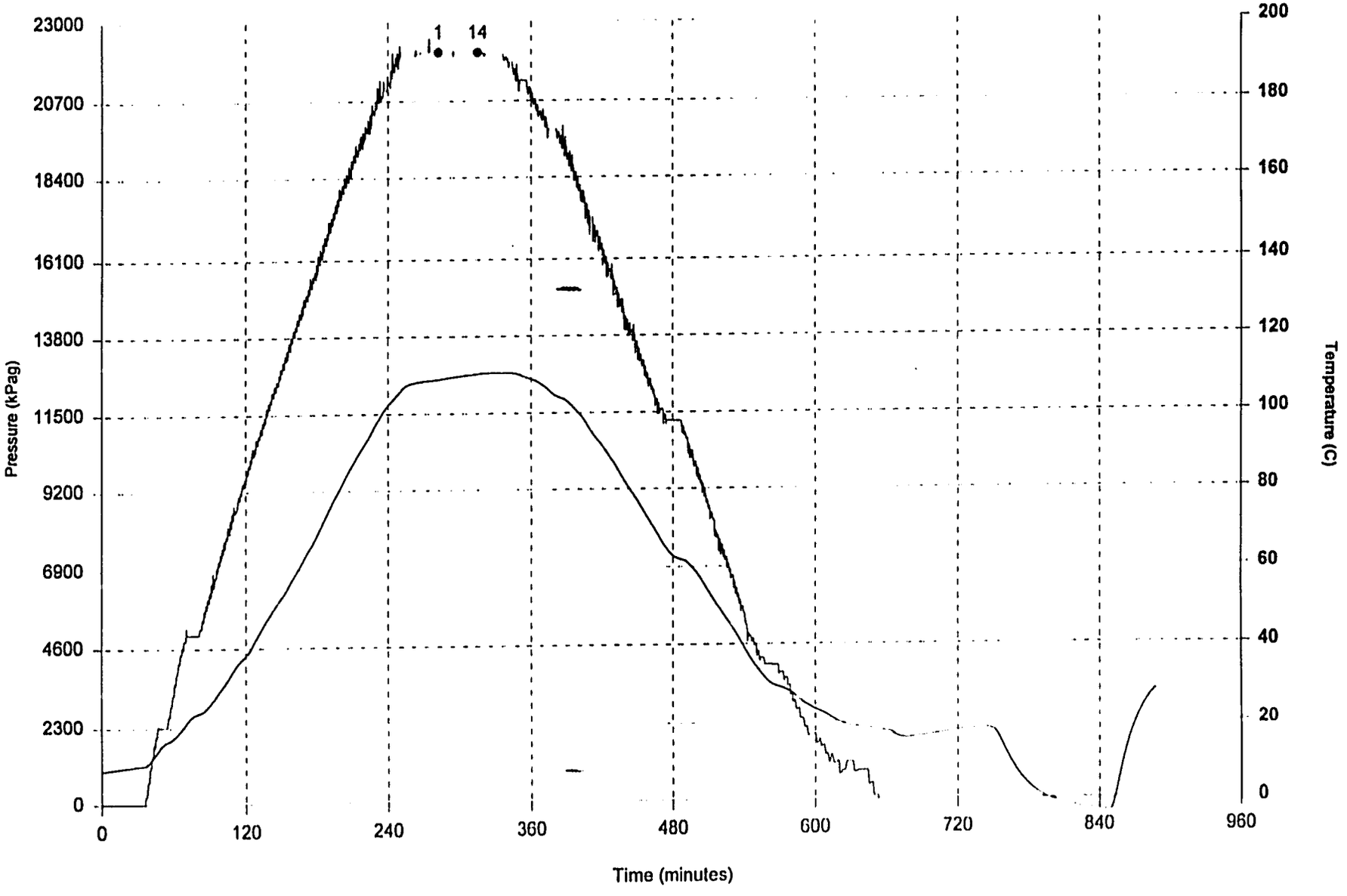
Misrun - unable to obtain a packer seat.

Max Btm Hole Temperature @ FSI: 110.9 C

		Pressure (kPag)	*Time* (min)	*Extrapolated Pressure* (kPag)
1	Initial Hydrostatic	22125		
14	Final Hydrostatic	22117		

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST #: 2
Recorder N00

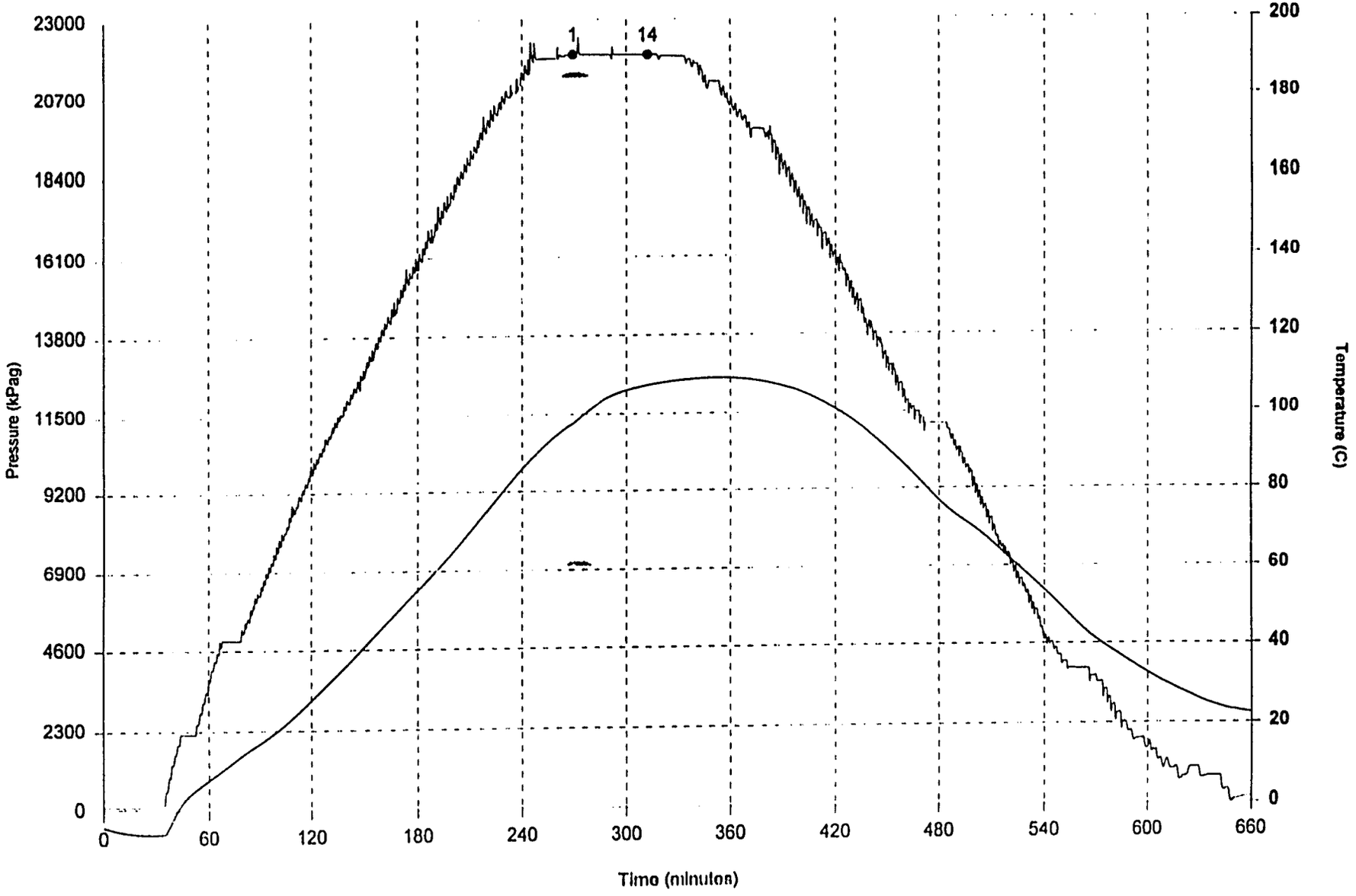
Pressure (kPag) at Critical Points:
1: 22125
14: 22117



PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST #: 2
Recorder: N19

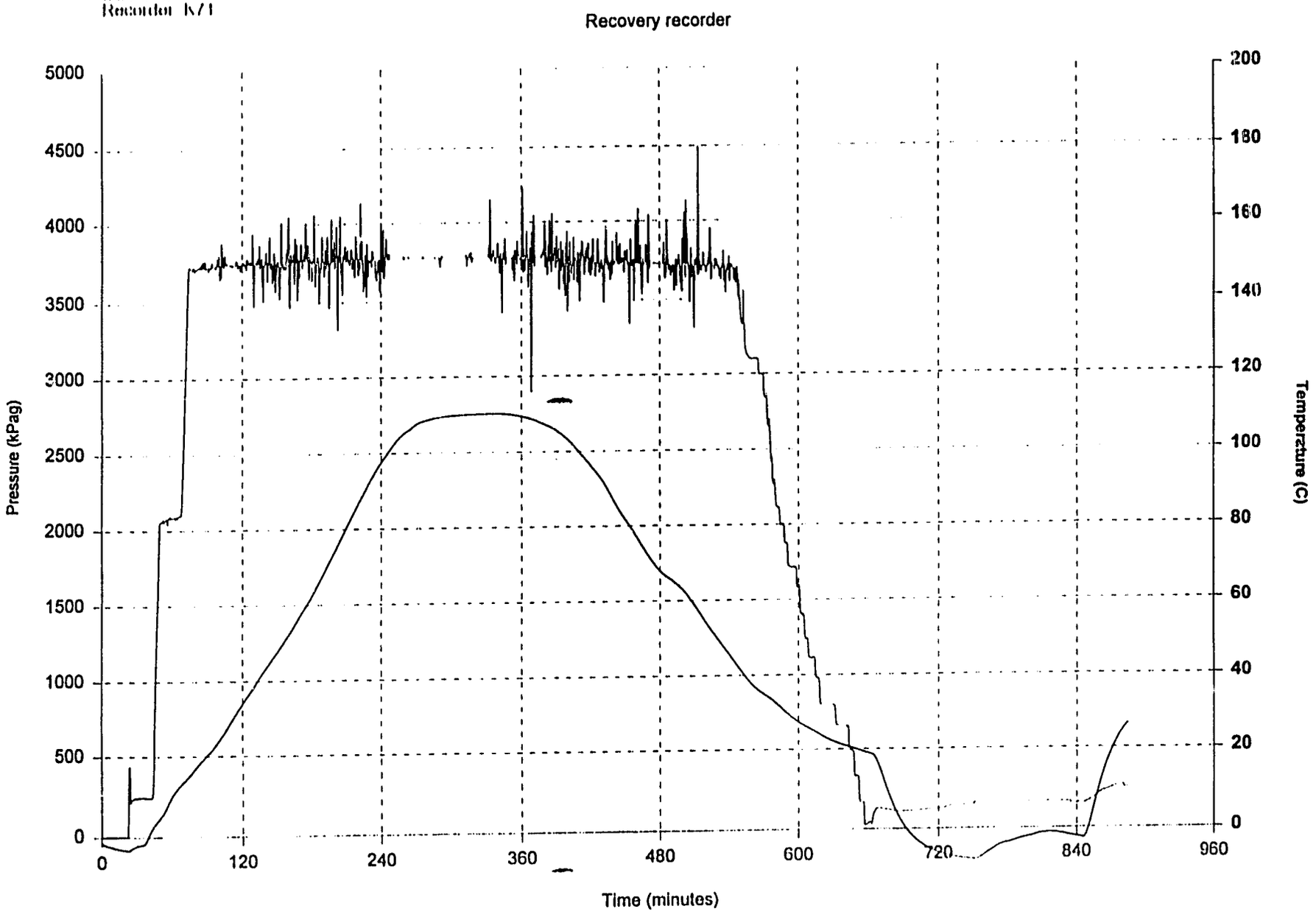
Pressure (kPag) at Critical Points:
1: 21983
14: 21962

Above Interval



BAKER OIL TOOLS / LYNES DRILL STEM TESTING

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST #: 2
Recorder: K/1



PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 2

General Information:

Operator: Paramount Resources Ltd.
4000, 350 - 7th Avenue S.W.
Calgary Alberta T2P 3W5

Tester: Allan B
Ticket#: 808894
Reverse Circulated? N
KB Elevation: 664.00 meters
Ground Elevat'n: 659.50 meters
Total Depth: 2,408.00 meters
Cushion: Diesel 484.00 meters

Mud Data:

Weight: 950 kg/m3
Type: Invert
Viscosity: 44 s/l

Hole Data:

Drilled Hole Size: 156 mm
Hole Condition at Test Time: Good
Conditioned prior to this test? Y

Recorder Summary:

Recorder=	*Type*	*Position*	*Capacity*	*Units*	*Depth*	*Comments*
K71	ZI	Inside	68900	kPag	2,287.00	Recovery recorder
N19	ZI	Inside	34500	kPag	2,290.00	Above interval
N60	ZI	Outside	34500	kPag	2,301.00	

Distributions:

Reports Sent To: Wayne Tomm

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 2

Tool Sequence:



Diagram	Description	Length
	Pump Out Sub	0.33 m
	Double Pin Sub	0.30 m
	Pump Out Sub	0.33 m
	Recorder Carrier	1.38 m
	Hydraulic Tool	1.50 m
	Bottom Hole Sampler	1.03 m
	Recorder Carrier	1.38 m
	Hydraulic Jars	2.22 m
	Safety Joint	0.65 m
	Inflate Pump	2.38 m
	Screen	1.16 m
	Top Inflate Packer	1.78 m
	Packer Stick Down	0.82 m
	Port Sub	0.42 m
	Recorder Carrier	2.06 m
	Spacing	6.40 m
	Cross Over Sub	0.30 m
	Drill Collar	9.28 m
	Cross Over Sub	0.30 m
	Packer Stick Up	0.42 m
	Bottom Inflate Packer	1.90 m
	Perforations	0.61 m
	Belly Spring	2.00 m

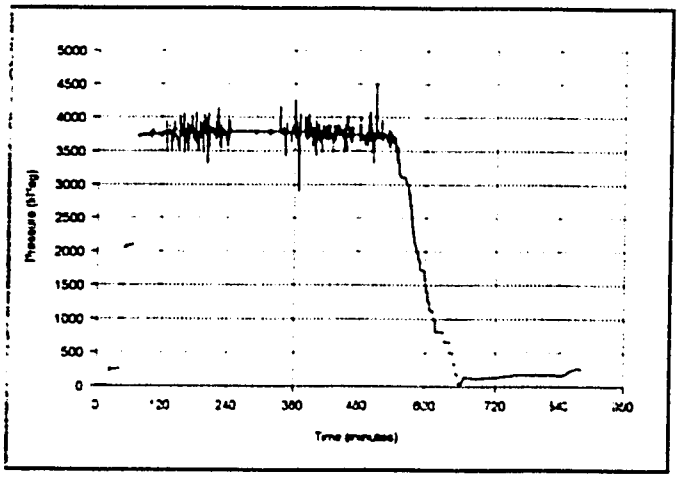
Tool String Length:		38.95 m
Drill Collar I.D.:	55 mm	105.27 m
Drill Pipe O.D.:	102 mm	2,193.72 m
Collar Pipe Total:		2,298.99 m
Stick Up:		14.43 m
Tool Above:		14.44 m
Interval Tested:		20.00 m
Bottom Hole Choke Size:		25.40 mm

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 2

Recorder# K71

Depth: 2,287.00 m
Temperature: 110.4 C
Location: Inside

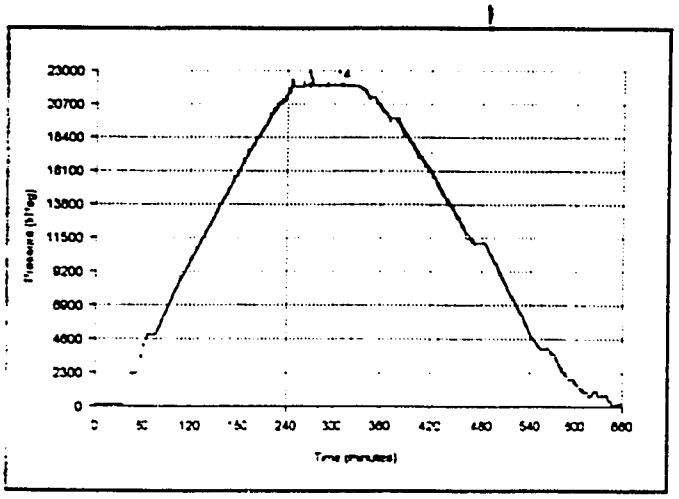
Recorder Type: ZI
Capacity: 68,900 kPag
Comments: Recovery recorder



Recorder# N19

Depth: 2,290.00 m
Temperature: 111.1 C
Location: Inside

Recorder Type: ZI
Capacity: 34,500 kPag
Comments: Above interval



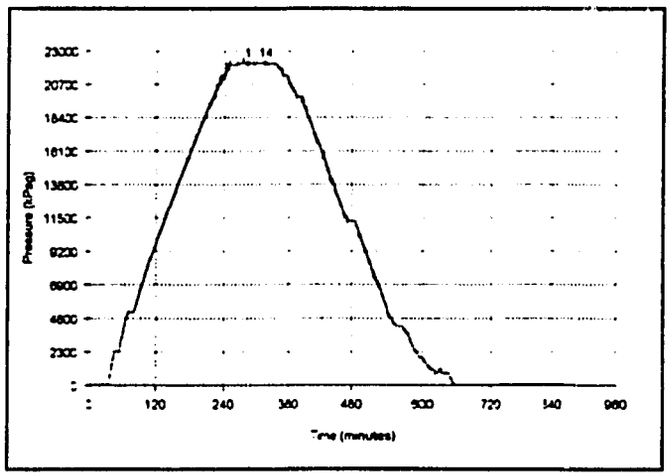
	Pressure (kPag)	Time (min)
1 Initial Hydrostatic	21983	
14 Final Hydrostatic	21962	

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 2

Recorder# N60

Depth: 2,301.00 m
Temperature: 110.9 C
Location: Outside

Recorder Type: ZI
Capacity: 34,500 kPag



		Pressure (kPag)	Time (min)
1	Initial Hydrostatic	22125	
14	Final Hydrostatic	22117	

BAKER HUGHES

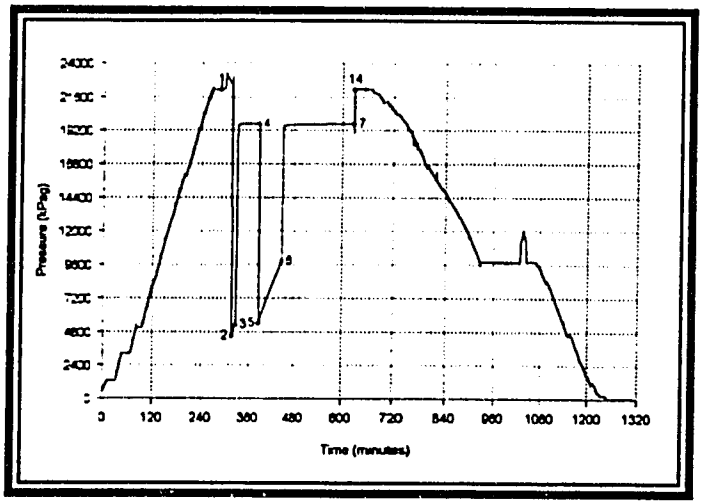
PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 3

Baker Oil Tools

Formation: Tight Hole
Interval - from: 2,306.00 **to:** 2,326.00 meters

Test Date: 1999-02-28
Test Type : Inflate Straddle

Recorder# N60 at 2,308.00 meters



Max Btm Hole Temperature @ FSI: 114.7 C

		Pressure (kPag)	*Time (min)*	*Extrapolated Pressure (kPag)*
1	Initial Hydrostatic	22089		
2	Start of 1st Flow	4471		
3	End of 1st Flow	5296	10.0	
4	End of 1st Shut-in	19647	58.0	19659.0
5	Start of 2nd Flow	5391		
6	End of 2nd Flow	9802	61.0	
7	End of 2nd Shut-in	19629	181.0	19653.6
14	Final Hydrostatic	22078		

Liquid Recovery 957.00 meters

Salinity : 190 000 g/m3

Recovery	*Description*
484.00 m	Diesel cusion
473.00 m	Salt water

Blow Description:

PREFLOW: Weak air blow increasing to strong in 7 minutes then steady throughout. No gas to surface.

FINAL FLOW: Weak air blow increasing to strong in 7 minutes then steady throughout. No gas to surface.

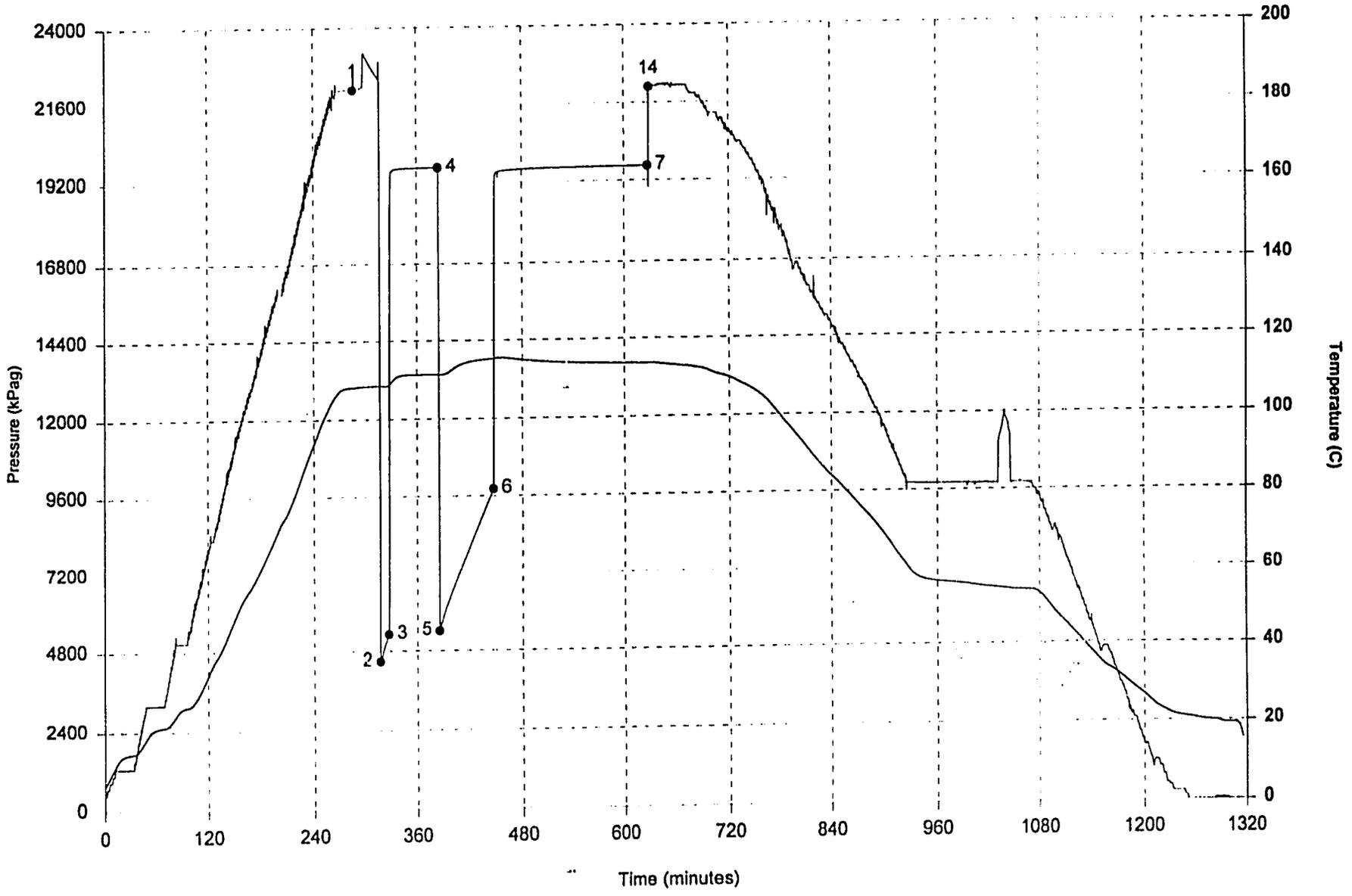
Remarks:

Mechanically successful test. Results suggest high permeability within the interval tested.

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST #: 3
Recorder: N80

Pressure (kPag) at Critical Points:

1:	22089	4:	19647	7:	19629
2:	4471	5:	5491	14:	22078
3:	5296	6:	9802		

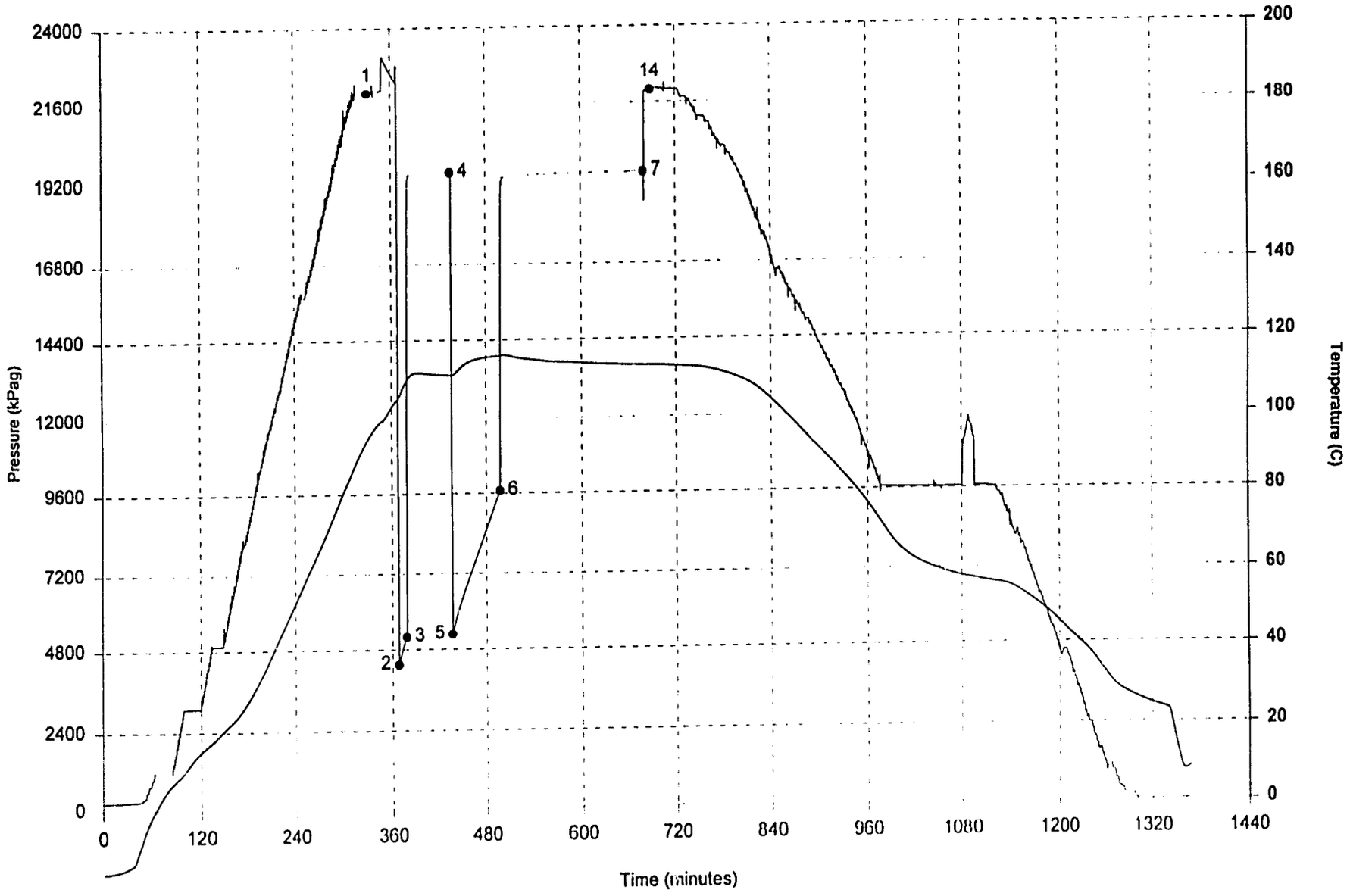


PARAMOUNT BERKLEY NETLA P-57
00/ 00.465 / 122.303 /0
DST #: 3
Recorder: N19

Above interval

Pressure (kPag) at Critical Points:

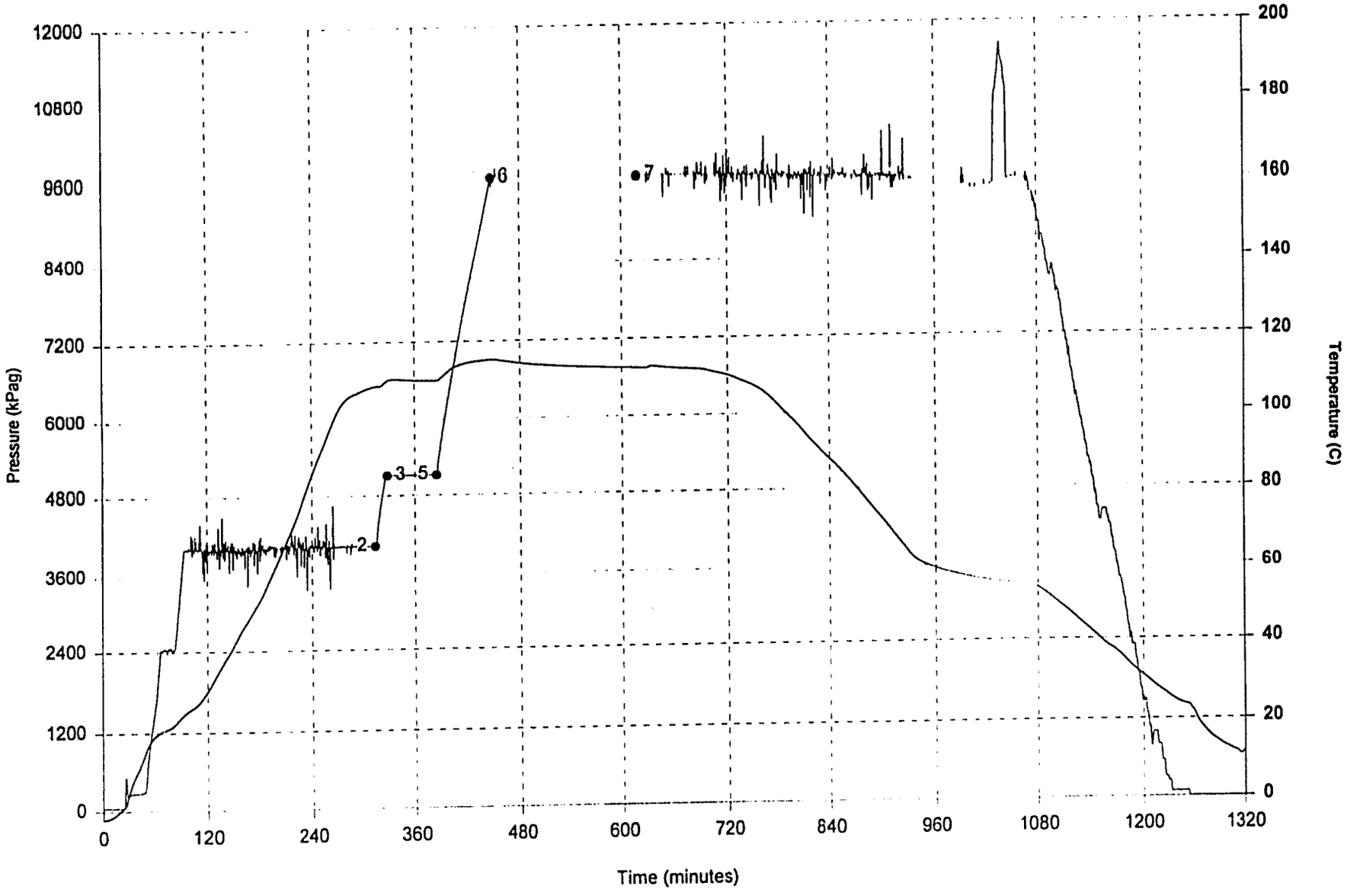
1:	21969	4:	19526	7:	19501
2:	4337	5:	5249	14:	21990
3:	51 0	6:	9671		



PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.303 /0
DST #: 3
Recorder: K71

Pressure (kPag) at Critical Points:
2: 4044 6: 9669
4: 5098 7: 9667
5: 5102

Recovery recorder



PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 3

General Information:

Operator: Paramount Resources Ltd.
4000, 350 - 7th Avenue S.W.
Calgary Alberta T2P 3W5

Tester: Allan B
Ticket#: 808895
Reverse Circulated? Y
KB Elevation: 664.00 meters
Ground Elevat'n: 659.50 meters
Total Depth: 2,408.00 meters
Cushion: Diesel 484.00 meters

Mud Data:

Weight: 950 kg/m3
Type: Invert
Viscosity: 44 s/l

Hole Data:

Drilled Hole Size: 156 mm
Hole Condition at Test Time: Good
Conditioned prior to this test? Y

Recorder Summary:

Recorder#	*Type*	*Position*	*Capacity*	*Units*	*Depth*	*Comments*
K71	ZI	Inside	68900	kPag	2,294.00	Recovery recorder
N19	ZI	Inside	34500	kPag	2,297.00	Above interval
22568	K-3	Outside	45700	kPag	2,308.00	
N60	ZI	Outside	34500	kPag	2,308.00	

Distributions:

Reports Sent To: Wayne Tomm
Fluid Samples - no of: 8 Sent To: Agat

Bottom Hole Sampler#	*Sent To*
Yes	Agat

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 3

Tool Sequence:



Description	Length
Pump Out Sub	0.33 m
Double Pin Sub	0.30 m
Pump Out Sub	0.33 m
Recorder Carrier	1.38 m
Hydraulic Tool	1.50 m
Bottom Hole Sampler	1.03 m
Recorder Carrier	1.38 m
Hydraulic Jars	2.22 m
Safety Joint	0.65 m
Inflate Pump	2.38 m
Screen	1.16 m
Top Inflate Packer	1.78 m
Packer Stick Down	0.82 m
Port Sub	0.42 m
Recorder Carrier	2.06 m
Spacing	6.40 m
Cross Over Sub	0.30 m
Drill Collar	9.28 m
Cross Over Sub	0.30 m
Packer Stick Up	0.42 m
Bottom Inflate Packer	1.90 m
Perforations	0.61 m
Belly Spring	2.00 m

Tool String Length:	38.95 m
Drill Collar I.D.: 55 mm	105.27 m
Drill Pipe O.D.: 102 mm	2,193.72 m
Collar Pipe Total:	2,298.99 m
Stick Up:	7.43 m
Tool Above:	14.44 m
Interval Tested:	20.00 m
Bottom Hole Choke Size:	25.40 mm

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 3
Recorder#N60

Build-up and Flow Curve Increments

Flow# 1

Chart Label	Time (min)	Pressure (kPag)
2	0.0	4471
	1.0	4559
	2.0	4640
	3.0	4740
	4.0	4858
	5.0	4932
	6.0	5008
	7.0	5079
	8.0	5149
	9.0	5221
3	10.0	5296

Shut-in# 1

Chart Label	Time (min)	Delta P (kPag)	Pressure (kPag)	Abscissa (T+dT)/dT	Used for Extrap
	0.0		5296		
	1.5	10844	16139	7.6667	
	3.0	14213	19509	4.3333	
	4.5	14274	19570	3.2222	
	6.0	14295	19591	2.6667	
	7.5	14304	19600	2.3333	
	9.0	14311	19606	2.1111	
	10.5	14315	19611	1.9524	
	12.0	14319	19615	1.8333	
	13.5	14322	19618	1.7407	
	15.0	14325	19621	1.6667	
	16.5	14327	19623	1.6061	
	18.0	14329	19625	1.5556	
	19.5	14331	19627	1.5128	
	21.0	14333	19629	1.4762	
	22.5	14334	19630	1.4444	*
	24.0	14335	19631	1.4167	*
	25.5	14337	19633	1.3922	*
	27.0	14338	19634	1.3704	*
	28.5	14339	19635	1.3509	*
	30.0	14340	19636	1.3333	*
	31.5	14341	19637	1.3175	*
	33.0	14341	19637	1.3030	*
	34.5	14342	19638	1.2899	*
	36.0	14343	19639	1.2778	*
	37.5	14344	19640	1.2667	*
	39.0	14344	19640	1.2564	*
	40.5	14345	19641	1.2469	*
	42.0	14346	19641	1.2381	*
	43.5	14346	19642	1.2299	*
	45.0	14347	19643	1.2222	*
	46.5	14347	19643	1.2151	*
	48.0	14348	19644	1.2083	*
	49.5	14349	19644	1.2020	*
	51.0	14349	19645	1.1961	*
	52.5	14349	19645	1.1905	*
	54.0	14350	19646	1.1852	*
	55.5	14350	19646	1.1802	*
	57.0	14350	19646	1.1754	*
4	58.0	14351	19647	1.1724	*

Note: Increment listing is filtered to include critical data only. Complete time/pressure data is available in electronic or printed format.

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 3
Recorder# N60

Build-up and Flow Curve Increments

Flow# 2

Chart Label	Time (min)	Pressure (kPag)
5	0.0	5391
	2.0	5582
	4.0	5777
	6.0	5964
	8.0	6125
	10.0	6287
	12.0	6444
	14.0	6601
	16.0	6754
	18.0	6907
	20.0	7050
	22.0	7199
	24.0	7343
	26.0	7488
	28.0	7629
	30.0	7767
	32.0	7908
	34.0	8045
	36.0	8182
	38.0	8319
	40.0	8453
	42.0	8586
	44.0	8719
	46.0	8850
	48.0	8981
	50.0	9110
	52.0	9241
	54.0	9369
	56.0	9493
	58.0	9617
	60.0	9740
6	61.0	9802

Shut-in# 2

Chart Label	Time (min)	Delta P (kPag)	Pressure (kPag)	Abscissa (T+dT)/dT	Used for Extrap
	0.0		9802		
	4.0	9687	19489	18.7500	
	8.0	9719	19521	9.8750	
	12.0	9734	19536	6.9167	
	16.0	9744	19547	5.4375	
	20.0	9752	19555	4.5500	
	24.0	9759	19561	3.9583	
	28.0	9765	19567	3.5357	
	32.0	9770	19572	3.2188	
	36.0	9774	19577	2.9722	
	40.0	9778	19581	2.7750	
	44.0	9782	19584	2.6136	
	48.0	9785	19587	2.4792	
	52.0	9788	19591	2.3654	
	56.0	9791	19593	2.2679	
	60.0	9793	19596	2.1833	
	64.0	9796	19598	2.1094	
	68.0	9798	19600	2.0441	*
	72.0	9800	19602	1.9861	*
	76.0	9802	19604	1.9342	*
	80.0	9804	19606	1.8875	*
	84.0	9805	19608	1.8452	*
	88.0	9807	19609	1.8068	*
	92.0	9808	19611	1.7717	*
	96.0	9810	19612	1.7396	*
	100.0	9811	19613	1.7100	*
	104.0	9812	19614	1.6827	*
	108.0	9813	19616	1.6574	*
	112.0	9814	19617	1.6339	*
	116.0	9815	19618	1.6121	*
	120.0	9816	19619	1.5917	*
	124.0	9817	19620	1.5726	*
	128.0	9818	19621	1.5547	*
	132.0	9819	19621	1.5379	*
	136.0	9820	19622	1.5221	*
	140.0	9821	19623	1.5071	*
	144.0	9821	19624	1.4931	*
	148.0	9822	19624	1.4797	*
	152.0	9823	19625	1.4671	*
	156.0	9823	19626	1.4551	*
	160.0	9824	19626	1.4438	*
	164.0	9825	19627	1.4329	*
	168.0	9825	19627	1.4226	*
	172.0	9825	19628	1.4128	*
	176.0	9826	19628	1.4034	*
	180.0	9826	19629	1.3944	*

Note: Increment listing is filtered to include critical data only. Complete time/pressure data is available in electronic or printed format.

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 3
Recorder# N60

Build-up and Flow Curve Increments

Flow# 2

Shut-in# 2

Chart Label	Time (min)	Delta P (kPag)	Pressure (kPag)	Abscissa (T+dT)/dT	Used for Extrap
7	181.0	9826	19629	1.3923	*

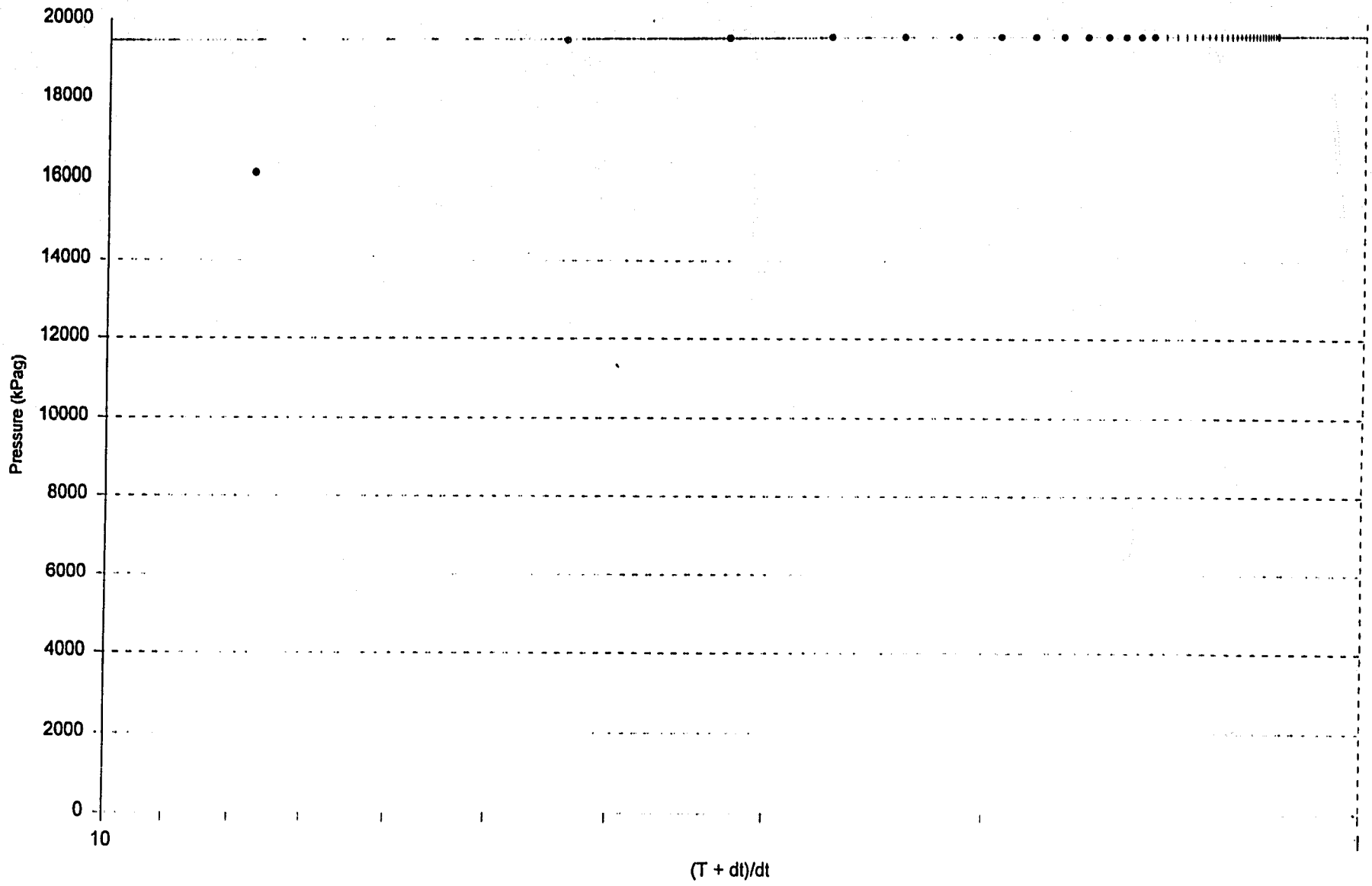
Horner Extrapolation:

Shut-in#	Extrapolated Pressure (kPag)	Extrapolated Slope ((kPag/cycle)
1	19659.0	185.21927
2	19653.6	172.31309

Note: Increment listing is filtered to include critical data only. Complete time/pressure data is available in electronic or printed format.

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST #: 3
Recorder: N60

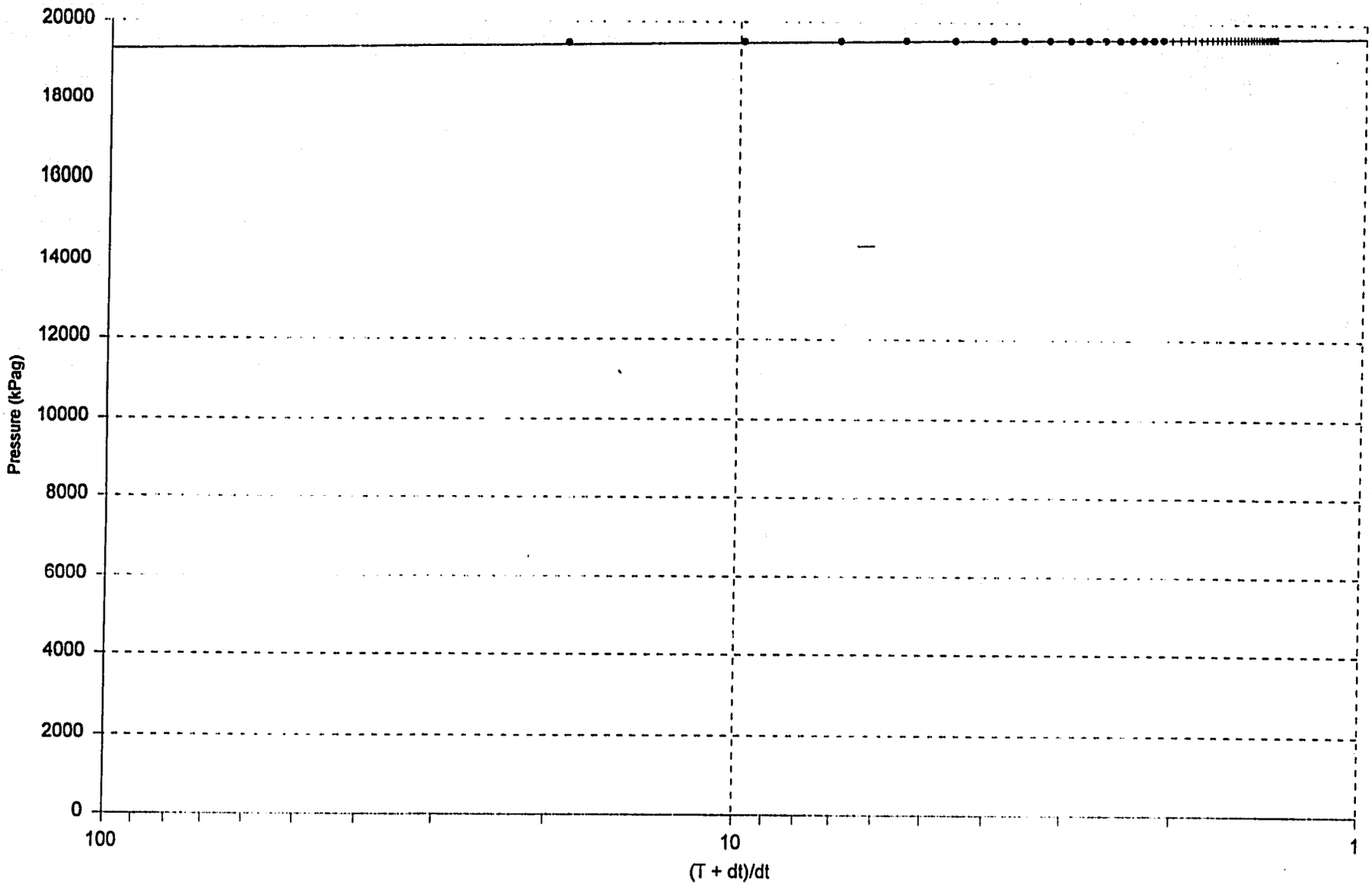
Shut-in #1
Slope = 185.22 kPag/cycle
Extrapolated Pressure = 19058.00 kPag



BAKER OIL TOOLS / LYNES DRILL STEM TESTING

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST #: 3
Recorder: N60

Shut-in #2
Slope = 172.31 kPag/cycle
Extrapolated Pressure = 19053.00 kPag

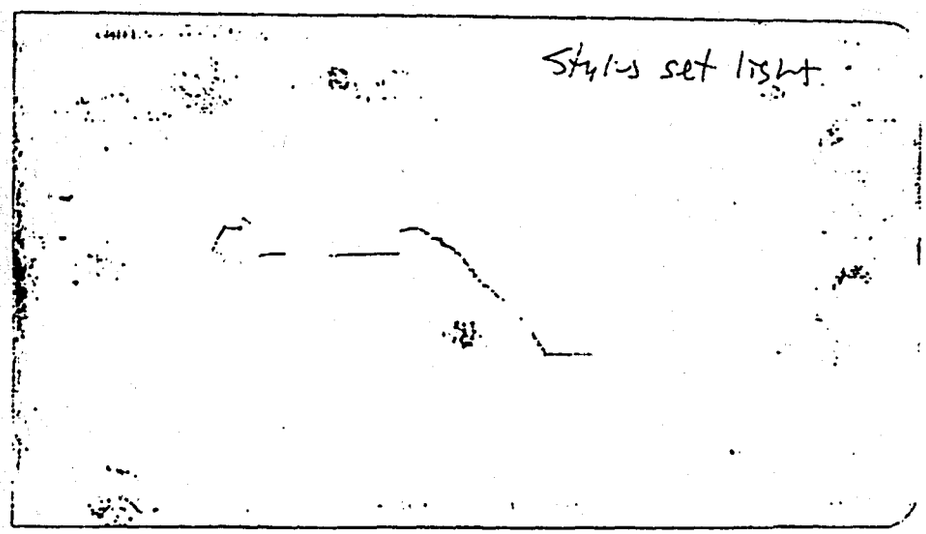


PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 3

Recorder# 22568

Depth: 2,308.00 m
Location: Outside

Recorder Type: K-3
Capacity: 45,700 kPag

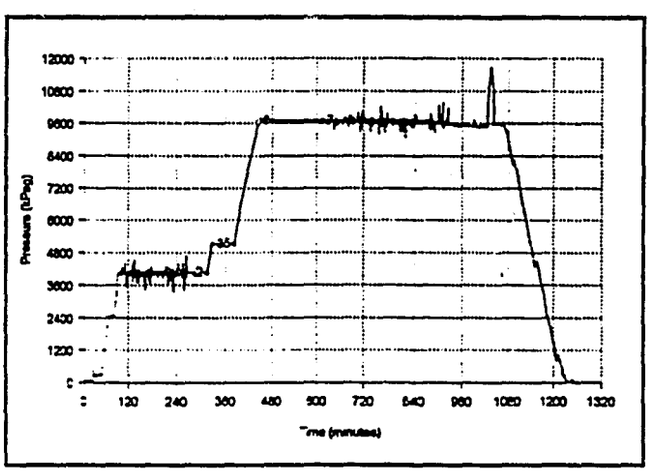


		Pressure (kPag)	Time (min)
1	Initial Hydrostatic	22028	
2	Start of 1st Flow	4656	
3	End of 1st Flow	4984	10.0
4	End of 1st Shut-in	19587	58.0
5	Start of 2nd Flow	5597	
6	End of 2nd Flow	9713	61.0
7	End of 2nd Shut-in	19528	181.0
14	Final Hydrostatic	22028	

Recorder# K71

Depth: 2,294.00 m
Temperature: 111.1 C
Location: Inside

Recorder Type: ZI
Capacity: 68,900 kPag
Comments: Recovery recorder



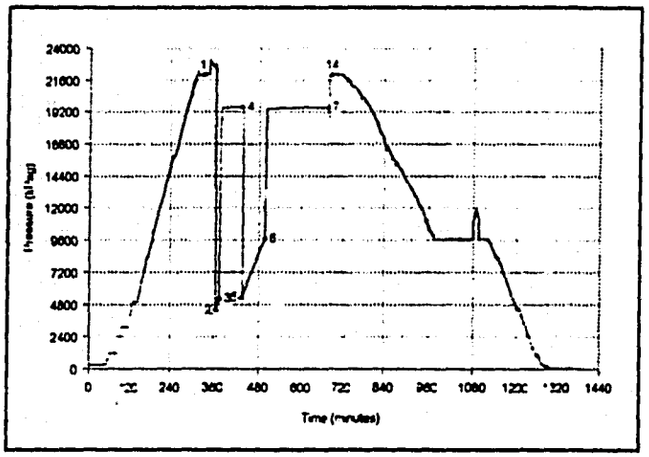
		Pressure (kPag)	Time (min)
2	Start of 1st Flow	4044	
3	End of 1st Flow	5098	10.0
5	Start of 2nd Flow	5102	
6	End of 2nd Flow	9669	61.0
7	End of 2nd Shut-in	9667	181.0

PARAMOUNT BERKLEY NETLA P-57
00/ 60.465 / 122.393 /0
DST# 3

Recorder# N19

Depth: 2,297.00 m
Temperature: 113.2 C
Location: Inside

Recorder Type: ZI
Capacity: 34,500 kPag
Comments: Above interval

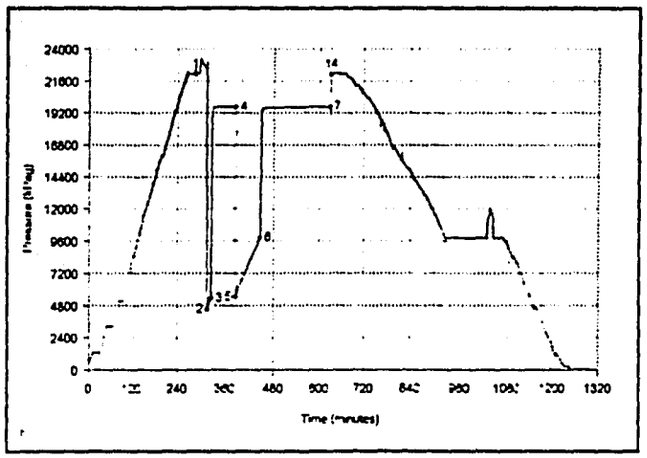


		Pressure (kPag)	*Time (min)*
1	Initial Hydrostatic	21969	
2	Start of 1st Flow	4337	
3	End of 1st Flow	5180	10.0
4	End of 1st Shut-in	19526	58.0
5	Start of 2nd Flow	5249	
6	End of 2nd Flow	9671	61.0
7	End of 2nd Shut-in	19501	181.0
14	Final Hydrostatic	21990	

Recorder# N60

Depth: 2,308.00 m
Temperature: 114.7 C
Location: Outside

Recorder Type: ZI
Capacity: 34,500 kPag



		Pressure (kPag)	*Time (min)*
1	Initial Hydrostatic	22089	
2	Start of 1st Flow	4471	
3	End of 1st Flow	5296	10.0
4	End of 1st Shut-in	19647	58.0
5	Start of 2nd Flow	5391	
6	End of 2nd Flow	9802	61.0
7	End of 2nd Shut-in	19629	181.0
14	Final Hydrostatic	22078	

6. ENVIRONMENTAL WELL REPORT

Was submitted with drilling application

7. APPENDICES TO WELL HISTORY REPORT

Oil, Gas & Water Analyses: (see attached)

Completion Data: N/A

Wellbore Diagram: (see attached)

OIL, GAS & WATER ANALYSES

AGAT Laboratories

WATER ANALYSIS

CONTAINER IDENTIFICATION: PB 1A

LABORATORY NUMBER: W36511A

OPERATOR NAME: PARAMOUNT RESOURCES LTD.

UNIQUE WELL IDENTIFIER:

WELL NAME: PARAMOUNT BERKLEY NETLA P-57

ELEVATIONS: KB 664.65 m, 659.50

FIELD OR AREA: NETLA

POOL OR ZONE:

NAME OF SAMPLER:

COMPANY: SAME

TEST TYPE: DST

NO: 10

TEST RECOVERY: FORMATION: LANDRY SP: DRILL PIPE#1

SAMPLING POINT: DRILL PIPE

AMT & TYPE OF CUSHION:

MUD RESISTIVITY: @ 25° C

TEST INTERVAL OR PERFS: 2299.00-2319.00 mKB

TYPE OF PRODUCTION: PUMPING | FLOWING | GAS LIFT | SWAB

PRODUCTION RATES: WATER m³/d | OIL m³/d | GAS 10³ m³/d

	SEPARATOR	TREATER	RESERVOIR	SOURCE	SAMPLED	RECEIVED
GAUGE PRESSURE kPa						
TEMPERATURE °C						

DATE SAMPLED (Y-M-D): 99-02-27

DATE RECEIVED (Y-M-D): 99-03-04

DATE REPORTED (Y-M-D): 99-03-11

ANALYST: LN NCO

OTHER INFORMATION: P-57

ION	mg/L	MASS FRACTION	mmol/L	ION	mg/L	MASS FRACTION	mmol/L
				Cl			
K				Br			
Ca				I			
Mg				HCO_3			
Ba				SO_4			
Sr				CO_3			
Fe				OH			
				H_2S			

DISSOLVED TOTAL SOLIDS mg/L

EVAPORATED AT 110° C:

EVAPORATED AT 180° C:

AT IGNITION:

CALCULATED:

RELATIVE DENSITY @ 25° C:

REFRACTIVE INDEX @ 25° C:

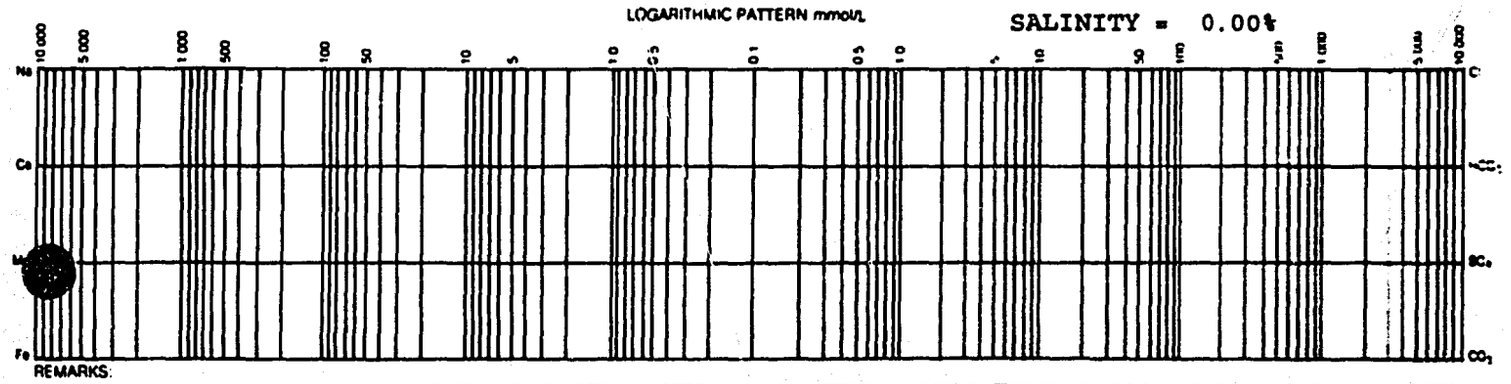
OBSERVED pH @ 25° C:

RESISTIVITY @ 25° C: 1.00 ohm·m

NSQ= Not Sufficient Quantity of Sample for Analysis.

