

AT+S

TEXACO

MAIDA CREEK

20-65 + 0-65

9211-A31-2-1

Canada Oil and Gas
Lands AdministrationAdministration du pétrole
et du gaz des terres du Canada

D.A. 1068

E.A. #174

Nova Scotia
Newfoundland
Gulf of St. Lawrence☐ West Coast
☐ Northern
☐ Hudson Bay☐ Exploratory
☒ Development
☐ Delineation
☐ Service☒ X
☐
☐
☐**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 82 of the Regulations, it is the requisite authority for the commencement of drilling operations.

Well Name in Full **AT&S TEXACO MAIDA CREEK 0-65**
 Operator **AT&S EXPLORATION LTD.** Drilling Program No **N/A**
 Contractor **JADE DRILLING LTD.** Permit or Lease No **-**
 Drilling Rig ~~XXXX~~ No. **5** Estimated Well Cost **-**
 Location Unit **0** Section **65** Grid Area **65-40-128-00**
 Coordinates: Lat **65° 34' 52.680" N** Long **128° 11' 47.210" W**
 Area **Norman Wells, N.W.T.** Field Prod **-**
 Elevation ~~XXXX~~ **121.9 mKB** ~~XXXX~~ **XXXX** Grd. **114.9 m** ~~XXX~~
 Approx. Spud Date **1985-12-15** Estimated Days on location **20**
 Anticipated True Depth **740 mKB** Target Horizon **Devonian Kee Scarp**
 UWI **3000656540128000** Location at Shot Point **221 on Line W-84-PE**

EVALUATION PROGRAM

For make sample intervals **Surface to FTD, 5 set vials, 3 bag sets**
 For make sample intervals **Geochron 1 bag set 10 m int. Below surface csg., Paleo below surface**
 Canned sample intervals **csg., 1 bag set unwashed 5 m int.**
 Conventional cores at **Core 18 m top Kee Scarp. Test if unwarranted, core & test.**
 Logs and Tests **CNL - FDC - GR, BHCS - GR - DLL**

CASING AND CEMENTING PROGRAM

		Setting Depth: KB			
O.D.	Weight	Grade	XXXXXX	Cementing Program (volumes)	
340 mm	81.1 kg/m	J-55, LT&C	40 m	5.0 Tonnes incl. (100% excess)	
245 mm	53.6 kg/m	J-55, LT&C	190 m	13.1 Tonnes incl. (100% excess)	
178 mm	34.2 kg/m	J-55, LT&C	740 m	23.8 Tonnes incl. (100% excess)	

Volumes to be calculated following caliper log

B.O.P. Equipment **2 - 228.6 mm 21,000 kPa Single Shuffers**
1 - 228.6 mm 21,000 kPa Shaffer Spherical
 Accumulator (410 litre)
 Manifold 76 mm x 34,500 kPa

Other Information

Dependent on on-site inspection and final survey, location will be within 61 m of specification.

Signed *[Signature]* /D.R. Winslet
 Date **19 August, 1985**

For Vice President, Exploration
 Company **AT&S EXPLORATION LTD.**

APPROVAL

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

Signed

Date

File

[Signature]
Engineering Branch**26 Nov 1985**
8211-811-2-1Department of Energy
Ministry of the EnvironmentDepartment of Natural Resources
Ministry of Northern DevelopmentMinistry of the Environment
and Ministry of Natural ResourcesMinistry of Northern Development
and Ministry of Natural Resources**Canada**



Nova Scotia	☐	West Coast	☐	Well Status	☐
Newfoundland	☐	Northern	☒	Suspended	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Completed	☒
				Abandoned	☐

WELL TERMINATION RECORD

This record is submitted in triplicate in compliance with Section 164 of the Canada Oil and Gas Drilling Regulations.

WELL DATA

Well Name: AT&S/TEXACO MAIDA CREEK CREEK 2-65 Area: N.W.T.
Grid Area: 65°40'N, 128°00'W Field Pool: Willscot
Permit or Lease No: N85A423 Final Coordinates: Lat: 65°34'52"N Long: 128°11'47"W
Drilling Unit: Jade #5 Elevations: RTWB: 119.7m SRGL: 115.2 Gr.
Spud Date: 85-12-15 Rig Released: 85-12-23 Total Depth: 191m

CASING AND CEMENTING

OD	Weight	Grade	Depth Set	Cement and Additives
2 Jts 340 mm	71.43 kg/m	H-40	11m	9.5 tonnes polaraset cement
16 Jts 244.5mm	53.6 kg/m	J-35	191m/ks	5 tonnes Polaraset cement + 3% R-15

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Vic Elford from
person Yon Singh of the Canada Oil and Gas Lands Administration by means of
telephone on 85-12-23(7) by 85
Type of Plug Interval Feet Cement and Additives
Cement Plug #1 22m - surface 1.5 tonnes Polaraset cement
Estimate bottom of hole cemented back to 11m.
Cut off 340mm Conductor Casing 1.5m below ground - weld on plate and riser
Identifier - Rig out to Skid Rig.

Lost Circulation/Overpressure Zones: N/A
Equipment left on Seafloor (Describe): N/A
Provision for Reentry (Describe and attach sketch): Vic Elford - COGLA Yellowknife - Permission to Drill
Maida Creek 2-0-65, 85-12-33 Skid Rig to new pad,
Cores Type: Intervals To north of old hole (Maida Creek 2-0-65).

Other Downhole Completion/Suspension Equipment:

CERTIFICATION

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

Signed: *W.H. Slight* P. Eng Title: Chief Geologist
Name: W.H. Slight Date: 86-06-17
Acknowledged by: *A. J. ...* Engineering Branch
Date:
File: 9211-A11-2-1



Canada Oil and Gas
Lands Administration

Administration du pétrole
et du gaz des terres du Canada

D.A. 1299

E.A. #174

Nova Scotia	☐ West Coast	☐ Exploratory	☒
Newfoundland	☐ Northern	☒ Development	☐
Gulf of St. Lawrence	☐ Hudson Bay	☐ Delineation	☐
		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 **AT&S TEXACO MAIDA CREEK 20-65**
 Operator **AT&S EXPLORATION LTD.** Drilling Program No. **N/A**
 Contractor **JADE DRILLING LTD.** Permit or Lease No. **-**
 Drilling Rig or Unit **No. 5** Estimated Well Cost **-**
 Location Unit **0** Section **65** Grid Area **65-40-128-00**
 Coordinates Lat **65° 34' 52.680" N** Long **128° 11' 47.210" W**
 Area **Norman Wells, N.W.T.** Field/Pool **-**
 Elevation ~~XXXX~~ **121.9 mKB** ~~XXXX~~ ~~XXXX~~ Grd. **114.9 m** ~~XXXX~~
 Approx. Spud Date **1985-12-24** Estimated Days on Location **20**
 Anticipated Total Depth **740 mKB** Target Horizon **Devonian Kee Scarp**
 UWI **3020656540128000** Location at Shot Point **221 on Line W-84-PE**

EVALUATION PROGRAM

Ten metre sample intervals
 Five metre sample intervals **Surface to FTD, 5 set vials, 3 bag sets**
 Canned sample intervals **Geochem 1 bag set 10 m int. Below surface csg., Paleo below surface csg., 1 bag set unwashed 5 m int.**
 Conventional cores at **Core 18 m top Kee Scarp. Test if unwarranted, core & test.**
 Logs and Tests **CNL - FDC - GR, BHCS - GR - DLL**

CASING AND CEMENTING PROGRAM

O.D.	Weight	Grade	Setting Depth (m. KCI)	Cementing Program (Volumetric)
340 mm	81.1 kg/m	J-55, LT&C	40 m	5.0 Tonnes incl. (100% excess)
245 mm	53.6 kg/m	J-55, LT&C	190 m	13.1 Tonnes incl. (100% excess)
278 mm	34.2 kg/m	J-55, LT&C	740 m	23.8 Tonnes incl. (100% excess)

Volumes to be calculated following caliper log

B.O.P. Equipment **2 - 228.6 mm 21,000 kPa Single Shaffers**
1 - 228.6 mm 21,000 kPa Shaffer Spherical
Accumulator (410 litre)
Manifold 76 mm x 34,500 kPa

Other Information

Dependent on on-site inspection and final survey, location will be within 61 m of specification.

Signed *D.R. Winslet* **D.R. Winslet**
 Date **23 December 1985**

Title **Vice President, Exploration**
 Company **AT&S EXPLORATION LTD.**

APPROVAL

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

Signed *Ken Singh*
 Engineering Branch
 Date **January 02, 1986**
 File **9211-A11-2-1**

Department of Energy
Miners and Resources
Ministère de l'énergie
des Mines et des Ressources

Department of Indian Affairs
and Northern Development
Ministère des Affaires indiennes
et du Nord Canadien

Canada

OTTAWA COPY

WELL SUMMARY: AT&S-Texaco Maida Creek O-65

WELL RESULTS:

AREA: Norman Wells, N.W.T.

LOCATION: Land

OPERATOR: AT&S Exploration Ltd.

DRILLING CONTRACTOR: Jade Drilling Ltd. Rig #5

SPUDDED: December 15, 1985

RIG RELEASE: January 10, 1986

PARTNERS: AT&S Exploration Ltd. Paying 100%
AT&S Post completion interest 75%
Texaco Post completion interest 25%

EISMIC LINE: W84-PE

RIG: Jade Rig #5

WELL CLASS: Wildcat

KR: 119.7m

WELL STATUS: Dry & Abandoned

ELEV: 115.2m (Ground)

LAT: 65°34' LONG: 128°11'

FTD: Driller 685.0m
Logger 684.0m

WELL OBJECTIVES

THE D-5 WELL HAVING ENCOUNTERED NON-COMMERCIAL GAS ON THE REEF INTERIOR SUGGESTS THAT THE REEF RIMS WOULD BE APPROPRIATE TARGETS, MOST LIKELY TO HAVE BETTER DEVELOPED RESERVOIR. TWO TESTS WILL BE NECESSARY TO TEST THIS THEORY. THE FIRST TO BE LOCATED ON THE SOUTHWEST RIM AT THE HIGHEST STRUCTURAL POSITION ON AT&S RELEASE.

HWL 300/45 40/230000

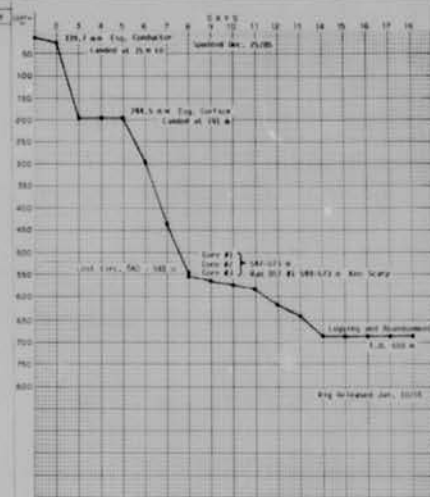
CONCLUSIONS:

MAIDA CREEK D-65 THE SECOND WELL DRILLED BY AT&S ON THE CARCAJOU REEF COMPLEX ENCOUNTERED 120.3 M OF REE SCARP WHICH WAS VOID OF EFFECTIVE POROSITY. A THIRD WELL WILL BE DRILLED TO TEST THE REEF FLANK POTENTIAL ON THE NORTH-WESTERN RIM OF THE COMPLEX.

GEOLOGICAL DATA SUMMARY

STRATIGRAPHY			CORES	DEPTH m	LITHOLOGY	HYDROCARBON SHOWS/TESTS	DESCRIPTION	
System	Period	Series					Interval	Pressure
CENOZOIC	QUATERNARY	Recent Glacial Lake						
		Glacial Landscape						
MESOZOIC	CRETACEOUS	Hard Limestone Landscape						
		Hard Limestone Landscape						
PALEOZOIC	DEVONIAN	Upper						
		Middle						

DRILLING PROGRESS CHART



CORES	DEPTH m	LITHOLOGY	HYDROCARBON SHOWS/TESTS	DESCRIPTION	
				Core Description	Pressure
	0-100				
	100-200				
	200-300				
	300-400				
	400-500				
	500-600				
	600-700				
	700-800				
	800-900				
	900-1000				

Line graph showing the depth of the water column (in meters) over time (in days) for a deep-sea trawl. The depth starts at approximately 1000m on Day 1 and decreases to about 700m by Day 18. Key events include the start of the trawl on Day 1, the start of the haul on Day 2, and the end of the haul on Day 18.

