

**AUTHORITY
TO DRILL
A WELL**

**(FORM AND
AMENDED FORM)**



Exploratory
Development ☒

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: Murphy Discovery Ridge E-45
Operator: Murphy Oil Company Ltd. Drilling Program No.:
Contractor: Shehtah Drilling Limited Permit or Lease No.: Exploration Licence No. 375
Drilling Rig or Unit: # One Estimated Well Cost: \$1,391,000
Location Unit: E Section: 45 Grid Area: 65° 30' 126° 45'
Coordinates: Lat: 65° 24' 19.818" Long: 126° 54' 17.193"
Area: Field/Pool:
Elevation-RTMB: 392.5 m (ASL) Ground: 387.64 m (ASL)
Approx. Spud Date: 97-02-15 Estimated Days on Location: 9
Anticipated Total Depth: 590 m Target Horizon(s): Kee Scarp
UWI 300E456530126450

EVALUATION PROGRAM

Ten-metre sample intervals
Five-metre sample intervals surface to TD. 2 sets washed cuttings in 2 dram(7ml) glass vials, 1 s-
bagged, unwashed cuttings (as per Guidance Notes) to GSC, Calgary
Canned sample intervals
Conventional cores at None
Logs and Tests PI-SFL, ABGS, CNL-LDI-GR from TD to surface casing
No drill-stem testing is planned.

CASING AND CEMENTING PROGRAM

OD (mm)	Weight: (kg/m)	Grade:	Setting Depth (m KB) Minimum Maximum	Cementing Program (Volumes):
244.5	53.6	K-55	148	Full length (10.8 m ³)
177.8	34.2	K-55	590	Full length (10.7 m ³)

BOP Equipment: List attached.

Other Information:

Signed: F. Neil McRobbie Title: Manager, Drilling
Date: 96-12-20 Company: Murphy Oil Company Ltd.

APPROVAL

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

Signed: Denij Baku
Chief Conservation Officer
Date: Feb 12/97
File: 9211-M06-1-1, WID 1818

Canada

Exploratory
Development ☐Delineation
Service ☐

APPROVAL TO DRILL A WELL

This application is submitted under Section 82 of the Canada Oil and Gas Drilling Regulations. When approved under Section 83 of the Regulations, it shall be deemed to be approved for the commencement of drilling operations.

Well Name: Murphy Discovery Ridge H-55

Operator: Drilling Program No.:

Contractor: Interest Identifier:

Drilling Rig or Unit: Estimated Well Cost:

Location-Unit: H Section: 55 Grd Area: 65 30 126 45

Coordinates: Lat: 65°24'15.665" Long: 126°54'24.986"

Area: Field/Pool:

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

Approx. Spud Date: Est. Days on Location:

Anticipated Total Depth: Target Horizons:

EVALUATION PROGRAM

Ten-metre sample intervals

Five-metre sample intervals

Canned sample intervals

Conventional cores at

Logs and Tests

CASING AND CEMENTING PROGRAM

O.D. (mm) Weight (kg/m) Grade Setting Depth (m KB) Cementing Program (m³)

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B.O.P. Equipment:

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Other Information:

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NEW UWI # 300H556530126450

.....

.....

Signed: Title:

Name: Company:

Date: Phone:

APPROVAL

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

Date: Signed:

File: Chief Conservation Officer

WID:

WELL TERMINATION RECORD



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: MURPHY DISCOVERY RIDGE H-55 Area: Norman Wells, N.W.T.
Grid Area: 65°30', 126°45' Field/Pool:
Expl. License No.
Permit or Lease No.: 375 Final Coordinates: Lat: 65°24' 15.665" Long: 126°54' 24.986"
Drilling Unit: Sheptah Rig #1 Elevations: WT/KB: 385.46 m OG/Gl: 240.06 m
Spud Date: 97-02-26 Rig Released: 97-03-12 Total Depth: 380 m

CASING AND CEMENTING

O.D.	Weight:	Grade:	Depth Set:	Cement and Additives:
339.7mm	71.1 kg/m	H-40	27	15 t Arctic Set + 7.4% Freeze Supp. + 0.5% D65 + .3% D13.
244.5 mm	53.6 kg/m	K-55	215.4	19t Arctic Set + 7.4% Freeze Supp. + 0.5% D65 + 0.3% D13.

PLUGGING PROGRAM

Approval of the following program was obtained by (person) E. Neil McRobbie from
(person) Andrew Graw by means of
telephone on March 8 1997.

Type of Plug:	Interval:	Felt:	Cement and Additives:
Bottom (#1)	580 to 366 m	302 m	17 t 0:1:0 "G" + 1% CaCl2 + friction reducer.
Surface Csg. Shoe	232 to 202 m	199 m	4 t 0:1:0 "G" + 1% CaCl2.
Surface	20 m to surface		1 t 0:1:0 "G" + 1% CaCl2:

Lost Circulation/Overpressure Zones: None
Equipment left on Seafloor (Describe): N/A
Provision for Re-entry (Describe and attach sketch): N/A
Cores: Type: None Intervals:
Other Downhole Completion/Suspension Equipment: None

CERTIFICATION

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

Signed: Neil McRobbie P. Eng. Title: Drilling Manager
Name: F. Neil McRobbie Date: March 25, 1997

Acknowledged by: Ben Baker
Engineering Branch

Well Status
Suspended ☐
Completed ☐
Abandoned ☐

Date: Apr 8/97
File: 9211-M06-1-1, WID 1818
UWI 300H556530126450

Canada

Well Bore Schematic

Well Name	MURPHY DISCOVERY RIDGE H-55
Grid Area	65 30' , 126 45'
Date	97-03-24

K.B. Elev.: 385.46 m
Ground Elev.: 380.06 m

SURFACE CASING

244.5 mm, 53.6 kg/m K-55
set at 215.4 m K.B.
Cemented full length

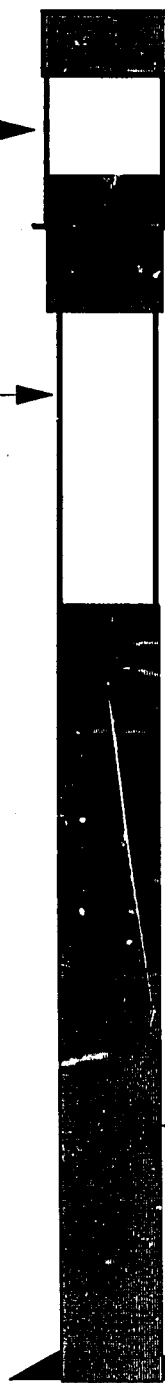
Casing bowl cut off 1.2 m below
ground level. Cement plug inserted
from 20 m to surface.

Plug #2: Bottom at 232 m,
Top felt @ 199 m

Main Hole: 222.2 mm

PLUG #1: Bottom at 580 m,
Top of plug felt at 302 m

TOTAL DEPTH: 580 mKB



FINAL WELL REPORT

N.E.B. COPY

FINAL WELL REPORT
MURPHY OIL COMPANY LTD.
MURPHY DISCOVERY RIDGE H-55

65-30-126-45

DATE: JULY 16, 1997

OPERATOR'S REPRESENTATIVE: NEIL McROBBIE

SECTION 1

DRILLING

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a) INTRODUCTION

i) Summary

Murphy Oil Company Ltd. drilled a 580 metre (Hare Indian) exploratory well beginning in February of 1997 and finishing in March of 1997 to evaluate oil potential in the Kee Scarp formation at a depth of 418 mKB.

The drilling contractor was Shehtah Drilling based out of Calgary, Alberta, Rig No. 1. The drilling rig used was a Diesel Electric land rig rated for 2800 m. The rig had a 47.7 m³ mud system and was equipped with two boilers.

The well was drilled on Exploration License No. 375 in which Murphy has a 100 % working interest. Operating License No. 848 was issued to Murphy on April 15, 1996.

The well which was located approximately 14 km north of the townsite of Norman Wells, lies on the eastern flank of the Mackenzie Plains along the southwestern margin of the Franklin Mountain disturbed belt. The exact location of the well is as follows:

Latitude: ~~65° 24' 19.818"~~
Longitude: ~~126° 54' 17.193"~~

The well was spudded on February 25, 1997 at 24:00 hours to drill the 444.5 mm conductor hole to a depth of 27 m. While drilling the conductor hole sand and boulders were encountered which required drilling mud to clean the hole. The 339.7 mm X 81.1 kg/m X K-55 LT&C conductor pipe was set with the shoe depth being at 27 m. The conductor pipe was cemented with good mud returns throughout the cement job and 0.5 m³ returns of cement.

The diverter was nipped up and functioned tested with the HCR. An NEB inspection was performed at the drilling rig. The conductor shoe was then drilled out and the 311 mm

surface hole was drilled ahead to 96 m where circulation was lost. Lost circulation material was pumped until the lost circulation zone was sealed off. The surface hole was then drilled to 221 m. When running the 2445. mm X 53.6 kg/m X K-55 LT&C casing the third joint had to be pumped down, and the fourth joint would not go down the hole. The casing was then pulled out of the hole to run in with the drillstring to do a cleanout trip. After the cleanout trip the casing was ran with no problems and cemented with 19 tonnes of Arctic set Cement + 7.4 % Freeze Suppressant + 0.5 % D65 + 0.3% D13 + 22.8 kg of celloflake. There was good mud returns reported throughout the cement job with 1.2 m³ cement returns. The plug was bumped with 3500 Kpa and the pressure held. The plug was down at 12:00 hours March 4, 1997. The surface casing was set at 215.4 m.

The BOP's were installed and pressure tested. The annular preventor was pressure tested to 1400 Kpa low and 10,500 Kpa high. The pipe rams, kelly cock, stabbing valve and downhole BOP valve were tested to 1,400 Kpa low and 14,000 Kpa high. The accumulator precharge bottles were checked and the accumulator function tested prior to drilling out.

The float and shoe was drilled out on March 7, 1997. A formation leak off test was done and the gradient was taken to 20.8 Kpa/m without breaking down the formation. The 222 mm main hole was drilled ahead to 580 m with some hole sloughing occurring. The hole was drilled to a total depth of 580 m in the Hare Indian formation.

After total depth had been reached the open hole was logged by Schlumberger. Log run # 1 was a CNLDT, Phasor Induction and Gamma Ray from total depth to the surface casing. Log run # 2 was a Sonic, Gamma Ray and Caliper log from total depth to surface.

After the logs were evaluated it was decided to abandon the well and cement plugs were

run. Plug # 1 was ran from 580 m to 366 m using 17 tonnes of 0:1:0 Class "G" cement + 1 % CaCl_2 and friction reducer. After the plug was ran and 56 singles were pulled a kink in the drilling line was discovered and the cementers were released until the drilling line could be replaced. The new drilling line arrived on location on March 12, 1997 and installed. Drill pipe was ran in and tagged the first plug at 302 m. The drill pipe was pulled up to 232 m to run plug # 2. Plug # 2 was ran from 232 m to 202 m using 4 tonnes 0:1:0 Class "G" cement + 1 % CaCl_2 . The second plug was tagged at 199 m after waiting on cement for six hours. The rig was then tore out and released at 10:00 hours March 12, 1997.

b) GENERAL DATA

i) Well Name: MURPHY DISCOVERY RIDGE H-55

Exploration Agreement Number: 375

Location Unit: H

Section: 45

Grid Area: $65^\circ 30'$, $126^\circ 45'$

ii) Well Location: H-55 65-30-126-45

Coordinates: Lat.: $65^\circ 24' 19.818''$

Long.: $126^\circ 54' 17.193''$

iii) Unique Well Identifier: 300H556530126450

iv) Operator: Murphy Oil Company Ltd.
2100, 555-4th Avenue S.W.
Calgary, Alberta, Canada
T2P 3Y3

Contractor: Shehtah Drilling Company Ltd.
277-200 Rivercrest Drive S.E.
Calgary, Alberta, Canada
T2C 2X5

- v) Drilling Unit: Shehtah Drilling Company Ltd.
Rig # 1
Diesel Electric, Land Rig
- vi) Position Keeping: Not Applicable, Land Rig
- vii) Support Craft: Helicopter, Canadian Helicopters Western
- viii) Drilling Unit Performance: Not Applicable, Land Rig
- ix) Difficulties and Delays: Not Applicable, Land Rig
- x) Total Well Cost: \$ 1,807,756.93

c) **SUMMARY OF DRILLING OPERATIONS**

- i) Elevations: Ground: 380.06m above sea level
KB: 385.46 m above sea level
- ii) Total Depth: 580 m Drilled
580 m Logged
- iii) Date and Hour Spudded: February 25, 1997 at 24:00 hours
- iv) Date Drilling Completed: March 8, 1997
- v) Date of Rig Release: March 12, 1997
- vi) Well status: Dry and Abandoned
- vii) Hole Sizes and Depths: Conductor Hole: 444.5mm to 27 m
Surface Hole: 311 mm to 221 m
Main Hole: 222 mm to 580 m
- viii) Casing and cementing record:

Conductor Hole:

Casing Size: 339.7 mm
Casing Weight: 81.1 kg/m
Casing Grade: K-55
Casing Make: Ipsco
Number of Joints: 2
Thread: LT&C
Depth Set: 27 m
Date Set: February 27, 1997
Cement Volume: 15 Tonnes
Cement Type: Arctic Set Cement
Additives: 7.4% Freeze Suppressant
0.5% D-65
0.3% D-13

Surface Hole:

Casing Size: 244.5 mm
Casing Weight: 53.6 kg/m
Casing Grade: K-55
Casing Make: Ipsco
Number of Joints: 17
Thread: LT&C
Depth Set: 215.4 m
Date Set: March 5, 1997
Cement Volume: 19 Tonnes
Float Shoe Depth: 215.4 m
Float Collar Depth: 201.97 m
Centralizers: 210 m
205 m
194 m
183 m
172 m
22 m
Cement Type: Arctic Set Cement
Additives: 7.4% Freeze Suppressant
0.5% D-65
0.3% D-13
22.8 kg celloflake
Cement Top: Surface
Casing Bowl Size: 279 mm X 244.5 mm X 21 Mpa
Casing Bowl Make: StreamFlo

ix) Sidetracked Hole: Not Applicable

x) Drilling Fluid: Conductor Hole: Gel - Chemical
Properties: Viscosity: 80 sec/L
Weight: 1150 kg/m³
PH: 7.5
Solids: 0.095
Gels: 7 / 10
PV / YP: 14 / 10

Surface: Gel - Chemical
Properties: Viscosity: 80 sec/L
Weight: 1065 kg/m³
PH: 8.0
Water loss: 8.0 cc
Solids: 0.108
Gels: 4 / 10
Filter Cake: 2
PV / YP: 23 / 10

Main: Gel - Chemical
Properties: Viscosity: 50 sec/L
Weight: 1200 kg/m³
PH: 10.0
Water loss: 7.8 cc
Solids: 0.115
Gels: 7 / 10
Filter Cake: 2
PV / YP: 23 / 10

xi) Fishing Operations: None

xii) Well Kicks and Well Control Operations: None Encountered

xiii) Formation Leak-off Tests: Depth: 217 m
Fluid Density: 1000 kg/m³
Applied Pressure: 2385 KPa
Hydrostatic Pressure: 2130 KPa
Mud Weight Equivalent: 2120 kg/m³
Casing Setting Depth: 215.4 m

Note: The leak-off test was taken to a gradient of 20.8 Kpa/m without breaking down

the formation.

xiv) Time Distribution:

Date	Time	Activity
97/02/26	00:00 - 02:30	Drill 444mm Conductor Hole
	02:30 - 04:30	Troubleshoot Hydraulics for Racking Arm
	04:30 - 18:30	Drill 444mm Conductor Hole
	18:30 - 19:30	Circulate Hole Clean
	19:30 - 20:00	Hoist Bit # 1
	20:00 - 21:00	Rig to Run Casing, Run Casing
	21:00 - 23:15	Rig up to Cement, Hold Safety Meeting, Cement 339mm csg.
	23:15 - 24:00	Wait On Cement
97/02/27	00:00 - 02:30	Wait On Cement
	02:30 - 24:00	Cut Csg., Weld on Diverter Flange, Nipple Up Diverter
97/02/28	00:00 - 01:30	Pick up and Make up BHA
	01:30 - 09:30	Thaw out Stand Pipe, Kelly Hose, Kelly
	09:30 - 24:00	Drill 311mm Hole
97/03/01	00:00 - 04:00	Circulate, Build LCM Slug, Pump Same, No Returns, Build Volume
	04:00 - 05:00	Hoist String into Csg.
	05:00 - 08:00	Mix LCM Slug, Build volume in Mud Tanks
	08:00 - 09:15	Run in Hole to Bottom
	09:15 - 10:15	Circulate LCM to Condition Hole
	10:15 - 10:30	Survey
	10:30 - 16:45	Drill 311mm Hole
	16:45 - 17:00	Survey
	17:00 - 18:15	Drill 311mm Hole
	18:15 - 24:00	Work on Mud Pumps

97/03/02	00:00 - 01:00	Work on Mud Pumps
	01:00 - 01:15	Rig Service
	01:15 - 05:30	Drill 311mm Hole
	05:30 - 05:45	Survey
	05:45 - 09:00	Drill 311mm Hole
	09:00 - 09:30	Circulate Hole Clean
	09:30 - 12:00	Pull Out of Hole (tight)
	12:00 - 13:30	Run in Hole to 200m
	13:30 - 13:45	Drill 311mm Hole
	13:45 - 14:30	Work on Lubricator Pump # 2
	14:30 - 17:00	Drill 311mm Hole
	17:00 - 17:15	Survey
	17:15 - 17:30	Drill 311mm Hole
	17:30 - 18:00	Circulate Hole Clean
	18:00 - 20:00	Pull Out of Hole
	20:00 - 24:00	Rig to and Run 244.5mm Csg.
97/03/03	00:00 - 07:00	Run Csg. Attempt to Circulate and Work Csg. Down
	07:00 - 12:00	Pick Up BHA and Run in Hole (Ream)
	12:00 - 19:00	Lay Down Drill Collars and Ream
	19:00 - 19:30	Run in Hole to 196m
	19:30 - 20:45	Clean to Bottom
	20:45 - 22:00	Condition Mud and Circulate Hole Clean to Run Csg.
	22:00 - 23:45	Hoist Bit, Chain Out
	23:45 - 24:00	Rig Up to Run Csg.
97/03/04	00:00 - 05:00	Run 244.5mm Csg.
	05:00 - 09:30	Condition Mud and Circulate Csg.

	09:30 - 12:00	Cement Csg.
	12:00 - 18:00	Clean Tanks, Wait on Cement
	18:00 - 20:30	Lay Down BOP's
	20:30 - 22:30	Prepare Csg. Bowl and Screw on Same
	22:30 - 24:00	Nipple Up BOP's
97/03/05	00:00 - 13:00	Nipple Up BOP's
	13:00 - 19:00	Pressure Test
	19:00 - 22:30	Make Up Bit # 1, Run in Hole
	22:30 - 23:15	Circulate Hole Clean
	23:15 - 24:00	Pressure Test
97/03/06	00:00 - 01:30	Pressure Test, Function Test Accumulator
	01:30 - 03:00	Drill Out
	03:00 - 05:00	Repair Leaking Suction in Mud Tank
	05:00 - 08:30	Drill Out
	08:30 - 09:30	Circulate and Do Leak Off Test
	09:30 - 14:30	Drill 222mm Hole
	14:30 - 14:45	Survey
	14:45 - 21:00	Drill 222mm Hole
	21:00 - 21:15	Rig Service
	21:15 - 24:00	Drill 222mm Hole
97/03/07	00:00 - 00:15	Drill 222mm Hole
	00:15 - 00:30	Survey
	00:30 - 06:45	Drill 222mm Hole
	06:45 - 07:00	Rig Service, Function Annular Preventor
	07:00 - 07:15	Survey
	07:15 - 12:00	Drill 222mm Hole

	12:00 - 12:15	Rig Service
	12:15 - 13:00	Drill 222mm Hole
	13:00 - 15:30	Pump Pill and Pull Out of Hole
	15:30 - 16:30	Rig Repair
	16:30 - 18:00	Run in Hole With New Bit
	18:00 - 23:45	Drill 222mm Hole
	23:45 - 24:00	Rig Service, Function HCR
97/03/08	00:00 - 05:30	Drill 222mm Hole
	05:30 - 05:45	Survey
	05:45 - 06:30	Drill 222mm Hole
	06:30 - 08:00	Condition Mud, Circulate Hole Clean
	08:00 - 09:30	Pull Out of Hole to 220m
	09:30 - 10:30	Run in Hole to Bottom
	10:30 - 12:45	Circulate Hole Clean
	12:45 - 15:00	Pull Out of Hole to Log
	15:00 - 21:00	Log with Schlumberger
	21:00 - 23:30	Make up Bit and Run in Hole
	23:30 - 24:00	Break Circulation and Ream to Bottom
97/03/09	00:00 - 02:00	Ream to Bottom
	02:00 - 03:30	Circulate and Condition Hole and Mud
	03:30 - 08:00	Flow Check, Pump Pill and Pull Out of Hole, Lay Down Collars
	08:00 - 10:30	Pick Up Drill Pipe and Run in to Bottom
	10:30 - 12:00	Circulate Hole Clean
	12:00 - 12:15	Rig Service
	12:15 - 17:30	Circulate Hole Clean
	17:30 - 18:30	Cement With Dowell, Plug # 1

	18:30 - 21:00	Pull 12 Stands Drill Pipe and Lay Down Drill Pipe
	21:00 - 24:00	Discovered Kinked Drill Line, Wait on New Spool of Drill Line
97/03/10	00:00 - 24:00	Wait on New Drill line
97/03/11	00:00 - 12:00	Wait on New Drill line
	12:00 - 15:30	Install New Drill Line
	15:30 - 16:30	Run in and Tag Plug at 302m
	16:30 - 17:00	Pull Out of Hole to 232m
	17:00 - 18:15	Cement With Dowell, Plug # 2
	18:15 - 20:00	Pull Out of Hole and Lay Down Drill Pipe
	20:00 - 24:00	Wait on Cement
97/03/12	00:00 - 02:00	Wait on Cement
	02:00 - 03:30	Run in Hole, Tag Plug at 199m, Lay Down Drill Pipe
	03:30 - 04:30	Tear Out BOP's
	04:30 - 10:00	Tear Out Rig
	10:00	Rig Released

Total Drilling Hours:	78 Hours
Total Surveying Hours:	2 Hours
Total Circulating Hours:	22 Hours
Total Cementing Hours:	7 Hours
Total WOC Hours:	15.25 Hours
Total Rig Service Hours:	1 Hour
Total Rig Repair Hours:	51 Hours
Total Tripping, Reaming Hours:	49.75 Hours
Total Casing Running Hours:	15.25 Hours

xv) Deviation Survey Not Applicable, all surveys less than 1- 5/8".

xvi) Abandonment Plugs:

	Plug 1	Plug 2	Plug 3
Date	97-03-09	97-03-11	97-03-12
Interval	366 - 580	202 - 232	0 - 20
Formation Name	Kee Scarp	Casing Shoe	Inside Casing
Formation Depth	403 - 381	216.8	
Tonnes of Cement	17	3	1
Additives	1% CaCl ₂	1% CaCl ₂	1% CaCl ₂
Volume of H ₂ O Ahead	3m ³	7.5m ³	0m ³
Displacement	2.5m ³	0.5m ³	0m ³
Slurry Density	1900kg/m ³	1900kg/m ³	1900kg/m ³
Felt Plug Depth	302m	199m	1m
Fluid Between Plugs	Gel-Chem mud	Gel-Chem mud	Gel-Chem mud

xvii) Composite Well Record: See Attached Well Logs

SECTION 2

GEOLOGY



MURPHY
OIL COMPANY LTD.

MURPHY DISCOVERY RIDGE H-55
65-30-126-45

A. SUMMARY OF WELL DATA

Well Name:		MURPHY DISCOVERY RIDGE H-55
Well Location:	UWI:	300H556530126450
	FPS:	H-55 65-30-126-45
(NAD 27)	Lat:	65° 24' 15.665"
	Long:	126° 54' 24.986"
Elevations:	Ground:	380.06m above sea level
	KB:	385.46m above sea level
Classification:		New Field Wildcat
Permittee:		Murphy Oil Company Ltd.
Operator:		Murphy Oil Company Ltd.
Exploration Licence Number:		375
Drill Approval Number:		1818
Contractor:		Shehtah #1
Spud Date:		24:00 hrs, February 25, 1997
Completed Drilling:		06:30 hrs, March 8, 1997
Depths:	FTD:	580m
	PBTD:	580m
Rig Release Date:		March 12, 1997
Well Status:		Dry and Abandoned

MURPHY DISCOVERY RIDGE H-55

65-30-126-45

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B. GEOLOGICAL SUMMARY

KB: 385.46m

1. TOPS:

Formation	Revised Prog (m)	Sample (m)	Log (m)	Subse? (m)
Pleist/Recent	5.5	5.5	5.5	+ 380.0
Cambrian				
Franklin Mtn	10.0	15.0	?	+ 361.5
Saline River	?	132.0	?	+ 253.5
Cretaceous				
Slater River	?	143.0	?	+ 242.5
Devonian				
Imperial	140.0	147.0	?	+ 238.5
Canol	404.0	310.0	308.0	+ 77.5
Kee Scarp	434.0	Absent	Absent	Absent
Ramparts	534.0	381.0	381.0	+ 4.5
Hare Indian	581.0	421.0	403.0	- 17.5
Total Depth (orig)	606.0	-	-	-
Bluefish	718.0	543.0	544.0	- 158.5
Hume	731.0	554.5	553.6	- 168.1
Total Depth (final)	756.0	580.0	580.0	- 194.5

Sample tops have not been corrected to wireline log control. Variance from the log picks may be a consequence of high caving content.

Within the upper section of the hole from surface to top Imperial, very poor correlation of the Gamma Neutron to sample picks is seen. Severe caving of the Franklin Mountain, which appeared to be consistently dolomite, may account for this discrepancy (ie: a very silty Franklin Mountain below 43m KB and down to approximately 132m).

A salinity increase was noted in the mud at approximately 132m, indicating the near-to-top of the interbedded shale, siltstone, and salt of the Saline River formation.