LOGARITHMIC PATTERN mmol/L

SALINITY = 0.00%



REMARKS:

TRC+= LESS THAN 0.1 N.D.= NOT DETECTED NIL= 0.0 TRC*= LESS THAN 0.001 N.A.= NOT ANALYZED

AGAT Laboratories

WATER ANALYSIS

CONTAINER IDENTIFICATION: PB 5E

LABORATORY NUMBER: W365111E

OPERATOR NAME: PARAMOUNT RESOURCES LTD.

UNIQUE WELL IDENTIFIER:

WELL NAME: PARAMOUNT BERKLEY NETLA P-57

ELEVATIONS: KB m 664.65 GRD m 659.5

FIELD OR AREA: NETLA

POOL OR ZONE:

NAME OF SAMPLER:

COMPANY: SAME

TEST TYPE: DST

NO: 1

TEST RECOVERY: FORMATION: LANDRY SP: DRILL STEM TOOL #5

SAMPLING POINT: DRILL COLLAR

AMT & TYPE OF CUSHION:

MUD RESISTIVITY Ω m @ 25° C:

TEST INTERVAL OR PERFS: 2299.00-2319.00 mKB

TYPE OF PRODUCTION: PUMPING | FLOWING | GAS LIFT | SWAB

PRODUCTION RATES: WATER m³/d | OIL m³/d | GAS 10³ m³/d

	SEPARATOR	TREATER	RESERVOIR	SOURCE	SAMPLED	RECEIVED
GAUGE PRESSURE kPa						
TEMPERATURE °C						

DATE SAMPLED (Y-M-D): 99-02-27

DATE RECEIVED (Y-M-D): 99-03-04

DATE REPORTED (Y-M-D): 99-03-11

ANALYST: LN NCO

OTHER INFORMATION: P-57

ION	mg/L	MASS FRACTION	mmol/L
[redacted]	42700.0	0.216	1860.0
K	4390.0	0.022	112.0
Ca	24900.0	0.126	621.0
Mg	1.1	TRC*	TRC+
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	1.3	TRC*	TRC+

ION	mg/L	MASS FRACTION	mmol/L
Cl	125000.0	0.632	3530.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO_3	351.0	0.002	5.7
SO_4	186.0	0.001	1.9
CO_3	315.0	0.002	5.3
OH	NIL	NIL	NIL
H_2S	N.D.	N.D.	N.D.

DISSOLVED

TOTAL SOLIDS mg/L

EVAPORATED AT 110° C:

EVAPORATED AT 180° C:

AT IGNITION:

CALCULATED: 198000.0

RELATIVE DENSITY: 1.157 @ 25° C

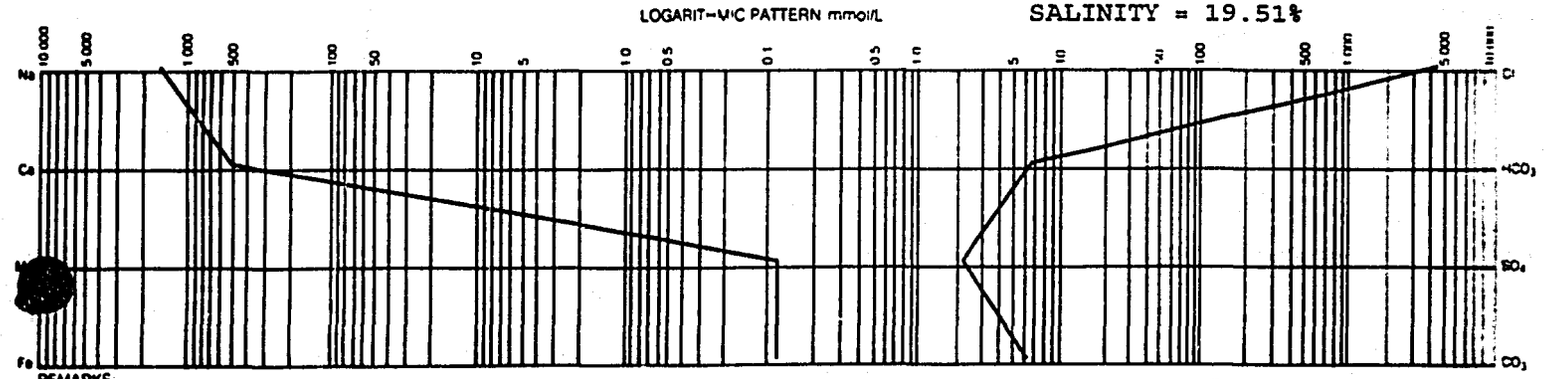
REFRACTIVE INDEX: N.A. @ 25° C

OBSERVED pH: 9.61 @ 25° C

RESISTIVITY OHM·m: 0.05 @ 25° C

LOGARITHMIC PATTERN mmol/L

SALINITY = 19.51%



REMARKS

TRC+= LESS THAN 0.1 N.D.= NOT DETECTED NIL= 0.0 TRC*= LESS THAN 0.001 N.A.= NOT ANALYZED

AGAT Laboratories

WATER ANALYSIS

CONTAINER IDENTIFICATION: PB 3C

LABORATORY NUMBER: W36511C

OPERATOR NAME: PARAMOUNT RESOURCES LTD.

UNIQUE WELL IDENTIFIER:

WELL NAME: PARAMOUNT BERKLEY NETLA [redacted] P-57

ELEVATIONS: KB m 664.65 GR m 659.50

FIELD OR AREA: NETLA

POOL OR ZONE:

NAME OF SAMPLER:

COMPANY: SAME

TEST TYPE: DST

NO: 1

TEST RECOVERY: FORMATION: LANDRY SP: DRILL COLLARS#3

SAMPLING POINT: DRILL COLLAR

AMT & TYPE OF CUSHION:

MUD RESISTIVITY: @ 25° C

TEST INTERVAL OR PERFS: 2299.00-2319.00 mKB

TYPE OF PRODUCTION: PUMPING | FLOWING | GAS LIFT | SWAB

PRODUCTION RATES: WATER m³/d | OIL m³/d | GAS 10³ m³/d

	SEPARATOR	TREATER	RESERVOIR	SOURCE	SAMPLE	RECEIVE
GAUGE PRESSURE kPa						
TEMPERATURE °C						

DATE SAMPLED (Y-M-D): 99-02-27

DATE RECEIVED (Y-M-D): 99-03-04

DATE REPORTED (Y-M-D): 99-03-11

ANALYST: LN NCO

OTHER INFORMATION: P-57

ION	mg/L	MASS FRACTION	mmol/L
[redacted]			
K			
Ca			
Mg			
Ba			
Sr			
Fe			

ION	mg/L	MASS FRACTION	mmol/L
Cl	130000.0	1.000	3680.0
Br			
I			
HCO_3			
SO_4			
CO_3			
OH			
H_2S			

DISSOLVED TOTAL SOLIDS mg/L

EVAPORATED AT 110° C:

EVAPORATED AT 180° C:

AT IGNITION:

CALCULATED:

RELATIVE DENSITY @ 25° C:

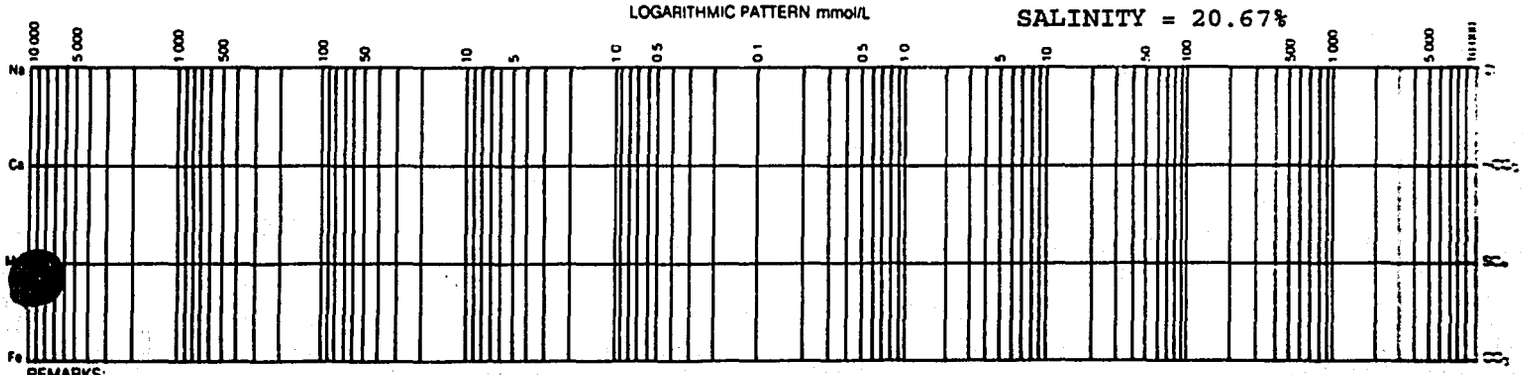
REFRACTIVE INDEX @ 25° C:

OBSERVED pH @ 25° C:

RESISTIVITY OHM-m @ 25° C: 0.07 @ 25° C

LOGARITHMIC PATTERN mmol/L

SALINITY = 20.67%



REMARKS:

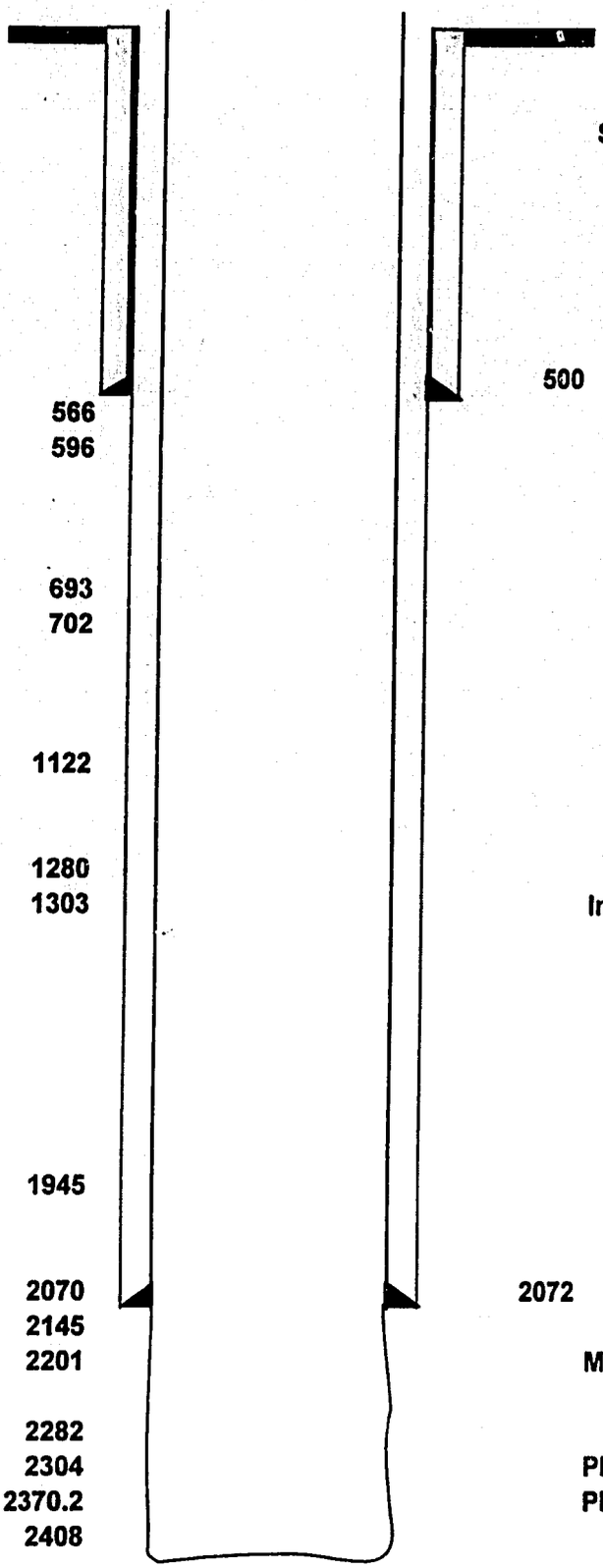
TRC+= LESS THAN 0.1 N.D.= NOT DETECTED NIL= 0.0 TRC*= LESS THAN 0.001 N.A.= NOT ANALYZED

WELLBORE DIAGRAM

PARAMOUNT BERKLEY NETLA P-57
ACTUAL (as of April, 1999)

LOG TOPS

SCATTER	566
GARBUTT	596
EXSHAW	693
KOTCHO	702
TETCHO	1122
KAKISA	1280
FT. SIMPSON	1303
MUSKWA	1945
SLAVE POINT	2070
WATT MTN	2145
DEVONIAN	2201
HEADLESS	2282
LANDRY	2304
ARNICA	2370.2
TOTAL DEPTH	2408



Surface Hole: Drilled 444 mm hole to 500 m. Ran 339 mm 81.1 kg/m, K55, ST&C casing to 500 m KB. Cemented to surface.

Intermediate Hole: Drilled 222 mm hole to 2072 m. Ran 177 mm 34,2 kg/m, L80 LT&C casing to 2072 m KB. Calculated cement top 450 m KB.

Main Hole: Drilled 156 mm hole to 2408 m KB.

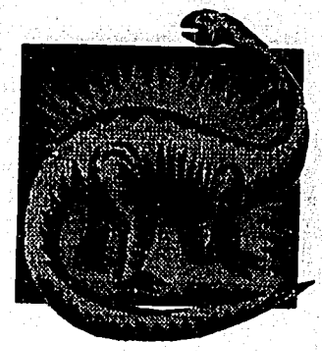
Plug #2: 1970 - 2203 m KB
Plug #1: 2203 - 2408 m KB

GEOLOGICAL REPORT

PRECEDING
DOCUMENT(S)
MAY BE OF
POOR
QUALITY

N.E.B. COPY

PARAMOUNT BERKLEY
NETLA P-57



HIGHWOOD WELLSITE SERVICES INC.

GEOLOGIST: JEFF BOULTER

41 RIVERVIEW CIRCLE

(403) 932-2916

COCHRANE ALBERTA

MARCH 01 1999

PARAMOUNT BERKLEY

NETLA P-57

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SAMPLE RECORD:

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WELL HISTORY STRIPLOG:	**Back Pocket**

PARAMOUNT BERKLEY NETLA P 57

DRILLING SUMMARY

WELL NAME: Paramount Berkley Netla P-57 **LOCATION:** M-23 60 Deg 50' 123Deg 00'

ELEVATION: Grd.: 659.5 m KB: 664.65 m. **Final Total Depth:** 2408.63 m

SURFACE CO-ORDINATES: Lat: 60 42' 58.402" Long: 123 05' 12.126"

SPUD DATE: January 27, @ 01:00 hrs. **WELL STATUS:** gas well

CONTRACTOR: Precision Drilling Corporation **RIG No:** 379

HOLE DATA:

SURFACE	444.5 mm.	To	501.0 m.	No. of Bits Used: 5
INTERMEDIATE	222.0 mm.	To	2072.0 m.	No. of Bits Used: 2
MAIN	156 mm	To	2408.63 m	No. of Bits Used: 2

CASING DATA:

SURFACE: 339.7 mm. OD Wt.: 81.18 kg/m K-55 Landed @ 501.0 m KB

CEMENTED WITH: 62.0 tonnes of Class "G" cement + 1.0 % CaCl2

INTERMEDIATE: 177.8 mm OD Wt.: 34.22 kg/m 8 LTC L-80 Landed @ 2072.0 m KB

CEMENTED: 14.4 tonnes of 1-1-2 Class "G" & 19.2 tonnes 0-1-0 Class G

GEOLOGICAL MARKERS

KB Elev.: 664.65 m.

FORMATION	PROGNOSIS	SAMPLE	LOG md	SUBSEA
Scatter	557.65	570.0	567.0	97.65
Garbutt	586.65	599.0	598.0	66.65
Exshaw	680.65	693.0	693.0	-28.35
Kotcho	685.65	702.0	702.5	-37.85
Tetcho	1033.65	1123.0	1122.0	-457.35
Kakisa	1201.65	1283.0	1280.0	-615.35
Ft. Simpson	1228.65	1310.0	1305.0	-640.35
Muskwa	1964.65	1945.0	2045.0	-1380.35
Slave Point	1994.65	2070.0	2069.5	-1404.85
Watt Mtn	2086.65	2145.0	2142.0	-1477.35
Sulfur Point	2094.65	2153.0	2154.0	-1489.35
Horn River	2112.65	2171.0	2169.5	-1504.85
Nahanni	2152.65	2215.0	2201.0	-1536.35
Headless	2237.65	2285.0	2287.0	-1622.35
Landry	2260.65	2306.0	2304.5	-1639.85
Arnica	2286.65	2337.0	2337.0	-1672.35
Pre-Dev Qtzite	2332.65			
Total Depth	2357.65	2408.6	2401.4	-1736.75

LOGGING SUMMARY

LOG TYPE	INTERVAL	SCALE
SONIC/GR	0.0 - 2401.0	1: 600, 1: 240
GR/DENSITY/NEUTRON	501.0 - 2401.4	1: 600, 1: 240
HDIL/GR	501.0 - 2400.4	1: 600, 1: 240
HEXDIP LOG	2072.0 - 2400.4	1: 600, 1: 240

Logging Services By: BAKER ATLAS

DRILLING HISTORY

DATE	8AM DEPTH	MUD PROPERTIES WT.	VIS.	W.L	pH	OPERATIONS CONDUCTED
Jan 24	0	-	-	-	-	Tear out rig and move camp
Jan 25	0	-	-	-	-	Move rig
Jan 26	0	-	-	-	-	Rig up to spud, drill and cement conductor pipe
Jan 27	26	1050	45	-	-	Spud 311 mm pilot hole, wash out in conductor pipe, cement conductor pipe and wait on cement
Jan 28	27	1050	43	-	-	Wait on cement, drill out mouse hole and conductor pipe, drill ahead 311 mm pilot hole
Jan 29	187	1060	41	-	-	Drill 311 mm pilot hole and survey
Jan 30	357	1080	40	-	-	Work mud ring, pull out of hole and run in hole, drill ahead 311 mm pilot hole and survey
Jan 31	500	1100	41	-	-	Drilled pilot hole to casing point, pull out and change out kelly, run in and drill ahead 444.5 mm surface hole
Feb 01	99	1090	34	-	-	Drill ahead 444.5 mm hole and survey,pull out to change bit, drill ahead
Feb 02	259	1060	45	-	-	Drill ahead 444.5 mm surface hole, trip for mud ring, drill ahead
Feb 03	445	1110	57	-	-	Drill ahead 444.5 mm hole and survey, wiper trip, pull tight, back ream, drill ahead
Feb 04	500	1115	90	-	-	Drill ahead 444.5 mm hole and survey, wiper trip, circulate to condition hole, pull out to run casing, cement casing
Feb 05	500	1120	64	-	-	Weld casing bowl, nipple up, tear out diverter
Feb 06	501	1120	60	-	-	Pressure test, run in hole and lay down 4.5" pipe, displace hole with invert, pull out and run with bit
Feb 07	552	940	54	-	-	Finish running in hole, drill out cement, drill ahead 222 mm hole
Feb 08	752	945	57	-	-	Drill ahead 222 mm hole and survey

Feb 09	863	940	56	-	-	Drill to 901.0 m, pull out to pick up directional tools, run in hole
Feb 10	925	940	60	-	-	Directional drill 222 mm hole
Feb 11	1168	940	57	-	-	Directional drill 222 mm hole, motor failure, pull out of hole, pick up motor, run in hole, directional drill
Feb 12	1275	910	48	-	-	Directional drill 222 mm hole
Feb 13	1500	940	46	-	-	Directional drill 222 mm hole
Feb 14	1721	940	48	-	-	Directional drill 222 mm hole
Feb 15	1941	940	47	-	-	Directional drill 222 mm hole
Feb 16	2072	940	47	-	-	Directional drill 222 mm hole to 2072.0 m, circulate hole, wiper trip, pull out of hole to log
Feb 17	2072	950	48	-	-	Run open hole logs, rig out loggers, run in hole for clean out trip, run casing
Feb 18	2072	960	44	-	-	Run casing, cement casing, nipple up
Feb 19	2072	-	-	-	-	Rig in testers and N2 unit, nipple up and pressure test, run in hole, drill out float collar
Feb 20	2076	960	48	-	-	Pressure test kelly cock, drill out cement, drill ahead 3.5 m for leak off test, displace hole, drill ahead 156 mm hole underbalanced
Feb 21	2164	960	47	-	-	Drilled 156 mm hole underbalanced and survey
Feb 22	2296	945	46	-	-	Drilled 156 mm hole underbalanced, formation water, shut off N2, drill ahead with invert, pull out of hole
Feb 23	2325	945	46	-	-	Drilled 156 mm hole
Feb 24	2379	955	43	-	-	Drilled 156 mm hole to total depth of 2408.63 m, circulate, wiper trip
Feb 25	2408	950	44	-	-	Circulate, pull out of hole, wait on loggers, rig in loggers, run open hole logs, wait for tester
Feb 26	2408	950	44	-	-	Wait for tester, rig in tester, run in hole for DST#1 2299.0 - 2319.0 m, start to pull out of hole
Feb 27	2408	950	46	-	-	Finish pulling out of hole, recover liquid, run in hole DST#2 2300.0 - 2320.0 m, unable to inflate packer, pull out of hole, clean out trip
Feb 28	2408	950	47	-	-	Clean out trip, DST #3 2306.0 - 2326.0 m, pull out of hole

DEVIATION SUMMARY

DEPTH(m)	INCLINATION	DEPTH(m)	INCLINATION
39.0	0.50	60	0.50
77.0	0.50	94	0.50
111.0	0.50	130.0	0.25
149.0	0.50	175.0	0.25
195.0	0.50	216.0	0.50
232.0	0.50	252.0	0.50
271.0	0.25	290.0	0.50
319.0	0.25	347.0	0.50
374.0	0.75	393.0	1.00
403.0	0.75	490	1.00

MD (m)	Incl (deg)	Dir (deg)	TVD (m)	Vert Sec (m)	Rectangular Offsets (m)	DLS (/30m)
536.0	0.90	331.90	536.0	-0.27	0.25 m N -0.13 m E	0.75
687.71	1.10	6.60	687.69	-2.39	2.75 m N -0.53 m E	0.12
839.63	2.30	301.10	839.55	-6.28	5.77 m N -2.97 m E	0.41
887.50	2.00	300.50	887.38	-7.99	6.69 m N -4.51 m E	0.19
896.83	2.20	302.10	896.71	-8.32	6.87 m N -4.80 m E	0.67
906.52	1.60	290.10	906.39	-8.96	7.01 m N -5.09 m E	2.22
915.89	1.30	281.60	915.76	-8.47	7.08 m N -5.32 m E	1.18
925.26	1.10	264.30	925.13	-8.55	7.09 m N -5.51 m E	1.32
935.62	1.10	249.70	935.49	-8.57	7.05 m N -5.70 m E	0.81
943.98	1.40	208.10	943.84	-8.50	6.93 m N -5.82 m E	3.34
953.62	1.80	205.60	953.48	-8.32	6.69 m N -5.50 m E	1.26
963.30	1.40	198.00	963.16	-8.12	6.44 m N -6.05 m E	1.40
972.67	1.00	179.00	972.52	-7.95	6.25 m N -6.08 m E	1.79
982.35	0.50	194.70	982.20	-7.84	6.12 m N -6.09 m E	1.66
992.03	0.60	154.50	991.88	-7.75	6.04 m N -6.08 m E	1.21
1001.41	0.90	146.50	1001.26	-7.63	5.93 m N -6.02 m E	1.01
1011.09	1.00	139.70	1010.94	-7.48	5.80 m N -5.92 m E	0.47
1020.41	1.20	138.00	1020.26	-7.31	5.67 m N -5.80 m E	0.65
1029.43	1.20	133.50	1029.28	-7.14	5.53 m N -5.67 m E	0.31

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1039.11	1.00	140.30	1038.96	-6.97	5.40 m N -5.54 m E	0.74
1048.82	1.30	93.60	1048.66	-6.85	5.33 m N -5.38 m E	2.94
1058.51	1.40	93.50	1058.35	-6.76	5.31 m N -5.15 m E	0.31
1068.21	1.70	89.30	1068.05	-6.66	5.31 m N -4.89 m E	0.99
1077.19	1.60	109.30	1077.02	-6.54	5.27 m N -4.64 m E	1.94
1086.89	1.60	132.70	1086.72	-6.33	5.13 m N -4.41 m E	2.01
1096.59	1.50	150.70	1096.42	-6.09	4.93 m N -4.25 m E	1.53
1105.93	1.70	149.50	1105.75	-5.83	4.70 m N -4.12 m E	0.65
1115.63	1.90	160.70	1115.45	-5.53	4.43 m N -3.99 m E	1.25
1125.32	1.60	150.20	1125.13	-5.23	4.16 m N -3.87 m E	1.36
1134.67	1.10	136.00	1134.48	-5.02	3.98 m N -3.75 m E	1.92
1144.01	1.10	121.00	1143.82	-4.87	3.87 m N -3.61 m E	0.92
1153.70	0.70	83.70	1153.51	-1.53	3.83 m N -3.47 m E	2.13
1162.62	0.50	86.80	1162.43	-1.44	3.84 m N -3.38 m E	0.68
1172.31	0.70	64.80	1172.12	-1.34	3.86 m N -3.28 m E	0.93
1182.02	0.60	45.70	1181.83	-2.15	3.92 m N -3.19 m E	0.73
1191.50	0.70	46.10	1191.31	-2.05	4.00 m N -3.11 m E	0.32
1200.88	0.70	53.30	1200.69	-1.95	4.07 m N -3.03 m E	0.28
1210.58	0.60	77.60	1210.39	-1.84	4.12 m N -2.93 m E	0.90
1219.53	0.90	69.20	1219.33	-1.73	4.15 m N -2.82 m E	1.07
1229.19	0.60	54.60	1228.99	-1.61	4.21 m N -2.70 m E	1.10
1238.20	0.80	60.20	1238.00	-1.50	4.27 m N -2.61 m E	0.70
1247.90	0.70	76.00	1247.70	-1.38	4.32 m N -2.50 m E	0.71
1257.58	1.00	73.20	1257.38	-1.23	4.36 m N -2.36 m E	0.94
1266.81	0.60	61.30	1266.61	-4.83	4.31 m N -2.21 m E	1.40
1275.81	0.40	89.90	1275.61	-4.81	4.33 m N -2.14 m E	1.05
1285.18	0.50	136.50	1284.98	-4.76	4.30 m N -2.08 m E	1.18
1294.87	0.30	134.80	1294.67	-4.69	4.25 m N -2.03 m E	0.62
1304.55	0.50	141.10	1304.36	-4.62	4.20 m N -1.99 m E	0.63
1313.93	0.40	110.90	1313.73	-4.56	4.16 m N -1.93 m E	0.81
1323.27	0.50	113.40	1323.07	-4.50	4.13 m N -1.86 m E	0.33
1332.66	0.50	122.70	1332.46	-4.43	4.09 m N -1.79 m E	0.26
1351.71	0.60	72.70	1351.51	-4.43	4.07 m N -1.63 m E	0.75
1370.74	0.60	54.30	1370.54	-4.31	4.16 m N -1.45 m E	0.30
1380.06	0.80	67.40	1379.86	-4.31	4.22 m N -1.35 m E	0.82
1389.36	0.80	66.60	1389.15	-4.29	4.27 m N -1.23 m E	0.04
1398.69	0.60	59.90	1398.48	-4.28	4.32 m N -1.13 m E	0.69
1408.34	1.00	57.00	1408.13	-4.28	4.39 m N -1.01 m E	1.25
1417.68	0.90	64.00	1417.47	-4.28	4.46 m N -0.88 m E	0.49
1427.01	1.10	142.70	1426.80	-4.18	4.43 m N -0.76 m E	4.11
1436.35	1.40	149.30	1436.14	-3.98	4.26 m N -0.65 m E	1.07
1445.68	1.40	147.80	1445.47	-3.75	4.06 m N -0.53 m E	0.12
1455.35	1.30	151.80	1455.13	-3.53	3.87 m N -0.41 m E	0.43
1465.04	1.30	148.70	1464.82	-3.31	3.67 m N -0.30 m E	0.22
1474.72	1.20	133.00	1474.50	-3.10	3.51 m N -0.17 m E	1.10

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1493.45	1.00	195.50	1493.23	-3.09	3.22 m N -0.07 m E	1.85
1503.16	0.70	221.80	1502.93	-2.95	3.09 m N -0.14 m E	1.50
1512.50	0.70	217.60	1512.27	-2.85	3.01 m N -0.21 m E	0.16
1522.18	0.60	210.70	1521.95	-2.75	2.92 m N -0.27 m E	0.39
1531.84	0.70	208.40	1531.61	-2.64	2.82 m N -0.32 m E	0.32
1541.48	0.70	198.60	1541.25	-2.52	2.71 m N -0.37 m E	0.37
1551.15	0.60	201.80	1550.92	-2.42	2.61 m N -0.41 m E	0.33
1560.45	0.70	190.30	1560.22	-2.31	2.51 m N -0.44 m E	0.53
1569.90	1.10	181.70	1569.67	-2.16	2.36 m N -0.45 m E	1.34
1579.30	1.30	172.10	1579.07	-1.98	2.17 m N -0.44 m E	0.90
1588.98	1.10	176.40	1588.74	-1.79	1.96 m N -0.42 m E	0.68
1598.74	0.20	22.30	1598.50	-1.72	1.89 m N -0.40 m E	3.94
1608.55	0.50	27.00	1608.31	-1.78	1.94 m N -0.38 m E	0.92
1618.30	0.80	25.10	1618.06	-1.88	2.04 m N -0.33 m E	0.93
1628.04	0.60	21.90	1627.80	-2.00	2.15 m N -0.28 m E	0.63
1637.84	0.60	28.20	1637.60	-2.10	2.24 m N -0.24 m E	0.20
1647.59	0.30	16.00	1647.35	-2.18	2.31 m N -0.21 m E	0.96
1657.34	0.40	23.50	1657.10	-2.24	2.37 m N -0.19 m E	0.34
1667.09	0.40	28.50	1666.85	-2.30	2.43 m N -0.16 m E	0.11
1676.87	0.60	47.20	1676.63	-2.38	2.49 m N -0.10 m E	0.78
1686.87	0.70	42.20	1686.63	-2.48	2.57 m N -0.02 m E	0.34
1696.47	0.70	38.20	1696.23	-2.59	2.66 m N 0.05 m E	0.15
1706.20	0.80	15.60	1705.96	-2.46	2.78 m N 0.11 m E	0.96
1716.03	1.00	21.70	1715.79	-2.61	2.92 m N 0.16 m E	0.68
1725.78	0.70	23.80	1725.54	-2.75	3.05 m N 0.21 m E	0.93
1735.48	0.10	287.10	1735.24	-2.81	3.11 m N 0.23 m E	2.22
1745.26	0.50	203.90	1745.02	-2.76	3.07 m N 0.20 m E	1.53
1754.95	0.40	198.70	1754.71	-2.69	3.00 m N 0.17 m E	0.33
1764.71	0.40	209.90	1764.47	-2.62	2.94 m N 0.15 m E	0.24
1774.50	0.10	238.80	1774.26	-2.58	2.91 m N 0.12 m E	0.97
1784.26	0.30	278.40	1784.02	-2.56	2.91 m N 0.09 m E	0.71
1794.02	0.30	271.00	1793.78	-2.54	2.91 m N 0.04 m E	0.12
1803.74	0.50	318.00	1803.50	-2.54	2.94 m N -0.02 m E	1.14
1813.47	0.50	343.50	1813.22	-2.58	3.02 m N -0.06 m E	0.68
1823.22	0.60	318.90	1822.97	-2.63	3.10 m N -0.10 m E	0.78
1832.90	0.90	342.40	1832.65	-2.70	3.21 m N -0.16 m E	1.31
1842.65	0.80	347.60	1842.40	-2.80	3.35 m N -0.20 m E	0.39
1852.38	1.10	340.50	1852.13	-2.91	3.50 m N -0.24 m E	0.99
1862.13	1.10	338.50	1861.88	-3.03	3.68 m N -0.31 m E	0.12
1871.88	0.80	359.20	1871.63	-3.15	3.83 m N -0.34 m E	1.39
1881.64	0.30	63.10	1881.39	-3.23	3.91 m N -0.32 m E	2.21
1891.38	0.50	130.20	1891.13	-3.24	3.89 m N -0.26 m E	1.46
1920.61	0.20	169.70	1920.36	-3.18	3.76 m N -0.16 m E	0.38
1930.36	0.30	151.30	1930.11	-3.15	3.72 m N -0.14 m E	0.39
1940.10	0.40	115.00	1939.85	-3.14	3.69 m N -0.10 m E	0.73

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1949.84	0.50	36.30	1949.59	-3.19	3.71 m N -0.04 m E	1.77
1959.56	0.30	56.60	1959.31	-3.25	3.75 m N 0.00 m E	0.75
1969.33	0.60	25.40	1969.08	-3.33	3.81 m N 0.05 m E	1.16
1979.05	0.70	41.60	1978.80	-3.43	3.90 m N 0.11 m E	0.64
1988.79	0.70	41.60	1988.53	-3.55	3.99 m N 0.19 m E	0.00
1998.52	0.80	44.00	1998.26	-3.68	4.09 m N 0.27 m E	0.32
2008.25	0.70	56.80	2007.99	-3.79	4.17 m N 0.37 m E	0.60
2027.72	0.60	222.50	2027.46	-3.80	4.16 m N 0.40 m E	1.99
2037.50	0.60	235.90	2037.24	-3.70	4.09 m N 0.32 m E	0.43
2047.21	0.60	267.30	2046.95	-3.63	4.06 m N 0.23 m E	1.00
2056.98	0.50	71.60	2056.72	-3.64	4.07 m N 0.22 m E	3.35
2165.0	1.0					
2272.0	1.5					
2315.0	2.0					
2350.0	2.0					
2395.0	2.75					

BIT RECORD

No.	SIZE	MAKE	TYPE	DEPTH OUT	HOURS	CONDITION
1A	311	VAREL	L127	25	3.5	6-1-In
2A	311	REED	SDGH	125	14.25	4-4-In
3A	311	HUGHES	GT1	500	35.75	3-2-In
1B	444.5	SECURITY	S335	136	21.75	3-3-In
2B	444.5	VAREL	L127	501	8.8	3-3-In
1	222	SMITH	FDS+2	901	52.0	1-1-In
2	222	HUGHES	GT-18	2072	106.75	3-3-In
1C	156	REED	EHP53A	2324	43.25	
2C	156	REED	HZS84FSN	2408		

0-5:	Cement;
5-10:	Cement;
10-15:	SANDSTONE [100] - clear to yellow to reddish orange, unconsolidated, fine tc medium grained, moderate sorting, rounded to sub angular, in part quartzose, frosted grains, micaceous, chert, glacial till, no visible porosity, no shows;
15-20:	SANDSTONE [100] - clear to yellow to reddish orange, unconsolidated, fine to medium grained, occasionally coarse fragments, moderate sorting, rounded to sub angular, in part quartzose, frosted grains, micaceous, chert, glacial till, no visible porosity, no shows;
20-25:	No sample bypass shakers;
25-30:	SANDSTONE [100] - clear to frosted white to yellowish white, unconsolidated, fine grained, well sorted, subangular to rounded, slightly quartzose, minor argillaceous grains, no visible porosity, no shows;
30-35:	SANDSTONE [100] - clear to frosted white to yellowish white, unconsolidated, fine grained, well sorted, subangular to rounded, slightly quartzose, minor argillaceous grains, no visible porosity, no shows;
35-40:	SANDSTONE [100] - clear to fosted white to partly light yellow, unconsolidated, clay and silty matrix, very fine to fine grained, well sorted, subangular to rounded, minor argillaceous grains, no visible porosity, no shows;
40-45:	SILTSTONE [100] - light brown to brownish grey, very fine to fine texture, firm to friable, in part sandy, micaceous, clay matrix, tight;
45-50:	SILTSTONE [100] - brownish grey to light brown, very fine to fine texture, friable to soft, sandy, partly micaceous, argillaceous, clay matrix, tight;
50-55:	SILTSTONE [100] - brownish grey to light brown, very fine to fine texture, friable to soft, sandy, partly micaceous, argillaceous, clay matrix, tight, grades to claystone;
55-60:	SILTSTONE [100] - brownish grey to light brown, very fine to fine texture, friable to soft, sandy, partly micaceous, argillaceous, clay matrix, tight, grades to claystone;
60-70:	SLITSTONE [70] - light brown to greyish brown, very fine to fine texture, friable, sandy, micaceous, argillaceous, clay matrix, tight; SANDSTONE [30] - greyish brown to grey, friable to unconsolidated, partly clay matrix, very fine grained, well sorted, subrounded to rounded, in part argillaceous, slightly micaceous, very poor intergranular porosity, no shows;
70-80:	SILTSTONE [80] - light grey to brown to greyish brown, very fine to fine texture, friable, sandy, argillaceous, partly micaceous, in part clay matrix, tight, partly grades to very fine grained sandstone; SHALE [20] - brown, fine texture, earthy lustre, firm, blocky, grades to claystone;

80-90:	SANDSTONE [50] - clear to white yellow, unconsolidated, fine grained, well sorted, subrounded to rounded, very poor intergranular porosity, no shows;
90-95:	SILTSTONE [100] - brown to brownish grey, fine texture, friable to partly firm, sandy, argillaceous, slightly micaceous, partly clay matrix, tight;
95-100:	SILTSTONE [100] - brown to brownish grey, fine texture, friable to partly firm, sandy, argillaceous, slightly micaceous, partly clay matrix, loose sand grains, tight;
100-105:	SILTSTONE [100] - brown to brownish grey, fine texture, friable to partly firm, sandy, argillaceous, slightly micaceous, partly clay matrix, loose sand grains, tight;
105-110:	SILTSTONE [80] - brown to brownish grey, fine to very fine texture, firm to friable, sandy, argillaceous, in part clay matrix, tight; SANDSTONE [20] - grey to greyish white to clear, friable to unconsolidated, very fine grained, well sorted, subrounded to rounded, no visible porosity, no shows;
110-115:	SILTSTONE [70] - brown, very fine to fine texture, firm to friable, sandy, micaceous, argillaceous, tight; SANDSTONE [30] - light greyish brown to grey to clear, friable to firm, partly calcareous, very fine to fine grained, well to moderately sorted, subrounded to rounded, minor argillaceous grains, partly micaceous, very poor intergranular porosity, no shows;
115-120:	SILTSTONE [100] - brown to brownish grey, fine texture, friable to partly firm, sandy, argillaceous, slightly micaceous, partly clay matrix, loose sand grains, tight;
120-125:	SILTSTONE [70] - brown, very fine to fine texture, firm to friable, sandy, micaceous, argillaceous, tight; SANDSTONE [30] - light greyish brown to grey to clear, friable to firm, partly calcareous, very fine to fine grained, well to moderately sorted, subrounded to rounded, minor argillaceous grains, partly micaceous, very poor intergranular porosity, no shows;
125-130:	SANDSTONE [100] - light grey to greyish white to greyish brown, friable to unconsolidated, very fine grained, well sorted, subrounded to rounded, micaceous, rare glauconite, partly argillaceous, scattered very poor intergranular porosity, no shows;
130-135:	SANDSTONE [90] - greyish white to grey, friable to unconsolidated, partly calcareous, fine grained, moderate to well sorted, subangular to rounded, micaceous, limy stringers, partly argillaceous, no visible porosity, no shows; SILTSTONE [10] - brown, very fine texture, firm to friable, argillaceous, tight;
135-140:	SANDSTONE [90] - greyish white to grey, friable to unconsolidated, partly calcareous, very fine grained, well sorted, subrounded to rounded, micaceous, partly argillaceous, no visible porosity, no shows; SILTSTONE [10] - brown, very fine texture, firm to friable, argillaceous, tight;

140-145:	SANDSTONE [100] - clear to greyish white, unconsolidated to friable, very fine to fine grained, well to moderately sorted, rounded to subrounded, partly frosted grains, scattered ver poor intergranular porosity, no shows;
145-150:	SANDSTONE [100] - clear to greyish white, unconsolidated to friable, very fine to fine grained, well to moderately sorted, rounded to subangular, argillaceous grains, micaceous, scattered very poor intergranular porosity, no shows;
150-160:	SANDSTONE [90] - light grey to clear to brownish grey, friable to unconsolidated, minor silty matrix, very fine to fine grained, well to moderately sorted, rounded subangular, micaceous, argillaceous, in part silty, no visible porosity, no shows; SILTSTONE [10] - brown, very fine texture, firm, argillaceous, tight;
160-165:	SANDSTONE [90] - clear to greyish white, unconsolidated to friable, very fine to fine grained, well to moderately sorted, rounded to subangular, argillaceous grains, micaceous, scattered very poor intergranular porosity, no shows; SHALE [10] - medium grey, rough texture, earthy, blocky;
165-170:	SILTSTONE [100] - light greyish brown, very fine texture, silky lustre, firm, micaceous, tight;
170-175:	SILTSTONE [100] - light greyish brown, very fine texture, silky lustre, firm, micaceous, in part sandy, tight;
175-180:	SILTSTONE [100] - light greyish brown to brown, very fine to fine texture, firm, micaceous, sandy, argillaceous, tight, minor sandstone stringers;
180-185:	SANDSTONE [90] - clear to yellowish white to brown, unconsolidated to friable, very fine to medium grained, moderate to well sorted, rounded to subrounded, colored chert, patchy very poor intergranular porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy lustre, blocky;
185-190:	SANDSTONE [80] - clear to greyish white to brownish yellow, unconsolidated to friable, very fine to fine grained, well sorted, subrounded to rounded, no visible porosity, no shows; SILTSTONE [20] - light brownish grey, very fine to fine texture, firm, sandy, argillaceous, tight;
190-195:	SANDSTONE [50] - clear to greyish white to brownish yellow, unconsolidated to friable, very fine grained, well sorted, subrounded to rounded, no visible porosity, no shows; SILTSTONE [50] - light brownish grey, very fine to fine texture, firm, sandy, argillaceous, tight;
195-200:	SANDSTONE [50] - clear to greyish white to brownish yellow, friable, very fine grained, well sorted, subrounded to rounded, no visible porosity, no shows; SILTSTONE [50] - light brownish grey, very fine to fine texture, firm, sandy, argillaceous, tight;

200-205: SILTSTONE [70] - brown to greyish brown, very fine to fine texture, firm, in part sandy, argillaceous, tight;
SANDSTONE [30] - greyish white, friable, very fine grained, well sorted, rounded to subrounded, in part micaceous, no visible porosity, no shows;

205-210: SILTSTONE [90] - brown to brownish grey, very fine to fine texture, firm, slightly sandy, argillaceous, tight;
SHALE [10] - grey to greyish brown, very fine to rough texture, earthy, blocky;

210-220: SILTSTONE [70] - brown to brownish grey, very fine to fine texture, firm, slightly sandy, argillaceous, micaceous, tight;
SHALE [10] - grey to greyish brown, very fine to rough texture, earthy, blocky;
SANDSTONE [20] - grey to greyish white, friable, very fine grained, well sorted, subrounded to rounded, micaceous, no visible porosity, no shows;

220-225: SHALE [100] - medium grey to greyish brown, rough to very fine texture, earthy, firm, partly micromicaceous, in part silty, blocky;

225-230: SHALE [100] - medium grey to greyish brown, rough to very fine texture, earthy, firm, partly micromicaceous, in part silty, blocky;

230-235: SHALE [100] - medium grey to greyish brown, rough to very fine texture, earthy, firm, partly micromicaceous, in part silty, blocky to subfissile;

235-240: SHALE [80] - medium grey to greyish brown, rough to very fine texture, earthy, firm, partly micromicaceous, in part sandy, blocky to subfissile;
SANDSTONE [20] - grey, friable, very fine grained, well sorted, rounded to subrounded, partly micaceous, slightly argillaceous, no visible porosity, no shows;

240-250: SHALE [80] - medium to dark grey to greyish black, rough to very fine texture, earthy, firm, carbonaceous, partly micromicaceous, in part sandy, blocky to subfissile;
SANDSTONE [20] - grey to greyish brown, friable, very fine grained, well sorted, rounded to subrounded, partly micaceous, slightly argillaceous, no visible porosity, no shows;

250-255: SHALE [60] - medium grey, rough texture, earthy, partly micromicaceous, subfissile to blocky;
SANDSTONE [40] - grey to white to clear, friable, partly calcareous, very fine grained, well sorted, subrounded to rounded, micaceous, partly argillaceous, rare glauconite, scattered very poor intergranular porosity, no shows;

255-260: SHALE [50] - medium grey, rough texture, earthy, partly micromicaceous, subfissile to blocky;
SANDSTONE [50] - grey to white to clear, friable, partly calcareous, very fine to fine grained, well sorted, subrounded to rounded, micaceous, partly argillaceous, rare glauconite, scattered very poor intergranular porosity, no shows;

260-265:	SHALE [60] - medium grey, rough texture, earthy, partly micromicaceous, subfissile to blocky; SANDSTONE [40] - grey to white to clear, friable, partly calcareous, very fine to fine grained, well sorted, subrounded to rounded, micaceous, partly argillaceous, rare glauconite, scattered very poor intergranular porosity, no shows;
265-270:	SHALE [100] - medium to dark grey to dark greyish brown, rough texture, earthy, firm, slightly carbonaceous, partly micromicaceous, subfissile to blocky;
270-275:	SHALE [100] - medium to dark greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
275-280:	SHALE [60] - medium to dark greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, rare glauconite, subfissile to blocky; SANDSTONE [40] - clear to yellow, unconsolidated, fine grained, well sorted, subangular to subrounded, rare chert, no visible porosity, no shows;
280-285:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
285-290:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
290-295:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
295-300:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, partly silty, subfissile to blocky;
300-305:	SHALE [100] - medium to dark grey, rough to fine texture, earthy, firm, micromicaceous, partly carbonaceous, sandy stringers, blocky to partly subfissile;
305-310:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, partly silty, subfissile to blocky;
310-315:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, carbonaceous, micromicaceous, subfissile to blocky;
315-320:	SHALE [100] - medium to dark grey to greyish brown, very fine to rough texture, earthy, micromicaceous, partly carbonaceous, silty, sandy stringers, blocky to partly subfissile;
320-325:	SHALE [80] - medium to dark grey, rough to fine texture, earthy, firm, partly micromicaceous, silty, blocky to subfissile; SANDSTONE [20] - grey, friable, very fine grained, well sorted, subrounded to rounded, argillaceous, silty, no visible porosity, no shows;
325-330:	SHALE [100] - medium to dark grey, very fine to rough texture, earthy, firm, micromicaceous, partly silty, blocky;

330-335: SHALE [100] - medium to dark grey, rough to partly smooth texture, earthy, firm, micromicaceous, silty, trace glauconite, partly sandy, blocky;

335-340: SHALE [70] - medium to dark grey, rough to partly smooth texture, earthy, firm, micromicaceous, silty, trace glauconite, partly sandy, blocky;
SANDSTONE [30] - light to dark grey, friable, siliceous, very fine grained, well sorted, subrounded to rounded, minor glauconite, no visible porosity, no shows;

340-345: SHALE [70] - medium to dark grey, rough to partly smooth texture, earthy, firm, micromicaceous, silty, trace glauconite, partly sandy, blocky;
SANDSTONE [30] - light to dark grey, friable, siliceous, very fine grained, well sorted, subrounded to rounded, partly argillaceous, minor glauconite, no visible porosity, no shows;

345-350: SHALE [60] - medium to dark grey, rough to partly smooth texture, earthy, firm, micromicaceous, silty, trace glauconite, partly sandy, blocky;
SANDSTONE [40] - light to dark grey, friable, in part calcareous, salt and pepper texture, very fine grained, well sorted, subrounded to rounded, argillaceous, glauconitic, no visible porosity, no shows;

350-355: SANDSTONE [100] - light to dark grey, clear to smoky yellow, friable to unconsolidated, in part calcareous, part salt and pepper texture, very fine to fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, no visible porosity, no shows;

355-360: SANDSTONE [100] - light to dark grey, clear to smoky yellow, friable to unconsolidated, in part calcareous, part salt and pepper texture, very fine to fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, shale partings, no visible porosity, no shows;

360-365: SANDSTONE [100] - light to dark grey, clear to smoky yellow, friable to unconsolidated, part salt and pepper texture, very fine to fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, shale partings, no visible porosity, no shows;

365-370: SANDSTONE [100] - light to dark grey, clear to smoky yellow, friable to unconsolidated, partly salt and pepper texture, very fine to fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, shale partings, no visible porosity, no shows;

370-375: SANDSTONE [100] - light to dark grey, friable, in part calcareous, slight salt and pepper texture, very fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, pyrite, scattered very poor intergranular porosity, no shows;

375-380: SANDSTONE [100] - light to dark grey, friable, in part calcareous, slight salt and pepper texture, very fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, pyrite, shale partings, scattered very poor intergranular porosity, no shows;

380-385:	SANDSTONE [100] - light to dark grey, friable, in part calcareous, slight salt and pepper texture, very fine grained, well sorted, rounded to subrounded, glauconite, partly argillaceous, pyrite, micaceous, shale partings, scattered very poor intergranular porosity, no shows;
385-390:	SANDSTONE [90] - light grey to white to dark grey, friable, partly calcareous, very fine grained, well sorted, rounded to subrounded, minor glauconite, patchy very poor intergranular porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy, carbonaceous, blocky;
390-395:	SANDSTONE [90] - light grey to white to dark grey, friable, partly calcareous, very fine grained, well sorted, rounded to subrounded, minor glauconite, patchy very poor intergranular porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy, carbonaceous, blocky;
395-400:	SANDSTONE [90] - light grey to white, friable, partly calcareous, very fine to fine grained, well sorted, rounded to subrounded, minor glauconite, patchy very poor intergranular porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy, carbonaceous, blocky;
400-405:	SANDSTONE [90] - light grey to white to dark grey, friable, partly calcareous, very fine grained, well sorted, rounded to subrounded, minor glauconite, patchy very poor intergranular porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy, carbonaceous, blocky;
405-410:	SANDSTONE [100] - white to clear to light grey, friable, very fine grained, well sorted, rounded to subrounded, trace glauconite, scattered very poor intergranular porosity, no shows;
410-415:	SANDSTONE [100] - white to clear to light grey, friable, in part calcareous, very fine grained, well sorted, rounded to subrounded, trace glauconite, scattered very poor intergranular porosity, no shows;
415-420:	SANDSTONE [100] - white to clear to light grey, friable, in part calcareous, very fine grained, well sorted, rounded to subrounded, trace glauconite, shale partings, scattered very poor intergranular porosity, no shows;
420-425:	SANDSTONE [90] - white to clear to greyish white, friable, slightly calcareous, very fine grained, well sorted, rounded to subrounded, glauconite, very poor to poor intergranular porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy, blocky;
425-430:	SANDSTONE [80] - light to medium grey, friable to firm, very fine grained, well sorted, rounded to subrounded, glauconite, argillaceous streaks, no visible porosity, no shows; SHALE [20] - medium to dark grey, rough texture, earthy, slightly carbonaceous, blocky;

430-435:	SANDSTONE [90] - light to medium grey, friable to firm, very fine grained, well sorted, rounded to subrounded, argillaceous streaks, glauconite, pyrite, partly micaceous, no visible porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy, slightly carbonaceous, blocky;
435-445:	SANDSTONE [90] - light to medium grey, friable to firm, very fine grained, well sorted, rounded to subrounded, argillaceous streaks, glauconite, pyrite, partly micaceous, no visible porosity, no shows; SHALE [10] - medium to dark grey, rough texture, earthy, firm, slightly carbonaceous, blocky;
445-450:	SANDSTONE [100] - light grey to greyish offwhite, friable to firm, very fine grained, well sorted, rounded to subrounded, in part argillaceous, no visible porosity, shale partings, no shows;
450-455:	SHALE [50] - medium to dark grey to partly greyish black, rough to fine texture, earthy, firm, in part carbonaceous, blocky to subfissile; SANDSTONE [50] - light to medium grey, firm to friable, very fine grained, well sorted, subrounded to rounded, argillaceous, shaley, no visible porosity, no shows;
455-460:	SHALE [60] - medium to dark grey to partly greyish black, rough to fine texture, earthy, firm, in part carbonaceous, blocky to subfissile; SANDSTONE [40] - light to medium grey, firm to friable, very fine grained, well sorted, subrounded to rounded, argillaceous, trace glauconite, shaley, no visible porosity, no shows;
460-465:	SHALE [65] - medium to dark grey to greyish black, rough to fine texture, earthy, firm, slightly carbonaceous, silty, blocky to slightly subfissile; SANDSTONE [35] - light greyish white to clear, friable to unconsolidated, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, in part very poor intergranular porosity, no shows;
465-475:	SHALE [60] - medium to dark grey to greyish black, rough to fine texture, earthy, firm, silty, minor glauconite, slightly carbonaceous, blocky to slightly subfissile; SANDSTONE [40] - light greyish white, friable, very fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, in part very poor intergranular porosity, no shows;
475-480:	SHALE [70] - medium to dark grey to greyish black, rough texture, earthy, firm, silty, minor glauconite, slightly carbonaceous, blocky; SANDSTONE [30] - light greyish white to grey, friable, very fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, partly micaceous, no visible porosity, no shows;
480-485:	SHALE [50] - medium to dark grey to greyish black, rough texture, earthy, firm, silty, blocky; SANDSTONE [50] - light greyish white to grey, friable, in part calcareous, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, no visible porosity, no shows;

485-490:	SHALE [70] - medium to dark grey to greyish black, rough to smooth texture, earthy, firm, minor glauconite, partly carbonaceous, silty, blocky to subfissile; SANDSTONE [30] - light greyish white to grey, friable, in part calcareous, very fine to partly fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, partly silty, no visible porosity, no shows;
490-495:	SHALE [60] - medium to dark grey to greyish black, rough to smooth texture, earthy, firm, minor glauconite, carbonaceous, silty, blocky to subfissile; SANDSTONE [40] - clear to light greyish white to grey, unconsolidated to friable, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, partly silty, no visible to poor intergranular porosity, no shows;
495-500:	SHALE [40] - medium to dark grey to greyish black, rough to smooth texture, earthy, firm, minor glauconite, carbonaceous, silty, blocky to subfissile; SANDSTONE [60] - light greyish white to grey, firm to friable, calcareous, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, micaceous, clays, no visible to very poor intergranular porosity, no shows;
500-510:	SHALE [90] - medium to dark grey to greyish black, rough to smooth texture, earthy, firm, minor glauconite, carbonaceous, silty, blocky to subfissile; SANDSTONE [10] - light greyish white to grey, firm to friable, calcareous, very fine to fine grained, well sorted, rounded to subrounded, in part argillaceous, glauconite, micaceous, clays, no visible to very poor intergranular porosity, no shows;
510-515:	SHALE [90] - medium to dark grey, rough texure, earthy, firm to soft, carbonaceous, blocky to subfissile; SILTSTONE [10] - grey to greyish brown, very fine texture, sandy, partly argillaceous, tight;
515-520:	SHALE [100] - medium to dark grey to greyish black, rough texture, earthy, firm, micromicaceous, carbonaceous, minor glauconite, partly silty, blocky to subfissile;
520-525:	SHALE [100] - medium to dark grey to greyish black, rough to fine texture, earthy, micromicaceous, carbonaceous, glauconite, silty, sandy stringers, blocky to subfissile;
525-530:	SHALE [100] - medium to dark grey to greyish black, rough to fine texture, earthy, micromicaceous, carbonaceous, glauconite, silty, sandy stringers, blocky to subfissile;
530-535:	SHALE [100] - medium to dark grey, rough to very fine texture, earthy, in part micromicaceous, slightly carbonaceous, blocky to subfissile;
535-540:	SHALE [100] - medium to dark grey, rough to very fine texture, earthy, in part micromicaceous, slightly carbonaceous, rare pyrite, blocky to subfissile;
540-545:	SHALE [100] - medium to dark grey, rough to very fine texture, earthy, in part micromicaceous, slightly carbonaceous, rare pyrite, minor sandstone stringers, blocky to subfissile;
545-550:	SHALE [100] - medium to dark grey, rough to very fine texture, earthy, partly micromicaceous, in part carbonaceous, blocky to partly subfissile;
550-555:	SHALE [100] - medium to dark grey, rough to very fine texture, earthy, partly micromicaceous, in part carbonaceous, blocky to partly subfissile;

555-560: SHALE [100] - medium to dark greyish black, rough to very fine texture, earthy, partly micromicaceous, carbonaceous, blocky to partly subfissile;

