COUNTY: COLUMBIA
Field: MIST
Location: 1744.22' SOUTH, 2512.13' EAS
Well: OM 22-26-65 RD
Company: NORTHWEST NATURAL GAS

COMPANY: NORTHWEST NATURAL GAS

WELL: OM 22-26-65 RD

FIELD: MIST

COUNTY: COLUMBIA STATE: OREGON

Schlumberger

FORMATION MICRO IMAGER
GR
SCALE: 5" = 100'

LOCATION			
1744.22' SOUTH, 2512.13' EAST FROM THE NW CORNER OF 26		Elev.:	K.B. 631 ft G.L. 621 ft D.F. 629 ft
Permanent Datum:	GROUND LEVEL	Elev.:	621 ft
Log Measured From:	K.B	10.0 ft	above Perm. Datum
Drilling Measured From:	K.B		

API Serial No.	SECTION	TOWNSHIP	RANGE
36-009-00330	26	6N	5W

Logging Date		21-MAY-2000		
Run Number		1		
Depth Driller		2151 ft		
Schlumberger Depth		2144 ft		
Bottom Log Interval		2136 ft		
Top Log Interval		487 ft		
Casing Driller Size @ Depth		7.000 in	@	487 ft
Casing Schlumberger		487 ft		
Bit Size		6.250 in		
Type Fluid In Hole		DMA		
MUD Density	Viscosity	8.9 lbm/gal	45 s	
Fluid Loss	PH	6.6 cm3	9	
Source Of Sample		FLOWLINE		
RM @ Measured Temperature		1.185 ohm.m	@	76 degF
RMF @ Measured Temperature		1.050 ohm.m	@	72 degF
RMC @ Measured Temperature		0.930 ohm.m	@	76 degF
Source RMF	RMC	PRESS	PRESS	
RM @ MRT	RMF @ MRT	0.936 @ 98	0.789 @ 98	
Maximum Recorded Temperatures		98 degF	98	98
Circulation Stopped	Time	21-MAY-2000		9:30
Logger On Bottom	Time	21-MAY-2000		15:26
Unit Number	Location	3152	SACRAMENTO	
Recorded By		M.KHAN		
Witnessed By		JACK MEYER		

Run 1

Logging Date	
Run Number	
Depth Driller	
Schlumberger Depth	
Bottom Log Interval	
Top Log Interval	
Casing Driller Size @ Depth	@
Casing Schlumberger	
Bit Size	
Type Fluid In Hole	
MUD Density / Viscosity	
Fluid Loss / PH	
Source Of Sample	
RM @ Measured Temperature	@
RMF @ Measured Temperature	@
RMC @ Measured Temperature	@
Source RMF / RMC	
RM @ MRT / RMF @ MRT	@
Maximum Recorded Temperatures	
Circulation Stopped / Time	
Logger On Bottom / Time	
Unit Number / Location	
Recorded By	
Witnessed By	

@

Run 2

@

@ @ @ @

@

Run 3

@

Run 4

DISCLAIMER
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1: PEX	OS1:
OS2: BHC	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

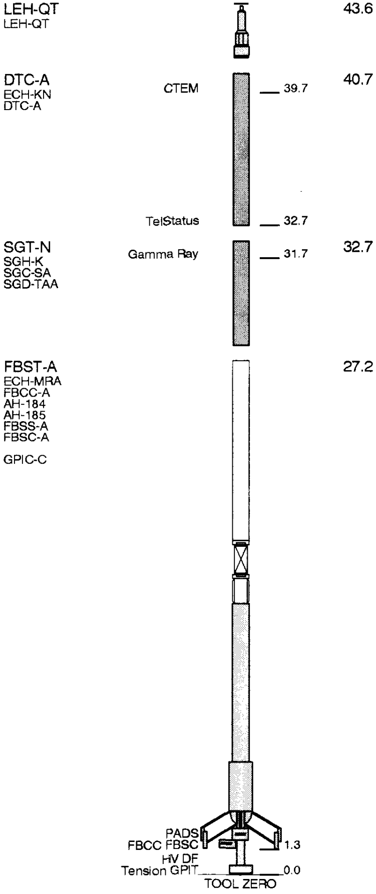
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2

RUN 1		RUN 2	
SERVICE ORDER #:		SERVICE ORDER #:	
PROGRAM VERSION:	9C1-303	PROGRAM VERSION:	
FLUID LEVEL:	0 ft	FLUID LEVEL:	