Day	Depth (m)	Notes
1	1000	Trawl started
2	1000	Haul started
3	1000	
4	1000	
5	1000	
6	1000	
7	1000	
8	1000	
9	1000	
10	1000	
11	1000	
12	1000	
13	1000	
14	1000	
15	1000	
16	1000	
17	1000	
18	1000	

Casing Design			Logging Program	DST's	FORMATION FLUID RECOVERY FLOW RATES
DEPTH METERS	HOLE	CASING			
0	044.70m 15m ID				
100					
150					
200					
250					
300					
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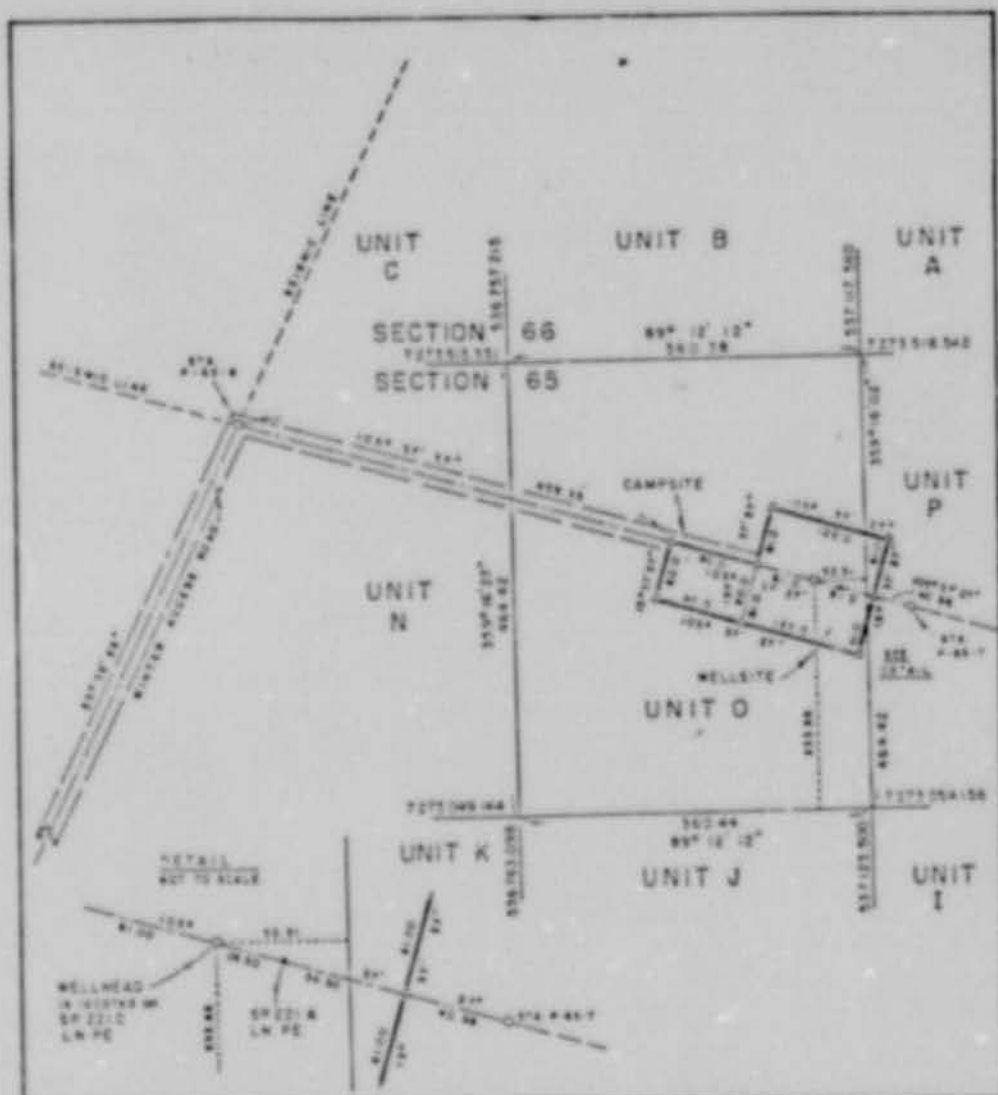
222

SURVEY PLAT

LOCATION MAP

**MAIDA CREEK O-65
PROPOSED LOCATION**





N.T.S. MAP SHEET: 106 H/9

METRIC

NORTHWEST TERRITORIES

A.T. & S. EXPLORATION LTD.

PRELIMINARY SKETCH SHOWING WELL LOCATION

A.T. & S. MAIDA CREEK O-65

UNIT O, SECTION 65, GRID AREA 65°40', 128°00'

A.T. & S. EXPLORATION LTD.

CERTIFIED CORRECT:

THIS DAY OF JULY, 1985

Delores
CANADA

ELEVATION	GEOGRAPHIC CO-ORDS.	UTM CO-ORDINATES
ON GROUND : 111.89 AT WELLHEAD	NORTH LATITUDE 65°34' 50.000" (AS 5810000") WEST LONGITUDE 128°12' 47.000" (AS 5810000")	NORTHING : 7,273,297.195 EASTING : 537,086.201 COORDINATES ARE LOCATED FOR THIS MAP CENTRE, WELDON (1985)
LEGEND	AREAS REQUIRED	HOSFORD, IMPEY, WELTER AND ASSOCIATES LTD.
Survey Monument Found : ☒ Survey Monument Missing : ☐ Transfer Station : ☐	WELL SITE : 5.66 Acres 1,400 MC CAMP SITE : 1.32 Acres 0.540 MC FUEL SITE : 1.32 Acres 0.540 MC TOTAL : 8.30 Acres 2.020 MC	PO BOX 409, WELDON, N.W.T. NORTHWEST TERRITORIES F.L.N.O. PERMIT DATE: 1985
SCALE 1:5000		

GEOLOGICAL WEBSITE REPORT
FOR

AT&S MAIDA CREEK
0-65

Prepared For
AT&S Exploration Ltd.

By
C.D. Frew
PRO GEO CONSULTANTS

January, 1986

TABLE OF CONTENTS

	page
WELL SUMMARY	1
DAILY SUMMARY	2
CASING SUMMARY	4
DRILL STEM TEST SUMMARY	8
ABANDONMENT SUMMARY	5
GEOLOGICAL SUMMARY	6
FORMATION TOPS	6
SAMPLE DESCRIPTIONS	7
CORE DESCRIPTIONS	10

WELL SUMMARY

WELL NAME: AT&S Malda Creek Q-65
COORDINATES: 65° 40' N, 128° 0' W
LOCATION: northwest Territories
ELEVATIONS: Ground: 115.2m
KB: 119.7m
OPERATOR: AT&S Exploration Ltd.
DRILLING CONTRACTOR: Jade Drilling Rig #5
WELLSITE SUPERVISION: Toolpusher: Dave Ostapovich
Engineer: Earl Staroszk/Bryan Curle
Geologist: C.D. Frew
WELL SPUDDED: 1985/12/25 0300 hours
DRILLING COMPLETED: 1986/01/06 2220 hours
BIT SIZES: Surface: 311mm
Downhole: 222.2mm
CASING SIZES: Surface: 244.5mm
Production:
TOTAL DEPTH: Driller: 605.0m
Logger: 604.0m
BOTTOM HOLE FORMATION: Mare Indian
CORES CUT: Core #1 547 - 553m Core #2 553 - 555m Core #3 555 - 573m
LOGS RUN: DLL-MLL; BHCS-GR; CNL-FDC
DRILL STEM TESTS: DST #1: 549 - 573m
WELL STATUS: Plugged and Abandoned
RIG RELEASE: 1986/01/10 1200 hours

DAILY SUMMARY

1985/12/25

- Spud at 0300 hours
- Circulate, clean to run conductor pipe
- Ran 1 joint 339.7mm 71.43 kg/m, H-40 8rd ST&C casing for conductor
- Landed at 15m KB, cemented with 2 tonnes Polarset Cement in place at 1015 hours, 1985/12/24
- Cut casing and weld riser
- Run top 4 meters through 25.4mm, pipe down annulus with 1 tonne Polar Set
- WOC, rig up flare line and cement bottom of cellar
- Drill out cement
- Drill 311.2mm surface hole
- Conductor leaked into cellar back side of cribbing, POOH, remove flowline and wait on welder
- Cut off conductor riser, weld on collar and rig up to cement

1985/12/26

- Cement with 3 tonnes Polarset
- WOC, weld conductor riser back on, hook up flow line and make up bit and subs on 228mm drill pipe
- Drill out cement from conductor 13m to 18m
- Drill and survey 311.2mm surface hole

1985/12/27

- Drill and survey to 190m, circulate and clean
- Dummy trip and strap; difference, 0.18m
- Drill to 191m

1985/12/28

- Circulate clean for casing and survey
- Hoist bit, lay down 228mm drill collar and shock sub
- Rig up and run 16 joints 244.5mm, 53.5 kg/m, J-55 8rd LT&C (7 jts) and ST&C 9 jts
- Circulate and reciprocate casing and reduce viscosity
- Head up and cement casing, WOC
- Cut off and weld on bowl

1985/12/29

- Nipple up
- Cement with 2m³ H₂O ahead - lead cement 7.75 tonnes PolarSet plus 0.3% 4-15 tall cement, 9.0 tonnes oilwell Class "G" neat
- Displace with 7.19m³ drill mud, plug down at 0850 hours, 4m³ cement returns

ADDENDUM II

FLOT

30* Dec 1985 Drilled out cement and shoe.
 Pressure up to 2800 KPa. No leak off.
 Fluid: Fresh water 8.3 Density.
 Surface casing shoe at 191 m.

1985/12/30

- Drill out float and 5m, pressure test bottom joint - OK
- Drill out shoe and 5m, leak-off at 2800 kPa
- Drill and survey 222mm hole

1985/12/31

- Trip for bit, resume drilling
- Lost circulation, 540 - 545m, 9m³ total loss
- Mix and circulate lost circulation material
- Control drill 2m
- Circulate sample, dummy trip 5 stands, well began to flow
- Run in, circulate and condition

1986/01/01

- Dummy trip 10 stands
- Run to bottom, circulate and condition hole
- Hoist to pick up core barrel
- Make up and run core #1
- Break circulation, drop ball and cut core #1
- Jammed at 553m, hoist and recover core #1

1986/01/02

- Service core barrel and run in hole
- Cut Core #2 - jammed off at 553m
- Hoist Core #2 and recover

1986/01/03

- Service barrel and run Core #3
- Break circulation and cut Core #3
- Cut full 18m, hoist and recover Core #3

1986/01/04

- Run in with bit, ream rathole and condition mud (547 - 573m)
- POOH
- Pick up core barrel from derrick, service and lay down
- Pick up DST #1
- Rig up tester - inflate packers, perform DST #1
- Pull packer loose
- Thaw out: HCR hose, kill line valve, manifold check, check DDP, blow manifold line
- Knock off test head and hoist DST #1
- Break down and rig out DST #1

ADDENDUM 1

Casing and Cementing Record

CONDUCTOR
24 DEC 1985

Ran 1 Joint 139.7 mm, 71.43 kg/m, H40, 8 RD, ST + C casing at 15 m KB.
Cemented with 2 tonnes Polarsset CPD cement. No returns. Cement top 4 m of annulus with 25.4 mm pipe with 1 ton Polarsset.
Conductor leaked to cellar. Rigged up NOWSCO: established feed rate using 1.75 m³ water.
Recement using 3 tonnes Polarsset CPD cement.

SURFACE CASING
28 DEC 1985

Ran 16 joints J-55 53.6 kg/m 244.6 mm 8 RD, 7 LT + C, 9 ST + C at 191 m.
Cemented with 1/2 Bbl water ahead: Lead cement 7.75 tonnes Polarsset 7.34 R 15.
Tail cement 9.0 tonnes Class C neat.
Displace with 7.19 m³ drilling mud.
4 m³ cement returns.

1986/01/05

- Blow flare line and fill with antifreeze
- Run in with bit #2RR and clean 2m to bottom
- Drill and survey 222mm hole

1986/01/06

- Drill and survey 222mm hole to 685m, FTD
- Circulate bottom hole sample and condition mud
- Dummy trip 20 stands (hole OK)

1986/01/07

- Circulate to condition hole
- Hoist bit #2
- Rig up to log with Schlumberger

1986/01/10

- Finish logging, wait on orders
- Run abandonment program
- Release rig 1986/01/10 at 1200 hours

CASING SUMMARY

Surface Casing

Ran 16 joints 244.5mm, 53.6 kg/m, J-55 8rd LT&C (7 joints) ST&C (9 joints) surface casing. Cemented by Howsco with 7.75 tonnes Polar Set to 0.35 R-15 tail cement, 9 tonnes Oilwell Class "G". Landed at 191m. Plug down at 0850 hours, 1985/12/29. 4m³ cement returns to surface.

DRILL STEM TEST SUMMARY

DST #1 549 - 573m

FM: Kee Scarp Type: Packer Inflate

TIMES:	10/176/60/135
RF:	Strong airblow remaining steady
VD:	Strong airblow in 30 secs. (0.30m flare) GTS-1STM
RECOVERY:	48m gas cut mud, 93m muddy water, 189m gas cut water
HP:	6066/5997 KPa
SIP:	5165/5095 KPa
FP:	1403/1897/3221 KPa
OTHER:	Long initial Shut-in due to frozen flare line which had to be thawed before continuing test

MAYDA Creek

ADDENDUM III

Caracal 2-0-63

Spent 24th Dec. 1983

Big Release 10th Jan.

	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	Total 18 Days
Rig Up Tear Down														6½					6½
Drill	4½	14	7½	20		1	19½	12½	11 3/4				17½	21½					129
Seaming											3	1½							4½
Coring										12 3/4	13½	1½							27 3/4
Condition Mud & Circulate	½			½	2½			3	2½	1 3/4			½	1 3/4	2½	18	11½		43 3/4
Trips		1	3/4	1 3/4	2½	1 3/4		5½	9	8 3/4	6 3/4	2½	3½		6	4 3/4	10	3/4	70
Lubricate Rig	½	3/4	3/4	3/4	½		3/4	½		3/4	3/4	½	3/4	3/4		3/4	½		8 3/4
Repair Rig			½			3½	½		½										4 3/4
Cut Drill Line																½			½
Deviation Survey			½	1½	½		3/4	½	½				½	½	½				6
Wire Line Logs															15½				15½
Run Casing & Cement	2		2½			5½													10
M.O.C.	6		11 3/4			8½													27
Nipple up BOPs						7													13
Test BOPs						7 3/4	½					2							10
DST												11½	1						12½
Plug Back																	2½	3/4	3
Squeeze																			
Fishing																			
DIR Work																			
Other		8½				4	2 3/4	2					3/4						17 3/4
	16	24	26	26	24	25	24	24	24	24	24	24	24	24	25	24	24	8	108

ABANDONMENT SUMMARY

Plug #1 Interval: 684 - 530m

Cemented with 10 tonnes Oilwell Class "G"

Plug #2 Interval: 210 - 170m

Cemented with 3.5 tonnes Oilwell Class "G"

Plug #3 Interval: 15m - Surface

Cemented with 0.8 tonnes Class "G"

GEOLOGICAL SUMMARY

ATAS Texaco Maida Creek 0-85 was drilled as a Wildcat well with the intent of encountering the Kee Scarp reef and its associated hydrocarbons. This site is located at 65°10'N, 128°00' in the Northwest Territories.

The well was initially spudded at 0300 hours, 1985/12/15 by Jade Drilling Rig #5. However, several subsequent problems required that the rig be moved and the hole re-spudded. Consequently it was re-spudded 0300 hours, 1985/12/25.

Surface casing of 244.5mm diameter was set at 191m K.R. and cemented by Nowco. Sampling (consisting of 5 meter bulk samples and 10 meter "jar" samples) commenced at 200m K.R., likely in the Imperial formation, since a subsequent Imperial top was not picked. The Imperial consisted of: Shale: predominantly medium - dark grey, moderately hard, firm, blocky, subfissile, dull - micromicaceous in part, carbonaceous in part, silty in part, no show. There were some minor sandstones in this formation, mostly in the form of thin stringers.

The Canol Shale was encountered at 532.5m K.R. (-412.8m Subsea). This was 30.72 meters higher than prognosed.