560-565: SHALE [100] - medium to dark grey to greyish black, rough to very fine texture, earthy, in part micromicaceous, carbonaceous, partly silty, blocky to subfissile;

SCATTER 570.0 m (94.65)

565-570: SHALE [100] - medium to dark grey to greyish black, rough to very fine texture, earthy, in part micromicaceous, carbonaceous, partly silty, blocky to subfissile;
SANDSTONE [trace] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, dull golden fluorescence, fair yellow cut;

570-575: SHALE [60] - medium to dark grey to greyish black, rough to very fine texture, earthy, in part micromicaceous, carbonaceous, partly silty, blocky to subfissile;
SANDSTONE [40] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, dull golden fluorescence, fair yellow cut;

575-580: SANDSTONE [80] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, dull golden fluorescence, fair yellow cut;
SHALE [20] - medium to dark grey, rough to very fine texture, firm, carbonaceous, blocky to subfissile;

580-585: SANDSTONE [30] - brown to clear to brownish grey, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, patchy dull golden fluorescence, fair yellow cut;
SHALE [70] - medium to dark grey, rough to very fine texture, firm, carbonaceous, blocky to subfissile;

585-590: SANDSTONE [70] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, scattered oil staining, poor intercrystalline porosity, scattered dull golden fluorescence, fair yellow cut;
SHALE [30] - medium to dark grey, rough to very fine texture, firm, carbonaceous, blocky to subfissile;

590-595: SANDSTONE [30] - brown to clear, friable, very fine grained, well sorted, rounded to subrounded, minor glauconite, silty, scattered oil staining, in part poor intercrystalline porosity, rare dull golden fluorescence, fair yellow milky cut;
SHALE [70] - medium to dark grey, rough to very fine texture, firm, carbonaceous, blocky to subfissile;

GARBUTT 599.0 m (65.65)

595-600: SANDSTONE [10] - brownish grey to brown, friable, very fine grained, well sorted, subrounded to rounded, argillaceous, silty, patchy oil staining, no visible porosity, scattered dull golden fluorescence, milky yellow cut;
SHALE [90] - medium to dark grey, very fine to rough texture, earthy, firm, carbonaceous, blocky;

600-605: SHALE [100] - medium to dark grey to greyish brown, very fine to rough texture, earthy, firm, partly carbonaceous, blocky;

605-610: SHALE [100] - medium to dark grey to greyish brown, very fine to rough texture, earthy, firm, partly carbonaceous, blocky to partly subfissile;

610-615: SHALE [100] - medium to dark grey to greyish brown, very fine to rough texture, earthy, firm, partly carbonaceous, blocky to partly subfissile;

615-620: SHALE [90] - medium to dark grey to greyish black, very fine to fine texture, earthy, firm, silty, partly carbonaceous, minor glauconite, blocky to subfissile;
SILTSTONE [10] - greyish brown to brown, fine texture, firm, argillaceous, in part sandy, tight;

620-625: SHALE [90] - medium to dark grey to greyish black, very fine to fine texture, earthy, firm, micromicaceous, silty, partly carbonaceous, minor glauconite, blocky to subfissile;
SILTSTONE [10] - greyish brown to brown, fine texture, firm, argillaceous, in part sandy, tight;

630-635: SHALE [100] - medium to dark grey to greyish black, rough to fine texture, earthy, firm, micromicaceous, partly carbonaceous, in part silty, blocky to subfissile;

635-640: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, micromicaceous, carbonaceous, rare pyrite, limy stringers, blocky to subfissile;

640-645: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, micromicaceous, carbonaceous, blocky to subfissile;

645-650: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, partly micromicaceous, carbonaceous, blocky to subfissile;

650-655: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, slightly silty, partly micromicaceous, in part carbonaceous, blocky to subfissile;

655-660: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, partly micromicaceous, carbonaceous, minor clays, trace pyrite, blocky to subfissile;

660-665: SHALE [100] - medium to dark grey, in part greyish black, rough to fine texture, earthy, firm, carbonaceous, subfissile to blocky

665-670: SHALE [100] - medium to dark grey, very fine to rough texture, partly earthy, firm, partly carbonaceous, slightly micromicaceous, subfissile to blocky;

670-675: SHALE [100] - medium to dark grey, trace green waxy shale, very fine to rough texture, partly earthy, firm, partly carbonaceous, slightly micromicaceous, bentonite, subfissile to blocky;

675-680: SHALE [100] - medium to dark grey, trace green waxy shale, very fine to rough texture, partly earthy, firm, partly carbonaceous, slightly micromicaceous, bentonite, subfissile to blocky;

680-685: SHALE [100] - medium to dark grey, trace green waxy shale, very fine to rough texture, partly earthy, firm, partly carbonaceous, slightly micromicaceous, bentonite, rare pyrite, subfissile to blocky;

685-690: SHALE [100] - medium to dark grey to brownish grey, rough to very fine texture, earthy, firm to soft, partly micromicaceous, trace pyrite, blocky to subfissile;

EXSHAW 693.0 m (-28.35)

690-695: SHALE [100] - brownish grey to dark grey, rough to very fine texture, earthy, firm to soft, partly micromicaceous, trace pyrite, blocky to subfissile;

695-700: SHALE [100] - brownish grey to dark grey, rough to very fine texture, earthy, firm to soft, partly micromicaceous, trace pyrite, blocky to subfissile;

KOTCHO 702.0 m (-37.35)

700-705: SHALE [60] - dark brownish black to brown, rough texture, earthy, firm, carbonaceous, in part calcareous, blocky;
LIMESTONE [40] - medium to dark brown to mottled brown, microcrystalline, dense to slight chalky texture, argillaceous, earthy, tight;

705-710: SHALE [60] - dark brownish black to brown to light waxy grey, rough texture, earthy, firm, carbonaceous, in part calcareous, blocky;
LIMESTONE [40] - medium to dark brown to mottled brown, microcrystalline, dense to slight chalky texture, argillaceous, earthy, tight;

710-715:	SHALE [70] - light grey, smooth to waxy texture, soft to firm, in part calcareous, pyrite, blocky; LIMESTONE [30] - medium to dark brown to mottled brown, microcrystalline, dense to slight chalky texture, argillaceous, earthy, tight;
715-720:	SHALE [80] - light grey to greyish brown, smooth to waxy texture, soft to firm, in part calcareous, pyrite, blocky; LIMESTONE [20] - medium to dark brown to mottled brown, microcrystalline, dense to slight chalky texture, argillaceous, earthy, tight;
720-725:	SHALE [100] - light grey to greyish brown, smooth to rough texture, in part waxy, firm to soft, calcareous, silty, minor limy stringers, blocky;
725-730:	SHALE [100] - light to medium grey, rough to smooth texture, firm to partly soft, in part calcareous, pyrite, silty stringers, blocky;
730-735:	SHALE [80] - light to medium grey, rough to smooth texture, firm to partly soft, in part calcareous, silty stringers, pyrite, blocky; LIMESTONE [20] - light grey, microcrystalline, dense texture, tight;
735-740:	SHALE [80] - light to medium grey, rough to smooth texture, firm to partly soft, in part calcareous, grades to mudstone, pyrite, blocky; LIMESTONE [20] - light grey to greyish brown, microcrystalline, dense texture, tight;
740-745:	SHALE [100] - light to slightly greyish brown, rough to smooth texture, firm to soft, calcareous, in part grades to mudstone, blocky;
745-750:	SHALE [100] - light to slightly greyish brown, rough to smooth texture, firm to soft, calcareous, in part grades to mudstone, blocky;
750-755:	SHALE [100] - light to slightly greyish brown, rough to smooth texture, firm to soft, calcareous, silty partings, in part grades to mudstone, blocky;
755-760:	LIMESTONE [100] - light grey, mudstone, dense texture, argillaceous, shaley, tight;
760-765:	LIMESTONE [80] - light grey, mudstone, dense texture, argillaceous, shaley, tight; SHALE [20] - brown to greyish brown, rough texture, earthy, firm, blocky;
765-770:	LIMESTONE [60] - light grey, mudstone, dense texture, argillaceous, shaley, tight; SHALE [40] - grey to greyish brown, rough texture, earthy, firm, calcareous, blocky;
770-775:	LIMESTONE [40] - light grey, mudstone, dense texture, argillaceous, shaley, tight; SHALE [60] - grey to greyish brown, rough texture, earthy, firm, calcareous, blocky;
775-780:	LIMESTONE [100] - light brown to buff, in part cryptocrystalline, mudstone, dense texture, firm to soft, argillaceous, tight;
780-785:	LIMESTONE [100] - light brown to buff, in part cryptocrystalline, mudstone, dense texture, firm to soft, argillaceous, tight;
785-790:	LIMESTONE [100] - cream to buff, cryptocrystalline to microcrystalline, dense texture, firm, in part argillaceous, minor shale partings, pyrite, tight;

790-795: LIMESTONE [100] - cream to buff, cryptocrystalline to microcrystalline, dense texture, firm, in part argillaceous, minor shale partings, pyrite, tight;

795-800: LIMESTONE [90] - cream to buff, cryptocrystalline to microcrystalline, dense texture, firm, in part argillaceous, minor shale partings, tight;
SHALE [10] - grey, very fine to rough texture, firm, in part calcareous, blocky;

800-805: SHALE [100] - grey to brownish grey, rough texture, in part earthy, firm, calcareous, blocky, limy stringers;

805-810: LIMESTONE [90] - cream to buff, cryptocrystalline to microcrystalline, in part mudstone, dense texture, firm, in part argillaceous, tight;
SHALE [10] - grey, very fine to rough texture, firm, in part calcareous, blocky;

810-815: LIMESTONE [70] - cream to buff, cryptocrystalline to microcrystalline, in part mudstone, dense texture, firm, in part argillaceous, tight;
SHALE [30] - light to medium grey, very fine to rough texture, firm, in part calcareous, blocky;

815-825: SHALE [80] - light to partly medium grey, very fine to fine texture, firm to hard, calcareous, grading to mudstone, blocky;
LIMESTONE [20] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, rare fossil debris, tight;

825-830: SHALE [100] - light to medium grey, very fine to fine texture, firm, calcareous, grades to mudstone, limestone stringers, blocky;

830-835: SHALE [80] - light to partly medium grey to partly brownish grey, very fine to fine texture, firm to hard, calcareous, grading to mudstone, blocky;
LIMESTONE [20] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

835-845: SHALE [90] - light to partly medium grey to partly brownish grey, very fine to fine texture, firm to hard, calcareous, grading to mudstone, blocky;
LIMESTONE [10] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

845-850: SHALE [100] - light to medium grey, very fine to fine texture, firm, calcareous, minor pyrite, grades to mudstone, blocky;

850-855: SHALE [100] - light to medium grey, very fine to fine texture, firm, calcareous, trace pyrite, grades to mudstone, limestone stringers, blocky;

855-860: LIMESTONE [100] - grey to light greyish brown, mudstone, dense texture, argillaceous, tight;

860-865: LIMESTONE [100] - grey to light greyish brown, mudstone, dense texture, argillaceous, shale partings, tight;

865-870: SHALE [70] - light to partly medium grey to partly brownish grey, very fine to fine texture, firm, calcareous, grading to mudstone, blocky;
LIMESTONE [30] - light brown to buff to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;

870-875:	SHALE [90] - light to partly medium grey to partly brownish grey, very fine to fine texture, firm to hard, calcareous, rare pyrite, grading to mudstone, blocky; LIMESTONE [10] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;
875-880:	SHALE [90] - light to partly medium grey to brownish grey, in part waxy texture, earthy, very fine to fine texture, firm, calcareous, grading to mudstone, blocky; LIMESTONE [10] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;
880-885:	SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, blocky;
885-890:	SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, grades to mudstone, blocky;
890-895:	SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, blocky;
895-900:	SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, grades to mudstone, blocky;
900-910:	SHALE [80] - light to partly medium grey to brownish grey, in part waxy texture, earthy, very fine to fine texture, firm, calcareous, grading to mudstone, blocky; LIMESTONE [20] - light brown to buff, cryptocrystalline to partly microcrystalline, dense texture, partly argillaceous, tight;
910-920:	SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, blocky;
920-925:	SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, limestone stringers, blocky;
925-930:	SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, trace pyrite, grades to mudstone, blocky;
930-935:	SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, blocky;
935-940:	SHALE [100] - light to medium grey, very fine to fine texture, firm to hard, slightly earthy, calcareous, grades to mudstone, blocky;
940-945:	SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, blocky;
945-950:	SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, limestone stringers, blocky;
950-955:	SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, limestone stringers, blocky;

955-960:	SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, limestone stringers, blocky to subfissile;
960-965:	SHALE [100] - light to medium grey to brownish grey, rough texture, in part waxy texture, firm, partly earthy, calcareous, grades to mudstone, blocky;
965-970:	SHALE [100] - light to medium grey to brownish grey, rough texture, firm, partly earthy, calcareous, grades to mudstone, blocky to subfissile;
970-975:	SHALE [100] - light to medium grey to brownish grey, rough texture, firm, partly earthy, calcareous, grades to mudstone, blocky;
975-980:	SHALE [100] - light to medium grey to brownish grey, rough texture, firm, partly earthy, calcareous, grades to mudstone, blocky to subfissile;
980-985:	SHALE [100] - light to medium grey to brownish grey, rough to smooth, in part waxy texture, firm to soft, partly earthy, calcareous, grades to mudstone, blocky to subfissile;
985-990:	SHALE [100] - light to medium grey, rough to smooth texture, slightly waxy, firm to partly soft, calcareous, grades to mudstone, blocky to subfissile;
990-995:	SHALE [100] - light to medium grey, rough to smooth texture, slightly waxy, firm to partly soft, partly micromicaceous, calcareous, grades to mudstone, blocky to subfissile;
995-1000:	SHALE [100] - grey to brownish grey, rough to very fine texture, in part earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;
1000-1005:	SHALE [100] - grey to brownish grey, rough to smooth texture, in part earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;
1005-1010:	SHALE [100] - grey to brownish grey, rough to smooth texture, in part earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;
1015-1020:	SHALE [100] - grey to brownish grey, rough to smooth texture, earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;
1020-1025:	SHALE [100] - grey to brownish grey, rough to smooth texture, earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;
1025-1030:	SHALE [100] - grey to brownish grey, rough to smooth texture, earthy, firm, micromicaceous, in part calcareous, blocky to subfissile;
1030-1035:	SHALE [100] - brown to greyish brown, smooth to slight waxy texture, earthy, firm to partly soft, partly calcareous, , blocky to subfissile;
1035-1040:	SHALE [100] - grey to greyish brown, rough to very fine texture, in part earthy, firm, slightly micromicaceous, in part calcareous, blocky;
1040-1045:	SHALE [100] - greyish brown to grey, rough to partly smooth texture, earthy, firm, partly calcareous, blocky to slightly subfissile;

1045-1050:	SHALE [100] - greyish brown to grey, rough to partly smooth texture, earthy, firm, partly calcareous, blocky to slightly subfissile;
1050-1055:	SHALE [100] - brown to greyish brown, rough to partly smooth texture, earthy, firm, partly micromicaceous, in part calcareous, limy stringers, blocky to subfissile;
1055-1060:	SHALE [100] - brown to greyish brown, rough to smooth texture, earthy, firm, partly micromicaceous, in part calcareous, limestone stringers, blocky to subfissile;
1060-1065:	LIMESTONE [70] - brown to brownish grey, microcrystalline, dense texture, hard, argillaceous, tight; SHALE [30] - brown to brownish grey, rough to partly smooth texture, earthy, firm, calcareous, subfissile to blocky;
1065-1070:	LIMESTONE [30] - brown to brownish grey, microcrystalline, dense texture, hard, argillaceous, tight; SHALE [70] - brown to brownish grey, rough to partly smooth texture, earthy, firm, calcareous, subfissile to blocky;
1070-1075:	SHALE [100] - brown to greyish brown, rough to partly smooth texture, earthy, firm, in part micromicaceous, calcareous, subfissile to blocky;
1075-1080:	LIMESTONE [10] - brown to brownish grey, microcrystalline, dense texture, hard, argillaceous, tight; SHALE [90] - brown to brownish grey, rough to partly smooth texture, slightly waxy, earthy, firm, calcareous, subfissile to blocky;
1080-1090:	SHALE [90] - brown to brownish grey, rough to partly smooth texture, slightly waxy, earthy, firm, calcareous, subfissile to blocky; LIMESTONE [10] - brown to brownish grey, microcrystalline, dense texture, hard, argillaceous, tight;
1090-1095:	SHALE [100] - brownish grey to grey, rough to smooth texture, partly waxy, earthy, firm, calcareous, limy stringers, blocky to subfissile;
1095-1100:	SHALE [100] - grey to greyish brown, rough to very fine texture, firm, partly micromicaceous, partly calcareous, limy stringers, blocky;
1100-1105:	SHALE [100] - brownish grey to grey, rough to smooth texture, partly waxy, earthy, firm, calcareous, limy stringers, blocky to subfissile;
1105-1110:	SHALE [100] - grey to greyish brown, rough to very fine texture, firm, partly micromicaceous, partly calcareous, limy stringers, blocky;
1110-1115:	SHALE [100] - brownish grey to grey, rough to smooth texture, partly waxy, earthy, firm, calcareous, blocky to subfissile;
1115-1120:	SHALE [100] - grey to greyish brown, rough to very fine texture, firm, partly micromicaceous, partly calcareous, blocky;

TETCHO 1123.0 m (-458.35)

1120-1125:	SHALE [80] - greyish brown to brown, rough to fine texture, firm, slightly micromicaceous, calcareous, blocky, LIMESTONE [20] - brown to dark brownish grey, microcrystalline, dense to slight chalky texture, firm to partly soft, argillaceous, tight;
1125-1130:	LIMESTONE [100] - light to dark brown, microcrystalline, dense to chalky texture, firm to soft, argillaceous, tight;
1130-1135:	LIMESTONE [100] - light to medium brown, partly buff, cryptocrystalline to microcrystalline, dense to chalky texture, firm to soft, argillaceous, tight;
1135-1140:	LIMESTONE [90] - light to medium brown, partly buff, cryptocrystalline to microcrystalline, dense to chalky texture, firm to soft, argillaceous, tight; SHALE [10] - brownish grey to grey, rough to fine texture, firm, partly micromicaceous, calcareous, blocky;
1140-1145:	LIMESTONE [90] - light to medium brown, partly buff, cryptocrystalline to microcrystalline, dense to chalky texture, firm to soft, argillaceous, tight; SHALE [10] - brownish grey to grey, rough to fine texture, firm, partly micromicaceous, calcareous, blocky;
1145-1150:	LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, tight;
1150-1155:	LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, trace pyrite, tight;
1155-1160:	LIMESTONE [100] - light greyish white to brownish offwhite to tan, cryptocrystalline to microcrystalline, dense texture, firm to hard, argillaceous, shale partings, tight;
1160-1165:	LIMESTONE [100] - tan to light brown, cryptocrystalline to microcrystalline, partly mudstone, dense texture, firm, argillaceous, tight;
1165-1170:	LIMESTONE [100] - tan to light brown, cryptocrystalline to microcrystalline, partly mudstone, dense texture, firm, argillaceous, tight;
1170-1175:	LIMESTONE [100] - light greyish white to brownish offwhite to tan, cryptocrystalline to microcrystalline, dense texture, firm to hard, argillaceous, shale partings, tight;
1175-1180:	LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, tight;

1180-1185: LIMESTONE [100] - light greyish white to brownish offwhite to tan, cryptocrystalline to microcrystalline, dense texture, firm to hard, argillaceous, shale partings, tight;

1185-1190: LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, shale stringers, tight;

1190-1195: LIMESTONE [100] - light greyish white to brownish offwhite to tan, cryptocrystalline to microcrystalline, dense texture, firm to hard, argillaceous, shale partings, tight;

1195-1205: LIMESTONE [100] - light brown to brownish offwhite to tan, cryptocrystalline to microcrystalline, partly mudstone, dense to chalky texture, firm to soft, argillaceous, shale stringers, tight;

1205-1215: LIMESTONE [80] - light to medium brown to greyish brown, cryptocrystalline to microcrystalline, dense texture, firm, minor pyrite, argillaceous, tight;
SHALE [20] - grey, very fine texture, earthy, partly micromicaceous, calcareous, blocky;

1215-1225: LIMESTONE [60] - light to medium brown to greyish brown, cryptocrystalline to microcrystalline, dense texture, firm, minor pyrite, argillaceous, tight;
SHALE [30] - grey, very fine texture, earthy, partly micromicaceous, calcareous, blocky;
SILTSTONE [10] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;

1225-1230: SHALE [70] - light to medium grey, very fine to fine texture, earthy, partly micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [30] - greyish green, very fine texture, hard, argillaceous, calcareous, limestone stringers, tight;

1230-1235: SHALE [90] - light to medium grey, very fine to fine texture, earthy, partly micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [10] - greyish green, very fine texture, hard, argillaceous, calcareous, limestone stringers, tight;

1235-1240: SHALE [90] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [10] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;

1240-1245: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [20] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;
LIMESTONE [10] - light brown to brownish grey, microcrystalline, dense texture, argillaceous, tight;

1245-1250: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [20] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;
LIMESTONE [10] - light brown to brownish grey, microcrystalline, dense texture, argillaceous, tight;

1250-1255: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
LIMESTONE [30] - light brown to offwhite, microcrystalline, dense texture, argillaceous, tight;

1255-1260: SHALE [100] - light to medium grey to slightly greyish green, very fine to fine texture, in part earthy, partly micromicaceous, silty, calcareous, siltstone stringers, blocky;

1260-1265: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
LIMESTONE [30] - light brown to offwhite, microcrystalline, dense texture, argillaceous, tight;

1265-1275: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
LIMESTONE [30] - light brown to offwhite, microcrystalline to very fine crystalline, dense texture, argillaceous, tight;

KAKISA 1280.0 m (-615.35)

1275-1280: SHALE [50] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
SILTSTONE [20] - greyish green, very fine texture, hard, argillaceous, calcareous, tight;
LIMESTONE [30] - light brown to brownish grey, microcrystalline, dense texture, argillaceous, tight;

1280-1285: SHALE [100] - light to medium grey to slightly greyish green, very fine to fine texture, partly earthy, firm, in part micromicaceous, calcareous, silty, blocky;

1285-1290: SHALE [70] - light to medium grey, very fine to fine texture, earthy, micromicaceous, calcareous, in part silty, blocky;
LIMESTONE [30] - light brown to offwhite, microcrystalline, dense texture, argillaceous, tight;

1290-1295: SHALE [80] - light to medium grey, very fine to fine texture, in part earthy, slightly micromicaceous, calcareous, blocky;
LIMESTONE [20] - light brown to offwhite, microcrystalline, dense texture, argillaceous, tight;

1295-1300: SHALE [90] - light to medium grey, very fine to fine texture, in part earthy, slightly micromicaceous, calcareous, blocky;
LIMESTONE [10] - light brown to offwhite, cryptocrystalline to microcrystalline, dense texture, argillaceous, tight;

1300-1305: SHALE [90] - light to medium grey, very fine to fine texture, in part earthy, slightly micromicaceous, calcareous, blocky;
LIMESTONE [10] - light brown to offwhite, cryptocrystalline to microcrystalline, dense texture, argillaceous, tight;

FORT SIMPSON 1310.0 m (-645.35)

1305-1310: SHALE [80] - light to medium grey, very fine to fine texture, in part earthy, slightly micromicaceous, calcareous, blocky;
LIMESTONE [20] - light brown to offwhite, cryptocrystalline to microcrystalline, dense texture, argillaceous, tight;

1310-1315: SHALE [100] - brownish red to grey, very fine to rough texture, in part earthy, firm, micromicaceous, non calcareous, blocky;

1315-1320: SHALE [100] - light to medium grey to brownish red, very fine to rough texture, in part earthy, firm, micromicaceous, in part calcareous, blocky;

1320-1325: SHALE [100] - light grey to greyish green to partly brown, very fine to rough texture, partly earthy, firm, slightly micromicaceous, minor silty stringers, blocky;

1325-1330: SHALE [100] - light grey to greyish green to brownish red, very fine to smooth texture, in part waxy, partly earthy, firm, slightly micromicaceous, minor calcareous siltone stringers, blocky to subfissile;

1330-1335: SHALE [100] - light grey to greyish green to brownish red, very fine to smooth texture, in part waxy, partly earthy, firm, slightly micromicaceous, minor calcareous siltstone stringers, blocky to subfissile;

1335-1340: SHALE [100] - light grey to greyish green to brownish red, very fine to smooth texture, in part waxy, partly earthy, firm, slightly micromicaceous, minor limestone stringers, blocky to subfissile;

1340-1345: SHALE [100] - light grey to greyish green to brownish red, very fine to smooth texture, in part waxy, partly earthy, firm, slightly micromicaceous, minor limestone stringers, blocky to subfissile;

1345-1350: SHALE [100] - light grey to greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;

1350-1355: SHALE [100] - light grey to green grey to brownish red, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;

1355-1360:	SHALE [100] - brownish red to greyish green to grey, very fine to smooth texture, earthy, firm, micromicaceous, minor limestone streaks, blocky to subfissile;
1360-1365:	SHALE [100] - light grey to greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;
1365-1370:	SHALE [100] - light grey to green grey to brownish red, very fine to fine texture, earthy, firm, micromicaceous, limestone stringers, blocky to subfissile;
1370-1375:	SHALE [100] - brownish red to greyish green to grey, very fine to smooth texture, earthy, firm, micromicaceous, blocky to subfissile;
1375-1380:	SHALE [100] - light grey to green grey to brownish red, very fine to fine texture, earthy, firm, micromicaceous, limestone stringers, blocky to subfissile;
1380-1385:	SHALE [100] - light grey to greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;
1385-1390:	SHALE [100] - light grey to partly greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;
1390-1395:	SHALE [100] - light grey to green grey to brownish red, very fine to fine texture, earthy, firm, micromicaceous, limestone stringers, blocky to subfissile;
1395-1400:	SHALE [100] - light grey to partly greyish green, very fine to fine texture, earthy, firm, micromicaceous, blocky to subfissile;
1400-1405:	SHALE [100] - light to medium grey, rough to very fine texture, in part earthy, firm, partly micromicaceous, blocky;
1405-1410:	SHALE [100] - light to medium grey, rough to very fine texture, in part earthy, firm, partly micromicaceous, rare silty stringers, blocky;
1410-1415:	SHALE [100] - light to medium grey, rough to very fine texture, in part earthy, firm, partly micromicaceous, rare limy stringers, blocky;
1415-1420:	SHALE [100] - light to medium grey, rough to very fine texture, in part earthy, firm, partly micromicaceous, blocky;
1420-1425:	SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky; LIMESTONE [10] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;
1425-1435:	SHALE [60] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky; LIMESTONE [40] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, slightly argillaceous, tight;
1435-1440:	SHALE [70] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky; LIMESTONE [30] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, slightly argillaceous, tight;

1440-1445:	SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky; LIMESTONE [10] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;
1445-1450:	SHALE [80] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky to subfissile; LIMESTONE [20] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;
1450-1455:	SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky to partly subfissile; LIMESTONE [10] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;
1455-1460:	SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1460-1465:	SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, blocky to partly subfissile; LIMESTONE [10] - light brown to offwhite to olive, microcrystalline to very fine crystalline, lithographic to slight granular texture, tight;
1465-1470:	SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1470-1480:	SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky, minor limy stringers;
1480-1485:	SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky, minor limy stringers;
1485-1490:	SHALE [100] - light to medium grey, rough to fine texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1490-1500:	SHALE [90] - light to medium grey, rough to very fine texture, earthy, firm, micromicaceous, trace pyrite, blocky to partly subfissile; LIMESTONE [10] - light brown to offwhite, microcrystalline to occasionally very fine crystalline, lithographic to slight granular texture, tight;
1500-1505:	SHALE [90] - light to medium grey, rough to smooth texture, earthy, firm, micromicaceous, blocky to partly subfissile; LIMESTONE [10] - light brown to offwhite, microcrystalline to occasionally very fine crystalline, lithographic to slight granular texture, tight;
1505-1510:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1510-1515:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;

1515-1520:	SHALE [100] - light to medium grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1520-1525:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1525-1530:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1530-1535:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1535-1540:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1540-1545:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1545-1555:	SHALE [100] - light to medium grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1555-1565:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, in part earthy, firm, micromicaceous, blocky to subfissile;
1565-1570:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1570-1575:	SHALE [100] - light to medium grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1575-1580:	SHALE [100] - light to medium grey to greyish brown, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1580-1585:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, firm, micromicaceous, slightly carbonaceous, blocky to subfissile;
1585-1590:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, firm, micromicaceous, slightly carbonaceous, subfissile to blocky;
1590-1595:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
1595-1600:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, firm, micromicaceous, blocky to partly subfissile;
1600-1605:	SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;

1605-1610:	SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;
1610-1615:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, subfissile to blocky;
1615-1620:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;
1620-1625:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to partly subfissile;
1625-1630:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;
1630-1635:	SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;
1635-1640:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;
1640-1645:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile
1645-1650:	SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;
1650-1655:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;
1655-1660:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to partly subfissile;
1660-1675:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to partly subfissile;
1675-1680:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1680-1685:	SHALE [100] - light to dark grey to greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;
1685-1690:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, trace limestone, subfissile to blocky;
1690-1695:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
1695-1700:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, blocky to subfissile;
1700-1705:	SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1705-1710: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, rare limy streaks, blocky to subfissile;

1710-1715: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1715-1720: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1720-1725: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1725-1730: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, trace limestone, subfissile to blocky;

1730-1735: SHALE [100] - light to dark grey, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1735-1740: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1740-1745: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1745-1750: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1750-1755: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1755-1760: SHALE [80] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky;
LIMESTONE [20] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1760-1765: SHALE [90] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky;
LIMESTONE [10] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1765-1770: SHALE [95] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky;
LIMESTONE [05] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1770-1775: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, limestone stringers, subfissile to blocky;

1775-1780: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1780-1785: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, limestone stringers, subfissile to blocky;

1785-1790: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1790-1795: SHALE [95] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky;
LIMESTONE [05] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1795-1800: SHALE [80] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, blocky to partly subfissile;
LIMESTONE [20] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1800-1805: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, subfissile to blocky;

1805-1810: SHALE [100] - light to dark grey to partly greyish black, rough to smooth texture, firm, micromicaceous, limestone stringers, subfissile to blocky;

1810-1815: SHALE [95] - light to dark grey, very fine to fine texture, firm, partly micromicaceous, in part calcareous, slightly carbonaceous, blocky;
LIMESTONE [05] - light brown, microcrystalline, chalky to dense texture, argillaceous, tight;

1815-1820: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1820-1825: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;

1825-1830: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1830-1835: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;

1835-1840: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;

1840-1845: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1845-1855: SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1855-1865: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1865-1870: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1870-1875: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, trace pyrite, blocky to subfissile;

1875-1880: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1880-1885: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;

1885-1890: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1890-1895: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, trace pyrite, blocky to subfissile;

1895-1900: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1900-1905: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1905-1910: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, minor limestone stringers, blocky to subfissile;

1910-1915: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1915-1920: SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1920-1925: SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;

1925-1930: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1930-1935: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1935-1940: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, trace pyrite, subfissile to blocky;

1940-1945: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1945-1950: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;

1950-1955: SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;

1955-1960: SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, subfissile to blocky;

1960-1965:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1965-1970:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1970-1975:	SHALE [100] - light to dark grey, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
1975-1980:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1980-1985:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
1985-1990:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
1990-1995:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
1995-2000:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
2000-2005:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
2005-2010:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
2010-2015:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
2015-2020:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, subfissile to blocky;
2020-2025:	SHALE [100] - light to dark grey, rough to fine texture, firm, micromicaceous, blocky to subfissile;
2025-2030:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, blocky to subfissile;
2030-2035:	SHALE [100] - light to dark grey to greyish brown, very fine to rough texture, partly earthy, firm, micromicaceous, trace limestone, blocky to subfissile;
2035-2040:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, firm, micromicaceous, partly carbonaceous, blocky to subfissile;
2040-2045:	SHALE [100] - light to dark grey to greyish brown, rough to very fine texture, slightly earthy, firm, micromicaceous, partly carbonaceous, blocky to subfissile;

MUSKWA 2045.0 m (-1380.35)

2045-2050:	SHALE [100] - light to dark grey to greyish black, rough to very fine texture, slightly earthy, firm, micromicaceous, partly carbonaceous, pyrite, blocky to subfissile;
2050-2055:	SHALE [100] - dark brownish black to greyish black, rough texture, earthy, firm, carbonaceous, pyrite, calcareous streaks, blocky;
2055-2060:	SHALE [100] - dark black to brownish black, rough texture, earthy, firm, carbonaceous, pyrite, blocky;
2060-2065:	SHALE [100] - dark black to brownish black, rough texture, earthy, firm, carbonaceous, pyrite, blocky;
2065-2070:	SHALE [100] - dark brownish black to greyish black, rough texture, earthy, firm, carbonaceous, pyrite, calcareous streaks, blocky;
2070-2072:	LIMESTONE [100] - brownish grey to mottled brown, microcrystalline, dense texture, hard, argillaceous, no visible porosity, no shows;
2072-2075:	LIMESTONE [100] - brownish grey to mottled brown, microcrystalline, dense texture, hard, argillaceous, no visible porosity, no shows;
2075-2080:	LIMESTONE [30] - brownish grey to mottled brown, microcrystalline, dense texture, hard, argillaceous, no visible porosity, no shows; GRAINSTONE [70] - dark grey to black, greyish clear black, firm, very fine crystalline, argillaceous, shaley, grades to sandy limestone, no visible porosity;
2080-2085:	LIMESTONE [100] - mottled brown to brown, microcrystalline, dense texture, hard, argillaceous, calcite infilled micro fractures, no visible porosity;
2085-2090:	LIMESTONE [100] - mottled brown to brown, microcrystalline, dense texture, hard, argillaceous, calcite infilled micro fractures, no visible porosity;
2090-2095:	LIMESTONE [100] - light brown to mottled brown, microcrystalline, in part mudstone, dense texture, hard, argillaceous, calcite infilled fractures, no visible porosity;
2095-2100:	LIMESTONE [100] - light brown to mottled brown to tan, microcrystalline, in part mudstone, dense texture, hard, argillaceous, no visible porosity;
2100-2105:	LIMESTONE [100] - light dark brown to mottled brown, microcrystalline, in part mudstone, dense texture, hard, argillaceous, calcite infilled fractures, no visible porosity;
2105-2110:	LIMESTONE [100] - buff to cream, microcrystalline, slight porcelaneous lustre, fractured, dense texture, hard, scattered very poor fracture porosity, no shows;
2110-2115:	LIMESTONE [100] - cream to tan to light brown, microcrystalline, partly mudstone, in part fractured, dense texture, slightly dolomitic, no visible porosity, no shows;

2115-2120: LIMESTONE [100] - cream to tan to light brown, microcrystalline, partly mudstone, dense texture, no visible porosity, no shows;

2120-2125: LIMESTONE [100] - cream to tan to light brown, microcrystalline, partly mudstone, dense texture, no visible porosity, no shows;

2125-2130: LIMESTONE [100] - cream to tan to light brown to slightly white, microcrystalline, partly mudstone, dense texture to partly chalky, shaley streaks, no visible porosity, no shows;

2130-2135: LIMESTONE [100] - light to dark brown to tan to slightly mottled brownish white, microcrystalline, partly mudstone, dense texture to partly chalky, argillaceous, no visible porosity, no shows;

2135-2140: LIMESTONE [100] - light to dark brown to mottled brownish white, microcrystalline, dense to partly chalky texture, hard, argillaceous, no visible porosity, no shows;

2140-2145: LIMESTONE [100] - light to dark brown to mottled brownish white, microcrystalline, dense to partly chalky texture, hard, argillaceous, no visible porosity, no shows;

WATT MOUNTAIN 2145.0 m (-1480.35)

2145-2150: LIMESTONE [100] - dark brown to blackish brown, mudstone to partly microcrystalline, earthy lustre, hard, argillaceous, no visible porosity, no shows;

SULFUR POINT 2153.0 m (-1488.35)

2150-2155: LIMESTONE [100] - dark brown to black, mudstone, earthy lustre, hard, argillaceous, minor brown shaley partings, no visible porosity, no shows;

2155-2160: LIMESTONE [100] - light to medium brown, mottled brownish white, partly microcrystalline, mudstone, dense to framental texture, hard, argillaceous, minor brown shaley partings, no visible porosity, no shows;

2160-2165: LIMESTONE [100] - light to medium brown, mottled brownish white, partly microcrystalline, mudstone, dense to framental texture, hard, argillaceous, dark brown shaley partings, no visible porosity, no shows;

2165-2170: LIMESTONE [100] - mottled light brownish white to brown, partly cryptocrystalline to microcrystalline, in part mudstone, dense to framental texture, hard, argillaceous, no visible porosity, no shows;

HORN RIVER 2171.0 m (-1506.35)

2170-2175: LIMESTONE [100] - mottled light to dark brownish white to brown, partly cryptocrystalline to microcrystalline, in part mudstone, dense to framental texture, hard, argillaceous, no visible porosity, no shows;

2175-2180: LIMESTONE [100] - mottled light to dark brownish white to brown, partly cryptocrystalline to microcrystalline, in part mudstone, dense to framental texture, hard, argillaceous, no visible porosity, no shows;

2180-2185: LIMESTONE [100] - dark grey to blackish brown to speckled, mudstone, dense texture, hard, argillaceous, shaley, calcaite infilled fractures, no visible porosity, no shows;

2185-2190: LIMESTONE [100] - dark grey to blackish brown to speckled to light brown, mudstone, dense texture, hard, argillaceous, shaley, calcaite infilled fractures, no visible porosity, no shows;

2190-2195: LIMESTONE [100] - light to dark brown to mottled brownish grey white, microcrystalline to partly vert fine crystalline, in part mudstone, dense to slight hackly texture, hard, argillaceous, shaley, no visible porosity, no shows;

2195-2200: LIMESTONE [100] - dark brown to greyish black, mudstone, dense texture, earthy lustre, hard, argillaceous, shaley, no visible porosity, no shows;

2200-2205: LIMESTONE [100] - dark brown to greyish black, mudstone, dense texture, earthy lustre, hard, argillaceous, shaley, no visible porosity, no shows;

2205-2210: LIMESTONE [100] - dark brown to greyish black, mudstone, dense texture, earthy lustre, hard, argillaceous, trace pyrite, shaley, no visible porosity, no shows;

2210-2215: LIMESTONE [100] - dark brown to greyish black, mudstone, dense texture, rare chalky white stringers, earthy lustre, hard, argillaceous, shaley, no visible porosity, no shows;

NAHANNI 2215.0 m (-1550.35)

2215-2220: LIMESTONE [100] - dark brown to mottled brownish white, in part microcrystalline, mudstone, dense to slight fragmented texture, earthy lustre, hard, argillaceous, shaley, no visible porosity, no shows;

2220-2225: LIMESTONE [100] - dark brown to mottled brownish white, in part microcrystalline, mudstone, dense to slight fragmented texture, earthy lustre, hard, argillaceous, no visible porosity, no shows;

2225-2230: LIMESTONE [100] - light to dark brown to brownish white, microcrystalline to partly very fine crystalline, in part mudstone, dense to slight fragmented texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2230-2235: LIMESTONE [100] - light to dark brown to brownish white, microcrystalline to partly very fine crystalline, in part mudstone, dense to slight fragmented texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2235-2240: LIMESTONE [100] - light to dark brown to mottled brownish white, microcrystalline, in part mudstone, dense to slight hackly texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2240-2245: LIMESTONE [100] - light to dark brown to tan, slightly microcrystalline, in part mudstone, dense texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2245-2250: LIMESTONE [100] - light to dark brown to tan, slightly microcrystalline, in part mudstone, dense texture, slight earthy lustre, hard, argillaceous, trace pyrite, minor calcite crystals, no visible porosity, no shows;

2250-2255: LIMESTONE [100] - light to dark brown to tan, slightly microcrystalline, in part mudstone, dense texture, slight earthy lustre, hard, argillaceous, no visible porosity, no shows;

2255-2260: LIMESTONE [100] - light to dark brown, mudstone, dense texture, hard, argillaceous, shale partings, no visible porosity, no shows;

2260-2265: LIMESTONE [100] - light to dark brown to tan, mudstone, dense texture, earthy lustre, hard, argillaceous, trace pyrite, no visible porosity, no shows;

2265-2270: LIMESTONE [100] - light to dark brown to tan, mudstone, earthy lustre, dense texture, hard, argillaceous, calite infilled minor fractures, no visible porosity, no shows;

2270-2275: LIMESTONE [100] - mottled dark brown, partly microcrystalline, in part mudstone, dense texture, hard, partly argillaceous, calcite crystals, no visible porosity, no shows;

2275-2280: LIMESTONE [100] - mottled dark brown, partly microcrystalline, in part mudstone, dense texture, hard, argillaceous, calcite crystals, no visible porosity, no shows;

2280-2285: LIMESTONE [100] - medium to dark brown to partly mottled brown, partly microcrystalline, mudstone, dense texture, hard, argillaceous, no visible porosity, no shows;

HEADLESS 2285.0 m (-1620.35)

2285-2290: LIMESTONE [100] - medium to dark brown to partly mottled brown, partly microcrystalline, mudstone, dense to slight waxy texture, hard, argillaceous, no visible porosity, no shows, trace green pyritic waxy shale;

2290-2295: LIMESTONE [95] - medium to dark brown to partly mottled brown, partly microcrystalline, mudstone, dense to slight waxy texture, hard, argillaceous, no visible porosity, no shows;
SHALE [05] - green, waxy to smooth texture, firm, pyritic, blocky;

2295-2300: LIMESTONE [90] - medium to dark brown to partly mottled brown to greyish brown, partly microcrystalline, mudstone, dense to slight waxy texture, hard, argillaceous, no visible porosity, no shows;
SHALE [10] - green to greyish green, waxy to smooth texture, firm, pyritic, blocky;

2300-2306: LIMESTONE [70] - light brown to tan, mudstone, dense to slight waxy texture, hard, argillaceous, no visible porosity, no shows;
SHALE [30] - green to greyish green, waxy to smooth texture, firm, pyritic, blocky;

LANDRY 2306.0 m (-1641.35)

2306-2309: DOLOMITE [100] - white, cryptocrystalline to fine crystalline, partly euhedral to subhedral crystals, dense texture, partly bituminous, scattered very poor intercrystalline porosity, no shows;

2309-2315: DOLOMITE [100] - white, cryptocrystalline to fine crystalline, partly euhedral to subhedral crystals, dense texture, partly bituminous, scattered very poor intercrystalline porosity, no shows;

2315-2320: DOLOMITE [100] - white to light white grey, cryptocrystalline to fine crystalline, partly euhedral to subhedral crystals, dense texture, partly bituminous, scattered very poor intercrystalline porosity, no shows;

2320-2325: DOLOMITE [100] - white to light white grey, cryptocrystalline to fine crystalline, partly euhedral to subhedral crystals, dense texture, partly bituminous, scattered very poor intercrystalline porosity, no shows, contaminated with LCM;

2325-2330: DOLOMITE [100] - white to light white grey, cryptocrystalline to microcrystalline, dense texture, partly bituminous, rare very poor intercrystalline porosity, no shows, contaminated with LCM;

2330-2335: DOLOMITE [100] - white to smoky grey, cryptocrystalline, dense texture, partly bituminous, no visible porosity, no shows, contaminated with LCM;

ARNICA 2337.0 m (-1672.35)

2335-2340: DOLOMITE [100] - light brown to brownish grey to tan, cryptocrystalline to slightly microcrystalline, dense texture, partly argillaceous, no visible porosity, no shows;

2340-2345: DOLOMITE [100] - light brown to tan, cryptocrystalline to slightly microcrystalline, dense texture, partly argillaceous, no visible porosity, no shows;

2345-2350: DOLOMITE [100] - light brown to tan to partly mottled brownish white, cryptocrystalline to slightly microcrystalline, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;

2350-2355: DOLOMITE [100] - light to medium brown to tan to partly mottled brownish white, cryptocrystalline to slightly microcrystalline, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;

2355-2360: DOLOMITE [100] - light brown to tan, partly cryptocrystalline, grading to mudstone, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;

2360-2365: DOLOMITE [90] - light brown to tan, partly cryptocrystalline, grading to mudstone, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;
LIMESTONE [10] - offwhite, microcrystalline, chalky texture, soft, argillaceous, tight;

2365-2370: DOLOMITE [95] - light brown to tan, partly cryptocrystalline, grading to mudstone, dense texture, partly argillaceous, trace pyrite, no visible porosity, no shows;
LIMESTONE [05] - offwhite, microcrystalline, chalky texture, soft, argillaceous, tight;

2370-2375: DOLOMITE [90] - light brown to grey, partly cryptocrystalline, grading to mudstone, dense texture, partly argillaceous, partly anhydritic, trace pyrite, no visible porosity, no shows;
LIMESTONE [10] - offwhite, microcrystalline, chalky texture, soft, argillaceous, tight;

2375-2380: DOLOMITE [90] - grey to greyish brown to dark grey, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part anhydritic, slightly calcareous, no visible porosity, no shows;
LIMESTONE [10] - greyish offwhite, microcrystalline, slightly chalky texture, firm, argillaceous, no visible porosity, no shows;

2380-2385: DOLOMITE [100] - light to dark grey to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, dolomitic shale partings, no visible porosity, no shows;

2385-2390: DOLOMITE [100] - greyish brown, mudstone, dense texture, argillaceous, no visible porosity, no shows;

2390-2395: DOLOMITE [100] - light to dark grey to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, no visible porosity, no shows;

2395-2400: DOLOMITE [90] - light to dark grey to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, no visible porosity, no shows;
LIMESTONE [10] - dark brown, cryptocrystalline, fragmental texture, altered, argillaceous, tight;

2400-2405:	DOLOMITE [70] - light to dark grey to greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, no visible porosity, no shows; LIMESTONE [30] - dark brown, cryptocrystalline, fragmental texture, altered, argillaceous, tight;
2405-2408:	DOLOMITE [70] - greyish brown, cryptocrystalline to partly microcrystalline, dense texture, argillaceous, in part calcareous, slightly anhydritic, no visible porosity, no shows; AHYDRITE [25] - offwhite to brownish orange, cryptocrystalline to microcrystalline, dense to chalky texture, tight. LIMESTONE [05] - dark brown, cryptocrystalline, fragmental texture, altered, argillaceous, tight;

TOTAL DEPTH 2408.63 m FEBRUARY 24,1999 @ 22:00 hours

ALPINE REPORT

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Alpine Production Services

JOB # 4130
CUSTOMER : PARAMOUNT RESOURCES
CUSTOMER REP : DAVE WILSON
WELL NAME : PARAMOUNT BERKLEY NETLA
LOCATION : P - 57

Note : gas rate and cum gas include N2.

Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	$m^3/min.$	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
2/18/99											
12:00:00	ARRIVE 0N LOCATION TO SPOT EQUIPMENT + RIG UP TESTING EQUIPMENT.										
2/19/99											
11:00:00	PRESSURE TEST RIG MANIFOLD + H.C.R LINES.										
15:00:00	PRESSURE TEST B.O.P STACK + R-B.O.P.										
17:30:00	PRESSURE TEST E.S.D + FLOWLINES.										
18:00:00	FINISHED PRESSURE TEST.										
18:15:00	MAKE UP B.H.A.										
18:45:00	START TO RUN IN HOLE WITH DRILL BIT.										
23:00:00	ON BOTTOM WITH DRILL BIT.										
2/20/99											
0:30:00	START TO DRILL OUT CEMENT + SHOE.										
2:30:00	FINISHED DRILLING OUT CEMENT + SHOE.										
2:40:00	PRESSURE TEST KELLY.										
3:40:00	FINISHED PRESSURE TEST.										
3:42:00	MAKE CONNECTION / CONTINUE DRILLING.										
4:25:00	MAKE CONNECTION / CONTINUE DRILLING.										
8:10:00	KELLY DOWN. STOP PUMPING FLUID, PREPARE TO BLOW DOWN HOLE.										
8:30:00	DIVERT FLOW FROM SHAKER TO SEPARATOR.										
9:00:00	START PUMPING INVERT TO CIRCULATE DOWN DRILL PIPE.										
9:35:00	STOP PUMPING INVERT, HOLD SAFETY MEETING.										
9:55:00	START PUMPING INVERT AND N2 TO BLOW DOWN HOLE.										
10:05:00	STOP PUMPING INVERT AND N2 TO REPAIR LEAK IN STAND PIPE AND REPLACE RUBBER IN ROTATING HEAD.										
11:10:00	START PUMPING INVERT AND N2 TO BLOW DOWN HOLE.										
11:42:00	STOP PUMPING INVERT AND N2 TO FREE TRANSFER LINE OF DEBRIS.										
12:30:00	START PUMPING INVERT AND N2 TO BLOW DOWN HOLE.										
12:30:00	369.36	54.51	52.13	0.38	30.00		390.00				

APR 2 7 2000

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	$m^3/min.$	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
12:40:00	81.62	6.56	0.00	0.43	30.00		390.00				
12:50:00	293.03	15.12	0.00	0.43	30.00		390.00				
99/02/20											
12:54:00	N2 TO SURFACE START PUMPING N2 AT 35 m^3/min. AND INVERT AT 390 Lt./min.										
13:00:00	START DRILLING AT 2079 m.										
13:00:00	442.77	102.47	44.19	0.62	35.00	0.00	390.00	61.75	0.00	0.00	0.00
13:10:00	313.58	74.58	13.02	0.63	35.00	0.00	390.00				
13:20:00	278.34	63.81	12.46	0.71	35.00	0.00	390.00				
13:30:00	315.27	62.48	31.22	0.95	35.00	0.00	390.00				
13:40:00	340.00	70.91	28.11	1.15	35.00	0.00	390.00				
13:47:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
13:50:00	303.53	75.69	0.00	1.33	0.00	0.00	0.00				
13:53:00	DROP 2080 m SAMPLE.										
13:54:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
14:00:00	155.03	34.94	0.00	1.33	35.00	0.00	390.00	60.70	-1.05	0.00	-1.05
14:00:00	INVERT LOST TO HOLE.										
14:10:00	134.47	31.51	0.00	1.37	35.00	0.00	390.00				
14:20:00	144.49	8.61	10.09	1.40	35.00	0.00	390.00				
14:30:00	351.75	85.34	0.00	1.66	35.00	0.00	390.00				
14:40:00	353.00	81.06	20.83	1.76	35.00	0.00	390.00				
14:50:00	331.19	78.49	22.30	1.89	35.00	0.00	390.00				
15:00:00	316.51	73.84	18.28	2.02	35.00	0.00	390.00	59.30	-1.40	0.00	-2.45
15:00:00	INVERT LOST TO HOLE.										
15:10:00	328.26	73.35	18.73	2.16	35.00	0.00	390.00				
15:20:00	328.26	75.07	22.57	2.31	35.00	0.00	390.00				
15:29:00	DROP 2085 m SAMPLE.										
15:30:00	327.01	79.35	23.39	2.46	35.00	0.00	390.00				
15:40:00	357.62	86.32	29.95	2.63	35.00	0.00	390.00				
15:50:00	348.81	90.73	23.73	2.79	35.00	0.00	390.00				
16:00:00	345.88	91.95	18.92	2.95	35.00	0.00	390.00	59.10	-0.20	0.00	-2.65
16:00:00	INVERT LOST TO HOLE.										
16:10:00	340.00	94.89	26.67	3.11	35.00	0.00	390.00				
16:20:00	372.30	100.51	26.30	3.28	35.00	0.00	390.00				
16:30:00	359.30	110.18	23.48	3.46	35.00	0.00	390.00				

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
99/02/20											
16:34:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
16:40:00	231.37	101.25	0.00	3.60	0.00	0.00	0.00				
16:40:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
16:45:00	DROP 2090 m SAMPLE.										
16:50:00	207.88	82.65	25.79	3.70	35.00	0.00	390.00				
17:00:00	125.67	61.61	0.00	3.79	35.00	0.00	390.00	55.60	-3.50	0.00	-6.15
17:00:00	INVERT LOST TO HOLE.										
17:10:00	442.77	101.74	48.14	4.00	35.00	0.00	390.00				
17:20:00	322.39	105.16	22.84	4.24	35.00	0.00	390.00				
17:30:00	319.45	112.99	24.53	4.42	35.00	0.00	390.00				
17:40:00	334.13	109.32	24.52	4.58	35.00	0.00	390.00				
17:50:00	335.36	111.89	24.07	4.75	35.00	0.00	390.00				
17:55:00	INCREASE N2 RATE TO 40 m^3/min.										
18:00:00	401.66	122.53	27.65	4.94	40.00	0.00	390.00	58.10	2.50	0.00	-3.65
18:00:00	INVERT GAINED DUE TO INCREASE OF N2 RATE.										
18:10:00	426.42	151.54	29.18	5.15	40.00	0.00	390.00				
18:09:00	DROP 2095 m SAMPLE.										
18:20:00	454.51	160.46	26.60	5.35	40.00	0.00	390.00				
18:30:00	416.34	170.49	28.70	5.56	40.00	0.00	390.00				
18:40:00	395.79	170.98	26.22	5.75	40.00	0.00	390.00				
18:50:00	412.14	177.94	27.41	5.96	40.00	0.00	390.00				
19:00:00	405.86	187.27	33.38	6.17	40.00	0.00	390.00	59.40	1.30	0.00	-2.35
19:00:00	INVERT GAINED DUE TO INCREASE OF N2 RATE.										
19:10:00	425.15	198.38	34.84	6.39	40.00	0.00	390.00				
19:15:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
19:20:00	426.42	212.48	33.14	6.63	0.00	0.00	0.00				
19:26:00	SWITCH OVER TO SECONDARY RIG PUMP.										
19:27:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
19:27:00	INCREASE INVERT PUMP RATE TO 540 Lt./min.										
19:29:00	DROP 2100 m SAMPLE.										
19:30:00	313.58	177.10	34.59	6.76	40.00	0.00	540.00				
99/02/20											
19:40:00	316.51	150.92	14.20	6.92	40.00	0.00	540.00				

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
19:50:00	454.89	247.26	34.68	7.32	40.00	0.00	540.00				
19:57:00	DECREASE N2 RATE TO 35 m^3/min.										
20:00:00	509.01	239.58	39.34	7.51	35.00	0.00	540.00	52.10	-7.30	0.00	-9.65
20:00:00	INVERT LOST TO HOLE.										
20:10:00	592.51	292.58	41.98	7.83	35.00	0.00	540.00				
20:20:00	548.47	328.31	37.72	8.13	35.00	0.00	540.00				
20:30:00	589.57	365.74	52.70	8.45	35.00	0.00	540.00				
20:40:00	633.61	425.93	60.06	8.83	35.00	0.00	540.00				
20:45:00	DROP 2105 m SAMPLE.										
20:50:00	718.76	513.28	74.41	9.27	35.00	0.00	540.00				
21:00:00	482.96	58.10	30.28	9.48	35.00	0.00	540.00	51.80	-0.30	0.00	-9.95
21:00:00	INVERT LOST TO HOLE.										
21:10:00	445.70	62.34	0.00	9.61	35.00	0.00	540.00				
21:20:00	432.29	66.62	17.64	9.75	35.00	0.00	540.00				
21:21:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
21:27:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
21:30:00	231.37	37.88	5.33	9.82	35.00	0.00	540.00				
21:40:00	334.13	35.92	28.78	9.94	35.00	0.00	540.00				
21:45:00	DROP 2110 m SAMPLE.										
21:50:00	442.77	55.98	34.18	10.08	35.00	0.00	540.00				
22:00:00	463.32	51.09	27.40	10.25	35.00	0.00	540.00	52.10	0.30	0.00	-9.65
22:00:00	INVERT GAINED FROM HOLE.										
22:10:00	428.09	45.46	38.45	10.45	35.00	0.00	540.00				
22:20:00	416.34	42.52	22.94	10.70	35.00	0.00	540.00				
22:30:00	448.64	40.32	27.34	10.83	35.00	0.00	540.00				
22:32:00	FINISHED ADDING 10 m3 TO RIG TANK.										
22:40:00	450.30	38.99	35.82	11.05	35.00	0.00	540.00				
22:50:00	441.49	37.52	45.33	11.33	35.00	0.00	540.00				
23:00:00	433.96	34.70	45.27	11.85	35.00	0.00	540.00	61.10	-1.00	-10.00	-10.65
23:00:00	INVERT LOST TO HOLE.										
99/02/20											
23:10:00	420.55	32.84	47.66	12.17	35.00	0.00	540.00				
23:20:00	435.62	32.39	50.53	12.51	35.00	0.00	540.00				
23:27:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
23:30:00	272.47	29.31	0.00	12.80	0.00	0.00	0.00				
23:32:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
23:40:00	369.36	24.91	36.41	12.89	35.00	0.00	540.00				
23:50:00	475.06	25.89	57.51	13.18	35.00	0.00	540.00				
99/02/21											
0:00:01	460.38	44.24	31.58	13.33	35.00	0.00	540.00	61.40	0.30	-10.00	-10.35
0:00:00	INVERT GAINED FROM HOLE.										
0:01:00	DROP 2120 m SAMPLE.										
0:10:01	428.09	45.71	16.59	13.47	35.00	0.00	540.00				
0:20:01	436.89	48.40	26.50	13.64	35.00	0.00	540.00				
0:30:01	409.20	44.37	16.44	13.73	35.00	0.00	540.00				
0:40:01	442.77	45.71	25.39	13.88	35.00	0.00	540.00				
0:50:01	408.80	49.73	29.40	14.06	35.00	0.00	540.00				
0:52:00	DROP 2125 m SAMPLE.										
1:00:01	451.58	49.38	14.64	14.19	35.00	0.00	540.00	60.50	-0.90	-10.00	-11.25
1:00:01	INVERT LOST TO HOLE.										
1:10:01	454.51	46.19	32.15	14.30	35.00	0.00	540.00				
1:20:02	448.64	45.71	24.71	14.42	35.00	0.00	540.00				
1:30:01	466.26	46.19	14.21	14.56	35.00	0.00	540.00				
1:30:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
1:38:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
1:40:01	234.30	23.68	10.30	14.63	35.00	0.00	540.00				
1:50:01	184.39	19.04	0.00	14.73	35.00	0.00	540.00				
2:00:01	385.31	24.28	28.62	14.84	35.00	0.00	540.00	59.20	-1.30	-10.00	-12.55
2:00:01	INVERT LOST TO HOLE.										
2:10:01	519.11	52.31	20.82	15.06	35.00	0.00	540.00				
2:20:01	457.45	49.62	17.42	15.18	35.00	0.00	540.00				
2:30:01	435.23	54.38	0.00	15.29	35.00	0.00	540.00				
99/02/21											
2:40:01	415.07	43.88	21.73	15.37	35.00	0.00	540.00				
2:50:01	435.23	45.32	12.76	15.49	35.00	0.00	540.00				
2:55:00	DROP 2135 m SAMPLE.										
3:00:01	426.81	46.82	19.86	15.61	35.00	0.00	540.00	59.20	0.00	-10.00	-12.55
3:10:01	482.59	52.20	28.29	15.74	35.00	0.00	540.00				

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
3:20:01	463.32	47.91	15.67	15.86	35.00	0.00	540.00				
3:22:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
3:26:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
3:30:01	290.09	28.58	4.44	15.94	35.00	0.00	540.00				
3:40:01	342.94	27.35	23.87	16.05	35.00	0.00	540.00				
3:50:01	442.77	41.30	25.96	16.21	35.00	0.00	540.00				
3:55:00	DROP 2140 m SAMPLE.										
4:00:01	419.28	52.07	15.07	16.38	35.00	0.00	540.00	59.50	0.30	-10.00	-12.25
4:00:00	INVERT GAINED FROM HOLE.										
4:10:02	442.77	50.60	18.42	16.50	35.00	0.00	540.00				
4:20:01	397.05	44.35	12.18	16.61	35.00	0.00	540.00				
4:30:01	445.70	43.50	13.94	16.73	35.00	0.00	540.00				
4:40:01	419.28	45.95	18.70	16.85	35.00	0.00	540.00				
4:50:01	469.19	52.07	18.21	16.98	35.00	0.00	540.00				
4:55:01	DROP 2145 m SAMPLE.										
5:00:01	461.66	52.42	17.04	17.11	35.00	0.00	540.00	58.70	-0.80	-10.00	-13.05
5:00:00	INVERT LOST TO HOLE.										
5:01:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
5:06:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
5:10:01	248.98	14.39	14.39	17.18	35.00	0.00	540.00				
5:20:01	304.77	32.72	32.72	17.30	35.00	0.00	540.00				
5:30:02	433.96	42.04	18.94	17.42	35.00	0.00	540.00				
5:34:00	DROP 2150 m SAMPLE.										
5:40:01	463.32	56.47	18.24	17.56	35.00	0.00	540.00				
5:50:01	460.38	51.82	19.28	17.67	35.00	0.00	540.00				
5:59:00	HIT DRILLING BREAK, CIRCULATE UP 2153 m SAMPLE.										
99/02/21											
6:00:01	398.73	50.35	15.31	17.79	35.00	0.00	540.00	58.50	-0.20	-10.00	-13.25
6:00:00	INVERT LOST TO HOLE.										
6:00:00	NET GAS FLARED FOR 17 HRS = 0 THm^3/day.										
	TOTAL INVERT LOST FOR 17 HRS = 13.25 m^3.										
	INVERT IS NOT ACTUALLY LOST, IT IS MOST LIKELY JUST SUSPENDED IN THE HOLE.										
	TOTAL AMOUNT OF INVERT ADDED TO RIG TANK FOR 17 HRS = 10 m^3.										
	H2S READING = 0 %.										