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

0 - 5m: No sample: KB - GR = 5.4m

5 - 10m: Franklin Mtn talus & possibly glacial debris:
Dolomite: white to buff, very calcareous in part, very fine to microcrystalline;
Sandstone (?): quartz and minor chert, white, clear, subangular to rounded, minor biotite
(poor sample: predominantly wood fragments)

10 - 15m: As above

Top Franklin Mtn 15m or higher (?) - no drill break -- possibly continuation of talus material

- 15 - 20m: Dolomite: white, buff, yellow, rarely orange, very fine to micro/cryptocrystalline, euhedral in part, limey in part, cherty in part, poor intercrystalline porosity < 3%, rare good fracture and/or vuggy porosity, no shows
 -- with occasional interbeds of sandstone: quartz, white, clear, rarely red, fine to very fine grained, subangular to rounded, flattened in part
 -- with occasional interbeds of siltstone: dark grey, light green in part
 -- with trace pyrite and biotite
- 20 - 35m: As above
- 35 - 40m: As above, dolomite: light grey in part
- 40 - 45m: Dolomite: medium grey, light brown, white in part, very fine to cryptocrystalline, euhedral in part, very limey in part, cherty in part, slightly silty, poor intercrystalline porosity < 3%, rare good fracture and/or vuggy porosity, no shows
 -- with rare interbeds of sandstone as above
- 45 - 50m: As above, dolomite: white and buff
 -- with occasional interbeds of siltstone: light grey and light green as above and minor sandstone as above
- 50 - 55m: As above, dolomite: medium grey, light brown
- 55 - 60m: As above
- 60 - 65m: As above
- 65 - 70m: As above, dolomite: light brown
- 70 - 75m: As above, dolomite: medium grey, light brown
- 75 - 80m: As above, dolomite: medium grey, light brown, increasingly argillaceous
 -- with occasional interbeds shale, light grey
- 80 - 85m: As above
- 85 - 90m: As above
- 90 - 95m: As above, dolomite: light brown, very limey in part, minor-euhedral dolomite, crystal size increasing in part
 -- with minor interbeds of shale as above, rare red, and with minor interbeds of siltstone and sand as above
- 95 - 100m: Very poor sample: LCM
 -- as above, dolomite < 5% of sample, with abundant quartz, very fine grained, angular, clear, white, pink, yellow in part
- 100 - 105m: Very poor sample: LCM
 -- as above

- 105 - 110m: As above, dolomite: white, yellow, light brown, very limy in part, occasionally euhedral, variable crystal size
 -- with quartz as above and minor shale: light grey-brown, silty, slightly calcareous
 -- pyrite increasingly abundant
- 110 - 115m: As above, dolomite with increasing shale, light grey-brown as above
- 115 - 120m: As above, interbedded dolomite and shale, light grey-brown
- 120 - 125m: As above
- 125 - 130m: Shale: light grey-brown as above, silty, slightly calcareous, slightly pyritic
 -- with dolomite stringers as above

Top Saline River formation 130 - 135m

- 130 - 135m: As above
 -- with salt: thin bedded, (indicated by increase in mud salinity from 200-300 ppm to 500 ppm)
- 135 - 140m: Dolomite: white, buff, grey in part, very limey in part as above, with chert and quartz as above
 -- with minor shale: light grey-brown as above
- 170 - 175m: As above
- 175 - 180m: As above
- 180 - 185m: As above
- 185 - 190m: As above
- 190 - 195m: As above
- 195 - 200m: Poor sample: LCM
 -- as above, shale: very fissile in part, darker grey
 -- with very minor limestone: thin stringers, white, very fine crystalline, very low intercrystalline porosity and permeability, no fluorescence, faint yellow-green cut
 *** mud dispersed *** => no increase in gas readings
- 200 - 205m: Poor sample: LCM
 -- as above, shale: fissile to platy, with trace orange-red chert grains
- 205 - 210m: As above, shale
- 210 - 215m: As above
- 215 - 220m: As above
- 220 - 225m: As above, shale
 -- with stringers dolomite: white, very fine crystalline, cherty in part

- 225 - 230m: As above, shale: medium grey, silty in part, micromicaceous, platy to blocky in part, slightly calcareous
- 230 - 235m: As above
- 235 - 240m: As above, shale: medium to dark grey with very rare stringers of limestone: white, micritic, finely laminated, very pyritic in part, dolomitic in part
- 240 - 245m: As above
- 245 - 250m: As above
- 250 - 255m: As above
- 255 - 260m: As above
- 260 - 265m: As above
- 265 - 270m: As above
- 270 - 275m: As above
- 275 - 280m: Shale: medium to dark grey, slightly calcareous, slightly silty in part, slightly pyritic, platy to fissile
- 280 - 285m: As above
- 285 - 290m: As above
- 290 - 295m: As above, shale
-- with limestone stringers as above
-- with siltstone stringers: grey, calcareous
- 295 - 300m: As above, shale laminated in part
-- with limestone stringers as above
-- with siltstone stringers as above
- 300 - 305m: As above, shale
- 305 - 310m: As above
- Top Canol formation at 310m**
- 310 - 315m: As above,
-- with rare trace stringers shale: dark grey-brown
- 315 - 320m: As above
- 320 - 325m: As above
- 325 - 330m: As above

- 330 - 335m: As above
 -- with interbedded shale: black
- 335 - 340m: As above
- 340 - 345m: As above
 -- with interbedded shale: dark brown, dark brown grey, slightly silty, calcareous, increasingly platey to blocky
- 345 - 350m: As above
- 350 - 355m: As above
- 355 - 360m: As above
- 360 - 365m: Shale: dark brown, dark grey-brown, slightly silty, calcareous, platey to blocky
 -- with minor interbeds of shale: medium to dark grey as above
- 365 - 370m: As above
- 370 - 375m: As above
- 375 - 380m: As above

Top Ramparts formation at 381 (ROP change) (Kee Scarp absent)

- 380 - 385m: Limestone: white, buff to medium brown, chalky to medium crystalline, slightly silty, fossiliferous (Thamnopora Amphipora, bryozoans corals, stromatoporoids??) with spotty oil stain and green and yellow fluorescence and with massive white (slightly greenish) cut; porosity is variable: good (6%+) in the fine crystalline samples to generally low to tight.
 -- with interbeds (?) of shale: dark brown as above
- 385 - 390m: As above, limestone, white, buff, with minor light grey stringers, fossils as above with bryozoans, porosity as above and with spotty oil stain, fluorescence and cut as above
- 390 - 395m: As above
- 395 - 400m: As above
- 400 - 405m: As above, limestone white, buff as above, less chalky, increasing intercrystalline porosity (6 - 10%) with abundant oil staining, dominantly yellow fluorescence with massive green to white cut.
- 405 - 410m: As above, limestone
 -- with occasional stringers shale: light grey, silty, calcareous
- 410 - 415m: As above, limestone with decreased oil stain, fluorescence is spotty, cut is no longer massive but slow streaming
 -- interbeds of shale: grey as above

415 - 420m: As above, interbedded limestone and shale

Top Hare Indian formation at 421m (ROP change)

420 - 425m: As above, increasingly shaley

425 - 430m: As above

430 - 435m: Shale: light grey, slightly silty, slightly calcareous in part, micromicaceous
-- with occasional interbeds shale: medium to dark grey to black
-- with possible stringers of limestone as above (cavings only?)

435 - 540m: As above, shale

Top Bluefish member at 543m (ROP change)

540 - 545m: Shale: medium grey, very slightly calcareous
-- with abundant interbeds of shale: light grey and micromicaceous, as above
-- occasional interbeds shale: dark grey to black, as above, increasingly fissile in part

545 - 550m: As above, interbedded shale medium grey and dark grey to black as above

Top Hume formation at 554.5m (ROP change)

550 - 555m: Limestone: white, light brown, dark grey-brown in part, silty, chalky to fine crystalline, with minor fossil debris, common reddish fish scales, very poor porosity, no visible oil stain or fluorescence, with slow bleeding greenish-white cut
-- with interbeds shale as above

555 - 560m: As above

560 - 565m: As above

565 - 570m: As above, increased interbeds of shale as above

570 - 575m: As above, interbedded shale and limestone as above, faint slow cut as above

575 - 580m: As above, limestone: white, light brown, very fine to microcrystalline, tight, no oil stain, no fluorescence, faint slow cut as above

580m **Total Depth**

3. **CORING RECORD:**

No cores were cut on this well.

C. GAS DETECTION REPORT

Datalog was mobilized on February 21, 1997 and services were completed on March 8, 1997. Logging commenced at 0.0 meters in the Franklin Mountain Formation and terminated at 580 meters in the Hume Formation. The primary zone of interest was the Kee Scarp Formation. Beginning at 0.0m, hydrocarbon analyses were reported on a continuous basis. The M200 Micro Gas Chromatograph was used to detect and record hydrocarbon shows with a fifth of a meter resolution. The following report indicates background gas levels, significant gas increases, and produced gases on a formation-by-formation basis.

Peak Gas, Background Gas and Components C1 to C5 were measured in percent, where 1.00 Percent = 100 Gas Units.

FRANKLIN MOUNTAIN / SALINE RIVER / SLATER RIVER

0m to 147m

LITHOLOGY:

This interval consists of dolomite with occasional interbeds of sandstone and siltstone. There are shale interbeds at the the base of this interval.

Dolomite: white to buff in part, light to medium grey to light brown in part, yellow to weathered light brown in part, cryptocrystalline to very finely crystalline in part, calcareous in part, cherty in part, slightly to moderately argillaceous in part, predominately tight to trace intercrystalline porosity, rare good fracture porosity.

Siltstone: light to dark grey, light green in part, traces of pyrite.

Sandstone: white to clear, very fine to fine grained, sub angular to rounded, traces of feldspar, chert fragments.

HYDROCARBON REPORT:

Background Gas:	0.10 to 0.30 % Hydrocarbons
	1.00 to 2.00 % Carbon Dioxide
Significant Shows:	Nil
Produced Gas:	Nil

IMPERIAL

147m to 308m

LITHOLOGY:

This interval consists of shale.

Shale: medium to dark grey, fissile, platy in part, silty in part, traces of pyrite, thin interbedded pyrite in part, micro micaceous, abundant Inoceramus, occasional limestone stringers, occasional grey calcareous siltstone stringers. Below 303m, also rare to common dark grey-brown shale stringers.

HYDROCARBON REPORT:

Background Gas:	0.40 to 1.00 %	147 to 303m
Significant Shows:	Nil	
Produced Gas:	Wiper Trip Gas	200m 2.20 / .80 / 5 Hrs

CANOL

308m to 381m

LITHOLOGY:

This interval consists of shale.

Shale: dark brown, dark grey-brown, platy to blocky, slightly silty, calcareous, thin stringers of pyrite.

HYDROCARBON REPORT:

Background Gas 1.50 to 2.50% 303 to 343m
 1.50 to 4.00% 343 to 381m
 Significant Shows: Nil
 Produced Gas: Nil
 Significant increase in heavy hydrocarbons (butane and pentane) from 303m downwards.
 Strong petroliferous smell when shale cuttings were dried.

KEE SCARP (ABSENT)

RAMPARTS

381m to 403m

LITHOLOGY:

This interval consists of limestone with minor interbedded shale in part.

Limestone: white to buff to medium brown, chalky to medium crystalline, slightly silty, fossiliferous in part, tight to good porosity in part, yellow fluorescence in part, massive cloudy greenish white dry cut, spotty live oil stain.

HYDROCARBON REPORT:

Background Gas: 0.10 to 0.20 units

Significant Shows:

Interval	Peak/Bkgd	C1	C2	C3	C4	C5
400 - 403m	0.64 / 0.30	0.5423	0.0460	0.0293	0.0191	0.0089

Ratio analyses over this interval indicate medium density oil through this zone. Visual shows in the cuttings confirm the presence of oil. The milky white cut in the cuttings indicates the presence of water. The low gas increase over background suggests the presence of residual oil only.

Produced Gas: Trip Gas 2441m 185 / 80 / 11 Hours

HARE INDIAN

403m to 543m

LITHOLOGY:

This interval consists of shale.

Shale: light grey, slightly silty, slightly calcareous in part, micro micaceous.

HYDROCARBON REPORT:

Background Gas: 0.20 to 0.40%

Significant Shows: Nil

Produced Gas:

Trip Gas	473m	0.92 / 0.30 / 7 Hours
Connection Gas	483m	0.35 / 0.25 / 5 Mins
Connection Gas	492m	0.45 / 0.25 / 5 Mins
Connection Gas	502m	0.41 / 0.25 / 5 Mins
Connection Gas	511m	0.79 / 0.35 / 5 Mins
Connection Gas	520m	0.80 / 0.35 / 5 Mins
Connection Gas	529m	0.80 / 0.25 / 5 Mins
Connection Gas	539m	0.71 / 0.30 / 5 Mins

BLUEFISH

543m to 555m

LITHOLOGY:

This interval consists of shale.

Shale: medium to dark grey to black, very slightly calcareous, blocky, increasing fissile with depth.

HYDROCARBON REPORT:

Background Gas:	0.40 to 2.20%
Significant Shows:	Nil
Produced Gas:	Connection Gas 549m 2.10 / 1.20 / 5 Mins

HUME

555m to 580m

LITHOLOGY:

This interval consists of limestone with minor interbedded shale.

Limestone: white, light brown, dark greybrown in part, chalky to finely crystalline, silty, minor fossil debris, common reddish fish scales, very poor porosity to tight, trace of light yellow fluorescence, no oil staining, slow milky greenish white dry cut.

HYDROCARBON REPORT:

Background Gas:	1.00 to 1.20%
Significant Shows:	Nil
Produced Gas:	Connection Gas 558m 1.50 / 1.10 / 5 Mins
	Connection Gas 567m 1.70 / 1.10 / 5 Mins
	Connection Gas 577m 0.80 / 0.55 / 5 Mins

CONCLUSION

There were hydrocarbon shows present in the zone of interest for this well (Kee Scarp Formation). Based on ratio analyses and gas increases, the hydrocarbon shows in the zones of interest were evaluated as poor.

The limestone target appears to have fair to good porosity from 400 to 405m. The gas ratios indicate the presence of medium density oil. Visual shows in this zone also indicate oil, however the milky cut suggests the zone is flushed and residual oil is left. Further investigation of electric logs over this zone is strongly recommended.

Results indicate there are no commercial accumulations of hydrocarbons in this well.

D. DRILL STEM TESTS

No drill stem tests were run on this well.

E. LOGS

The following logs were run:

Phasor Induction SFL	578.7 - 217.0m
Comp Neutron Lithodensity	568.3 - 217.0m
Gamma Neutron	217.0 - 0.0m
Borehole Comp Sonic	577.8 - 217.0m
Hydrocarbon well log attached	

F. ANALYSES

1. MUD SALINITY:

The following salinity analyses were conducted to determine the possible presence of halite beds within the Cambrian Saline River formation and underlying the Cambrian Franklin Mtn formation. It appears that the first rise in salinity is marked

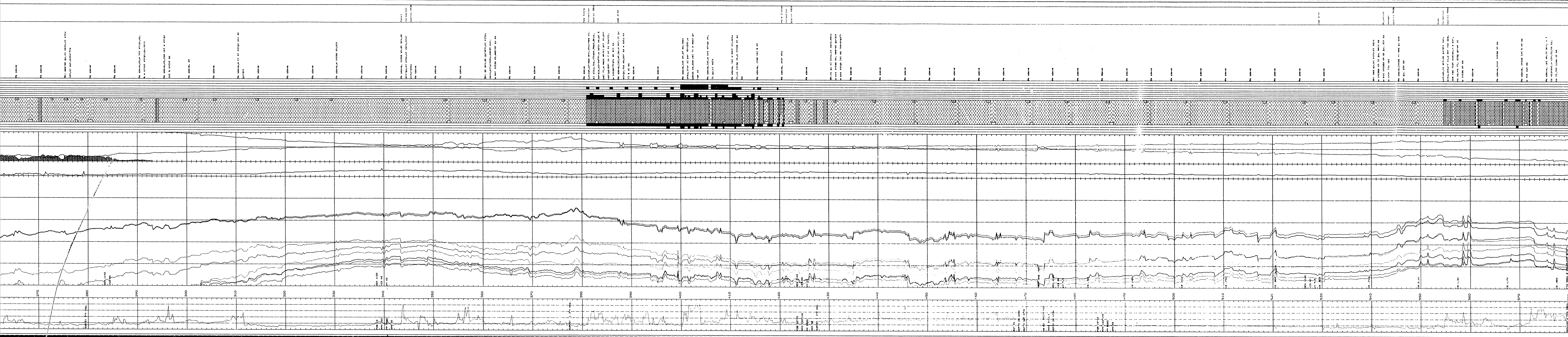
in the 135m bottoms up sample. The top of salt is therefore set just prior to this depth.

32 - 80m:	200-300 ppm
135m:	500 ppm
138m:	400 ppm (mud dilution)
150m:	300 ppm (mud dilution)
219m:	700 ppm (increase due to continued salt dissolution?)

2. **GAS, OIL, & WATER ANALYSES:** No additional fluid analyses were conducted on this well.

JPR/slj
July 10, 1997

C:\FILES\COAL\SPC\OTHER\2001\DO 233



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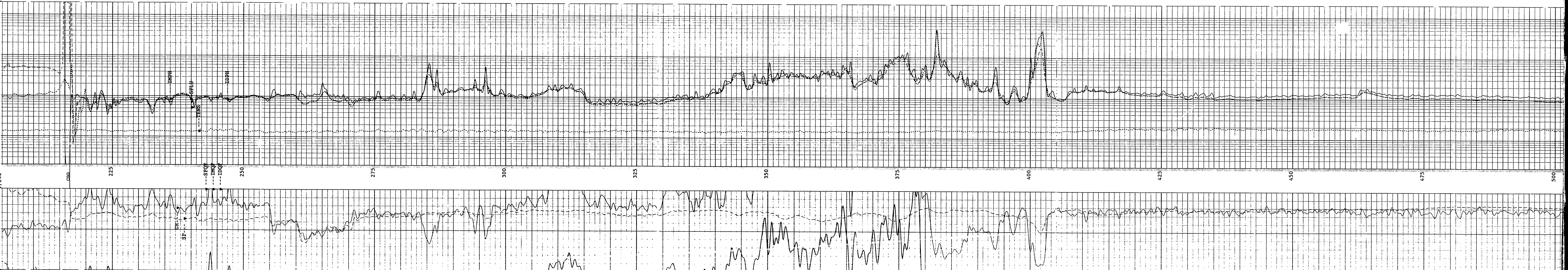
460

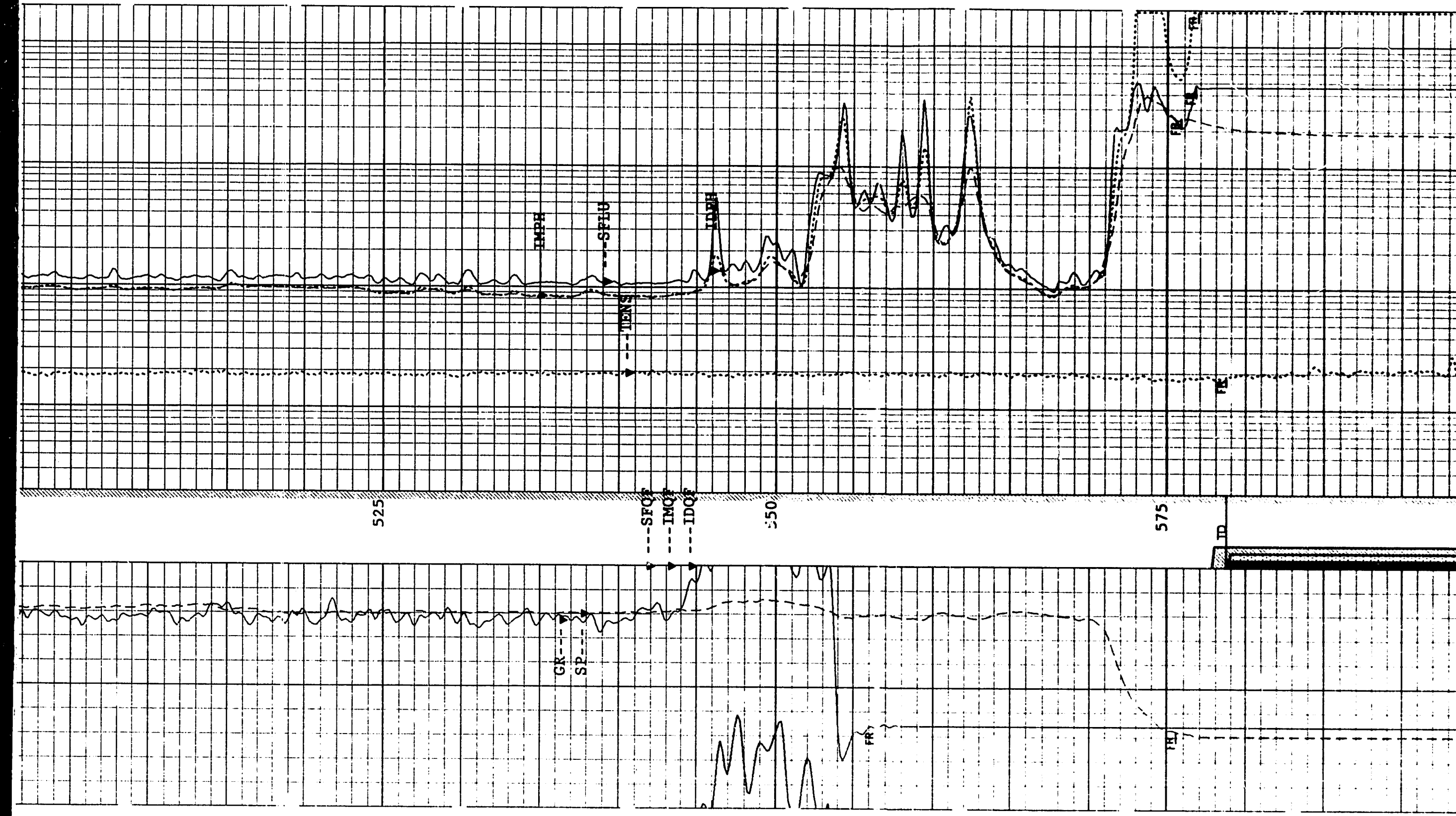
**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**

**RESISTIVITY/
CONDUCTIVITY**

[illegible]

PHASOR PROC.





CP 42.2 FILE 23 08-MAR-1997 17:41
INPUT FILE(S) 9
CREATION DATE 08-MAR-1997 13:04

LD FLAG
LM FLAG
SFL FLAG
PHASOR PROC.

SCF 0.0 10.000
IMCF 0.0 10.000
IDCF 0.0 10.000

TENS(LBF) 0.0 4000.0
IMPH(OHMM) 2000.0 2000.0
SFLU(OHMM) 2000.0 2000.0
IDPH(OHMM) 2000.0 2000.0

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15

LD FLAG
LM FLAG
SFL FLAG
PHASOR PROC.

SCF 0.0 10.000
IMCF 0.0 10.000
IDCF 0.0 10.000

TENS(LBF) 0.0 4000.0
IMPH(OHMM) 2000.0 2000.0
SFLU(OHMM) 2000.0 2000.0
IDPH(OHMM) 2000.0 2000.0

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15

CP 42.2 FILE 22 08-MAR-1997 17:41
INPUT FILE(S) 8
CREATION DATE 08-MAR-1997 12:49
REPEAT SECTION

LD FLAG
LM FLAG
SFL FLAG
PHASOR PROC.

SCF 0.0 10.000
IMCF 0.0 10.000
IDCF 0.0 10.000

TENS(LBF) 0.0 4000.0
IMPH(OHMM) 2000.0 2000.0
SFLU(OHMM) 2000.0 2000.0
IDPH(OHMM) 2000.0 2000.0

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15



CP 42.2 FILE 22 08-MAR-1997 17:37
INPUT FILE(S) 8
CREATION DATE 08-MAR-1997 12:49
REPEAT SECTION

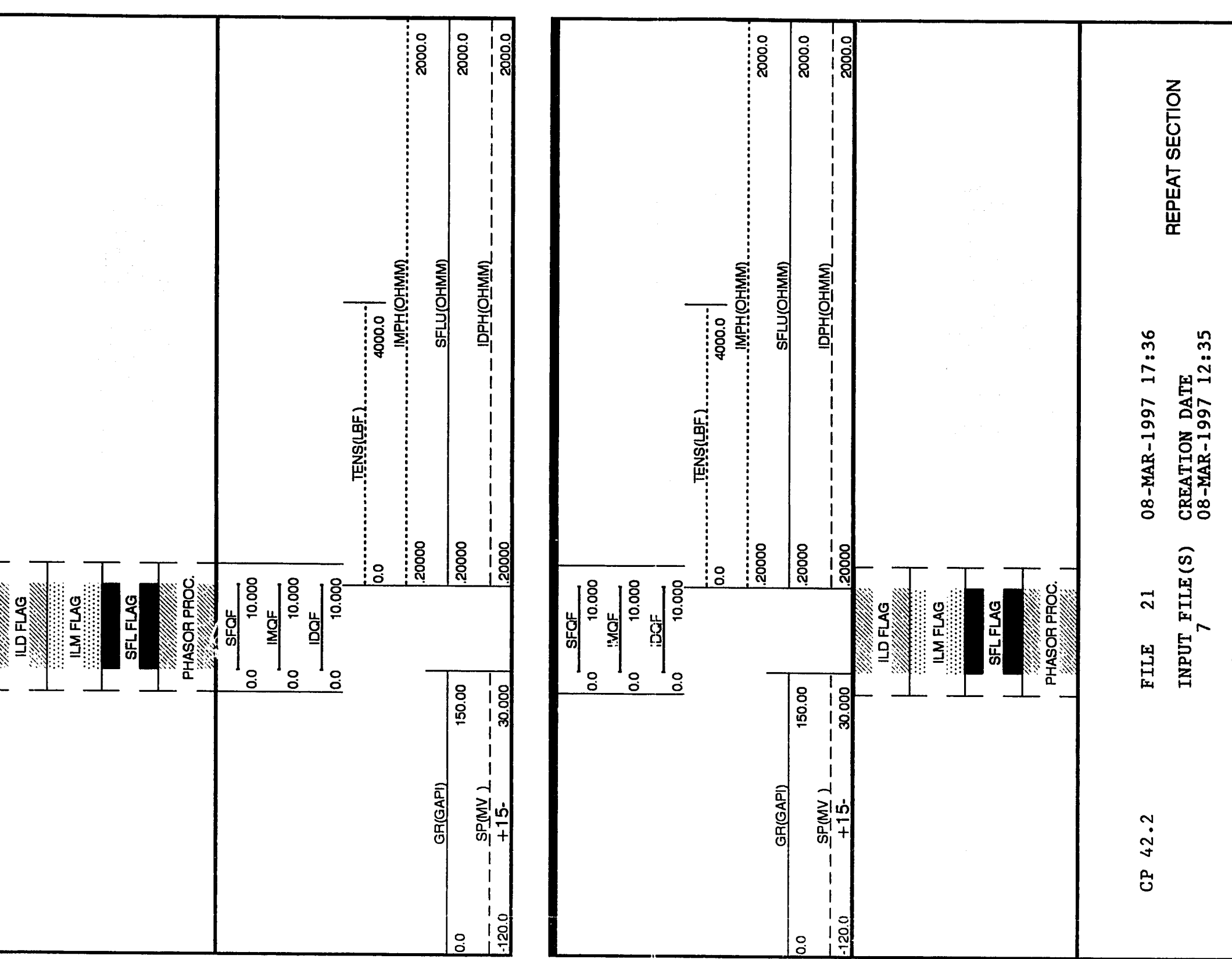
LD FLAG
LM FLAG
SFL FLAG
PHASOR PROC.