The Canol consisted of: Shale: dark grey - black in part, moderately hard, firm, blocky, dull, very carbonaceous, pale slow milky yellow cut fluorescence, strong petroliferous odour while drying.

Lost circulation was experienced from 540 - 545m, most likely in coals encountered just below the Canol. Nine cubic meters were lost, but circulation was regained by the addition of lost circulation material to the mud system.

The Kee Scarp reef came in at 544.0m K.R. [-423.3m SS], 25.54 meters higher than prognosed. Within this zone, three cores were cut by Norton-Christensen Coring (please refer to the detailed core description). Drilling continued in the Kee Scarp after coring and it consisted of Limestone: white, light - medium grey brown, cryptocrystalline - microcrystalline, hard, massive, dull - earthy, vitreous in part, clean - slightly argillaceous, rare poor live oil stain, tight, occasional pale milky yellow cut fluorescence, no streaming.

Following the Kee Scarp, the Hare Indian formation was encountered at 664.2m K.R. [-544.5m SS] which was 74.01 meters higher than prognosed.

The Hare Indian was: Siltstone, dark grey, frequently grading to very fine gravel sandstone, moderately hard, vitreous - micromicaceous, very calcareous, slightly argillaceous, trace pyrite, tight - rare poor intergranular porosity, no shows. There were traces of limestone. Final total depth was reached in this formation.

Testing was conducted by Halliburton immediately following coring. A packer inflate test was conducted from 549 - 573 meters. Gas to surface was too small to measure, recovery consisted of 48 meters slightly gas cut mud and 189 meters of slightly gas cut water, 93 meters of muddy water.

Subsequent to drilling, wireline logging was performed by Schlumberger with the following logs run: DIL-MLL; SHCS-GR; CNL-FDC.

FORMATION TOPS

FORMATION	SAMPLE		LOG	
	Depth/m	Subsea/m	Depth/m	Subsea/m
Canol	539.5	-415.8	539.5	-415.8
Kee Scarp	544.0	-424.1	545.25	-426.55
Hare Indian	664.2	-544.5	664.5	-544.8
F.T.D.	685.0	-565.3	685.0	-564.3

SAMPLE DESCRIPTIONS

<u>Depth</u>	<u>Description</u>
200 - 270m	Shale; medium - dark grey, moderately hard, firm, blocky, dull - slightly micromicaceous in part, silty in part, slightly calcareous in part, carbonaceous part, <u>no shows</u>
270 - 272m	Sandstone; light - medium grey, very fine grained, subrounded, moderately well sorted, hard, clear calcite cement, argillaceous, trace silty and shaly, trace glauconite, <u>tight, no shows</u>
277 - 278m	Sandstone; light - medium grey, very fine grained, subrounded, moderately well sorted, hard, clear calcite cement, argillaceous, trace silty and shaly, trace glauconite, <u>tight, no shows</u>
278 - 294m	Shale; light - medium grey, dark grey in part, soft - moderately hard, firm, blocky, dull, silty in part
295 - 296m	Sandstone; clear - light grey, very fine grained - silty in part, subrounded - subangular, moderately well sorted, well consolidated, clear siliceous cement, clean - slightly argillaceous, <u>tight, no shows</u>
296 - 385m	Shale; medium - dark grey, moderately hard, firm, blocky - subfissile, dull - micromicaceous in part, carbonaceous in part, silty in part, <u>no show</u> ; occasional sandstone stringers, rare traces limestone
385 - 455m	Shale; light - medium grey, soft, firm, blocky - subfissile, micromicaceous - dull in part, silty in part, <u>no show</u>
455 - 473m	Shale; medium grey, moderately hard, firm, blocky, micromicaceous - dull, silty - becoming sandy in part, <u>no shows</u>
473 - 532.5m	Shale; medium - dark grey, moderately hard, blocky, micromicaceous - dull in part, silty - sandy in part, <u>no shows</u>

CANOL 532.5m KB (-417.0m SS)

- 532.5 - 535m Shale; dark grey - black in part, moderately hard, firm, blocky, dull, very carbonaceous, pale slow milky yellow cut fluorescence, strong petroliferous odour while drying.
- 535 - 540m NO SAMPLE
- 540 - 545m LOST CIRCULATION (4m³ regained circulation after 5 meters)
- 540 - 541m Coal; dull - vitreous, hackly - blocky, soft - moderately hard
- 543 - 544m Coal; dull - vitreous, hackly - blocky, soft - moderately hard

KEE SCARP 544.0m (-421.3m SS)

- 544 - 547m Limestone; white - pale brown, cryptocrystalline - microcrystalline, occasionally very fine crystalline, massive - sucrosic in part, hard, brittle, clean - slightly argillaceous, predominantly tight; occasional good intercrystalline porosity with pyrobitumen and dead oil, slow pale milky yellow cut fluorescence with excellent rhombic streaming
- 547 - 573m CORE; refer to detailed core description
- 573 - 596m Limestone; white - medium grey, brown, cryptocrystalline - microcrystalline, hard, dull, earthy, vitreous in part, clean, trace pyrobitumen, tight, very poor pale milky yellow cut fluorescence, no streaming
- 596 - 606m Limestone; light - dark grey, brown, cryptocrystalline - very fine crystalline, massive - detrital in part, dull - earthy, clean, rare pyrobitumen, some fossil fragments, tight no shows
- 606 - 616m Limestone; pale brown, cryptocrystalline - very fine crystalline, soft, massive - detrital in part, dull - earthy, clean, rare pyrobitumen, rare massive live oil stain, moderately strong milky yellow cut fluorescence, poor slow streaming
- 616 - 642m Limestone; white, light - medium brown, cryptocrystalline - microcrystalline, hard, massive, dull - earthy, vitreous in part, clean - slightly argillaceous, rare poor live oil stain, tight, rare spotty pale milky yellow cut fluorescence, no streaming

642 - 652m Limestone: white - pale brown, cryptocrystalline, soft, earthy, clean, tight, no shows, interbedded with Limestone: medium brown, very fine crystalline, microcrystalline in part, moderately hard, vitreous, argillaceous, tight, no shows

652 - 664.2m Limestone: pale - medium brown, cryptocrystalline - microcrystalline, moderately hard, brittle in part, dull - vitreous in part, clean - slightly argillaceous, trace pyrobitumen, tight, rare poor inter-crystalline porosity, with rare possible live oil stain, predominantly poor slow pale milky cut with rare rapid milky yellow cut fluorescence with good streaming

HARE INDIAN 664.2m (-544.5m SS)

664.2 - 685m Siltstone: dark grey, frequently grading to very fine grained sandstone at top of interval, moderately hard, vitreous - micromicaceous, very calcareous, slightly argillaceous, trace pyrite, tight to rare poor intergranular porosity, no show, trace limestone, as before

F.T.D. 685m KB

DETAILED CORE DESCRIPTION

Core #1 547 - 553 m Cut 6m, Recovered 3.84m

Coring Times: (minutes/.20m)

20,58,11,12,4;	8,17,18,15,12;	15,13,15,16,8;
15,3,4,3,4;	5,9,7,15,15;	26,5,21,11,12

<u>Depth</u>	<u>Description</u>
547 - 548.23m	Limestone: medium - dark brown, very fine crystalline, massive - sucrosic, moderately hard, argillaceous vitreous, <u>tight, no direct fluorescence, no show, no visible fossils or structures, micrite.</u>
548.23 - 549.80m	Limestone: dark brown, occasional medium brown, very fine - fine crystalline, massive - sucrosic, moderately hard, vitreous, very argillaceous, argillaceous, occasional coarse calcite crystals, inclusions, <u>no direct fluorescence, no show, predominantly skeletal packstone.</u> Abundant <u>Stromatoporoids</u> : massive, tabular, variable sized (up to 15cm), randomly oriented and distributed, no apparent porosity, in Stroms or at fossil-matrix contacts, occasional vertical calcite veins.

549.80 - 550.72m Limestone; medium - dark brown, very fine crystalline, massive - sucrosic, slightly argillaceous, dull, very brittle and friable, tight - poor slow pale milky yellow cut fluorescence, no streaming; Predominantly skeletal packstone
Abundant Stromatopora; massive and colonial, some Amphipora, abundant stylolites at fossil-matrix contacts
Bottom 8cm of interval: limestone, as above, but very friable, good intercrystalline porosity, good porosity at fossil-matrix contact, abundant, coarse calcite crystals, poor slow pale milky yellow cut fluorescence, no streaming

550.72 - 550.84m Limestone Rubble; pale brown, very coarse crystalline in soft fine crystalline matrix, very very friable, very poorly indurated, very argillaceous excellent intercrystalline porosity, poor slow pale milky yellow cut fluorescence, poor streaming.
Abundant cobble-sized calcite crystals, suggesting very good vug porosity

CORE JAMMED AT 551.0m K.R.

Core #2: 553 - 555m K.R. Cut 2m, Recovered 2m

Coring Times: (minutes/20m)

12,10,10,16,16; 14,13,11,13,15

Depth

Description

553 - 555m Limestone; dark brown, occasional medium brown, very fine crystalline, moderately hard, massive - sucrosic in part, dull - vitreous in part, argillaceous with some pyrobitumen, tight; pale milky yellow cut fluorescence, rare streaming, possible massive live oil stain, skeletal packstone
Abundant Stromatopora; very large (up to 20cm) massive, tabular, with small individual stroma and rare Amphipora, occasional vertical - some calcite filled, some stylolites at fossil - matrix contact, rare fracture porosity along fossil - matrix contact, very rare pinpoint porosity in stroma, minor soft sediment deformation

CORE JAMMED at 555m K.R.

Core #3 555 - 573m Cut 18m, Recovered 18m

Coring times: (minutes/.20m)

10,19,14,11,15:	12,13,15,16,17:	15,15,18,15,12:
12,12,9,12,12:	14,10,11,11,10:	10,10,10,9,9:
11,13,10,10,10:	10,13,13,14,14:	14,13,13,13,13:
13,11,13,14,12:	14,14,14,15,14:	14,16,15,17,18:
19,18,21,16,15:	14,13,13,20,10:	10,11,11,10,10:
10,10,10,11,11:	13,16,20,21,22:	19,25,18,15,17

<u>Depth</u>	<u>Description</u>
555 - 560.57m	Limestone; medium - dark brown, very fine - fine crystalline, hard, dull - vitreous in part, <u>tight, very slow pale milky cut fluorescence - slow massive streaming</u> Predominantly Skeletal Packstone abundant <u>Stromatopora</u> ; massive and tabular, randomly distributed, some dendritic (individual) Stroms, <u>spotty vug porosity, rare porosity at fossil - matrix contact with rare oil bleeding, trace random calcite filled fractures</u>
560.57 - 564.86m	Limestone; medium brown, fine - medium crystalline, coarse crystalline patches, massive, slightly argillaceous, hard, dull - vitreous in part, occasional coarse calcite crystals, <u>even live oil stain, tight, rapid pale milky yellow cut fluorescence, with minor ribbony streaming, predominantly Skeletal Packstone grading to Skeletal Packstone in part</u>
564.86 - 568.57m	Occasional to abundant <u>Stromatopora</u> (up to 10cm) tabular, rare <u>Amphipora</u> , rare stylolites, rare <u>spotty oil bleeding, rare spotty bleeding along vertical fractures</u>
568.57 - 573.00m	Limestone; medium - dark brown, fine - occasional medium crystalline, occasional coarse crystalline patches, massive, hard, dull - vitreous in part, <u>even live oil stain, tight, pale yellow direct fluorescence, rapid pale milky yellow cut fluorescence with good rapid ribbony streaming, Skeletal Packstone abundant dendritic and some tabular Stromatopora, (all relatively small - 1cm) common stylolites (predominantly between Stroms) rare Amphipora</u>

568.57 - 571.49m Limestone; dark - very dark brown, fine - medium crystalline, becoming coarse crystalline in part, massive, sucrosic in part, some cryptocrystalline inclusions, hard, dull - vitreous in part, slightly argillaceous, tight; even live oil stain, straw gold color, direct fluorescence, milky yellow cut fluorescence with slow massive streaming. Skeletal wackestone occasional massive and tabular, Stromatoporoids, possible deformed in part, occasional stylolites, possible rare poor oil bleed.

571.49 - 573m Limestone; medium brown - dark brown in part, fine - occasional medium crystalline, massive - sucrosic in part, hard, dull vitreous, occasional medium crystalline calcite inclusions, slightly argillaceous, poor even live oil stain, tight, pale yellow direct fluorescence, very pale milky yellow cut fluorescence, rare streaming, skeletal packstone
Limestone; abundant tabular Stromatoporoids (up to 15cm), with equally abundant dendritic (individual) Stroms (1 - 2cm) both predominantly horizontally oriented, rare patches possible light oil bleed.

COHE
ANALYSIS

CORE ANALYSIS REPORT

AT&S EXPLORATION LTD.

AT&S TEXACO HAIDA CREEK 0-65 65-34-52/128-11-47

CB6-2625

1986-01-13

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

RESERVOIR STUDIES DIVISION

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

GENERAL INFORMATION

COMPANY: ATIS EXPLORATION LTD.
 WELL: ATIS TEXACO HAIDA CREEK 0-85
 LOCATION: A5-34-52/120-11-47
 FIELD: HAIDA CREEK
 FORMATION: KEE SCARP
 ELEVATION: RP: 119.70 M GRD: 115.20 M
 CORING FLUID: CHEMICAL GEL
 CORING EQUIPMENT: DIAMOND
 CORE DIAMETER: 0.087 M
 NO. OF CORES: 3
 TOTAL CORED: 26.40 M
 TOTAL RECOVERED: 24.24 M
 PERCENT RECOVERED: 91.82 %
 TOTAL TESTED: 0.00 M
 PERCENT TESTED: 0.00 %

LAB NO: C06-2625
 PAGE : 1
 DATE : 1986-01-13

CORE HANDLING AND ANALYSIS METHODS

Core transported in boxes.

REMARKS: No analysis required.

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

COMPANY : ATAS EXPLORATION LTD.
WELL : ATAS TEXACO HAIDA CREEK 0-85 85-34-52/120-11-47
FORMATION: KEE SCARP
CURED INTERVAL: 547.00 - 573.40

LAB NO: C06-2625
PAGE : 7
DATE : 1986-01-13

CORE ANALYSIS DATA REPORT

[illegible]

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

COMPANY: ATIS EXPLORATION LTD.