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
99/02/21											
6:10:01	416.34	40.81	17.07	17.91	35.00	0.00	540.00				
6:20:01	431.02	41.55	16.06	18.03	35.00	0.00	540.00				
6:22:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
6:26:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
6:26:00	SWITCH BACK TO PRIMARY RIG PUMP AND DECREASE INVERT RATE TO 360 Lt./min.										
6:30:01	250.69	24.56	11.43	18.12	35.00	0.00	360.00				
6:40:01	248.98	19.28	15.62	18.22	35.00	0.00	360.00				
6:50:02	272.47	21.48	14.64	18.33	35.00	0.00	360.00				
6:56:00	INCREASE N2 RATE TO 40 m^3/min.										
7:00:01	507.36	84.85	32.37	18.51	40.00	0.00	360.00	63.30	4.80	-10.00	-8.45
7:00:00	HOLE IS UNLOADING. INVERT GAIN DUE TO INCREASE OF N2 RATE AND DECREASE OF INVERT PUMP RATE.										
7:02:00	DROP 2155 m SAMPLE.										
7:10:01	435.62	64.68	19.37	18.62	40.00	0.00	360.00				
7:20:01	384.46	58.94	15.72	18.74	40.00	0.00	360.00				
7:21:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
7:25:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
7:30:01	275.41	37.63	15.87	18.83	40.00	0.00	360.00				
7:40:01	586.64	17.57	40.70	18.92	40.00	0.00	360.00				
7:46:00	DROP 2160 m SAMPLE.										
7:50:01	401.66	58.92	15.03	19.08	40.00	0.00	360.00				
8:00:01	398.73	62.83	22.74	19.21	40.00	0.00	360.00	64.30	1.00	-10.00	-7.45
8:00:00	INVERT GAIN DUE TO HOLE UNLOADING.										
8:10:01	522.04	51.09	0.00	19.33	40.00	0.00	360.00				
8:14:00	DROP 2165 m SAMPLE.										
8:20:01	398.73	59.16	15.53	19.46	40.00	0.00	360.00				
8:24:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
8:29:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
8:30:01	290.09	46.44	12.74	19.58	40.00	0.00	360.00				
8:40:02	281.28	36.16	20.02	19.68	40.00	0.00	360.00				
8:50:01	394.12	47.28	20.05	19.79	40.00	0.00	360.00				
8:56:00	DROP 2170 m SAMPLE.										
99/02/21											
9:00:01	404.60	68.95	0.00	19.92	40.00	0.00	360.00	63.30	-1.00	-10.00	-8.45

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
9:00:00	INVERT LOST TO HOLE.										
9:10:01	404.60	59.65	15.88	20.04	40.00	0.00	360.00				
9:20:01	493.97	60.50	0.00	20.17	40.00	0.00	360.00				
9:23:00	DROP 2175 m SAMPLE.										
9:30:01	413.41	57.69	18.17	20.29	40.00	0.00	360.00				
9:40:01	366.43	72.13	25.61	20.42	40.00	0.00	360.00				
9:41:00	STOP PUMPING N2 AND INVERT TO PULL 10 STANDS OF DRILL PIPE TO REMOVE FLOAT TO SURVEY.										
9:50:01	202.01	28.09	10.18	20.50	0.00	0.00	0.00				
10:00:00	105.11	11.21	12.32	20.59	0.00	0.00	0.00	68.30	5.00	-10.00	-3.45
10:00:00	HOLE IS UNLOADING. INVERT GAIN DUE TO SURVEY TRIP.										
10:10:00	75.75	6.31	8.04	20.70	0.00	0.00	0.00				
10:20:00	66.94	5.33	0.00	20.70	0.00	0.00	0.00				
10:30:00	66.94	4.84	0.00	20.70	0.00	0.00	0.00				
10:40:00	66.94	4.11	0.00	20.70	0.00	0.00	0.00				
10:50:00	RUN IN HOLE WITH SURVEY TOOL.										
10:50:00	64.01	3.38	0.00	20.70	0.00	0.00	0.00				
11:00:00	65.75	3.77	0.00	20.70	0.00	0.00	0.00	68.50	0.20	-10.00	-3.25
11:00:00	INVERT GAIN DUE TO SURVEY TRIP.										
11:10:00	62.26	2.74	0.00	20.70	0.00	0.00	0.00				
11:20:00	61.07	3.38	0.00	20.70	0.00	0.00	0.00				
11:30:00	64.01	3.62	0.00	20.70	0.00	0.00	0.00				
11:40:00	68.69	4.01	0.00	20.70	0.00	0.00	0.00				
11:50:00	61.07	3.62	0.00	20.70	0.00	0.00	0.00				
11:52:00	SURVEY IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
12:00:00	59.32	5.43	0.00	20.70	40.00	0.00	360.00	63.70	-4.80	-10.00	-8.05
12:00:00	INVERT LOSS DUE TO NOT HAVING RETURNS AT SURFACE.										
12:10:00	66.94	6.31	0.00	20.70	40.00	0.00	360.00				
12:20:00	64.01	6.07	0.00	20.70	40.00	0.00	360.00				
12:25:00	INVERT AND N2 TO SURFACE. START DRILLING.										
12:30:00	701.15	121.31	13.29	22.26	40.00	0.00	360.00				
99/02/21											
12:40:00	501.49	96.35	0.00	22.43	40.00	0.00	360.00				
12:50:00	379.85	66.15	17.99	22.53	40.00	0.00	360.00				
12:51:00	DROP 2180 m SAMPLE.										

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
13:00:00	357.62	50.84	22.59	22.64	40.00	0.00	360.00	57.70	-6.00	-10.00	-14.05
13:00:00	INVERT LOST BECAUSE HOLE HAS NOT UNLOADED YET.										
13:10:00	357.62	56.47	21.97	22.77	40.00	0.00	360.00				
13:20:00	389.92	60.39	21.67	22.90	40.00	0.00	360.00				
13:26:00	DROP 2185 m SAMPLE.										
13:30:00	384.04	64.30	21.64	23.04	40.00	0.00	360.00				
13:33:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
13:40:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
13:40:00	260.73	44.73	7.98	23.15	40.00	0.00	360.00				
13:50:00	240.18	34.45	21.45	23.25	40.00	0.00	360.00				
14:00:00	397.05	48.75	30.86	23.36	40.00	0.00	360.00	63.20	5.50	-10.00	-8.55
14:00:00	INVERT GAIN DUE TO HOLE UNLOADING.										
14:10:00	368.10	38.99	56.70	23.62	40.00	0.00	360.00				
14:10:00	DROP 2190 m SAMPLE.										
14:20:00	395.79	43.75	58.29	24.03	40.00	0.00	360.00				
14:30:00	368.10	42.66	57.55	24.42	40.00	0.00	360.00				
14:40:00	342.94	42.28	56.92	24.81	40.00	0.00	360.00				
14:47:00	DROP 2195 m SAMPLE.										
14:50:00	357.62	44.73	52.12	25.19	40.00	0.00	360.00				
15:00:00	369.36	46.68	53.76	25.55	40.00	0.00	360.00	64.60	1.40	-10.00	-7.15
15:00:00	INVERT GAIN DUE TO HOLE UNLOADING.										
15:01:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
15:06:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
15:10:00	214.97	24.03	41.60	25.89	40.00	0.00	360.00				
15:20:00	121.53	13.80	25.41	26.18	40.00	0.00	360.00				
15:30:00	712.89	132.57	0.00	26.44	40.00	0.00	360.00				
15:30:00	DROP 2200 m SAMPLE.										
15:40:00	310.64	34.94	54.17	26.83	40.00	0.00	360.00				
99/02/21											
15:50:00	329.51	38.72	44.43	27.16	40.00	0.00	360.00				
16:00:00	338.32	45.81	48.14	27.48	40.00	0.00	360.00	64.30	-0.30	-10.00	-7.45
16:00:00	INVERT LOST TO HOLE.										
16:10:00	366.43	48.40	47.95	27.82	40.00	0.00	360.00				
16:20:00	DROP 2205 m SAMPLE.										

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
16:20:00	363.49	48.64	46.07	28.14	40.00	0.00	360.00				
16:30:00	363.49	48.89	44.07	28.46	40.00	0.00	360.00				
16:34:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
16:39:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
16:40:00	307.71	44.97	36.89	28.77	40.00	0.00	360.00				
16:50:00	160.90	29.07	24.77	29.00	40.00	0.00	360.00				
17:00:00	409.20	27.98	47.10	29.18	40.00	0.00	360.00	63.10	-1.20	-10.00	-8.65
17:00:00	INVERT LOST TO HOLE.										
17:10:00	345.88	51.09	40.66	29.52	40.00	0.00	360.00				
17:18:00	DROP 2210 m SAMPLE.										
17:20:00	347.13	53.65	42.90	29.82	40.00	0.00	360.00				
17:30:00	337.07	48.64	40.51	30.10	40.00	0.00	360.00				
17:40:00	351.75	48.15	39.44	30.38	40.00	0.00	360.00				
17:50:00	369.36	50.60	39.83	30.66	40.00	0.00	360.00				
17:51:00	DROP 2215 m SAMPLE.										
17:55:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
17:59:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
18:00:00	322.39	48.64	38.32	30.94	40.00	0.00	360.00	65.70	2.60	-10.00	-6.05
18:00:00	INVERT GAIN DUE TO HOLE UNLOADING.										
18:10:00	272.47	37.14	35.78	31.17	40.00	0.00	360.00				
18:20:00	288.85	11.11	21.85	31.36	40.00	0.00	360.00				
18:30:00	DROP 2220 m SAMPLE.										
18:30:00	371.04	48.78	43.22	31.69	40.00	0.00	360.00				
18:40:00	375.24	53.29	43.47	32.00	40.00	0.00	360.00				
18:50:00	345.88	47.66	43.67	32.31	40.00	0.00	360.00				
18:57:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
99/02/21											
18:58:00	DROP 2225 m SAMPLE.										
19:00:00	334.13	46.93	43.24	32.62	0.00	0.00	0.00	65.10	-0.60	-10.00	-6.65
19:00:00	INVERT LOST TO HOLE.										
19:02:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
19:10:00	202.01	26.13	31.58	32.86	40.00	0.00	360.00				
19:20:00	175.58	11.70	22.19	33.07	40.00	0.00	360.00				
19:30:00	391.59	56.12	47.68	33.39	40.00	0.00	360.00				

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
19:40:00	386.98	55.00	48.92	33.72	40.00	0.00	360.00				
19:50:00	381.11	49.87	44.56	34.05	40.00	0.00	360.00				
19:52:00	DROP 2230 m SAMPLE.										
20:00:00	381.11	47.42	43.57	34.36	40.00	0.00	360.00	64.80	-0.30	-10.00	-6.95
20:10:00	361.81	48.75	44.89	34.67	40.00	0.00	360.00				
20:13:00	DROP 2235 m SAMPLE.										
20:13:00	STOP PUMPING N2 + INVERT TO MAKE A CONNECTION.										
20:17:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
20:20:00	304.77	41.06	39.83	34.98	40.00	0.00	360.00				
20:30:00	307.71	33.72	36.92	35.23	40.00	0.00	360.00				
20:40:00	373.98	38.75	40.91	35.46	40.00	0.00	360.00				
20:50:00	335.38	46.55	45.61	35.79	40.00	0.00	360.00				
20:52:00	DROP 2240 m SAMPLE.						360.00				
21:00:00	389.92	50.60	46.90	36.11	40.00	0.00	360.00	63.00	-1.80	-10.00	-8.75
21:00:00	LOSS OF INVERT DUE TO LEAK IN B.O.P STACK + TO HOLE.										
21:10:00	372.30	46.44	44.12	36.42	40.00	0.00	360.00				
21:20:00	375.24	46.19	43.95	36.73	40.00	0.00	360.00				
21:29:00	STOP PUMPING N2 + INVERT TO MAKE A CONNECTION.										
21:30:00	370.62	48.75	46.17	37.05	0.00	0.00	0.00				
21:32:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
21:34:00	DROP 2245 m SAMPLE.						360.00				
21:40:00	278.34	34.70	36.72	37.34	40.00	0.00	360.00				
21:50:00	178.52	29.80	25.39	37.60	40.00	0.00	360.00				
22:00:00	529.55	68.35	67.96	37.87	40.00	0.00	360.00	62.50	-0.50	-10.00	-9.25
99/02/22											
22:00:00	INVERT LOST TO HOLE.										
22:10:00	DROP 2250 m SAMPLE.										
22:10:00	384.04	52.31	49.68	38.21	40.00	0.00	360.00				
22:20:00	376.91	49.76	47.20	38.54	40.00	0.00	360.00				
22:30:00	372.30	46.93	44.20	38.86	40.00	0.00	360.00				
22:40:00	366.43	46.93	43.60	39.17	40.00	0.00	360.00				
22:42:00	STOP PUMPING N2 + INVERT TO MAKE A CONNECTION.										
22:47:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
22:50:00	301.83	41.30	39.81	39.48	40.00	0.00	360.00				

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
22:55:00	DROP 2255 m SAMPLE.										
23:00:00	284.22	37.39	21.45	39.70	40.00	0.00	360.00	62.50	0.00	-10.00	-9.25
23:10:00	404.60	46.19	22.40	39.82	40.00	0.00	360.00				
23:20:00	354.68	51.58	19.41	39.95	40.00	0.00	360.00				
23:26:00	DROP 2260 m SAMPLE.										
23:30:00	375.24	56.96	20.00	40.08	40.00	0.00	360.00				
23:40:00	369.36	55.49	19.01	40.19	40.00	0.00	360.00				
23:50:00	364.75	54.13	19.15	40.30	40.00	0.00	360.00				
99/02/22											
0:00:00	372.30	54.76	20.36	40.43	40.00	0.00	360.00	62.50	0.00	-10.00	-9.25
0:08:00	STOP PUMPING N2 + INVERT TO MAKE A CONNECTION.										
0:10:00	DROP 2265 m SAMPLE.										
0:10:01	378.17	59.41	20.53	40.57	0.00	0.00	0.00				
0:20:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
0:20:01	203.72	28.72	12.99	40.67	40.00	0.00	360.00				
0:30:01	149.16	19.28	16.27	40.78	40.00	0.00	360.00				
0:40:01	66.94	4.11	15.39	40.88	40.00	0.00	360.00				
0:50:01	756.93	161.93	64.44	41.07	40.00	0.00	360.00				
1:00:01	441.11	65.39	30.35	41.20	40.00	0.00	360.00	63.40	0.90	-10.00	-8.35
1:00:01	INVERT GAIN DUE TO HOLE UNLOADING.										
1:10:01	394.52	53.18	45.25	41.36	40.00	0.00	360.00				
1:12:00	DROP 2270 m SAMPLE.										
99/02/22											
1:20:01	361.81	48.51	39.49	41.65	40.00	0.00	360.00				
1:30:01	348.81	46.68	38.72	41.92	40.00	0.00	360.00				
1:38:00	STOP PUMPING N2 + INVERT TO MAKE A CONNECTION.										
1:40:01	407.53	47.91	39.40	42.19	0.00	0.00	0.00				
1:42:00	CONNECTION IS COMPLETE. START PUMPING INVERT AND N2 TO RESUME DRILLING.										
1:50:01	269.54	36.16	32.96	42.44	40.00	0.00	360.00				
1:51:00	DROP 2275 m SAMPLE.										
2:00:01	168.49	25.05	17.19	42.67	40.00	0.00	360.00	62.20	-1.20	-10.00	-9.55
2:00:00	INVERT LOST TO HOLE.										
2:10:01	502.78	71.02	60.61	42.93	40.00	0.00	360.00				
2:20:01	392.85	54.27	42.62	43.21	40.00	0.00	360.00				

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
2:25:00	DROP 2280 m SAMPLE.										
2:30:01	386.98	51.33	40.70	43.51	40.00	0.00	360.00				
2:40:01	371.04	48.29	39.89	43.79	40.00	0.00	360.00				
2:50:01	378.17	47.66	41.23	44.06	40.00	0.00	360.00				
2:51:00	STOP PUMPING INVERT + N2. PULL 5 STANDS OF DRILL PIPE TO REMOVE FLOAT TO SURVEY.										
3:00:01	253.15	33.09	30.29	44.33	0.00	0.00	0.00	65.40	3.20	-10.00	-6.35
3:00:01	HOLE IS UNLOADING. INVERT GAIN DUE TO SURVEY TRIP.										
3:10:01	134.47	13.65	0.00	44.33	0.00	0.00	0.00				
3:20:01	87.50	6.80	0.00	44.33	0.00	0.00	0.00				
3:30:01	68.13	4.70	0.00	44.33	0.00	0.00	0.00				
3:40:01	71.62	5.23	0.00	44.33	0.00	0.00	0.00				
3:50:01	66.94	3.38	0.00	44.33	0.00	0.00	0.00				
3:55:00	RUN IN HOLE WITH SURVEY TOOL.										
4:00:02	66.94	4.36	0.00	44.33	0.00	0.00	0.00	65.40	0.00	-10.00	-6.35
4:10:02	64.01	3.38	0.00	44.33	0.00	0.00	0.00				
4:20:01	64.01	4.11	0.00	44.33	0.00	0.00	0.00				
4:30:01	66.94	4.60	0.00	44.33	0.00	0.00	0.00				
4:40:01	66.94	5.09	0.00	44.33	0.00	0.00	0.00				
4:45:00	SURVEY COMPLETE. START PUMPING N2 + INVERT + RESUME DRILLING.										
4:50:01	71.62	4.99	0.00	44.33	40.00	0.00	360.00				
99/02/22											
5:00:01	66.94	6.31	0.00	44.33	40.00	0.00	360.00	61.20	-4.20	-10.00	-10.55
5:00:01	INVERT LOSS DUE TO NOT HAVING RETURNS TO SURFACE.										
5:10:01	66.94	6.31	0.00	44.33	40.00	0.00	360.00				
5:20:01	69.88	6.80	0.00	44.33	40.00	0.00	360.00				
5:22:00	INVERT + N2 TO SURFACE. RESUME DRILLING.										
5:30:01	795.10	119.84	87.48	46.30	40.00	0.00	360.00				
5:40:01	482.22	14.73	0.00	46.40	40.00	0.00	360.00				
5:50:01	369.36	10.23	72.97	46.49	40.00	0.00	360.00				
5:59:59	298.90	9.00	65.78	46.98	40.00	0.00	360.00	63.10	1.90	-10.00	-8.65
5:59:59	INVERT GAIN DUE TO HOLE UNLOADING.										
	NET GAS FLARED IN 24HRS = 0 THm3/DAY										
	TOTAL INVERT GAINED IN 24HRS = 4.6 m3.										
	TOTAL INVERT GAINED IS NOT PRODUCED FLUID ITS INVERT RECOVERED FROM HOLE.										

Alpine Production Services

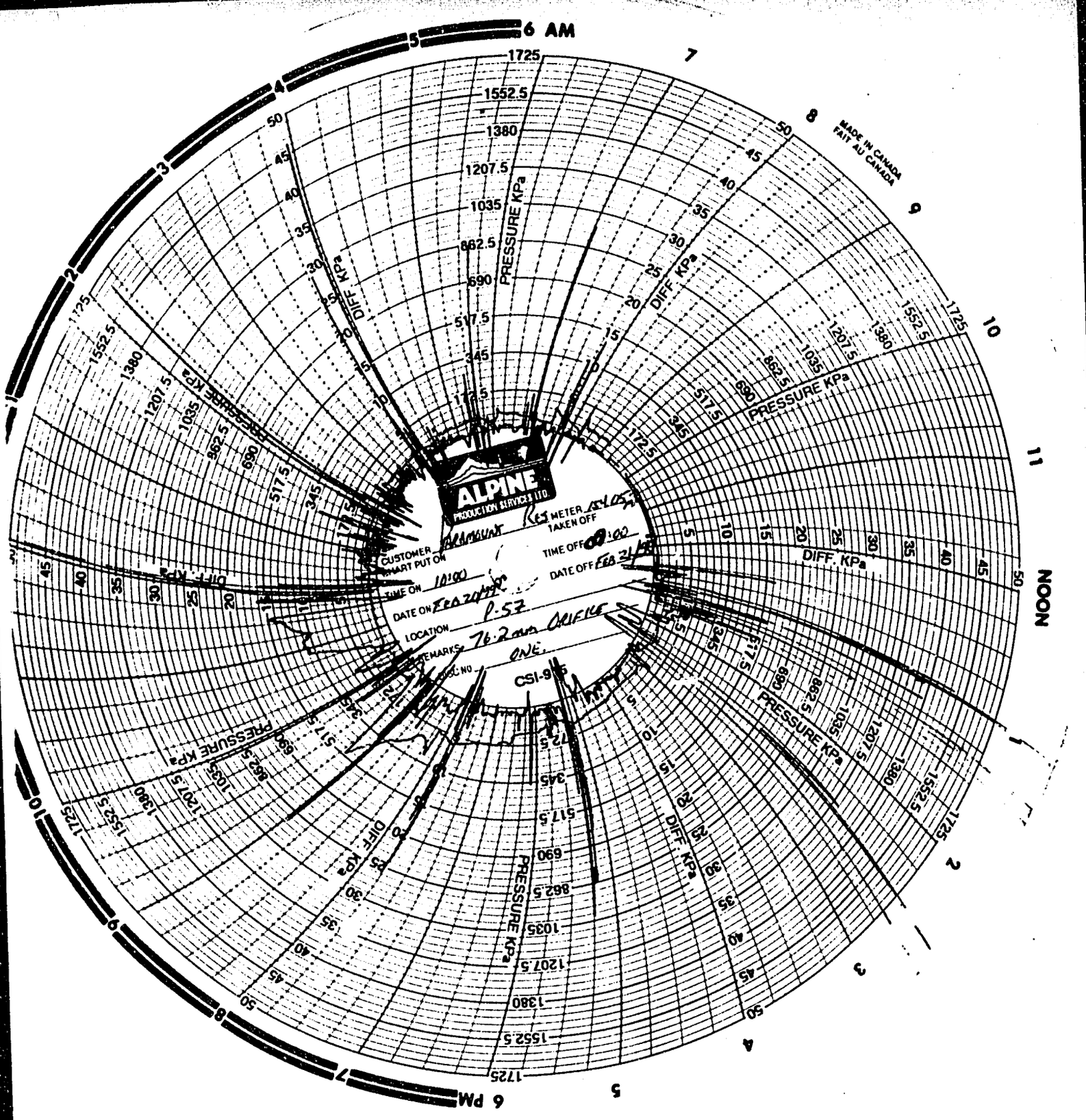
		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	$m^3/min.$	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
	TOTAL INVERT ADDED TO RIG TANK IN 24HRS = 0 m3.										
	H2S READING = 0%.										
99/02/22											
6:10:01	303.08	32.35	40.86	47.24	40.00	0.00	360.00				
6:20:01	363.49	32.49	50.93	47.53	40.00	0.00	360.00				
6:30:01	360.56	32.49	58.44	47.92	40.00	0.00	360.00				
6:32:00	DROP 2290 m SAMPLE.										
6:40:01	386.98	31.76	57.91	48.34	40.00	0.00	360.00				
6:50:01	394.12	32.35	70.21	48.82	40.00	0.00	360.00				
7:00:01	398.73	31.76	68.36	49.29	40.00	0.00	360.00	63.60	0.50	-10.00	-8.15
7:00:00	INVERT GAINED FROM HOLE.										
7:10:01	399.99	31.13	68.99	49.76	40.00	0.00	360.00				
7:20:01	379.43	31.37	72.14	50.25	40.00	0.00	360.00				
7:24:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
7:29:00	SHUT IN WELL TO REPLACE RUBBER IN ROTATING HEAD.										
7:30:01	69.88	6.31	11.99	50.63	0.00	0.00	0.00				
7:40:01	64.01	3.13	0.00	50.63	0.00	0.00	0.00				
7:50:01	66.94	2.40	0.00	50.63	0.00	0.00	0.00				
8:00:01	62.26	1.76	0.00	50.63	0.00	0.00	0.00	63.90	0.30	-10.00	-7.85
8:00:00	INVERT GAINED FROM HOLE.										
8:10:01	61.07	1.91	0.00	50.63	0.00	0.00	0.00				
8:15:00	RUBBER IS REPLACED, OPEN WELL TO SEPARATOR.										
8:18:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
8:20:01	71.62	1.81	25.22	51.17	40.00	0.00	360.00				
8:23:00	DROP 2295 m SAMPLE.										
8:24:00	DECREASE N2 RATE TO 35 m^3/min.										
8:30:01	66.94	1.17	27.04	51.36	35.00	0.00	360.00				
8:39:00	INVERT AND N2 TO SURFACE.										
8:40:01	202.01	6.07	26.30	51.53	35.00	0.00	360.00				
8:50:01	492.68	56.23	65.56	51.79	35.00	0.00	360.00				
9:00:01	372.30	11.70	72.44	52.30	35.00	0.00	360.00	60.80	-3.10	-10.00	-10.95
9:00:00	INVERT LOST TO HOLE BECAUSE OF DECREASE IN N2 RATE.										
9:10:01	348.81	3.13	67.89	52.78	35.00	0.00	360.00				
9:20:01	322.39	14.39	62.48	53.24	35.00	0.00	360.00				

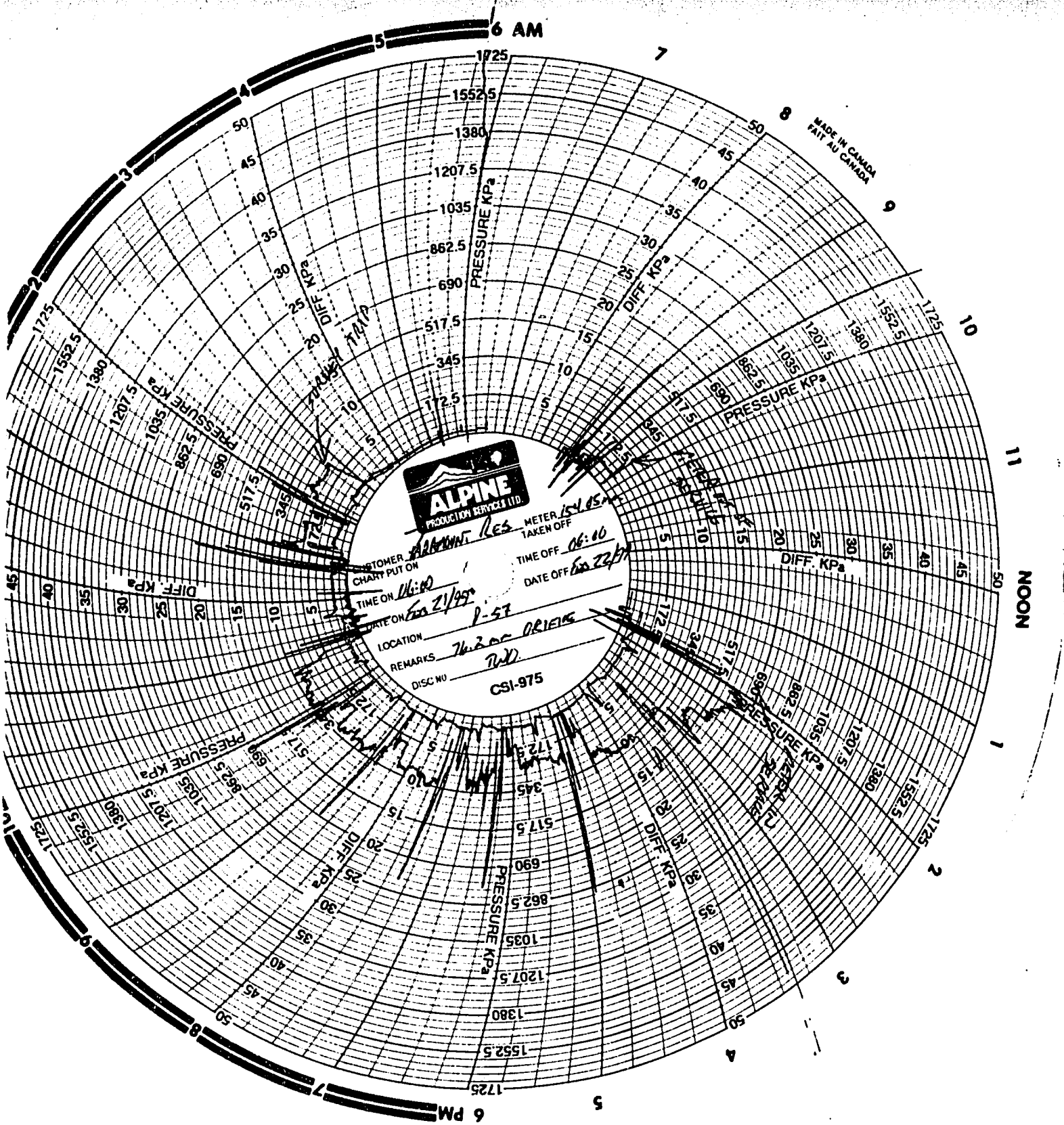
Alpine Production Services

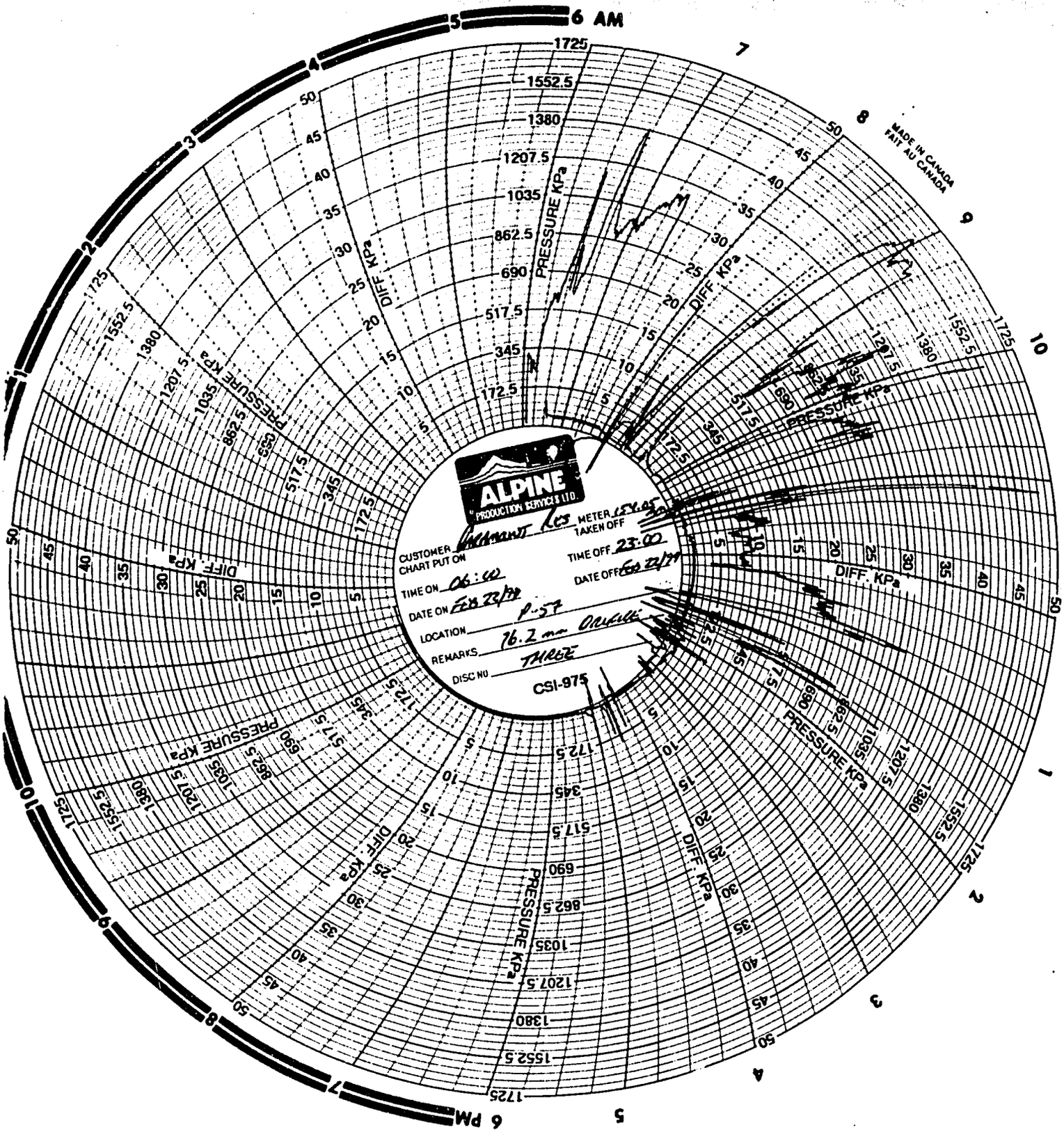
		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	$m^3/min.$	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
99/02/22											
9:30:01	310.64	21.97	58.13	53.66	35.00	0.00	360.00				
9:40:01	334.13	19.53	59.95	54.05	35.00	0.00	360.00				
9:50:01	325.32	17.81	63.71	54.50	35.00	0.00	360.00				
9:51:00	DROP 2300 m SAMPLE.										
10:00:00	371.04	18.93	64.20	54.93	35.00	0.00	360.00	60.50	-0.30	-10.00	-11.25
10:00:00	INVERT LOST TO HOLE.										
10:10:00	366.43	40.81	37.63	55.35	35.00	0.00	360.00				
10:20:00	358.88	21.59	60.57	55.74	35.00	0.00	360.00				
10:30:00	342.94	20.50	57.50	56.18	35.00	0.00	360.00				
10:32:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
10:37:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
10:40:00	243.11	27.60	40.41	56.59	35.00	0.00	360.00				
10:47:00	DROP 2305 m SAMPLE.										
10:50:00	140.35	30.05	0.00	56.77	35.00	0.00	360.00				
11:00:00	190.26	15.61	0.00	56.87	35.00	0.00	360.00	58.80	-1.70	-10.00	-12.95
11:10:00	290.09	53.29	67.29	57.22	35.00	0.00	360.00				
11:15:00	STOP DRILLING. PULL OFF BOTTOM. CIRCULATE 2309 m SAMPLE TO SURFACE.										
11:20:00	369.36	43.26	42.65	57.52	35.00	0.00	360.00				
11:30:00	381.11	42.04	49.67	57.84	35.00	0.00	360.00				
11:35:00	2309 m SAMPLE TO SURFACE.										
11:40:00	331.19	40.08	41.96	58.14	35.00	0.00	360.00				
11:50:00	328.26	39.34	44.29	58.44	35.00	0.00	360.00				
11:58:00	BACK ON BOTTOM, RESUME DRILLING.										
12:00:00	313.58	37.39	43.17	58.75	35.00	0.00	360.00	60.60	1.80	-10.00	-11.15
12:10:00	304.77	36.16	42.03	59.04	35.00	0.00	360.00				
12:20:01	328.26	34.94	40.50	59.31	35.00	0.00	360.00				
12:22:00	DROP 2310 m SAMPLE.										
12:30:00	348.81	31.27	55.26	59.67	35.00	0.00	360.00				
12:40:00	331.19	30.29	56.94	60.07	35.00	0.00	360.00				
12:50:00	345.88	30.78	69.37	60.48	35.00	0.00	360.00				
12:52:00	DROP 2315 m SAMPLE.										
99/02/22											
13:00:00	231.37	29.07	29.56	60.86	35.00	0.00	360.00	59.50	-1.10	-10.00	-12.25

Alpine Production Services

		Note : gas rate and cum gas include N2.									
Date/Time	AnnPres	Static	GasRate	CumGas	N2Rate	NetGasRate	PumpRate	Surf.Vol	Gain/Loss	Shipping	CumFluid
yy/mm/dd	kPa	kPa	THm^3/day	THm^3	m^3/min.	THm^3/day	Lt./min.	m^3	m^3	m^3	m^3
13:01:00	STOP PUMPING N2 AND INVERT TO MAKE A CONNECTION.										
13:07:00	CONNECTION IS COMPLETE. START PUMPING N2 AND INVERT TO RESUME DRILLING.										
13:10:01	196.13	26.62	0.00	60.95	35.00	0.00	360.00				
13:20:00	309.40	30.43	25.49	61.05	35.00	0.00	360.00				
13:30:00	260.73	24.17	3.00	61.17	35.00	0.00	360.00				
13:40:00	237.24	67.48	14.51	61.52	35.00	0.00	360.00				
13:50:00	360.56	43.99	24.99	61.64	35.00	0.00	360.00				
13:58:00	STOP PUMPING N2, REMAIN PUMPING INVERT TO DISPLACE.										
14:00:00	DROP 2320 m SAMPLE.										
14:00:00	337.07	48.15	0.00	61.76	0.00	0.00	360.00	61.40	1.90	-10.00	-10.35
14:06:00	INCREASE INVERT PUMP RATE TO 500 LITERS PER MINUTE.										
14:10:00	202.01	23.20	12.61	61.81	0.00	0.00	500.00				
14:20:00	272.47	27.11	22.35	61.93	0.00	0.00	500.00				
14:30:00	207.88	18.30	17.48	62.01	0.00	0.00	500.00				
14:36:00	INCREASE INVERT PUMP RATE TO 1000 LITERS PER MINUTE.										
14:40:00	169.71	17.81	6.39	62.09	0.00	0.00	1000.00				
14:45:00	DECREASE INVERT PUMP RATE TO 360 LITERS PER MINUTE.										
14:50:00	66.94	5.09	0.00	62.09	0.00	0.00	360.00				
14:55:00	DIVERT FLOW FROM ALPINE VESSEL TO SHAKER.										
15:00:00	61.07	1.42	0.00	62.09	0.00	0.00	0.00	47.80	-13.60	-10.00	-23.95
15:00:00	DISCONTINUE MONITORING WELL AND RETURN TO CONVENTIONAL DRILLING.										
	NET GAS FLARED IN 9 HOURS = 0 THm^3/ DAY										
	TOTAL INVERT LOST IN 9 HOURS = 15.3 m^3										
	HOLE NOW FILLED WITH INVERT, NOT ACTUALLY LOST INTO THE FORMATION.										
	H2S READING = 0%										


6 AM
NOON
6 PM
PRESSURE KPa
DIFF. KPa
ALPINE
PRODUCTION SERVICES LTD.
CUSTOMER
CHART PUT ON
TIME ON 10:00
DATE ON FEB 20/90
LOCATION P-57
REMARKS 76.2mm ORIFICE ONE.
METER
TAKEN OFF
TIME OFF 09:00
DATE OFF FEB 21
CSI-9
MADE IN CANADA
FAIT AU CANADA


6 AM
NOON
6 PM
MADE IN CANADA
FAIT AU CANADA
PRESSURE KPa
DIFF. KPa
STATIC TEMP
ALPINE
PRODUCTION SERVICES LTD.
CUSTOMER
CHART PUT ON
TIME ON
DATE ON
LOCATION
REMARKS
DISC NO
METER TAKEN OFF
TIME OFF
DATE OFF
CSI-975


6 AM
NOON
6 PM
MADE IN CANADA
FAIT AU CANADA
ALPINE
PRODUCTION SERVICES LTD.
CUSTOMER
CHART PUT ON
METER
TAKEN OFF
TIME ON
TIME OFF
DATE ON
DATE OFF
LOCATION
REMARKS
DISC NO
CSI-975
PRESSURE KPa
DIFF KPa
DIFF. KPa

SURVEY PLAN

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CANADA LANDS SURVEYS RECORDS
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DATE: JULY 7, 2000

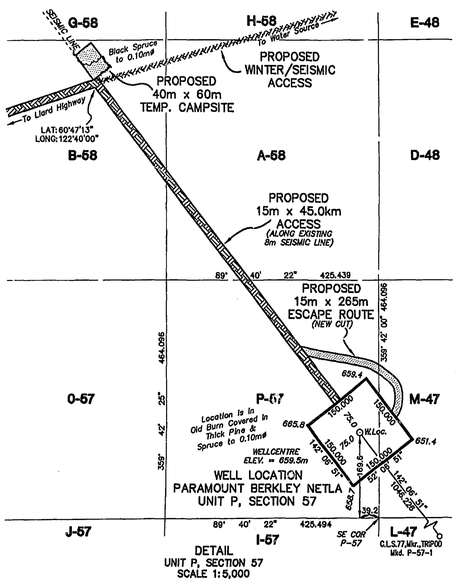
THE SURVEY REPORT FOR THIS PLAN IS RECORDED UNDER No. FB34372 CLSR.

PLAN AND FIELD NOTES
OF SURVEY OF
PROPOSED EXPLORATORY WELL
PARAMOUNT BERKLEY NETLA
IN UNIT P, SECTION 57
GRID AREA 60° 50', 122° 30'
NORTHWEST TERRITORIES
CANADA OIL AND GAS LAND REGULATIONS
EXPLORATORY LICENCE No. 387
SCALE 1:100,000

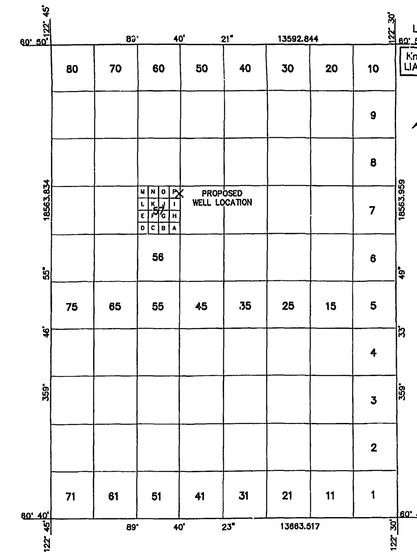
2km 1km 0 2km 4km 6km 8km

SURVEYED FOR
PARAMOUNT RESOURCES LTD.

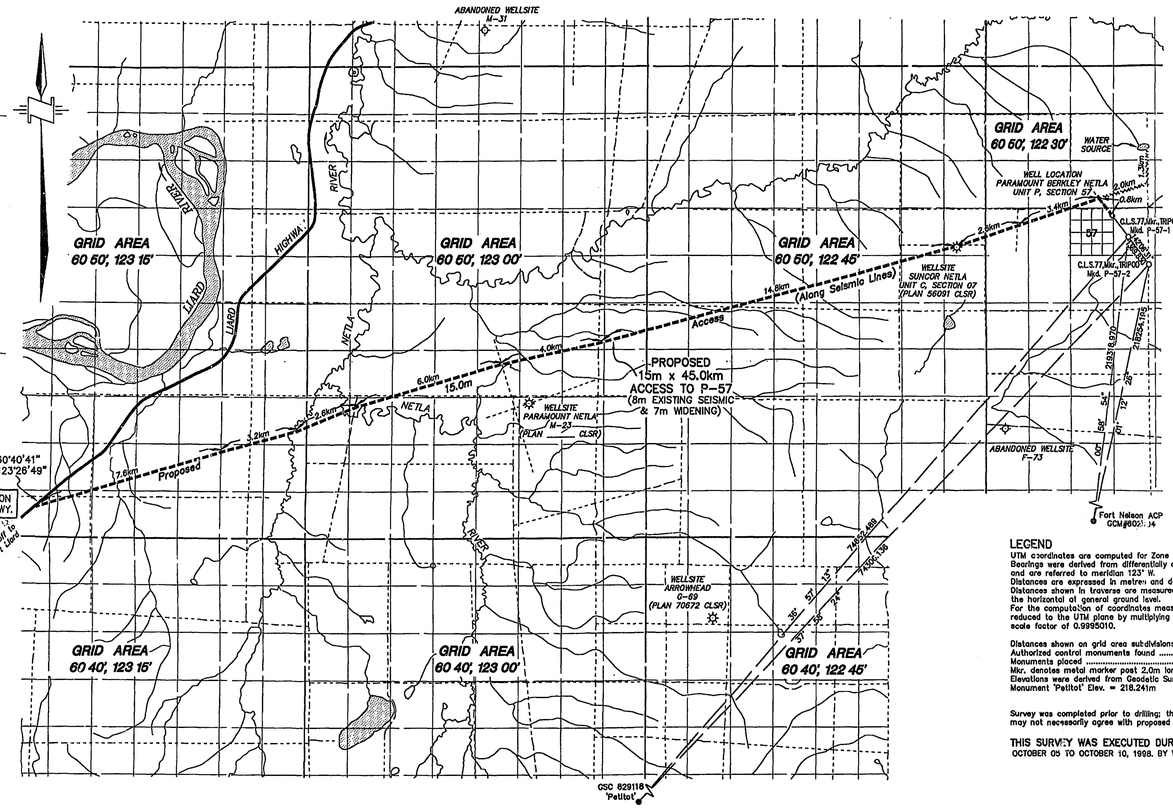
BY : W.V. JOHNSON, CLS
OCTOBER, 1998.



DETAIL
UNIT P, SECTION 57
SCALE 1:5,000



GRID AREA 60°50', 122°30'
SCALE 1:100,000



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 0.9995010.

Distances shown on grid are 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 'Pelitot' Elev. = 218.241m

Survey was completed prior to drilling; therefore well as drilled may not necessarily agree with proposed location.

THIS SURVEY WAS EXECUTED DURING THE PERIOD OCTOBER 05 TO OCTOBER 10, 1998. BY W.V. JOHNSON, CLS

I, W.V. Johnson, of the City of Fort St. John, British Columbia, Canada Lands Surveyor, make oath and say that I have in my own proper person, according to law and the instructions of the Surveyor General of Canada Lands, faithfully and correctly executed the survey shown by this plan and field notes, and that the said plan and field notes are correct and true to the best of my knowledge and belief.
SO HELP ME GOD

Sworn before me at Fort St. John, this 18th day of October, 1998.

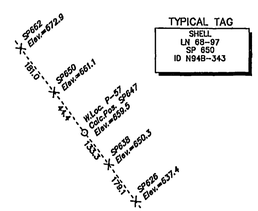
W.V. Johnson, CLS

R.O. Blackall, CLS

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 'Pelitot' were held fixed. Adjusted values for Fort Nelson ACP GCM#602904 and comparison to Government of British Columbia published coordinates are shown below. Published elevation for Fort. Nelson ACP GCM#602904 = 452.877m.

GEOGRAPHIC AND UTM COORDINATES, (1927 NAD)				
Station	Latitude	Longitude	Northings	Eastings
CONTROL MONUMENTS				
Pelitot(Publ. & Fixed)	60°14'15.436"	123°27'39.795"	6677758.134	474467.253
Fort Nelson ACP(Adj.)	58°48'19.495"	122°43'49.971"	6518207.448	515568.494
Fort Nelson ACP(Publ.)	58°48'19.493"	122°43'49.968"	6518207.388	515568.539
GRID AREA				
NE	60° 50' 00"	122° 30' 00"	6744122.436	527185.380
NW	60° 50' 00"	122° 45' 00"	6744044.752	513592.758
SE	60° 40' 00"	122° 30' 00"	6725559.015	527328.725
SW	60° 40' 00"	122° 45' 00"	6725481.053	513663.430
P-57, NE	60°47'00.198"	122°39'22.501"	6738504.805	516719.144
P-57, NW	60°47'00.191"	122°39'50.628"	6738502.374	516293.712
P-57, SW	60°46'45.191"	122°39'50.628"	6738038.284	516296.088
P-57, SE	60°46'45.198"	122°39'22.501"	6738040.715	516721.573
TRAVERSE STATIONS				
P-57-1	60°46'23.895"	122°38'42.940"	6737384.801	519323.620
P-57-2	60°45'48.823"	122°37'47.772"	6736304.302	520164.502
PROPOSED WELL				
P-57	60°46'50.680"	122°39'25.093"	6738210.109	516881.485

'SHOT POINT DETAIL'
NOT TO SCALE



TYPICAL TAG
SHELL
LN 68-97
SP 850
ID N94B-343

PARAMOUNT RESOURCES LTD.

WITNESS

DATE

AREAS REQUIRED:

WELLSITE:	150mx150m = 2.25 ha.
TEMP. CAMPSITE:	40mx60m = 0.24 ha.
ESCAPE ROUTE:	15mx265m = 0.40 ha.
ACCESS:	15mx45km = 67.5 ha.
TOTAL:	70.39 ha.

LENGTH OF ADDITIONAL SEISMIC ACCESS TO WATER SOURCE= 3.3km

REV.No.	DESCRIPTION	DATE
B	Changes Requested by Geomatics Canada	Mar. 16/2000
A	Corrected Kilometer on Liard Highway	Nov. 14/98

McELHANNEY ASSOCIATES
PROFESSIONAL LAND SURVEYORS
10012 – 97th Ave.
Fort St. John, British Columbia
Phone:(250)787-0356, Fax:(250)787-0310

DATE : 98/10/15 JOB No.: 3111-06776WS

8380 5 CLSR

Exam'd 7-7-00 case SM 8571-178
Received 7-7-00 jpcw Item 1998-06-007

RESISTIVITY/ CONDUCTIVITY

N.E.B. COPY

BAKER HUGHES

HIGH DEFINITION INDUCTION LOG
GAMMA RAY LOG
CALIPER LOG

Baker Atlas

FILE NO:	COMPANY	PARAMOUNT RESOURCES LTD.
	WELL	PARAMOUNT BERKLEY NETLA P-57
API NO:	FIELD	UNDEFINED
	PROVINCE	NORTHWEST TERRITORIES

Ver 3.19

LOCATION:
WID- 1856
UWI - 300P576058122381

P-57 68 DEG 58' N 122 DEG 38' W

OTHER SERVICES
DAL-GR-XY
ZDL-CN-GR-XY
CVL

PERMANENT DATUM	G.L.	ELEVATION 659.5 M	ELEVATIONS	
LOG MEASURED FROM	K.B.	5.15 M ABOVE P.D.	KB	664.65 M
DRILL. MEAS. FROM	KELLY BUSHING		DF	
			GL	659.58 M

DATE		16-FEB-1999		
RUN	TRIP	1	1	
SERVICE ORDER		505545		
DEPTH DRILLER		2872.0 M		
DEPTH LOGGER		2854.0 M		
BOTTOM LOGGED INTERVAL		2842.2 M		
TOP LOGGED INTERVAL		500.5 M		
CASING-DRILLER		339.7 @ 311.0 M	@	#
CASING LOGGER		500.5 M		
BIT SIZE		222.0 MM		
TYPE OF FLUID IN HOLE		INVERT		
DENSITY	VISCOSITY	958 G/CS 42 S		
PH	FLUIDLOSS	- -		
SOURCE OF SAMPLE		FLOALINE		
RM AT MEAS. TEMP.		- @ -		@
RMF AT MEAS. TEMP.		- @ -		@
RMC AT MEAS. TEMP.		- @ -		@
SOURCE OF RMF	RMC	N/A	N/A	
RM AT BHT		- @ -		@
TIME SINCE CIRCULATION		5.5 HRS.		
MAX. RECORDED TEMP.		82.4 DEGC		
EQUIP. NO.	LOCATION	HL 18833	D.P.	
RECORDED BY		K.MILOSEVSKI		
WITNESSED BY		J.BOULTER		

IN MAKING INTERPRETATIONS OF LOGS AND SPECIFICALLY DISCUSSING THE BENEFIT OF THEIR BEST JUDGEMENT, BAKER ATLAS (WHICH INCLUDES ITS AFFILIATES, OFFICERS, EMPLOYEES AND AGENTS) AS WELL AS OTHER MEASUREMENTS, HAS CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES.