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1	RUN 2
SURFACE EQUIPMENT GSR-U/Y WITM (DTS)-A	
DOWNHOLE EQUIPMENT	



MAXIMUM STRING DIAMETER 5.00 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Output DLIS Files

DEFAULT	FBSTA .013	FN:12 PRODUCER	21-May-2000 15:42	2156.0 FT	466.0 FT

OP System Version: 9C1-303

MCM

FBST-A	9C1-303	SGT-N	OP91-KP1a
DTC-A	OP91-KP1a		

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
XVOL	100 V	0 V	2118.9 15:42:59

PIP SUMMARY

▶ Time Mark Every 60 S

FMI Correlation Resistance (LOG) (FBCR)
2 (KOHM) 2000

Relative Bearing (RB_FBST)
-40 (DEG) 360

Pad One Azimuth (P1AZ_FBST)
-40 (DEG) 360

Hole Azimuth (HAZIM)
-40 (DEG) 360

Gamma Ray (GR)
0 (GAPI) 150

Deviation (DEVIM)
0 (DEG) 25

Tension (TENS)
10000 (LBF) 0

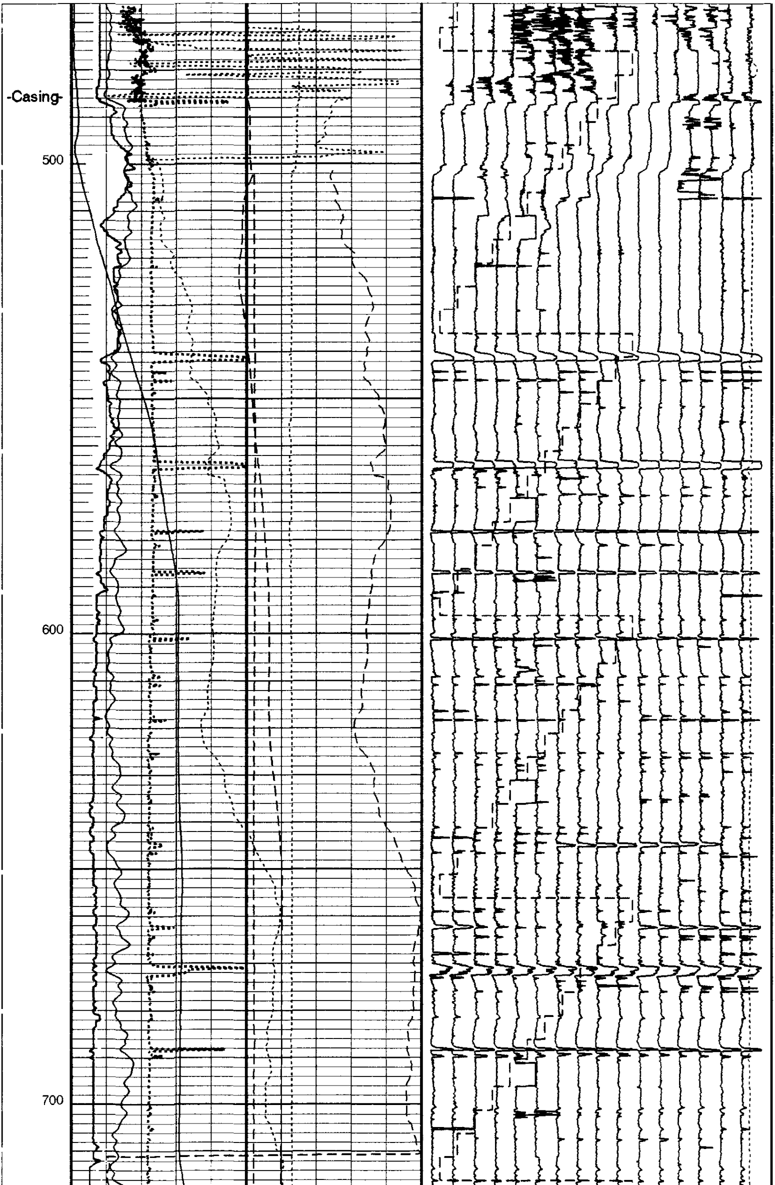
Caliper 2 (C2)
6 (IN) 11

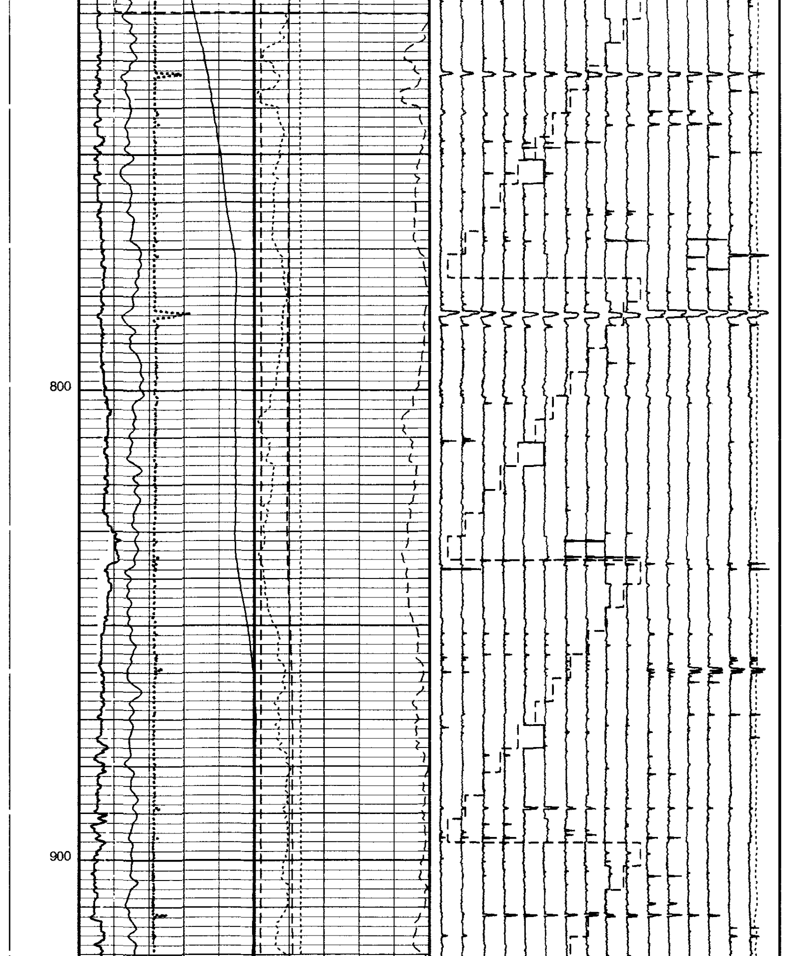
EMEX Intensity (EI)
0 (AMPS) 10

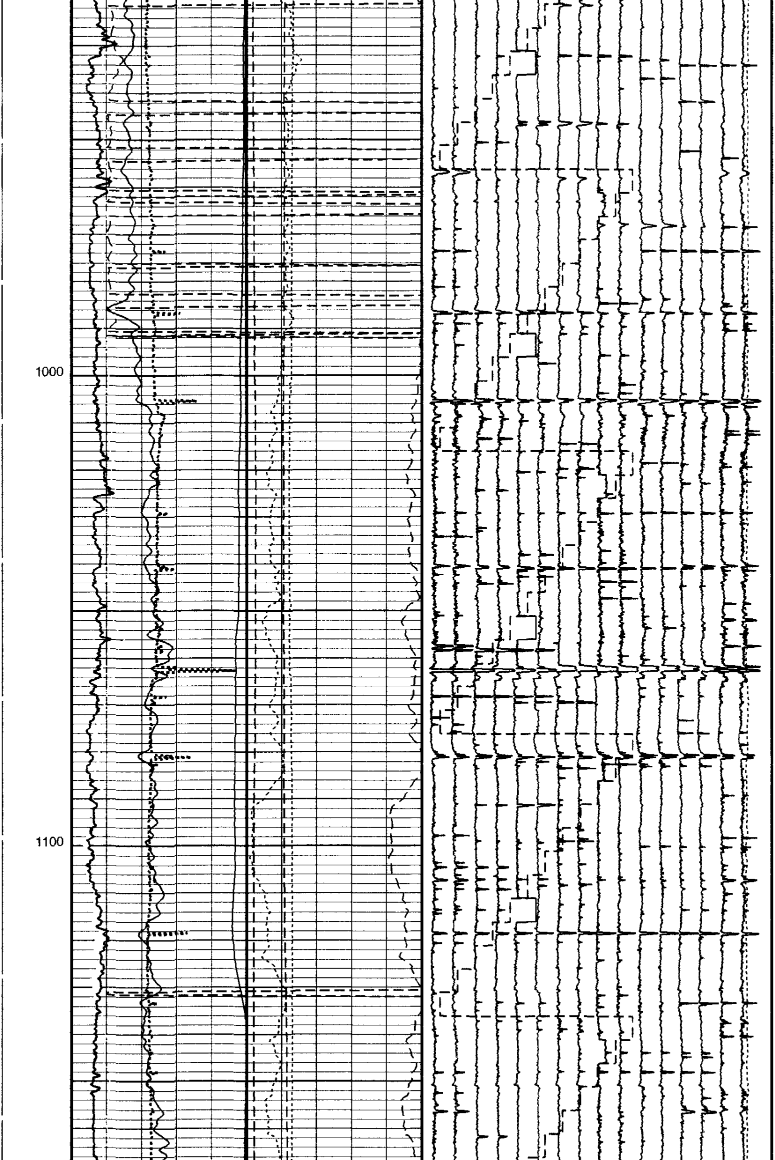
FMI resistivity buttons #1 to 16
RB16 RB15 RB14 RB13 RB12 RB11 RB10 RB9 RB8 RB7 RB6 RB5 RB4 RB3 RB2 RB1