LAB NO: C36-2625

WELL : ATIS TEXACO HAIDA CREEK G-65 45-34-02/129-11-47

DATE : 1980-11-13

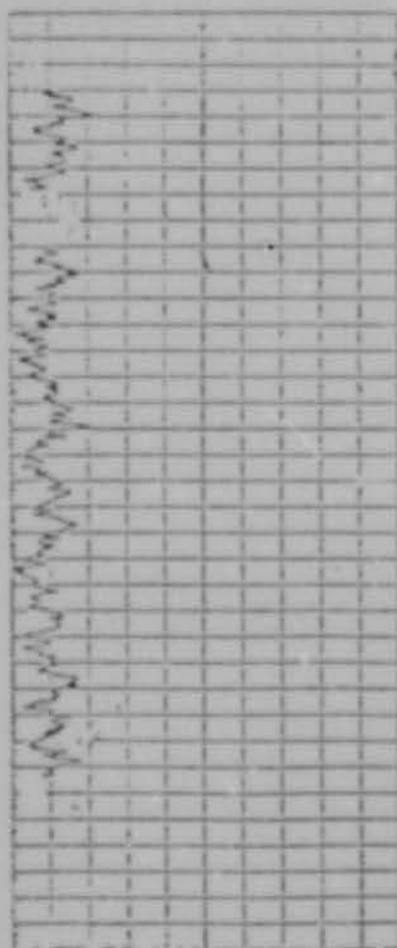
FIG : 1

GAMMA RAY LOG

VERTICAL SCALE 1:240

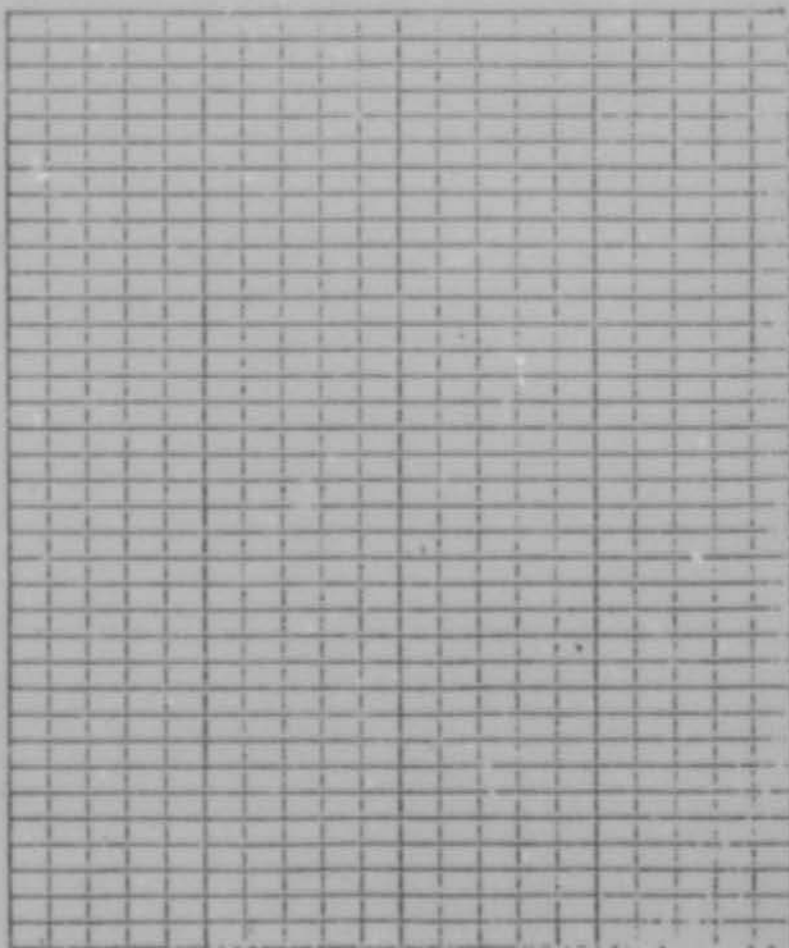
T.C. 75 SEC.

SENS. 6000 CPM



547.00

573.40

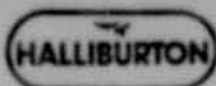


CHEMICAL & GEOLOGICAL LABORATORIES LIMITED

CORE DESCRIPTION SYMBOLS

abot	Abundant	frag	Fragment (sl)	phos	Phosphate (ic)	tex	Texture
Amph	Asphipora	fri	Friable	pk	Pink	tham	Thamopora
ang	Angular			pl	Plant	thk	Thick
anh	Anhydrite (ic)	g	Good	plg	Plug	thin	Thin
aren	Arenaceous	glau	Glaucanite (ic)	plnr	Planar	thru	Throughout
arg	Argillaceous	gn	Green	por	Porous (sity)	tr	Trace
		gr	Grain (ed)	p-o	Pin Point	tt	Tight (ly)
bd	Bed	gran	Granular	pred	Predominant (ly)	uncons	Unconsolidated
bdd	Bedded	grdg	Grading	pt	Part (ly)	unident	Unidentifiable
bdg	Bedding	grnl	Granule	ptsl	Paper-Thin Shale Laminations		
bf	Buff	grnt	Granite	purp	Purple		
biocl	Bioclastic	gy	Grey	pyr	Pyrite (ic) (fzcd)	v	Very
biot	Biotite			pyrbil	Pyrobitumen	var	Variable
bioturb	Bioturbated	hrtl	Horizontal			vcol	Varicolored
bit	Bitumen (inous)	HF	Horizontal Fracture	qtz	Quartz	VF	Vertical Fracture
blk	Black					vtl	Vertical
Brac	Brachiopod	incr	Increase (ing)	ran	Random	vug	Vug (gy) (ular)
brn	Brown	intbd	Interbedded	rd	Round (ed)		
bur	Burrow (ed)	intgran	Intergranular	repl	Replaced (ing) (ment)	/	With
		intlam	Interlaminated	rexl	Recrystalline (atlop)	w	Well
c	Coarse (ly)	intxl	Intercrystalline	RF	Random Fracture	wh	White
calc	Calcite (areous)	intv	Interval	rip	Ripple	wvy	Wavy
carb	Carbonaceous	ireg	Irregular	rr	Rare	wxy	Waxy
chl	Cobble (64-256 mm)			rthy	Earthy		
chl	Conglomerate	kao	Kaolin			xbd	Cross-bedded
cht	Chert			s	Small	xbdg	Cross-bedding
cl	Clast	lam	Laminated	sa	Salt	xl	Crystal (line)
cln	Clean	len	Lentil (cular)	s&p	Salt & Pepper	xlam	Cross-laminated
clt	Clay (ey)	ltg	Large (er)	sb	Sub		
cmt	Cement (ed)	ls	Limestone	scat	Scattered	*	Broken Core (K90 used summary purpose)
coq	Coquina	lse	Loose	sd	Sand (1/16-2 mm)	**	Permeability >10,240 md
Cor	Coral			sdv	Sandy		
crbnt	Carbonate	m	Medium	sec	Secondary		
Crin	Crinoid (sl)	mar	Maroon	sed	Sediment (ary)	**	Permeability >10,240 md
crpxl	Cryptocrystalline	mas	Massive	sft	Soft	<.01	Permeability less than 0.01
		md	Mod	sh	Shale		
decr	Decrease (ing)	mic	Micro	shy	Shaly		
diam	Disseminated	mica	Mica (eous)	sld	Siderite		
dk	Dark (er)	min	Minor	sl	Silica (eous)		
dns	Dense	minl	Mineral (ized)	sl	Slight (ly)	DE	Dense
dol	Dolomite (ic)	mtl	Mottled	slt	Silt	DR	Drilled
		mtx	Matrix	silst	Siltstone	LC	Lost Core
elg	Elongate	musc	Muscovite	slty	Silty	NA	Not Analyzed
				SP	Small Plug	RU	Rubble
f	Fine (ly)	n	No, none, not	ert	Sort (ed) (ing)		
Fe-st	Ironstone	nod	Nodules	ss	Sandstone	Cum	Cumulative
fla	Flasile			Strom	Stromatoporeid	Frac	Fraction
fl	Fill (ed)	occ	Occasional	stromit	Stromatolite	KV	Vertical Permeability
fld	Feldspar (thic)	ool	Oolite (ic)	styl	Stylolite (ic)	MI-M	Millidarcy Metre
fos	Fossil (iferous)			suc	Sucrosia	Por-M	Porosity Metre
fr	Fair	p	Four (ly)	sz	Size	Resid	Residual
frac	Fracture (ed)	pbl	Pebble			Rng	Range
						Smpl	Sample
						Thickness	Representative Thickness
						Wt. Avg.	Weighted Average

TESTERS	A. Barlow
WITNESS	E. Staroszk
DRILLING EQUIPMENT	Jade #5



FORMATION TESTING
DATA SHEET

REFER TO NOTICE NO.	68 450
DATE OF TEST	86-01-04
TEST NO.	1
WELL TYPE	Hydroflate Bottom Hole

PRESSURE SUMMARY APS

GAUGE NUMBER	3994	7817	3346			
GAUGE DEPTH	535.73	536.98	551.92			
RELEASED (PSI)	NEW NO.	NEW NO.	475 NO.	YES NO.	YES NO.	YES NO.
WELL CLOSURE (PSI)	24	24	12			
INITIAL HYDROSTATIC	6026	6044	6046			
FLUX	632	766	2808			
FLUX	1588	1547	2749			
TEST CLOSED IN	5217	5214	5359			
FLUX	1046	2030	2068			
FLUX	3809	3274	3467			
TEST CLOSED IN	5163	5154	5288			
FLUX						
FLUX						
TEST CLOSED IN						
FLUX						
FINAL HYDROSTATIC	6029	6022	6230			

TIME PERIODS

	PREP	SALINE	TEST	TIME
FLUX	10	60	TESTER JADE (DRILLING)	11:04
CLOSED IN	176	175	TESTER UNTESTED	17:25

EQUIPMENT AND WELL DATA

FORMATION TESTER	Key Scard	TEMP. REC. AL DEPTH	5/A	IN
NOT RECORDED TESTER		MOI TYPE	Ge1 Chemical	IN
WELL ELEVATION	119.7	MOI DEPTH	1165	55
ALL DEPTH RECORDED FROM	X	AS GROUND	222	IN
DEPTH STARTING	549	DEPTH STOP		IN
DEPTH OF TESTER VALVE	591.03	DEPTH STOP	114.3	24.7
DEPTH PERFORATED INTERVAL	N/A	DEPTH STOP	73	130.89
TOTAL DEPTH	673	DEPTH STOP	25.4	IN
DEPTH AND TYPE CLOSURE	N/A	DEPTH STOP	19.05	IN

LIQUID RECOVERY DATA

TIME	RECOVERY DATA
48	Gasified mud.
93	Gasified muddy water.
189	Gasified water.
230	TOTAL LIQUID RECOVERY

SAMPLE DATA

OF-UNSATURATED	W
OF-UNSATURATED	W
REFRACTOMETER/RELATIVE DENSITY	
RECOVERY WATER	W
CALCULATED CONTENT	W

SAMPLE SHIPPED TO LABORATORY	YES	NO
SAMPLE NO.	81	X
USE SAMPLE BOTTLE NO.		X
LABORATORY	C and G (Calgary)	

REMARKS

WELL NO.	AT A S E E 1/4 SECTION 1 T1N.
WELL DEPTH	60-51-21.00
WELL TYPE	N.A.T.
WELL NAME	MAIDA CREEK
WELL LOCATION	549 - 573

DATE AND TIME	CHOKE SIZE	SURFACE PRESSURE	GAS RATE	LIQUID RATE	REMARKS
00:00:24:00	(inches)	(kPa)	(m ³ /day)	(m ³ /day)	
05:30					Make up DST #1.
07:45					Run tool in.
09:45					Head up.
10:35					Set packers.
11:04					Tool open for Preflow: Strong air blow in bucket immediately remaining steady throughout flow.
11:14					Shut tool in.
14:10					Valve Open: Fair blow increasing to bottom of bucket in 30 seconds. Gas to surface in 20 minutes. Approximately 0.3 m flame in pit steady. Too small to measure.
15:10					Shut tool in.
17:25					Full packers loose.
17:35					Thaw out rig lines.
20:00					Full tool out.
23:00					Tool to surface.
23:10					Recover recorders.
23:40					Lay tool down.