REMARKS

RUN / TRIP 1 : Time Stopped Circulation - 1815 hours (6-Feb-99).
Bit Size - 222.0 mm (Reamed to 311.0 mm).
Drilled with aerated mud from 339.7 m (casing shoe).
Logged with aerated mud in open hole.
Recorded Static Bottom Hole Temperature - 82.4 degC.
Depth corrected and tied to GR Log, Schlumberger Cyberdip Run 1.
No DP recorded due to GR Based (Invert) Mud System.
Rig: Precision Drilling #54.
Crew: R.Marsh & R.Fralick

RUN	TRIP	TOOL	SERIES NO.	EQUIPMENT DATA SERIAL NO.	POSITION
1	1	TCC	1618CM	10387	
		TCC	1618CM	10387	
		TCC	1618CM	10387	
		TCC	1618CM	10387	
		DGR	1618CM	10387	
		ACAL	1618CM	10387	
		MAC	1618CM	10387	
		ACAL	1618CM	10387	
		ITE	1618CM	10387	
		ZDL	1618CM	10387	
		ZDL	1618CM	10387	
		CNC



MAIN PASS - UPPER PRESENTATION

Release:3.1 Nov 10, 1998 Fileview 2.27 Cplot /80/12) Wed Feb 17 04:54:26 1999
Pcrplt /main/A6 Pdf.Cap /main/13

PARAMETER AND FILTER SUMMARY REPORT

File: /data/pose/por.p-S7/d777H83.prn
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 488.976 m BOTTOM DEPTH: 8855.040 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER (1)	light (2)		--	--
	FILTER (.5)	light (2)		--	--
	FILTER (.25)	light (2)		--	--
GR	FILTER ()	medium (1)		--	--
HDIL	HDIL 6 FT RES	OFF		--	--
TENSION	FILTER ()	medium (1)		--	--

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y CALIPER	X-Y Caliper	Average		--	--
BIT SIZE	BIT SIZE	222.000	mm	--	--
BOREHOLE CORR DIAMETER SOURCE	CALIPER(FIXED DIA. (mmm)	USE CALIPER		--	--
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mmm)	222.000	mm	--	--
MUD VALUES SOURCE	RMUD SOURCE (HDIL)	DIL BASE MUD		--	--
MUD VALUES	MUD SAMPLE TEMP	23.9	degC	--	--
	MUD SAMPLE RES	10.000	ohm.m	--	--
	MUD FILTERCAKE TEMP	0.0	degC	--	--
	TEMP GRADIENT	0.107	0.01 degC/m	--	--

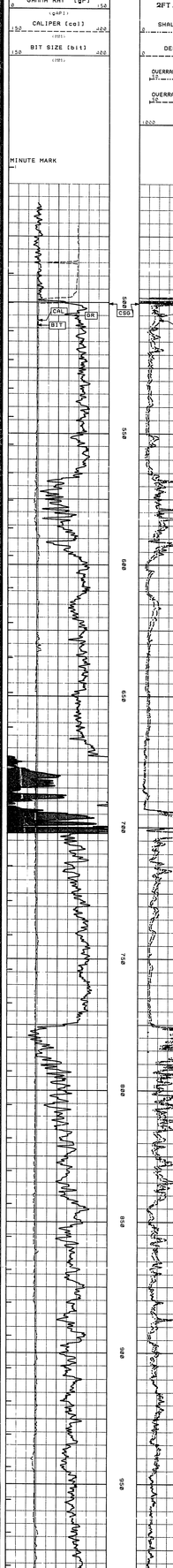
HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL BOREHOLE PARAMETERS	STANDOFF	1.5 in STANDOFF		TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		--	--
	TEMP CORR SOURCE	USE RATEMP		--	--

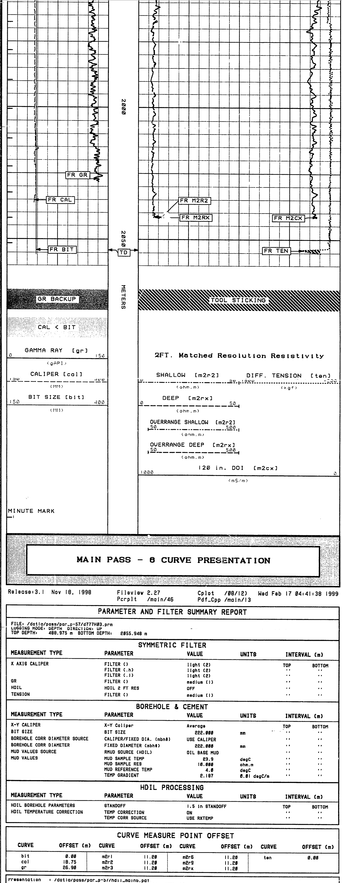
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	GR	20.98	mDrE	11.08	ten	0.00
cal	10.73	hDcx	11.08	mDrx	11.08		

Presentation : /data/pose/por.p-S7/dil_upper.pdf
Data File : FI - cpui:/data/pose/por.p-S7/d777H83.xtf
Company : Paroxsunt Resources Ltd.
Well : Paroxsunt Barkley Natio P-S7
Field : Undefined
Interval : 456.81 - 8855.57 Meters
Out : d777H




1000
1050
1100
1150
1200
250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950



MAIN PASS - 8 CURVE PRESENTATION

Release:3.1 Nov 10, 1998 Filesize 2.27 Colot /80/12 Wed Feb 17 04:41:38 1999
Porgit /Mai4/46 Pdf.Cop /Mai5/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/open/por_s7/d77m03.pro
LOGGING MODE: depth, direction: up
TOP DEPTH: 499.975 m BOTTOM DEPTH: 6855.548 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER (3)	11ghi (2)		"	"
	FILTER (.5)	11ghi (2)		"	"
	FILTER (.1)	11ghi (2)		"	"
GR	FILTER (3)	medium (1)		"	"
HDIL	HDIL X FT RES	OFF		"	"
TENSION	FILTER (3)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y CALIPER	X-Y Caliper	Average		"	"
BIT SIZE	BIT SIZE	222.000	mm	"	"
BOREHOLE COMP DIAMETER SOURCE	CALIPER/FIXED DIA. (cbhd)	USE CALIPER		"	"
BOREHOLE COMP DIAMETER	FIXED DIAMETER (cbhd)	222.000	mm	"	"
MUD VALUES SOURCE	RMUD SOURCE (MDL)	DIL BASE MUD		"	"
MUD VALUES	MUD SAMPLE TEMP	23.9	degC	"	"
	MUD RESISTIVITY	10.000	ohm.m	"	"
	MUD REFERENCE TEMP	21.1	degC	"	"
	TEMP GRADIENT	0.187	degC/m	"	"

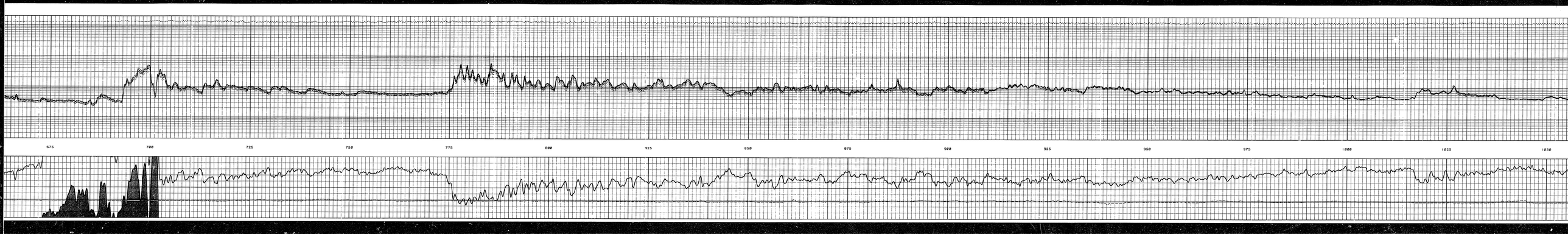
HDIL PROCESSING

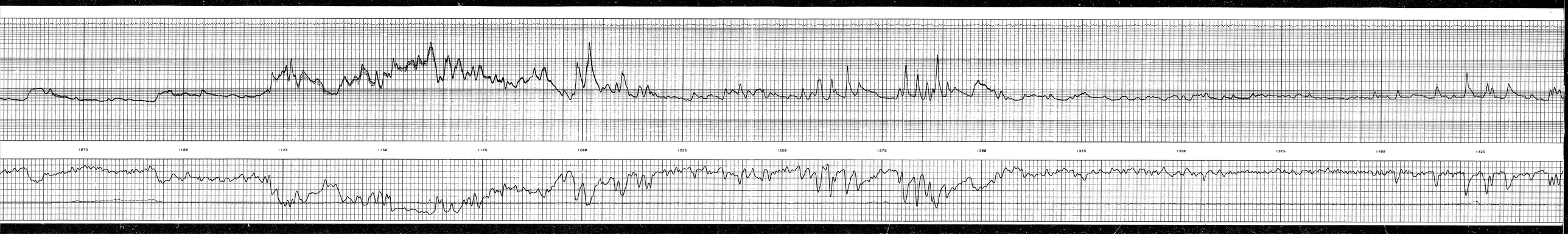
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL BOREHOLE PARAMETERS	STANDOFF	1.5 in STANDOFF		"	"
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		"	"
	TEMP CORR SOURCE	USE MATEMP		"	"

CURVE MEASURE POINT OFFSET

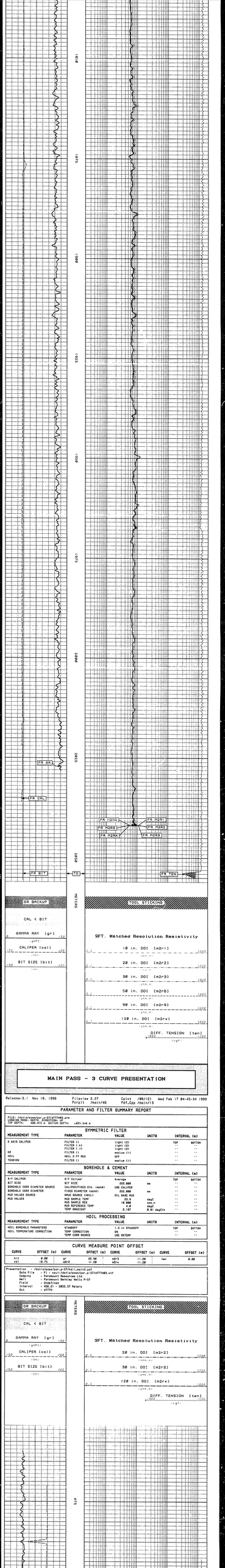
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	m2r1	11.09	m2r5	11.09	ten	0.00
cal	11.09	m2r2	11.09	m2r6	11.09		
gr	20.75	m2r3	11.09	m2rx	11.09		

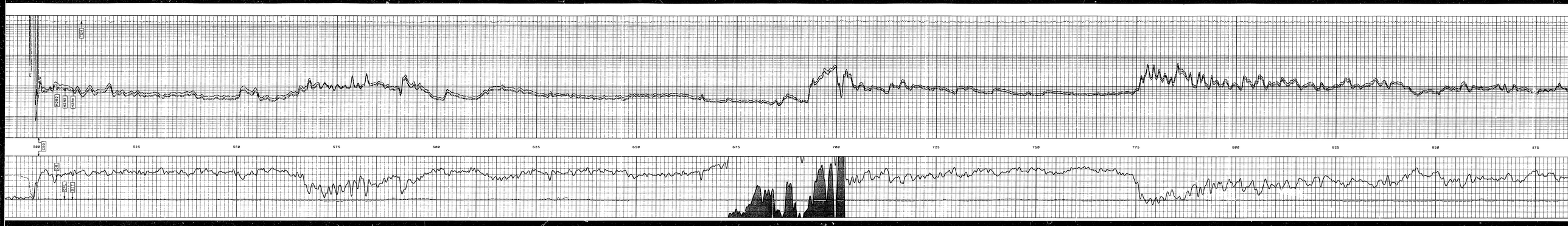
Presentation : /dat/open/por_s7/dir./micro.pst
Data File : Fl.: dat:/dat/open/por_s7/d77m03.stf
Company : Paramount Resources Ltd.
Well : Paramount Berkley Nella P-57
Field : Wildcat
Interval : 499.01 - 6855.01 Meters
Oct : d77m

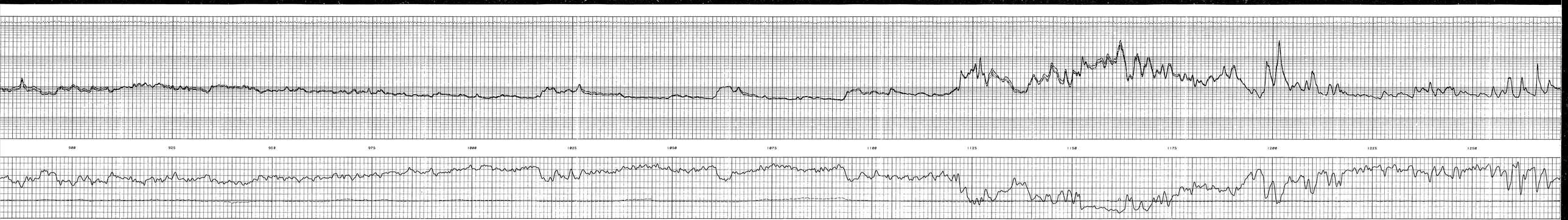

675
700
725
750
775
800
825
850
875
900
925
950
975
1000
1025
1050


1075
1100
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1175
1200
1225
1250
1275
1300
1325
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1375
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1450
1475
1500
1525
1550
1575
1600
1625
1650
1675
1700
1725
1750
1775
1800
1825


@100
@075
@050
@025
@000
1975
1950
1925
2000
2025
2050
2075
FR GR
FR CAL
FR H2R0
FR H2R8
FR H2R4
FR H2R1
FR H2R2
FR H2R3
FR BIT
TD
FR TEN
RECORDS
GR BACKUP
CAL < BIT
GAMMA RAY (gr)
0
150
(API)
CALIPER (cal)
6
26
(IN)
BIT SIZE (bit)
6
26
(IN)
HIGH RESOLUTION
2FT. Matched Resolution Resistivity
10 in. DOI (m2r1)
20 in. DOI (m2r2)
30 in. DOI (m2r3)
60 in. DOI (m2r6)
90 in. DOI (m2r9)
120 in. DOI (m2rx)
0.2
2000
(ohm.m)
DIFF. TENSION (ten)
-100
100
(lbf)
MAIN PASS - 3 CURVE PRESENTATION
Release:3.1 Nov 18, 1996
Filesize 2.27
Pcrpit /main/46
Calot /80/12)
Pdf.Cpp /main/3
Wed Feb 17 84:45:34 1999
PARAMETER AND FILTER SUMMARY REPORT
FILE: /data/ceaofpur.p-57/c077h93.ara
TOP DEPTH: 488.976 m BOTTOM DEPTH: 4855.548 m
SYMMETRIC FILTER
MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (m)
A AXIS CALIPER | FILTER (.) | light (2) | | TOP | BOTTOM
FILTER (.x) | light (2) | | .. | ..
FILTER (.1) | light (2) | | .. | ..
GR | FILTER (.) | medium (1) | | .. | ..
HDIL | HDIL_D PT_REG | OFF | | .. | ..
TENSION | FILTER (.) | medium (1) | | .. | ..
BOREHOLE & CEMENT
MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (m)
A-Y CALIPER | A-Y Caliper | Average | | TOP | BOTTOM
BIT SIZE | BIT SIZE | 222.000 | mm | .. | ..
BOREHOLE CORR DIAMETER SOURCE | CALIPER/FIXED DIA. (mmhd) | USE CALIPER | | .. | ..
BOREHOLE CORR DIAMETER | FIXED DIAMETER (mmhd) | 222.000 | mm | .. | ..
MUD VALUES SOURCE | RMUD SOURCE (HDIL) | OIL BASE MUD | | .. | ..
MUD VALUES | MUD SAMPLE TEMP | 23.5 | degC | .. | ..
MUD SAMPLE RES | 10.000 | ohm_ | .. | ..
MUD SAMPLE RESIST TEMP | 23.5 | degC | .. | ..
TEMP GRADIENT | 0.107 | 0.01 degC/m | .. | ..
HDIL PROCESSING
MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (m)
HDIL BOREHOLE PARAMETERS | STANDOFF | 1.5 in STANDOFF | | TOP | BOTTOM
HDIL TEMPERATURE CORRECTION | TEMP CORRECTION | ON | | .. | ..
TEMP CORR SOURCE | USE MATOP | | | .. | ..
CURVE MEASURE POINT OFFSET
CURVE | OFFSET (m) | CURVE | OFFSET (m) | CURVE | OFFSET (m) | CURVE | OFFSET (m)
bit | 0.00 | gr | 05.50 | m2r3 | 11.00 | ten | 0.00
cal | 10.75 | m2r2 | 11.00 | m2rx | 11.00
Presentation : /data/ceaofpur.p-57/hal_main3.pet
Data File : F: - cpu1-/data/ceaofpur.p-57/c077h93.xtf
Company : Paramount Resources Ltd.
Well : Paramount Berkley Gallo P-57
Field : Wildcat
Interval : 488.01 - 4855.57 Meters
Oct : c077h
RECORDS
GR BACKUP
CAL < BIT
GAMMA RAY (gr)
0
150
(API)
CALIPER (cal)
6
26
(IN)
BIT SIZE (bit)
6
26
(IN)
HIGH RESOLUTION
2FT. Matched Resolution Resistivity
20 in. DOI (m2r2)
30 in. DOI (m2r3)
120 in. DOI (m2rx)
0.2
2000
(ohm.m)
DIFF. TENSION (ten)
-100
100
(lbf)
@475


CVP
PCWP
CO
SVR
CI
SI
500
525
550
575
600
625
650
675
700
725
750
775
800
825
850
875


900
925
950
975
1000
1025
1050
1075
1100
1125
1150
1175
1200
1225
1250


1275
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1600
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1650

1675 1700 1725 1750 1775 1800 1825 1850 1875 1900 1925 1950 1975 2000 2025 2050

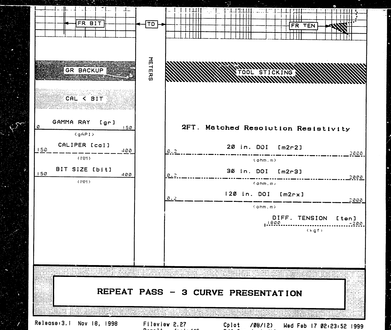
FR 2052

FR 2053

FR 2057

FR 1811

FR 1814



REPEAT PASS - 3 CURVE PRESENTATION

Run 1 at 7156.5

Release:3.1 Nov 18, 1998 | Fileview 2.27 | Cplot /BB/12 | Wed Feb 17 02:23:52 1999
Porgit /bcil/45 | Pdf.Cpp /bcil/3

PARAMETER AND FILM SUMMARY REPORT

FILE: /data/pass/por_p-57/f7708.ers
LOGGING MODE: DEPTH DIRECTION: DP
TOP DEPTH: 1981.619 m BOTTOM DEPTH: 2850.033 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER ()	light (2)		..	..
	FILTER (.5)	light (2)		..	..
	FILTER (.1)	light (2)		..	..
GR	FILTER (.)	medium (1)		..	..
HDIL	HDIL R PT RES	UPP		..	..
TENSION	FILTER (.)	medium (1)		..	..

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y CALIPER	X-Y Caliper	Average		..	..
BIT SIZE	BIT SIZE	222.000	mm	..	..
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mAH)	USE CALIPER		..	..
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mAH)	222.000	mm	..	..
MUD VALUES SOURCE	MUD VALUES (mAU)	OIL BASE MUD		..	..
MUD VALUES	MUD SAMPLE TEMP	23.3	degC	..	..
	MUD SAMPLE RES	4.8	ohmm	..	..
	MUD REFERENCE TEMP	4.8	degC	..	..
	TEMP GRADIENT	0.187	0.01 degC/m	..	..

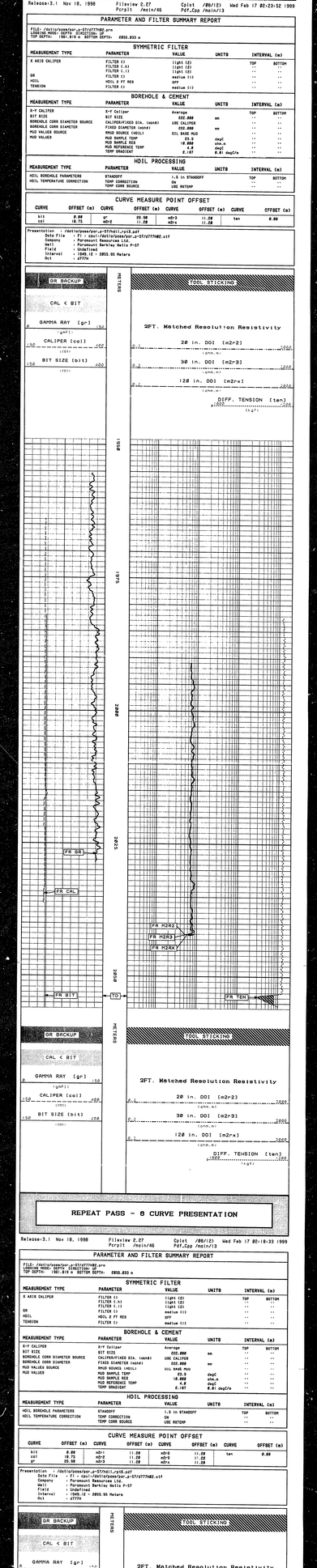
HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL BOREHOLE PARAMETERS	STANDOFF	1.5 in STANDOFF		..	..
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		..	..
	TEMP CORR SOURCE	USE RATEMP		..	..

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	gr	00.50	ad2	11.08	ten	0.00
cal	10.75		11.08	ad4	11.08		

Presentation : /data/pass/por_p-57/hdil_rp10.pdf
Data File : F: - cpi:/data/pass/por_p-57/f7708.ers
Company : Canamont Resources Ltd.
Well : Parsnip Bartley Hells P-57
Field : Undefined
Interval : 1949.12 - 2855.95 Meters
Out : dffrm



REPEAT PASS - 6 CURVE PRESENTATION

Run 2 at 7156.5

Release:3.1 Nov 18, 1998 | Fileview 2.27 | Cplot /BB/12 | Wed Feb 17 02:18:33 1999
Porgit /bcil/45 | Pdf.Cpp /bcil/3

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/pass/por_p-57/f7708.ers
LOGGING MODE: DEPTH DIRECTION: DP
TOP DEPTH: 1981.619 m BOTTOM DEPTH: 2850.033 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER (.)	light (2)		..	..
	FILTER (.5)	light (2)		..	..
	FILTER (.1)	light (2)		..	..
GR	FILTER (.)	medium (1)		..	..
HDIL	HDIL R PT RES	UPP		..	..
TENSION	FILTER (.)	medium (1)		..	..

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y CALIPER	X-Y Caliper	Average		..	..
BIT SIZE	BIT SIZE	222.000	mm	..	..
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mAH)	USE CALIPER		..	..
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mAH)	222.000	mm	..	..
MUD VALUES SOURCE	MUD VALUES (mAU)	OIL BASE MUD		..	..
MUD VALUES	MUD SAMPLE TEMP	23.3	degC	..	..
	MUD SAMPLE RES	4.8	ohmm	..	..
	MUD REFERENCE TEMP	4.8	degC	..	..
	TEMP GRADIENT	0.187	0.01 degC/m	..	..

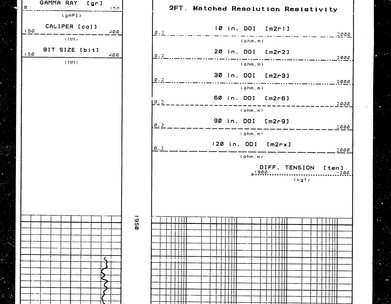
HDIL PROCESSING

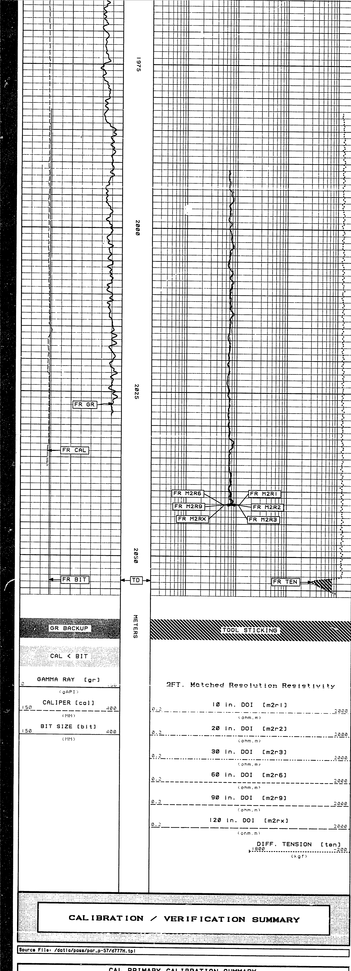
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL BOREHOLE PARAMETERS	STANDOFF	1.5 in STANDOFF		..	..
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		..	..
	TEMP CORR SOURCE	USE RATEMP		..	..

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	ad1	11.08	ad3	11.08	ten	0.00
cal	10.75	ad2	11.08	ad4	11.08		
gr	00.50	ad3	11.08	ad5	11.08		

Presentation : /data/pass/por_p-57/hdil_rp10.pdf
Data File : F: - cpi:/data/pass/por_p-57/f7708.ers
Company : Canamont Resources Ltd.
Well : Parsnip Bartley Hells P-57
Field : Undefined
Interval : 1949.12 - 2855.95 Meters
Out : dffrm





CALIBRATION / VERIFICATION SUMMARY

Source File: /data/spool/pur_p-37477?.tp1

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 4228SA 844839 — DATE/TIME PERFORMED: Wed Jan 06 14:33:44 1999

UNIT #: 3988TB HLS544

	SMALL RING LARGE RING (mV)	(uV)	MULT	ADD	SMALL RING LARGE RING (ms)	(ms)
CALIBER	5639.9	9940.5	0.02975	35.28283	203.000	384.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 4228SA 844839 — DATE/TIME PERFORMED: Wed Feb 17 08:24:11 1999

UNIT #: 3988TB HLS544

	I.D. (mV)	MULT	ADD	I.D. (ms)
CALIBER	10974.5	0.02975	29.31787	326.488

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 4228SA 844839 — DATE/TIME PERFORMED: Wed Feb 17 09:24:51 1999

UNIT #: 3988TB HLS544

	I.D. (mV)	MULT	ADD	I.D. (ms)
CALIBER	10974.5	0.02975	29.31787	326.392
				384.000

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 3929KA 153174 — DATE/TIME PERFORMED: Tue Jan 19 09:41:54 1999

UNIT #: 3988TB HLS544 — CALB JIG #: 4782KM 8da559

	BACKGROUND CALBRTR ON (cts/s)	(cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR (gAPI)	(gAPI)
GR	279.89	177.78	98.11	0.165	45.95	195.90	150
			50% < 60				

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 3929KA 153174 — DATE/TIME PERFORMED: Tue Jan 19 09:44:50 1999

UNIT #: 3988TB HLS544 — VERI JIG #: 4782KM 8da559

	BACKGROUND CALBRTR ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	DIFF. (gAPI)	(gAPI)
GR	276.73	160.13	0.165	46.87	197.08	151.82
					+/- 10.00	

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3929KA 153174 — DATE/TIME PERFORMED: Tue Feb 16 17:21:38 1999

UNIT #: 3988TB HLS544 — VERI JIG #: 4782KM 8da559

	BACKGROUND CALBRTR ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	DIFF. (gAPI)	(gAPI)
GR	332.84	159.62	0.165	41.98	193.87	151.11
					+/- 10.00	

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3929KA 153174 — DATE/TIME PERFORMED: Tue Feb 16 17:23:55 1999

UNIT #: 3988TB HLS544 — VERI JIG #: 4782KM 8da559

	BACKGROUND CALBRTR ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	DIFF. (gAPI)	(gAPI)
GR	353.84	154.98	0.165	42.12	192.68	150.42
					+/- 10.00	

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2228MA 172644 — DATE/TIME PERFORMED: Tue Jan 19 09:31:58 1999

UNIT #: 3988TB HLS544

	SMALL RING LARGE RING (cnv)	(cnv)	MULT	ADD	SMALL RING LARGE RING (ms)	(ms)
CALIBER	2290.5	2958.3	0.17147	-198.79130	203.000	384.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2228MA 172644 — DATE/TIME PERFORMED: Wed Feb 17 08:24:28 1999

UNIT #: 3988TB HLS544

	I.D. (cnv)	MULT	ADD	I.D. (ms)
CALIBER	3668.7	0.17147	-194.12126	326.488

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2228MA 172644 — DATE/TIME PERFORMED: Wed Feb 17 08:24:54 1999

UNIT #: 3988TB HLS544

	I.D. (cnv)	MULT	ADD	I.D. (ms)
CALIBER	3899.4	0.17147	-194.12126	326.392
				384.000

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 5134MA 178647 — DATE/TIME PERFORMED: Mon Oct 26 18:18:05 1998

UNIT #: 5781KA 154651 — GROUND ID & DATE: 51581

ZERO DATA(cnv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Cell # R	-0.000	-0.000	-0.000	-0.000	-0.010	-0.000	-0.000	-0.000
Cell # Q	0.001	0.012	0.000	0.000	0.000	0.000	-0.010	-0.003
Cell # I	-0.003	-0.008	-0.005	-0.004	-0.005	-0.008	-0.010	-0.011
Cell # G	0.040	0.017	0.001	0.007	0.000	0.003	0.001	-0.002
Cell # R	-0.002	-0.011	-0.010	-0.013	-0.013	-0.005	0.005	0.017
Cell # Q	0.036	0.000	0.005	-0.005	-0.014	-0.002	-0.010	-0.010
Cell # I	-0.004	-0.004	-0.003	0.000	0.000	-0.003	-0.003	-0.014
Cell # G	0.031	-0.008	0.002	0.003	0.000	0.000	0.005	0.003
Cell # R	-0.011	-0.015	-0.018	-0.017	-0.015	-0.015	-0.011	-0.009
Cell # Q	0.009	0.037	0.008	0.009	0.001	-0.003	-0.007	-0.012
Cell # S	-0.004	-0.004	-0.013	-0.010	-0.010	-0.011	-0.011	0.000
Cell # Q	0.176	0.055	0.028	0.013	0.000	-0.002	-0.010	-0.015
Cell # R	-0.005	0.007	-0.012	-0.006	-0.000	-0.002	-0.007	-0.002
Cell # G	0.179	0.019	0.021	0.010	-0.017	-0.018	-0.025	-0.009

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Cell # M	127	128	124	121	116	111	104	99.4
Cell # P	7.1	22.5	37.8	53.1	68.3	83.5	98.8	113.9
Cell # M	226	223	218	214	201	195	176	161
Cell # P	7.9	24.6	41.1	57.5	73.9	90.1	106.1	122.0
Cell # M	443	440	433	423	409	391	359	340
Cell # P	7.4	23.3	39.1	54.9	70.6	86.4	102.2	118.1
Cell # M	718	714	704	689	667	638	603	560
Cell # P	7.3	22.5	38.0	53.3	68.5	83.7	98.9	114.0
Cell # M	1146	1138	1123	1101	1069	1019	955	893
Cell # P	7.1	24.1	40.8	55.9	73.2	89.9	106.4	123.8
Cell # M	2252	2231	2203	2161	2105	2021	1918	1798
Cell # P	0.0	23.8	41.9	58.7	75.5	92.5	109.3	125.9
Cell # M	5858	5803	5715	5560	5372	5186	4798	4418
Cell # P	8.3	28.1	43.7	61.4	79.2	97.2	115.1	133.0

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Cell # R	335	-166	-232	-252	-259	-259	-258	-255
Cell # Q	1466	558	327	183	101	42	-9	-49

Coil I R	518	46	-12	-31	-39	-44	-47	-49
	518	46	-12	-31	-39	-44	-47	-49
Coil I Q	1132	454	281	201	154	123	100	83
	1132	454	281	201	154	123	100	83
Coil 2 R	102.7	25.5	6.1	-0.1	-3.1	-4.6	-5.8	-6.7
	102.7	25.5	6.1	-0.1	-3.1	-4.6	-5.8	-6.7
Coil 2 Q	382.5	129.8	64.5	64.5	53.7	47.3	43.4	40.7
	382.5	129.8	64.5	64.5	53.7	47.3	43.4	40.7
Coil 3 R	46.4	5.6	0.4	-1.2	-2.1	-3.0	-3.7	-3.4
	46.4	5.6	0.4	-1.2	-2.1	-3.0	-3.7	-3.4
Coil 3 Q	32.2	21.2	17.8	17.4	18.2	19.7	20.7	21.5
	32.2	21.2	17.8	17.4	18.2	19.7	20.7	21.5
Coil 4 R	10.56	1.44	0.45	0.24	0.18	-0.02	-0.09	-0.24
	10.56	1.44	0.45	0.24	0.18	-0.02	-0.09	-0.24
Coil 4 Q	3.43	0.23	15.28	12.50	15.59	18.03	28.45	28.45
	3.43	0.23	15.28	12.50	15.59	18.03	28.45	28.45
Coil 5 R	0.38	-0.33	-0.49	-0.48	-0.52	-0.50	-0.48	-0.52
	0.38	-0.33	-0.49	-0.48	-0.52	-0.50	-0.48	-0.52
Coil 5 Q	4.68	6.65	6.65	9.83	11.26	13.76	15.99	10.35
	4.68	6.65	6.65	9.83	11.26	13.76	15.99	10.35
Coil 6 R	-2.14	-0.80	-0.58	-0.40	-0.37	-0.31	-0.38	-0.37
	-2.14	-0.80	-0.58	-0.40	-0.37	-0.31	-0.38	-0.37
Coil 6 Q	-9.25	-0.25	3.24	5.74	8.43	10.91	13.25	15.61
	-9.25	-0.25	3.24	5.74	8.43	10.91	13.25	15.61

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	1.020	1.025	1.020	1.020	1.019	1.017	1.016	1.017
Coil 0 P	0.966	0.244	0.325	0.389	0.289	0.257	0.224	0.186
Coil 1 M	0.999	0.997	0.992	0.991	0.989	0.988	0.987	0.987
Coil 1 P	0.131	0.319	0.378	0.484	0.385	0.358	0.342	0.303
Coil 2 M	1.003	1.000	0.999	0.998	0.997	0.996	0.995	0.995
Coil 2 P	0.024	0.074	0.113	0.172	0.219	0.249	0.235	0.234
Coil 3 M	1.021	1.022	1.019	1.019	1.018	1.018	1.020	1.019
Coil 3 P	0.028	0.047	0.098	0.121	0.124	0.098	0.110	0.230
Coil 4 M	1.022	1.021	1.021	1.020	1.020	1.019	1.018	1.018
Coil 4 P	0.035	0.052	0.057	0.100	0.099	0.117	0.112	0.093
Coil 5 M	1.031	1.031	1.031	1.030	1.030	1.030	1.028	1.028
Coil 5 P	0.036	0.010	0.092	0.120	0.133	0.121	0.196	0.213
Coil 6 M	1.018	1.020	1.019	1.017	1.017	1.022	1.022	1.021
Coil 6 P	0.025	0.103	0.063	0.158	0.050	0.053	0.094	0.014

PARMS	TCID @	TCID I	Coil Temp deg C	T Factor
IDs	1.628	0.938	38.9	1.04

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 151SMA 178647 DATE/TIME PERFORMED: Wed Feb 17 00:28:44 1999

UNIT #: 3808T8 HL6544

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-0.000	-0.000	-0.007	-0.000	-0.011	-0.000	-0.000	-0.007
Coil 0 Q	0.057	0.020	0.012	0.006	0.006	0.000	-0.002	-0.004
Coil 1 R	0.003	0.000	-0.004	-0.007	-0.010	-0.010	-0.010	-0.010
Coil 1 Q	0.044	0.022	0.013	0.011	0.006	0.002	-0.001	-0.005
Coil 2 R	-0.001	-0.000	-0.010	-0.010	-0.015	-0.004	0.000	0.010
Coil 2 Q	0.034	0.009	0.006	-0.003	-0.015	-0.019	-0.017	-0.011
Coil 3 R	-0.001	0.000	-0.002	0.003	0.000	-0.006	-0.000	0.000
Coil 3 Q	0.027	-0.002	0.003	0.004	0.006	0.006	0.000	0.000
Coil 4 R	-0.010	-0.013	-0.015	-0.021	-0.024	-0.016	-0.015	-0.009
Coil 4 Q	0.102	0.040	0.025	0.013	0.005	-0.005	-0.009	-0.013
Coil 5 R	-0.023	-0.023	-0.023	-0.021	-0.020	-0.018	-0.017	-0.002
Coil 5 Q	0.191	0.063	0.036	0.022	-0.001	-0.010	-0.017	-0.011
Coil 6 R	-0.015	-0.025	-0.035	-0.039	-0.039	0.000	0.004	0.013
Coil 6 Q	0.236	0.099	0.041	-0.010	-0.004	-0.025	-0.002	-0.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	127	126	124	121	116	111	104	96
Coil 0 P	7.2	22.6	37.9	53.1	68.3	83.6	98.6	113.6
Coil 1 M	226	223	218	210	201	189	176	161
Coil 1 P	7.9	24.7	41.2	57.6	73.9	90.2	106.1	122.0
Coil 2 M	443	439	433	423	409	391	369	342
Coil 2 P	7.4	23.3	39.1	54.9	70.8	86.9	102.8	118.8
Coil 3 M	719	714	704	688	666	637	603	561
Coil 3 P	7.3	22.9	38.4	54.0	69.6	85.3	100.8	116.3
Coil 4 M	1146	1138	1122	1095	1060	1012	954	884
Coil 4 P	7.7	24.1	40.4	56.8	73.3	89.9	106.4	123.1
Coil 5 M	2352	2331	2289	2221	2134	2028	1899	1737
Coil 5 P	8.0	25.0	41.9	58.8	75.7	92.5	109.1	125.7
Coil 6 M	5851	5805	5716	5568	5373	5107	4789	4409
Coil 6 P	8.3	26.1	43.7	61.4	79.2	97.2	115.0	132.9

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 151SMA 178647 DATE/TIME PERFORMED: Wed Feb 17 00:31:05 1999

UNIT #: 3808T8 HL6544

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-0.000	-0.000	-0.007	-0.000	-0.011	-0.000	-0.007	-0.007
Coil 0 Q	0.057	0.027	0.011	0.006	0.005	0.001	-0.003	-0.003
Coil 1 R	0.001	-0.002	-0.003	-0.007	-0.010	-0.010	-0.011	-0.009
Coil 1 Q	0.043	0.023	0.014	0.011	0.008	0.002	-0.001	-0.005
Coil 2 R	-0.003	-0.010	-0.010	-0.010	-0.012	-0.004	0.007	0.017
Coil 2 Q	0.033	0.009	0.007	-0.005	-0.014	-0.020	-0.018	-0.011
Coil 3 R	0.003	-0.002	0.000	0.001	0.001	-0.005	-0.010	-0.013
Coil 3 Q	0.027	0.003	0.004	0.007	0.007	0.007	0.000	0.000
Coil 4 R	-0.008	-0.013	-0.015	-0.021	-0.015	-0.016	-0.011	-0.007
Coil 4 Q	0.103	0.045	0.026	0.009	0.004	-0.004	-0.009	-0.013
Coil 5 R	-0.027	-0.026	-0.045	-0.034	-0.031	-0.029	-0.021	-0.006
Coil 5 Q	0.194	0.064	0.036	0.022	-0.001	-0.010	-0.017	-0.011
Coil 6 R	-0.033	-0.017	-0.033	-0.036	-0.021	-0.006	-0.005	-0.004
Coil 6 Q	0.228	0.097	0.033	-0.024	-0.014	-0.009	0.010	-0.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	127	126	124	121	116	111	104	96
Coil 0 P	7.2	22.6	37.9	53.1	68.3	83.6	98.6	113.6
Coil 1 M	226	223	218	210	201	189	176	161
Coil 1 P	7.9	24.7	41.2	57.6	73.9	90.2	106.1	122.0
Coil 2 M	443	439	433	423	409	391	369	342
Coil 2 P	7.4	23.3	39.1	54.9	70.8	86.9	102.8	118.8
Coil 3 M	720	714	704	688	666	637	603	561
Coil 3 P	7.3	22.9	38.4	54.0	69.6	85.3	100.8	116.4
Coil 4 M	1146	1139	1122	1095	1060	1012	954	884
Coil 4 P	7.7	24.1	40.4	56.8	73.3	89.9	106.4	123.1
Coil 5 M	2352	2331	2289	2221	2134	2028	1899	1737
Coil 5 P	8.0	25.0	41.9	58.8	75.7	92.5	109.1	125.7
Coil 6 M	5851	5805	5716	5568	5373	5107	4789	4409
Coil 6 P	8.3	26.1	43.7	61.4	79.2	97.2	115.0	133.0

BAKER HUGHES

Baker Atlas

COMPANY	PARAMOUNT RESOURCES LTD.
WELL	PARAMOUNT BERKLEY NETLA P-57
FIELD	UNDEFINED
PROVINCE	NORTHWEST TERRITORIES
LOCATION:	
WID: 1856	
UWI: 300N576058122301	
P-57 60 DEG 58' N 122 DEG 38' W	

ELEVATIONS
KB 664.65 M
DF
GL 659.50 M

DATE 16-FEB-1999

FILE NO:

API NO:

N.E.B. COPY

HIGH DEFINITION INDUCTION LOG" GAMMA RAY SOG

Baker Atlas

FILE NO:	COMPANY	PARAMOUNT RESOURCES LTD.
	WELL	PARAMOUNT BERKLEY NETLA P-57
API NO:	FIELD	WILDCAT
	PROVINCE	NORTHWEST TERRITORIES

LOCATION:
WI: 1858
UWI: 300P570850103301
SEC _____ TWP _____ RGE _____

OTHER SERVICES
HDIL
DC-CN-GR-CAL
DVL
MSFP-GR

		ELEVATIONS
PERMANENT DATUM	G.L.	ELEVATION 859.5 M
LOG MEASURED FROM	K.B.	9.15 M ABOVE P.D.
DRILL MEAS. FROM	KELLY BUSHING	

KB 868.65 M
DF
GL 859.50 M

DATE	25-FEB-1999	
RUN	ONE	
SERVICE ORDER	868948	
DEPTH DRILLER	2430.0 M	
DEPTH LOGGER	2421.4 M	
BOTTOM LOGGED INTERVAL	2418.2 M	
TOP LOGGED INTERVAL	177.0 M	
CASING - DRILLER	177.0 M @ 2272.0 K	@
CASING LOGGED	2272.0 M	
BIT SIZE	156 MM	
TYPE FLUID IN HOLE	LIGNOSOL	
DENSITY / VISCOSITY	950 KG/L 64 S	
PH / FLUID LOSS	9.5 6.2	
SOURCE OF SAMPLE	FLOWLINE	
RM AT MEAS. TEMP.	0.0MM @ 0.0DEC	@
RMF AT MEAS. TEMP.	0.0MM @ 0.0DEC	@
RMC AT MEAS. TEMP.	0.0MM @ 0.0DEC	@
SOURCE OF RMF / RMC	N/A N/A	
RM AT BHT	0.0MM @ 0.0DEC	@
TIME SINCE CIRCULATION	12 HRS	
MAX REC. TEMP.	112.2DEC	
EQUIP. LOCATION	2422 C.P.	
RECORDED BY	K.MACKEEN	
WITNESSED BY	J.MOULTON	

REMARKS

Run 1: Top Logged Interval Taken From 24-Feb-99 14.00hr Log Report.pdf

Logs Tied In Baker Atlas Logs on 06-Feb-99

All depths and presentations as per customer's request.

Temperature corrections applied to drill data.

No SP recorded due to Oil Base (Invert) Mud System.

Other Equipt: M.D.Smith

Run 2:

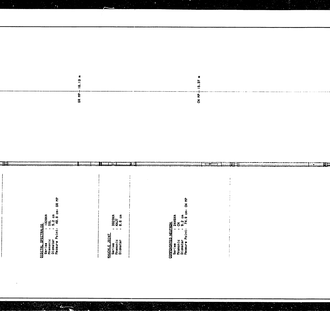
RUN	TOOL STRING	SERIAL NO.	DRILLER DEPTH	LOGGER DEPTH	BOTTOM LOGGED INTERVAL	TOP LOGGED INTERVAL	CASING DRILLER	CASING LOGGER	BIT SIZE	TYPE FLUID IN HOLE	DENSITY	VISCOSITY	PH	FLUID LOSS	SOURCE OF SAMPLE	RM @ MEAS. TEMP.	RMF @ MEAS. TEMP.	RMC @ MEAS. TEMP.	SOURCE OF RMF / RMC	RM @ BHT	TIME SINCE CIRCULATION	MAX REC. TEMP.	EQUIP. LOCATION	RECORDED BY	WITNESSED BY
1	HDIL-DSI-DVL-MSFP-GR-CAL	3911	2430.0 M	2421.4 M	2418.2 M	177.0 M	177.0 M @ 2272.0 K	2272.0 M	156 MM	LIGNOSOL	950 KG/L	64 S	9.5	6.2 C3	FLOWLINE	0.0MM @ 0.0DEC	0.0MM @ 0.0DEC	0.0MM @ 0.0DEC	N/A N/A	0.0MM @ 0.0DEC	12 HRS	112.2DEC	2422 C.P.	K.MACKEEN	J.MOULTON
2	HDIL-DSI-DVL-MSFP-GR-CAL	3911	2430.0 M	2421.4 M	2418.2 M	177.0 M	177.0 M @ 2272.0 K	2272.0 M	156 MM	LIGNOSOL	950 KG/L	64 S	9.5	6.2 C3	FLOWLINE	0.0MM @ 0.0DEC	0.0MM @ 0.0DEC	0.0MM @ 0.0DEC	N/A N/A	0.0MM @ 0.0DEC	12 HRS	112.2DEC	2422 C.P.	K.MACKEEN	J.MOULTON

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P.O.# 8988

INSTRUMENT CONFIGURATION

Data File: /data/runs/paramount/netla/p57_1.dfs



Data File: /data/runs/paramount/netla/p57_1.dfs
Version 3.1 Nov 18, 1998
Plotted: Thu Feb 25 14:18:48 1999

PARAMETER AND FILTER SUMMARY REPORT

Data File: /data/runs/paramount/netla/p57_1.dfs
Version 3.1 Nov 18, 1998
Plotted: Thu Feb 25 14:18:48 1999

PARAMETER AND FILTER SUMMARY REPORT

MEASUREMENT TYPE	PARAMETER	UNITS	INTERVAL 1a
4 RUN RAYON	SYMMETRIC FILTER		
	FILTER 1	(sym 1d)	10* : *****
	FILTER 2	(sym 2d)	10* : *****
GR	FILTER 3	(sym 3d)	10* : *****
Medium	FILTER 4	(sym 4d)	10* : *****
Medium	FILTER 5	(sym 5d)	10* : *****

MEASUREMENT TYPE	PARAMETER	UNITS	INTERVAL 1a
DSI	BOREHOLE & MUD SET VALUE		
BIT SIZE	Drlg Casing Bit	MM	156 : 311.1
MUD DENSITY (R/O, MUD)	Mud Density	KG/M3	950 : 1200
MUD RESISTIVITY (R/O, MUD)	Mud Resistivity	OHM.M	0.1 : 1000
FLUID SAMPLE SOURCE	Mud Sample Source		FLOWLINE
MUD SALINITY	Mud Salinity	PPM	0 : 400000
TOP DEPTH	Top Depth	M	177 : 2430
BOTTOM DEPTH	Bottom Depth	M	177 : 2430

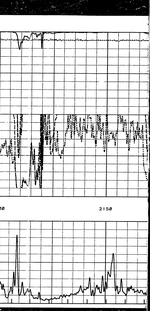
MEASUREMENT TYPE	PARAMETER	UNITS	INTERVAL 1a
HDIL	HDIL PROCESSING		
HDIL TOOL STRING	Tool String		HDIL-DSI-MSFP-GR-CAL
HDIL TEMPERATURE CORRECTION	Temperature Correction	DEG. Celsius	No Correction
	Top Depth	M	177 : 2430
	Bottom Depth	M	177 : 2430

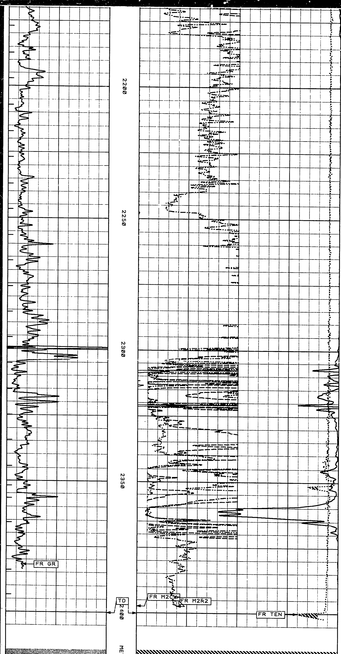
CURVE	SYMMETRIC FILTER	CURVE	SYMMETRIC FILTER	CURVE	SYMMETRIC FILTER
GR	1				

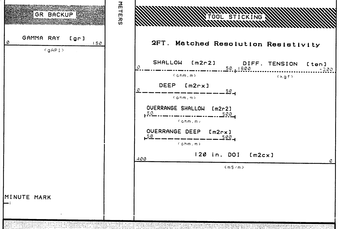
Parameter Information Block
Mnemonic Value Description
BHS 0.0 Borehole Shape
RMB 0.0 Resistivity Mud Borehole
RMFB 0.0 Resistivity Mud Filtrate Borehole
RMCB 0.0 Resistivity Mud Cake Borehole
TBHB 0.0 Temperature Borehole Bottom
TBHT 0.0 Temperature Borehole Top
TDEP 0.0 Total Depth

CURVE	SYMMETRIC FILTER	CURVE	SYMMETRIC FILTER	CURVE	SYMMETRIC FILTER
GR	1				

Parameter Information Block
Mnemonic Value Description
BHS 0.0 Borehole Shape
RMB 0.0 Resistivity Mud Borehole
RMFB 0.0 Resistivity Mud Filtrate Borehole
RMCB 0.0 Resistivity Mud Cake Borehole
TBHB 0.0 Temperature Borehole Bottom
TBHT 0.0 Temperature Borehole Top
TDEP 0.0 Total Depth







MINUTE MARK

MAIN PASS - 6 CURVE PRESENTATION

Release:3.1 Nov 18, 1998 Fileview 2.27 Plot /RB/2) Thu Feb 25 14:17:45 1999
Perplt /main/45 Pdf_Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dsti/sgsse/paromusb2b57/r77hb4.prn
TOP DEPTH: 8853.125 m BOTTOM DEPTH: 8480.733 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X RAY CALIPER	FILTER (.)	light (2)		..	..
	FILTER (.x)	light (2)		..	..
	FILTER (.)	light (2)		..	..
GR	FILTER (.)	medium (1)		..	..
HDIL	HDIL # PT RES	OFF		..	..
TENSION	FILTER (.)	medium (1)		..	..

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y CALIPER	X-Y Caliper	X-Axis (density cal)		..	..
BIT SIZE	BIT SIZE	150.800	mm	..	..
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mm=0)	USE CALIPER		..	..
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mm=)	150.800	mm	..	..
MUD VALUES SOURCE	MMUD SOURCE (HDIL)	OIL BASE MUD		..	..
MUD VALUES	MUD SAMPLE TEMP	23.9	degC	..	..
	MUD SAMPLE RES	1.000	ohm.m	..	..
	MUD SAMPLE TEMP	15.0	degC	..	..
	TEMP GRADIENT	0.187	0.01 degC/m	..	..

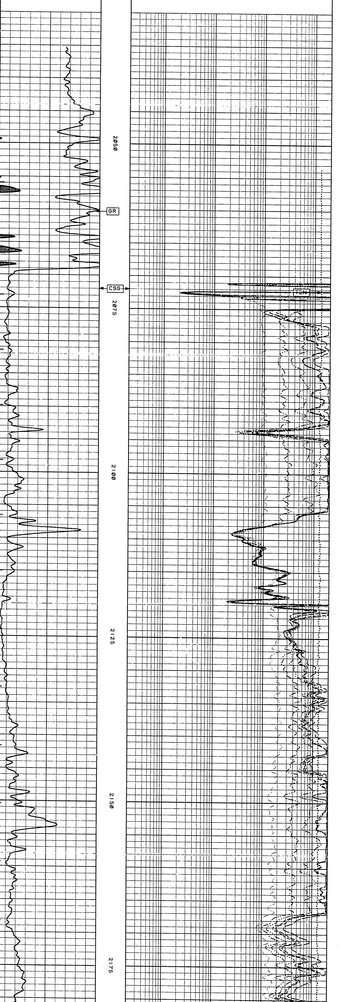
HDIL PROCESSING

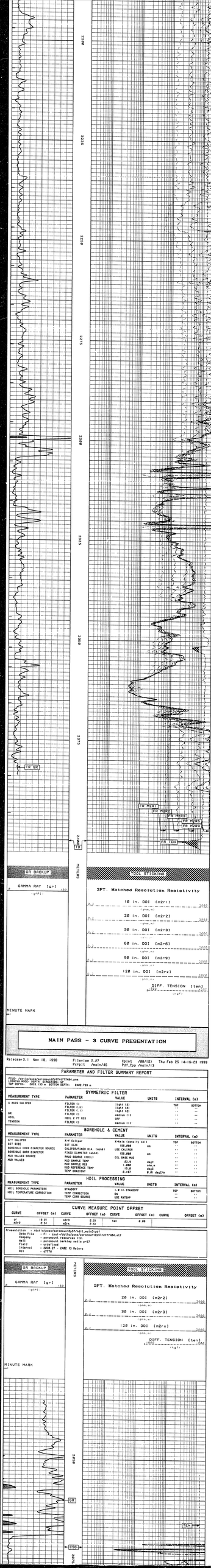
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL BOREHOLE PARAMETERS	STANDOFF	1.0 in STANDOFF		..	..
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		..	..
	TEMP CORR SOURCE	USE RATEMP		..	..

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
SP, HDIT	18.01 2.51	HDI-E HDI-S	HDI-R HDI-B	0.51 0.51		HDI-V tem	0.51 0.00

Presentation : /dsti/sgsse/paromusb2b57/rst1.ins.nb.pat
Data File : F: - cpu1-/dsti/sgsse/paromusb2b57/r77hb4.xtf
Company : paramount resources ltd
Well : paramount barkley nwtly p-57
Field : wildcat
Interval : - 8508.27 - 8480.43 Meters
Dis : - d77fh





MAIN PASS - 3 CURVE PRESENTATION

Release:3.1 Nov 18, 1998 Fileview 2.27 Cplot /BB/1D Thu Feb 25 14:16:23 1999
Perpl: /mnts/46 Pdf.Cap /main/3

PARAMETER AND FILTER SUMMARY REPORT

File: /data/pxsa/parmount2b37/r277m84.prm
Logging mode: depth direction: up
TOP DEPTH: 6813.133 m BOTTOM DEPTH: 6482.733 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
4 ARM CALIPER	FILTER 1)	light (2)		--	--
	FILTER 1.5)	light (2)		--	--
	FILTER 1.)	light (2)		--	--
DR	FILTER 1)	medium (1)		--	--
HDIL	HDIL Z FT RES	OFF		--	--
TENSION	FILTER 1)	medium (1)		--	--

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
4-M CALIPER	4-M Caliper	6-Axis (density cal)		--	--
BIT SIZE	BIT SIZE	156.888	mm	--	--
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (main)	USE CALIPER		--	--
BOREHOLE CORR DIAMETER	FIXED DIAMETER (main)	156.888	mm	--	--
MUD VALUES SOURCE	MNUD SOURCE (HDIL)	OIL BASE MUD		--	--
MUD VALUES	MUD SAMPLE TEMP	82.9	degC	--	--
	MUD SAMPLE RES	1.888	ohm.m	--	--
	MUD REFERENCE TEMP	15.8	degC	--	--
	TEMP GRADIENT	0.187	K/ 30.0 degC/m	--	--

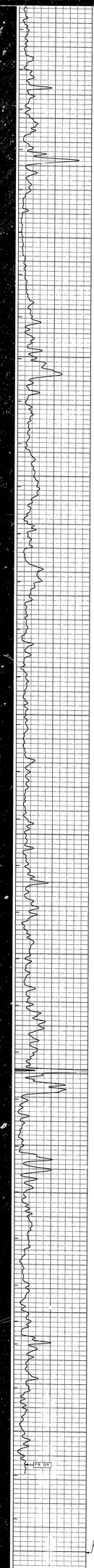
HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL BOREHOLE PARAMETERS	STANDOFF	1.0 in STANDOFF		--	--
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		--	--
	TEMP CORR SOURCE	USE RATEMP		--	--

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
AF	10.21	m2r3	0.51	ten	0.00		
m2r2	0.51	m2rx	0.51				

Presentation : /data/pxsa/parmount2b37/r277m84.cst
Data file : fl: + cpu1:/data/pxsa/parmount2b37/r277m84.dlis
Company : + paramount resources ltd.
Well : + paramount berley ratio p-37
Field : + undefined
Interval : + 6813.133 - 6482.733 m
Unit : + dfffm



Release-3.1 Nov 18, 1998 Filelaw 2.27 Plrplt /main/46 Calot /80/121 Pdf_Cpp /main/13 Thu Feb 25 13:44:14 1999

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/ssss/borehole35/d77fmm.lis
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2381.336 m BOTTOM DEPTH: 2484.415 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
X AXIS CALIPER	FILTER (1)	light (2)		--	--
	FILTER (.h)	light (2)		--	--
	FILTER (.l)	light (2)		--	--
GR	FILTER (1)	medium (1)		--	--
HDIL	HDIL # FT RES	OFF		--	--
TENSION	FILTER (1)	medium (1)		--	--

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
X-Y CALIPER	X-Y Caliper	Average		--	--
BIT SIZE	BIT SIZE	190.500	mm	--	--
BOREHOLE FLUID DIELECTRIC SOURCE	BOREHOLE FLUID DIELECTRIC	80.000		--	--
BOREHOLE FLUID RESISTIVITY SOURCE	BOREHOLE FLUID RESISTIVITY	0.200	ohm-m	--	--
BOREHOLE FLUID SALINITY SOURCE	BOREHOLE FLUID SALINITY	0.000	ppm	--	--
BOREHOLE FLUID TEMPERATURE SOURCE	BOREHOLE FLUID TEMPERATURE	20.000	deg C	--	--
CASING SIZE	CASING SIZE	0.000	mm	--	--
CASING WEIGHT	CASING WEIGHT	0.000	kg/m	--	--
CEMENT DENSITY	CEMENT DENSITY	0.000	g/cc	--	--
CEMENT DIELECTRIC	CEMENT DIELECTRIC	0.000		--	--
CEMENT RESISTIVITY	CEMENT RESISTIVITY	0.000	ohm-m	--	--
CEMENT SALINITY	CEMENT SALINITY	0.000	ppm	--	--
CEMENT TEMPERATURE	CEMENT TEMPERATURE	0.000	deg C	--	--
CEMENT THICKNESS	CEMENT THICKNESS	0.000	mm	--	--
FORMATION DENSITY	FORMATION DENSITY	2.650	g/cc	--	--
FORMATION DIELECTRIC	FORMATION DIELECTRIC	0.000		--	--
FORMATION RESISTIVITY	FORMATION RESISTIVITY	0.000	ohm-m	--	--
FORMATION SALINITY	FORMATION SALINITY	0.000	ppm	--	--
FORMATION TEMPERATURE	FORMATION TEMPERATURE	0.000	deg C	--	--
MUD CAKE THICKNESS	MUD CAKE THICKNESS	0.000	mm	--	--
MUD DENSITY	MUD DENSITY	1.000	g/cc	--	--
MUD DIELECTRIC	MUD DIELECTRIC	0.000		--	--
MUD RESISTIVITY	MUD RESISTIVITY	0.000	ohm-m	--	--
MUD SALINITY	MUD SALINITY	0.000	ppm	--	--
MUD TEMPERATURE	MUD TEMPERATURE	0.000	deg C	--	--

BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (hdia)	USE CALIPER		..	..
BOREHOLE CORR DIAMETER	FIXED DIAMETER (hdia)	156.000	mm	..	..
MUD VALUES SOURCE	RMUD SOURCE (mdl)	OIL BASE MUD		..	..
MUD VALUES	MUD SAMPLE TEMP	83.5	degC	..	..
	MUD SAMPLE RES	1.000	ohm.m	..	..
	MUD REFERENCE TEMP	15.0	degC	..	..
	TEMP GRADIENT	0.187	0.01 degC/m	..	..

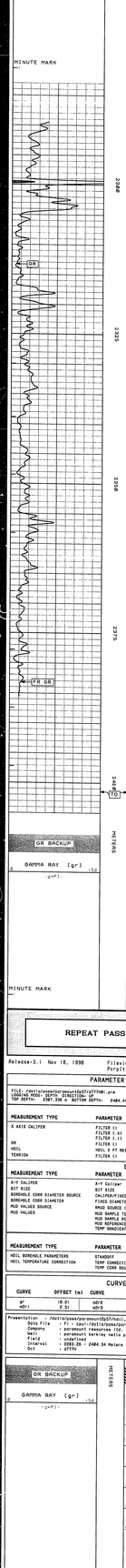
HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
HDIL BOREHOLE PARAMETERS	STANDOFF	1.0 in STANDOFF		TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		..	..
	TEMP CORR SOURCE	USE RATEMP		..	..