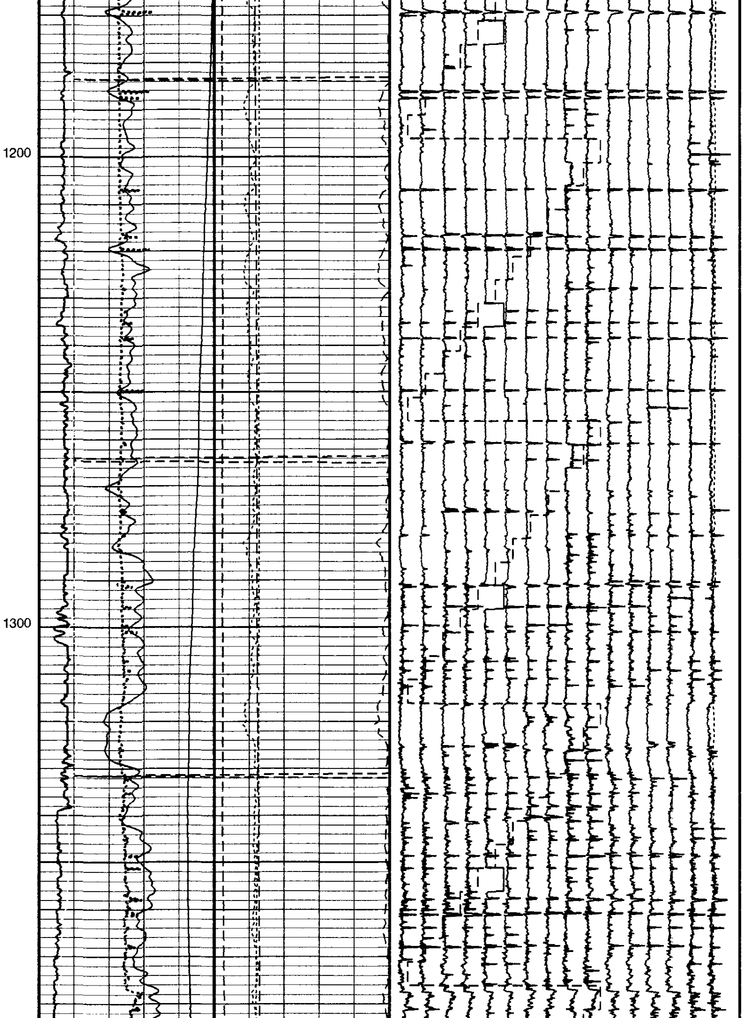
EMEX Voltage (EV)
0 (V) 50

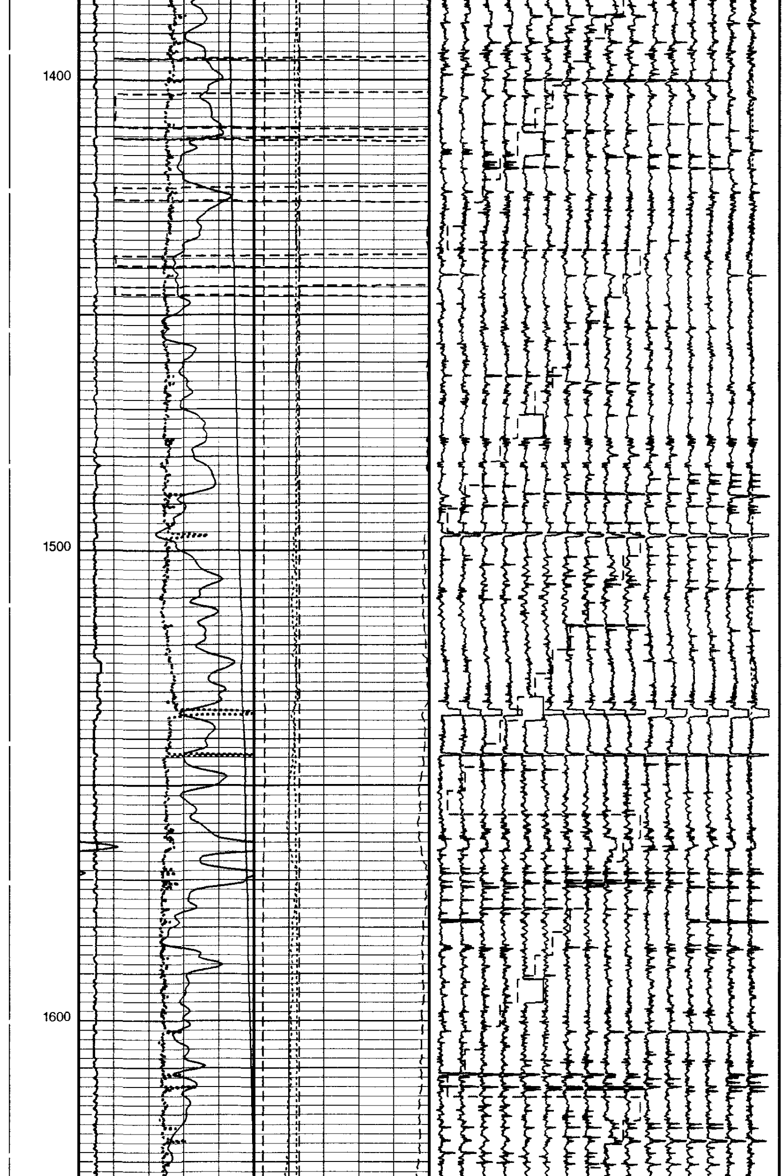
FMI RBS Value (RBSV)
0 (----) 20

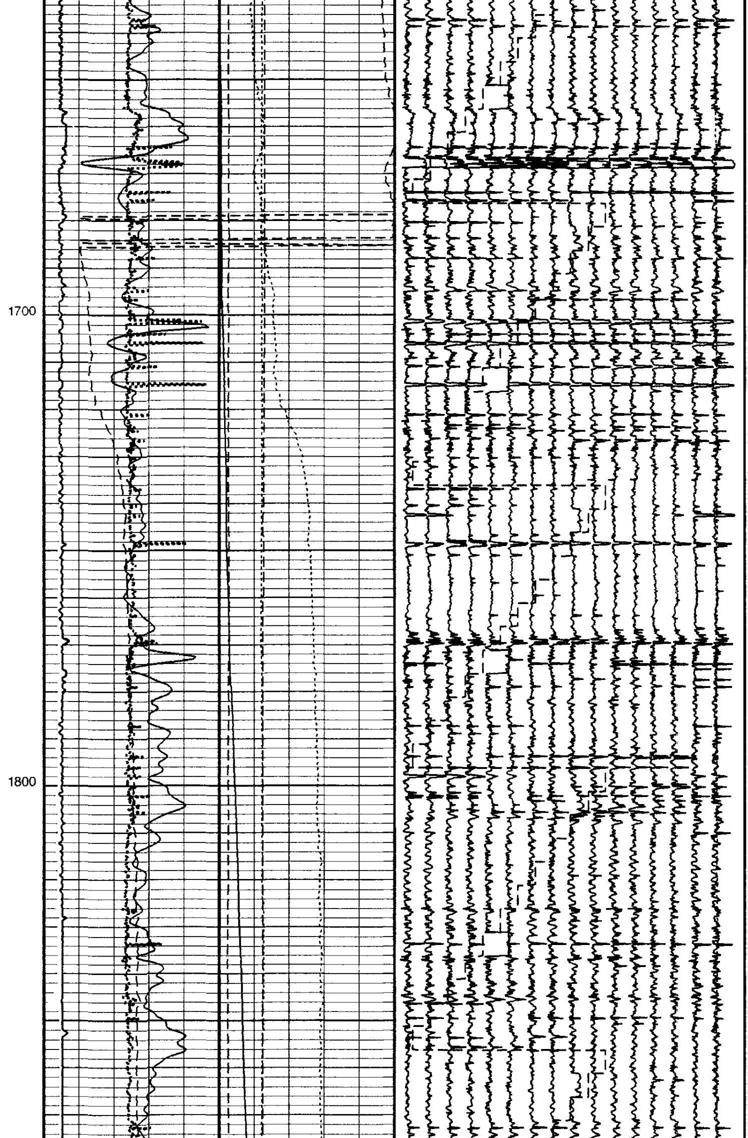