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SPECIAL PRESSURE DATA

DATE: 06-01-84

TICKET # 68449

* Gauge Number : 3346. *
* Gauge Depth : 552. m *
* Time of Flow : 10.0 min. *
* Final Pressure : 2740.0 kPa. *

Initial Hydrostatic Pressure = 6245.6 kPa

Final Hydrostatic Pressure = 6210.2 kPa

GAUGE 1, FLOW 1

	Time Deflection (in)	Time (minutes)	Pressure (kPa)
1.	0.0000	0.0	2607.5
2.	0.0366	5.0	2757.1
3.	0.0735	10.0	2740.0

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GAUGE 1, CIP 1

	Time Deflection (in)	Time (minutes)	Load Log ----- dl	Pressure (lPa)
1.	0.0131	2.0	0.7055	4734.3
2.	0.0270	4.0	0.5410	3371.6
3.	0.0408	6.0	0.4267	4145.3
4.	0.0534	8.0	0.3525	4200.1
5.	0.0670	10.0	0.3005	4373.7
6.	0.0804	12.0	0.2620	4453.5
7.	0.1004	15.0	0.2216	4540.2
8.	0.1335	20.0	0.1763	4712.7
9.	0.1660	25.0	0.1463	4840.7
10.	0.2000	30.0	0.1240	4921.1
11.	0.2340	35.0	0.1091	4991.9
12.	0.2674	40.0	0.0969	5053.0
13.	0.3009	45.0	0.0871	5090.7
14.	0.3340	50.0	0.0792	5126.0
15.	0.3679	55.0	0.0725	5160.2
16.	0.4000	60.0	0.0670	5192.1
17.	0.4601	70.0	0.0500	5239.3
18.	0.5350	80.0	0.0311	5264.0
19.	0.6015	90.0	0.0450	5289.7
20.	0.6605	100.0	0.0414	5300.4
21.	0.7353	110.0	0.0370	5316.7
22.	0.8023	120.0	0.0340	5326.4
23.	0.8689	130.0	0.0322	5336.7
24.	0.9356	140.0	0.0300	5345.0
25.	1.0026	150.0	0.0260	5349.5
26.	1.0694	160.0	0.0263	5352.1
27.	1.1359	170.0	0.0240	5355.3
28.	1.1763	176.0	0.0240	5358.6

HALLIBURTON SERVICES LIMITED

SPECIAL PRESSURE DATA

DATE: 96-01-04

TICKET # 60440

* Gauge Number : 3346. *
* Gauge Depth : 552. m *
* Time of Flow : 60.0 min. *
* Final Pressure : 3467.3 kPa. *

GAUGE 1, FLOW 2

	Time Deflection (in.)	Time (minutes)	Pressure (kPa.)
1.	0.0001	0.0	2060.0
2.	0.0341	5.0	2709.0
3.	0.0602	10.0	2774.3
4.	0.1070	15.0	2763.9
5.	0.1361	20.0	2816.4
6.	0.1706	25.0	2899.9
7.	0.2044	30.0	2976.4
8.	0.2302	35.0	3065.0
9.	0.2724	40.0	3164.4
10.	0.3067	45.0	3250.4
11.	0.3405	50.0	3326.9
12.	0.3745	55.0	3400.2
13.	0.4087	60.0	3467.3

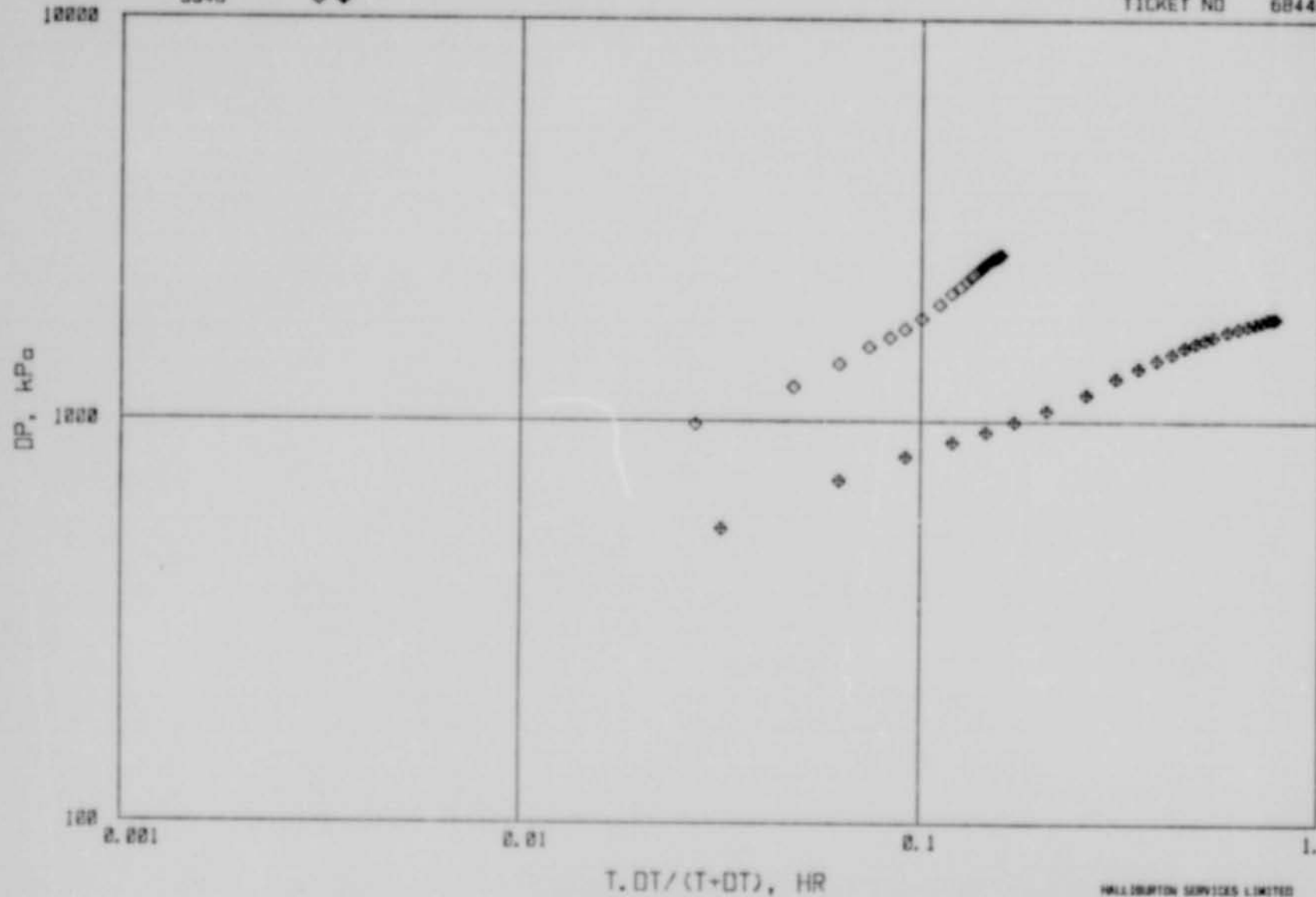
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GAUGE 1, CIP 2

	Time Deflection (in)	Time (minutes)	1/dt Log ---- dt	Pressure (kPa)
1.	0.0133	2.0	1.5654	4007.7
2.	0.0269	4.0	1.2715	4101.3
3.	0.0405	6.0	1.1054	4206.2
4.	0.0544	8.0	0.9807	4350.2
5.	0.0677	10.0	0.9045	4412.9
6.	0.0818	12.0	0.8135	4470.8
7.	0.1020	15.0	0.7531	4539.0
8.	0.1359	20.0	0.6532	4641.9
9.	0.1703	25.1	0.5790	4757.7
10.	0.2042	30.0	0.5224	4834.3
11.	0.2379	35.0	0.4771	4899.2
12.	0.2720	40.0	0.4392	4952.6
13.	0.3055	45.0	0.4077	5010.5
14.	0.3399	50.0	0.3801	5049.8
15.	0.3738	55.0	0.3565	5081.3
16.	0.4074	60.0	0.3369	5107.0
17.	0.4457	70.0	0.3010	5150.5
18.	0.5434	80.0	0.2731	5187.4
19.	0.6117	90.0	0.2498	5214.5
20.	0.6793	100.0	0.2305	5236.3
21.	0.7474	110.0	0.2139	5255.6
22.	0.8155	120.0	0.1996	5281.4
23.	0.8834	130.0	0.1871	5295.2
24.	0.9174	135.0	0.1814	5297.8

GAUGE NO CIP 1 2
3346 $\diamond$ $\oplus$

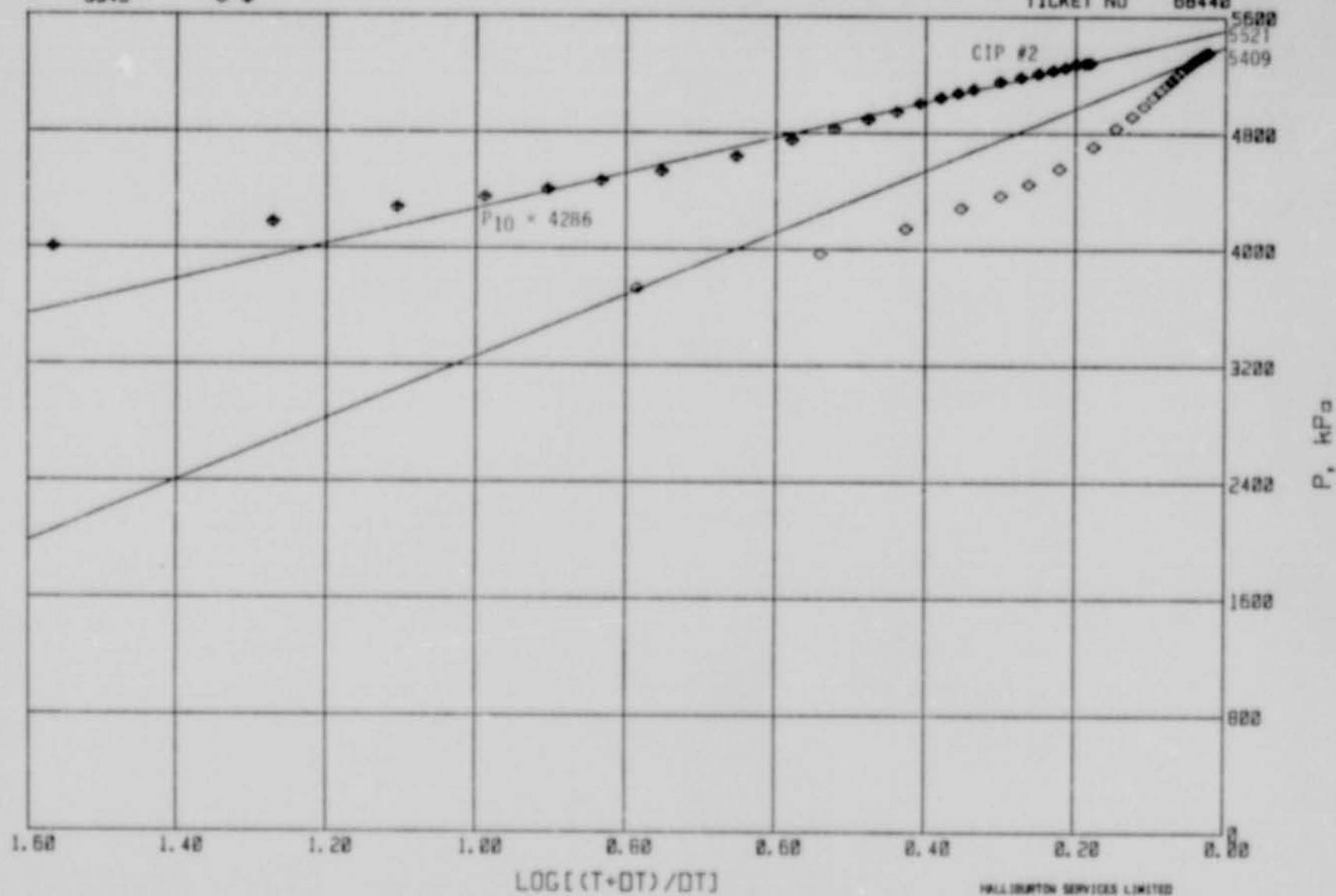
TICKET NO 68448



HALLIBURTON SERVICES LIMITED

GAUGE NO CIP 1 2
3346 ○ +

TICKET NO 68448



HALLIBURTON SERVICES LIMITED

		O.D. (mm)	I.D. (mm)	LENGTH(m)	DEPTH(m)
3	DRILL COLLARS.....	159.0	73.0	112.66	
50	IMPACT REVERSING SUB.....	159.0	73.0	0.31	
3	DRILL COLLARS.....	159.0	73.0	18.23	
5	CROSSOVER.....	159.0	73.0	0.31	
60	HYDROSPRING TESTER.....	127.0	19.1	2.54	531.03
14	EXTENSION JOINT.....	127.0	25.4	2.16	
80	AP RUNNING CASE.....	127.0	57.2	1.25	535.73
80	AP RUNNING CASE.....	127.0	57.2	1.25	536.98
15	JAR.....	127.0	44.5	1.52	
16	VR SAFETY JOINT.....	127.0	25.4	1.06	
26	PUMP ASSEMBLY.....	127.0	22.3	2.15	
27	SCREEN ASSEMBLY.....	127.0	25.4	1.34	
11	HYDROFLATE PRESSURE LIMITER.....	127.0	25.4	1.25	
13	HYDROFLATE SAFETY JOINT.....	127.0	25.4	1.55	
74	TOP HYDROFLATE PACKER.....	171.5	26.9	2.55	549.00
28	PORT ASSEMBLY.....	127.0		1.03	
22	BLANK ANCHOR.....	127.0	57.2	0.93	
5	CROSSOVER.....	127.0	57.0	0.31	
97	BELLY SP W/BLANK OFF RECORDER.....		57.2	1.25	551.92
5	CROSSOVER.....	127.0	57.0	0.31	
5	CROSSOVER.....	159.0	73.0	0.31	
3	DRILL COLLARS.....	159.0	73.0	18.99	
5	CROSSOVER.....	159.0	73.0	0.31	

EQUIPMENT DATA



CHEMICAL & GEOLOGICAL LABORATORIES LTD.



WATER ANALYSIS

C86-2849-5

65-34-52/128-11-47

AT&S EXPLORATION LTD.

AT&S Texaco Maida Creek 0-65

119.7

Maida Creek

Kee Scarp

Halliburton

DST 1

48 m gasified mud; 93 m gasified muddy water;
189 m gasified water

19 M Above Tool

549 - 573

1986-01-09

1986-01-13

1986-01-20

S. Sargious

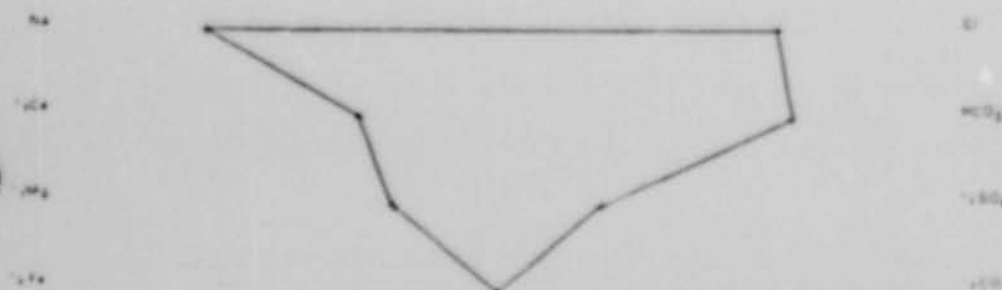
CON	WATER	Mass	WATER	CON	WATER	Mass	WATER	TOTAL SOLIDS	WATER
WATER	WATER	Fraction	WATER	WATER	WATER	Fraction	WATER	WATER	WATER
Na	5 930	0.2927	257.95	Cl	3 600	0.1777	101.52	15 510	20 262
K	35	0.0017	0.90					14 790	
Ca	70	0.0035	1.75					ORGANICS: TRACE	
Mg	18	0.0009	0.74	NO ₃	10 550	0.5206	173.02	1.011	1.3356
				NO ₂	59	0.0029	0.62	0.000	0.000
				SO ₄	0	0.0000	0.00	7.9	23.0
				CO ₃	0	0.0000	0.00	0.489	
Fe	TRACE								

H₂ NIL

REMARKS

Clear, colorless filtrate
recovered from a sample
containing approximately
10% sediment.