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
gr	18.01	m2r3	2.51	ten	0.00		
m2r1	2.51	m2rx	2.51				

Presentation : /data/pass/parcmount2p57/hdil_rpt3.pdf
Data file : fi : /dsl/data/pass/parcmount2p57/d777hdi.stf
Company : paramount resources ltd.
Well : paramount berkley hells p-b/
Field : undefined
Interval : 2283.26 - 2484.34 Meters
Out : d777h



REPEAT PASS - 0 CURVE PRESENTATION

Release:3.1 Nov 18, 1998 Fileview 2.07 Cplot /80/10 Thu Feb 25 13:45:59 1999
Perplt /dsl/45 Ptf_Cpy /dsl/s13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/pass/parcmount2p57/d777hdi.pre
[DEPTH] HDIL DEPTH CORRECTION: 0'
TOP DEPTH: 2387.336 m BOTTOM DEPTH: 2484.415 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
X AXIS CALIPER	FILTER 1)	light (2)		TOP	BOTTOM
	FILTER 1.5)	light (2)		..	..
	FILTER 1.1)	light (2)		..	..
GR	FILTER 1)	medium (1)		..	..
HDIL	HDIL Z PT RES	OFF		..	..
TENSION	FILTER 1)	medium (1)		..	..

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
X-Y CALIPER	X-Y Caliper	Average		TOP	BOTTOM
BIT SIZE	BIT SIZE	156.000	mm	..	..
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (hdia)	USE CALIPER		..	..
BOREHOLE CORR DIAMETER	FIXED DIAMETER (hdia)	156.000	mm	..	..
MUD VALUES SOURCE	RMUD SOURCE (mdl)	OIL BASE MUD		..	..
MUD VALUES	MUD SAMPLE TEMP	83.9	degC	..	..
	MUD SAMPLE RES	1.000	ohm.m	..	..
	TEMP REFERENCE TEMP	15.0	degC	..	..
	TEMP GRADIENT	0.187	0.01 degC/m	..	..

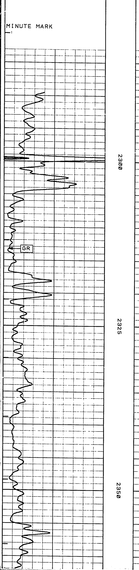
HDIL PROCESSING

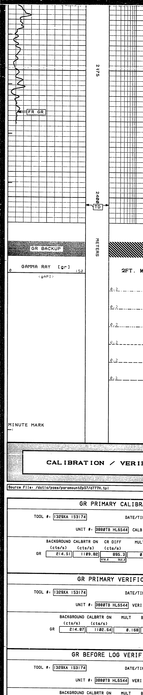
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
HDIL BOREHOLE PARAMETERS	STANDOFF	1.0 in STANDOFF		TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		..	..
	TEMP CORR SOURCE	USE RATEMP		..	..

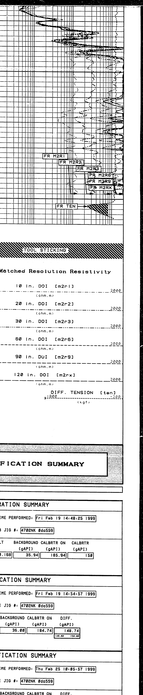
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
gr	18.01	m2r2	2.51	m2r4	2.51	m2rx	2.51
m2r1	2.51	m2r3	2.51	m2r5	2.51	ten	0.00

Presentation : /data/pass/parcmount2p57/hdil_rpt6.pdf
Data file : fi : /dsl/data/pass/parcmount2p57/d777hdi.stf
Company : paramount resources ltd.
Well : paramount berkley hells p-57
Field : undefined
Interval : 2283.26 - 2484.34 Meters
Out : d777h







CALIBRATION / VERIFICATION SUMMARY

Source File: /dlis/data/tpc/smoot/dlis/f1276.lis

GR PRIMARY CALIBRATION SUMMARY

TOOL #: [S306A 13373]
DATE/TIME PERFORMED: [Fri Feb 10 14:48:25 1995]
UNIT #: [SONDE'S HLS542] CALS JIG #: [FARRAR #AA555]

	BACKGROUND CALIBRTN ON CR (cts/s)	(cts/s)	MULT	BACKGROUND CALIBRTN ON CALIBRTR (API)	(API)	(API)
CR	[214.33]	[186.64]	[1.150]	[85.00]	[97.75]	[85.00]

GR PRIMARY VERIFICATION SUMMARY

TOOL #: [S306A 13373]
DATE/TIME PERFORMED: [Fri Feb 10 14:54:57 1995]
UNIT #: [SONDE'S HLS542] VERI JIG #: [FARRAR #AA555]

	BACKGROUND CALIBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALIBRTN ON (API)	(API)	DIFF. (API)
GR	[214.67]	[187.64]	[1.150]	[85.00]	[97.75]	[0.75]
						[0.75%]

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: [S306A 13373]
DATE/TIME PERFORMED: [Thu Feb 23 19:01:37 1995]
UNIT #: [SONDE'S HLS542] VERI JIG #: [FARRAR #AA555]

	BACKGROUND CALIBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALIBRTN ON (API)	(API)	DIFF. (API)
GR	[199.19]	[894.78]	[4.150]	[85.00]	[97.75]	[12.75]
						[14.99%]

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: [S306A 13373]
DATE/TIME PERFORMED: [Thu Feb 23 19:09:35 1995]
UNIT #: [SONDE'S HLS542] VERI JIG #: [FARRAR #AA555]

	BACKGROUND CALIBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALIBRTN ON (API)	(API)	DIFF. (API)
GR	[93.76]	[389.69]	[4.150]	[85.00]	[97.75]	[12.75]
						[14.99%]

HOIL PRIMARY CALIBRATION SUMMARY

TOOL #: [S139A 178647]
DATE/TIME PERFORMED: [Mon Oct 23 19:19:49 1995]
UNIT #: [SYBIAN 15465] SRCONO CO & DATE: [51381]

ZERO DATA(cnt) 10 Hzs 30 Hzs 50 Hzs 70 Hzs 90 Hzs 110 Hzs 130 Hzs 150 Hzs

Cell A R	[-2.002]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]

ELEC. GAINS 10 Hzs 30 Hzs 50 Hzs 70 Hzs 90 Hzs 110 Hzs 130 Hzs 150 Hzs

Cell A R	[123]	[123]	[123]	[123]	[123]	[123]	[123]	[123]
Cell A G	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]
Cell A B	[7.12]	[62.62]	[57.62]	[53.12]	[68.12]	[63.62]	[59.62]	[115.62]
Cell A Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]

AM Factor 10 Hz 30 Hz 50 Hz 70 Hz 90 Hz 110 Hz 130 Hz 150 Hz

Cell A R	[233]	[-166]	[-254]	[-259]	[-254]	[-254]	[-253]	[-253]
Cell A G	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]
Cell A B	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]
Cell A Y	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]
Cell B R	[1.18]	[-45]	[-72]	[-73]	[-69.50]	[-69.50]	[-69.50]	[-69.50]
Cell B G	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]
Cell B B	[1.12]	[-64]	[-98]	[-98]	[-94]	[-93]	[-92]	[-92]
Cell B Y	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]
Cell C R	[2.02]	[0.51]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]
Cell C G	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]
Cell C B	[2.02]	[0.51]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]
Cell C Y	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]
Cell D R	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]
Cell D G	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]
Cell D B	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]	[-0.01]
Cell D Y	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]	[-1.00]

PM Factor 10 Hz 30 Hz 50 Hz 70 Hz 90 Hz 110 Hz 130 Hz 150 Hz

Cell A R	[.002]	[.001]	[.002]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell A G	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell A B	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell A Y	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell B R	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell B G	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell B B	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell B Y	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell C R	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell C G	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell C B	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell C Y	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell D R	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell D G	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell D B	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]
Cell D Y	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]	[.001]

PARMS TCID # TCID # Cal Temp Y Factor
Cal Z

10z [.000] .0000 [0.0] [.04]

HOIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: [S139A 178647]
DATE/TIME PERFORMED: [Thu Feb 23 19:22:21 1995]
UNIT #: [SONDE'S HLS542]

ZERO DATA(cnt) 10 Hzs 30 Hzs 50 Hzs 70 Hzs 90 Hzs 110 Hzs 130 Hzs 150 Hzs

Cell A R	[-2.002]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]

ELEC. GAINS 10 Hzs 30 Hzs 50 Hzs 70 Hzs 90 Hzs 110 Hzs 130 Hzs 150 Hzs

Cell A R	[123]	[123]	[123]	[123]	[123]	[123]	[123]	[123]
Cell A G	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]
Cell A B	[7.12]	[62.62]	[57.62]	[53.12]	[68.12]	[63.62]	[59.62]	[115.62]
Cell A Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]

HOIL AFTER LOG VERIFICATION SUMMARY

TOOL #: [S139A 178647]
DATE/TIME PERFORMED: [Thu Feb 23 19:30:01 1995]
UNIT #: [SONDE'S HLS542]

ZERO DATA(cnt) 10 Hzs 30 Hzs 50 Hzs 70 Hzs 90 Hzs 110 Hzs 130 Hzs 150 Hzs

Cell A R	[-2.002]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell A Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell B Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell C Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D R	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D G	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D B	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]
Cell D Y	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]	[-2.003]

ELEC. GAINS 10 Hzs 30 Hzs 50 Hzs 70 Hzs 90 Hzs 110 Hzs 130 Hzs 150 Hzs

Cell A R	[123]	[123]	[123]	[123]	[123]	[123]	[123]	[123]
Cell A G	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]	[7.12]
Cell A B	[7.12]	[62.62]	[57.62]	[53.12]	[68.12]	[63.62]	[59.62]	[115.62]
Cell A Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell B Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell C Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D R	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D G	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D B	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Cell D Y	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]

WESTERN ATLAS

COMPANY: [PARAMONT RESOURCES LTD.]
WELL: [PARAMONT BERKLEY BETLA P-57]
FIELD: [UNDESIGNATED]
FORMATION: [NORTHWEST TERRITORIES]
LOCATION:
SEC [00] TWP [000] RGE [000]
[0000FSL0000FEL0000]
[0000]
ELEVATIONS
KB [00.00 M]
DF [00.00 M]
GL [00.00 M]
DATE [31-FEB-1995]
FILE NO:
API NO:

SONIC

N.E.B. COPY

Baker Atlas

DIGITAL ACOUSTILOG
GAMMA RAY LOG
X-Y CALIPER LOG

FILE NO:	COMPANY	PARAMOUNT RESOURCES LTD.	
	WELL	PARAMOUNT BERKLEY NETLA P-57	
API NO:	FIELD	UNDEFINED	
	PROVINCE	NORTHWEST TERRITORIES	
Ver 3.19	LOCATION:		OTHER SERVICES
	WID: 1856		HDIL-GR-CAL
	UWI : 300P576050122301		ZDL-CN-GR-XY
			CUL
	P-57 60 DEG 50' N 122 DEG 30' W		
			ELEVATIONS
PERMANENT DATUM G.L.	ELEVATION 659.5 M		KB 664.65 M
LOG MEASURED FROM K.B.	5.15 M ABOVE P.D.		DF
DRILL. MEAS. FROM KELLY BUSHING			GL 659.50 M

DATE		16-FEB-1999			
RUN	TRIP	1	1		
SERVICE ORDER		968646			
DEPTH DRILLER		2072.0 M			
DEPTH LOGGER		2054.0 M			
BOTTOM LOGGED INTERVAL		2050.6 M			
TOP LOGGED INTERVAL		SURFACE			
CASING-DRILLER		339.7 MM @ 501.0 M		@	
CASING LOGGER		500.5 M			
BIT SIZE		222.0 MM			
TYPE OF FLUID IN HOLE		INVERT			
DENSITY	VISCOSITY	950 G/C3	42 S		
PH	FLUIDLOSS	-	-		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		- @ -		@	
RMF AT MEAS. TEMP.		- @ -		@	
RMC AT MEAS. TEMP.		- @ -		@	
SOURCE OF RMF	RMC	N/A	N/A	@	
RM AT BHT		- @ -		@	
TIME SINCE CIRCULATION		6.5 HRS.			
MAX. RECORDED TEMP.		92.4 DEGC			
EQUIP. NO.	LOCATION	HL 10033	G.P.		
RECORDED BY		K.VALOUISKI			
WITNESSED BY		J.BOULTER			

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

REMARKS

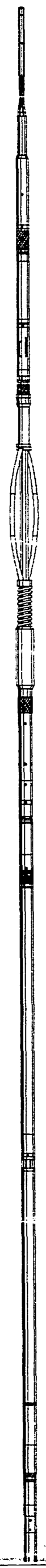
RUN 1 TRIP 1 : Time Stopped Circulation : 1815 hours 16-Feb-99.
HDIL, DAL and ZDL-CN recorded in combination.
All scales and presentations as per customer's request.
Bridged off @ 2054.0 logs recorded from the bridge.
Tool String configuration as per Customer's request.
Delta-T and GR recorded to surface.
Delta-T through casing is affected by the quality of the cement bond to pipe and formation.
Crew: S.Marsh & B.Fusick

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIV	3944XA	153823	SWIVEL
1	1	TTRM	3981XA	180401	FREE
1	1	YCAL	4209XA	044639	Y-AXIS CALIPER
1	1	COMR	3510XA	168181	FREE
1	1	DGR	1329XA	153174	FREE
1	1	KNUC	3923XA	167198	KNUCKLE JOINT
1	1	CN	2446XA	118349	DECENTRALIZED
1	1	ZDL	2228EA/2228MA	177075/172644	PAD DEVICE
1	1	KNUC	3923XA	166792	KNUCKLE JOINT
1	1	HDIL	1515EA/1515MA	177896/178647	38 MM STANDOFFS
1	1	DAL E	1687EA	121977	FREE
1	1	CENT	4341XA	173361	4-ARM CENTRALIZER
1	1	DAL M	1680MA	154399	CENTRALIZED
1	1	CENT	4341XA	168349	4-ARM CENTRALIZER

INSTRUMENT CONFIGURATION

Source File: /data/pass/par_p-57/dal-tdg



CABLEHEAD
Series : CABL338
Mnemonic : CBLH
Diameter : 8.6 cm
Length : 167.6 cm
Measure Point: 83.8 cm: CABLEHEAD TOP

SWIVEL
Series : 3944XB
Mnemonic : SWVL
Diameter : 8.6 cm
Length : 101.6 cm

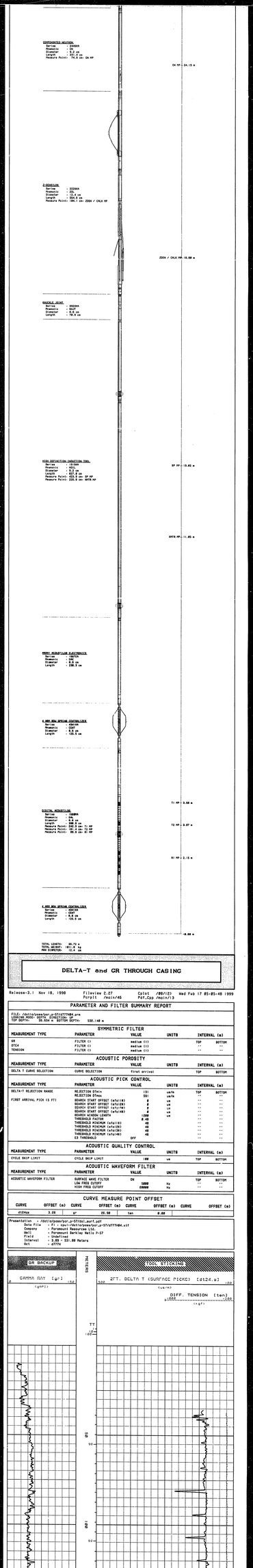
Y-CALIPER
Series : 4209XA
Mnemonic : CAL
Diameter : 10.8 cm
Length : 222.2 cm
Measure Point: 134.1 cm: CALY MP

TTRM SUB
Series : 3981XA
Mnemonic : TTRM
Diameter : 9.2 cm
Length : 116.8 cm
Measure Point: 42.2 cm: TEMP MP
Measure Point: 34.5 cm: RM MP

WTS COMMON REMOTE
Series : 3510XA
Mnemonic : WTS
Diameter : 9.2 cm
Length : 189.5 cm

DIGITAL SPECTRALOG
Series : 1329XA
Mnemonic : DSL
Diameter : 9.2 cm
Length : 222.8 cm
Measure Point: 48.8 cm: GR MP

KNUCKLE JOINT
Series : 3923XA
Mnemonic : KNJT
Diameter : 8.6 cm
Length : 78.9 cm



DELTA-T and GR THROUGH CASING

Release-3.1 Nov 18, 1998 Fileview 2.27 Cplot /RB/12 Wed Feb 17 05:45:48 1999
Perplt /main/46 Pdf.Cap /main/13

PARAMETER and FILTER SUMMARY REPORT

FILE: /data/osesrpr_pr57/ATTH84.ark
LOGGING MODE: DEPTH DIRECTION: DP
TOP DEPTH: 35.52m + BOTTOM DEPTH: 532.14M m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
GR	FILTER (1)	medium (1)		TOP	BOTTOM
DTCA	FILTER (1)	medium (1)		"	"
TENSION	FILTER (1)	medium (1)		"	"

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
DELTA T CURVE SELECTION	CURVE SELECTION	first arrival		TOP	BOTTOM

ACOUSTIC PICK CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
DELTA-T REJECTION RANGE	REJECTION DTmin	130	us/ft	TOP	BOTTOM
	REJECTION DTmax	200	us/ft	"	"
FIRST ARRIVAL PICK (1 PT)	SEARCH START OFFSET (afs#1&)	0	us	"	"
	SEARCH START OFFSET (afs#2&)	0	us	"	"
	SEARCH START OFFSET (afs#3&)	0	us	"	"
	SEARCH START OFFSET (afs#4&)	0	us	"	"
	SEARCH WINDOW LENGTH	1500	us	"	"
	THRESHOLD FACTOR	0.45		"	"
	THRESHOLD MINIMUM (afs#1&)	48		"	"
	THRESHOLD MINIMUM (afs#2&)	48		"	"
	THRESHOLD MINIMUM (afs#3&)	48		"	"
	THRESHOLD MINIMUM (afs#4&)	48		"	"
	E3 THRESHOLD	OFF		"	"

ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ACOUSTIC WAVEFORM FILTER	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	5000	Hz	"	"
	HIGH FREQ CUTOFF	20000	Hz	"	"

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
dtd4ax	3.28	gr	20.50	ten	0.00		

Presentation : /data/osesrpr_pr57/dl_surf.pdf
Data File : F1 : dpc1:/data/osesrpr_pr57/ATTH84.xtf
Company : Paramount Resources Ltd.
Unit : Paramount Bartley Hatis P-57
Field : Undefined
Observed : 532.14m - 221.88 Meters
Dot : dffff:

GR BACKUP

GAMMA RAY (gr) 0 (GAPI) 150

DEPTH 1:240

DELTA T (SURFACE PICKS) (dt24.w) 500 (us/m) 100

DIFF. TENSION (ten) -1000 (LBF) 1000

TT 1 (dt1) 500 (us/m) 100

80

90

100

110

120

130

140

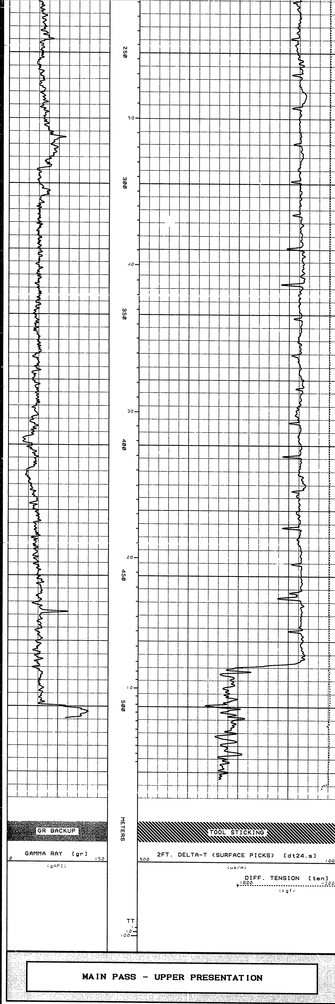
150

160

170

200

210



MAIN PASS - UPPER PRESENTATION

Release:3.1 Nov 18, 1998 Filesize 2.27 Plotspl /tools/45 Plot /BD/12 Ref.Dpp /tools/3 Wed Feb 17 05:02:03 1999

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/pages/por_pr157707ND.prm
TOP DEPTH: 488.976 m BOTTOM DEPTH: 2855.547 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER (I)	light (2)		TOP	BOTTOM
YCAL	FILTER (I)	medium (1)		"	"
Y AXIS CALIPER	FILTER (I)	light (2)		"	"
DIFA	FILTER (I)	medium (1)		"	"
TENSION	FILTER (I)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	177.800	mm	TOP	BOTTOM
A-Y CALIPER	A-Y Caliper	Average		"	"
BIT SIZE	BIT SIZE	222.000	mm	"	"

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
DELTA T CURVE SELECTION	CURVE SELECTION	first arrival		TOP	BOTTOM

ACOUSTIC PICK CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
DELTA-T REJECTION RANGE	REJECTION DTmin	191	us/m	TOP	BOTTOM
	REJECTION DTmax	591	us/m	"	"
FIRST ARRIVAL PICK (S FT)	SEARCH START OFFSET (mfa)(m)	0	us	"	"
	SEARCH START OFFSET (mfa)(S)	0	us	"	"
	SEARCH START OFFSET (mfa)(SS)	0	us	"	"
	SEARCH START OFFSET (mfa)(G)	0	us	"	"
	SEARCH WINDOW LENGTH	1200	us	"	"
	THRESHOLD FACTOR	0.40		"	"
	THRESHOLD MINIMUM (mfa)(R)	40		"	"
	THRESHOLD MINIMUM (mfa)(D)	40		"	"
	THRESHOLD MINIMUM (mfa)(S)	40		"	"
	THRESHOLD MINIMUM (mfa)(G)	40		"	"
	E3 THRESHOLD	OFF		"	"

ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM

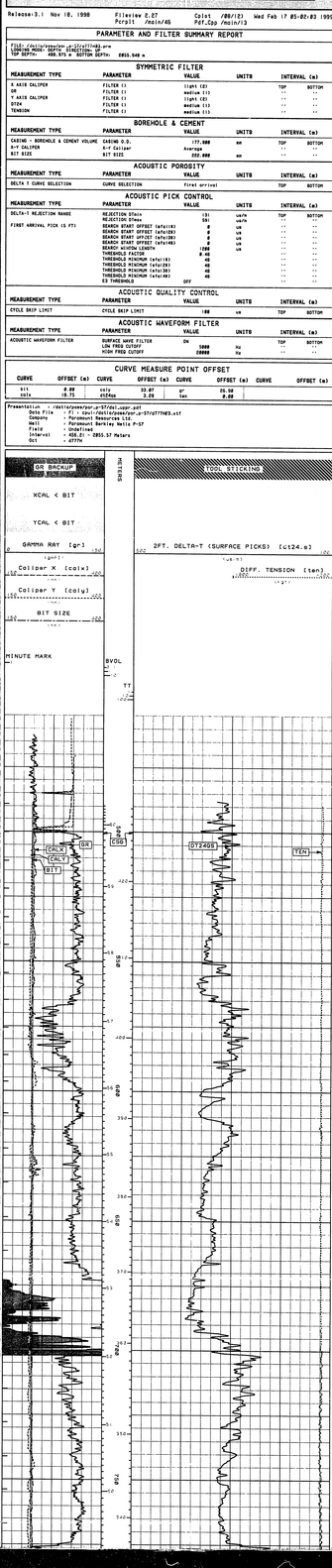
ACOUSTIC WAVEFORM FILTER

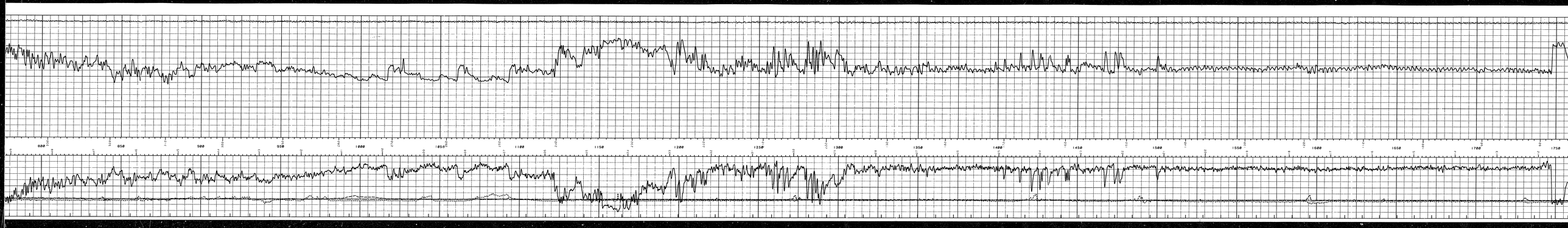
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ACOUSTIC WAVEFORM FILTER	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	5000	Hz	"	"
	HIGH FREQ CUTOFF	20000	Hz	"	"

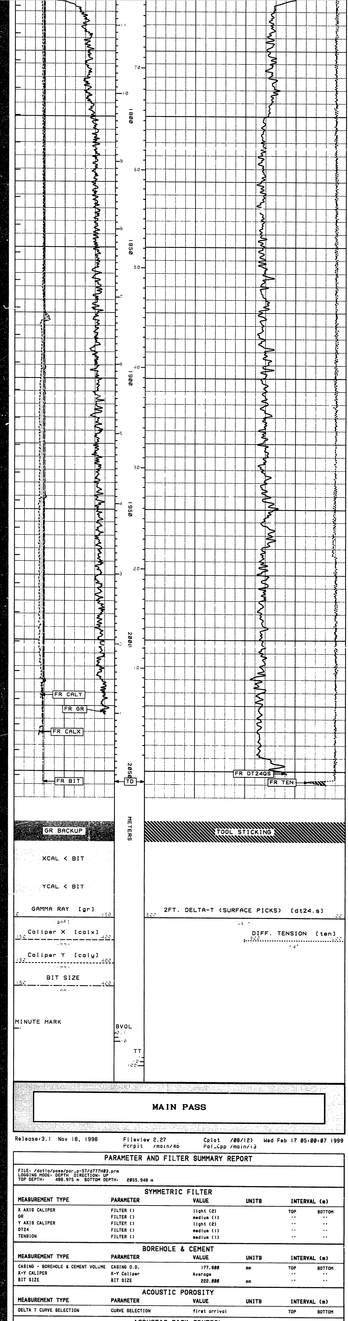
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	calx	33.07	gr	35.58		
calx	19.73	dtfmin	3.20	ten	0.00		

Presentation : /data/pages/por_pr157701.ppr.pdf
Data file : ft:\ /data/pages/por_pr157707ND.xtf
Company : Paramount Resources Ltd.
Well : Paramount Berkley Delta P-57
Field : Undefined
Interval : 488.01 - 2855.57 Meters
Out : dfifm




800
850
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750



MAIN PASS

Release:3.1 Nov 18, 1998 Fileview 2.27 Curst /00/12/ Wed Feb 17 05:00:07 1999
Pcrdil rdoir/45 Fel.Lop /moir/2

PARAMETER AND FILTER SUMMARY REPORT

File: /data/ocean/par_p-57/dt1/mp3.prn
Logging Mode: DEPTH STABILIZED UP
TOP DEPTH: 888.974 m BOTTOM DEPTH: 2855.548 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
K AXIS CALIPER	FILTER ()	light (2)		**	**
GR	FILTER ()	medium (1)		**	**
Y AXIS CALIPER	FILTER ()	light (2)		**	**
DTGA	FILTER ()	medium (1)		**	**
TENSION	FILTER ()	medium (1)		**	**

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	177.800	mm	TOP	BOTTOM
X-Y CALIPER	X-Y Caliper	average		**	**
BIT SIZE	BIT SIZE	222.000	mm	**	**

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
DELTA T CURVE SELECTION	CURVE SELECTION	first arrival		TOP	BOTTOM

ACOUSTIC PICK CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
DELTA-T REJECTION RANGE	REJECTION Dfmin	131	usec/m	**	**
	REJECTION Dfmax	551	usec/m	**	**
FIRST ARRIVAL PICK (S FT)	SEARCH START OFFSET (sfo1(8)	0	us	**	**
	SEARCH START OFFSET (sfo2(8)	0	us	**	**
	SEARCH START OFFSET (sfo3(8)	0	us	**	**
	SEARCH START OFFSET (sfo4(48)	0	us	**	**
	SEARCH WINDOW LENGTH	1000	us	**	**
	THRESHOLD MINIMUM	0.40		**	**
	THRESHOLD MINIMUM (sfo1(8)	40		**	**
	THRESHOLD MINIMUM (sfo2(8)	40		**	**
	THRESHOLD MINIMUM (sfo3(8)	40		**	**
	THRESHOLD MINIMUM (sfo4(48)	40		**	**
	S2 THRESHOLD	OFF		**	**

ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM

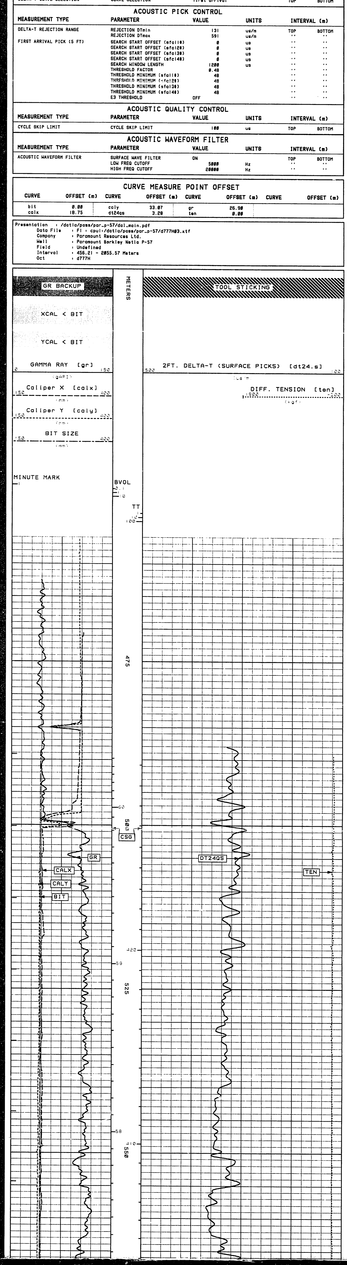
ACOUSTIC WAVEFORM FILTER

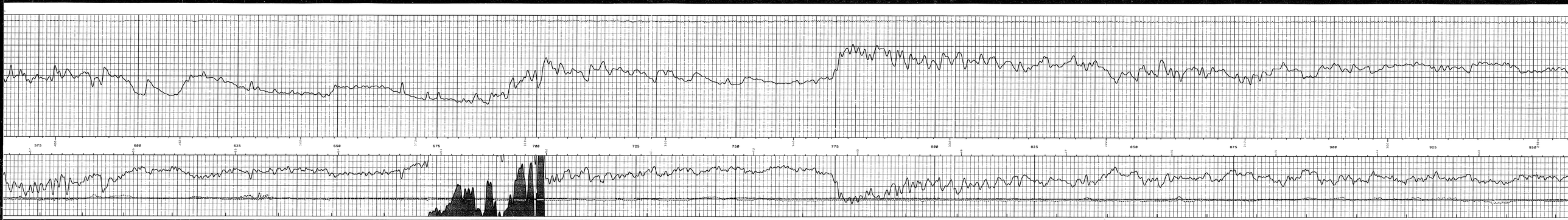
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
ACOUSTIC WAVEFORM FILTER	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	5000	Hz	**	**
	HIGH FREQ CUTOFF	20000	Hz	**	**

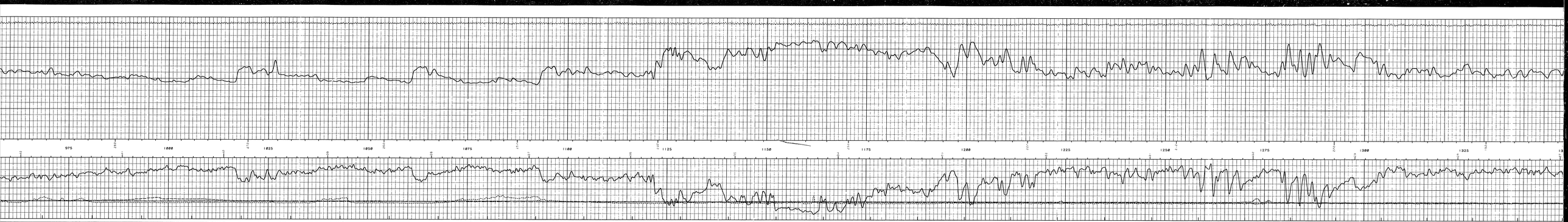
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	rsty	33.07	gr	26.58		
calx	19.75	stdtmp	2.29	ten	9.08		

Presentation: /data/ocean/par_p-57/dt1/main.paf
Data File : F: - csu1:/data/ocean/par_p-57/d7779m3.xtf
Log Date : Wednesday 17 Feb 1999
Well : Permanent Datum Relto P-57
Field : Undefined
Log Interval : 458.01 - 2855.37 Meters
Oct : dTTPH




575
600
625
650
675
700
725
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775
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825
850
875
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925
950


975
1000
1025
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1100
1125
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1200
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1450
1475
1500
1525
1550
1575
1600
1625
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1675
1700
1725

Release:3.1 Nov 18, 1998 Fileview 2.27 Cplot /BD/12 Wed Feb 17 02:11:13 1999
Perplt /main/46 Pdf.Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

File: /data/arabesque/pc32/dt2405.dat.pre
Logging Mode: MAIN PASS
TOP DEPTH: 1981.819 m BOTTOM DEPTH: 2806.833 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
X AXIS CALIPER	FILTER (1)	light (2)		"	"
GR	FILTER (1)	medium (3)		"	"
Y AXIS CALIPER	FILTER (1)	light (2)		"	"
DT24	FILTER (1)	medium (3)		"	"
TENSION	FILTER (1)	medium (3)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	Casing O.D.	177.800	mm	"	"
X-Y CALIPER	X-Y Caliper	Average		"	"
BIT SIZE	BIT SIZE	222.000	mm	"	"

ACOUSTIC PROPERTY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)
DELTA T CURVE SELECTION	CURVE SELECTION	first arrival		
			TOP	BOTTOM

ACOUSTIC PICK CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)
DELTA-T REJECTION RANGE	REJECTION GTmin	131	us/m	TOP / BOTTOM
FIRST ARRIVAL PICK (S FT)	REJECTION DTmax	189	us/m	
	SEARCH START OFFSET (after)(S)	0	us	
	SEARCH START OFFSET (after)(F)	0	us	
	SEARCH START OFFSET (after)(M)	0	us	
	SEARCH WINDOW LENGTH	1200	us	
	SEARCH WINDOW LENGTH	1200	us	
	THRESHOLD FACTOR	0.40		
	THRESHOLD MINIMUM (after)(S)	40		
	THRESHOLD MINIMUM (after)(F)	40		
	THRESHOLD MINIMUM (after)(M)	40		
	ED THRESHOLD	OFF		

ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP / BOTTOM

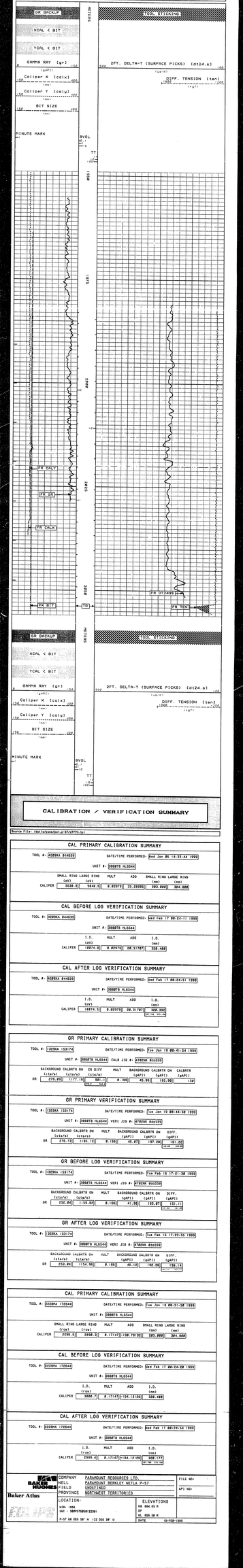
ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)
ACOUSTIC WAVEFORM FILTER	SURFACE WAVE FILTER	ON		TOP / BOTTOM
	LOW PASS CUTOFF	5000	Hz	
	HIGH PASS CUTOFF	20000	Hz	

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	caly	33.97	gr	35.58		
cala	19.75	dtdcn	0.26	ten	0.00		

Presentation : /data/pages/bor_p-57/dtl_r.ps1.pdf
Data File : dfl - /data/pages/bor_p-57/dfl7882.xtf
Company : Paramount Resources Ltd.
Well : Paramount Berkley Netla P-57
Field : Undefined
Interval : 7882 - 2855.55 Meters
Out : dfl7TH



CALIBRATION / VERIFICATION SUMMARY

Source File: /data/pages/bor_p-57/277TH.tp

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2029SA BA4839 — DATE/TIME PERFORMED: Wed Jan 06 14:33:44 1999 — UNIT #: 2000TB HLS544

	SMALL RING LARGE RING (cr)	MULT	ADD	SMALL RING LARGE RING (cm)
CALIPER	5638.0 / 5648.0	0.005791	35.09280	293.869 / 384.680

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2029SA BA4839 — DATE/TIME PERFORMED: Wed Feb 17 08:24:11 1999 — UNIT #: 2000TB HLS544

	I.D. (cr)	MULT	ADD	I.D. (cm)
CALIPER	6874.0	0.005791	29.31787	328.488

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2029SA BA4839 — DATE/TIME PERFORMED: Wed Feb 17 08:24:51 1999 — UNIT #: 2000TB HLS544

	I.D. (cr)	MULT	ADD	I.D. (cm)
CALIPER	6874.5	0.005791	29.31787	328.512 (328.488 - 328.536)

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329SA 153174 — DATE/TIME PERFORMED: Tue Jan 19 09:41:54 1999 — UNIT #: 2000TB HLS544 — CALB JID #: 47620K Bab559

	BACKGROUND CALBRTN ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	CALBRTN (gAPI)	CALBRTN (gAPI)
GR	276.83	1177.16	0.160	45.95	193.90	150
		981.1 (800.0 - 1162.2)				

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329SA 153174 — DATE/TIME PERFORMED: Tue Jan 19 09:44:58 1999 — UNIT #: 2000TB HLS544 — VERI JID #: 47620K Bab559

	BACKGROUND CALBRTN ON (cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	DIFF. (gAPI)	(gAPI)
GR	276.73	0.160	45.97	197.00	151.62 (150.00 - 153.24)

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329SA 153174 — DATE/TIME PERFORMED: Tue Feb 16 17:21:38 1999 — UNIT #: 2000TB HLS544 — VERI JID #: 47620K Bab559

	BACKGROUND CALBRTN ON (cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	DIFF. (gAPI)	(gAPI)
GR	252.84	0.160	41.96	193.87	151.11 (149.98 - 151.24)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329SA 153174 — DATE/TIME PERFORMED: Tue Feb 16 17:23:55 1999 — UNIT #: 2000TB HLS544 — VERI JID #: 47620K Bab559

	BACKGROUND CALBRTN ON (cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	DIFF. (gAPI)	(gAPI)
GR	253.84	0.160	42.12	192.78	150.14 (149.98 - 151.24)

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2029RA 172644 — DATE/TIME PERFORMED: Tue Jan 19 09:31:58 1999 — UNIT #: 2000TB HLS544

	SMALL RING LARGE RING (cr)	MULT	ADD	SMALL RING LARGE RING (cm)
CALIPER	6295.5 / 6290.3	0.017747	-109.79132	283.869 / 384.680

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2029RA 172644 — DATE/TIME PERFORMED: Wed Feb 17 08:24:02 1999 — UNIT #: 2000TB HLS544

	I.D. (cr)	MULT	ADD	I.D. (cm)
CALIPER	7699.7	0.017747	-104.12105	328.488

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2029RA 172644 — DATE/TIME PERFORMED: Wed Feb 17 08:24:54 1999 — UNIT #: 2000TB HLS544

	I.D. (cr)	MULT	ADD	I.D. (cm)
CALIPER	7699.0	0.017747	-104.12105	328.177 (328.488 - 328.536)

BAKER HUGHES / Baker Atlas

COMPANY	PARAMOUNT RESOURCES LTD.
WELL	PARAMOUNT BERKLEY NETLA P-57
FIELD	UNDEFINED
PROVINCE	NORTHWEST TERRITORIES
LOCATION-	

FILE NO-
API NO-

ELEVATIONS
KB 684.80 m
DF
GL 659.58 M

WID: 1806
UNI - 300P57P6850-22361

P-57 60 08D 38' W -122 050 38' W

DATE 16-FEB-1999

N.E.B COPY

BAKER HUGHES

Baker Atlas

MULTIPOLE ARRAY ACOUSTILOG™
GAMMA RAY LOG
CALIPER LOG

FILE NO:	
API NO:	
COMPANY	PARAMOUNT RESOURCES LTD.
WELL	PARAMOUNT BERKLEY NETLA P-57
FIELD	UNDEFINED
PROVINCE	NORTHWEST TERRITORIES
LOCATION:	
W10= 1856	
UWI - 300P575080122381	
SEC ____ TWP ____ RGE ____	
OTHER SERVICES	EN-ZDL-GR-CNL PCIL-GR UDI HDIP-GR
PERMANENT DATUM G.L. ELEVATION 659.5 M	ELEVATIONS KB 664.65 M DF GL 659.50 M
LOG MEASURED FROM K.B. 5.15 M ABOVE P.D.	
DRILL. MEAS. FROM KELLY BUSHING	

DATE	16-FEB-1999	
RUN	2	
SERVICE ORDER	960848	
DEPTH DRILLER	2480.0 M	
DEPTH LOGGER	2486.4 M	
BOTTOM LOGGED INTERVAL	2392.9 M	
TOP LOGGED INTERVAL	2872.8 M	
CASING - DRILLER	177.8 MM @2872.8 M	●
CASING LOGGER	2872.8 M	
BIT SIZE	156 MM	
TYPE OF FLUID IN HOLE	INVERT	
DENSITY / VISCOSITY	958 G/L 44 S	
PH / FLUID LOSS	- - C3	
SOURCE OF SAMPLE	FLOWLINE	
RM AT MEAS. TEMP.	- OHMM @- DEGC	●
RMF AT MEAS. TEMP.	- OHMM @- DEGC	●
RMC AT MEAS. TEMP.	- OHMM @- DEGC	●
SOURCE OF RMF / RMC	N/A N/A	
RM AT BHT	- OHMM @- DEGC	●
TIME SINCE CIRCULATION	18 HRS	
MAX. RECORDED TEMP.	110 DEGC	
EQUIP. NO. / LOCATION	HL 10033 G.P.	
RECORDED BY	R.KNIFLOW	
WITNESSED BY	J.BOULTER	

COLD ITEM

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT, BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES OR EXPENSE INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

BOREHOLE RECORD

BIT SIZE	FROM	TO

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO

REMARKS

Run 1: Time Stopped Circulation - 24:00 hrs 24-feb-99

logs tied to baker atlas logs on 16-feb-99

All scales and presentations as per customer's request.

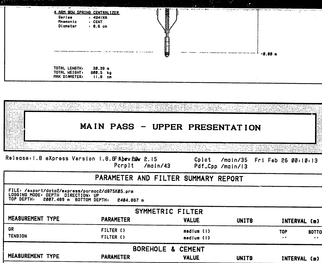
mac recorded in combination with hdip

Crew: g.pinto & B.Fowler

COMPRESSIONAL SLOWNESS DERIVED FROM GEOSCIENCE CENTRE CROSS CORRELATION.

Run 2:

RUN	TRIP	TOOL	SERIALIZED NO.	SERIAL NO.	POSITION
1	1	CDM	551464	10515	FIRE
1	1	MAC	552304	10515	FIRE
1	1	HDIC	552304	10515	ACOUST JOINT
1	1	EDL	552304	10515	ACOUST JOINT
1	1	HDIP	552304	10515	ZEOLOCK SUB
1	1	HDIP	552304	10515	ZEOLOCK SUB
1	1	HDIP	552304/10515



MAIN PASS - UPPER PRESENTATION

Release=1.0 eXpress Version 1.0.0 Rev 0w 2.15 Cplot /main/35 Fri Feb 25 00:18:13 1999
Pcrplt /main/43 Pdf.Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data1/express/corecd7/d875385.pre
LOGGING MODE: DEPTH STRATIFIED (DF)
TOP DEPTH: 6987.489 m BOTTOM DEPTH: 6484.867 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GR	FILTER (I)	medium (I)		TOP	BOTTOM
TENSION	FILTER (I)	medium (I)		--	--

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	150.000	mm	TOP	BOTTOM

ACOUSTIC SEMBLANCE - LABELING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
SEMBLANCE PROCESSING	Semb. Cbnkrt	680	us	TOP	BOTTOM
	Semb. Cbend	8480	us	--	--
	Semb. Cwlength	480	us	--	--
	Semb. Cbstep	120	us	--	--
	Semb. Offsetor	0.0		--	--
	Semb. Dtmin	131	us/m	--	--
	Semb. Dtmax	787	us/m	--	--
	Semb. Dtstep	10.4	us/m	--	--
COMPRESSIONAL SLOWNESS	PEAK SEPARATION	3		--	--
	MAX SEMB CHANGE	0.200		--	--
	MIN SEMBcmbd	0.700		--	--
	MAX DTcomp CHANGE	65.617	us/m	--	--
	MIN DTcomp	131.234	us/m	--	--
	MAX DTcomp	459.318	us/m	--	--
	START EXCLUDE RANGE	680.905	us/m	--	--
	END EXCLUDE RANGE	839.764	us/m	--	--
	RESET	RESET		--	--

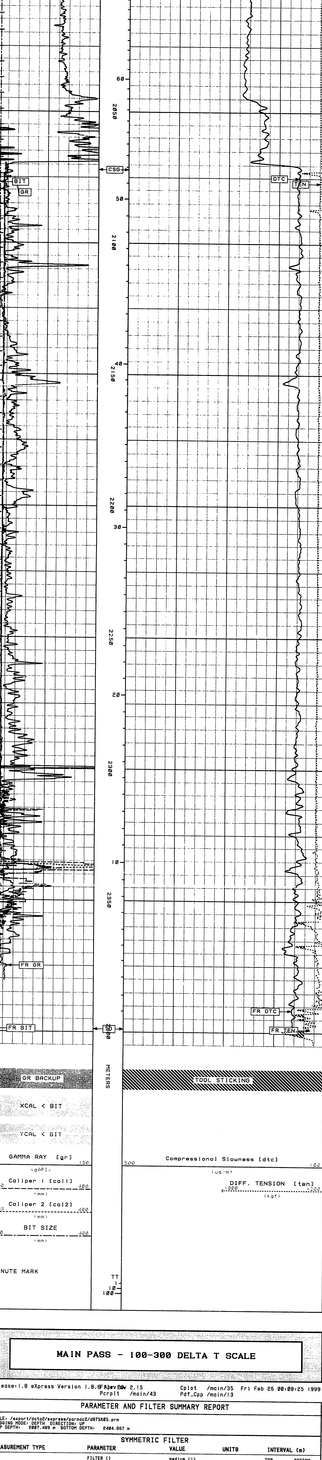
ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	1500	Hz	--	--
	HIGH FREQ CUTOFF	20000	Hz	--	--

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	col2	13.58	gr	23.85
col1	15.58	dtc	7.30	ten	0.00

Presentation : /export/data1/express/corecd7/Dec_up.pdf
Data File : FI = colreport1:/export/data1/express/corecd7/eac85.xit
Header : Well Name = 116
Units : pounds/inch Density units = g/cc
Field : undefined
Interval : 6.00 - 0.00 Meters
Oct : -0873RS



MAIN PASS - 100-300 DELTA T SCALE

Release=1.0 eXpress Version 1.0.0 Rev 0w 2.15 Cplot /main/35 Fri Feb 25 00:00:25 1999
Pcrplt /main/43 Pdf.Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data1/express/corecd7/d875385.pre
LOGGING MODE: DEPTH STRATIFIED (DF)
TOP DEPTH: 6987.489 m BOTTOM DEPTH: 6484.867 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GR	FILTER (I	medium (I)		TOP	BOTTOM
TENSION	FILTER (I	medium (I)		--	--

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	150.000	mm	TOP	BOTTOM

ACOUSTIC SEMBLANCE - LABELING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
SEMBLANCE PROCESSING	Semb. Cbnkrt	680	us	TOP	BOTTOM
	Semb. Cbend	8480	us	--	--
	Semb. Cwlength	480	us	--	--
	Semb. Cbstep	120	us	--	--
	Semb. Offsetor	0.0		--	--
	Semb. Dtmin	131	us/m	--	--
	Semb. Dtmax	787	us/m	--	--
	Semb. Dtstep	10.4	us/m	--	--
COMPRESSIONAL SLOWNESS	PEAK SEPARATION	3		--	--
	MAX SEMB CHANGE	0.200		--	--
	MIN SEMBcmbd	0.700		--	--
	MAX DTcomp CHANGE	65.617	us/m	--	--
	MIN DTcomp	131.234	us/m	--	--
	MAX DTcomp	459.318	us/m	--	--
	START EXCLUDE RANGE	680.905	us/m	--	--
	END EXCLUDE RANGE	839.764	us/m	--	--
	RESET	RESET		--	--

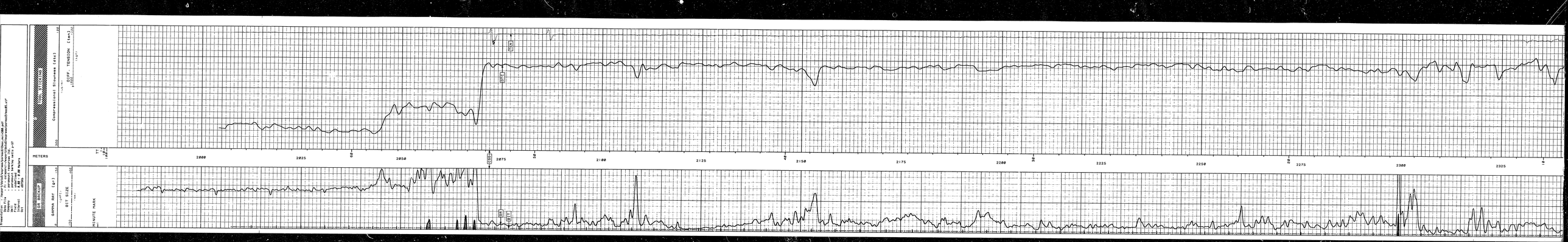
ACOUSTIC WAVEFORM FILTER

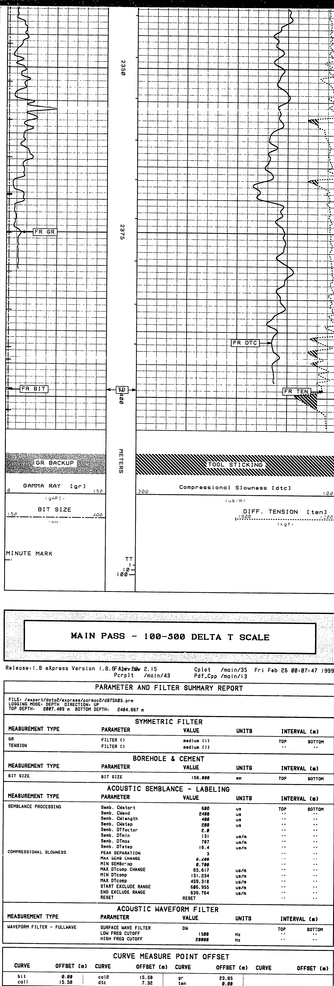
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	1500	Hz	--	--
	HIGH FREQ CUTOFF	20000	Hz	--	--

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	dtc	7.30	gr	23.85
				ten	0.00

Presentation : /export/data1/express/corecd7/Dec_main300.pdf
Data File : FI = colreport1:/export/data1/express/corecd7/eac85.xit
Header : Well Name = 116
Units : pounds/inch Density units = g/cc
Field : undefined
Interval : 6.00 - 0.00 Meters
Oct : -0873RS


Presentation file: /usr/field/data/records/2/log.rec.GSB.pdf
Data file: /usr/field/data/records/2/log.rec.GSB.dat
Display : 2 inches/100 meters
Depth : 2000.0 - 2300.0 Meters
Scales : gsbmain1 sonic multi.pdf
gsbmain2 sonic multi.pdf
GSB BACKUP
Compressional Slowness (dts)
DIFF TENSION (ten)
GAMMA RAY (gr)
CALIPER
MINUTE MARK
METERS
2000
2025
2050
2075
2100
2125
2150
2175
2200
2225
2250
2275
2300
2325
DTCO
DTSH
TENS
GR
CALI



MAIN PASS - 100-500 DELTA T SCALE

Release:1.8 eXpress Version 1.8 WFArray Dbv 2.15 Cplot /main/35 Fri Feb 26 08:07:47 1999
Pcrplt /main/43 Pdf_Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: reports/data/express/out/dtf085.prn
LOGGING MODE: DEPTH DIRECTION: down
TOP DEPTH: 8987.489 m BOTTOM DEPTH: 2484.867 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
GR	FILTER 1:	medium (1)		"	"
TENSION	FILTER 1:	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
BIT SIZE	BIT SIZE	150.000	mm	TOP	BOTTOM

ACOUSTIC SEMBLANCE - LABELING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
SEMBLANCE PROCESSING	Semb. Cksiprl	680	us	"	"
	Semb. Cksmin	2488	us	"	"
	Semb. Cksmax	2588	us	"	"
	Semb. Ckstep	200	us	"	"
	Semb. DTfactor	0.8		"	"
	Semb. Dtwin	120	us/m	"	"
	Semb. DTmin	787	us/m	"	"
	Semb. DTmax	0	us/m	"	"
COMPRESSIONAL SLOWNESS	PEAK DEFINITION			"	"
	Max GOOD CHANGE	0.400		"	"
	MIN SEMB<=30	0.700		"	"
	MAX DTcomp CHANGE	80.517	us/m	"	"
	MIN DTcomp	426.316	us/m	"	"
	MAX DTcomp	426.316	us/m	"	"
	START EXCLUDE RANGE	680.955	us/m	"	"
	END EXCLUDE RANGE	839.754	us/m	"	"
	RESET			"	"

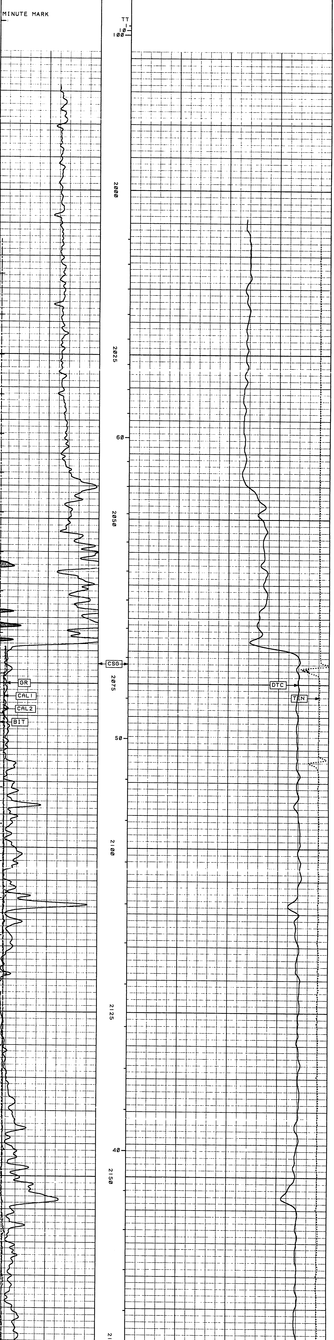
ACOUSTIC WAVEFORM FILTER

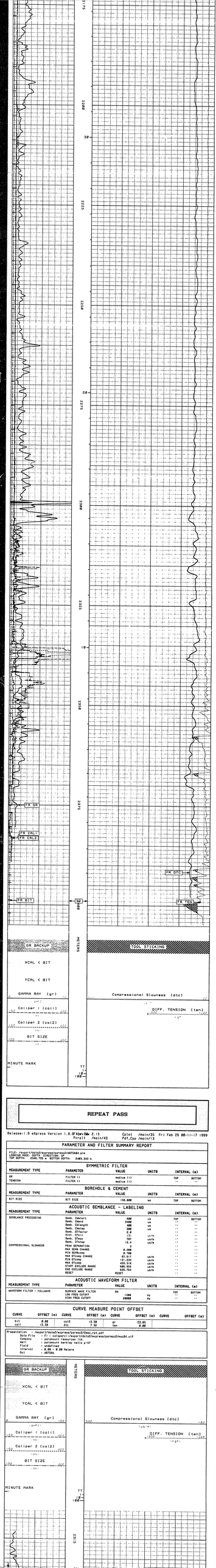
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		"	"
	LOW FREQ CUTOFF	1500	Hz	"	"
	HIGH FREQ CUTOFF	12000	Hz	"	"

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	cal2	12.58	gr	22.83		
cal1	15.58	dtc	7.32	ten	0.00		

Presentation: reports/data/express/out/DTC_main.inf
Data file: reports/data/express/out/dtf085.stf
Company - permanent resources ltd.
Well - paramount berkley nelis p-57
Field - undefined
Interval - 0.00 - 0.00 Metars
Unit - METARS





REPEAT PASS

Release:1.0 eXpress Version 1.0.0 Aberdeen 2.15 Color /main/35 Fri Feb 26 09:11:17 1999
Print /main/43 Pat.Cop /main/3

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data0/express/parmod2/dBTSAM.prn
TOP DEPTH: 6981.729 m BOTTOM DEPTH: 6981.343 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
TEN	FILTER 1)	medium 1)		--	--
TENSION	FILTER 1)	medium 1)		--	--