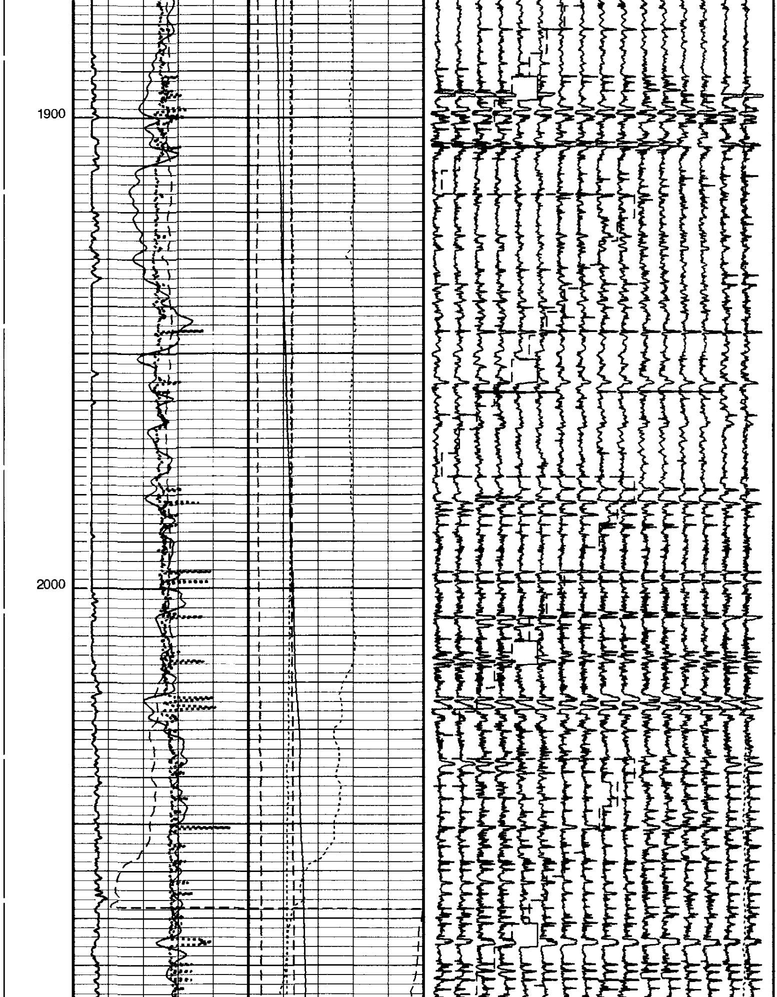


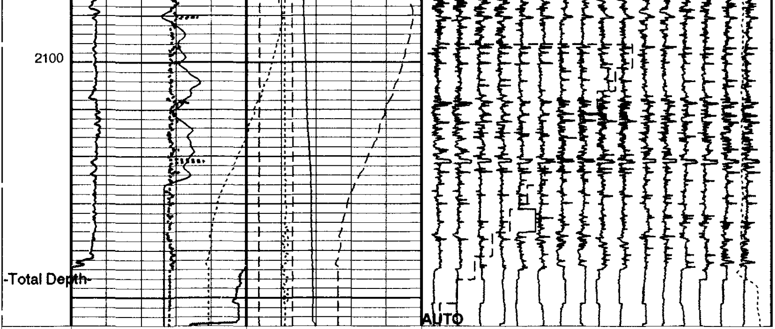












EMEX Voltage (EV)
0 (V) 50

FMI RBS Value (RBSV)
0 (----) 20

Caliper 2 (C2)
6 (IN) 11

EMEX Intensity (EI)
0 (AMPS) 10

FMI resistivity buttons #1 to 16
RB16 RB15 RB14 RB13 RB12 RB11 RB10 RB9 RB8 RB7 RB6 RB5 RB4 RB3 RB2 RB1