LOGARITHMIC PATTERN



AT&S EXPLORATION LTD.

LAB REPORT NO: C86-2849

C86-2849-2 TOP OF FLUID - 330 M ABOVE TOOL

Resistivity: 1.31 ohm m @ 25°C.

Clear, colorless filtrate recovered from mud.

C86-2849-3 282 M ABOVE TOOL

Resistivity: 0.607 ohm m @ 25°C.

Clear, colorless filtrate recovered from a sample containing approximately 70% sediment.

C86-2849-4 189 M ABOVE TOOL

Resistivity: 0.515 ohm m @ 25°C.

Clear, colorless filtrate recovered from a sample containing approximately 10% sediment.

C86-2849-6 DRAINED FROM BOTTOM HOLE SAMPLER

Resistivity: 0.498 ohm m @ 25°C.

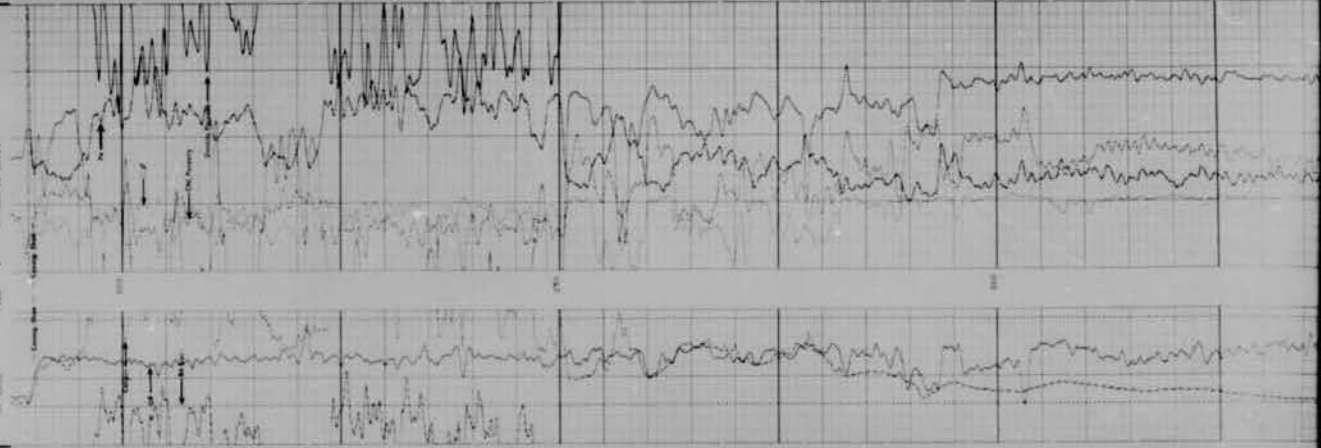
Clear, colorless filtrate recovered from a sample containing approximately 10% sediment.

C86-2849-1 BUBBLE HOSE (GAS)

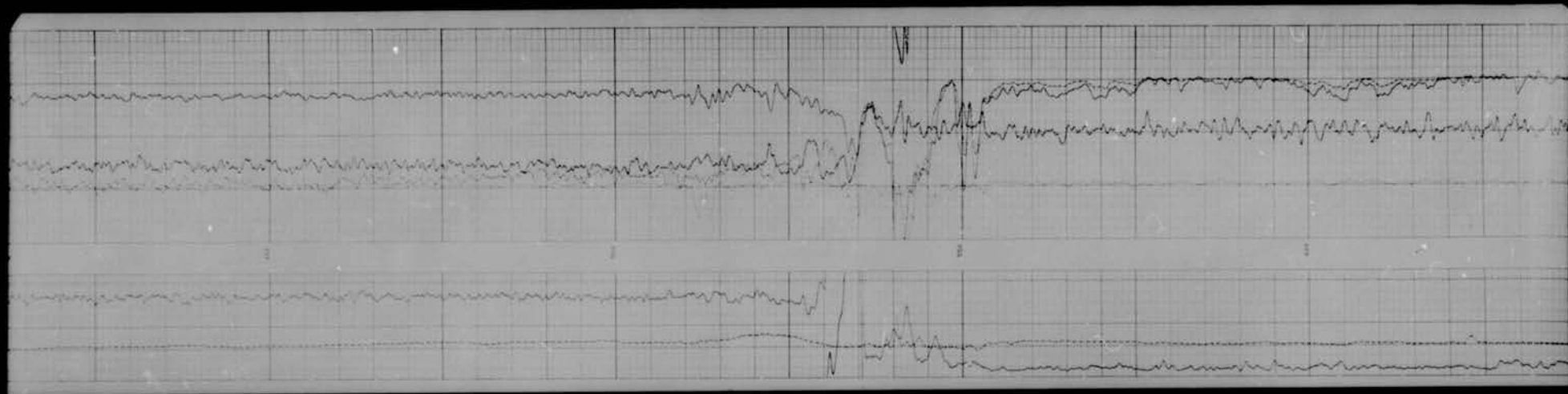
Insufficient sample for analysis.

111720000
A00025111

E-10025

[illegible]





5.4



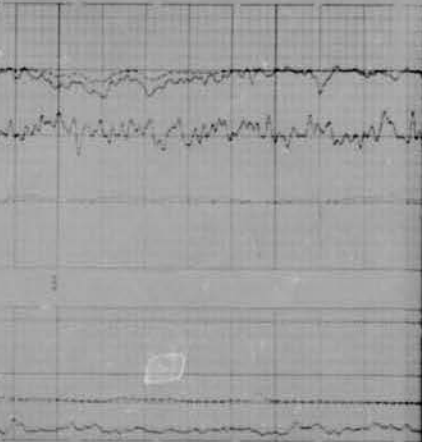
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100.0	10.0	0.0	0.0000	0.0000	0.0000
10.0	1.0	0.0	0.0000	0.0000	0.0000
1.0	0.1	0.0	0.0000	0.0000	0.0000
0.1	0.01	0.0	0.0000	0.0000	0.0000
0.01	0.001	0.0	0.0000	0.0000	0.0000
0.001	0.0001	0.0	0.0000	0.0000	0.0000
0.0001	0.00001	0.0	0.0000	0.0000	0.0000

1000.0 METER
 100.0 METER
 10.0 METER
 1.0 METER
 0.1 METER
 0.01 METER
 0.001 METER
 0.0001 METER
 0.00001 METER

NAME	VALUE	UNIT
TIME	0.0000	SEC
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NAME	VALUE	UNIT
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DATE	0.0000	SEC

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 1.0 METER
 0.1 METER
 0.01 METER
 0.001 METER
 0.0001 METER
 0.00001 METER



6.8

Schlumberger

PHOTO-ELECTRIC INTERPRETATION CHART



CALCULATION METHOD

PROGRAM: 95-DEC-85 11:48

PROGRAM FILE: 95-DEC-85 11:48

DATE: 95-DEC-85 11:48

TIME: 95-DEC-85 11:48

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Schwarzbürgerger

[illegible][illegible][illegible]

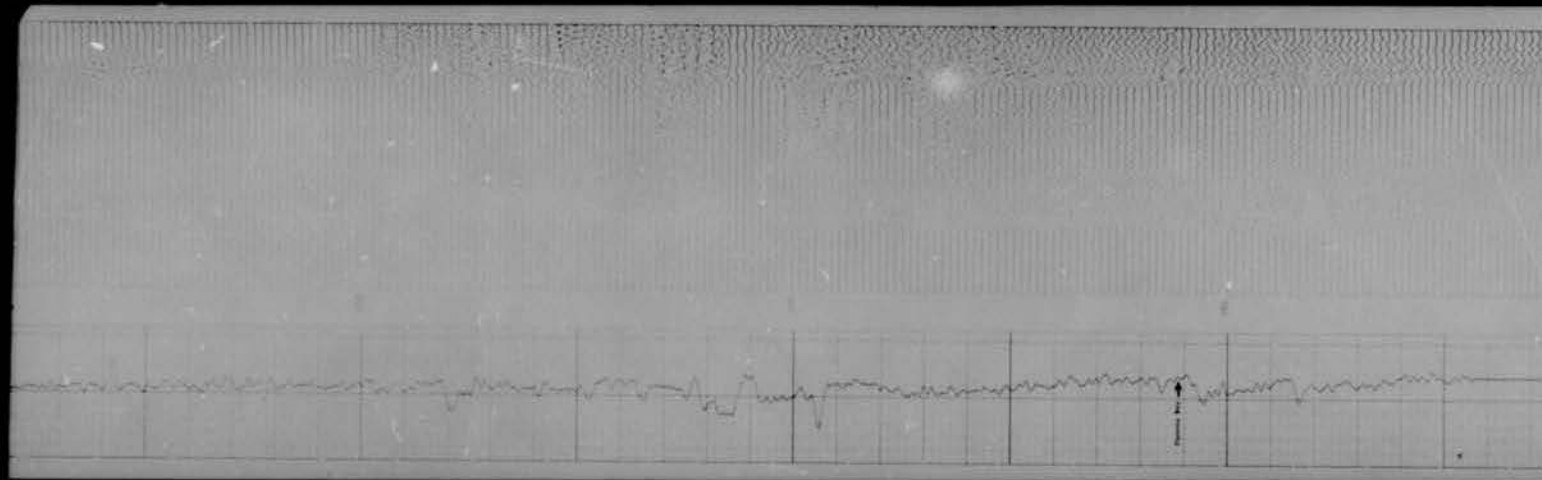
Abstract

new (single) members =

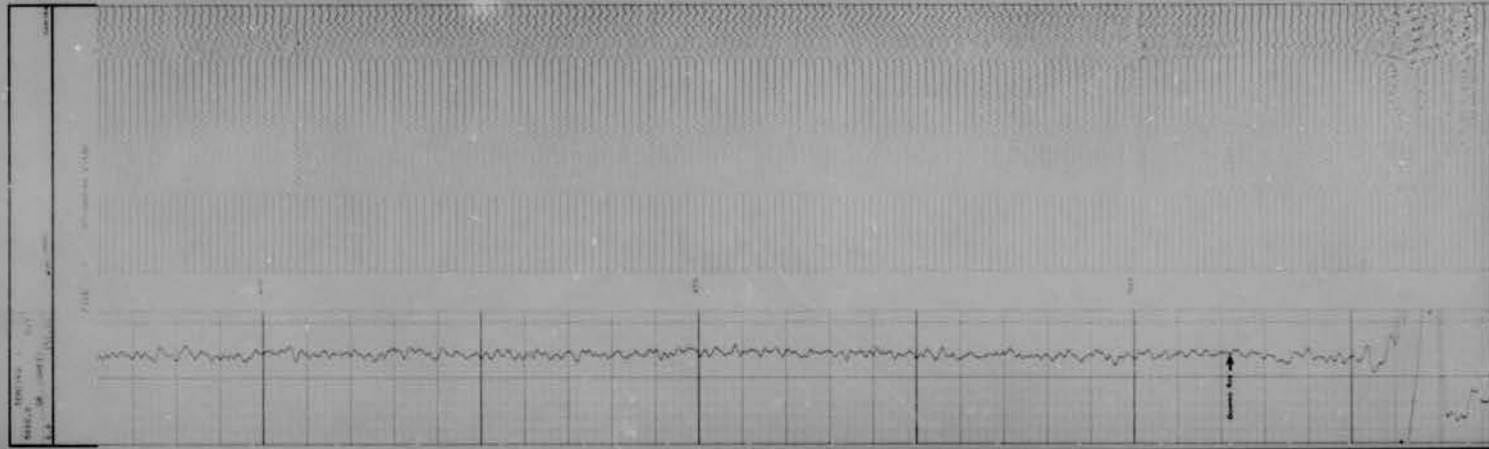
SLC 1104	SLC 120	SLC 1204
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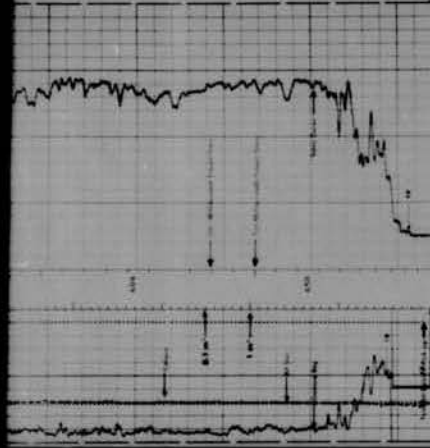
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50.0	WAVELENGTH	1.0
5.0	WAVELENGTH	10.0



Patient Name: [REDACTED]		Date: [REDACTED]	
Physician: [REDACTED]		Ref: [REDACTED]	
ECG Lead: [REDACTED]		ECG Type: [REDACTED]	
ECG Date: [REDACTED]		ECG Time: [REDACTED]	
ECG Rate: [REDACTED]		ECG Rhythm: [REDACTED]	
ECG Interpretation: [REDACTED]		ECG Comments: [REDACTED]	
ECG Signature: [REDACTED]		ECG Stamp: [REDACTED]	





FILE 2 07-000-05-0104

DATA ACQUIRED 07-000-00 1000

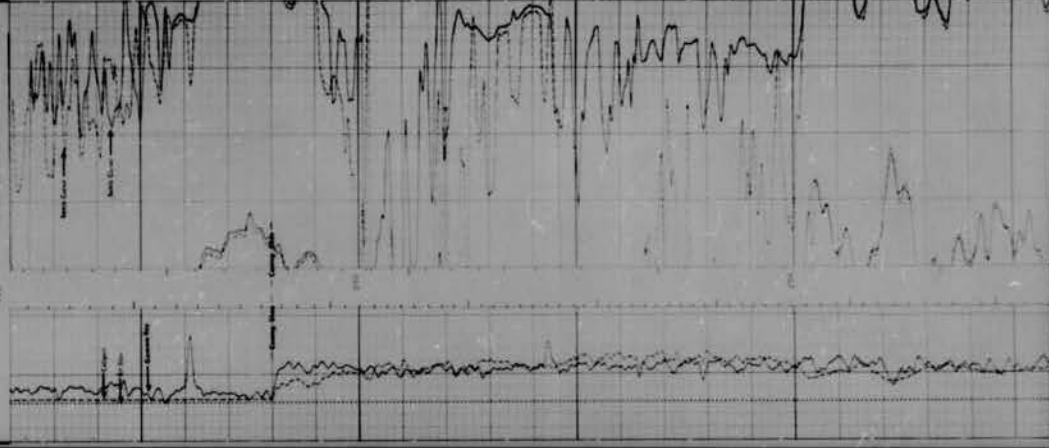
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TENS. 00	0.0
COM. 00	400.00
OP. 10000	100.00
ST. 000	0.0