SCF 0.0 10.000
IMCF 0.0 10.000
IDCF 0.0 10.000

TENS(LBF) 0.0 4000.0
IMPH(OHMM) 2000.0 2000.0
SFLU(OHMM) 2000.0 2000.0
IDPH(OHMM) 2000.0 2000.0

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15



CP 42.2 FILE 21 08-MAR-1997 17:36
INPUT FILE(S) 7
CREATION DATE 08-MAR-1997 12:35
REPEAT SECTION

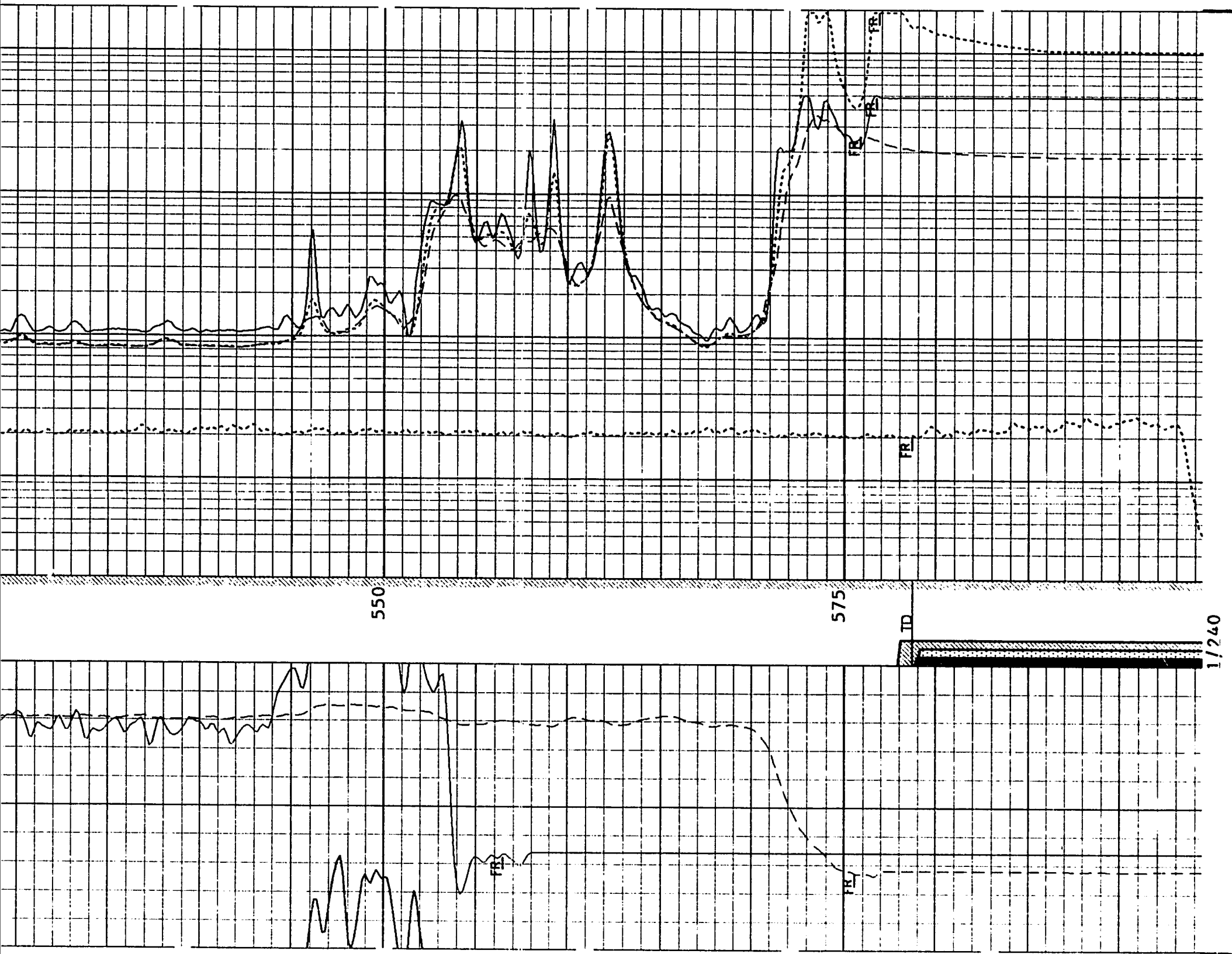
LD FLAG
LM FLAG
SFL FLAG
PHASOR PROC.

SCF 0.0 10.000
IMCF 0.0 10.000
IDCF 0.0 10.000

TENS(LBF) 0.0 4000.0
IMPH(OHMM) 2000.0 2000.0
SFLU(OHMM) 2000.0 2000.0
IDPH(OHMM) 2000.0 2000.0

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15

GR(GAP) 0.0 150.00
SP(MV) 1 30.000
+15



CP 42.2 FILE 21 08-MAR-1997 17:33 REPEAT SECTION
INPUT FILE(S) CREATION DATE
08-MAR-1997 12:35

SENSOR MEASURE POINT TO TOOL ZERO	
NAME	VALUE
DO	0.0
ID	578.700
DHC	BS
MDEN	2710.30
DPFM	STAN
HC	CALI
HSCG	YES
MCCO	NO
FSCG	NO
PTCO	NO
SDAT	SOEN
SOEN	12.7000
ANGL	0.0
BHFL	WATE
SBR	1.00000
DXE2	76.5796
DPH2	14.2010
DPH2	1.78856
DCF2	1.00111
SFLE	ALLO
ITEN	ALLO
DSE5	H412
IPHA	NORM
CNPS	NPHI
GTSE	TEMP
BHT	40.0000
TDL	578.700
DFD	1235.00
RMS	3.32000
MEST	16.0000
BHS	OPEN

PARAMETERS	
NAME	VALUE
UNIT	UNIT
DO	0.0
ID	578.700
DHC	BS
MDEN	2710.30
DPFM	STAN
HC	CALI
HSCG	YES
MCCO	NO
FSCG	NO
PTCO	NO
SDAT	SOEN
SOEN	12.7000
ANGL	0.0
BHFL	WATE
SBR	1.00000
DXE2	76.5796
DPH2	14.2010
DPH2	1.78856
DCF2	1.00111
SFLE	ALLO
ITEN	ALLO
DSE5	H412
IPHA	NORM
CNPS	NPHI
GTSE	TEMP
BHT	40.0000
TDL	578.700
DFD	1235.00
RMS	3.32000
MEST	16.0000
BHS	OPEN

SENSOR MEASURE POINT TO TOOL ZERO	
NAME	VALUE
UNIT	UNIT
DO	0.0
ID	578.700
DHC	BS
MDEN	2710.30
DPFM	STAN
HC	CALI
HSCG	YES
MCCO	NO
FSCG	NO
PTCO	NO
SDAT	SOEN
SOEN	12.7000
ANGL	0.0
BHFL	WATE
SBR	1.00000
DXE2	76.5796
DPH2	14.2010
DPH2	1.78856
DCF2	1.00111
SFLE	ALLO
ITEN	ALLO
DSE5	H412
IPHA	NORM
CNPS	NPHI
GTSE	TEMP
BHT	40.0000
TDL	578.700
DFD	1235.00
RMS	3.32000
MEST	16.0000
BHS	OPEN

DITE After Survey Tool Check Summary

Performed: 08-MAR-1997 14:09
Program File: TOH (Version 42.2 94/10/10 94/09/24)

Sonde Serial Number: 81
Cartridge Serial Number: 83
File: 7
8
9
10

Induction Electronics:

Offset Valid Range Units Gain Valid Range
1.1 -1.2 => 1.1
1.1 -1.2 => 1.1
1.1 -1.2 => 1.1

Plus Measurement performed at: 08-MAR-1997 12:15

CP 42.2 FILE 11 08-MAR-1997 14:09 (UP)

BEFORE SURVEY CALIBRATION SUMMARY

Performed: 08-MAR-1997 12:34
Program File: TOH (Version 42.2 94/10/10 94/09/24)

Sonde Serial Number: 81
Cartridge Serial Number: 83
File: 7
8
9
10

Induction Electronics:

Offset Valid Range Units Gain Valid Range
1.1 -1.2 => 1.1
1.1 -1.2 => 1.1
1.1 -1.2 => 1.1

Plus Measurement performed at: 08-MAR-1997 12:15

CP 42.2 FILE 6 08-MAR-1997 12:34

SHOP CONSTANTS

Test Loop Calibration: Calibration of internal reference to test loop standard

10KHz: IRD SEG: DRE1 38.86 -50.0 => 125.0
ILD SEG: DRE1 38.86 -50.0 => 125.0
IRM SEG: DRE1 38.86 -50.0 => 125.0
IXM SEG: DRE1 38.86 -50.0 => 125.0

20KHz: IRD SEG: DRE2 14.20 -30.0 => 30.0
ILD SEG: DRE2 14.20 -30.0 => 30.0
IRM SEG: DRE2 14.20 -30.0 => 30.0
IXM SEG: DRE2 14.20 -30.0 => 30.0

40KHz: IRD SEG: DRE4 3.85 -15.0 => 15.0
ILD SEG: DRE4 3.85 -15.0 => 15.0
IRM SEG: DRE4 3.85 -15.0 => 15.0
IXM SEG: DRE4 3.85 -15.0 => 15.0

Sonde Error Corrections: Correction for sonde response in Zero

Cons. Sonde Error Correction (MM/M)

10KHz: IRD SEG: DRE1 38.86 -50.0 => 125.0
ILD SEG: DRE1 38.86 -50.0 => 125.0
IRM SEG: DRE1 38.86 -50.0 => 125.0
IXM SEG: DRE1 38.86 -50.0 => 125.0

20KHz: IRD SEG: DRE2 14.20 -30.0 => 30.0
ILD SEG: DRE2 14.20 -30.0 => 30.0
IRM SEG: DRE2 14.20 -30.0 => 30.0
IXM SEG: DRE2 14.20 -30.0 => 30.0

40KHz: IRD SEG: DRE4 3.85 -15.0 => 15.0
ILD SEG: DRE4 3.85 -15.0 => 15.0
IRM SEG: DRE4 3.85 -15.0 => 15.0
IXM SEG: DRE4 3.85 -15.0 => 15.0

NOTE: All Sonde Error Corrections have been normalized to 25 DegC.

Shop Electronic Calibration Summary

Electronic Calibration: Calibration of System Electronics using the internal reference

Induction Electronics:

Offset Valid Range Units Gain Valid Range
1.1 -1.2 => 1.1
1.1 -1.2 => 1.1
1.1 -1.2 => 1.1

10 KHz: IRD 25.4 -375. => 375.
IXD 28.9 -375. => 375.
IRM 35.9 -900. => 900.
IXM 86.2 -900. => 900.

20 KHz: IRD 9.7 -150. => 150.
IXD 11.3 -150. => 150.
IRM 14.6 -350. => 350.
IXM 35.2 -350. => 350.

40 KHz: IRD 6.1 -100. => 100.
IXD 7.4 -100. => 100.
IRM 9.4 -200. => 200.
IXM 22.7 -200. => 200.

SFL Electronics:

Offset Valid Range Units Gain Valid Range
1.1 -1.2 => 1.1
1.1 -1.2 => 1.1
1.1 -1.2 => 1.1

SFV 1.1 -16.0 => 16.0
SFC .0 -.0 => .0

Plus Measurement performed at: 25-FEB-1997 20:01

CP 42.2 FILE 1 25-FEB-1997 20:24

COMPANY MURPHY OIL COMPANY LIMITED

WELL MURPHY DISCOVERY RIDGE H-55

FIELD UNDEFINED

PROVINCE N.W.T.

Schlumberger

SCHL FR 5755M

SCHL TD 5787M

DHLR TD 5800M

Elev: KB 385.4M

DF

CL 380.0M

PHASOR INDUCTION SFL

**SONIC
NEUTRON
DENSITY**

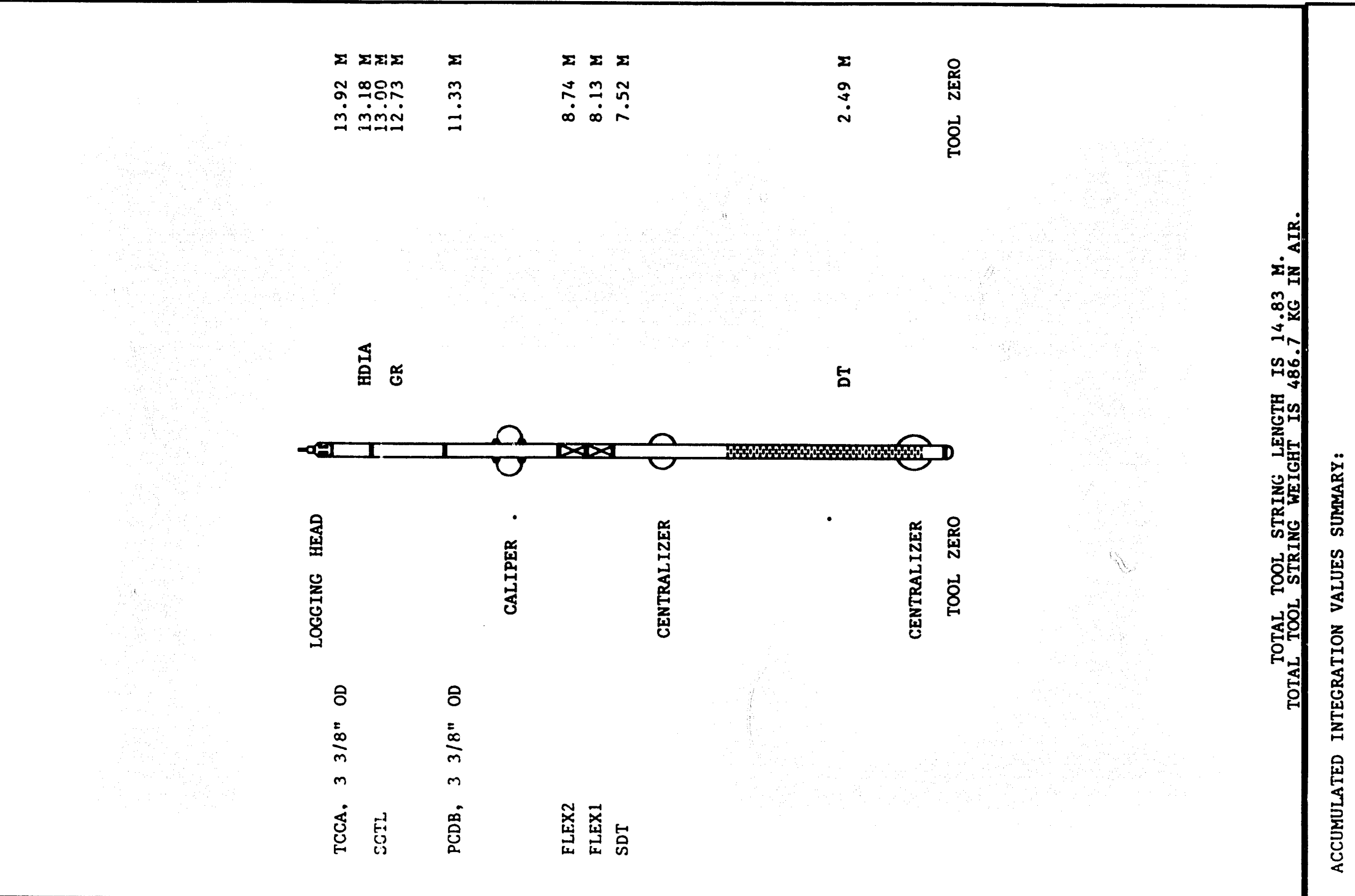
9211-106-1-1
Schlumberger

COMPANY		MURPHY OIL COMPANY LIMITED	
WELL		MURPHY DISCOVERY RIDGE H-55	
FIELD		UNDEFINED	
TERRITORY		N.W.T.	
LOCATION		H-55-65-30-126-45	
API SERIAL NO.		SECT.	TWP.
RANGE		Elev.: K.B.385.4 M	
Permanent Datum		GROUND LEVEL Elev. 380.0 M	
Log Measured From		KELLY BUSHING 5.4 M above Perm. Datum	
Drilling Measured From		KELLY BUSHING D.F. G.L.380.0 M	
Date		8-MARCH-1997	
Run No.		ONE	
Depth Driller		580.0 M	
Depth Logger (Schl.)		577.8 M	
Blm. Log Interval		575.3 M	
Top Log Interval		217.0 M	
Casing-Driller		244.5 MM @ 215.4 M	
Casing-Logger		217.0 M	
Bit Size		222 MM @	
Type Fluid in Hole		GEL CHEM	
Dens.		1235. K/M3	
Visc.		46.0 S	
pH		9.5	
Source of Sample		FLOWLINE	
Rm @ Meas. Temp.		3.320 OHMM @ 20.0 DEGC	
Rmt @ Meas. Temp.		2.360 OHMM @ 16.0 DEGC	
Rmc @ Meas. Temp.		4.080 OHMM @ 16.0 DEGC	
Source: Rmt Rmc		PRESS. MEASURED	
Rm @ BHT		2.958 OHMM @ 25.1 DEGC	
Circulation Ended		12:00/8TH	
Logger on Bottom		18:30/8TH	
Max. Rec. Temp.		25.1 DEGC	
Equip.		Location 8418 NORMAN WELLS	
Recorded By		G. MCISAAC	
Witnessed By		J. RESTOULE	

Run No.	ONE
Service Order No.	192811
Logging Speed	1000.0 MHR
EQUIPMENT DATA	
Tool Number 1	TOM-AB 302
Tool Number 2	STM-CA 20
Tool Number 3	TCC-A 568
Tool Number 4	SGC-SA 1048
Tool Number 5	SDC-CA 58
Tool Number 6	SLS-WA 1203
Tool Number 7	DAC-CA
Tool Number 8	
Tool Number 9	
Tool Number 10	
Tool Number 11	
Tool Number 12	

REMARKS: DAC, ONE 2 CENTRALIZERS USED ON BHC SONIC

LOGGING TOOL STRING SKETCH

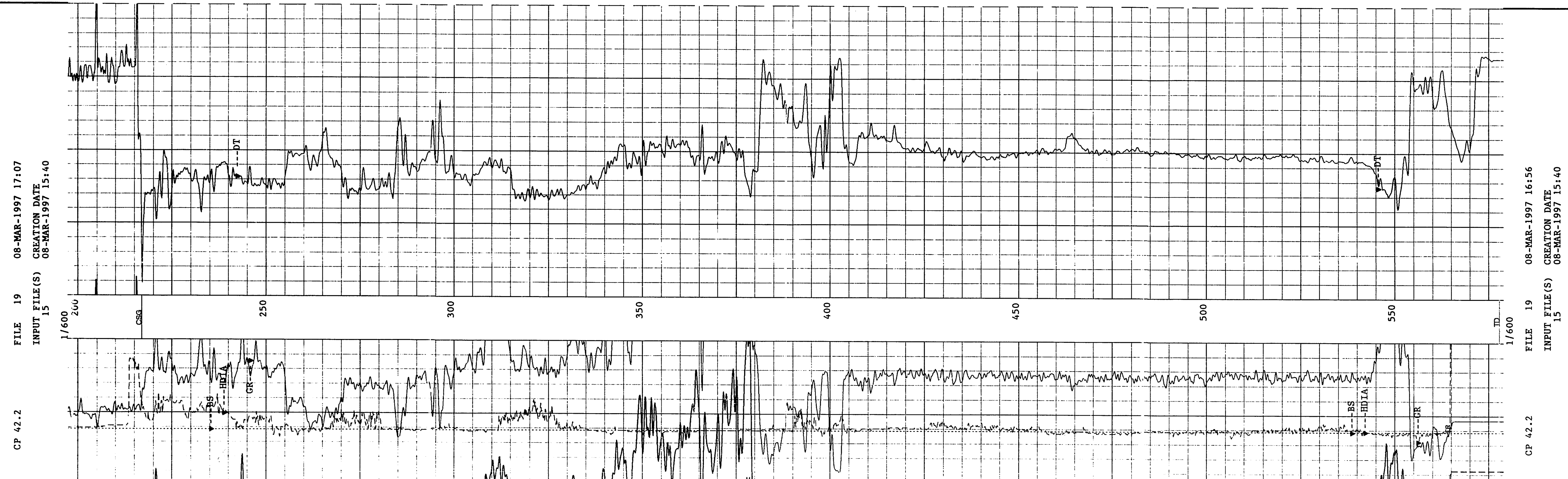


TOTAL TOOL STRING LENGTH IS 14.83 M.
TOTAL TOOL STRING WEIGHT IS 486.7 KG IN AIR.

ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume: 15.9354 M3 FROM 577.800 M TO 217.000 M
Integrated Transit Time: .113685 S FROM 578.663 M TO 197.205 M

BS(MM)	125.00	375.00
HDIA(MM)	125.00	375.00
GR(GAPI)	0.0	150.00
DT(US/M)	500.00	100.00



CP 42.2	FILE 19	08-MAR-1997 16:56
INPUT FILE(S)	08-MAR-1997 15:40	
BS(MM)	125.00	375.00
HDIA(MM)	125.00	375.00
GR(GAPI)	0.0	150.00
DT(US/M)	500.00	100.00
SENSOR MEASURE POINT TO TOOL ZERO		
SDT	2.49 METER	SGTL 12.73 METER
PCDB	13.18 METER	DTT -.30 METER
PARAMETERS		

9211-M06-1-1
Schlumberger

COMPENSATED NEUTRON
LITHO DENSITY

PROVINCE	N.W.T.	COMPANY	MURPHY OIL COMPANY LIMITED
FIELD	UNDEFINED	WELL	MURPHY DISCOVERY RIDGE H-55
LOCATION	H-55-65-30-126-45	FIELD	UNDEFINED
WELL	MURPHY DISCOVERY RIDGE H-55	PROVINCE	N.W.T.
COMPANY	MURPHY OIL COMPANY LIMITED	API SERIAL NO.	
LOG MEASURED FROM	GROUND LEVEL Elev. 380.0 M	SECT.	
DRILLING MEASURED FROM	KELLY BUSHING 5.4 M above Perm. Datum	TWP.	
DATE	8-MARCH-1997	RANGE	
RUN NO.	ONE	Elev.: K.B. 385.4 M	
DEPTH DRILLER	580.0 M	D.F.	
DEPTH LOGGER (SCHL.)	578.7 M	Q.L. 380.0 M	
BTM LOG INTERVAL	568.3 M		
TOP LOG INTERVAL	0.0 M		
CASING-DRILLER	244.5 MM @ 215.4 M		
CASING-LOGGER	217.0 M		
BIT SIZE	222 MM @		
TYPE FLUID IN HOLE	GEL CHEM		
DENS.	1235 K/M3		
PH	9.5		
SOURCE OF SAMPLE	FLOWLINE		
Rm @ Meas. Temp.	3.320 OHMM @ 20.0 DEGC		
Rmt @ Meas. Temp.	2.360 OHMM @ 16.0 DEGC		
Rmc @ Meas. Temp.	4.080 OHMM @ 16.0 DEGC		
SOURCE: Rmt Rmc	PRESS. MEASURED		
Rm @ BHT	3.029 OHMM @ 24.0 DEGC		
Circulation Ended	12:00/BTH		
Logger on Bottom	16:10/BTH		
Max. Rec. Temp.	24.0 DEGC		
Equip. Location	8418 NORMAN WELLS		
Recorded By	G. MCISAAC		
Witnessed By	J. RESTOULE		

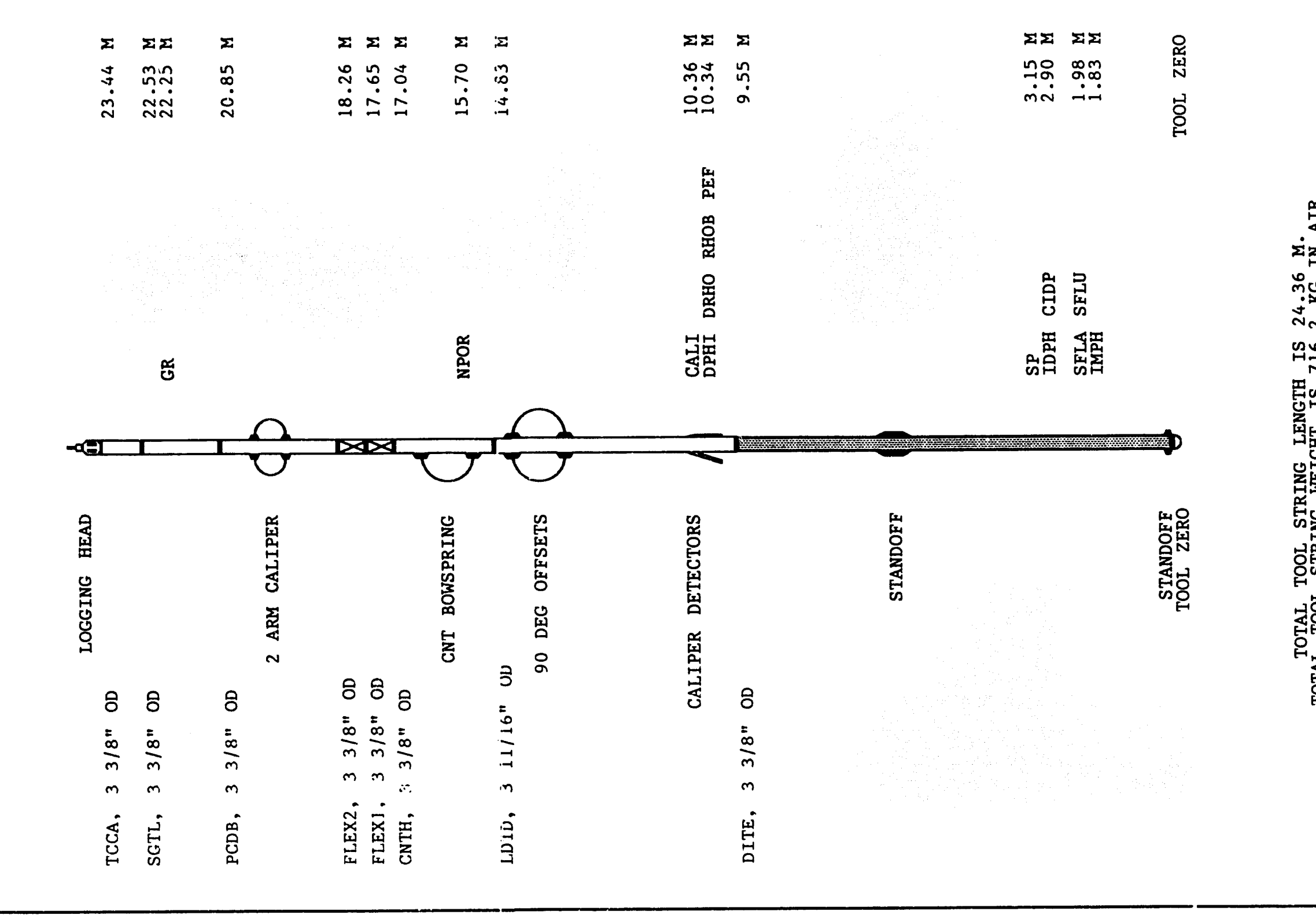
The well name, location and borehole reference data were furnished by the customer.

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

Run No.	ONE
Service Order No.	192811
Drilling Fluid Level	0.0 M
Salinity	
Rmt @ BHT	1.947 OHMM @ 24.0 DEGC
Rmc @ BHT	3.349 OHMM @ 24.0 DEGC
Logging Speed	1000.0 M/HR
EQUIPMENT DATA	
Tool Number 1	TCM-AB 302
Tool Number 2	TCC-A 566
Tool Number 3	CNC-HB 2667
Tool Number 4	SGC-SA 1048
Tool Number 5	DRS-C 3825
Tool Number 6	NSC-F 785
Tool Number 7	NSR-FA 1491
Tool Number 8	CNB-AB 1562
Tool Number 9	GSR-ID 7345
Tool Number 10	DS-EC 81
Tool Number 11	DIC-EB 83
Tool Number 12	

REMARKS: CNT BOWSPRING AND LDT 90 DEG OFFSET PAN
DATE: CNT-LDT COMBINATION
CEMENT VOL. BASED ON 177.8 MM PRODUCTION CASING
LOGGED CNT-GR TO SURFACE WITH BHS=CASED

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 24.36 M.
TOTAL TOOL STRING WEIGHT IS 716.2 KG IN AIR.