Deviation (DEVIM)
0 (DEG) 25

Tension (TENS)
10000 (LBF) 0

Gamma Ray (GR)
0 (GAPI) 150

Hole Azimuth (HAZIM)
-40 (DEG) 360

Pad One Azimuth (P1AZ_FBST)
-40 (DEG) 360

Relative Bearing (RB_FBST)
-40 (DEG) 360

FMI Correlation Resistance (LOG) (FBCR)
2 (KOHM) 2000

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
FBEF	Emex filtering activation	OFF	
FLM	FMI Logging Mode	8PAD	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MDEC	Magnetic Field Declination	18.3206	DEG
RBS	Resistivity Button Selection	AUTO	
RBSI	Auto RBS change interval	10	
SOFF	Stand-Off	0	IN
XGMO	Emex & Gain Modes	EmexManu_GainManu	
XVOL	Emex Voltage	0	V

Format: FMI_LQC   Vertical Scale: 5" per 100'   Graphics File Created: 21-May-2000 15:42

OP System Version: 9C1-303

MCM

FBST-A	9C1-303	SGT-N	OP91-KP1a
DTC-A	OP91-KP1a		

Output DLIS Files

DEFAULT   FBSTA .013   FN:12 PRODUCER   21-May-2000 15:42

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REPEAT SECTION

MAXIS 500 Field Log

Output DLIS Files

DEFAULT	FBSTA .012	FN:11 PRODUCER	21-May-2000 15:26	2150.0 FT	1841.5 FT

OP System Version: 9C1-303

MCM

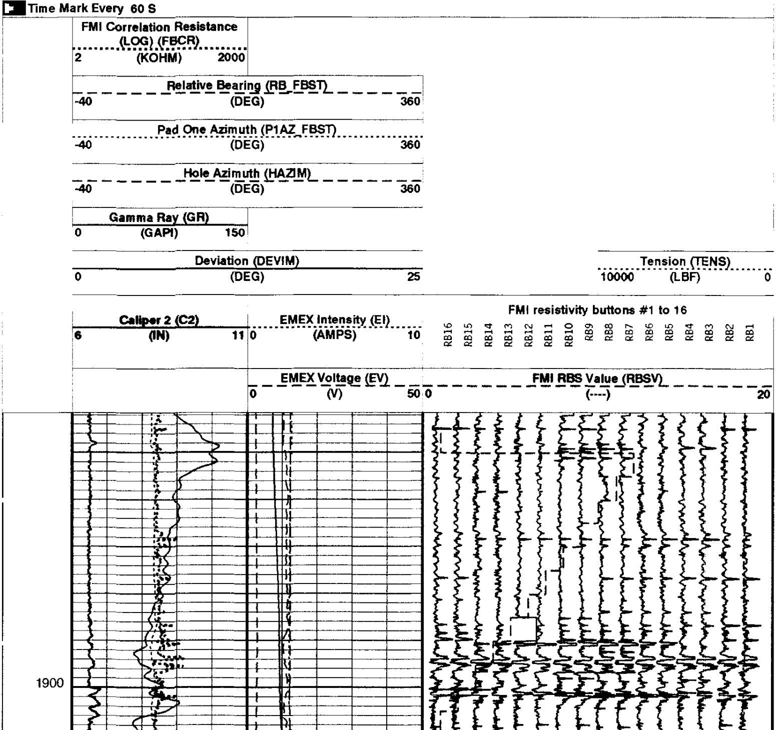
FBST-A	9C1-303	SGT-N	OP91-KP1a
DTC-A	OP91-KP1a		