NAME	VALUE	UNIT
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TENS. 00	0.0	0.0
COM. 00	400.00	0.0
OP. 10000	100.00	0.0
ST. 000	0.0	0.0

NAME	VALUE	UNIT
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TENS. 00	0.0	0.0
COM. 00	400.00	0.0
OP. 10000	100.00	0.0
ST. 000	0.0	0.0

NAME	VALUE	UNIT
ST. 000	400.00	0.0
TENS. 00	0.0	0.0
COM. 00	400.00	0.0
OP. 10000	100.00	0.0
ST. 000	0.0	0.0

NAME	VALUE	UNIT
ST. 000	400.00	0.0
TENS. 00	0.0	0.0
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2.5



7-6

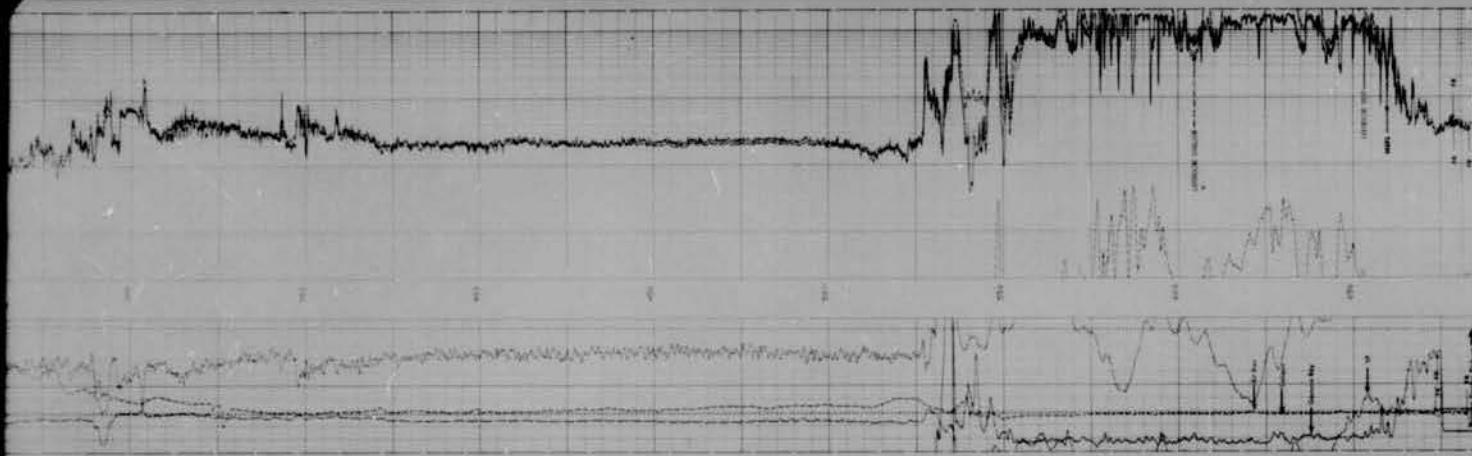
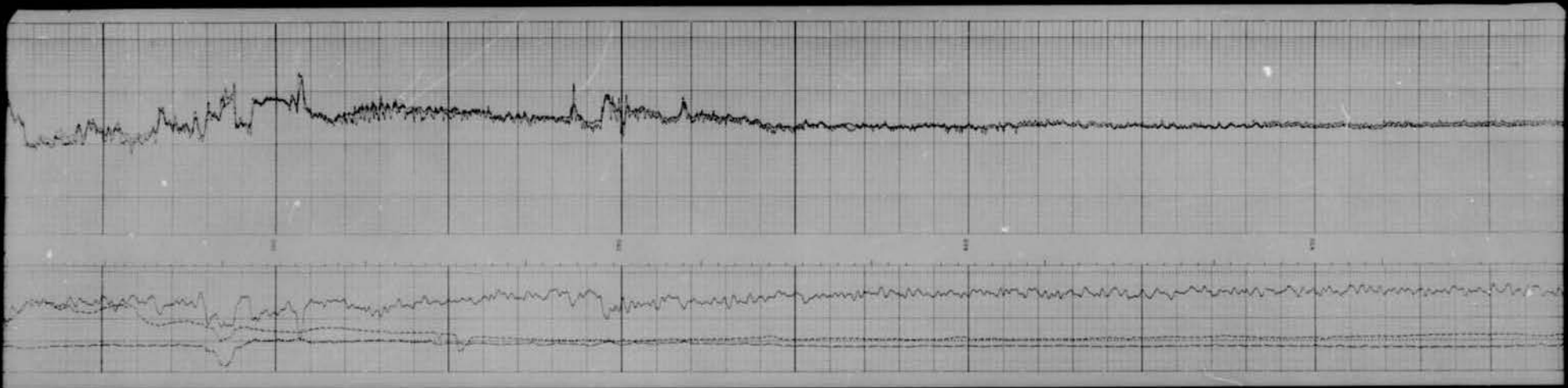
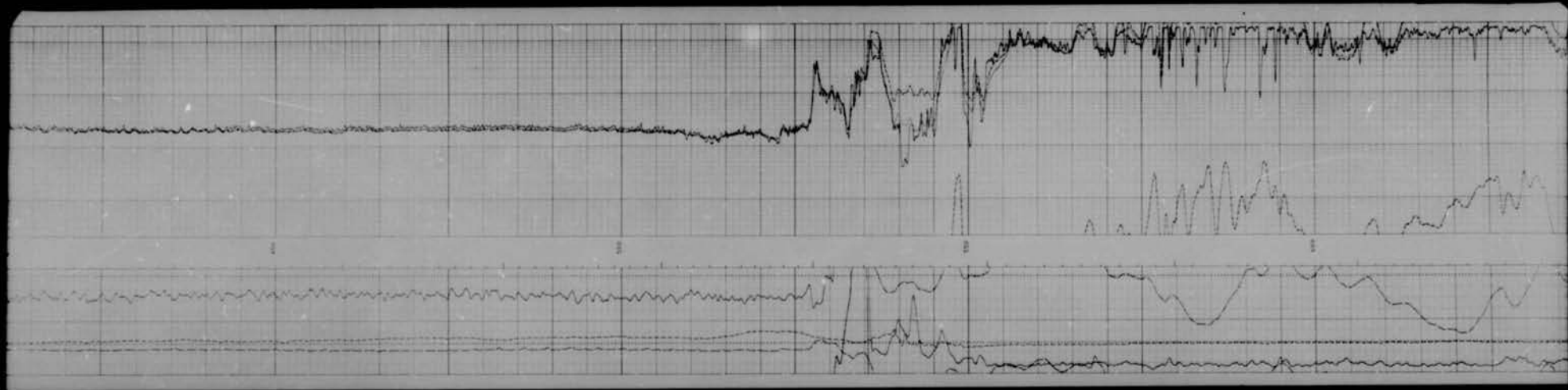


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Year	Value	Year	Value	Year	Value	Year	Value
1960	100.0	1960	100.0	1960	100.0	1960	100.0
1961	105.0	1961	105.0	1961	105.0	1961	105.0
1962	110.0	1962	110.0	1962	110.0	1962	110.0
1963	115.0	1963	115.0	1963	115.0	1963	115.0
1964	120.0	1964	120.0	1964	120.0	1964	120.0
1965	125.0	1965	125.0	1965	125.0	1965	125.0
1966	130.0	1966	130.0	1966	130.0	1966	130.0
1967	135.0	1967	135.0	1967	135.0	1967	135.0
1968	140.0	1968	140.0	1968	140.0	1968	140.0
1969	145.0	1969	145.0	1969	145.0	1969	145.0
1970	150.0	1970	150.0	1970	150.0	1970	150.0
1971	155.0	1971	155.0	1971	155.0	1971	155.0
1972	160.0	1972	160.0	1972	160.0	1972	160.0
1973	165.0	1973	165.0	1973	165.0	1973	165.0
1974	170.0	1974	170.0	1974	170.0	1974	170.0
1975	175.0	1975	175.0	1975	175.0	1975	175.0
1976	180.0	1976	180.0	1976	180.0	1976	180.0
1977	185.0	1977	185.0	1977	185.0	1977	185.0
1978	190.0	1978	190.0	1978	190.0	1978	190.0
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4 2

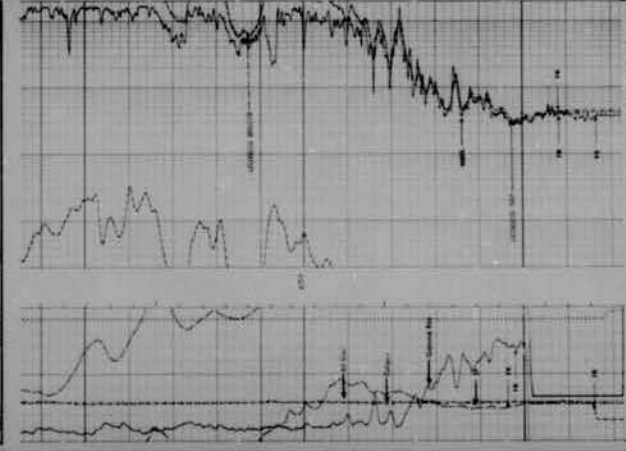


5.4



FILE 0 07-100-07 1010

TIME	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0
AMPLITUDE	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0



FILE 7 07-100-07 1010

TIME	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0
AMPLITUDE	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0

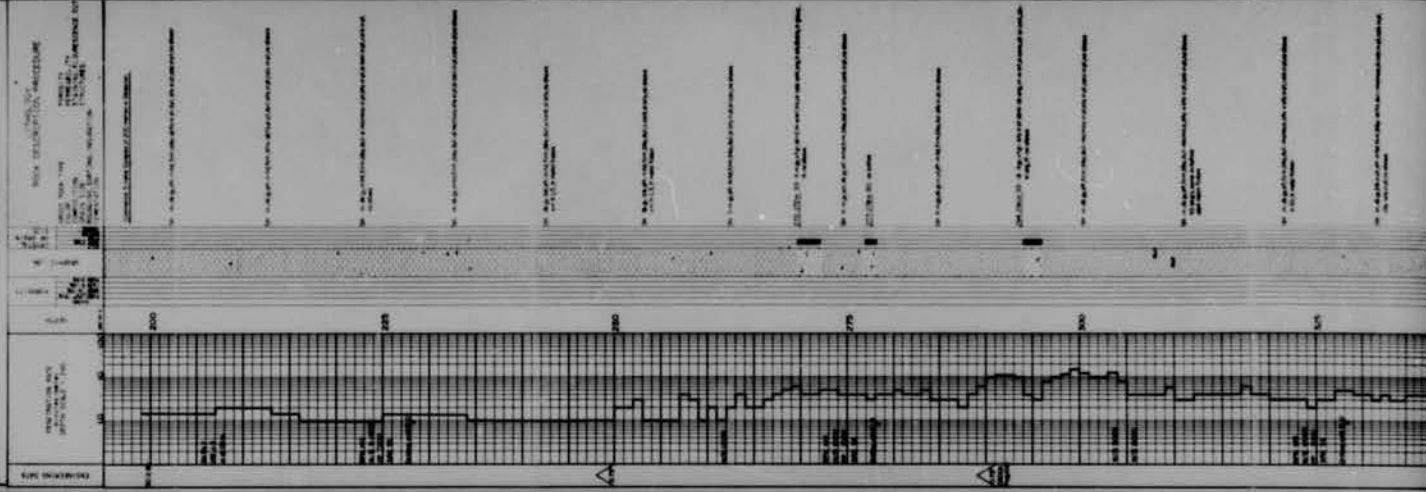
6.8

SAMPLE AND CORE LOG

DATE	DESCRIPTION	AMOUNT	BALANCE
10/1/80	OPENING BALANCE	100.00	100.00
10/15/80	PAYROLL	50.00	50.00
10/20/80	RENT	25.00	25.00
10/25/80	SALES	75.00	100.00
10/30/80	PAYROLL	50.00	50.00
11/5/80	RENT	25.00	25.00
11/10/80	SALES	75.00	100.00
11/15/80	PAYROLL	50.00	50.00
11/20/80	RENT	25.00	25.00
11/25/80	SALES	75.00	100.00
12/1/80	CLOSING BALANCE	100.00	100.00

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Customer Trade Area: 110,000



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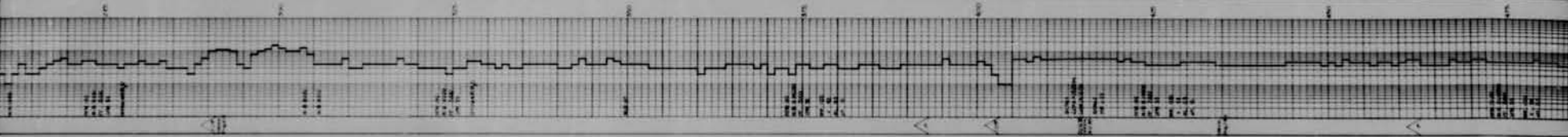
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1. Name of project: _____