ACCUMULATED INTEGRATION VALUES SUMMARY:

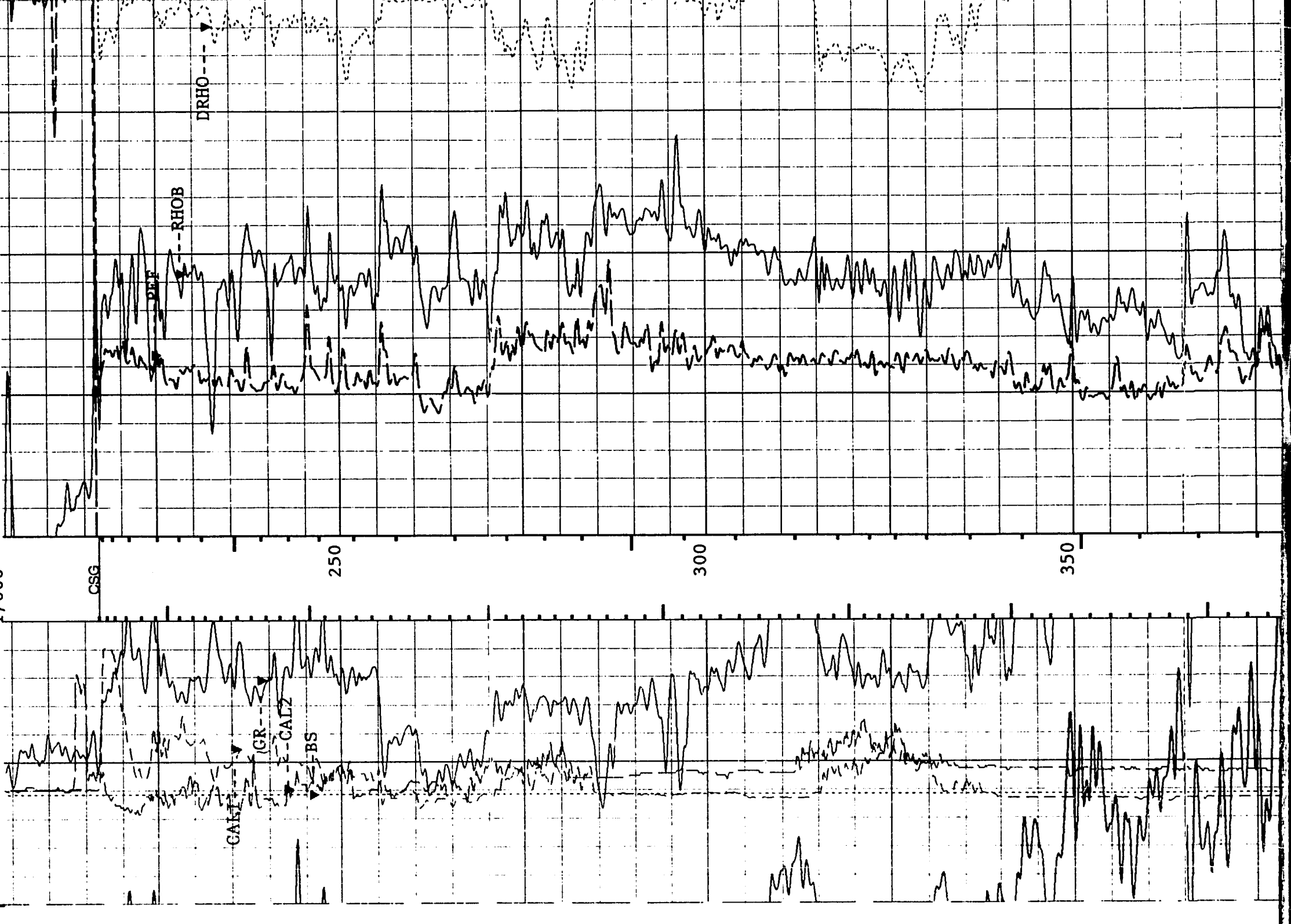
Integrated Hole Volume: 14.6090 M3 FROM 578.700 M TO 217.000 M
Integrated Cement Volume: 5.62974 M3 FROM 578.700 M TO 217.000 M
(ASSUMING 177.800 MM O.D. CASING)

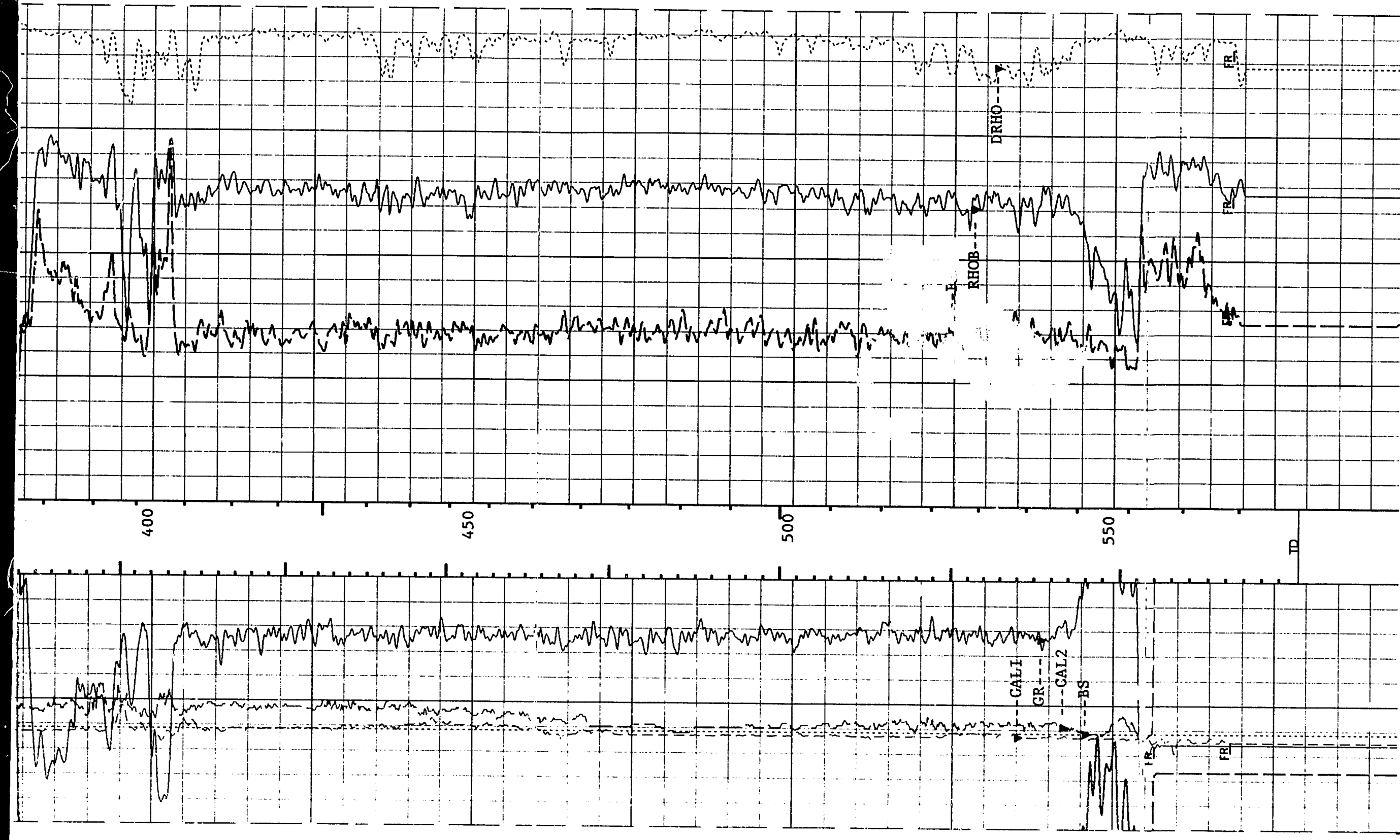
EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
Integrated Hole Volume	.100000 M3	LEFT EDGE
Integrated Cement Volume	.100000 M3	RIGHT EDGE

CAL (MM)	125.00	375.00
GR (GAPI)	0.0	150.00
CAL2 (MM)	125.00	375.00
BS (MM)	125.00	375.00
BDOC	10.000	0.0
DRHO (K/M3)	1450.00	50.00
PEF	0.0	10.000
PHOB (K/M3)	2000.0	3000.0
BULK DENS. FLAG		

CP 42.2 FILE 23 08-MAR-1997 17:55
INPUT FILE(S) 9
CREATION DATE 08-MAR-1997 13:04





CP 42.2 FILE 23 08-MAR-1997 17:41
INPUT FILE(S) 9 CREATION DATE 08-MAR-1997 13:04

BULK DENS FLAG	
125.00	CAL1(MM)
0.0	GR(GAPI)
125.00	CAL2(MM)
125.00	BS(MM)

BULK DENS FLAG	
10.000	BOGC
0.0	DRHO(KM3)
0.0	PEF
0.0	RHO(KM3)
0.0	DRHO(KM3)

ACCUMULATED INTEGRATION VALUES SUMMARY:
Integrated Hole Volume: 14.6990 M3 FROM 578.700 M TO 217.000 M
Integrated Cement Volume: 5.62974 M3 FROM 578.700 M TO 217.000 M
(ASSUMING 177.800 CM O.D. CASING)

EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
Integrated Hole Volume	.100000 M3	LEFT EDGE
Integrated Cement Volume	.100000 M3	RIGHT EDGE

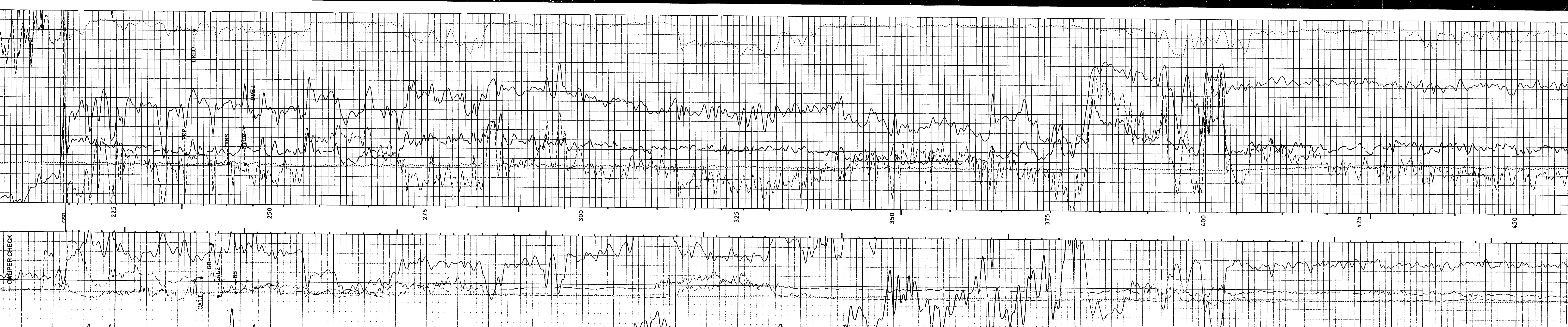
TENS(LBF)	
0.0	0.0
0.0	4000.0
0.0	PEF
0.0	DRHO(KM3)

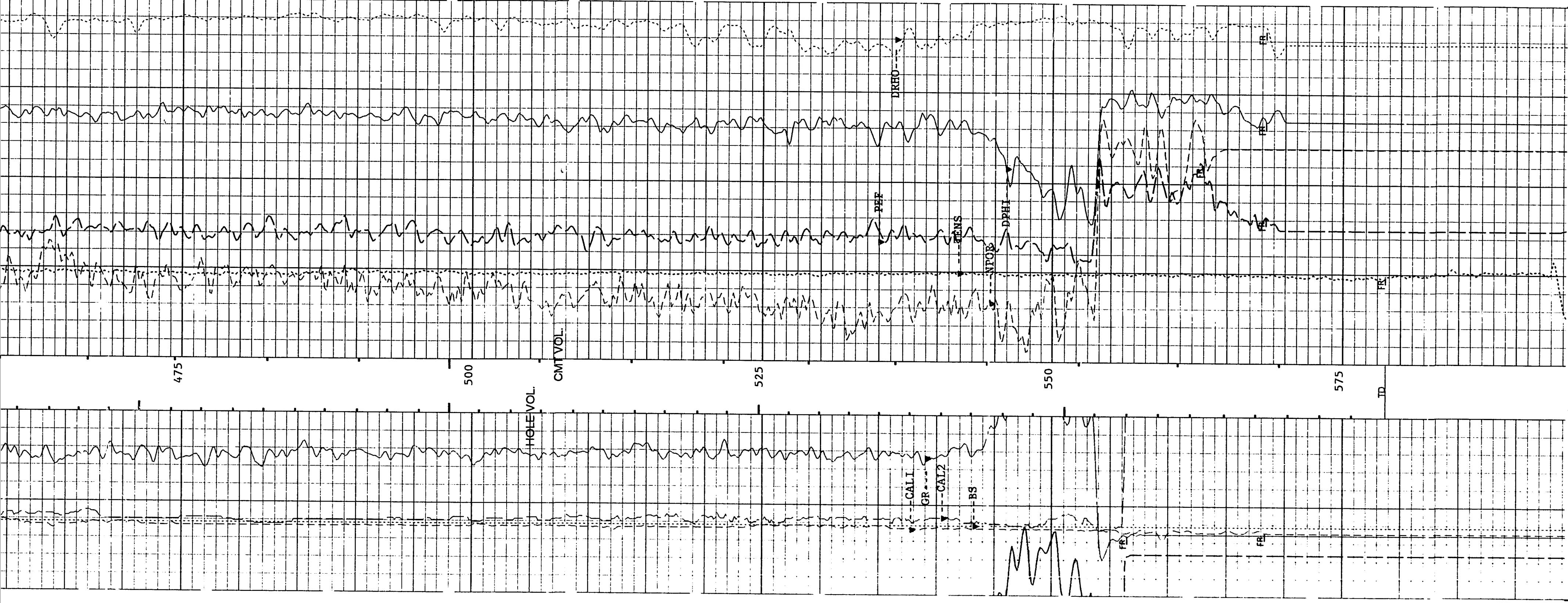
NFOR(V)	
0.0	0.0
0.0	45000
0.0	DRHO(KM3)

CP 42.2 FILE 23 08-MAR-1997 17:55
INPUT FILE(S) 9 CREATION DATE 08-MAR-1997 13:04

CAL(MM)	
125.00	375.00
0.0	GR(GAPI)
125.00	CAL2(MM)
125.00	BS(MM)

BULK DENS FLAG	
10.000	BOGC
0.0	DRHO(KM3)
0.0	PEF
0.0	RHO(KM3)
0.0	DRHO(KM3)

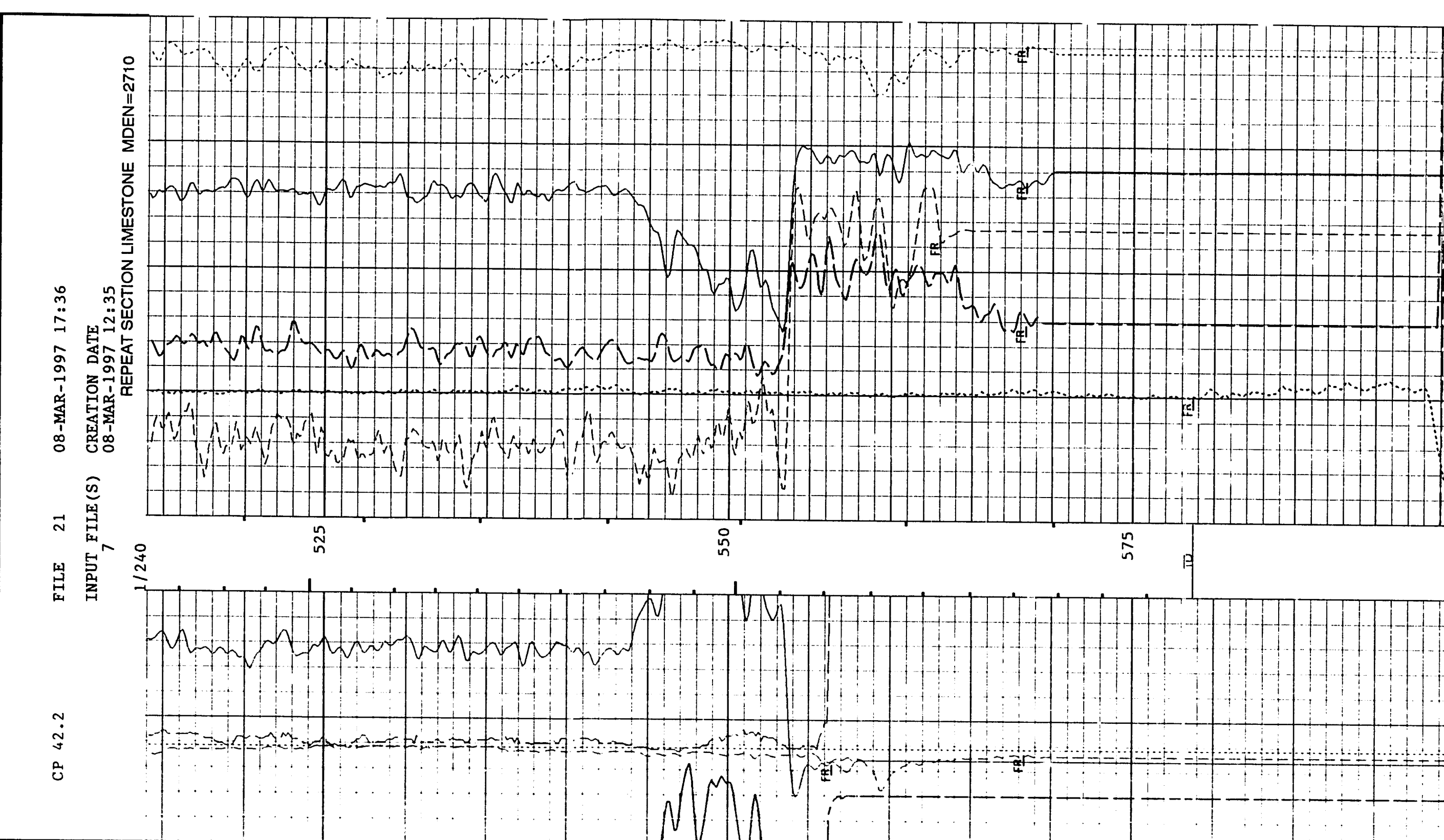




CP 42.2 FILE 23 08-MAR-1997 17:41 LIMESTONE MDEN=2710
INPUT FILE(S) 9 CREATION DATE 08-MAR-1997 13:04

125.00	CAL1(MM)	375.00	TENS(LBF)	0.0	4000.0	450.00	DPH(KW3)	50.00
0.0	GR(GAPI)	150.00	0.0	0.0	0.0	NEOR(VV)	10.00	10.00
125.30	CAL2(MM)	375.00	45000	45000	45000	DPH(VV)	1.500	1.500
125.30	BS(MM)	375.00	45000	45000	45000	DPH(VV)	1.500	1.500

125.00	CAL1(MM)	375.00	TENS(LBF)	0.0	4000.0	450.00	DPH(KW3)	50.00
0.0	GR(GAPI)	150.00	0.0	0.0	0.0	NEOR(VV)	10.00	10.00
125.30	CAL2(MM)	375.00	45000	45000	45000	DPH(VV)	1.500	1.500
125.30	BS(MM)	375.00	45000	45000	45000	DPH(VV)	1.500	1.500



CP 42.2 FILE 21 08-MAR-1997 17:36
INPUT FILE(S) 7 CREATION DATE 08-MAR-1997 12:35
REPEAT SECTION LIMESTONE MDEN=2710

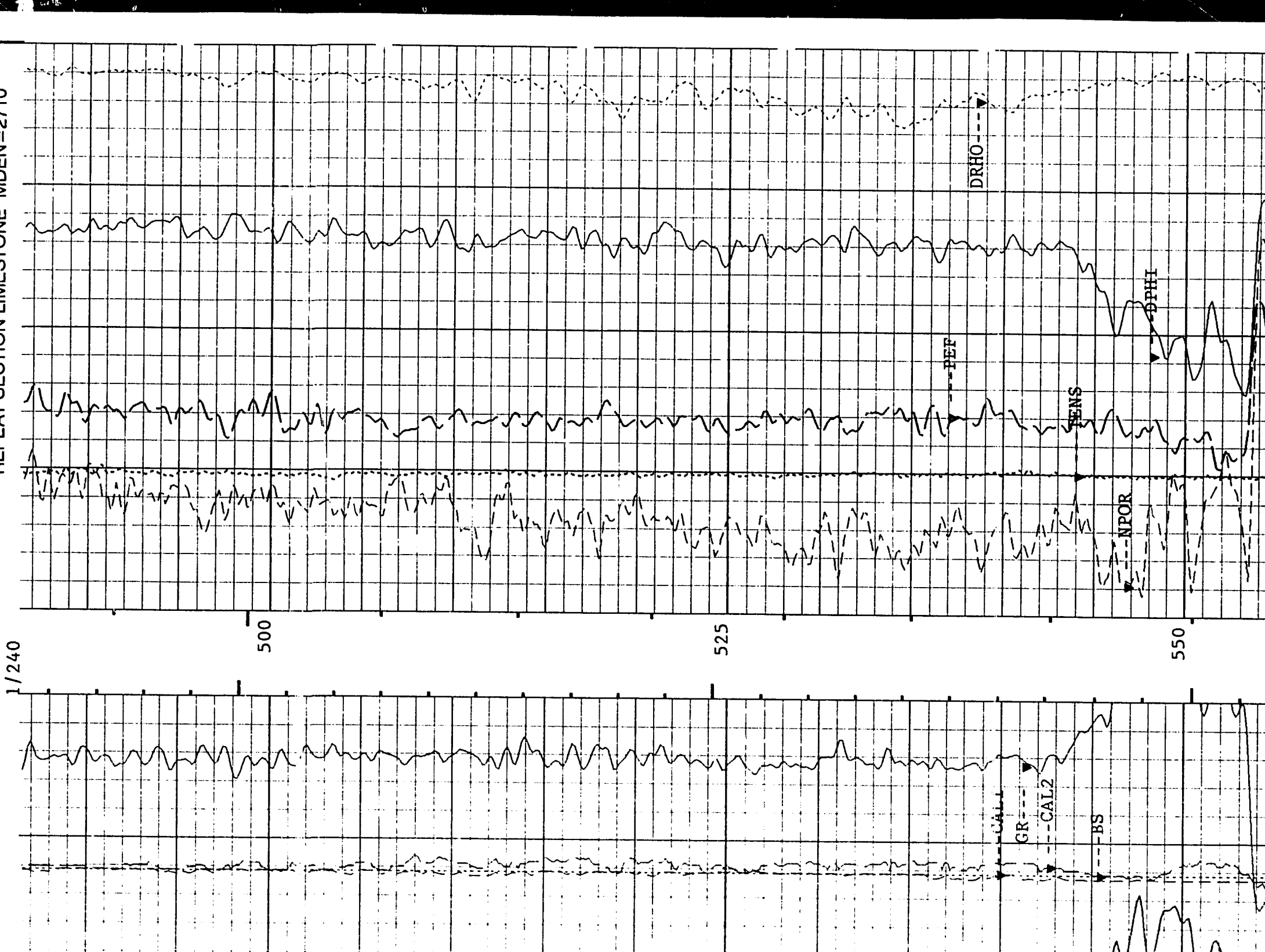
125.00	CAL1(MM)	375.00	TENS(LBF)	0.0	4000.0	450.00	DPH(KW3)	50.00
0.0	GR(GAPI)	150.00	0.0	0.0	0.0	NEOR(VV)	10.00	10.00
125.30	CAL2(MM)	375.00	45000	45000	45000	DPH(VV)	1.500	1.500
125.30	BS(MM)	375.00	45000	45000	45000	DPH(VV)	1.500	1.500

SENSOR MEASURE POINT TO TOOL ZERO
DITE 3.15 METER
DPT 14.2 METER
CNTH 15.85 METER

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	RECO		DO	0.0	M
WHUD	1000.00	K/M ²	TD	578.700	M
FGD	177.800	MM	DHC	BS	K/M3
FGN	10.00	K/M3	MDEN	2710.00	
MATR	LIME		DPH	STAN	
MDC	0		HSO	VAL	
SOCO	NO		MCO	NO	
BSCO	NO		PTCO	NO	
MCO	NO		SDAT	SOCH	
CCCO	NO		SOCH	12.7000	MM
FSAL	-50000.0	PPM	ANGL	0.0	DEG
GRD	.0182270	DC/M	BHFL	WATE	
IFRS	20	KHZ	SBR	1.00000	OHMM
MXE2	25.2183	MM/M	DXE2	76.5796	MM/M
MRE2	19.3868	MM/M	DRE2	14.2010	MM/M
MPH2	-.643545	DEG	DPH2	1.78856	DEG
MGF2	1.01771		DGE2	1.00111	
DESP	DISA		STFL	ALLO	
DCAS	215.400	M	ITEN	ALLO	
DEVI	0.0	DEG	DSES	H412	
IPRC	PHAS		IPHA	NORM	
CDSE	RHO		CNPS	NPHI	
NCJT	GSRY		GTSE	TEMP	
SHI	10.0000	DEGC	BHT	40.0000	DEGC
SPRE	DISA		TDL	578.700	M
PNES	2.3000	DEGC	DFD	1235.00	K/M3
MST	20.0000	DEGC	RMS	3.52000	OHMM
BS	222.700	MM	MST	16.0000	DEGC
			BHS	OPEN	

125.00	CAL1(MM)	375.00	TENS(LBF)	0.0	4000.0	450.00	DPH(KW3)	50.00
0.0	GR(GAPI)	150.00	0.0	0.0	0.0	NEOR(VV)	10.00	10.00
125.30	CAL2(MM)	375.00	45000	45000	45000	DPH(VV)	1.500	1.500
125.30	BS(MM)	375.00	45000	45000	45000	DPH(VV)	1.500	1.500

CP 42.2 FILE 22 08-MAR-1997 17:41
INPUT FILE(S) 8 CREATION DATE 08-MAR-1997 12:49
REPEAT SECTION LIMESTONE MDEN=2710



AFTER SURVEY TOOL CHECK Summary

Performed: 08-MAR-1997 14:22
 Program File: TOH (Version 42.2 94/10/10 94/09/24)

CNTH Tool Check

Input	Before Jig	After Jig
CNTC	2865.17	2832.10
CFTC	1279.51	1235.51

Change in Thermal Porosity at 20 PU is .804 PU

After Survey Calibrations done: 08-MAR-1997 14:17
 Before Survey Calibrations done: 08-MAR-1997 09:28

DITE Tool Check

The electronic auto-calibration statistical accumulation sums are empty.