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
BIT SIZE		155.000	mm	--	--

ACOUSTIC SEMBLANCE - LABELING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
SEMBLANCE PROCESSING	Semb. Onset	108	us	--	--
	Semb. Okend	2400	us	--	--
	Semb. Oklength	488	us	--	--
	Semb. Oktinc	208	us	--	--
	Semb. Okcenter	1.0		--	--
	Semb. DTslo	67	us/ft	--	--
	Semb. DTmin	787	us/ft	--	--
	Semb. DTstep	16.4	us/ft	--	--
COMPRESSIONAL SLOWNESS	PEAK SEPARATION	3		--	--
	MIN STCORR CHANGE	0.200		--	--
	MIN SEMB	0.200		--	--
	MAX STCORR CHANGE	65.617	us/ft	--	--
	MIN STCORR	131.234	us/ft	--	--
	MAX STCORR	459.318	us/ft	--	--
	SLOW INCLUDE RANGE	590.551	us/ft	--	--
	END EXCLUDE RANGE	629.764	us/ft	--	--
	RESET	RESET		--	--

ACOUSTIC WAVEFORM FILTER

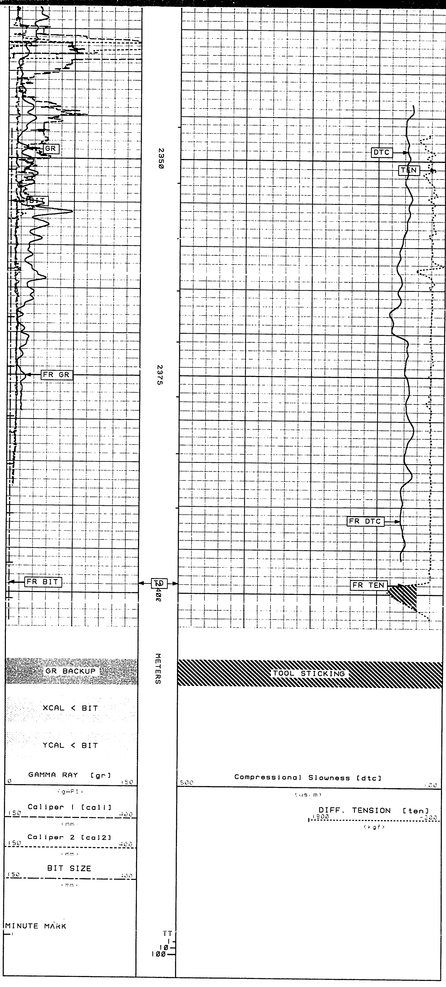
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	On		--	--
	LOW FREQ CUTOFF	1500	Hz	--	--
	HIGH FREQ CUTOFF	20000	Hz	--	--

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	cal2	13.58	gr	23.85		
cal1	13.58	dtc	7.32	ten	0.00		

Presentation -> /export/data0/express/parmod2/bmc_rst.prf
Data file - Fi : data:port1:/export/data0/express/parmod2/mod04.xtf
Company - paramount resources ltd.
Well - 1-27-123-19-w5m twp/sty rwis p-57
Field - undefined
Interval - 0.00 - 0.00 Meters
Dist - dBTSAM

GR BACKUP
XCAL < BIT
YCAL < BIT
GAMMA RAY (gr)
Caliper 1 (cal1)
Caliper 2 (cal2)
BIT SIZE
MINUTE MARK
TT
Compressional Slowness (dtc)
DIFF. TENSION (ten)



CALIBRATION / VERIFICATION SUMMARY

Source File: /data/poss/paramount2b57/c075X.tpl

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Fri Feb 19 14:40:25 1999

UNIT #: 3808TB HL6544 CALB JIG #: 4702NK 8do559

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	214.51	1109.82	895.3	0.168	35.94	185.94	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Fri Feb 19 14:54:57 1999

UNIT #: 3808TB HL6544 VERI JIG #: 4702NK 8do559

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	214.87	1102.64	0.168	36.00	184.74	148.74

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Thu Feb 25 18:05:57 1999

UNIT #: 3808TB HL6544 VERI JIG #: 4702NK 8do559

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	159.11	1004.78	0.168	26.66	181.74	155.09

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Thu Feb 25 18:08:35 1999

UNIT #: 3808TB HL6544 VERI JIG #: 4702NK 8do559

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	163.78	1085.69	0.168	27.44	182.10	154.66

Baker Atlas

COMPANY PARAMOUNT RESOURCES LTD.
WELL PARAMOUNT BERKLEY NETLA P-57
FIELD UNDEFINED
PROVINCE NORTHWEST TERRITORIES
LOCATION:
WID: 1856
UWI : 300P578058122381
SEC _____ TWP _____ RGE _____

ELEVATIONS
KB 564.65 M
DF
GL 559.58 M

FILE NO:
API NO:
DATE 16-FEB-1999

N.E.B. COPY

BAKER HUGHES

Baker Atlas

MULTIPOLE ARRAY ACOUSTILOG™
GAMMA RAY LOG
CALIPER LOG

FILE NO:	COMPANY	PARAMOUNT RESOURCES LTD.
	WELL	PARAMOUNT BERKLEY NO.1
API NO:	FIELD	ACCLAIM
	POSITION	56°47'48.61"N, 120°10'09.61"W
	LOCATION: 4-31-75N-13W-6	OTHER SERVICES
	SEC TWP RGE	
PERMANENT DATUM	ELEVATIONS	ELEVATIONS (KB, D.F. OR G.L.)
LOG MEASURED FROM K.B.	3.0 M ABOVE P.D.	K.B. 414.9 M
DRILL MEASURED FROM K.B.		D.F.
		G.L. 411.9 M

DATE	16-Nov-99
RUN NO.	ONE
DEPTH DRILLER	2454.0 M
DEPTH LOGGER	2454.0 M
BOTTOM LOGGED INTERV	2454.0 M
TOP LOGGED INTERVAL	1700.0 M
CASING - DRILLER	244.5 MM @ 1700.0 M
CASING LOGGER	244.5 MM @ 1700.0 M
BIT SIZE	222 MM
TYPE OF FLUID	GEL CHEM
DENSITY	1140 KG/M3
PH	10.5
FLUID LOSS	4.0
SOURCE OF SAMPLE	
RM @ MEAS. TEMP	0.2 @ 20
RMF @ MEAS. TEMP	0.2 @ 20
RMC @ MEAS. TEMP	0.2 @ 20
SOURCE OF RMF / RMC	
RM @ BHT	0.1 @ 60
TIME SINCE CIRCULATION	24 HRS
MAX. RECORDED TEMP.	60
EQUIP. NO. LOCATION	1404 105
RECORDED BY	
WITNESSED BY	

TRADE MARK

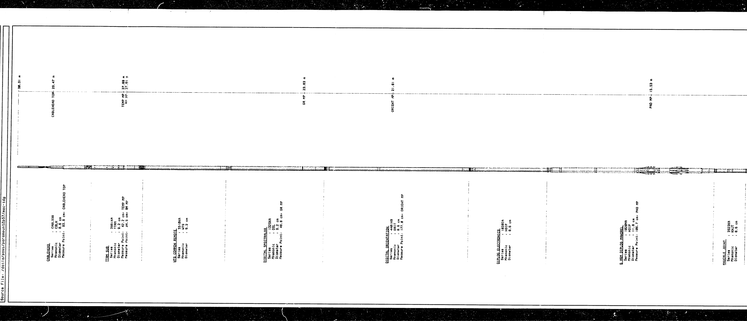
THE INTERPRETATIONS OR DATA, OR PORTIONS THEREOF, FURNISHED BY BAKER ATLAS ARE OPINIONS BASED UPON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON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

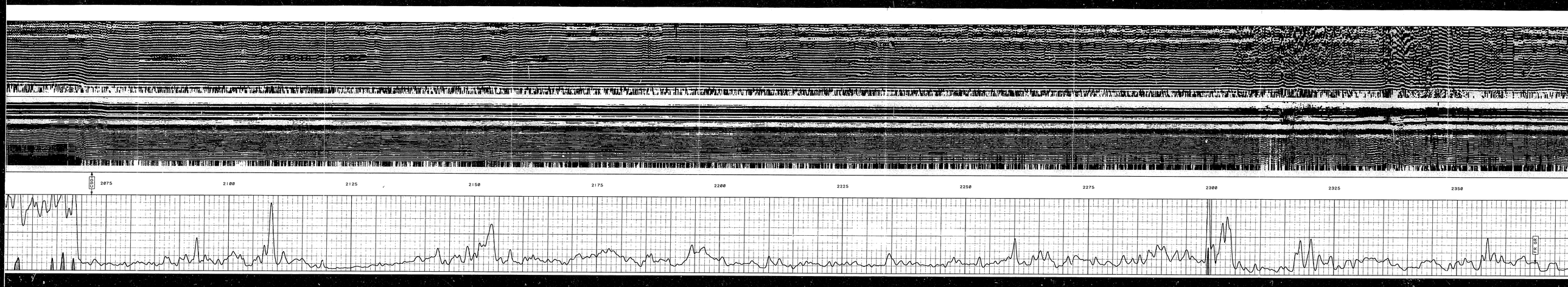
RUN 1:
Tbg Stopped Circulation 24 hrs before Logging
Tbg tied to base data logs on 16-Nov-99
All scales and presentations as per customer's request.
Log recorded in combination with SGR
Over a picnic Blanket

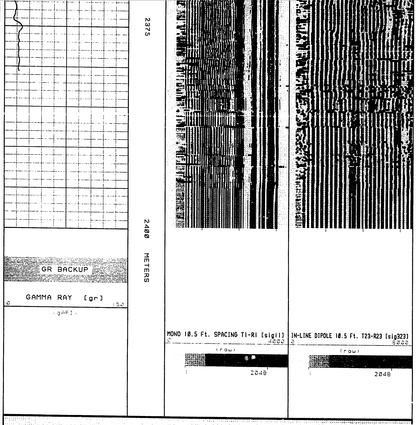
RUN 2:

RUN	TOOL	EQUIPMENT DATA	SERIAL NO.	LOCATION
1	DSI	3506	38152	PINE
1	SGR	3116SGC	38178	BOREHOLE
1	CAL	3967A	38178	BOREHOLE
1	DSI	3974	38152	PINE
1	SGR	3116SGC	38178	BOREHOLE
1	CAL	3967A	38178	BOREHOLE
1	DSI	3974	38152	PINE
1	SGR	3116SGC	38178	BOREHOLE
1	CAL	3967A	38178	BOREHOLE

INSTRUMENT CONFIGURATION




CSG
2075
2100
2125
2150
2175
2200
2225
2250
2275
2300
2325
2350
FR GR



REPEAT PASS - FULL WAVE

Release:3.1 Nov 18, 1998 Fileview 2.27 Cplot /80/12 Thu Feb 25 19:07:22 1999
Pcrplt /main/46 Pdf_Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/pass/paramount2p57/d075X84.prn
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2346.726 m BOTTOM DEPTH: 2483.343 m

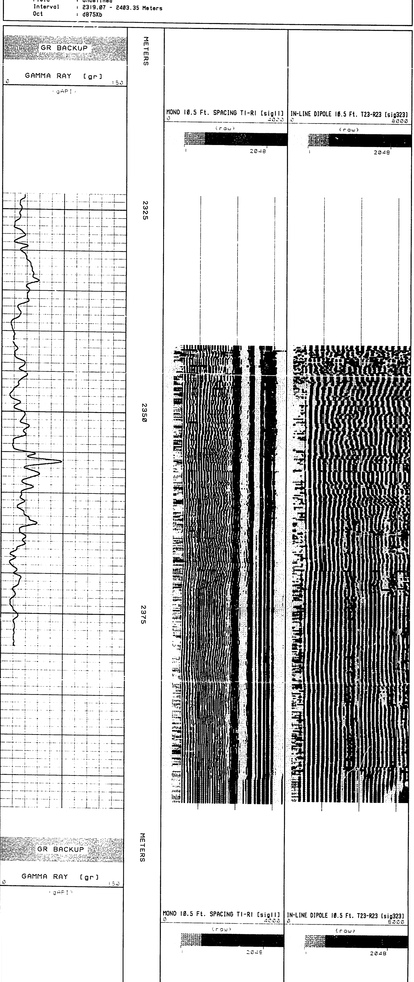
SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
GR	FILTER ()	medium (1)			

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
GR	23.85						

Presentation : /data/pass/paramount2p57/mac_rp1.pdf
Data File : fi : cput:/data/pass/paramount2p57/d075X84.eff
Company : paramount resources ltd.
Well : paramount berkley netla p-57
Field : undefined
Interval : 2315.87 - 2483.35 Meters
Oct : d075X0



CALIBRATION / VERIFICATION SUMMARY

Source File: /data/pass/paramount2p57/d075X.tpl

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Fri Feb 19 14:48:25 1999
UNIT #: 3888T8 HLS544 CALB JIG #: 478ENK #da559

	BACKGROUND (cts/s)	CALBRTN ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTN ON (gAPI)	CALBRTN (gAPI)
GR	214.51	1189.82	995.3 (997.3)	0.160	35.94	185.94	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Fri Feb 19 14:54:57 1999
UNIT #: 3888T8 HLS544 VERI JIG #: 478ENK #da559

	BACKGROUND (cts/s)	CALBRTN ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTN ON (gAPI)	DIFF. (gAPI)
GR	214.87	1187.64	0.160	36.00	184.74	148.74 (148.80 148.68)

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Thu Feb 25 10:05:57 1999
UNIT #: 3888T8 HLS544 VERI JIG #: 478ENK #da559

	BACKGROUND (cts/s)	CALBRTN ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTN ON (gAPI)	DIFF. (gAPI)
GR	159.11	1084.78	0.160	26.66	181.74	155.09 (155.74 154.43)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Thu Feb 25 10:08:35 1999
UNIT #: 3888T8 HLS544 VERI JIG #: 478ENK #da559

	BACKGROUND (cts/s)	CALBRTN ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTN ON (gAPI)	DIFF. (gAPI)
GR	163.78	1086.89	0.160	27.44	182.18	154.66 (155.24 154.09)

WESTERN ATLAS

COMPANY PARAMOUNT RESOURCES LTD.
WELL PARAMOUNT BERKLEY NETLA P-57
FIELD UNDEFINED
PROVINCE NORTHWEST TERRITORIES

FILE NO:
API NO:

LOCATION:
W10: 1856
UWI : 300P576050122301
SEC TWP RGE

ELEVATIONS
KB 664.65 M
DF
GL 659.50 M
DATE 25-FEB-1999

N.E.B. COPY

BAKER HUGHES

Baker Atlas

MAC

Multipole Array Acoustilog

MULTIPOLE ARRAY ACOUSTILOG™
GAMMA RAY LOG
COMPUTED RESULTS

IN MAKING INTERPRETATIONS OF LOG (OR SERVICES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST OPINION BASED UPON THEIR EXPERIENCE AND UNDERSTANDING OF THE INFORMATION SUPPLIED BY CUSTOMER OR OTHERS REASONABLY AVAILABLE TO THEM. HOWEVER, AS NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION MADE BY ANY OFFICER, AGENT OR EMPLOYEE OF THE COMPANY. ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS MADE BY ANY OFFICER UNCORRECTED OR UNDISCLOSED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OFFICER, AGENT OR EMPLOYEE OF THE COMPANY.

COMPANY	PARAMOUNT RESOURCES LTD.
WELL	PARAMOUNT BERKLEY NETLA P-57
FIELD	UNDEFINED
PROVINCE	N.W.T. WELL LIC. 1856
UNIQUE IDENTIFIER	300P57N05012230I
LSD	SEC TWP RGE
ELEVATION: KB	664.65 M DF GL 659.58 M
DATE	25 FEBRUARY 1999 LAC 11132

BIT SIZE	RECORDED BEFORE	TO
	FROM	

BIT SIZE	CASING RECORD	FROM	TO
	WEIGHT		

REMARKS

Run 1: Time Stamped Circulation - 24-Apr to 25-Apr-99

logs filed to baker atlas logs on 18-Aug-99

All copies and presentations as per customer's request.

mac recorded in combination with bcp

Crew: b.pilote & P.Patrick

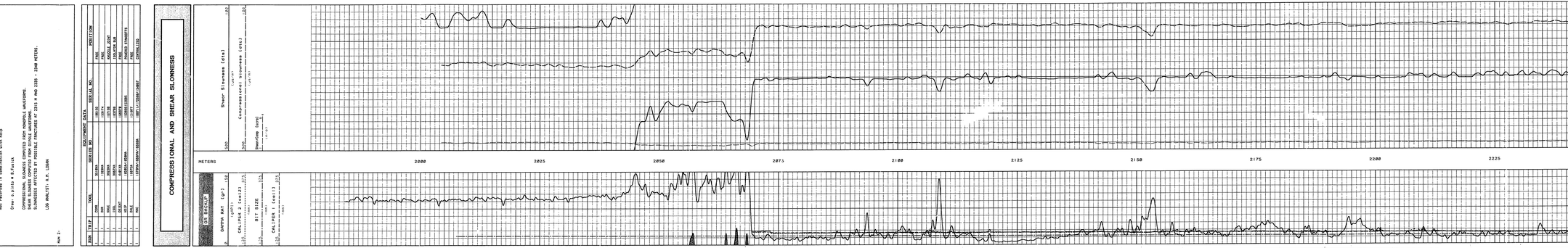
COMPRESSIONAL AND SHEAR SLOWNESS DERIVED FROM MONOPOLE WAVEFORMS.
SHEAR SLOWNESS DERIVED FROM CROSSED DIPOLE WAVEFORMS.
SLOWNESSES AFFECTED BY POSSIBLE FRACTURES AT 2315 m AND 2335 - 2348 METERS.

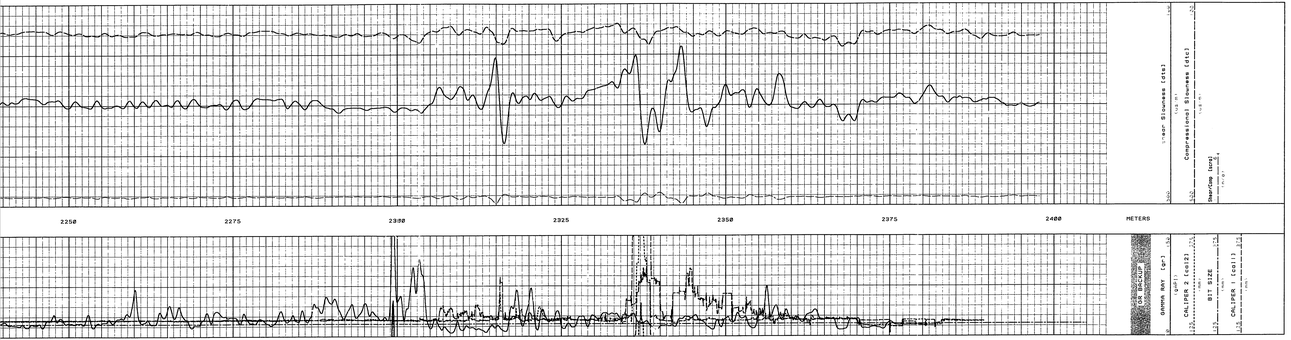
LOG ANALYST: R.M. LOGAN

Run 2:

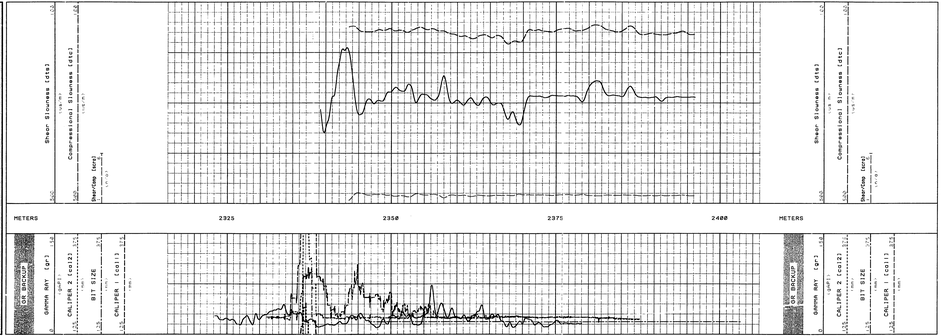
RUN	TRIP	TOOL	SERIAL NO.	POSITION
1	1	GR/CCL	38185	TOOL
1	1	DSI	38184	MAIN BOW
1	1	DSI-C	38184	SECOND ARM
1	1	DSI-C	14178	THIRD ARM
1	1	ARRAY	14178	FOURTH ARM
1	1	ARRAY	38184	FIFTH BOW
1	1	BCP	38185/38184	SONDES STANDOFF
1	1	BCP	38185/38184	CENTRALIZED
1	1	MAC	38185/38184/14178	CENTRALIZED

COMPRESSIONAL AND SHEAR SLOWNESS

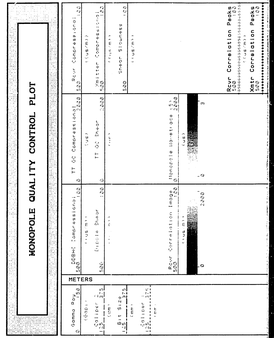


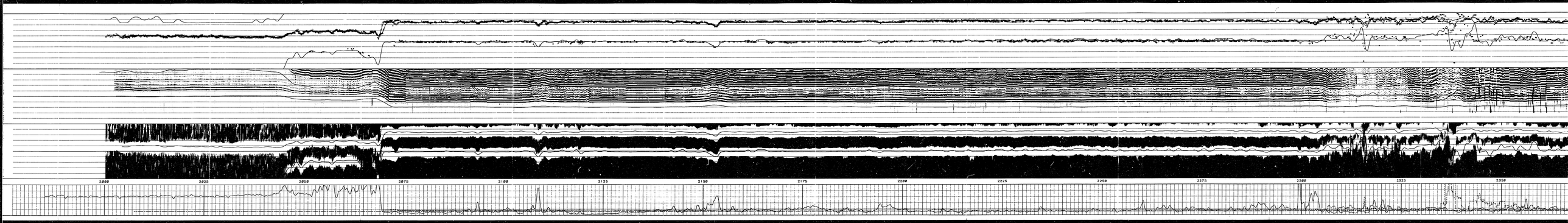


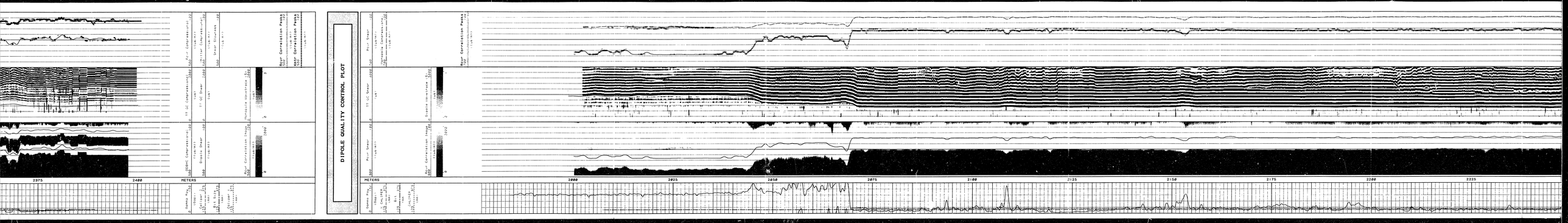
COMPRESSIONAL AND SHEAR SLOWNESS

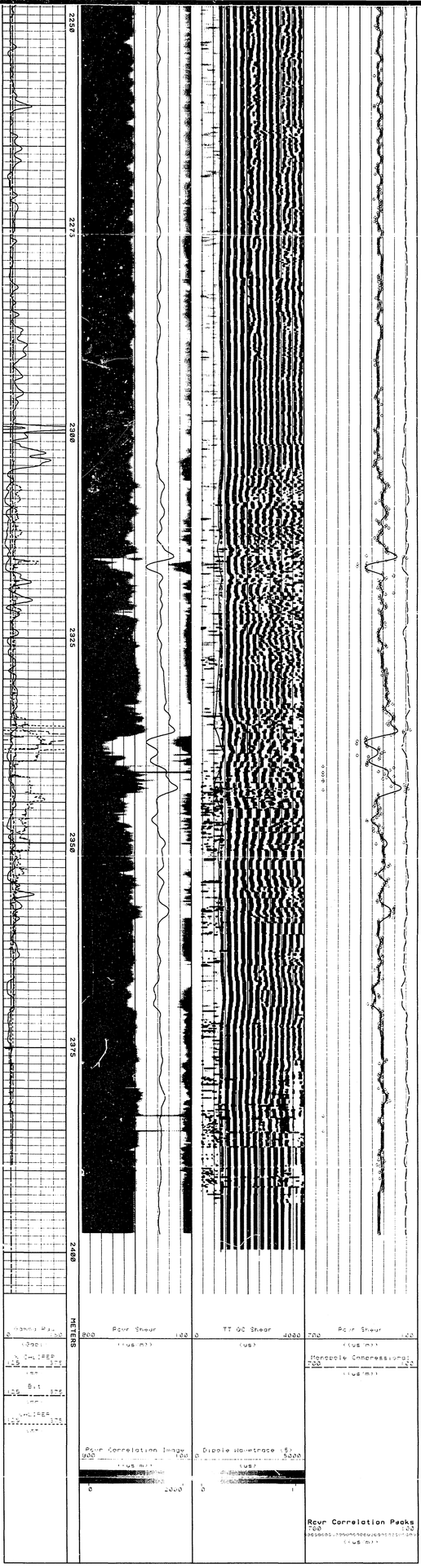


MONOPOLE QUALITY CONTROL PLOT




2000
2025
2050
2075
2100
2125
2150
2175
2200
2225
2250
2275
2300
2325
2350


DIPOLE QUALITY CONTROL PLOT
METERS
2375
2400
2000
2025
2050
2075
2100
2125
2150
2175
2200
2225



Baker Hughes / Baker Atlas	COMPANY PARAMOUNT RESOURCES LTD.		FILE NO: 11132
	WELL PARAMOUNT BERKLEY NETLA P S7		API NO:
	FIELD UNDEFINED		
	PROVINCE N.W.T.		
	LOCATION: 1855 UWI : 300P576050122301	ELEVATIONS KB 664.65 M DF GL 659.50 M	300P576050122301
	SEC ____ TWP ____ RGE ____	DATE 16-FEB-1999	

DENSITY

N.E.B. COPY

Baker Atlas

COMPENSATED Z-DENSILOG
COMPENSATED NEUTRON
GAMMA RAY (GR)
X-Y CALIPER LOG

FILE NO:

RUN NO. 1

COMPANY: PARAMOUNT RESOURCES LTD.
FIELD: DEVELOPMENT WILDCAT
PROVINCE: NORTHWEST TERRITORIES
COUNTRY: CANADA

WELL: Pan et al Bear A-71 (93-I-16)
LOCATION: 1,515 m FROM SOUTH LINE & 1,515 m FROM WEST LINE
SECTION: 16 TWP: 71 RGE: 17 W6M

PERMANENT DATUM: GROUND LEVEL
LOG MEASURED FROM: K.B.
DRILL MEAS. FROM: K.B.

ELEVATIONS: PERMANENT DATUM 350.5 m, K.B. 356.5 m, D.F. 355.5 m, G.L. 350.5 m

DATE: 17-Apr-99
RUN NUMBER: ONE
DEPTH DRILLER: 1,000.0 m
DEPTH LOGGER: 998.5 m
BOTTOM LOGGED INTERVAL: 998.5 m
TOP LOGGED INTERVAL: 350.0 m
CASING DRILLER: 339.7 mm @ 350.0 m
CASING LOGGER: 339.7 mm @ 350.0 m
BIT SIZE: 311.1 mm
TYPE FLUID IN HOLE: Gel Chem
DENSITY: 1.20 g/cm³
VISCOSITY: 50 s
PH: 9.5
FLUID LOSS: 6.0 cm³/30 min
SOURCE OF SAMPLE: Pit
RM @ MEAS. TEMP.: 0.18 Ω-m @ 20.0 °C
RMF @ MEAS. TEMP.: 0.14 Ω-m @ 20.0 °C
RMC @ MEAS. TEMP.: 0.23 Ω-m @ 20.0 °C
SOURCE: RMF: Pit, RMC: Pit
RM @ BHT: 0.08 Ω-m @ 60.0 °C
TIME CIRC. STOPPED: 04:00
TIME LOGGER ON BOTTOM: 08:30
MAX. REC. TEMP. DEG. C: 60.0 °C
EQUIP. LOCATION: 1-3
RECORDED BY: Bruce Bowerman
WITNESSED BY: Mr. Lee Hodgson

"CONFIDENTIAL"

I'm MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT, BUT BAKER ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND WILL NOT WARRANT OR GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGE, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

REMARKS

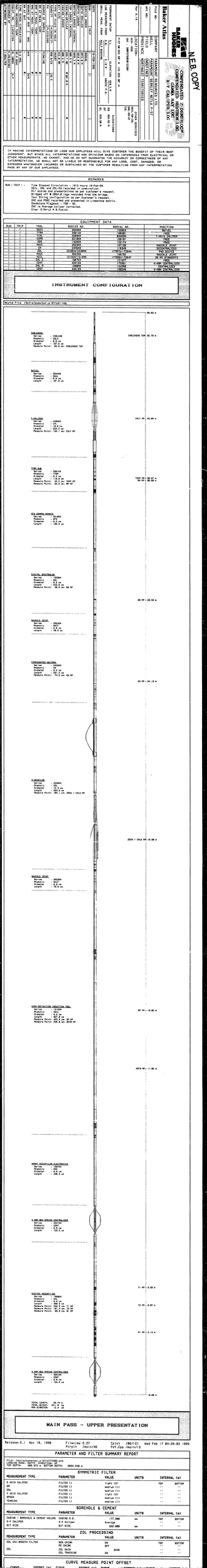
RUN / TRIP : - Tube Stopped Circulation - 08:15 hours 16-Feb-99.
HOLE, DRL and ZDL-CN recorded in combination.
Bit Size 311.1 mm Open Hole Logs Requested on request.
Bridged off @ 2854.0 logs recorded from the bridge.
Tool String configuration as per Customer's request.
Hole Deviation Surveys were plotted in limestone matrix.
Borehole Fluids = FW - SC.
CNC is Average caliper corrected.
Crew: S.Morin & R.Fulnik

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	POSITION
1	1	GCS	2443/M	ABOVE
1	1	1750	298|AH	ABOVE
1	1	CNL	2428|EA	ABOVE
1	1	1706	2428|EA	T-BUTT CENTER
1	1	GDR	2428|EA	PAD1
1	1	ZDL	2428|EA	PAD2
1	1	RAXO	2428|EA	KNUCKLE JOINT
1	1	CN	2428|EA	DETECTOR 1250
1	1	ZDL	2428|EA-2428|EA	DETECTOR 1250
1	1	AMS	1778|EA	ANGLE ADJUST
1	1	HLDL	1810|AT-1778|EA	20 MN STANDOFFS
1	1	CSNG	2443|M	4-ARM CENTRALIZER
1	1	CSNG	2443|M	4-ARM CENTRALIZER
1	1	GAL B	1569|EA	CENTRALIZER
1	1	GAL	2443|M	4-ARM CENTRALIZER

INSTRUMENT CONFIGURATION

Source File: /dotis/pase/par.p-57/p01.log



MAIN PASS - UPPER PRESENTATION

Release:3.1 Nov 10, 1998 | Fileview 2.27 | Cplot. /BS/E3 | Wed Feb 17 04:25:02 1999
Pursit: /dotis/45 | Pdf.Cpp /dotis/3

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dotis/pase/par.p-57/p77483.scn
LOG TYPE: MAIN PASS - UPPER PRESENTATION
TOP DEPTH: 498.975 m BOTTOM DEPTH: 2853.548 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
R AXIS CALIPER	FILTER (1)	light (2)		TOP	BOTTOM
GR	FILTER (1)	medium (1)		--	--
ZDL	FILTER (1)	medium (1)		--	--
Y AXIS CALIPER	FILTER (1)	light (2)		--	--
SPEED	FILTER (1)	medium (1)		--	--
TENSION	FILTER (1)	medium (1)		--	--

BOREHOLE & CEMENT

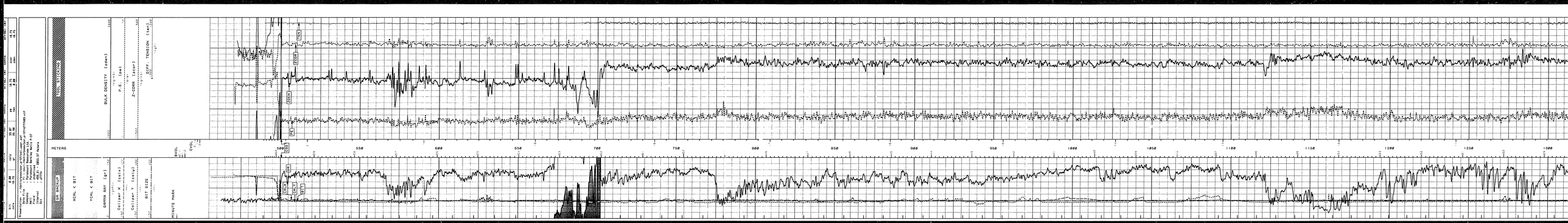
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	177.800	mm	TOP	BOTTOM
R+Y CALIPER	R+Y Caliper	Average		--	--
BIT SIZE	BIT SIZE	322.898	mm	--	--

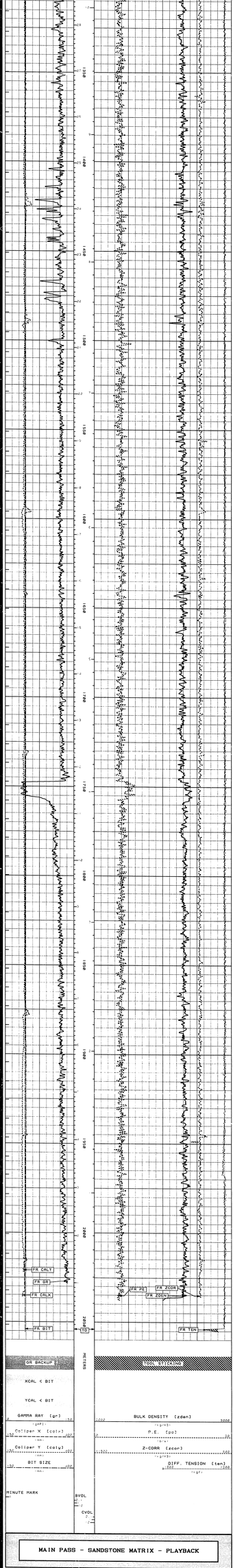
ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
ZDL CNC-SMOOTH FILTER	NON CHLOR	ON		TOP	BOTTOM
	PE CHLOR	OFF		--	--
ZDL	ZDL SCAN	ZDAS		--	--
	ZDL TRACKING	ON		--	--

CURVE MEASURE POINT OFFSET

CURVE	DEPTH (m)	CURVE	DEPTH (m)	CURVE	DEPTH (m)	CURVE	DEPTH (m)
CNL	0.305	GR	0.000	ZDL	0.000	CN	0.000
TEN	0.000						


BULK DENSITY [cdes]
P.E. [bes]
Z-CORR [cdes]
DIFF. TENSION [lwn]
METERS
GR BACKUP
XCAL & BIT
YCAL & BIT
GAMMA RAY [gpi]
Caliper [cols]
Caliper Y [cols]
BIT SIZE
MINUTE MARK
BVOL
CVOL



Release:3.1 Nov 16, 1998 Fileview 2.27 Cplot /BB/(2) Wed Feb 17 01:23:34 1999
Pcpll /main/45 Pdf_Cpp /main/3

PARAMETER AND FILTER SUMMARY REPORT

File: /data1/prospector_2/57/f77fm3.prn
Logs: /data1/prospector_2/57/f77fm3.dfs
TOP DEPTH: 488.976 m BOTTOM DEPTH: 2855.548 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER (:)	light (2)		--	--
GR	FILTER (:)	medium (:)		--	--
ZDL	FILTER (:)	medium (:)		--	--
Y AXIS CALIPER	FILTER (:)	light (2)		--	--
SPEED	FILTER (:)	medium (:)		--	--
TENSION	FILTER (:)	medium (:)		--	--

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	177.800	mm	--	--
X-Y CALIPER	X-Y Caliper	Average		--	--
BIT SIZE	BIT SIZE	222.000	mm	--	--

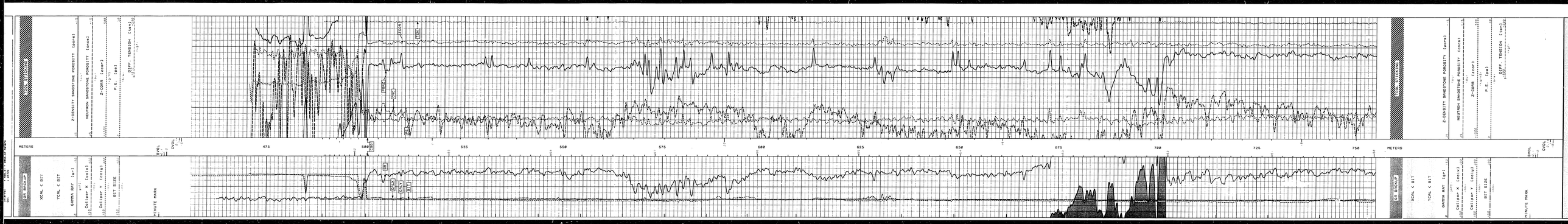
ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ZDL CHI-SMOOTH FILTER	PE CHISM	OFF		--	--
ZDL	ZDL GAIN	2245		--	--
	ZDL TRACKING	ON		--	--

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	chch	0.00	pors	0.00		
calx	0.76		0.00	sphi	0.00		
caly	33.87	sw	19.75	zcor	19.75		

Presentation : /data1/prospector_2/57/ext_mc450.pdf
Data File : F1 - cpul:/data1/prospector_2/57/f77fm3.xtf
Logging Company : Schlumberger Well Services
Well : Paramount Berkley Wells P-57
Field : Undefined


Z-DENSITY SANDSTONE POROSITY (units)
NEUTRON SANDSTONE POROSITY (units)
Z-CORR (g/cc)
P.E. (ba)
DIFF. TENSION (lbs)
CALIPER X (cals)
CALIPER Y (cals)
BIT SIZE
GAMMA RAY (gr)
XCAL < BIT
YCAL < BIT
MINUTE MARK
METERS
475
500
525
550
575
600
625
650
675
700
725
750
CASE
CASE
CASE

MAIN PASS LIMESTONE MATRIX

Release:3.1 Nov 18, 1998 | Fileview 2.27 /main/46 | Cplot /88/12 Pdf_Cpp /main/3 | Wed Feb 17 04:15:39 1999

PARAMETER AND FILTER SUMMARY REPORT

File /dotlisp/spar_a-57/d7ff.dfs and LOGGING MODE: DEPTH DIRECTION: TOP DEPTH: 496.976 m BOTTOM DEPTH: 2955.948 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER (1)	light (61)		TOP	BOTTOM
GR	FILTER (1)	medium (13)		''	''
CN	FILTER (1)	medium (13)		''	''
CDL	FILTER (1)	medium (13)		''	''
Y AXIS CALIPER	FILTER (1)	light (61)		''	''
SPEED	FILTER (1)	medium (13)		''	''
TENSION	FILTER (1)	medium (13)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING THICKNESS	6.000	mm	TOP	BOTTOM
	CASING O.D.	177.800	mm	''	''
X-Y CALIPER	X-Y Caliper	Average		''	''
BIT SIZE	BIT SIZE	222.000	mm	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (CORR)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (CORR)	222.000	mm	''	''

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
2648 CN MATRIX	2648 MATRIX	LIMESTONE		TOP	2837.964
		SANDSTONE		2837.964	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	TOP	BOTTOM
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	200.025	mm	''	''

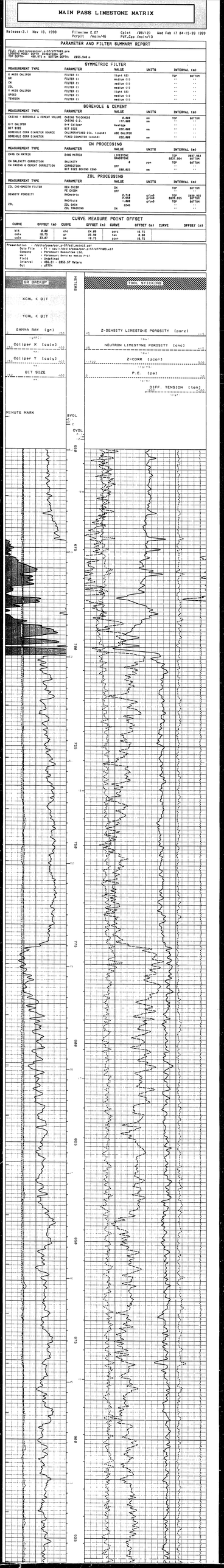
ZDL PROCESSING

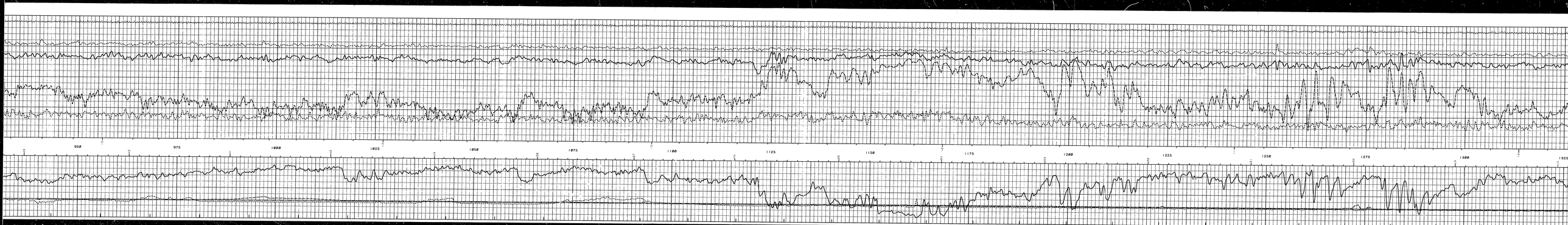
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ZDL CNT-SMOOTH FILTER	SEN CHISM	ON		TOP	BOTTOM
	PE CHISM	OFF		''	''
DENSITY PORosity	Rhobestra			TOP	2838.855
		2.710	g/cm3	2838.855	BOTTOM
	RHOfluid	1.000	g/cm3	TOP	BOTTOM
ZDL	ZDL DATA	2245		''	''
	ZDL TRACKING	ON		''	''

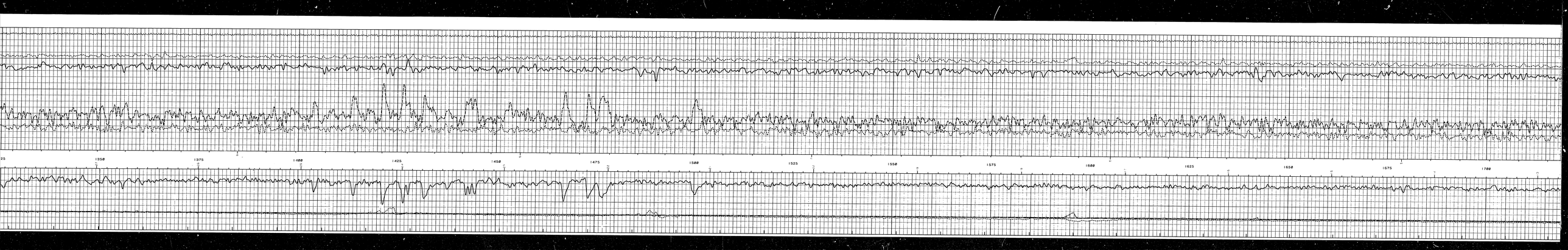
CURVE MEASURE POINT OFFSET

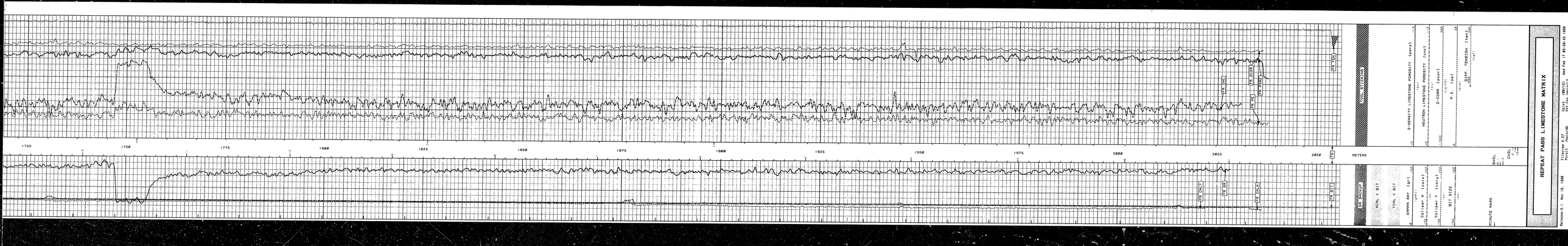
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	cne	24.89	parz	19.75		
cdl	19.75	cnr	19.59	tah	0.00		
sds	33.87	ps	19.75	zcor	19.75		

Presentation : /dotlisp/spar_a-57/zdl_cnl.lib.pdf
Data File : f: \ cpu1-/dotlisp/spar_a-57/d7ff#03.stf
Company : Paramount Resources Ltd.
Well : Paramount Berkley Helio #1a1
Field : Undefined
Interval : 496.97 - 2955.37 Meters
Oct : d7ff#




950
975
1000
1025
1050
1075
1100
1125
1150
1175
1200
1225
1250
1275
1300
1325


25
1350
1375
1400
1425
1450
1475
1500
1525
1550
1575
1600
1625
1650
1675
1700


1725
1750
1775
1800
1825
1850
1875
1900
1925
1950
1975
2000
2025
2050
METERS
FR TDT
FR CNC
FR CDR
FR PE
FR DNS
FR CNL
FR BIT
FR CALY
FR CALX
Z-DENSITY LIMESTONE POROSITY (pu*2)
NEUTRON LIMESTONE POROSITY (cnc)
Z-CORR (cor)
P.E. (pe)
TYPE TRANSIT TIME (tt)
XCAL < BIT
YCAL < BIT
GAMMA RAY (gr)
Caliper X (calx)
Caliper Y (caly)
BIT SIZE
MINUTE MARK
RVOL
GVOL
REPEAT PASS LIMESTONE MATRIX
Release:3.1 Nov 18, 1998
Plotted: Wed Feb 17 09:38:45 1999

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/prospector_jr-S7/rft706.prm
LOGGING MODE: DOWN LOG (FAST)
TOP DEPTH: 1961.819 m BOTTOM DEPTH: 2056.833 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
X AXIS CALIPER	FILTER (1)	light (2)		..	..
GR	FILTER (1)	medium (1)		..	..
ZDL	FILTER (1)	medium (1)		..	..
Y AXIS CALIPER	FILTER (1)	light (2)		..	..
SP233	FILTER (1)	medium (1)		..	..
TENSION	FILTER (1)	medium (1)		..	..

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	177.800	mm	TOP	BOTTOM
A+Y CALIPER	A+Y Caliper	Average		..	..
BIT SIZE	BIT SIZE	222.000	mm	..	..

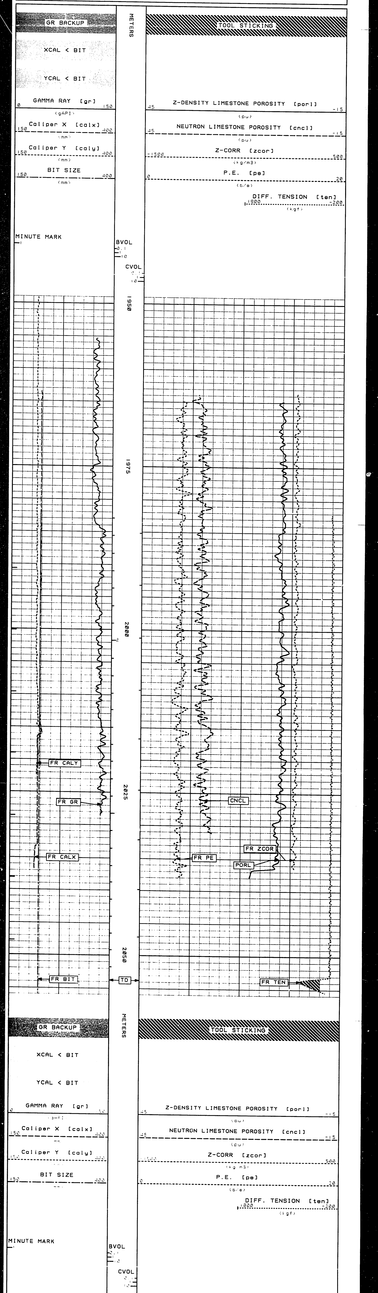
ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
ZDL CHI-SHOOTH FILTER	PE CHISM	OFF 7238		..	..
ZDL	ZDL Calm			..	..
	ZDL TRACKING	ON		..	..

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	cncl	0.00	porl	0.00		
calx	18.75	gr	18.75	ten	0.00		
caly	33.87	sp	18.75	zcor	18.75		

Presentation : /data/pospec/por_jr-S7/ctf_rpt5.pdf
Data File : fr : cpu:/data/pospec/por_jr-S7/rft706.dlis
Logging : Down Log (Fast)
Unit : Paramount Berkley Hole P-62
Field : Undefined
Interval : 1960.12 - 2055.95 Meters
Dot : rft706



GR BACKUP
XCAL < BIT
YCAL < BIT
GAMMA RAY (gr)
Caliper X (calx)
Caliper Y (caly)
BIT SIZE
MINUTE MARK
TOOL STRETCH
Z-DENSITY LIMESTONE POROSITY (porl)
NEUTRON LIMESTONE POROSITY (cncl)
Z-CORR (zcor)
P.E. (pe)
DIFF. TENSION (ten)
BVOL
CVOL

CALIBRATION / VERIFICATION SUMMARY

Source File: /data/pospec/por_jr-S7/rft706.tpl

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 420BXA 844639 — DATE/TIME PERFORMED: Wed Jan 06 14:33:44 1999
UNIT #: 3888TB HLS544

	SMALL RING LARGE RING (ccs)	(ccs)	MULT	ADD	SMALL RING LARGE RING (cm)	(cm)
CALIPER	5639.9	5940.0	0.02979	35.28283	203.889	384.899

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 420BXA 844639 — DATE/TIME PERFORMED: Wed Feb 17 08:04:11 1999
UNIT #: 3888TB HLS544

	I.D. (ccs)	MULT	ADD	I.D. (cm)
CALIPER	10874.3	0.02979	28.31787	328.480

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 420BXA 844639 — DATE/TIME PERFORMED: Wed Feb 17 09:04:51 1999
UNIT #: 3888TB HLS544

	I.D. (ccs)	MULT	ADD	I.D. (cm)
CALIPER	10874.3	0.02979	28.31787	328.392

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 392BXA 153174 — DATE/TIME PERFORMED: Tue Jan 19 09:41:54 1999
UNIT #: 3888TB HLS544 CALB JIG #: 478ZNK 860509

	BACKGROUND CALBRTN ON (cts/s)	(cts/s)	CR DIFF (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	(gAPI)	CALBRTN (gAPI)
GR	876.89	1177.18	980.1	1176.24	0.165	45.96	193.95	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 392BXA 153174 — DATE/TIME PERFORMED: Tue Jan 19 09:44:58 1999
UNIT #: 3888TB HLS544 VERI JIG #: 478ZNK 860509

	BACKGROUND CALBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	(gAPI)	DIFF. (gAPI)
GR	876.73	1185.12	0.165	45.87	197.28	151.22

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 392BXA 153174 — DATE/TIME PERFORMED: Tue Feb 16 17:21:38 1999
UNIT #: 3888TB HLS544 VERI JIG #: 478ZNK 860509

	BACKGROUND CALBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	(gAPI)	DIFF. (gAPI)
GR	252.04	1159.62	0.165	41.96	193.87	151.11

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 392BXA 153174 — DATE/TIME PERFORMED: Tue Feb 16 17:23:55 1999
UNIT #: 3888TB HLS544 VERI JIG #: 478ZNK 860509

	BACKGROUND CALBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	(gAPI)	DIFF. (gAPI)
GR	253.04	1134.96	0.165	42.12	192.05	150.14

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 244BXA 118253 — DATE/TIME PERFORMED: Wed Jan 06 15:35:03 1999
UNIT #: 3888TB HLS544 — CALIBRATOR #: 243TXD 114760 — SOURCE #: 471TXD 838353

	MEASURED DEADTM CORR CPS	CPS	DTC SSN/LSN	NOMINAL SSN/LSN	CORRECTION FACTOR	DTC CORR	POROSITY (pu)
LSN	629.97	639.04					
SSN	1685.24	1744.82					
RATIO			2.72550	2.75180	1.00999 (2.72550 / 2.75180)		
CN							21.350

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 244BXA 118253 — DATE/TIME PERFORMED: Wed Jan 06 15:55:54 1999
UNIT #: 3888TB HLS544 — ICE BLOCK #: 471TXD 884091

MEASURED DEADTM CORR	DTC	CORRECTION	DTC CORR	POROSITY

			SSN/LSN	FACTOR	SSN/LSN	(pu)
LSN	910.72	931.10				
SSN	1638.57	1694.12				
RATIO			1.81948	1.00896	1.83812	
CN						9.551

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2446XA 118263 DATE/TIME PERFORMED: Tue Feb 16 17:20:28 1999

UNIT #: 3880TB HL6544 ICE BLOCK #: 4717ND 00d091

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	889.81	909.25				
SSN	1639.16	1694.74				
RATIO			1.86398	1.00896	1.88265	
CN						10.077

7.551 11.551

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2446XA 118263 DATE/TIME PERFORMED: Tue Feb 16 17:22:53 1999

UNIT #: 3880TB HL6544 ICE BLOCK #: 4717ND 00d091

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	885.27	904.50				
SSN	1642.13	1697.93				
RATIO			1.87719	1.00896	1.89602	
CN						10.236

8.077 12.077

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2228MA 172644 DATE/TIME PERFORMED: Tue Jan 19 08:31:50 1999

UNIT #: 3880TB HL6544

	SMALL RING (raw)	LARGE RING (raw)	MULT	ADD	SMALL RING (mm)	LARGE RING (mm)
CALIPER	2296.6	2890.3	0.17147	-190.79132	203.000	304.800

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2228MA 172644 DATE/TIME PERFORMED: Wed Feb 17 00:24:28 1999

UNIT #: 3880TB HL6544

	I.D. (raw)	MULT	ADD	I.D. (mm)
CALIPER	3000.7	0.17147	-194.12126	320.488

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2228MA 172644 DATE/TIME PERFORMED: Wed Feb 17 00:24:54 1999

UNIT #: 3880TB HL6544

	I.D. (raw)	MULT	ADD	I.D. (mm)
CALIPER	2999.4	0.17147	-194.12126	320.177

297.799 333.482

ZDL PRIMARY CALIBRATION SUMMARY

TOOL #: 2228MA 172644 DATE/TIME PERFORMED: Mon Jan 18 17:18:09 1999

UNIT #: 3880TB HL6544 CALB. BLOCK SET: 2225XA 150415 CS SOURCE #: 4703NT 000798

	SSD-NDTC (cts/s)	HRD1-NDTC (cts/s)	HRD2-NDTC (cts/s)	SHR	DEN (kg/m3)	CORR (kg/m3)	PE (b/e)
MG BLOCK (LO PE)	10451.5	4247.4	4989.7	0.728	1687.000	7.000	2.293
				0.635 0.745			
AL BLOCK	5193.6	433.9	536.8		2686.000	-13.000	
AL+SHIM (CORR)	7240.6	751.0	902.8		2681.000	165.000	
MG+SHIM (HI PE)		2101.2	2706.2	0.275			10.580
				0.270 0.314			
RATIO MG/AL	2.01	9.79	9.31				
	1.97 2.07	9.28 12.42	8.75 9.75				

	BACKGROUND (cts/s)	CS PEAK CHANNEL #	AM PEAK CHANNEL #
	1280.5	229.9	22.7
		225.8 232.2	21.8 23.6

ZDL PRIMARY VERIFICATION SUMMARY

TOOL #: 2228MA 172644 DATE/TIME PERFORMED: Mon Jan 18 17:18:17 1999

UNIT #: 3880TB HL6544 VERI. JIG #: 4704NA 119127

	SSD-NDTC (cts/s)	HRD1-NDTC (cts/s)	HRD2-NDTC (cts/s)	SHR	DEN (kg/m3)	CORR (kg/m3)	PE (b/e)
FIELD BLOCK	10010.7	2227.5	5268.9	0.187	1821.020	34.194	14.897

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2228MA 172644 DATE/TIME PERFORMED: Tue Feb 16 17:20:29 1999

UNIT #: 3880TB HL6544 VERI. JIG #: 4704NA 119127

	SSD-NDTC (cts/s)	HRD1-NDTC (cts/s)	HRD2-NDTC (cts/s)	SHR	DEN (kg/m3)	CORR (kg/m3)	PE (b/e)
FIELD BLOCK	9617.3	2197.4	5290.9	0.184	1782.176	-5.199	15.058
				0.167 0.207	1795.822 1845.220	5.194 59.134	

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2228MA 172644 DATE/TIME PERFORMED: Tue Feb 16 17:22:57 1999

UNIT #: 3880TB HL6544 VERI. JIG #: 4704NA 119127

	SSD-NDTC (cts/s)	HRD1-NDTC (cts/s)	HRD2-NDTC (cts/s)	SHR	DEN (kg/m3)	CORR (kg/m3)	PE (b/e)
FIELD BLOCK	9598.2	2205.0	5284.6	0.182	1779.498	-7.831	15.145
				0.164 0.202	1757.176 1827.176	38.159 15.547	

BAKER HUGHES

Baker Atlas

COMPANY	PARAMOUNT RESOURCES LTD.
WELL	PARAMOUNT BERKLEY NETLA P-57
FIELD	UNDEFINED
PROVINCE	NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

WID: 1856

UWI : 300P576050122301

P-57 60 DEG 50' N 122 DEG 30' W

ELEVATIONS

KB 664.65 M

DF

GL 659.50 M

DATE 16-FEB-1999

Baker Atlas

BAKER HUGHES

COMPENSATED Z-DENSILOG™
COMPENSATED NEUTRON LOG
GAMMA RAY LOG
CALIPER LOG

FILE NO:	
API NO:	
COMPANY	PARAMOUNT RESOURCES LTD.
FIELD	UNDESIGNATED BERKLEY NELLA F-57
PROVINCE	NORTHWEST TERRITORIES

LOCATION:
WID: 1856
UWI : 300F576501223O1
SEC _____ TWP _____ RGE _____

OTHER SERVICES
MAC-GR-CAL
DSI - GR
HDIP-GR

PERMANENT DATUM	G.L.	ELEVATION 659.4 M
LOG MEASURED FROM	K.B.	5.15 M ABOVE P.D.
DRILL. MEAS. FROM	KELLY BUSHING	

ELEVATIONS
KB 664.65 M
DF
GL 659.50 M

DATE			22-FEB-1999
RUN			2
DEPTH DRILLER			2466.0 M
DEPTH LOGGER			2465.0 M
BOTTOM LOGGED INTERVAL			2459.4 M
TOP LOGGED INTERVAL			2401.4 M
CASING - DRILLER			2072.0 M @ 2072.0 M
CASING - LOGGER			1771.5 MD @ 2072.0 M
CASING SIZE			9 5/8"
TYPE OF FLUID IN HOLE			LIGNITE
DENSITY / VISCOSITY			1350 G/L
PH / FLUID LOSS			14 S
SOURCE OF SAMPLE			FLOWLINE
RM @ MEAS. TEMP.		- OHMM @ - DEGC	
RMF @ MEAS. TEMP.		- OHMM @ - DEGC	
RMC @ MEAS. TEMP.		- OHMM @ - DEGC	
SOURCE OF RMF / RMC		N/A	
RM @ BHT		- OHMM @ - DEGC	
TIME SINCE CIRCULATION		0	0
MAX. RECORDED TEMP.		- DEGC	
EQUIP. NO. / LOCATION	1H, 1903A	1c,p,	
RECORDED BY	R.HOWITT/DW		
WITNESSED BY	J.FOWLER		

- FOLD HERE

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

REMARKS

RUN 1: Time Stopped Circulation : 24:00 hrs 24-feb-99

td taken from repeat pass.

logs tied to baker atlas logs on 16-feb-99

All scales and presentations as per customer's request.

caly run for orientation only and not presented on main pass due tool problem.