2. Date of survey: _____
 3. Name of surveyor: _____
 4. Name of engineer: _____
 5. Name of checker: _____

6. Name of contractor: _____

7. Name of owner: _____

8. Name of designer: _____

9. Name of estimator: _____

10. Name of quantity surveyor: _____

11. Name of architect: _____

12. Name of structural engineer: _____

13. Name of mechanical engineer: _____

14. Name of electrical engineer: _____

15. Name of civil engineer: _____

16. Name of chemical engineer: _____

17. Name of industrial engineer: _____

18. Name of agricultural engineer: _____

19. Name of forest engineer: _____

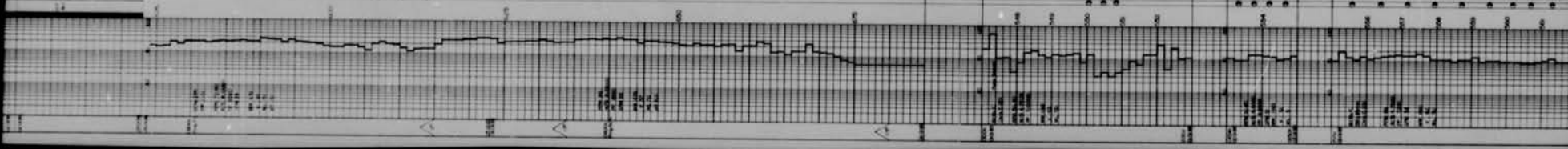
20. Name of marine engineer: _____

21. Name of aeronautical engineer: _____

22. Name of astronautical engineer: _____

23. Name of nuclear engineer: _____

24. Name of other engineer: _____



15. Name of civil engineer: _____

16. Name of chemical engineer: _____

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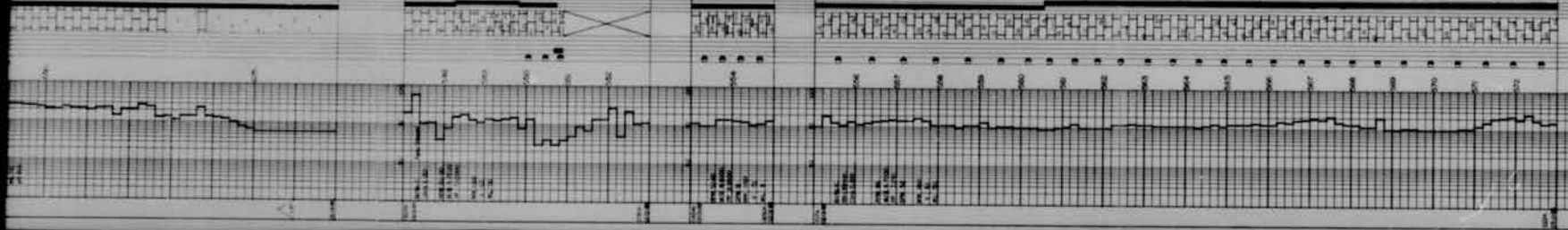
20. Name of marine engineer: _____

21. Name of aeronautical engineer: _____

22. Name of astronautical engineer: _____

23. Name of nuclear engineer: _____

24. Name of other engineer: _____



1. The first section shows a profile with a peak around 100. The second section shows a profile with a peak around 150. The third section shows a profile with a peak around 200. The fourth section shows a profile with a peak around 250. The fifth section shows a profile with a peak around 300. The sixth section shows a profile with a peak around 350. The seventh section shows a profile with a peak around 400.

2. The second section shows a profile with a peak around 150. The third section shows a profile with a peak around 200. The fourth section shows a profile with a peak around 250. The fifth section shows a profile with a peak around 300. The sixth section shows a profile with a peak around 350. The seventh section shows a profile with a peak around 400.

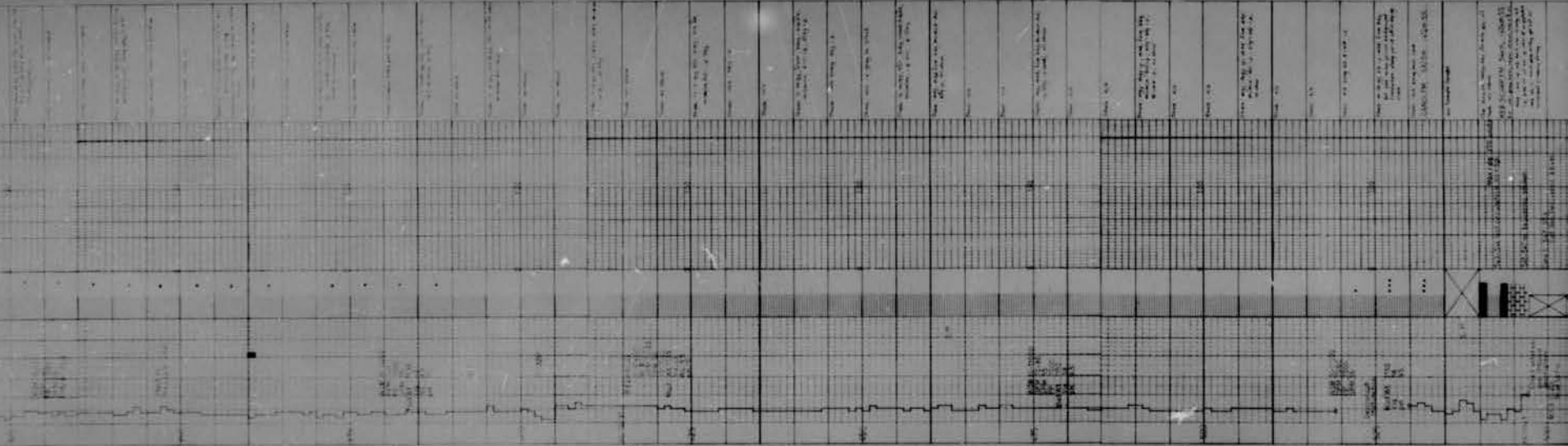
3. The third section shows a profile with a peak around 200. The fourth section shows a profile with a peak around 250. The fifth section shows a profile with a peak around 300. The sixth section shows a profile with a peak around 350. The seventh section shows a profile with a peak around 400.

4. The fourth section shows a profile with a peak around 250. The fifth section shows a profile with a peak around 300. The sixth section shows a profile with a peak around 350. The seventh section shows a profile with a peak around 400.

5. The fifth section shows a profile with a peak around 300. The sixth section shows a profile with a peak around 350. The seventh section shows a profile with a peak around 400.

6. The sixth section shows a profile with a peak around 350. The seventh section shows a profile with a peak around 400.

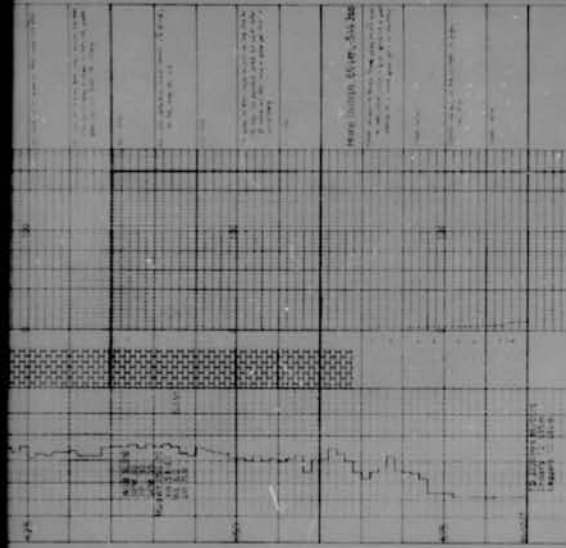
7. The seventh section shows a profile with a peak around 400.



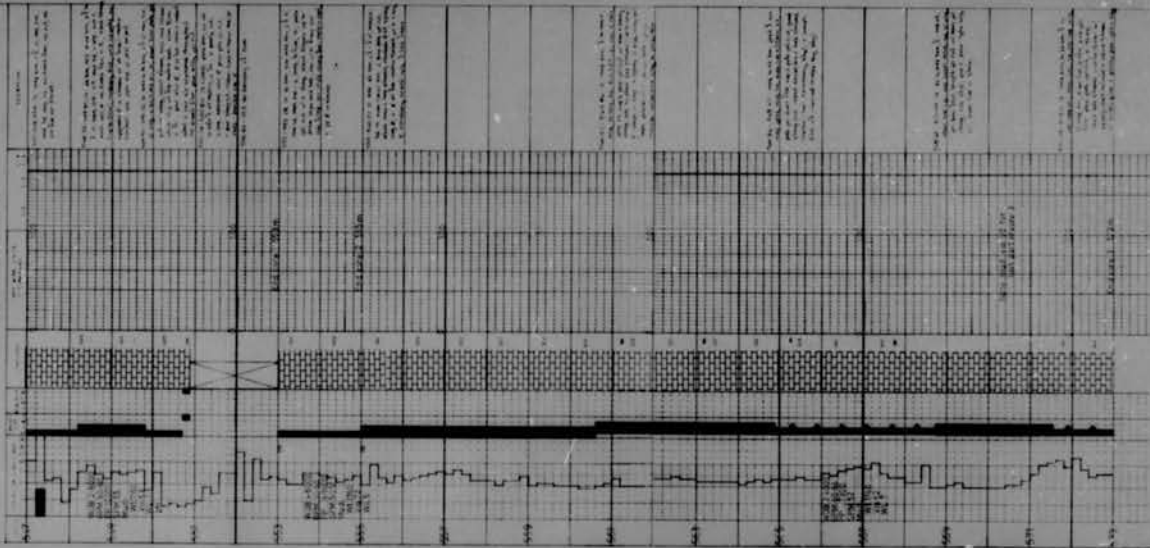
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CORE DESCRIPTION

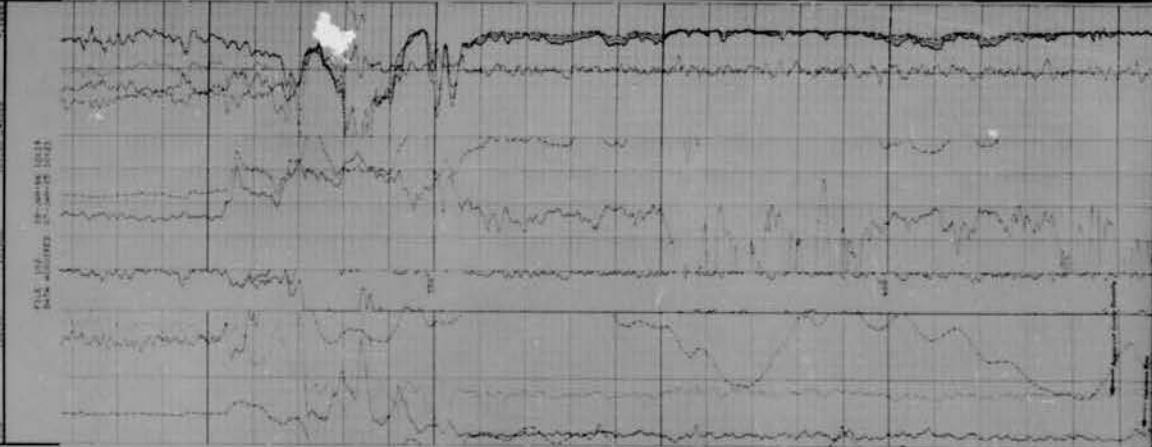
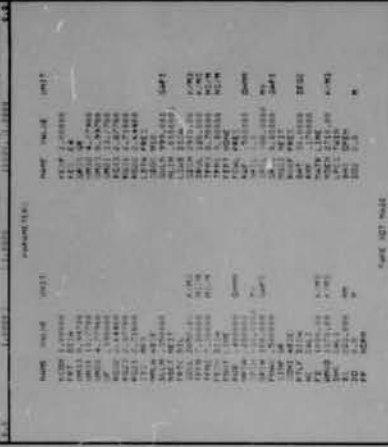
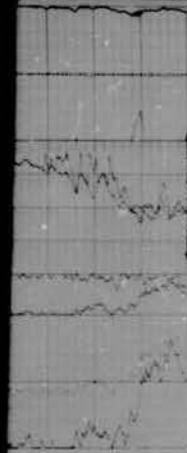




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Canada Oil and Gas
Lands AdministrationAdministration du pétrole
et du gaz des terres du CanadaS.A. 174
D.A. 1299Nova Scotia ☐
Newfoundland ☐
Gulf of St. Lawrence ☐West Coast ☐
Northern ☒
Hudson Bay ☐Well Status
Suspended ☐
Completed ☒
Abandoned ☐

WELL TERMINATION RECORD

This record is submitted in triplicate in compliance with Section 164 of the Canada Oil and Gas Drilling Regulations

WELL DATA

Well Name: ATAS TERACO MAJOR CREEK 20-63 Area: H.M.T.
 Grid Area: 65-40-12R-00 Field/Pool: -
 Permit or Lease No.: NWSA623 Final Coordinates: Lat. 45°56'57.600" N Long. 126°11'47.210" W
 Drilling Unit: Jade #1 Elevation RTKB: 141.7m SPGL: 114.7m
 Spud Date: 86-12-25 Rig Released: 86-01-10 Total Depth: 683m

CASING AND CEMENTING

C.D.	Weight	Grade	Depth Set	Cement and Additives
340mm	11.43	B40	15m	6.0 tonnes Polarant
241mm	13.6	J55	191m	7.5 tonnes Polarant & 0.34 R-15
				+9.0 tonnes Class C DMC

PLUGGING PROGRAM

Approval of the following program was obtained by (person) W.R. Slaght, from
 (person) Ken Singh of the Canada Oil and Gas Lands Administration by means of
 Teletype on 86-01-09 is

Type of Plug	Interval	Felt	Cement and Additives
Cement Plug #1	694-530mKB	10.0 tonnes (20% excess) Class C Oilwell	
Cement Plug #2	215-170mKB	3.40 tonnes (20% excess) Class C Oilwell	
		Plug No. 2 felt at 165mKB	
Cement Plug #3	19mKB to Surface	0.8 tonnes Class C Oilwell	

Cut top. off 1m below gr. level and weld on cap
 Install well identifier

Lost Circulation/Overpressure Zones: 10m Circ. Zone 343-44mKB
 Equipment left on Seafloor (Describe):
 Provision for Reentry (Describe and attach sketch):
 Casing Type: Conventional Interval: #1 - 547-553mKB #2 - 553-555mKB
 #3 - 555-573mKB
 Other Downhole Completion/Suspension Equipment:

CERTIFICATION

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

Signed: *W.R. Slaght*
 Name: W.R. Slaght

Ken Singh
 For Eng

Title: Chief Geologist
 Date: 86-01-09

Acknowledged by: *Ken Singh*

Date: June 06/1986
 File: 9211-A31-2-1

Department of Energy,
 Mines and Resources

Department of Indian Affairs
 and Northern Development

Ministère de l'Énergie
 des Mines et des Ressources

Ministère des Affaires Indiennes
 et du Nord Canada

Canada 1986