Before Survey Calibrations performed at: 08-MAR-1997 12:15

LDTD Tool Check

Density Resistivity Sonde Number	:	3925
Nuclear Services Cartridge Number	:	785
Powered Detector Housing Number	:	2980
Powered Gamma-Gamma Detector Number	:	2721
LDT Logging Source Number	:	7345
LDT Calibration Mode	:	WATE

	Measured Before	After	Units	Tolerance on Before-After
LL	15.7	15.7	CPS	+/- 1.0
LU	58.7	58.2	CPS	+/- 1.0
LS	45.0	44.8	CPS	+/- 1.0
LITH	4.3	4.4	CPS	+/- 0.3
SS1	13.5	13.0	CPS	+/- 0.5
SS2	9.1	9.0	CPS	+/- 0.5

HV Settings		Detector Resolutions	
HV LS:	1333.7 V	LS:	8.4 %
HV SS:	1328.3 V	SS:	8.7 %

Wellsite Calibration Before Survey:

Wellsite Calibration After Survey: 08-MAR-1997 14:22

CP 42.2 FILE 11 08-MAR-1997 14:22

BEFORE SURVEY CALIBRATION Summary

Performed: 08-MAR-1997 09:31
 Program File: TOH (Version 42.2 94/10/10 94/09/24)

CNTH Detector Calibration Summary

Neutron Cartridge Number	:	2667
Neutron Source Number	:	1491
Thermal Housing Number	:	3224
Alpha detectors	:	No
Thermal Calibrator Number	:	1592

Input	Plus Reference Counts	Shop Tank Counts	Gain	Shop Jig Counts	Before Jig Counts
CNTC	6031.00	5961.50	1.012	2901.89	2865.17
CFTC	2793.00	2553.95	1.094	1281.68	1279.51
Ratio	2.159	2.334		2.264	2.239

Before Survey Calibrations done: 08-MAR-1997 09:28

SGTL Detector Calibration Summary

GR	MEASURED		CALIBRATED	UNITS
	BKCD	JIG		
	36	192	165	GAPI

Back: 08-MAR-1997 09:19 Jig: 08-MAR-1997 09:28 Comp: 08-MAR-1997 09:29

LDTD Detector Calibration Summary

Density Resistivity Sonde Number	:	3925
Nuclear Services Cartridge Number	:	785
Powered Detector Housing Number	:	2980
Powered Gamma-Gamma Detector Number	:	2721
LDT Logging Source Number	:	7345
LDT Calibration Mode	:	WATE

	Measured Bkgd	Shop Values Al+Fe	Al	Units
LL	15.7	72.7	82.7	CPS
LU	58.7	110.8	126.3	CPS
LS	45.0	128.1	145.9	CPS
LITH	4.3	31.3	49.9	CPS
SS1	13.5	141.6	160.2	CPS
SS2	9.1	208.6	231.7	CPS

HV Settings		Detector Resolutions	
HV LS:	1347.9 V	LS:	8.5 %
HV SS:	1345.0 V	SS:	8.8 %

Wellsite Calibration done: 08-MAR-1997 09:19

PCDB Electronics Calibration Summary

	MEASURED		CALIBRATED		UNITS
	ZERO	PLUS	ZERO	PLUS	
MINV	0.0	0.0	0.0	0.0	OHMM
MNOR	0.0	0.0	0.0	0.0	OHMM

Zero: 08-MAR-1997 09:21 Plus: 08-MAR-1997 09:16 Comp: 08-MAR-1997 09:25

PCDB Caliper Calibration Summary

	MEASURED		CALIBRATED		UNITS
	Small	Large	Small	Large	
LA	178.49	271.36	203.20	304.80	MM
SA	0.0	0.0	0.0	0.0	MM

Small: 08-MAR-1997 09:21 Large: 08-MAR-1997 09:16 Comp: 08-MAR-1997 09:25

LDTD Caliper Calibration Summary

	MEASURED		CALIBRATED		UNITS
	Small	Large	Small	Large	
CALI	166.57	255.71	203.20	304.80	MM

Small: 08-MAR-1997 09:15 Large: 08-MAR-1997 09:21 Comp: 08-MAR-1997 09:21

CP 42.2 FILE 0 08-MAR-1997 09:31

SHOP Summary

Performed: 04-MAR-1997 11:36
 Program File: CCGSHOP (Version 42.2 94/10/10 94/09/24)

CNTH Detector Calibration Summary

CNC #	:	2667
Neutron Source #	:	1491
Thermal Housing #	:	3224
Alpha detectors	:	No
Thermal CNB #	:	1592

Input	Plus Reference Counts	Shop Tank Counts	Gain	Shop Jig Counts
CNTC	6031.00	5961.50	1.012	2901.89
CFTC	2793.00	2553.95	1.094	1281.68
RATIO	2.159	2.334		2.264

Shop Counts temperature and housing size corrected

Shop Tank Calibration done: 04-MAR-1997 11:31

CP 42.2 FILE 4 04-MAR-1997 11:35

SHOP Summary

Performed: 25-FEB-1997 19:16
 Program File: CCGSHOP (Version 42.2 94/10/10 94/09/24)

LDTD Detector Calibration Summary

Density Resistivity Sonde Number	:	3926
Nuclear Service Cartridge Number	:	785
Powered Detector Housing Number	:	2980
Powered Gamma-Gamma Detector Number	:	2721
LDT Logging Source Number	:	7345
LDT Calibration Mode	:	WATE

	Master Calibrated Bkgd	Al+Fe	Al	Units
LL	15.7	72.7	82.7	CPS
LU	58.3	110.8	126.3	CPS
LS	44.8	128.1	145.9	CPS
LITH	4.4	31.3	49.9	CPS
SS1	13.1	141.6	160.2	CPS
SS2	9.1	208.6	231.7	CPS

HV Settings		Detector Resolutions	
HV LS:	1370.4 V	LS:	8.5 %
HV SS:	1311.8 V	SS:	8.7 %

	Spectrum Quality Ratios		
	Computed Value	Nominal Value	Tolerance
QRLS	.655	0.65	+/- 0.05
QRSS	.692	0.72	+/- 0.10
QRLI	.342	0.39	+/- 0.06
QLIR	1.403	1.39	+/- 0.06
QR	1.006	1.00	+/- 0.02

Shop Block Calibration done: 25-FEB-1997 19:16

CP 42.2 FILE 2 25-FEB-1997 19:16

COMPANY MURPHY OIL COMPANY LIMITED

WELL MURPHY DISCOVERY RIDGE H-55

FIELD UNDEFINED

PROVINCE N.W.T.

SCHL FR 568.3 M

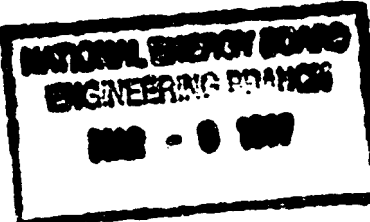
SCHL TD 578.7 M

DRLR TD 580.0 M

Elev: KB 385.4 M

DF

GL 380.0 M



COMPENSATED NEUTRON

Schlumberger

LITHO DENSITY

TOUR SHEETS

REPORT No.

LEGEND

Metric expressions:

LEASE			WELL No.			WELL NUMBER			WATER DEPTH			DATE		
MURPHY DISCOVERY RIDGE			E-45			E-45						Yr. Mo. Day		
OPERATOR						CONTRACTOR						RIG No.		
MURPHY OIL CO.														
SIGNATURE OF OPERATOR'S REPRESENTATIVE						SIGNATURE OF CONTRACTOR'S RIG MANAGER								
[Signature]						[Signature]								
D P SIZE	kg/m	GRADE	TOOL JT O.D.	TYPE THREAD	STRING No	PUMP No.	PUMP MANUFACTURER			TYPE		STROKE LENGTH		

ERCB.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (u
- (3) H&S Signs Posted (if required)

LEGAL LAND DESCRIPTION

	OUTSIDE DIAMETER	INSIDE DIAMETER	
LAST CASING TUBING OR LINER			

TIME DISTRIBUTION - HOURS				No.		DRILLING ASSEMBLY (at end of tour)		BIT RECORD						MUD RECORD			
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR			BIT		m	BIT No.				TIME				
1	RIG UP AND TEAR DOWN								SIZE				DENSITY kg/m ³				
2	DRILL ACTUAL					STB RMR	OD	m	MFG.				PRESSURE GRADIENT				
3	REAMING					D.C. ID	OD	m	TYPE				VISCOSITY				
4	CORING					STB RMR	OD	m	JETS mm				PV mPa.s	YP Pa	/	/	/
5	CONDITION MUD & CIRCULATE					D.C. ID	OD	m	SER. No.				GEL STR. Pa	/	/	/	/
6	TRIPS					STB RMR	OD	m	DEPTH OUT				WATER LOSS cm ³				
7	LUBRICATE RIG								DEPTH IN				pH				
8	REPAIR RIG								TOTAL METRES DRILLED				SOLIDS %				
9	CUT OFF DRILLING LINE								TOTAL HRS. RUN								
10	DEVIATION SURVEY																
11	WIRE LINE LOGS					STANDS DP		m	COND. 1/8" T/8" GAGE				MUD & CHEMICALS ADDED				
12	RUN CASING & CEMENT					SINGLES DP		m	FLOW RATE m ³ /min	/	/	/	TYPE	AMT. kg	TYPE	AMT. kg	
13	WAIT ON CEMENT					KELLY DOWN		m	PRESSURE DROP kPa								
14	NIPPLE UP B.O.P.					TOTAL		m									
15	TEST B.O.P.					(FORCE) WT. OF STRING		daN									
16	DRILL STEM TEST					REMARKS											
17	PLUG BACK																
18	SQUEEZE CEMENT																
19	FISHING																
20	DIR. WORK																
21																	
22																	

DRILLER *B.A. [Signature]*

FIRST TOUR

METRES DRILLED		DRILLING COMPANY
FROM	TO	

DEVIATION RECORD	DEPTH

TIME LOG		ELAPSE TIME
FROM	TO	

1200		
	3000	

COMPLETION		DRILLING ASSEMBLY (at end of tour)		BIT RECORD								MUD RECORD			
A. PERF'T'N		BIT	m	BIT No.							TIME				
B. TBG TRIPS				SIZE							DENSITY kg/m ³				
C. TREATING		STB RMR	OD	m	MFG.						PRESSURE GRADIENT				
E. TESTING		D.C. ID	OD	m	TYPE						VISCOSITY				
F. ADDIT'N'L		STB RMR	OD	m	JETS mm						PV mPa*s	YP Pa	/	/	
G.		D.C. ID	OD	m	SER. No.						GEL STR. Pa	/	/	/	
TOTALS		STB RMR	OD	m	DEPTH OUT						WATER LOSS cm ³				
DAY WORK TIME SUMMARY (OFFICE USE ONLY)					DEPTH IN						pH				
HRS. W/CONTR. D.P.					TOTAL METRES DRILLED						SOLIDS %				
HRS. W/OPR. D.P.					TOTAL HRS. RUN										
HRS. WO/DP		STANDS DP	m	COND. 1/8" T/B/GAGE							MUD & CHEMICALS ADDED				
HRS. STANDBY		SINGLES DP	m	FLOW RATE ml/min	/	/	/	/	/		TYPE	AMT. kg	TYPE	AMT. kg	
		KELLY DOWN	m	PRESSURE DROP kPa											
		TOTAL	m												
		(FORCE) WT. OF STRING	daN												
TOTAL DAY WORK		REMARKS													
No. OF DAYS FROM SPUD															
CUMULATIVE ROTATING HRS.															
TOTAL MUD COST															
		DRILLER <i>[Signature]</i>													

SECOND TOUR

METRES DRILLED		DRILL RANGE CORRECTION
FROM	TO	

DEVIATION RECORD	DEPTH

TIME LOG		ELAPSED TIME
FROM	TO	

2700		
1900		

	1/100	



**APPROVAL
PENDING**



OFFICIAL DAILY

No.

DAILY DRILLING REPORT

REPORT No.

LEASE MURPHY DISCOVERY RIDGE	WELL No. E-45	WELL NUMBER E45-65-30-126-45	WATER DEPTH	DATE Yr. Mo. Day					
OPERATOR MURPHY OIL CO	CONTRACTOR SHEATH DRILL		RIG No. 1E						
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		SIGNATURE OF CONTRACTOR'S RIG MANAGER							
D P SIZE	kg/m	GRADE	TOOL JT O D	TYPE THREAD	STRING No	PUMP No	PUMP MANUFACTURER	TYPE	STROKE LENGTH

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection Weekly
- (3) H.S. Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER

TIME DISTRIBUTION - HOURS				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD				MUD RECORD			
CODE No	OPERATION	FIRST TOUR	SECOND TOUR	BIT	m	BIT No	SIZE	TIME	DENSITY kg/m ³	PRESSURE GRADIENT	VISCOSITY	PV mPa.s	YP Pa
1	RIG UP AND TEAR DOWN												
2	DRILL ACTUAL			STB RMR	OD	m	MFG						
3	REAMING			D C ID	OD	m	TYPE						
4	CORING			STB RMR	OD	m	JETS mm						
5	CONDITION MUD & CIRCULATE			D C ID	OD	m	SER No						
6	TRIPS			STB RMR	OD	m	DEPTH OUT						
7	LUBRICATE RIG						DEPTH IN						
8	REPAIR RIG						TOTAL METRES DRILLED						
9	CUT OFF DRILLING LINE						TOTAL HRS RUN						
10	DEVIATION SURVEY												
11	WIRE LINE LOGS			STANDS DP	m	COND 1/8" T/B/GAGE							
12	RUN CASING & CEMENT			SINGLES DP	m	FLOW RATE m ³ /min							
13	WAIT ON CEMENT			KELLY DOWN	m	PRESSURE DROP kPa							
14	NIPPLE UP B.O.P.			TOTAL	m								
15	TEST B.O.P.												
16	DRILL STEM TEST			(FORCE) WT. OF STRING	daN								
17	PLUG BACK			REMARKS									
18	SQUEEZE CEMENT												
19	FISHING												
20	DIR. WORK												
21													
22													
23													

B. L. P. DRILLER K. W. W.

COMPLETION				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD				MUD RECORD			
A. PERF'TN	B. TBG TRIPS	C. TREATING	D. SWABBING	BIT	m	BIT No	SIZE	TIME	DENSITY kg/m ³	PRESSURE GRADIENT	VISCOSITY	PV mPa.s	YP Pa
				STB RMR	OD	m	MFG						
				D C ID	OD	m	TYPE						
				STB RMR	OD	m	JETS mm						
				D C ID	OD	m	SER No						
				STB RMR	OD	m	DEPTH OUT						
							DEPTH IN						
							TOTAL METRES DRILLED						
							TOTAL HRS RUN						
				STANDS DP	m	COND 1/8" T/B/GAGE							
				SINGLES DP	m	FLOW RATE m ³ /min							
				KELLY DOWN	m	PRESSURE DROP kPa							
				TOTAL	m								
				(FORCE) WT. OF STRING	daN								
TOTALS				REMARKS									
DAY WORK TIME SUMMARY (OFFICE USE ONLY)													
HRS. W/CONTR. D.P.													
HRS. W/OPR. D.P.													
HRS. W/O.D.P.													
HRS. STANDBY													
TOTAL DAY WORK													
No. OF DAYS FROM SPUD													
CUMULATIVE ROTATING HRS													
TOTAL MUD COST													

B. L. P. DRILLER K. W. W.

FORM 278m



APPROVAL PENDING

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OFFICIAL DAI

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection-Weekly (using check list)
 (3) H.S Signs Posted (if required)

OPR.

Initial _____
 Initial _____
 Initial _____

R.M.

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (once/rig/month)
 (3) Mast Inspected Before Raising or Lowering

R.M.

Initial _____
 Initial _____
 Initial _____

LEGAL LAND DESCRIPTION

WIRE LINE RECORD

REEL No.

OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE	No LINES	METRES SLIPPED
LAST CASING TUBING OR LINER									METRES CUT OFF		
									PRESENT LENGTH		
									MEGAJOULES SINCE LAST CUT		
									CUMULATIVE MEGAJOULES		

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. LINER SIZE	STROKES per min	PUMP No. LINER SIZE	STROKES per min	METHOD RUN
				Feb 19/97								
REDUCED PUMP SPEED												

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
------	----	--------------	---------	---	--------------

0700 1900 12:00 1 MOVE OUT 2 CAMP TRAILERS SUB STRUCTURE MATTING, PONY SUBS, PREPARE MUD PUMP FOR MOVE - RIG UP CAMP - START GENERATOR HEAT CAMP BUILDINGS.

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. LINER SIZE	STROKES per min	PUMP No. LINER SIZE	STROKES per min	METHOD RUN
REDUCED PUMP SPEED												

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
------	----	--------------	---------	---	--------------

0700 1900 12:00 1 UNLOAD CASING LAY DOWN MATTING SHOVEL SNOW RIG UP CAMP LOAD UP TRACKS AT YARD, SHOVEL SNOW & PREPARE MAST FOR MOVE.

OFFICIAL DAILY DRILLING REPORT FORM

No.

DAILY DRILLING REPORT

REPORT No.

LEASE MURPHY DISCOVERY RIDGE		WELL No. E-45	WELL NUMBER E-45-65-30-126-45	WATER DEPTH	DATE 97.02.23				
OPERATOR MURPHY OIL COMPANY		CONTRACTOR SHEHTAH DRILLING LTD			RIG No. 1E				
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		SIGNATURE OF CONTRACTOR'S RIG MANAGER <i>[Signature]</i>							
D.P. SIZE	kg/m	GRADE	TOOL JOINT	TYPE THREAD	STRING No.	PUMP No.	PUMP MANUFACTURER	TYPE	STROKE LENGTH

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly
- (3) H/S Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER

TIME DISTRIBUTION - HOURS				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD				MUD RECORD					
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR	BIT	m	BIT No.	SIZE	TIME	DENSITY kg/m ³	PRESSURE GRADIENT	VISCOSITY	PV mPa.s	YP Pa		
1	RIG UP AND TEAR DOWN		12:00												
2	DRILL ACTUAL			STB RMR	OD	m	MFG								
3	REAMING			D.C. ID	OD	m	TYPE								
4	CORING			STB RMR	OD	m	JETS mm								
5	CONDITION MUD & CIRCULATE			D.C. ID	OD	m	SER No.								
6	TRIPS			STB RMR	OD	m	DEPTH OUT								
7	LUBRICATE RIG						DEPTH IN								
8	REPAIR RIG						TOTAL METRES DRILLED								
9	CUT OFF DRILLING LINE						TOTAL HRS RUN								
10	DEVIATION SURVEY			STANDS DP	m	COND. 1/8" T/B/GAGE									
11	WIRE LINE LOGS			SINGLES DP	m	FLOW RATE m ³ /min									
12	RUN CASING & CEMENT			KELLY DOWN	m	PRESSURE DROP kPa									
13	WAIT ON CEMENT														
14	NIPPLE UP B.O.P.														
15	TEST B.O.P.														
16	DRILL STEM TEST														
17	PLUG BACK														
18	SQUEEZE CEMENT														
19	FISHING														
20	DIR. WORK														
21															
22															
23															
COMPLETION				A. PERFORATION											
				B. TBG TRIPS											
				C. TREATING											
				D. SWABBING											
				E. TESTING											
				F. ADDITION											
				G.											
TOTALS															
DAY WORK TIME SUMMARY (OFFICE USE ONLY)															
HRS. W/CONTR. D.P.															
HRS. W/OPR. D.P.															
HRS. WO/DP															
HRS. STANDBY															
TOTAL DAY WORK															
No. OF DAYS FROM SPUD															
CUMULATIVE ROTATING HRS															
TOTAL MUD COST															

FIRST TOUR

SECOND TOUR

METRES DRILLED		D.P. CORR.
FROM	TO	

DEVIATION RECORD	DEPTH

TIME LOG		ELAPSED TIME
FROM	TO	
07:00	19:00	12

METRES DRILLED		D.P. CORR.
FROM	TO	

DEVIATION RECORD	DEPTH

TIME LOG		ELAPSED TIME
FROM	TO	
07:00		

METRES DRILLED		D.P. CORR.
FROM	TO	

TIME LOG		ELAPSED TIME
FROM	TO	

METRES DRILLED		D.P. CORR.
FROM	TO	

TIME LOG		ELAPSED TIME
FROM	TO	

METRES DRILLED		D.P. CORR.
FROM	TO	

FORM 276m

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OFFICIAL DAILY

DATE 97.02.23
RIG No. 1E
LTD
ACER

TYPE
STROKE LENGTH

RECORD

RECORD

RECORD

LEGEND All lengths expressed in metres to two decimal places.
Metric expressions: mud density = kilogram per cubic metre (kg/m³)
pump-stroke length = millimetre (mm)
weight of string = decanewton (daN)
weight on bit: indicator will record decanewton
linear mass = kilogram per metre (kg/m)
viscosity = second per litre (s/L)
flow rate = cubic metre per minute (m³/min)
pressure gradient = kilopascal per metre (kPa/m)
yield point = pascal (Pa)
plastic viscosity = millipascal second (mPa.s)
gel strength = pascal (Pa)
work completed by wire line = megajoule (MJ)
inside diameter and outside diameter = millimetre (mm)
pump pressure = kilopascal (kPa)
E.R.C.B. OPR. R.M.
(1) Daily Walk Around Inspection Initial Initial
(2) Detailed Inspection-Weekly (using check list) Initial Initial
(3) H/S Signs Posted (if required) Initial Initial
(1) Rig Site Health and Safety Meeting (one meeting/crew/month) Initial
(2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month) Initial
(3) Mast Inspected Before Raising or Lowering Initial

LEGAL LAND DESCRIPTION E-45-65-30-126-45
WIRE LINE RECORD REEL No
SIZE No LINES METRES SLIPPED
METRES CUT OFF PRESENT LENGTH
MEGAJOULES SINCE LAST CUT
CUMULATIVE MEGAJOULES

METRES DRILLED FROM TO OR D R M R CORE C CORE No FORMATION (SHOW CORE RECOVERY)
ROTARY RPM (FORCE) WT. ON BIT daN PUMP PRESS PUMP No. LINER SIZE STROKES per min PUMP No. LINER SIZE STROKES per min METHOD RUN SGL S PAREL P COM D C
REDUCED PUMP SPEED

DEVIATION RECORD DEPTH DEV DIRECTION DEPTH DEV DIRECTION DEPTH DEV DIRECTION

TIME LOG FROM TO ELAPSED TIME CODE No DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS BOILER HOURS
0700 1900 12 STRING BLOCKS PREPARE DERRICK TO HOIST
VISUALLY INSPECT DERRICK AND RAISE
RIG UP

METRES DRILLED FROM TO OR D R M R CORE C CORE No FORMATION (SHOW CORE RECOVERY)
ROTARY RPM (FORCE) WT. ON BIT daN PUMP PRESS PUMP No. LINER SIZE STROKES per min PUMP No. LINER SIZE STROKES per min METHOD RUN SGL S PAREL P COM D C
REDUCED PUMP SPEED

DEVIATION RECORD DEPTH DEV DIRECTION DEPTH DEV DIRECTION DEPTH DEV DIRECTION

TIME LOG FROM TO ELAPSED TIME CODE No DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS BOILER HOURS
07:00 19:00 12:00 1 RIG UP ON NEW LOCATION - RIG UP WATER, STEAM
& AIR. SPOT & LEVEL SHACKS. RIG UP HYDRAULIC
LINES. PUT UP TARPS BETWEEN BUILDINGS
GENERAL RIG UP

REPORT No.

Metric expressions:

LEGAL LAND DESCRIPTION

TIME LOG		ELAPSED TIME
FROM	TO	
0700	1900	12

No.

DAILY DRILLING REPORT

REPORT No.

LEASE MURPHY DISCOVERY RIDGE	WELL No. H-25-45	WELL NUMBER E-45-65-30-126-45	WATER DEPTH 97.02 25						
OPERATOR MURPHY OIL COMPANY	CONTRACTOR SHEHNAH DRUG LTD		RIG No. 1E						
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		SIGNATURE OF CONTRACTOR'S RIG MANAGER <i>[Signature]</i>							
D.P. SIZE	kg/m	GRADE	TOOL JOINT	TYPE THREAD	STRING No.	PUMP No.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
						1	EMSCO	DB-550	406
						2	EMSCO	DB-550	406

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
(2) Detailed Inspection-Weekly
(3) H.S. Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER

TIME DISTRIBUTION - HOURS				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD				
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR	BIT	m	BIT No.		TIME				
1.	RIG UP AND TEAR DOWN	12	12			SIZE		DENSITY kg/m ³				
2.	DRILL ACTUAL			STB RMR	OD	m	MFG.	PRESSURE GRADIENT				
3.	REAMING			D.C. ID	OD	m	TYPE	VISCOSITY				
4.	CORING			STB RMR	OD	m	JETS mm	PV mPa.s	YP Pa			
5.	CONDITION MUD & CIRCULATE			D.C. ID	OD	m	SER. No.	GEL STR. Pa				
6.	TRIPS			STB RMR	OD	m	DEPTH OUT	WATER LOSS cm ³				
7.	LUBRICATE RIG						DEPTH IN	pH				
8.	REPAIR RIG						TOTAL METRES DRILLED	SOLIDS %				
9.	CUT OFF DRILLING LINE						TOTAL HRS RUN					
10.	DEVIATION SURVEY			STANDS DP	m	COND. 1/8" T/B/GAGE		MUD & CHEMICALS ADDED				
11.	WIRE LINE LOGS			SINGLES DP	m	FLOW RATE m ³ /min		TYPE	AMT. kg	TYPE	AMT. kg	
12.	RUN CASING & CEMENT			KELLY DOWN	m	PRESSURE DROP kPa						
13.	WAIT ON CEMENT			TOTAL	m							
14.	NIPPLE UP B.O.P.			(FORCE) WT. OF STRING	daN							
15.	TEST B.O.P.			REMARKS								
16.	DRILL STEM TEST											
17.	PLUG BACK											
18.	SQUEEZE CEMENT											
19.	FISHING											
20.	DIR. WORK											
21.												
22.												
23.												
COMPLETION				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD				
A.	PERF'R'T'N			BIT	m	BIT No.		TIME				
B.	TBG TRIPS					SIZE		DENSITY kg/m ³				
C.	TREATING			STB RMR	OD	m	MFG.	PRESSURE GRADIENT				
D.	SWABBING			D.C. ID	OD	m	TYPE	VISCOSITY				
E.	TESTING			STB RMR	OD	m	JETS mm	PV mPa.s	YP Pa			
F.	ADDIT'N'L			D.C. ID	OD	m	SER. No.	GEL STR. Pa				
G.				STB RMR	OD	m	DEPTH OUT	WATER LOSS cm ³				
TOTALS						DEPTH IN		pH				
DAY WORK TIME SUMMARY (OFFICE USE ONLY)						TOTAL METRES DRILLED		SOLIDS %				
HRS. W/CONTR. D.P.						TOTAL HRS. RUN		MUD & CHEMICALS ADDED				
HRS. W/OPR. D.P.						STANDS DP	m	COND. 1/8" T/B/GAGE	TYPE	AMT. kg	TYPE	AMT. kg
HRS. WO/DP						SINGLES DP	m	FLOW RATE m ³ /min				
HRS. STANDBY						KELLY DOWN	m	PRESSURE DROP kPa				
						TOTAL	m					
						(FORCE) WT. OF STRING	daN					
TOTAL DAY WORK						REMARKS						
						HELD PRE-SPUD SAFETY MTG K.W.						
						KB - GL = 5.40 m.						
No. OF DAYS FROM SPUD												
CUMULATIVE ROTATING HRS												
TOTAL MUD COST												

DRILLER

FORM 2T6m

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OFFICIAL DAILY

OFFICIAL DAILY

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

ER.C.S.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection Weekly (using check list)
- (3) H.S. Signs Posted (if required)

Initial AWD Initial AWD
 Initial AWD Initial AWD

- (1) Rig Site Health and Safety Meeting (one meeting/c:month)
- (2) CAODC Rig Safety Inspection Check List (one/month)
- (3) Mast Inspected Before Raising or Lowering

Initial AWD Initial AWD
 Initial AWD Initial AWD

LEGAL LAND DESCRIPTION

WIRE LINE RECORD

DATE 97 02 26
 RIG No. 1E
 NAGER

TYPE STROKE LENGTH
 DB-550 406
 R-550 406

LAST CASING TUBING ON LINE

UD RECORD

CHEMICALS ADDED

Casing

UD RECORD

1830
 1150
 130

CHEMICALS ADDED

STING K.W.

SECOND TOUR

CHEMICALS ADDED

STING K.W.

OFFICIAL DAILY DRILLING REPORT FORM

9

9

9

No.

DAILY DRILLING REPORT

REPORT No.