Crew: o.pinto * B.Fusick

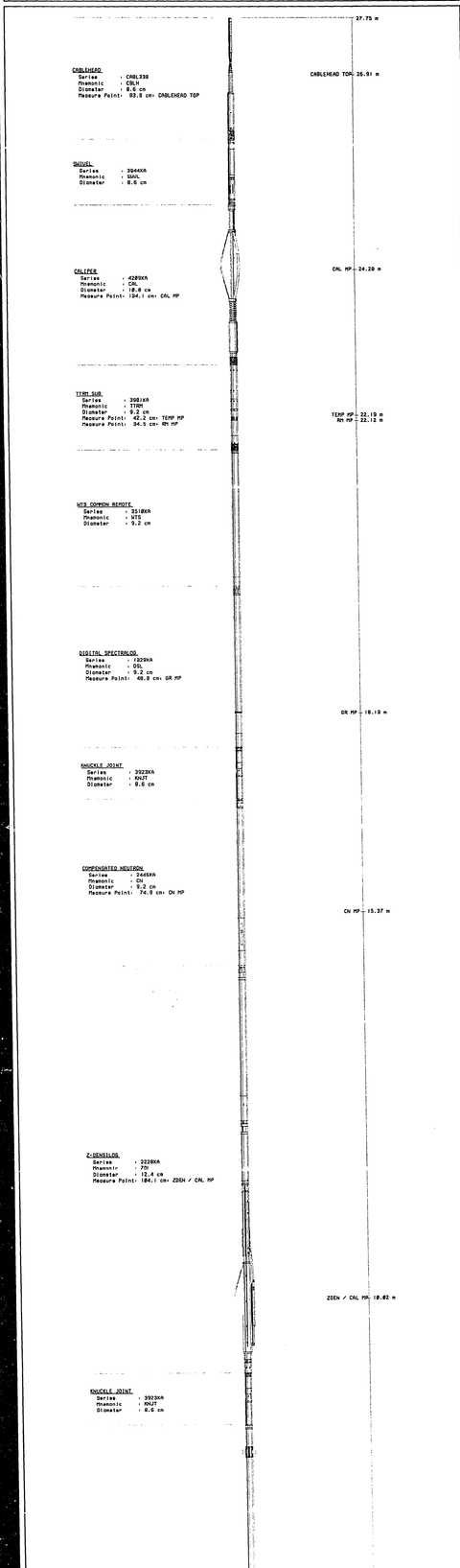
RUN 2:

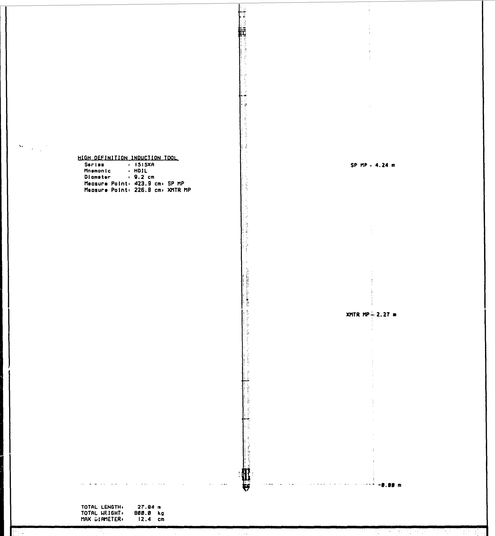
EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIV	3944XA	094413	SWIVEL
1	1	TTRM	3981XA	116656	FREE
1	1	YCAL	4205XA	173360	Y-AXIS CALIPER
1	1	COMR	3510XA	186132	FREE
1	1	DSL	1229SA	100174	FREE
1	1	KNUC	3923XA	167198	KNUCKLE JOINT
1	1	CN	2446XA	118349	DECENTRALIZED
1	1	ZDL	2228EA/2228MA	185952/120009	PAD DEVICE
1	1	KNUC	3923XA	166792	KNUCKLE JOINT
1	1	HDIL	1515EA/1515MA	177898/178647	1"STANDOFF

INSTRUMENT CONFIGURATION

Source File= /data/pass/paramount2p57/zdl-tdg





MAIN PASS - UPPER PRESENTATION

Release:3.1 Nov 18, 1998 Fileview 2.27 Cplot /88/12) Thu Feb 25 14:11:52 1999
Pcrplt /main/46 Pdf_Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /datlo/pass/paramount2p57/d777H84.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2853.193 m BOTTOM DEPTH: 2482.733 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER ()	light (2)		TOP	BOTTOM
GR	FILTER ()	medium (1)		"	"
ZDL	FILTER ()	medium (1)		"	"
SPEED	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	114.300	mm	TOP	BOTTOM
X-Y CALIPER	X-Y Caliper	X-Axis (density cal)		"	"
BIT SIZE	BIT SIZE	150.000	mm	"	"

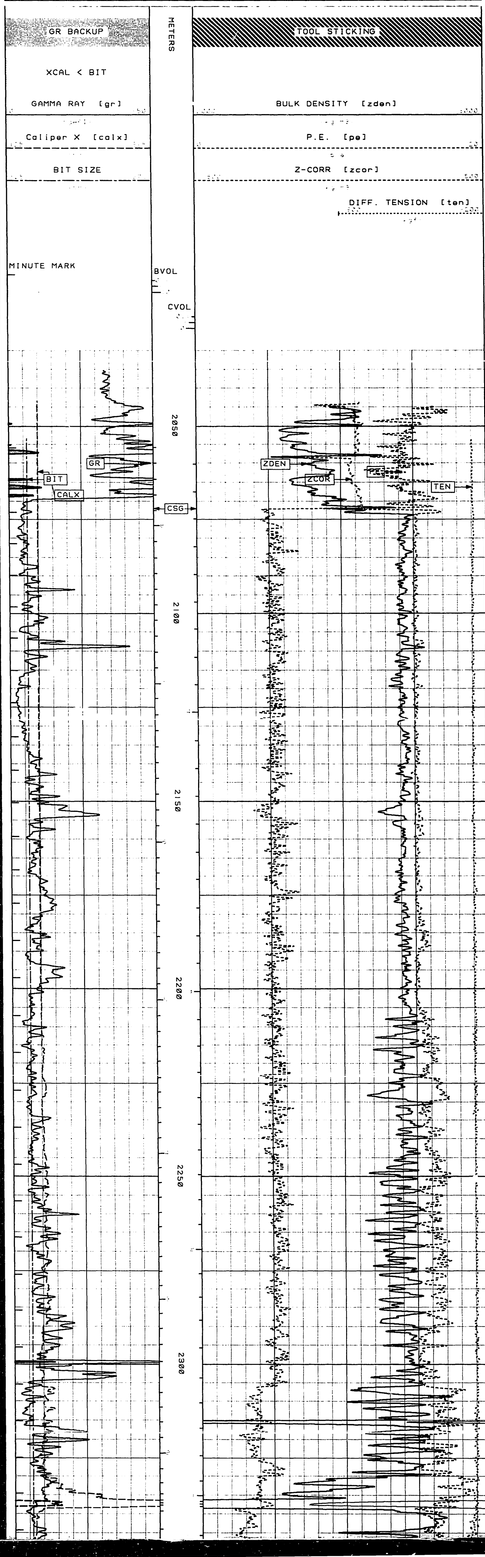
ZDL PROCESSING

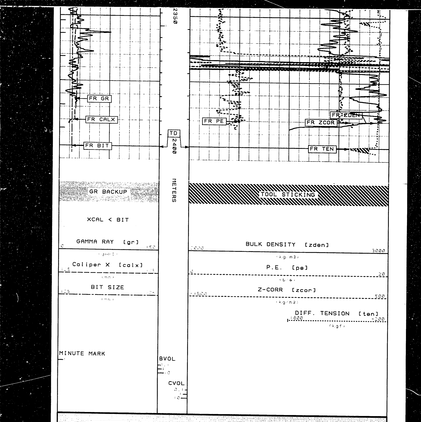
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ZDL CHI-SMOOTH FILTER	DEN CHISM	ON		TOP	BOTTOM
	PE CHISM	OFF		"	"
ZDL	ZDL GAIN	2171		"	"
	ZDL TRACKING	ON		"	"

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	gr	10.21	ten	0.00	zden	10.06
calx	10.06	pe	10.06	zcor	10.06		

Presentation : /datlo/pass/paramount2p57/zdl_wp.pdf
Data File : FI : cpu1:/datlo/pass/paramount2p57/d777H84.xtf
Company : paramount resources ltd.
Well : paramount berkley netlo p-57
Field : undefined
Interval : 2838.27 - 2482.43 Meters
Oct : d777H





MAIN PASS - LIMESTONE MATRIX

Release:3.1 Nov 18, 1998 Fileview 2.27 Cplot /88/12/ Thu Feb 25 14:06:14 1999
/script /main/46 Ps1_Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

File: /data/pcaze/pormanuals2k37/ref7HB4.pre
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2493.733 m BOTTOM DEPTH: 2482.733 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER (1)	light (2)			
GR	FILTER (1)	medium (1)		"	"
CN	FILTER (1)	medium (1)		"	"
ZDL	FILTER (1)	medium (1)		"	"
SPEED	FILTER (1)	medium (1)		"	"
TENSION	FILTER (1)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING THICKNESS	0.000	mm		
	CASING O.D.	114.300	mm	"	"
X-Y CALIPER	X-Y CALIPER	X-Axis Caliper cal'd		"	"
BIT SIZE	BIT SIZE	155.000	mm	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (calx)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (calx)	155.000	mm	"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	200.025	mm	"	"

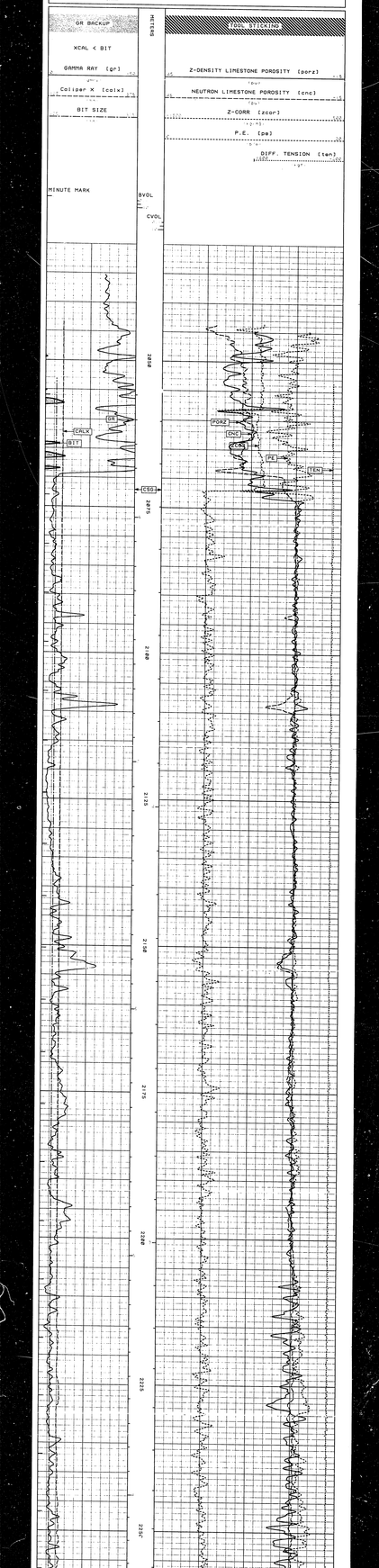
ZDL PROCESSING

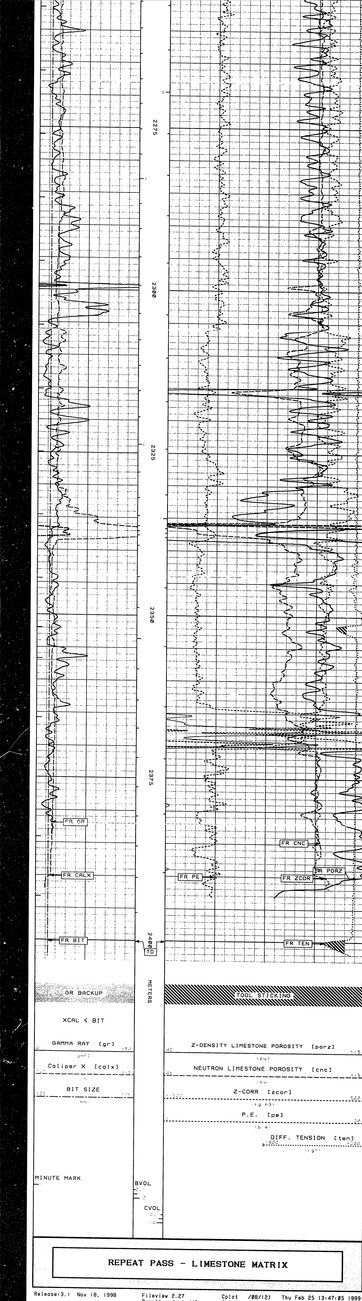
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ZDL CNC-SMOOTH FILTER	CNC FILTER	On			
	PE WINDOW	OFF		TOP	BOTTOM
DENSITY POROSITY	Hydrosim			"	"
	Rhofluid	2.710	g/cm3	"	"
	Rhoma	1.000	g/cm3	"	"
ZDL	ZDL GAIN	0.01		"	"
	ZDL TRACKING	On		"	"

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	cnc	10.39	pe	10.05	ten	0.00
calx	10.05	gr	10.21	porz	10.05	zcor	10.05

Presentation : /data/pcaze/pormanuals2k37/ref1_main.pdf
Version file : /data/pcaze/pormanuals2k37/ref7HB4.ctf
Company - pormanuals
Well - pormanuals berkley hills p-57
Field - undefined
Interval - 2838.27 - 2482.43 Meters
Run - affhb





REPEAT PASS - LIMESTONE MATRIX

Release:3.1 Nov 18, 1998 Fileview 2.27 Color /RD/1D Thu Feb 25 13:47:85 1999
Portrait /main/48 Ref.cpp /main/3

PARAMETER AND FILTER SUMMARY REPORT

File: /data/geoe/paramount2p57/d777h01.pre
Description: repeat pass - limestone matrix
TOP DEPTH: 2387.336 m BOTTOM DEPTH: 2484.615 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER 1	light (2)			
GR	FILTER 1	medium (11)			
CN	FILTER 1	medium (11)			
ZDL	FILTER 1	medium (11)			
Y AXIS CALIPER	FILTER 1	medium (11)			
SPEED	FILTER 1	light (2)			
TENSION	FILTER 1	medium (11)			
	FILTER 1	medium (11)			

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING THICKNESS	9.888	mm		
	CASING O.D.	114.300	mm		
X-Y CALIPER	X-Y Caliper	Averaged			
BIT SIZE	BIT SIZE	130.888	mm		
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (caldat)	USE CALIPER			
BOREHOLE CORR DIAMETER	FIXED DIAMETER (caldat)	130.888	mm		

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CNS CN MATRIX	CNAS MATRIX	LIMESTONE			
CN SALINITY CORRECTION	SALINITY	0	ppm		
CN CASING & CEMENT CORRECTION	CORRECTION	OFF			
	BIT SIZE BEHIND CSNG	888.825	mm		

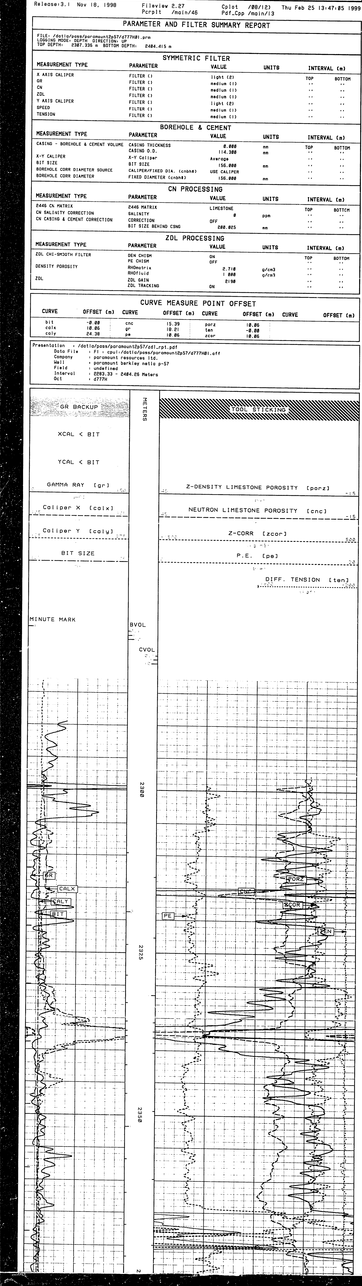
ZDL PROCESSING

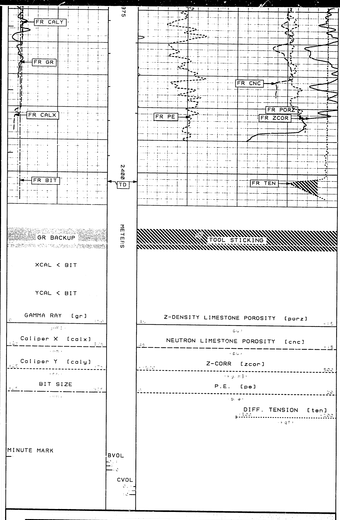
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ZDL CNS-SMOOTH FILTER	DEN CNSM	ON			
	PE CNSM	OFF			
DENSITY POROSITY	RhOmatrix	2.710	gr/cm3		
	RHOfluid	1.000	gr/cm3		
ZDL	ZDL GAIN	0:50			
	ZDL TRACKING	ON			

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	-0.88	cnc	15.39	porz	-18.86		
gr	18.80	gr	18.21	ten	-0.88		
calx	24.20	tm	-18.86	zcor	-18.86		

Presentation : /data/tuboe/geoe/paramount2p57/rf1_rpt.ppf
Data File : F1 = cpu1:/data/geoe/paramount2p57/d777h01.off
Company : paramount resources ltd.
Well : paramount berkley nella p-57
Field : wildcat
Interval : 2392.32 - 2484.28 Meters
Out : d777h





MAIN PASS - DOLOMITE MATRIX 2830 kg/m3

Release:3.1 Nov 18, 1998 Fileview 2.27 Cplot /80/12 Thu Feb 25 14:18:23 1999
Ptrplt /home/46 Pdf.Cap /main/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/cases/paramount2b37/d777m84.prm
LOGGED: Wed Jan 27 1999 03:00PM
TOP DEPTH: 2855.733 m BOTTOM DEPTH: 2482.733 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X AXIS CALIPER	FILTER 1	light (2)		"	"
QR	FILTER 2	medium (12)		"	"
ZDL	FILTER 3	medium (12)		"	"
SPEED	FILTER 4	medium (12)		"	"
TENSION	FILTER 5	medium (12)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	114.300	mm	"	"
X-Y CALIPER	X-Y Caliper	K-Main Density cal		"	"
BIT SIZE	BIT SIZE	155.000	mm	"	"

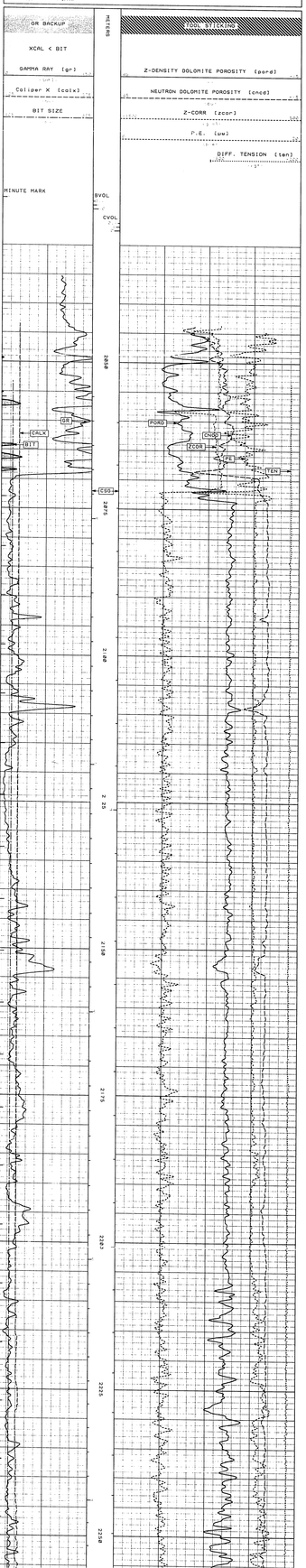
ZDL PROCESSING

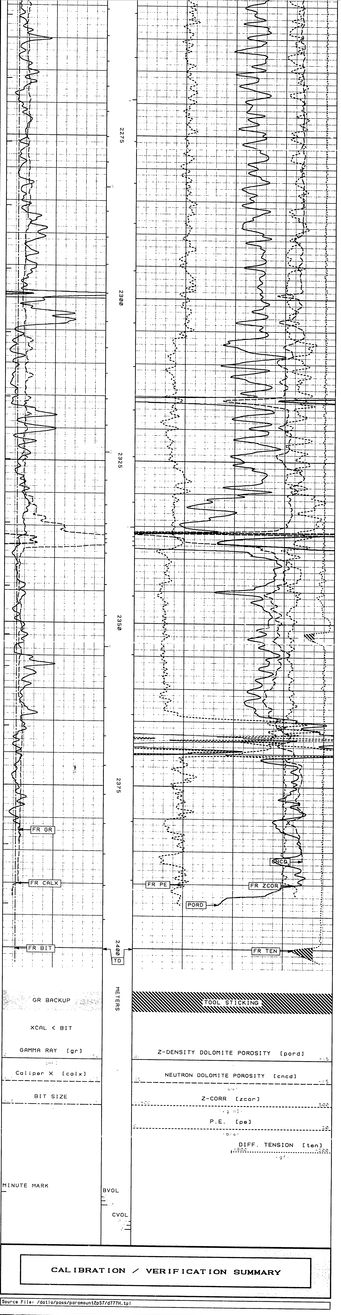
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
*** PAY CHOICE FILTER	PE CHOICE			"	"
ZDL	ZDL GAIN	DIFF		"	"
	ZDL TRACKING	ON		"	"

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
bit	0.00	cncd	0.00	pe	10.05	ten	0.00
calx	10.05	gr	10.21	pord	0.00	zcor	10.05

Presentation : /data/cases/paramount2b37/zdl_meridel.ppf
Data file : fl : cpu:/data/cases/paramount2b37/d777m84.dlis
Company : - paramount resources ltd.
Well : - paramount berkley reitz p-37
Field : - undefined
Interval : - 2855.73 - 2482.43 Meters
Run : - d777m





CALIBRATION / VERIFICATION SUMMARY

Source File: /data/prod/pardemo1/p37/d777t.tp1

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 420RAA 173368 DATE/TIME PERFORMED: Thu Feb 25 10:03:00 1999

UNIT #: 388878 HLS544

	SMALL RING (cw)	LARGE RING (cw)	MULT	ADD	SMALL RING (mm)	LARGE RING (mm)
CALIPER	4309.5	5825.5	0.04077	85.53959	203.000	304.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 420RAA 173368 DATE/TIME PERFORMED: Thu Feb 25 11:01:59 1999

UNIT #: 388878 HLS544

	I.D. (cw)	MULT	ADD	I.D. (mm)
CALIPER	3625.5	0.04077	14.19558	162.000

CAL AFTER LOG VERIFICATION SUMMARY

NOT DONE

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 329RA 153174 DATE/TIME PERFORMED: Fri Feb 19 14:48:25 1999

UNIT #: 388878 HLS544 CALB JIG #: 478ZNA 80s559

	BACKGROUND CALBRTN ON (cts/s)	(cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	(gAPI)	CALBRTN (gAPI)
GR	214.47	1189.60	995.13	0.168	35.80	185.54	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 329RA 153174 DATE/TIME PERFORMED: Thu Feb 18 14:54:37 1999

UNIT #: 388878 HLS544 VERI JIG #: 478ZNA 80s559

	BACKGROUND CALBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	(gAPI)	DIFF. (gAPI)
GR	214.47	1182.64	0.168	35.80	184.74	149.74

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 329RA 153174 DATE/TIME PERFORMED: Thu Feb 25 10:03:37 1999

UNIT #: 388878 HLS544 VERI JIG #: 478ZNA 80s559

	BACKGROUND CALBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	(gAPI)	DIFF. (gAPI)
GR	159.17	1084.76	0.168	26.66	181.74	155.89

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 329RA 153174 DATE/TIME PERFORMED: Thu Feb 25 10:03:37 1999

UNIT #: 388878 HLS544 VERI JIG #: 478ZNA 80s559

	BACKGROUND CALBRTN ON (cts/s)	(cts/s)	MULT	BACKGROUND CALBRTN ON (gAPI)	(gAPI)	DIFF. (gAPI)
GR	159.17	1084.76	0.168	26.66	181.74	154.66

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 420AA 173368 DATE/TIME PERFORMED: Thu Feb 18 14:10:05 1999

UNIT #: 388878 HLS544 ICE BLOCK #: 471TND 80s091

	MEASURED DEADTM CORR CPS	DTC SSWLDN	CORRECTION FACTOR	DTC CORR SSWLDN	POROSITY (pu)
	1.01948				21.356

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 420AA 173368 DATE/TIME PERFORMED: Fri Feb 19 10:55:58 1999

UNIT #: 388878 HLS544 ICE BLOCK #: 471TND 80s091

	MEASURED DEADTM CORR CPS	DTC SSWLDN	CORRECTION FACTOR	DTC CORR SSWLDN	POROSITY (pu)
	1.03442				9.587

CN PRIMARY LOG VERIFICATION SUMMARY

SUMMARY

DATE: Wed Feb 24 12:48:16 1999

UNIT #: 3880TB 006558

	SMALL RING (raw)	LARGE RING (raw)	MULT	ADD	SMALL RING (mm)	LARGE RING (mm)
CALIPER	2400.9	3086.0	0.14830	-152.85225	203.200	304.800

CAL BEFORE LOG VERIFICATION SUMMARY

DATE: Thu Feb 25 11:02:26 1999

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2228MA 120009 DATE/TIME PERFORMED: Thu Feb 25 10:19:10 1999

UNIT #: 3880TB HL6544 VERI. JIG #: 4704NA 033010

SSD-NDTC	HRD1-NDTC	HRD2-NDTC	SHR	DEN (kg/m3)	CORR (g/m3)	PE (b/e)
				[illegible]	-7.820	[illegible]

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ON FILE

DIPMETER/

CALIPER

N.E.B. COPY

HEXAGONAL DIPLOG
GAMMA RAY LOG
STRATAGON DIP ANALYSIS

Baker Atlas

FILE NO:
API NO:

COMPANY PARAMOUNT RESOURCES LTD.
WELL PARAMOUNT BERKLEY NETLA P-57
FIELD UNDEFINED
PROVINCE NORTHWEST TERRITORIES

LOCATION:
6125- 1936
SW1- 1680FSL685.223W1

OTHER SERVICES
DN-ZDL-GR-CN
DNC-GR-CAL
CAL
DFIL-GR

SEC TWP RGE

PERMANENT DATUM G.L. ELEVATION 520.3 M
LOG MEASURED FROM K.B. 5.13 M ABOVE P.D.
DRILL MEAS. FROM KELLY BUSHING

ELEVATIONS
KB 554.83 M
DF
GL 520.58 M

DATE	18-FEB-1999
RUN	2A
SERVICE ORDER	9008649
DEPTH DRILLER	2466.0 M
DEPTH LOGGER	2466.4 M
BOTTOM LOGGED INTERVAL	2462.0 M
TOP LOGGED INTERVAL	2012.0 M
CASING - DRILLER	177.8 @ 0M @2872.8 M
CASING LOGGER	2A 177.8
BIT SIZE	156 MM
TYPE OF FLUID IN HOLE	WATER
DENSITY / VISCOSITY	1040 KG/M3 / 140 S
PH / FLUID LOSS	0 / 0 C3
SOURCE OF SAMPLE	FLOWLINE
RM AT MEAS. TEMP	0.0699 @ 0.0 DEGC
RMF AT MEAS. TEMP	0.0699 @ 0.0 DEGC
RMC AT MEAS. TEMP	0.0699 @ 0.0 DEGC
SOURCE RMF / RMC	N/A
RM AT BHT	0.0699 @ 0.0 DEGC
TIME SINCE CIRCULATION	18 HRS
MAX. RECORDED TEMP.	118.0000 DEGC
EQUIP. NO. LOCATION	9, 19933 SLP
RECORDED BY	J. MACINTOSH
WITNESSED BY	J. MACLEAN

THE INTERPRETATIONS OF LOGS AND SERVICES FALL THE ESTIMATES OR OPINIONS OF THE BAKER ATLAS ENGINEER BASED ON INFORMATION AVAILABLE AT THE TIME OF INTERPRETATION. BAKER ATLAS DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION AND DOES NOT ASSUME ANY RESPONSIBILITY FOR ANY LOSS OR DAMAGE SUFFERED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE.

FIELD NOTES

BASE / TIE-IN	TOOL	SERIAL NO.	MAX. POSITION
	2DPC	28174	2466.0 M
	ACRS	28174	2464.1 ACRS
	BCS	28174	2462.0 BCS
	HNGS	28174	2466.0 HNGS
	PCM	28174	2466.0 PCM
	SDPC	28174	2466.0 SDPC
	SGRS	28174	2466.0 SGRS

EQUIPMENT DATA

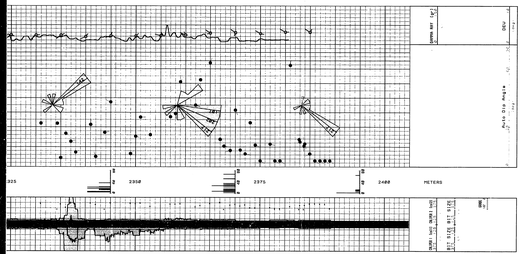
RUN	TIE-IN	TOOL	SERIAL NO.	MAX. POSITION
1		2DPC	28174	2466.0 M
1		ACRS	28174	2464.1 ACRS
1		BCS	28174	2462.0 BCS
1		HNGS	28174	2466.0 HNGS
1		PCM	28174	2466.0 PCM
1		SDPC	28174	2466.0 SDPC
1		SGRS	28174	2466.0 SGRS

REMARKS

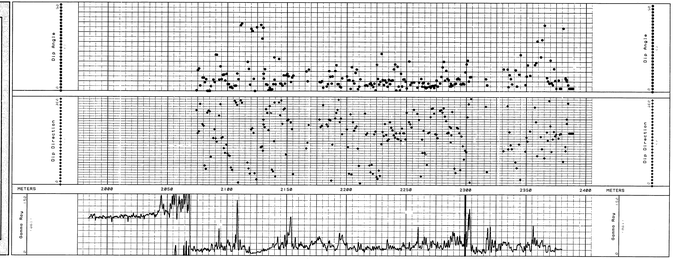
Run 1: Time Tripped Circulation - 24:00 hrs 14-Feb-99
Logs Tied to baker Atlas logs on 18-Feb-99
All scales and presentations as per customer's request.
Not recorded in combination with SGRS
Other points N.B Fields
Data collected to orthogonal north and have been corrected for a magnetic declination of 29.0 degrees East
Minimum Weight = 2.8 meters
Step Weight = 1.8 meters
Log Weight = N.A. kg/m
Run 2:

STRATAGON DIP ANALYSIS

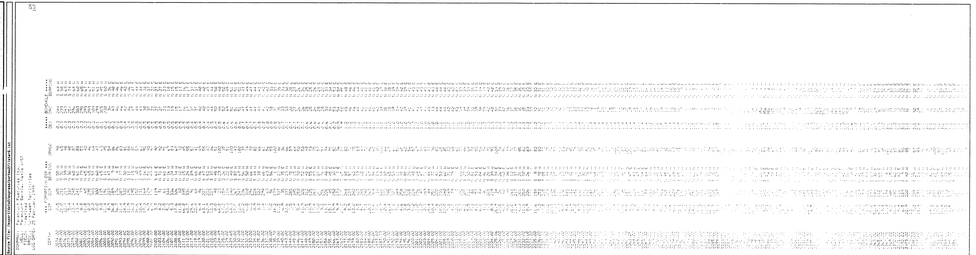




DIP AZIMUTH - DIP DIRECTION VS. DEPTH



DIP LISTING



SCHLUMBERGER WELL SERVICES
RECORDED BY
Baker Atlas

BEST
COPY
ON FILE

N.E.B. COPY

BAKER HUGHES

HEXAGONAL DIPLOG GAMMA RAY LOG

Baker Atlas

FILE NO:	COMPANY	PARAMOUNT RESOURCES LTD.
API NO:	WELL	PARAMOUNT BERKLEY NEIA P-57
	FIELD	UNDEFINED
	PROVINCE	NORTHWEST TERRITORIES

LOCATION:
W1D: 1856
UWI : 300N578055122301

SEC ___ TWP ___ RGE ___

OTHER SERVICES
CN-ZDL-GR-CAL
MAC-GR-CAL
CYL
HDIL-GR

PERMANENT DATUM	G.L.
LOG MEASURED FROM	K.B. 5.15 M ABOVE P.D.
DRILL. MEAS. FROM	KELLY BUSHING

ELEVATIONS
ELEVATION 659.5 M
KB 664.65 M
DF
GL 659.50 M

DATE	25-FEB-1999
RUN	2
SERVICE ORDER	560848
DEPTH DRILLER	2400.0 M
DEPTH LOGGER	2400.4 M
BOTTOM LOGGED INTERVAL	2395.0 M
TOP LOGGED INTERVAL	2072.0 M
CASING - DRILLER	277.8 MM. @ 20/2.5 M @
CASING LOGGER	277.0 M
BIT SIZE	156 MM
TYPE OF FLUID IN HOLE	INVERT
DENSITY / VISCOSITY	850 S/L 44 S
PH / FLUID LOSS	9.0 6 C3
SOURCE OF SAMPLE	FLOWLINE
RM AT MEAS. TEMP.	~.0MM @~ DEGC @
RMF AT MEAS. TEMP.	~.0MM @~ DEGC @
RMC AT MEAS. TEMP.	~.0MM @~ DEGC @
SOURCE OF RMF / RMC.	N/A N/A
RM AT BHT	~.0MM @~ DEGC @
TIME SINCE CIRCULATION	18 HRS
MAX. RECORDED TEMP.	116 DEGC
EQUIP. NO. / LOCATION	HL 10033 I.G.P.
RECORDED BY	R.KNATCHUK
WITNESSED BY	J.BOULTER

FOLD MARK

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL USE CUSTOMARY INDUSTRY PRACTICE AND METHODS BUT CANNOT, BECAUSE OF THE VARIABILITY OF THE DATA, GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES OR AGENTS. THESE INTERPRETATIONS ARE ALSO SUBJECT TO OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE. ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES SHALL BE GOVERNED BY THE FOREGOING RESTRICTION FROM ANY PRESENTATION MADE BY ANY OF OUR EMPLOYEES

REMARKS

Run 1: Time Stopped Circulation : 24:00 Hrs 24-Feb-99

logs tied to baker atlas logs on 15-Feb-99

All notes and presentations as per customer's request.

rmc recorded in combination with hdil

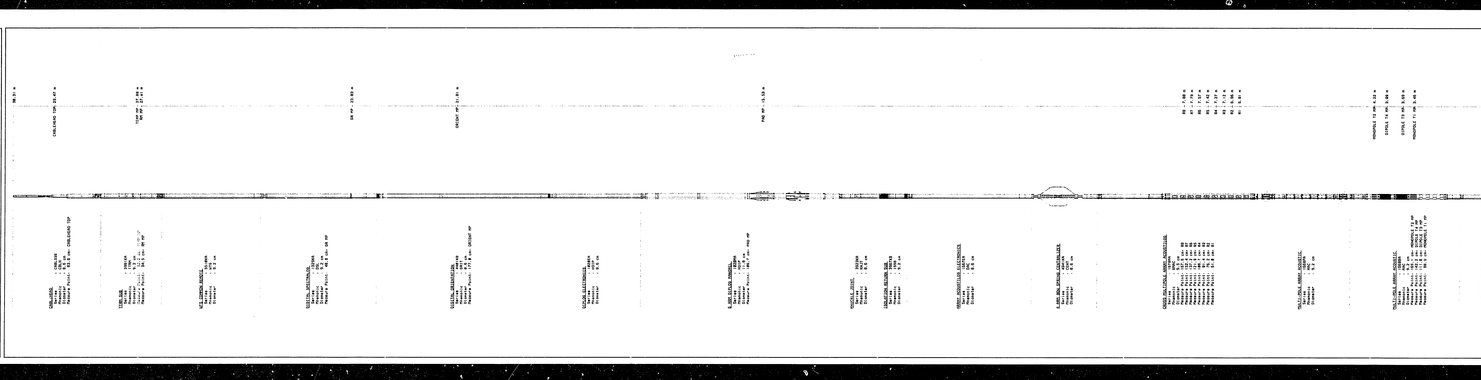
Run 2: Crew: a.pirie & R.Balcik

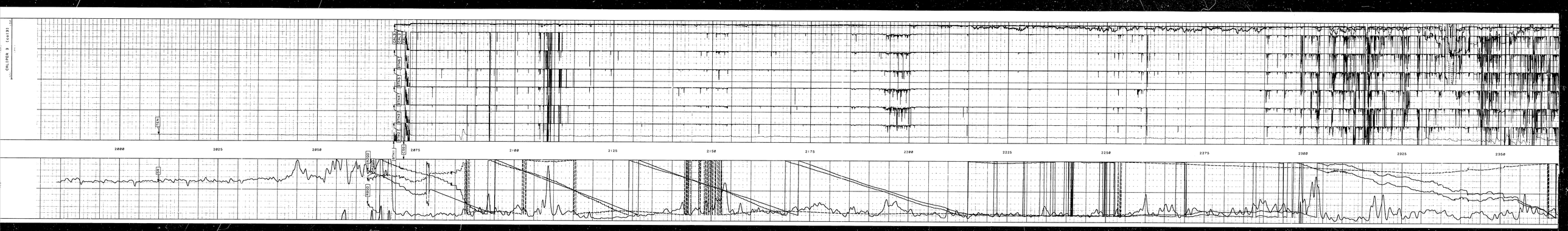
RUN	TYPE	TOOL	SERIES NO.	MODEL	SERIAL NO.	POSITION
1	1	GDM	3939A	3913	3913	MIC
1	1	MAC	3939A	3913	3913	MIC
1	1	CDL	3939A	3913	3913	MIC
1	1	HDIL	4431A	3913	3913	MIC
1	1	CYL	3939A/3939B	3913	3913/3939	MIC
2	1	HDIL	4431A	3913	3913	MIC
2	1	CYL	3939A/3939B	3913	3913/3939	MIC

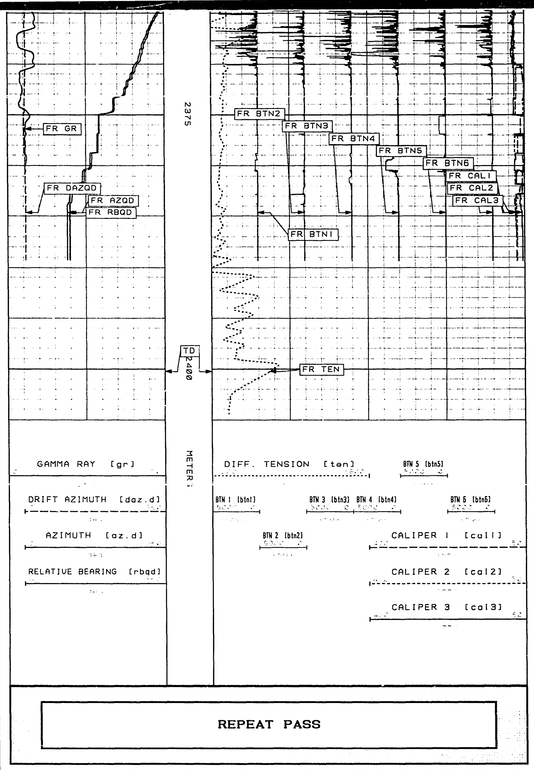
RUN	TYPE	TOOL	SERIES NO.	MODEL	SERIAL NO.	POSITION
1	1	GDM	3939A	3913	3913	MIC
1	1	MAC	3939A	3913	3913	MIC
1	1	CDL	3939A	3913	3913	MIC
1	1	HDIL	4431A	3913	3913	MIC
1	1	CYL	3939A/3939B	3913	3913/3939	MIC
2	1	HDIL	4431A	3913	3913	MIC
2	1	CYL	3939A/3939B	3913	3913/3939	CENTRALIZED

INSTRUMENT CONFIGURATION

Curve File: /data/users/paramount/bin/hdil.cyb




CALIPER 3 [cal3]
TEN
GR
CCL
TEN1
TEN2
TEN3
TEN4
TEN5
TEN6
TEN7
2000
2025
2050
2075
2100
2125
2150
2175
2200
2225
2250
2275
2300
2325
2350



REPEAT PASS

Release:3.1 Nov 18, 1998 Fileview 2.27 Cplot /08/12) Thu Feb 25 19:23:17 1999
Pcrplt /main/46 Pdf_Cpp /main/13

PARAMETER AND FILTER SUMMARY REPORT

FILE: /datlo/pass/paramount2p57/d875X04.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2346.726 m BOTTOM DEPTH: 2403.343 m

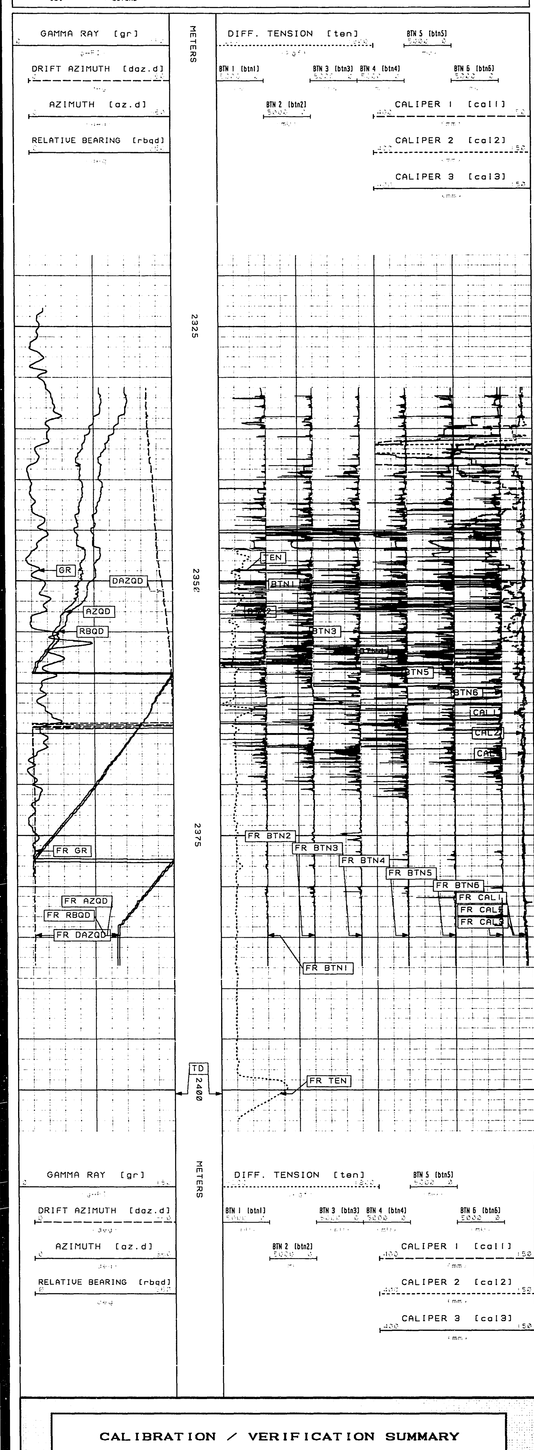
SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
GR	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
azqd	15.58	btn4	15.58	cal2	15.58	rbqd	15.58
btn1	15.58	btn5	15.58	cal3	15.58	ten	0.00
btn2	15.58	btn6	15.58	dazqd	15.58		
btn3	15.58	cal1	15.58	gr	23.85		

Presentation : /datlo/pass/paramount2p57/h-lp_rpt.pdf
Data File : FI - cpu1:/datlo/pass/paramount2p57/d875X04.xtf
Company : paramount resources ltd.
Well : paramount barkley natla p-57
Field : undefined
Interval : 2318.92 - 2403.35 Meters
Oct : d875Xb



CALIBRATION / VERIFICATION SUMMARY

Source File: /datlo/pass/paramount2p57/d875X.tpl

GR PRIMARY CALIBRATION SUMMARY

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Fri Feb 19 14:48:25 1999

UNIT #: 3880TB HL6544 CALB JIG #: 4702NK 0do559

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	214.51	1109.82	895.3	0.168	35.94	185.94	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Fri Feb 19 14:54:57 1999

UNIT #: 3880TB HL6544 VERI JIG #: 4702NK 0do559

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	214.97	1102.64	0.168	36.00	184.74	148.74

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Thu Feb 25 10:05:57 1999

UNIT #: 3880TB HL6544 VERI JIG #: 4702NK 0do559

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	159.11	1084.78	0.168	26.66	181.74	155.09

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 153174 DATE/TIME PERFORMED: Thu Feb 25 10:08:35 1999

UNIT #: 3880TB HL6544 VERI JIG #: 4702NK 0do559

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	163.78	1086.89	0.168	27.44	182.18	154.66

ORITDIP PRIMARY CALIBRATION SUMMARY

TOOL #: 4401XB 166978 DATE/TIME PERFORMED: Mon Feb 22 16:19:20 1999

UNIT #: 3880TB HL6544

	DEV (deg)	QA (mG)	MEAS RB (deg)	RB OFFSET (deg)	ROTATED RB (deg)
ORIT TBM CHECK	90.4	1001.9	359.5		
ORIENTATION			350.9	350.9	0.0

ORITDIP BEFORE LOG VERIFICATION SUMMARY

NOT DONE

ORITDIP AFTER LOG VERIFICATION SUMMARY

NOT DONE

DIPCAL PRIMARY CALIBRATION SUMMARY

TOOL #: 1220MA 152695 DATE/TIME PERFORMED: Tue Feb 23 10:36:03 1999

UNIT #: 3880TB HL6544

	SMALL RING (mV)	LARGE RING (mV)	MULT (mm/row)	ADD (mm)	SMALL RING (mm)	LARGE RING (mm)
RADIUS 1	1338.1	2717.5	0.0553	27.6662	101.600	177.800
RADIUS 2	1333.0	2670.9	0.0570	25.6781	101.600	177.800
RADIUS 3	1411.1	2775.9	0.0559	22.8100	101.600	177.800
RADIUS 4	1315.9	2658.7	0.0567	26.9240	101.600	177.800
RADIUS 5	1418.5	2788.0	0.0559	22.2591	101.600	177.800
RADIUS 6	1433.1	2814.9	0.0551	22.5720	101.600	177.800
CALIPER 1					203.200	355.600
CALIPER 2					203.200	355.600
CALIPER 3					203.200	355.600

	SMALL RING	LARGE RING
PAD FORCE %	21.185	25.354
DC MOTOR V	1.0	1.0

DIPCAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1220MA 152695 DATE/TIME PERFORMED: Thu Feb 25 10:01:05 1999

UNIT #: 3880TB HL6544

	I.D. (mV)	MULT	ADD	I.D. (mm pct V)	CASING SIZE (mm)
RADIUS 1	1051.0	0.05525	27.66617	85.737	
RADIUS 2	995.6	0.05696	25.67818	82.383	
RADIUS 3	1042.5	0.05583	22.81002	81.016	
RADIUS 4	1003.4	0.05675	26.92400	83.866	
RADIUS 5	1145.8	0.05593	22.25914	86.346	
RADIUS 6	1167.0	0.05514	22.57279	86.925	
CALIPER 1				169.683	25.400
CALIPER 2				168.729	
CALIPER 3				167.942	
PAD FORCE				28.542	
DC MOTOR V				1.3	

DIPCAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1220MA 152695 DATE/TIME PERFORMED: Thu Feb 25 10:01:26 1999

UNIT #: 3880TB HL6544

	I.D. (mV)	MULT	ADD	I.D. (mm pct V)	CASING SIZE (mm)
RADIUS 1	1050.3	0.05525	27.66617	85.696	
RADIUS 2	993.7	0.05696	25.67818	82.272	
RADIUS 3	1042.5	0.05583	22.81002	81.016	
RADIUS 4	1003.4	0.05675	26.92400	83.866	
RADIUS 5	1145.8	0.05593	22.25914	86.385	
RADIUS 6	1167.0	0.05514	22.57279	86.925	
CALIPER 1				169.563	25.400
CALIPER 2				168.577	
CALIPER 3				167.942	
PAD FORCE				28.542	
DC MOTOR V				1.3	

WESTERN ATLAS

COMPANY PARAMOUNT RESOURCES LTD.
WELL PARAMOUNT BERKLEY NETLA P-57
FIELD UNDEFINED
PROVINCE NORTHWEST TERRITORIES

FILE NO:
API NO:

ELEVATIONS
KB 664.55 M
DF
GL 659.05 M
DATE 25-FEB-1999

SEC TWP RGE

BEST
COPY
ON FILE

MISCELLANEOUS

COMPUTALOG

CEMENT QUALITY PLUG LOG

ALBERTA

CS400

FILE NO.

LSD. | SEC. | TWP. | RGE. | M.

COMPANY: PARAMOUNT RESOURCES LIMITED

WELL: PARAMOUNT BERKLEY NETLA P-57

P-57 60 DEG 50' N 122 DEG 30' W

FIELD: UNDEFINED

PROVINCE: NORTHWEST TERRITORIES

Other Services:

Date	01MAR99	02MAR99	
Run #	ONE	ONE	
Plug # - Driller	ONE(A)	ONE(B)	
Plug # - Logger	ONE(A)	ONE(B)	
Depth - Driller	2408	2203	
Depth - Logger	2203	2057	
Casing Size - Depth	1876 @ 2203	1876 @ 2057	
Cement - Vol. - Logger	5.0	5.0	
Cement - Vol. - Driller	REQUIRED	1970	
Density - Logger	NO LOG	---	

Perm. Datum: Ground Level | Elev.: 559.5

Log Measured From: KELLY BUSHING | 4.65 Above Perm. Datum

D.F. | G.L.: 559.50 | ELEV.: K.B. 564.65

Recorded By: T. GUTTAU

Witnessed By: D. WILSON

Unit # 405

District: FORT ST. JOHN

Location: LSD ____ Sec. ____ Twp. ____ Rge. ____

Source # 6-29

Source # 68042

5.0 | 5.0 | 6.5 | WATER | 1000 | 1.0 | --- | 12.4 | --- | 12.4 | 2146 | YES

Surface - 219.10 | Set @ | Hole Size - 156.0mm

Intermediate - 177.8 | Set @ 2072.0

Run # ONE | Plug # ONE(A) | Date 01MAR99 | Plug Down @ 2331 | Logging Time - Start NO LOG | - Finish REQUIRED 0259 | Plug Bottom - Driller 2408 | Plug Top - Driller 2203 | Excess meters 41 | Calculated Top 2162 | Drill Pipe set @ 2406 | Plug Top - Logger REQUIRED 1870 | Cement Class THERMAL40F | Additives 0.5% T-10 | Additives 0.2% R-6 | Density Kg/cu.m 1876 | Calculated Volume cu.m 4.2 | % Excess 20 | Total Volume cu.m 5.0 | Tonnes of Cement 6.5 | Mud Type WATER | Density Kg/cu.m 1000 | Hgt Ahead cu.m 1.0 | Hgt Behind cu.m 12.4 | Mud Behind cu.m --- | Total Displacement cu.m 12.4 | Gauge Hole Top 2146 | Sample Set Up YES

Run # ONE | Plug # ONE(B) | Date 02MAR99 | Plug Down @ 0131 | Logging Time - Start 0248 | - Finish 0259 | Plug Bottom - Driller 2203 | Plug Top - Driller 2057 | Excess meters 30 | Calculated Top 2027 | Drill Pipe set @ 2203 | Plug Top - Logger --- | Cement Class THERMAL40F | Additives 0.5% T-10 | Additives 0.2% R-6 | Density Kg/cu.m 1876 | Calculated Volume cu.m 4.2 | % Excess 20 | Total Volume cu.m 5.0 | Tonnes of Cement 6.5 | Mud Type WATER | Density Kg/cu.m 1000 | Hgt Ahead cu.m --- | Hgt Behind cu.m --- | Mud Behind cu.m --- | Total Displacement cu.m 11.1 | Gauge Hole Top 1941 | Sample Set Up YES

Phone # (403)715-7800

Equipment Type: SONDEX

Operating Co.: HONCO

Source # 6-29

Unit # 405

Rep. C

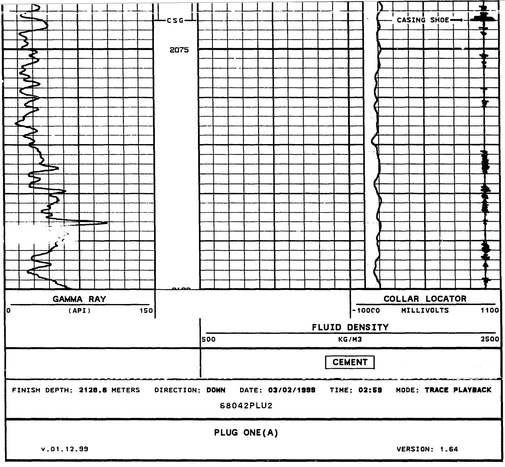
Unit # 68042

5.0 # 68042

Bottle

Bottle

Bottle



FINISH DEPTH: 2128.6 METERS DIRECTION: DOWN DATE: 03/02/1999 TIME: 02:59 MODE: TRACE PLAYBACK

68042PLU2

PLUG ONE(A)

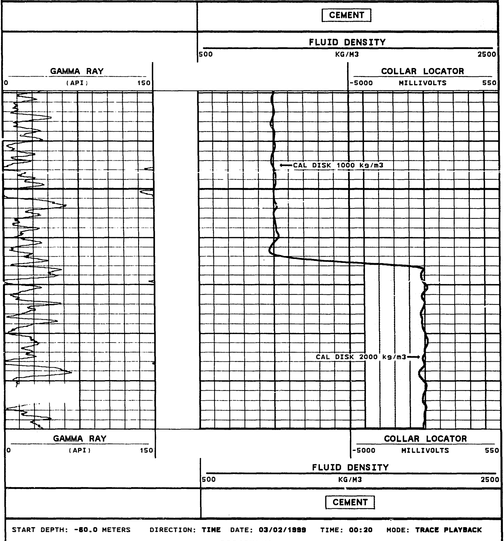
v.01.12.99 VERSION: 1.64

v.01.12.99 VERSION: 1.64

BEFORE CAL

68042PLU1

FINISH DEPTH: -60.0 METERS DIRECTION: TIME DATE: 03/02/1999 TIME: 00:22 MODE: TRACE PLAYBACK

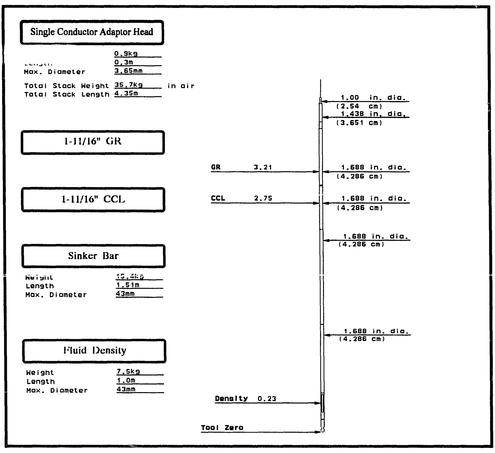


START DEPTH: -60.0 METERS DIRECTION: TIME DATE: 03/02/1999 TIME: 00:20 MODE: TRACE PLAYBACK

68042PLU1

BEFORE CAL

v.01.12.99 VERSION: 1.64



AMOUNT RESOURCES LIMITED

P-57 60DEG 50'N 122DEG 30'W

WELL PARAMOUNT BERKLEY NETLA P-57

FIELD UNDEFINED PROVINCE N.W.T.

COMPUTALOG