LEASE MURPHY DISCOVERY RIDGE	WELL No. H-55	WELL NUMBER H-55-65-30-126-45	WATER DEPTH 9702.27	DATE 970227					
OPERATOR MURPHY OIL COMPANY	CONTRACTOR SHEHTAH DRUG LTD		RIG No. 1E						
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		SIGNATURE OF CONTRACTOR'S RIG MANAGER <i>[Signature]</i>							
D.P. SIZE	kg/m	GRADE	TOOL JOINT	TYPE THREAD	STRING No.	PUMP No.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
						1	EMSCO	DB-550	406
						2	EMSCO	DB-550	406

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly
- (3) H.S. Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINES	OUTSIDE DIAMETER	INSIDE DIAMETER
	339.7	320.4

TIME DISTRIBUTION - HOURS				No.	DRILLING ASSEMBLY (at end of tour)	BIT RECORD				MUD RECORD				
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR		BIT	m	BIT No.	TIME						
1	RIG UP AND TEAR DOWN							DENSITY kg/m ³						
2	DRILL ACTUAL				STB RMR	OD	m	WFG	PRESSURE GRADIENT					
3	REAMING				D C ID	OD	m	TYPE	VISCOSITY					
4	CORING				STB RMR	OD	m	JETS mm	PV mPa.s	YP Pa	/	/	/	
5	CONDITION MUD & CIRCULATE				D C ID	OD	m	SER No.	GEL STR Pa	/	/	/	/	
6	TRIPS				STB RMR	OD	m	DEPTH OUT	WATER LOSS cm ³					
7	LUBRICATE RIG							DEPTH IN	pH					
8	REPAIR RIG							TOTAL METRES DRILLED	SOLIDS %					
9	CUT OFF DRILLING LINE							TOTAL HRS RUN						
10	DEVIATION SURVEY				STANDS DP	m		COND 1/8" T/B/GAGE	MUD & CHEMICALS ADDED					
11	WIRE LINE LOGS				SINGLES DP	m		FLOW RATE m ³ /min	TYPE	AMT. kg	TYPE	AMT. kg		
12	RUN CASING & CEMENT				KELLY DOWN	m		PRESSURE DROP kPa						
13	WAIT ON CEMENT	2.5			TOTAL	m								
14	NIPPLE UP B.O.P.	9.5	12.00											
15	TEST B.O.P.													
16	DRILL STEM TEST													
17	PLUG BACK													
18	SQUEEZE CEMENT													
19	FISHING													
20	DR. WORK													
21														
22														
23														
COMPLETION														
A	PERF. T.N.				BIT	m	BIT No.	1A	TIME					
B	T.B.U. TRIPS							SIZE	311	DENSITY kg/m ³				
C	TREATING				STB RMR	OD	m	WFG	SECURITY	PRESSURE GRADIENT				
D	SWABBING				D C ID	OD	m	TYPE	S33F.	VISCOSITY				
E	TESTING				STB RMR	OD	m	JETS mm	3/19/0	PV mPa.s	YP Pa	/	/	
F	ADDITIONAL				D C ID	OD	m	SER No.	550/00	GEL STR Pa	/	/	/	
G					STB RMR	OD	m	DEPTH OUT	WATER LOSS cm ³					
TOTALS								DEPTH IN	29.	pH				
DAY WORK TIME SUMMARY (OFFICE USE ONLY)								TOTAL METRES DRILLED	SOLIDS %					
HRS W/CONTR DP								TOTAL HRS RUN						
HRS W/OPR DP								STANDS DP	COND 1/8" T/B/GAGE	MUD & CHEMICALS ADDED				
HRS WO/DP								SINGLES DP	FLOW RATE m ³ /min	TYPE	AMT. kg	TYPE	AMT. kg	
HRS STANDBY								KELLY DOWN	PRESSURE DROP kPa					
								TOTAL						
								(FORCE) WT. OF STRING						
TOTAL DAY WORK								REMARKS	HELD SAFETY MEETING WITH CREW BEFORE PICKING UP B.O.P.					
No. OF DAYS FROM SPUD														
CUMULATIVE ROTATING HRS														
TOTAL MUD COST														

FIRST TOUR

SECOND TOUR

METRES DRILLED

FROM	TO	ELAPSE TIME

DEVIATION RECORD

TIME LOG	ELAPSE TIME
FROM TO	
02:00 02:30	2.50
02:30 12:00	9.50

METRES DRILLED

FROM	TO	ELAPSE TIME

DEVIATION RECORD

TIME LOG	ELAPSE TIME
FROM TO	
12:00	
24:00 12:00	

FORM 278a

APPROVAL
PENDINGAPPROVED
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1977 JANUARY

Revised December 1998

OFFICIAL DAILY

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection Weekly (using check list)
 (3) H.S. Signs Posted (if required)

OP.

Initial *[Signature]*
 Initial *[Signature]*

R.M.

Initial *[Signature]*
 Initial *[Signature]*

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

R.M.

Initial *[Signature]*
 Initial *[Signature]*

LEGAL LAND DESCRIPTION **H-55-65-30-126-45**

WIRE LINE RECORD

REEL No.

OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE	No LINES	METRES SLIPPED
339.7	320.4	LSR 8.1	H 40	2	27.32	27			28.0	8	
LAST CASING TUBING OR LINER									METRES CUT OFF	PRESENT LENGTH	
									MEGAJOULES SINCE LAST CUT		
									CUMULATIVE MEGAJOULES	331,077	

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. 1 LINER SIZE STROKES per min	PUMP No. 2 LINER SIZE STROKES per min	METHOD RUN
								140	140	
FUEL @ 06:00 = 9171 L.										
REDUCED PUMP SPEED										

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
00:00	02:30	2.50	13	WAIT ON CEMENT	12
02:30	12:00	9.50	14	CUT CASING & WELDON DIVERTER FLANGE - NIPPLE UP DIVERTER	

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. 1 LINER SIZE STROKES per min	PUMP No. 2 LINER SIZE STROKES per min	METHOD RUN
								140	140	PARCEL P
REDUCED PUMP SPEED										

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
12:00				WELDON BOWL - NIPPLE UP DIVERTER	12
				PLUMB IN HYDRAULICS, FUNCTION TEST DIVERTER, RUN BUOY LINES	
24:00	12:00	14		CLEAN UP LEASE & PREPARE TO DRILL OUT M.C. VEHICLE	

OFFICIAL DAILY DRILLING REPORT FORM

REPORT No.

LEASE			WELL No.			WELL NUMBER			WATER DEPTH		DATE		
MURPHY DISCOVERY RIDGE			H-55			H-55-65-30-126-45					970228 Yr. Mo. Day		
OPERATOR						CONTRACTOR						RIG No.	
MURPHY OIL COMPANY						SHEHTAH DRUG LTD						1E	
SIGNATURE OF OPERATOR'S REPRESENTATIVE						SIGNATURE OF CONTRACTOR'S RIG MANAGER							
<i>[Signature]</i>						<i>[Signature]</i>							
D.P. SIZE		kg/m	GRADE	TOOL JOINT	TYPE THREAD	STRING No.	PUMP No.	PUMP MANUFACTURER		TYPE		STROKE LENGTH	
							1	EMSCO		DB-550		406	
							2	EMSCO		DB-550		406	

LEGEND

Metric expressions:

E.R.C.B.

(1) Daily Walk Around Inspection

(2) Detailed Inspection-Weekly

(3) H/S Signs Posted (if required)

TIME DISTRIBUTION - HOURS				No.	DRILLING ASSEMBLY (at end of tour)		BIT RECORD				MUD RECORD			
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR		BIT		m	BIT No.			TIME			
1.	RIG UP AND TEAR DOWN							SIZE	2A 311		DENSITY kg/m ³			
2.	DRILL ACTUAL	2.5			STB RMR	OD	m	MFG	SECURITY		PRESSURE GRADIENT			
3.	REAMING				D.C. ID	OD	m	TYPE	533F		VISCOSITY			
5.	CONDITION MUD & CIRCULATE				STB RMR	OD	m	JETS mm	3/19.0		PV mPa.s YP Pa	/	/	/
6.	TRIPS	1.5			D.C. ID	OD	m	SER. No	550100		GEL STR. Pa	/	/	/
7.	LUBRICATE RIG		0.25		STB RMR	OD	m	DEPTH OUT			WATER LOSS cm ³			
8.	REPAIR RIG	8						DEPTH IN	29		pH			
9.	CUT OFF DRILLING LINE							TOTAL METRES DRILLED			SOLIDS %			
10.	DEVIATION SURVEY		0.25					TOTAL HRS. RUN						
11.	WIRE LINE LOGS				STANDS DP		m	COND. 1/8" T/B/GAGE			MUD & CHEMICALS ADDED			
12.	RUN CASING & CEMENT				SINGLES DP		m	FLOW RATE m ³ /min	/	/	TYPE	AMT. kg	TYPE	AMT. kg
13.	WAIT ON CEMENT				KELLY DOWN		m	PRESSURE DROP kPa						
14.	NIPPLE UP B.O.P.				TOTAL		m							
15.	TEST B.O.P.				(FORCE) WT. OF STRING		daN							
16.	DRILL STEM TEST				REMARKS HELD FIRE DRILL IN CAMP. K.W.									
17.	PLUG BACK													
18.	SQUEEZE CEMENT													
19.	FISHING													
20.	DIR. WORK													
21.														
22.														

DRILLER

LEGAL LAND DESCRIPTION		
LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER

METRES DRILLED		D A C
FROM	TO	

DEVIATION RECORD	DEPTH

TIME LOG		ELAPS
FROM	TO	TIME
00:00	01:30	1.5

0930		
0930	1200	2.5

COMPLETION		No.		DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD			
A. PERF'R'T'N			BIT	.31 m	BIT No.	14		TIME	1100	1400	1800
B. TBG TRIPS			B.T.S.L.B	1.08	SIZE	311		DENSITY kg/m ³	1130	1140	1180
C. TREATING			3 STB RMR 9'-OD	27.52 m	MFG.	SECURITY		PRESSURE GRADIENT			
D. SWABBING			D.C. ID 8/0 OD	76 m	TYPE	533F		VISCOSITY	50	50	47
E. TESTING			STB RMR OD	m	JETS mm	3/19.0		PV mPa.s	/	/	/
F. ADDIT'N'L			6 STB RMR 1 1/2 SUB	55.53 m	SER. No.	550100		GEL STR. Pa	/	/	/
G.			STB RMR 1 1/2 SUB	.51 m	DEPTH OUT			WATER LOSS cm ³			
TOTALS	12 12		BHA.	85.21	DEPTH IN	29		pH			
DAY WORK TIME SUMMARY (OFFICE USE ONLY)					TOTAL METRES DRILLED	67.		SOLIDS %			
HRS. W/CONTR. D.P.					TOTAL HRS. RUN	11.50.		MUD & CHEMICALS ADDED			
HRS. W/OPR. D.P.			STANDS DP	m	COND. 1/8" T/B/GAGE	01B/D		TYPE	AMT. kg	TYPE	AMT. kg
HRS. WO/DP			SINGLES DP	m	FLOW RATE m ³ /min	/					
HRS. STANDBY			KELLY DOWN	10.79 m	PRESSURE DROP kPa						
			TOTAL	96.00 m							
			(FORCE) WT. OF STRING	22,000 daN							
TOTAL DAY WORK		REMARKS									
		Visually inspect Brakes linkages and derrick pins									
		PNS									
No. OF DAYS. FROM SPUD											
CUMULATIVE ROTATING HRS											
TOTAL MUD COST		DRILLER BLUE									

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30
31	32	33
34	35	36
37	38	39
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43	44	45
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58	59	60
61	62	63
64	65	66
67	68	69
70	71	72
73	74	75
76	77	78
79	80	81
82	83	84
85	86	87
88	89	90
91	92	93
94	95	96
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100	101	102
103	104	105
106	107	108
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112	113	114
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328	329	330
331	332	333
334	335	336
337	338	339
340	341	342
343	344	345
346	347	348
349	350	351
352	353	354
355	356	357
358	359	360
361	362	363
364	365	366
367	368	369
370	37	

METRES DRILLED		D W CC
FROM	TO	
29	96	6

DEVIATION RECORD	DEPTH
	60

TIME LOG		ELAPS TIME
FROM	TO	
1200	1215	2

12:15	18:45	6.5
18:45	19:00	.2

9.00	24.00	5.0
		<u>12.</u>

		18

OFFICIAL DATA

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection-Weekly (using check list)
 (3) H/S Signs Posted (if required)

OPR

Initial *[Signature]* Initial *[Signature]*
 Initial *[Signature]* Initial *[Signature]*

R.M.

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

Initial *[Signature]* Initial *[Signature]*

LEGAL LAND DESCRIPTION *H-55-65-30-126-45*

WIRE LINE RECORD

REEL No.

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No. JOINTS	TOTAL LENGTH	RKB TO CSG. HD.	SET AT	SIZE	No. LINES	METRES SLIPPED
										28.0	8	
										METRES CUT OFF		PRESENT LENGTH
										MEGAJOULES SINCE LAST CUT		
										CUMULATIVE MEGAJOULES		

METRES DRILLED

FROM	TO	DR. D RM-R CORE. C	CORE No.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. 1 LINER SIZE STROKES per min	PUMP No. 2 LINER SIZE STROKES per min	METHOD RUN SGL-S PART-L-P COMB-D-C
				<i>SAFETY TOPIC: STEAM.</i>				<i>140</i>	<i>140</i>	
				<i>FUEL @ 06:00 = 13,469 L.</i>						

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
<i>00:00</i>	<i>01:30</i>	<i>1.50</i>	<i>6</i>	<i>PICK UP & MAKE UP BHA (CALIPER BHA) TO DRILL - THAW OUT SAME</i>	<i>12</i>
<i>01:30</i>			<i>8</i>	<i>WORK ON KELLY SPINNER - RETIGHTEN KELLY COCK, DRIVE SUB & PULL</i>	
	<i>0930</i>	<i>8</i>	<i>8</i>	<i>THAW OUT STAND PIPE, KELLY HOSE & KELLY</i>	
<i>0930</i>	<i>1200</i>	<i>2.50</i>	<i>2</i>	<i>DRILL 311mm HOLE F/20-29</i>	

METRES DRILLED

FROM		TO		DR. D RM-R CORE. C	CORE No.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT daN	PUMP PRESS	LINER SIZE	STROKES per min	LINER SIZE	STROKES per min	SGL-S PART-L-P COMB-D-C
29		96		67			60 100	6/8	2000	140	45	140	45	PARALP
							REDUCED PUMP SPEED							

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
<i>60</i>	<i>3/4°</i>							

TIME LOG

FROM	TO	ELAPSED TIME	CODE No.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
<i>1200</i>	<i>1215</i>	<i>.25</i>	<i>7</i>	<i>RIG SERVICE</i>	<i>12</i>
<i>1215</i>	<i>18:45</i>	<i>6.50</i>	<i>2</i>	<i>DRILL 311mm HOLE F/29-69m.</i>	
<i>18:45</i>	<i>19:00</i>	<i>.25</i>	<i>10</i>	<i>DEVIATION SURVEY @ 60.</i>	
<i>19:00</i>	<i>24:00</i>	<i>5.00</i>	<i>2</i>	<i>DRILL 311mm HOLE F/69m TO 96m.</i>	
		<i>12.00</i>			

OFFICIAL DAILY DRILLING REPORT FORM

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection Weekly (using check list)
 (3) H.S. Signs Posted (if required)

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

LEGAL LAND DESCRIPTION **H-55-65-30-126-45**

WIRE LINE RECORD

REEL No

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE	No LINES	METRES SLIPPED
										28	8	
										METRES CUT OFF		PRESENT LENGTH
										MEGAJOULES SINCE LAST CUT		
										CUMULATIVE MEGAJOULES		

METRES DRILLED

FROM	TO	DR D CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT ON BIT daN	PUMP PRESS	PUMP No I LINER SIZE STROKES per min	PUMP No II LINER SIZE STROKES per min	METHOD RUN
96	104	8		SAFETY TOPIC: LOADER	60/70	6/8	3000	140 45	140 45	P
				FUEL @ 06:00 10,030 L.						

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
87	1/2°							

TIME LOG	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM TO				12
00:00			CIRCULATE & BUILD L.C.M SLUG, PUMP SAME, NO RETURNS	
04:00	4:00	5	BUILD VOLUME	
04:00	05:00	6	BLOW OUT KELLY, KNOCK OFF KELLY HSE & HAST STRING INTO CSG.	
05:00	09:00	5	MIX L.C.M SLUG & BUILD VOLUME IN MUD TANKS.	
08:00	09:15	6	RUN IN HOLE TO BOTTOM	
09:15	10:15	5	CIRCULATE L.C.M. TO CONDITION HOLE	
10:15	10:30	10	SURVEY	
10:30	12:00	2	DRILL 311mm HOLE F/96-104	

METRES DRILLED

FROM	TO	DR D CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT ON BIT daN	PUMP PRESS	PUMP No I LINER SIZE STROKES per min	PUMP No II LINER SIZE STROKES per min	METHOD RUN
104	137	33			60	9000	1800	140 45	140 45	PANEL P.

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
120	1/2°							

TIME LOG	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM TO				12
12:00	12:15	7	RIG SERVICE	
12:15	16:45	2	DRILL 311mm HOLE F/104-130m	
16:45	17:00	10	SURVEY	
17:00	18:15	2	DRILL 311mm HOLE F/130m-137m	
18:15	24:00	8	WORK ON MUD PUMPS - PUMPS SHUT OFF DUE TO BYPASS ON SHAKER BEING RUN OPEN W/DRILL	

OFFICIAL DAILY DRILLING REPORT FORM

REPORT No.

LEGEND

Metric expressions

[illegible]

EACB

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection Weekly
- (3) H/S Signs Posted (if required)

LEGAL LAND DESCRIPTION

	OUTSIDE DIAMETER	INSIDE DIAMETER
LAST CASING TUBING OR LINE IN		

METRES DRILLED

FROM	TO	C
137	200	6

DEVIATION RECORD

DEVIATION RECORD	DEPTH
	153

TIME LOG

TIME LOG		ELAPSED TIME
FROM	TO	
00:00	01:00	1.0
01:00	01:15	.2
01:15	05:30	4.2
05:30	05:45	.2
05:45	09:00	3.2
09:00	09:30	1.3
09:30	12:00	2.3

METRES DRILLED

FROM	TO	C
200	221	1
		0

DEVIATION RECORD

DEVIATION RECORD	DEPTH
	220

TIME LOG

FROM	TO	LEAP YEAR
1200	1330	1.
1330	1345	0.
1345	1430	0.7
1430	1700	2.5
1700	1715	0.2
1715	1730	0.2
1730	1800	0.5
1800	2000	2.0
2000	2400	4.0
		12

FORM 276



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Revised December 1, 1986

OFFICIAL DAN

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection-Weekly (using check list)
 (3) H/S Signs Posted (if required)

Initial *[Signature]* R.M. *[Signature]*
 Initial *[Signature]* Initial *[Signature]*
 Initial *[Signature]* Initial *[Signature]*

- (1) Rig Site Health and Safety Meeting (one meeting/crow/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

R.M. *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

LEGAL LAND DESCRIPTION

H-55-65-30-126-45

WIRE LINE RECORD

REEL No

OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE	No LINES	METRES SLIPPED
									28	8	
METRES CUT OFF									PRESENT LENGTH		
MEGAJOULES SINCE LAST CUT											
CUMULATIVE MEGAJOULES											

METRES DRILLED				FORMATION (SHOW CORE RECOVERY)				ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No I LINER SIZE	STROKES per min	PUMP No II LINER SIZE	STROKES per min	METHOD RUN
FROM	TO	DR D RM R CORE C	CORE No												
137	200	63						60/120	4/12	2500	140	45	140	45	P-
FUEL @ 0600 = 6305.1															
REDUCED PUMP SPEED															

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
153	7/8°							

TIME LOG		ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM	TO				12
00:00	01:00	1.00	8	WORK ON MUD PUMPS - SHALED OFF @ SUCTION LINE	
01:00	01:15	.25	7	RIG SERVICE	
01:15	05:30	4.25	2	DRILL 311mm HOLE F/137m TO 163m.	
05:30	05:45	.25	10	DEVIATION SURVEY @ 153m	
05:45	09:00	3.25	2	DRILL 311mm HOLE F/163m TO 200m	
09:00	09:30	1.50	5	CIRCULATE HOLE CLEAN	
09:30	12:00	2.50	6	P.O.O.H (TIGHT)	

METRES DRILLED				FORMATION (SHOW CORE RECOVERY)				ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No I LINER SIZE	STROKES per min	PUMP No II LINER SIZE	STROKES per min	METHOD RUN
FROM	TO	DR D RM R CORE C	CORE No												
200	221	21						80/100	8/10	2500	140	45	140	45	PARCEL P
REDUCED PUMP SPEED															

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
220	1/2°							

TIME LOG		ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM	TO				12
12:00	13:30	1.5	6	RUN IN HOLE TO 200m	
13:30	13:45	.25	2	DRILL 311mm HOLE F/200m - 204m	
13:45	14:30	.75	8	WORK ON INDICATOR PUMP #2	
14:30	17:00	2.5	2	DRILL 311mm HOLE F/204m - 219m	
17:00	17:15	.25	10	SURVEY	
17:15	17:30	.25	2	DRILL 311mm HOLE F/219m - 221m	
17:30	18:00	.50	5	CIRCULATE HOLE CLEAN	
18:00	20:00	2.00	6	P.O.O.H F/221m - 0m / 40 229mm COLLARS	
20:00	24:00	4.00	12	RIG TO RUN CSG & RUN 244mm CSG	
12.00					

OFFICIAL DAILY DRILLING REPORT FORM

OFFICIAL DATA

OFFICIAL DAILY DRILLING REPORT FORM

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LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
pump-stroke length = millimetre (mm)
weight of string = decanewton (daN)
weight on bit: indicator will record decanewton
linear mass = kilogram per metre (kg/m)
viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
pressure gradient = kilopascal per metre (kPa/m)
yield point = pascal (Pa)
plastic viscosity = millipascal second (mPa·s)
gel strength = pascal (Pa)
work completed by wire line = megajoule (MJ)
inside diameter and outside diameter = millimetre (mm)
pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
(2) Detailed Inspection-Weekly (using check list)
(3) H/S Signs Posted (if required)

O.P.B.

- Initial *[Signature]*
Initial *[Signature]*
Initial *[Signature]*

R.M.

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
(2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
(3) Mast Inspected Before Raising or Lowering

R.M.

- Initial *[Signature]*
Initial *[Signature]*
Initial *[Signature]*

LEGAL LAND DESCRIPTION

H-55-65-30-126-45

WIRE LINE RECORD

REEL No.

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No. JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE 28	No. LINES 8	METRES SLIPPED
	244.5	226.6	IPSC	53.6	K-55	17	220.85	5.06	215.40	METRES CUT OFF	PRESENT LENGTH	
										MEGAJOULES SINCE LAST CUT		
										CUMULATIVE MEGAJOULES		

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. I LINER SIZE	STROKES per min	PUMP No. II LINER SIZE	STROKES per min	METHOD RUN
				SAFETY TOPIC - Running CSG				140		140		
FUEL @ 06:00 = 9744L												

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
00:00	05:00	5.00	12	RUN 244.5mm CASING	12
05:00	09:30	4.50	5	CONDITION MUD & CIRCULATE CSG F/CEMENT	
09:30	12:00	2.50	12	CEMENT W/ DOWELL	

RUN 17 JOINTS, 220.85m, 244.5mm, 53.6 kg/m KES LT & C CSG
CMT CSG W/ 19 TONNES ARCTIC SET CEMENT W/ MAGNITUDES @ 22.8kg
CEMENT FLAME, SURVEY DENSITY 1800 kg/m³ (AVERAGE). GOOD RETURNS
THROUGHOUT CEMENTING, 1.2m³ GOOD CMT RETURNS. PLUG DOWN 1997-03-
04-1200. PRESSURE HELD STEADY FLOATS HELD. CSG SET AT 215.4m

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. I LINER SIZE	STROKES per min	PUMP No. II LINER SIZE	STROKES per min	METHOD RUN
								140		140		

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
12:00			13	CLEAN TANKS, SHAKER AND FLOW LINE	12
	18:00	6.	13	WAIT ON CEMENT	
18:00	20:30	2.50	14	LAY DOWN B.O.P.S	
20:30	22:30	2.00	14	PREPARE CSG BOWL & SCREW ON SAME	
22:30	24:00	1.50	14	NIPPLE UP BOP'S	

OFFICIAL DAILY DRILLING REPORT FORM

OFFICIAL DATA

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

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 (2) Detailed Inspection-Weekly (using check list)
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Initial AW
 Initial AW
 Initial AW

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 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

Initial AW
 Initial AW
 Initial AW

LEGAL LAND DESCRIPTION H-55-65-30-126-45

WIRE LINE RECORD

REEL No.

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No. JOINTS	TOTAL LENGTH	RKB. TO CSG HD.	SET AT	SIZE 28.0	No. LINES 8	METRES SLIPPED
	244.5	224.6	TP30	536	K-55	17	220.85	5.06	215.40	METRES CUT OFF	PRESENT LENGTH	
										MEGAJOULES SINCE LAST CUT		
										CUMULATIVE MEGAJOULES		

METRES DRILLED

FROM	TO	DR. D RM R CORE C	CORE No.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. I LINER SIZE	STROKES per min	PUMP No. II LINER SIZE	STROKES per min	METHOD RUN SGL-S PAREL-P COMB-C
				Fuel @ 0600-12896 L.				140		140		
REDUCED PUMP SPEED												

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
00:00	12:00	12	14	NIPPLE UP BOP'S	12

METRES DRILLED

FROM	TO	DR. D RM R CORE C	CORE No.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. I LINER SIZE	STROKES per min	PUMP No. II LINER SIZE	STROKES per min	METHOD RUN SGL-S PAREL-P COMB-C
REDUCED PUMP SPEED												

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
12:00	13:00	1.00	14	NIPPLE UP BOP'S	12

13:00	19:00	6.00	15	PRESSURE TEST MANIFOLD 1500KPA LOW 7000KPA HIGH	
19:00	22:30	3.50	6	MAKE UP BIT #1 & RIM - 1/4 3 1/2 DC'S TO 3 HWDP.	
22:30	23:15	.75	5	CIRCULATE HOLE CLEAN.	
23:15	24:00	.75	15	PRESSURE TEST PIPE RAMS, STAB VALVE, UPPER KELLY COCK. 1400Kpa LOW 14,000 Kpa HIGH 10MIN EACH.	

OFFICIAL DAILY DRILLING REPORT FORM

No.

DAILY DRILLING REPORT

REPORT No.

LEASE		WELL No.	WELL NUMBER	WATER DEPTH	DATE				
MURPHY DISCOVERY RIDGE		H-55	H-55-65-30-126-45		97 03 06				
OPERATOR		CONTRACTOR		RIG No.					
MURPHY OIL COMPANY		SHEHTAH DRUG LTD		1E					
SIGNATURE OF OPERATOR'S REPRESENTATIVE		SIGNATURE OF CONTRACTOR'S RIG MANAGER							
<i>[Signature]</i>		<i>[Signature]</i>							
D.P. SIZE	kg/m	GRADE	TOOL JT OD	TYPE THREAD	STRING No.	PUMP No.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
114	24.7	E	158	XH	60TS	1	EMSCO	DB-550	406
						2	EMSCO	DB-550	406
TIME DISTRIBUTION - HOURS		No.		DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD	
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR	BIT	24m	BIT No.	ONE	TIME	08:30
1. RIG UP AND TEAR DOWN				BIT SUB	.87	SIZE	222	DENSITY kg/m ³	1080
2. DRILL ACTUAL	7.50	11.50		15 STB DP	139.32	MFG.	JEL	PRESSURE GRADIENT	
3. REAMING				D.C. ID	.51m	TYPE	X3A	VISCOSITY	35
4. CORING				9 STB DP	84.12	JETS mm	3/11.1	PV mPa.s	YP Pa
5. CONDITION MUD & CIRCULATE	1			D.C. ID		SER. No.	HH161	GEL STR. Pa	
6. TRIPS				STB RMR	225.00	DEPTH OUT		WATER LOSS cm ³	
7. LUBRICATE RIG		.25				DEPTH IN	221	pH	
8. REPAIR RIG	.2					TOTAL METRES DRILLED	39	SOLIDS %	
9. CUT OFF DRILLING LINE				3 DP	27.61	TOTAL HRS. RUN	7.50		
10. DEVIATION SURVEY		.25		Kelly	1247	COND. 1/8" T/B/GAGE		MUD & CHEMICALS ADDED	
11. WIRE LINE LOGS				STANDS DP	265.14	FLOW RATE m ³ /min		TYPE	AMT. kg
12. RUNCASING & CEMENT				SINGLE DP	5.44	PRESSURE			
13. WAIT ON CEMENT				KELLY DOWN		TORQUE	150 AMP		
14. NIPPLE UP B.O.P.				TOTAL	260m	R.O.P.			
15. TEST B.O.P.	1.50			(FORCE) WT. OF STRING	28000 daN	DRAG			
16. DRILL STEM TEST				REMARKS ACCUMULATOR FUNCTION TEST 21000 Kpa START					
17. PLUG BACK				FUNCTION ANNULAR 14000 Kpa PIPE RAMS 12500 Kpa FINISH 12000 Kpa.					
18. SQUEEZE CEMENT				2min 20 SECONDS TO RECHARGE.					
19. FISHING				HELD BOP DRILL W/CREW PRIOR TO DRAG OUT WELL SECURE 7/8" SPS Kd					
20. DIR. WORK				DRILLER <i>[Signature]</i>					
21.									
22.									
23.									
COMPLETION		No.		DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD	
A. PERF'RT'N				BIT	.24	BIT No.	ONE	TIME	1400 1800 2100
B. TBG TRIPS				BIT SUB	.87	SIZE	222	DENSITY kg/m ³	1140 1120 1125
C. TREATING				15 STB DP	139.32	MFG.	JEL	PRESSURE GRADIENT	11.04
D. SWABRING				D.C. ID	.51m	TYPE	X3A	VISCOSITY	55 48 45
E. TESTING				9 STB DP	84.12	JETS mm	3/11.1	PV mPa.s	YP Pa
F. ADDIT'N'L				D.C. ID		SER. No.	HH161	GEL STR. Pa	
G.				STB RMR	225.00	DEPTH OUT	IN	WATER LOSS cm ³	
TOTALS	12	12				DEPTH IN	221	pH	10.0 10.0 9.0
DAY WORK TIME SUMMARY (OFFICE USE ONLY)						TOTAL METRES DRILLED	39	FLOW	36%
HRS. W/CONTR. D.P.						TOTAL HRS. RUN	7.50	PVT.	51.3
HRS. W/OPR. D.P.						COND. 1/8" T/B/GAGE	0 B D	MUD & CHEMICALS ADDED	
HRS. WO/DP				5 STANDS DP		FLOW RATE m ³ /min	1.2 m ³ /min	TYPE	AMT. kg
HRS. STANDBY				1 SINGLES DP	152.32	PRESSURE	150/175 AMPS	GEL	15 SK
				KELLY DOWN	7.68	TORQUE		DRAG	1 SK
				TOTAL	385.00	DRAG		ACRAB	2 SKS
				(FORCE) WT. OF STRING	30000 daN	R.O.P.			
TOTAL DAY WORK				REMARKS HELD B.O.P. DRILL WITH CREW WHILE DRILLING					
				WELL SECURED 80 SEC. HELD SAFETY MEETING WITH					
				CREW AND COMPANY REPS. VISUALLY INSPECTED BAKE					
				LINKAGES					
No. OF DAYS FROM SPUD				DRILLER <i>[Signature]</i>					
CUMULATIVE POTATING HRS.									
TOTAL MUD COST									

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly
- (3) H/S Signs Posted (if require)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER
	244.5	226.6

METRES DRILLED

FROM	TO	CO
221	260	3

DEVIATION RECORD

TIME LOG	ELAPSE TIME
FROM	TO
00:00	
01:30	1.50
01:30	03:00 1.50
03:00	05:00 2.00
05:00	08:30 3.50
08:30	09:30 1
09:30	12:00 2.5

METRES DRILLED

FROM	TO	CO
260	385	12

DEVIATION RECORD

TIME LOG	ELAPSE TIME
FROM	TO
12:00	14:30 2.50
14:30	14:45 .25
14:45	21:00 6.25
21:00	21:25 .25
21:25	24:00 2.75
	12.0

FORM 2T6m

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Revised December 1986

OFFICIAL DAILY

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
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 (3) H+S Signs Posted (if required)

OPR.

Initial _____
 Initial _____
 Initial _____

R.M.

Initial _____
 Initial _____
 Initial _____

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

R.M.

Initial _____
 Initial _____
 Initial _____

LEGAL LAND DESCRIPTION

H-55-65-30-126-45

WIRE LINE RECORD

REEL No.

OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No. JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT
224.5	226.6	TPXO	536	K-55	17	22.85	5.06	215.40

SIZE	No. LINES	METRES SLIPPED
28	8	
METRES CUT OFF	PRESENT LENGTH	
MEGAJOULES SINCE LAST CUT		
1055 MJ		
CUMULATIVE MEGAJOULES		
316,547 MJ		

METRES DRILLED		DR. D. RM. R. CORE. C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. I		PUMP No. II		METHOD RUN SGL-S PARL-P COM'D-C
FROM	TO							LINER SIZE	STROKES per min	LINER SIZE	STROKES per min	
221	260	39			50/60	2/10	1000	140	140	45	45	-5-
				FUEL @ 06:00 = 9744L	REDUCED PUMP SPEED	2600	140	140	22	STD PIPE GUAGE		

DEVIATION RECORD			DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG		ELAPSED TIME	CODE No.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM	TO				
00:00				PRESSURE TEST - ANNULAR 1400 LOW 10,500 KPa HIGH 10 MIN EACH DD	12
01:30	01:30	1.50	15	ACCUMULATOR FUNCTION TEST. W/ COMPANY REPRESENTATIVE	
01:30	03:00	1.50	2	DRILL OUT CEMENT, PLUG, FLOAT & SHOE	
03:00	05:00	2.00	8	REPAIR LEAKING SECTION IN MUD TANK. (CONTAMINATING MUD)	
05:00	08:30	3.50	2	DRILL OUT CEMENT, PLUG, FLOAT & SHOE	
08:30	09:30	1	5	CIRCULATE AND DO LEAKOFF TEST @ 222m.	
09:30	12:00	2.50	2	DRILL 222mm HOLE F/224m - 260	

METRES DRILLED			FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. 1		PUMP No. 2		METHOD RUN
FROM	TO	DR. D. RM. R. CORE. C					CORE No.	LINER SIZE	STROKES per min	LINER SIZE	STROKES per min
260	385	125		120	1000	500	140	140	120	-5-	
							</				

DEVIATION RECORD			DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
			280	3/4°							

TIME LOG		ELAPSED TIME	CODE No.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM	TO				
12:00	14:30	2.50	2	DRILL 222mm HOLE F/260-290m	12 X 2
14:30	14:45	.25	10	SURVEY 3/4° @ 280m.	
14:45	21:00	6.25	2	DRILL 222mm HOLE F/290m - 357m.	
21:00	21:25	.25	7	LUBRICATE RIG - FUNCTION PIPE RAMS 5 SEC CLOSE (OBTAIN KILL RATE)	
21:25	24:00	2.75	2	DRILL 222mm HOLE F/357m TO 385.	

OFFICIAL DAILY DRILLING REPORT FORM

REPORT No.

LEASE				WELL No.		WELL NUMBER		WATER DEPTH		DATE	
MURPHY DISCOVERY RIDGE				H-55		H-55-65-30-126-45		N/A		97 03 07 Yr. Mo. Day	
OPERATOR						CONTRACTOR					
MURPHY OIL COMPANY						SHEHTAH DRUG LTD.					
SIGNATURE OF OPERATOR'S REPRESENTATIVE						SIGNATURE OF CONTRACTOR'S RIG MANAGER					
<i>[Signature]</i>						<i>[Signature]</i>					
D P SIZE		kg/m	GRADE	TOOL JT O D	TYPE THREAD	STRING No	PUMP No	PUMP MANUFACTURER		TYPE	STROKE LENGTH
114		24.7	E	158	XH	60 JTS.	1	EMSCO		DB-550	406
							2	EMSCO		DB-550	406

TIME DISTRIBUTION - HOURS				No.	DRILLING ASSEMBLY (at end of tour)		BIT RECORD						MUD RECORD			
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR		BIT		BIT No				TIME					
1.	RIG UP AND TEAR DOWN					.84 m	ONE					02:00	05:00	10:00		
2.	DRILL ACTUAL	11.25	6.50		BIT SUB	- .87	SIZE	222			DENSITY kg/m ³	1120	1140	1190		
3.	REAMING				15 STB DC OD	139.32 m	MFG	JEL			PRESSURE GRADIENT	10.98	11.18			
4.	CORING				DC ID Xp OD	.51 m	TYPE	X3A			VISCOSITY	47	63.	75		
5.	CONDITION MUD & CIRCULATE				9 STB RNDP OD	84.12 m	JETS mm	3/11/1			PV mPa.s	/	/	/		
6.	TRIPS		4.00		DC ID OD	225.06 m	SER. No.	HH161			GEL STR. Pa	/	/	/		
7.	LUBRICATE RIG	.25	.50		STB RMR OD	m	DEPTH OUT				WATER LOSS cm ³					
8.	REPAIR RIG		1.00		24 DP	236.34	DEPTH IN	221			pH	9.5	9.5	9.5		
9.	CUT OFF DRILLING LINE						TOTAL METRES DRILLED	245			Flowt	28%	29%			
10.	DEVIATION SURVEY	.50			Kelly	12.47	TOTAL HRS. RUN	19.0 30.25			PVT	53.4	54.4			
11.	WIRE LINE LOGS				STANDS DP	473.87	COND. 1/8"s T/B/GAGE				MUD & CHEMICALS ADDED					
12.	RUN CASING & CEMENT				STB RMR OD	7.87	FLOW RATE m ³ /min	/ /			TYPE	AMT. kg	TYPE	AMT. kg		
13.	WAIT ON CEMENT				Kelly DOWN	m	PRESSURE	TORQUE			SHAKER SCREENS 3x110					
14.	NIPPLE UP B.O.P.				TOTAL	466 m	DRAG				GEL	10SKG				
15.	TEST B.O.P.				(FORCE) WT. OF STRING	31500 daN	R.O.P.				DRISAC	1 SACK				
16.	DRILL STEM TEST				REMARKS	TIGHT CONNECTION @ 416m, 426m. OVERPULL 10/12 daN										
17.	PLUG BACK					TIGHT CORN @ 435m.										
18.	SQUEEZE CEMENT															
19.	FISHING															
20.	DIR. WORK															
21.																
22.																

FIRST TOUR

DRILLER 

COMPLETION		No.	DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD			
A. PERF'R'T'N		BIT	.24 m	BIT No.	ONE	2	TIME	1800	2300	
B. TBG TRIPS		BT SUB	.87	SIZE	222	222	DENSITY kg/m ³	1130	1140	
C. TREATING		STB RMR OD	m	MFG.	J+L	SmTH	PRESSURE GRADIENT		11.18	
D. SWABBING		15 ID 171 OD	139.32 m	TYPE	X3A	FDT	VISCOSITY	46	67	
E. TESTING		STE SUB	.51 m	JETS mm	3/11.1	3/11.1	PV mPa.s	/	/	/
F. ADDIT'NL		9 HWDP	84.12 m	SER. No	H4161	BV8244	GEL STR. Pa	/	/	/
G.		STB RMR OD	m	DEPTH OUT	473	IN	WATER LOSS cm ³			
TOTALS	12 12	BHA	225.06	DEPTH IN	221	473	pH	9.5	9.5	
DAY WORK TIME SUMMARY (OFFICE USE ONLY)				TOTAL METRES DRILLED	252	57	Flow		41%	
HRS. W/CONTR. D.P.				TOTAL HRS RUN	26	5.75	PVT.		54.8	
HRS. W/OPR. D.P.						MUD & CHEMICALS ADDED				
HRS. WO/DP		10 STANDS DP	m	COND. 1/8" T/B/GAGE	6	6 in OBD	TYPE	AMT. kg	TYPE	AMT. kg
HRS. STANDBY		1 SINGLES DP	21.55 m	FLOW RATE m ³ /min	1.2	3/4	BARITE	15%		
		KELLY DOWN	12.31 m	TORQUE	150	175 AMPS.	SLURRY	10%		
		TOTAL	530.00 m	DRAG	1/4	5/8				
		(FORCE) WT. OF STRING	34,000 daN	R.O.P.		9.9 l/min/hr				
TOTAL DAY WORK		REMARKS VISUALLY INSPECT BARKES AND LINKAGES FLOW BEFORE TRIP, HWDP AND R.C.S.								
No Of DAYS FROM SPUD										
CUMULATIVE ROTATING HRS										
TOTAL MUD COST										
		DRILLER [Signature]								

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (u
- (3) H₂S Signs Posted (if required

LEGAL LAND DESCRIPTION A

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER
	244.5	226.6

METRES DRILLED

FROM	TO	CO
385	466	8

DEVIATION RECORD	DEPTH
	378
	486

TIME LOG		ELAPSED TIME
FROM	TO	
00:00	00:15	.25
00:15	00:30	.25
00:30	06:45	6.25
06:45	07:00	.25
07:00	07:15	.25
07:15	12:00	4.75

METRES DRILLED

FROM	TO	CO
466	530	6

DEVIATION RECORD	DEPTH

TIME LOG		ELAPSED TIME
FROM	TO	
1200	1215	.25
1215	1300	.75
1300	1530	2.50
1530	1630	1
1630	1800	1.50
800	23:45	5.75
23:45	24:00	.25

FORM 2T6m



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LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection Weekly (using check list)
 (3) H.S. Signs Posted (if required)

OP.

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

R.M.

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) CAODC Rig Safety Inspection Check List (one/mo/yr)
 (3) Mast Inspected Before Raising or Lowering

R.M.

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

LEGAL LAND DESCRIPTION H-55-65-30-126-45

WIRE LINE RECORD

REEL No

TYPE	STROKE LENGTH	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No JOINTS	TOTAL LENGTH	R&B TO CSG HD	SET AT	SIZE	No LINES	METRES SLIPPED
B-550	406	244.5	226.6	IPX0	5.6	K-55	17	220.85	5.06	215.40	28.0	8	
B-550	406												
LAST CASING TUBING OR LINER											METRES CUT OFF		
											PRESENT LENGTH		
											MEGAJOULES SINCE LAST CUT		
											1923 MJ		
											CUMULATIVE MEGAJOULES		
											317,415 MJ		

METRES DRILLED

FORMATION

(SHOW CORE RECOVERY)

FROM	TO	DR D	CORE No	FORMATION	ROTARY RPM	IFORCEI WT ON BIT daN	PUMP PRESS	PUMP No 1	PUMP No 2	METHOD RUN
385	466	81		SAFETY TOPIC = CARE OF TOOLS	10/14	10/15	5500	140	140	55
FUEL @ 06:00 = 12,036 L					REDUCED PUMP SPEED		1800	140	140	28

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
378	1 3/4°		426					
426	1 5/8°							

TIME LOG	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM TO				12 X 2

00:00	00:15	.25	2	DRILL 222mm HOLE F/385m TO 387m.
00:15	00:30	.25	10	DEVIATION SURVEY @ 378m 1 3/4°
00:30	06:45	6.25	2	DRILL 222mm HOLE F/387m TO 435m.
06:45	07:00	.25	7	LUBRICATE RIG FUNCTION ANNULAR 12 SEC CLOSE (OBTAIN KILL RATE)
07:00	07:15	.25	10	DEVIATION SURVEY @ 426
07:15	12:00	4.75	2	DRILL 222mm HOLE F/426m - 466m

METRES DRILLED

FORMATION

(SHOW CORE RECOVERY)

FROM	TO	DR D	CORE No	FORMATION	ROTARY RPM	IFORCEI WT ON BIT daN	PUMP PRESS	PUMP No 1	PUMP No 2	METHOD RUN
466	530	64			14/140	14/12	6000	140	140	55
					REDUCED PUMP SPEED		2300	140	140	28

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM TO				12 X 2

12:00	12:15	.25	7	RIG SERVICE
12:15	13:00	.75	2	DRILL 222mm HOLE F/466m - 473m
13:00	15:30	2.50	6	PUMP PILL AND PULL OUT OF HOLE
15:30	16:30	1	8	MAKE PILL BIT RUN TO HOLE RIG REPAIR
16:30	18:00	1.50	6	RUN IN HOLE WITH NEW BIT
18:00	23:45	5.75	2	DRILL 222mm HOLE F/473m - 530m
23:45	24:00	.25	7	LUBRICATE RIG FUNCTION H.C.R 3 SEC CLOSE (OBTAIN KILL RATE)

OFFICIAL DAILY DRILLING REPORT FORM

No.

DAILY DRILLING REPORT

REPORT No.

LEASE MURPHY DISCOVERY RIDGE		WELL No. H-55		WELL NUMBER H-55-65-30-126-45		WATER DEPTH N/A		DATE 97.03.08	
OPERATOR MURPHY OIL COMPANY		CONTRACTOR SHEHTAH DRILLING LTD		RIG No. 1E					
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>				SIGNATURE OF CONTRACTOR'S RIG MANAGER <i>[Signature]</i>					
D.P. SIZE 114	kg m 24.7	GRADE E	TOOL JOINT 158	TYPE (THREAD) XH	STRING No. 60JTS	PUMP No. 1	PUMP MANUFACTURER EMSCO		TYPE DB-550
						2	EMSCO		406

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
(2) Detailed Inspection Weekly
(3) H.S. Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER
	044.5	026.6

TIME DISTRIBUTION - HOURS				No. DRILLING ASSEMBLY (at end of hour)		BIT RECORD		MUD RECORD			
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR	BIT	SIZE	BIT No.	SIZE	TIME	DENSITY kg/m ³	PRESSURE GRADIENT	VISCOSITY
1	RIG UP AND TEAR DOWN										
2	DRILL ACTUAL	6.25									
3	REAMING		.50								
4	CORING										
5	CONDITION MUD & CIRCULATE	3	.75								
6	TRIPS	2.50	4.75								
7	LUBRICATE RIG										
8	REPAIR RIG										
9	CUT OFF DRILLING LINE										
10	DEVIATION SURVEY	.25									
11	WIRE LINE LOGS		6.00								
12	RUNCASING & CEMENT										
13	WAIT ON CEMENT										
14	MAKE UP BOP										
15	TEST BOP										
16	DRILL STEM TEST										
17	PLUG BACK										
18	SQUEEZE CEMENT										
19	FISHING										
20	DR WORK										
21											
22											
23											

METRES DRILLED

FROM	TO	DEPTH
530	580	

DEVIATION RECORD

568

TIME LOG		ELAPSED TIME
FROM	TO	
00:00	05:30	5.5

FROM	TO	ELAPSED TIME
05:30	05:45	.2

FROM	TO	ELAPSED TIME
05:45	06:30	.7

FROM	TO	ELAPSED TIME
06:30	08:00	1.5

FROM	TO	ELAPSED TIME
08:00	09:30	1.5

FROM	TO	ELAPSED TIME
09:30	10:30	1

FROM	TO	ELAPSED TIME
10:30	12:00	1.5

METRES DRILLED

FROM	TO	DEPTH

DEVIATION RECORD

568

TIME LOG		ELAPSED TIME
FROM	TO	
12:00	12:45	.7

FROM	TO	ELAPSED TIME
12:45	15:00	2.2

FROM	TO	ELAPSED TIME
15:00	21:00	6.0

FROM	TO	ELAPSED TIME
21:00	23:30	2.5

FROM	TO	ELAPSED TIME
23:30	24:00	.5

TIME DISTRIBUTION - HOURS				No. DRILLING ASSEMBLY (at end of hour)		BIT RECORD		MUD RECORD			
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR	BIT	SIZE	BIT No.	SIZE	TIME	DENSITY kg/m ³	PRESSURE GRADIENT	VISCOSITY
A	PERF RTH										
B	TBG TRIPS										
C	TREATING										
D	SWABBING										
E	TESTING										
F	ADDITION L										
G											
TOTALS		12	12								
DAY WORK TIME SUMMARY (OFFICE USE ONLY)											
HRS W/CONTR D.P.											
HRS W/OPR D.P.											
HRS WO/DP											
HRS STANDBY											
TOTAL DAY WORK											
No. OF DAYS FROM SPUD											
CUMULATIVE ROTATING HRS											
TOTAL MUD COST											

FIRST TOUR

SECOND TOUR

DRILLER *[Signature]*DRILLER *[Signature]*

FORM 276m



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No.

DAILY DRILLING REPORT

REPORT No.

LEASE MURPHY DISCOVERY RIDGE		WELL No. H-55		WELL NUMBER H-55-15-30-126-45		WATER DEPTH N/A		DATE 97 03 09 Yr. Mo. Day		
OPERATOR MURPHY OIL COMPANY				CONTRACTOR SHEHTAH DRILG LTD				RIG No. 1E		
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>				SIGNATURE OF CONTRACTOR'S RIG MANAGER <i>[Signature]</i>						
D.P. SIZE 114	kg/m 24.7	GRADE E	TOOL JT O.D. 158	TYPE THREAD XH 60 JTS	STRING No. 1	PUMP No. 2	PUMP MANUFACTURER EMSCO		TYPE DB-550	STROKE LENGTH 406
							EMSCO		DB-550	406

TIME DISTRIBUTION - HOURS				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD				
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR	BIT	m	BIT No.		TIME				
1	RIG UP AND TEAR DOWN					SIZE	222	DENSITY kg/m ³	1200			
2	DRILL ACTUAL			STB RMR	OD	m	MFG	STC	PRESSURE GRADIENT			
3	REAMING	2		D.C. ID	OD	m	TYPE	FDT	VISCOSITY	50		
4	CORING			STB RMR	OD	m	JETS mm	OPEN	PV mPa.s	1	1	
5	CONDITION MUD & CIRCULATE	3	5.25	D.C. ID	OD	m	SER. No.	B18244	GEL STR. Pa	1	1	
6	TRIPS	7	2.50	STB RMR	OD	m	DEPTH OUT	CLEAN	WATER LOSS cm ³			
7	LUBRICATE RIG		.25				DEPTH IN	OUT	pH	10		
8	REPAIR RIG		3.00				TOTAL METRES DRILLED	TRIP	SOLIDS %			
9	CUT OFF DRILLING LINE						TOTAL HRS. RUN					
10	DEVIATION SURVEY			STANDS DP	m	COND. 1/8" T/B/GAGE			MUD & CHEMICALS ADDED			
11	WIRE LINE LOGS			SINGLES DP	m	FLOW RATE m ³ /min			TYPE	AMT. kg	TYPE	AMT. kg
12	RUN CASING & CEMENT		1.00	KELLY DOWN	m	PRESSURE DROP kPa			BARITE FLX			
13	WAIT ON CEMENT			TOTAL	m							
14	NIPPLE UP B.O.P.			(FORCE) WT. OF STRING	daN							
15	TEST B.O.P.			REMARKS Flow V @ 5 STD OUT, HWDP.								
16	DRILL STEM TEST			HOLE FILL								
17	PLUG BACK			ANT 4.76m ³								
18	SQUEEZE CEMENT			ACT 4.77m ³								
19	FISHING			DIFF .01								
20	DIR. WORK			DRILLER K. Wells								
21												
22												
23												

COMPLETION				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD				
	A. PERF'RT'N	B. TBG TRIPS	C. TREATING	BIT	m	BIT No.		TIME				
						SIZE		DENSITY kg/m ³				
				STB RMR	OD	m	MFG	PRESSURE GRADIENT				
				D.C. ID	OD	m	TYPE	VISCOSITY				
				STB RMR	OD	m	JETS mm	PV mPa.s	1	1	1	
				D.C. ID	OD	m	SER. No.	GEL STR. Pa	1	1	1	
				STB RMR	OD	m	DEPTH OUT	WATER LOSS cm ³				
							DEPTH IN	pH				
							TOTAL METRES DRILLED	SOLIDS %				
							TOTAL HRS. RUN					
				STANDS DP	m	COND. 1/8" T/B/GAGE		MUD & CHEMICALS ADDED				
				SINGLES DP	m	FLOW RATE m ³ /min		TYPE	AMT. kg	TYPE	AMT. kg	
				KELLY DOWN	m	PRESSURE DROP kPa						
				TOTAL	m							
				(FORCE) WT. OF STRING	daN							
TOTALS				REMARKS HELD SAFETY MEETING WITH CREW, CEMENTERS AND COMPANY REPS								
DAY WORK TIME SUMMARY (OFFICE USE ONLY)												
HRS. W/CONTR. D.P.												
HRS. W/OPR. D.P.												
HRS. WO/DP												
HRS. STANDBY												
TOTAL DAY WORK												
No. OF DAYS FROM SPUD												
CUMULATIVE ROTATING HRS												
TOTAL MUD COST												

METRES DRILLED		
FROM	TO	DEPTH
580		

DEVIATION RECORD		
TIME LOG	ELAPSED TIME	DEPTH
01:00 02:00	2.0	
02:00 03:30	1.5	
03:30 08:00	4.5	
08:00 10:30	2.5	
10:30 12:00	1.5	

METRES DRILLED		
FROM	TO	DEPTH
1200	1215	.2
1215	1730	5.25
1730 1830	1.0	
1830 21:00	2.5	
21:00 24:00	3.0	

DEVIATION RECORD		
TIME LOG	ELAPSED TIME	DEPTH
12:00 12:15	.2	
12:15 17:30	5.25	
17:30 18:30	1.0	
18:30 21:00	2.5	
21:00 24:00	3.0	

LEGEND

Metric expressions:

E.R.C.D.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection Weekly
- (3) H.S. Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER
	244.5	226.6

METRES DRILLED

FROM	TO	DEPTH
580		

DEVIATION RECORD

TIME LOG	ELAPSED TIME	DEPTH
01:00 02:00	2.0	
02:00 03:30	1.5	
03:30 08:00	4.5	
08:00 10:30	2.5	
10:30 12:00	1.5	

ABANDONMENT
USED 30% & FRICTION RES.

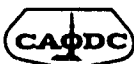
METRES DRILLED

FROM	TO	DEPTH

DEVIATION RECORD

TIME LOG	ELAPSED TIME	DEPTH
12:00 12:15	.2	
12:15 17:30	5.25	
17:30 18:30	1.0	
18:30 21:00	2.5	
21:00 24:00	3.0	

FORM 276m

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LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (using check list)
- (3) H/S Signs Posted (if required)

OPB

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

R.M.

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
- (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
- (3) Mast Inspected Before Raising or Lowering

R.M.

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

LEGAL LAND DESCRIPTION **H-55-65-30-126-45**

WIRE LINE RECORD

REEL No.

TYPE	STROKE LENGTH	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No. JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE	No. LINES	METRES SLIPPED
DB-550	406	144.5	126.6	IPS10	536	K-55	17	220.85	5.06	215.40	28.0	8	
DB-556	406												
LAST CASING TUBING OR LINER											METRES CUT OFF	PRESENT LENGTH	
											MEGAJOULES SINCE LAST CUT	3356	
											CUMULATIVE MEGAJOULES	318,848	

METRES DRILLED

FROM	TO	DR. D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. 1 LINER SIZE STROKES per min	PUMP No. 2 LINER SIZE STROKES per min	METHOD RUN
580					120	2/6	2500	140	140 50	S-5
Fuel @ 0600 - 12,610 L					REDUCED PUMP SPEED	500	140	25 MP#2	100 PIPE GUAGE	

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION
FUNCTION CROWN SAVER								

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
01:00	02:00	2.00	3	REAM TO BOTTOM F/548m	12x2
02:00	03:30	1.50	5	CIRCULATE & CONDITION MUD & HOLE	
03:30	08:00	4.50	6	FLOW, PUMP PILL & HOIST BIT #RR-2 40 15 171 DRILL COLLARS	
08:00	10:30	2.50	6	PICK UP 22 ITS D.P. AND RUN IN TO BOTTOM	
10:30	12:00	1.50	5	CIRCULATE HOLE CLEAN	

ABANDONMENT PILL #1 580m - 366m CALDERED 9.5m³
 USED 30% EXCESS TOTAL OF 17 TONNES & CEMENT + 1% CaCl₂
 & FRICTION REDUCER SLURRY DENSITY 1900 kg/m³

METRES DRILLED

FROM	TO	DR. D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. 1 LINER SIZE STROKES per min	PUMP No. 2 LINER SIZE STROKES per min	METHOD RUN

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
12:00	12:15	.25	7	RIG SERVICE	2x12
12:15	17:30	5.25	5	CIRCULATE HOLE CLEAN WATER CEMENT	
		5.25	5	WAIT ON WATER TRUCK	
17:30	18:30	1.00	12	CEMENT WITH DOWELL	
18:30	21:00	2.50	6	PULL 12 STAND DRILL PIPE & LAY DOWN PIPE	
21:00	24:00	3.00	8	DISCOVERED KINKED DRG LINE WITH LOOSE STRAND, SLIP REMAINING LINE ON & WAIT ON NEW SPOOL OF DRG LINE	

OFFICIAL DAILY DRILLING REPORT FORM

REPORT No.

LEGEND

Metric expressions:

LEASE			WELL No.			WELL NUMBER			WATER DEPTH			DATE		
MURPHY DISCOVERY RIDGE			H-55			H-55-65-30-126-45			N/A			97 03 10 Tr. Mo. Day		
OPERATOR						CONTRACTOR						RIG No.		
MURPHY OIL COMPANY						SHEHTAH DRUG LTD						1E		
SIGNATURE OF OPERATOR'S REPRESENTATIVE						SIGNATURE OF CONTRACTOR'S RIG MANAGER								
D P SIZE		kg/m	GRADE	TOOL JT OD	TYPE THREAD	STRING No	PUMP No	PUMP MANUFACTURER			TYPE	STROKE LENGTH		
114		24.7	E	158	XH	59 JTS	1	EMSCO			DB-550	406		
							2	EMSCO			DB-550	406		

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly
- (3) H/S Signs Posted (if required)

LEGAL LAND DESCRIPTION		
	OUTSIDE DIAMETER	INSIDE DIAMETER
	LAST CASING TUBING ON LINE	24.5

TIME DISTRIBUTION - HOURS				No.	DRILLING ASSEMBLY - (at end of tour)		BIT RECORD						MUD RECORD			
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR		BIT	m	BIT No					TIME				
1.	RIG UP AND TEAR DOWN						SIZE					DENSITY kg/m ³				
2.	DRILL ACTUAL				STB RMR	OD	m	MFG					PRESSURE GRADIENT			
3.	REAMING				D C ID	OD	m	TYPE					VISCOSITY			
5.	CONDITION MUD & CIRCULATE				STB RMR	OD	m	JETS mm					PV mPa.s	YP Pa	/ / /	
6.	TRIPS				D.C. ID	OD	m	SER. No					GEL STR. Pa	/ / /		
7.	LUBRICATE RIG				STB RMR	OD	m	DEPTH OUT					WATER LOSS cm ³			
8.	REPAIR RIG	12	12					DEPTH IN					pH			
9.	CUT OFF DRILLING LINE							TOTAL METRES DRILLED					SOLIDS %			
10.	DEVIATION SURVEY							TOTAL HRS. RUN								
11.	WIRE LINE LOGS				STANDS DP		m	COND. 1/8" 7/8" GAGE					MUD & CHEMICALS ADDED			
12.	RUN CASING & CEMENT				SINGLES DP		m	FLOW RATE m ³ /min	/ / /				TYPE	AMT. kg	TYPE	AMT. kg
13.	WAIT ON CEMENT				KELLY DOWN		m	PRESSURE DROP kPa								
14.	NIPPLE UP B.O.P.				TOTAL		m									
15.	TEST B.O.P.				(FORCE)											
16.	DRILL STEM TEST				WT. OF STRING		daN									

METRES DRILLED		C C
FROM	TO	

DEVIATION RECORD	DEPTH

TIME LOG		ELAPSED TIME
FROM	TO	
10:00	1200	12

17. PLUG BACK			REMARKS
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			

COMPLETION		DRILLING ASSEMBLY (at end of tour)		BIT RECORD								MUD RECORD			
A. PERF'R'T'N		BIT	m	BIT No.								TIME			
B. TBG TRIPS				SIZE								DENSITY kg/m ³			
C. TREATING		STB RMR	OD m	MFG.								PRESSURE GRADIENT			
D. SWABBING		D.C. ID	OD m	TYPE								VISCOSITY			
E. TESTING		STB RMR	OD m	JETS	mm							PV mPa.s	YP Pa	/	/
F. ADDIT'N'L		D.C. ID	OD m	SER. No.								GEL STR. Pa	/	/	/
G.		STB RMR	OD m	DEPTH OUT								WATER LOSS cm ³			
TOTALS	12 12			DEPTH IN								pH			
DAY WORK TIME SUMMARY (OFFICE USE ONLY)				TOTAL METRES DRILLED								SOLIDS %			
HRS. W/CONTR. D.P.				TOTAL HRS. RUN											
HRS. W/OPR. D.P.				COND. 1/8"s T/B/GAGE								MUD & CHEMICALS ADDED			
HRS. WO/DP		STANDS DP	m	FLOW RATE m ³ /min								TYPE	AMT. kg	TYPE	AMT. kg
HRS. STANDBY		SINGLES DP	m	PRESSURE DROP kPa											
		KELLY DOWN	m												
		TOTAL	m												
		(FORCE) WT. OF STRING daN													
TOTAL DAY WORK		REMARKS													
No OF DAYS FROM SPUD															
CUMULATIVE ROTATING HRS															
TOTAL MUD COST															

METRES DRILLED		C I C
FROM	TO	

A		DEPTH

DEVIATION RECORD			
TIME LOG		ELAPSE TIME	
FROM	TO		

1200	24:00	12.

		12

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OFFICIAL DATA

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/l)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection-Weekly (using check list)
 (3) H+S Signs Posted (if required)

Initial [Signature] R.M. [Signature]
 Initial [Signature] Initial [Signature]
 Initial [Signature] Initial [Signature]

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

Initial [Signature]
 Initial [Signature]
 Initial [Signature]

LEGAL LAND DESCRIPTION

H-55-65-30-126-45

WIRE LINE RECORD

REEL No

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE	No LINES	METRES SLIPPED
										28.0	8	
	244.5	226.6	TP50	536	K-55	17	220.85	5.06	21540	METRES CUT OFF	PRESENT LENGTH	
										MEGAJOULES SINCE LAST CUT	3356	
										CUMULATIVE MEGAJOULES	318,848	

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT ON BIT daN	PUMP PRESS	PUMP No I LINER SIZE	STROKES per min	PUMP No II LINER SIZE	STROKES per min	METHOD RUN
								140		140		

FUEL @ 16:00 = 9457L

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
10:00	12:00	12	8	WAIT ON NEW SPOOL OF DRILLING LINE	12 #1 / 12 #2

CHEMICALS ADDED

kg TYPE AMT. kg

OFFICIAL DAILY DRILLING REPORT FORM

REPORT No.

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly
- (3) H/S Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER
	244.5	224.6

METRES DRILLED		D R C
FROM	TO	
580	72	

DEVIATION RECORD	DEPTH

TIME LOG		ELAPSED TIME
FROM	TO	
00:00	1200	12

[illegible]

METRES DRILLED		D R C C
FROM	TO	

DEVIATION RECORD	DEPT/1

TIME LOG		ELAPS TIME
FROM	TO	
1200	1530	3.5
1530	1600	1.0

530	1630	1.0
1630	1700	.5
1700	1815	1.2
1815	20:00	1.75
20:00	24:00	4.0

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LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection Weekly (using check list)
 (3) H.S. Signs Posted (if required)

OPR

Initial _____
 Initial _____
 Initial _____

R.M.

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

R.M.

Initial _____
 Initial _____
 Initial _____

LEGAL LAND DESCRIPTION **H-55-65-30-126-45**

WIRE LINE RECORD

REEL No

TYPE	STROKE LENGTH	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE	No LINES	METRES SLIPPED
DB-550	406	44.5	22.6	DP-10	53.6	K-55	17	220.85	5.06	215.40	280	8	
DB-550	406												
LAST CASING TUBING OR LINER											PRESENT LENGTH		
											MEGAJOULES SINCE LAST CUT		
											CUMULATIVE MEGAJOULES		

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. I LINER SIZE	STROKES per min	PUMP No. II LINER SIZE	STROKES per min	METHOD RUN SGL-S PAREL-P COMD-C
580 TD											140	

FUEL @ 06:00 = 1299 L.

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM TO				

01:00 1200 12 8 WAIT ON NEW SPOOL OF DRILLING LINE

TAG TOP OF PLUG #1 @ 302 m.

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. I LINER SIZE	STROKES per min	PUMP No. II LINER SIZE	STROKES per min	METHOD RUN SGL-S PAREL-P COMD-C

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
FROM TO				

1200 1530 3.50 8 RIG UP LINE SNAKE TO SLIP ON NEW DRILL LINE

1530 1630 1.00 6 Pull in AND TAG PLUG AT 302 m

1630 1700 .50 6 Pull out OF HOLE TO 232 m

1700 1815 1.25 12 CEMENT WITH DOWELL PLUG #2 232 - 202 m 50%

1815 20:00 1.75 6 Pull out OF HOLE AND LAY Down D.P.

20:00 24:00 4.00 13 WAIT ON CEMENT. PLUG #2

Run PLUG #2 232 - 202 m 4 TONNES 9 01:00 CMT w/ 10% CaCl₂ TAG CEMENT AT 199 m.

OFFICIAL DAILY DRILLING REPORT FORM

No.

DAILY DRILLING REPORT

REPORT No.

LEASE MURPHY DISCOVERY RIDGE	WELL No. H-55	WELL NUMBER H-55-63-30-126-45	WATER DEPTH N/A	DATE 97.03.12 Yr. Mo. Day					
OPERATOR MURPHY OIL COMPANY		CONTRACTOR SHEHTAH DRILL LTD		RIG No. 1E					
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		SIGNATURE OF CONTRACTOR'S RIG MANAGER <i>[Signature]</i>							
D.P. SIZE	kg/m	GRADE	TOOL JT O.D.	TYPE THREAD	STRING No.	PUMP No.	PUMP MANUFACTURER	TYPE	STROKE LENGTH

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
(2) Detailed Inspection-Weekly
(3) H.S. Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER
	2445	226

TIME DISTRIBUTION - HOURS				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD						
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR	BIT	m	BIT No.		TIME						
1.	RIG UP AND TEAR DOWN	7.50				SIZE		DENSITY kg/m ³						
2.	DRILL ACTUAL			STB RMR	OD	m	MFG.	PRESSURE GRADIENT						
3.	REAMING			D.C. ID	OD	m	TYPE	VISCOSITY						
4.	CORING			STB RMR	OD	m	JETS mm	PV mPa.s	YP Pa	/	/			
5.	CONDITION MUD & CIRCULATE			D.C. ID	OD	m	SER. No.	GEL STR. Pa	/	/	/			
6.	TRIPS	1.50		STB RMR	OD	m	DEPTH OUT	WATER LOSS cm ³						
7.	LUBRICATE RIG						DEPTH IN	pH						
8.	REPAIR RIG						TOTAL METRES DRILLED	SOLIDS %						
9.	CUT OFF DRILLING LINE						TOTAL HRS. RUN							
10.	DEVIATION SURVEY													
11.	WIRE LINE LOGS			STANDS DP	m	COND. 1/8" T/B/GAGE		MUD & CHEMICALS ADDED						
12.	RUNCASING & CEMENT			SINGLES DP	m	FLOW RATE m ³ /min		TYPE	AMT. kg	TYPE	AMT. kg			
13.	WAIT ON CEMENT	2.00		KELLY DOWN	m	PRESSURE DROP kPa								
14.	NIPPLE UP B.O.P.	1.00		TOTAL	m									
15.	TEST B.O.P.			(FORCE) WT. OF STRING	daN									
16.	DRILL STEM TEST			REMARKS Rig out well site shacks										
17.	PLUG BACK													
18.	SQUEEZE CEMENT													
19.	FISHING													
20.	DIR. WORK													
21.														
22.														
23.														
COMPLETION A. PERF'RT'N B. TBG TRIPS C. TREATING D. SWABBING E. TESTING F. ADDIT'N'L G.				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD		MUD RECORD						
				BIT	m	BIT No.		TIME						
						SIZE		DENSITY kg/m ³						
				STB RMR	OD	m	MFG.	PRESSURE GRADIENT						
				D.C. ID	OD	m	TYPE	VISCOSITY						
				STB RMR	OD	m	JETS mm	PV mPa.s	YP Pa	/	/			
				D.C. ID	OD	m	SER. No.	GEL STR. Pa	/	/	/			
				STB RMR	OD	m	DEPTH OUT	WATER LOSS cm ³						
							DEPTH IN	pH						
							TOTAL METRES DRILLED	SOLIDS %						
TOTALS 12				STANDS DP		COND. 1/8" T/B/GAGE		MUD & CHEMICALS ADDED						
DAY WORK TIME SUMMARY (OFFICE USE ONLY)				SINGLES DP		FLOW RATE m ³ /min		TYPE				AMT. kg	TYPE	AMT. kg
HRS. W/CONTR. D.P.				KELLY DOWN		PRESSURE DROP kPa								
HRS. W/OPR. D.P.				TOTAL										
HRS. WO/DP				(FORCE) WT. OF STRING		daN								
HRS. STANDBY				REMARKS										
TOTAL DAY WORK														
No. OF DAYS FROM SPUD														
CUMULATIVE ROTATING HRS														
TOTAL MUD COST														

FIRST TOUR

SECOND TOUR

METRES DRILLED

FROM TO

DEVIATION RECORD

TIME LOG

FROM TO ELAPS TIME

00:00	12:00	2.00
12:00	03:30	1.50
03:30	04:30	1.00
04:30	09:30	5.00
09:30	12:00	2.50

METRES DRILLED

FROM TO

DEVIATION RECORD

TIME LOG

FROM TO ELAPS TIME

12:00		
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DRILLER

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LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection-Weekly (using check list)
 (3) H.S Signs Posted (if required)

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

R.M.

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month)
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month)
 (3) Mast Inspected Before Raising or Lowering

R.M.

Initial *[Signature]*
 Initial *[Signature]*
 Initial *[Signature]*

LEGAL LAND DESCRIPTION

H-55-65-30-126-45

WIRE LINE RECORD

REEL No.

TYPE	STROKE LENGTH	OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No. JOINTS	TOTAL LENGTH	RKB TO CSG HD.	SET AT	SIZE	No. LINES	METRES SLIPPED
		244.5	226	180	536	K-55	17	228.5	5.06	21540			
LAST CASING TUBING OR LINER											METRES CUT OFF		
											PRESENT LENGTH		
											MEGAJOULES SINCE LAST CUT		
											CUMULATIVE MEGAJOULES		

METRES DRILLED

FROM	TO	DR. D RM R CORE. C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. LINER SIZE	STROKES per min	PUMP No. LINER SIZE	STROKES per min	METHOD RUN SGL-S PAR'EL-P COM'D-C

FUEL @ 06:00 =

REDUCED PUMP SPEED

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
----------	--------------	---------	---	--------------

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
00:00	12:00	2.00	13	WAIT ON CEMENT
12:00	03:30	1.50	6	RUN IN HOLE & LAY DOWN PIPE
03:30	04:30	1.00	14	TEAR OUT BOPS
04:30	09:30	5.00	1	TEAR OUT RIG - 40 SWIVEL, KEY & TEAR OUT WINTERIZATION
09:30	12:00	2.50	1	GENERAL RIG OUT - TEAR OUT FLOOR, MUD TANK, PUMPS.

12.00

Rig released 97-03-12-1000. HRS

[Signature]

METRES DRILLED

FROM	TO	DR. D RM R CORE. C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT. ON BIT daN	PUMP PRESS	PUMP No. LINER SIZE	STROKES per min	PUMP No. LINER SIZE	STROKES per min	METHOD RUN SGL-S PAR'EL-P COM'D-C

Shut Down Boilers

REDUCED PUMP SPEED

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
----------	--------------	---------	---	--------------

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200				RIG OUT TEAR OUT FLOOR, PREFABS, WELL HEAD POWER CORDS, BOILER, LAY OVER DERRICK SPOOK UP LINES

OFFICIAL DAILY DRILLING REPORT FORM

No.

DAILY DRILLING REPORT

REPORT No.

LEASE MURPHY DISCOVERY RIDGE	WELL No. H-55	WELL NUMBER H-55-65-30-126-45	WATER DEPTH	DATE 97.03.13					
OPERATOR MURPHY OIL COMPANY	CONTRACTOR SHEHTAH DRUG LTD		RIG No. 1E						
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		SIGNATURE OF CONTRACTOR'S RIG MANAGER <i>[Signature]</i>							
D.P. SIZE	kg/m	GRADE	TOOL JOINT	TYPE THREAD	STRING No	PUMP No	PUMP MANUFACTURER	TYPE	STROKE LENGTH

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly
- (3) H.S Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER

TIME DISTRIBUTION - HOURS				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD				MUD RECORD				
CODE No.	OPERATION	FIRST TOUR	SECOND TOUR	BIT	m	BIT No	SIZE		TIME	DENSITY kg/m ³	PRESSURE GRADIENT	VISCOSITY	PV mPa.s	YP Pa
1	RIG UP AND TEAR DOWN													
2	DRILL ACTUAL			STB RMR	OD	m	MFG							
3	REAMING			D.C. ID	OD	m	TYPE							
4	CORING			STB RMR	OD	m	JETS mm							
5	CONDITION MUD & CIRCULATE			D.C. ID	OD	m	SER. No							
6	TRIPS			STB RMR	OD	m	DEPTH OUT							
7	LUBRICATE RIG						DEPTH IN							
8	REPAIR RIG						TOTAL METRES DRILLED							
9	CUT OFF DRILLING LINE						TOTAL HRS RUN							
10	DEVIATION SURVEY			STANDS DP	m	COND. 1/8" T/B/GAGE				MUD & CHEMICALS ADDED				
11	WIRE LINE LOGS			SINGLES DP	m	FLOW RATE m ³ /min				TYPE	AMT. kg	TYPE	AMT. kg	
12	RUN CASING & CEMENT			KELLY DOWN	m	PRESSURE DROP kPa								
13	WAIT ON CEMENT			TOTAL	m									
14	NIPPLE UP B.O.P.			(FORCE) WT. OF STRING	daN									
15	TEST B.O.P.			REMARKS Held safety meeting w/ all personnel prior to starting rig move										
16	DRILL STEM TEST			<i>[Signature]</i> DRILLER										
17	PLUG BACK													
18	SQUEEZE CEMENT													
19	FISHING													
20	DIR. WORK													
21														
22														
23														
COMPLETION				No. DRILLING ASSEMBLY (at end of tour)		BIT RECORD				MUD RECORD				
A. PERF'T'N				BIT	m	BIT No	SIZE		TIME	DENSITY kg/m ³	PRESSURE GRADIENT	VISCOSITY	PV mPa.s	YP Pa
B. TBG TRIPS				STB RMR	OD	m	MFG							
C. TREATING				D.C. ID	OD	m	TYPE							
D. SWABBING				STB RMR	OD	m	JETS mm							
E. TESTING				D.C. ID	OD	m	SER. No							
F. ADDIT'N'L				STB RMR	OD	m	DEPTH OUT							
G.							DEPTH IN							
TOTALS							TOTAL METRES DRILLED							
DAY WORK TIME SUMMARY (OFFICE USE ONLY)							TOTAL HRS RUN							
HRS. W/CONTR. D.P.				STANDS DP	m	COND. 1/8" T/B/GAGE				MUD & CHEMICALS ADDED				
HRS. W/OPR. D.P.				SINGLES DP	m	FLOW RATE m ³ /min				TYPE	AMT. kg	TYPE	AMT. kg	
HRS. WO/DP				KELLY DOWN	m	PRESSURE DROP kPa								
HRS. STANDBY				TOTAL	m									
				(FORCE) WT. OF STRING	daN									
TOTAL DAY WORK				REMARKS										
No. OF DAYS FROM SPUD														
CUMULATIVE ROTATING HRS														
TOTAL MUD COST														

FIRST TOUR

SECOND TOUR

METRES DRILLED

FROM	TO	C

DEVIATION RECORD

TIME LOG		ELAPSE TIME
FROM	TO	
07:00	19:00	12

METRES DRILLED

FROM	TO	C

DEVIATION RECORD

TIME LOG		ELAPSE TIME
FROM	TO	
07:00	21:00	14

FORM 276m

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OFFICIAL DATA

LEGEND

Metric expressions:

All lengths expressed in metres to two decimal places.

mud density = kilogram per cubic metre (kg/m³)
 pump-stroke length = millimetre (mm)
 weight of string = decanewton (daN)
 weight on bit: indicator will record decanewton
 linear mass = kilogram per metre (kg/m)
 viscosity = second per litre (s/L)

flow rate = cubic metre per minute (m³/min)
 pressure gradient = kilopascal per metre (kPa/m)
 yield point = pascal (Pa)
 plastic viscosity = millipascal second (mPa·s)
 gel strength = pascal (Pa)
 work completed by wire line = megajoule (MJ)
 inside diameter and outside diameter = millimetre (mm)
 pump pressure = kilopascal (kPa)

E.R.C.B.

- (1) Daily Walk Around Inspection
 (2) Detailed Inspection-Weekly (using check list)
 (3) H.S. Signs Posted (if required)

Initial AKD R.M. Initial _____
 Initial _____ Initial _____
 Initial _____ Initial _____

- (1) Rig Site Health and Safety Meeting (one meeting/crew/month) Initial _____
 (2) C.A.O.D.C. Rig Safety Inspection Check List (one/rig/month) Initial _____
 (3) Mast Inspected Before Raising or Lowering Initial _____

LEGAL LAND DESCRIPTION

H-55-65-30-126-45

WIRE LINE RECORD

REEL No

OUTSIDE DIAMETER	INSIDE DIAMETER	MAKE	kg/m	GRADE	No JOINTS	TOTAL LENGTH	RKB TO CSG HD	SET AT	SIZE	No LINES	METRES SLIPPED
									METRES CUT OFF		PRESENT LENGTH
									MEGAJOULES SINCE LAST CUT		
									CUMULATIVE MEGAJOULES		

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT ON BIT daN	PUMP PRESS	PUMP No LINER SIZE	STROKES per min	PUMP No LINER SIZE	STROKES per min	METHOD RUN SGL S PARCEL P COM'D C

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
07:00	19:00	12:00	1	LOAD OUT BUILDINGS, TAKE APART SUB STRUCTURE, DERRICK. E LOAD UP TRUCKS. GENERAL TEARING OUT.	

97/03/13

METRES DRILLED

FROM	TO	DR D RM R CORE C	CORE No	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	(FORCE) WT ON BIT daN	PUMP PRESS	PUMP No LINER SIZE	STROKES per min	PUMP No LINER SIZE	STROKES per min	METHOD RUN SGL S PARCEL P COM'D C

DEVIATION RECORD

DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE No	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	BOILER HOURS
07:00	21:00	14		LOAD OUT MATTING TIE UP LOADS CLEAN UP LEASE GENERAL RIG OUT UNLOAD RIG IN NORMAN WELLS	

97/03/14

OFFICIAL DAILY DRILLING REPORT FORM

DAILY DRILLING REPORT **REPORT No.**

LEASE <i>Murphy Discovery Ridge</i>						WELL No. <i>H 55</i>		WELL NUMBER <i>H55-45-30-126-45</i>		WATER DEPTH		DATE <i>97.03.05</i>		
OPERATOR						CONTRACTOR								RIG No.
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>Gaudin</i>						SIGNATURE OF CONTRACTOR'S RIG MANAGER <i>N Speers</i>								
D P SIZE	kg m	GRADE	TOOL JT O D	TYPE THREAD	STRING No	PUMP No	PUMP MANUFACTURER				TYPE	STROKE LENGTH		

LEGEND

Metric expressions:

E.R.C.B.

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly
- (3) H,S Signs Posted (if required)

LEGAL LAND DESCRIPTION

LAST CASING TUBING OR LINER	OUTSIDE DIAMETER	INSIDE DIAMETER

TIME DISTRIBUTION - HOURS				No.	DRILLING ASSEMBLY 1st end of tour		BIT RECORD				MUD RECORD			
CODE No	OPERATION	FIRST TOUR	SECOND TOUR		BIT	m	BIT No				TIME			
1	RIG UP AND TEAR DOWN						SIZE				DENSITY kg/m ³			
2	DRILL ACTUAL				STB RMR	OD	m	MFG			PRESSURE GRADIENT			
3	REAMING				D C ID	OD	m	TYPE			VISCOSITY			
5	CONDITION MUD & CIRCULATE				STB RMR	OD	m	JETS mm			PV mPa.s	YP Pa	/	/
6	TRIPS				D C ID	OD	m	SEA No			GEL STR Pa	/	/	/
7	LUBRICATE RIG				STB RMR	OD	m	DEPTH OUT			WATER LOSS cm ³			
8	REPAIR RIG						m	DEPTH IN			pH			
9	CUT OFF DRILLING LINE						m	TOTAL METRES DRILLED			SOLIDS %			
10	DEVIATION SURVEY						m	TOTAL HRS RUN						
11	WIRE LINE LOGS				STANDS DP		m	COND 1:8% T/B/GAGE			MUD & CHEMICALS ADDED			
12	RUN CASING & CEMENT				SINGLES DP		m	FLOW RATE m ³ /min			TYPE	AMT. kg	TYPE	AMT. kg
13	WAIT ON CEMENT				KELLY DOWN		m	PRESSURE DROP kPa						
14	NIPPLE UP B O P				TOTAL		m							
15	TEST B O P				(FORCE)									
16	DRILL STEM TEST				WT OF STRING		daN							

REMARKS

Camp shuts down after breakfast
No charge for 15 Mar 97.

DRILLER

COMPLETION		No.		DRILLING ASSEMBLY (at end of tour)		BIT RECORD						MUD RECORD						
A PERF RTN	B TBG TRIPS	C TREATING	D SWABBING	E TESTING	F. ADDIT'L	G	BIT	m	BIT No				TIME					
							SIZE				DENSITY kg/m ³							
							STB RMR OD	m	MFG			PRESSURE GRADIENT						
							D C ID	OD	m	TYPE			VISCOSITY					
							STB RMR OD	m	JETS mm					PV mPa.s	YP Pa	/	/	/
							D C ID	OD	m	SER No			GEL STR. Pa	/	/	/		
TOTALS							STB RMR OD	m	DEPTH OUT			WATER LOSS cm ³						
DAY WORK TIME SUMMARY (OFFICE USE ONLY)								DEPTH IN				pH						
HRS W/CONTR DP								TOTAL METRES DRILLED				SOLIDS %						
HRS W/OPR DP								TOTAL HRS RUN										
HRS WO/DP								STANDS DP	m	COND 1/8" T/8" GAGE			MUD & CHEMICALS ADDED					
HRS STANDBY								SINGLES DP	m	FLOW RATE m ³ /min			TYPE	AMT. kg	TYPE	AMT. kg		
								KELLY DOWN	m	PRESSURE DROP kPa								
								TOTAL	m									
								(FORCE) WT OF STRING	dash									

REMARKS

TOTAL DAY WORK

No OF DAYS

CUMULATIVE

ROTATING HNS

TOTAL MOD COST

DRILLER

METRES DRILLED		C
FROM	TO	

DEVIATION RECORD

TIME LOG		ELAPSED TIME
FROM	TO	

[illegible]

METRES DRILLED		C P C
FROM	TO	

DEVIATION RECORD

TIME LOG		ELAPSED TIME
FROM	TO	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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