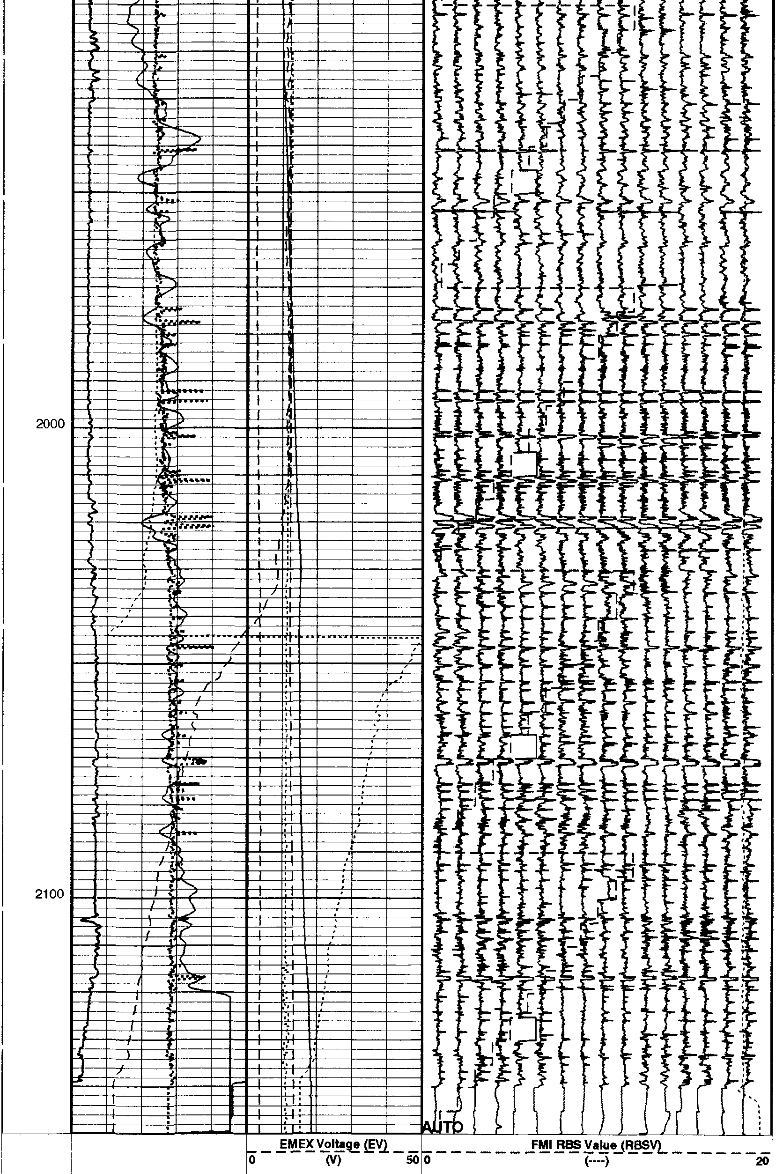
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
XVOL	100 V	0 V	2142.0 15:26:51

PIP SUMMARY

Time Mark Every 60 S





Curve	Left	Unit	Right
Caliper 2 (C2)	6	(IN)	11
EMEX Intensity (EI)	0	(AMPS)	10
Deviation (DEVIM)	0	(DEG)	25
Tension (TENS)	10000	(LBF)	0
Gamma Ray (GR)	0	(GAPI)	150
Hole Azimuth (HAZIM)	-40	(DEG)	360
Pad One Azimuth (P1AZ_FBST)	-40	(DEG)	360
Relative Bearing (RB_FBST)	-40	(DEG)	360
FMI Correlation Resistance (LOG) (FBCR)	2	(KOHM)	2000

FMI resistivity buttons #1 to 16

RB16 RB15 RB14 RB13 RB12 RB11 RB10 RB9 RB8 RB7 RB6 RB5 RB4 RB3 RB2 RB1

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
FBEF	Emex filtering activation	OFF	
FLM	FMI Logging Mode	8PAD	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MDEC	Magnetic Field Declination	18.3206	DEG
RBS	Resistivity Button Selection	AUTO	
RBSI	Auto RBS change interval	10	
SOFF	Stand-Off	0	IN
XGMO	Emex & Gain Modes	EmexManu_GainManu	
XVOL	Emex Voltage	0	V

Format: FMI_LQC Vertical Scale: 5" per 100' Graphics File Created: 21-May-2000 15:26

OP System Version: 9C1-303

MCM

FBST-A	9C1-303	SGT-N	OP91-KP1a
DTC-A	OP91-KP1a		

Output DLIS Files

DEFAULT FBSTA .012 FN:11 PRODUCER 21-May-2000 15:26

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CALIBRATIONS

MAXIS 500 Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Full-Bore Scanner - A Wellsite Calibration - Caliper Calibration							
Before: 21-MAY-2000 15:01							
Caliper #1 Small Jig	8.000	N/A	8.053	N/A	N/A	N/A	IN
Caliper #2 Small Jig	8.000	N/A	7.834	N/A	N/A	N/A	IN
Caliper #1 Large Jig	12.00	N/A	11.84	N/A	N/A	N/A	IN
Caliper #2 Large Jig	12.00	N/A	11.65	N/A	N/A	N/A	IN
Full-Bore Scanner - A Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 21-MAY-2000 14:55							
TEMPERATURE REFERENCE :	N/A	N/A	68	N/A	N/A	N/A	DEGF
YEAR OF CALIBRATION :	N/A	N/A	93	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	11	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	470	N/A	N/A	N/A	
Full-Bore Scanner - A Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: 21-MAY-2000 14:56							
TEMPERATURE REFERENCE :	N/A	N/A	75	N/A	N/A	N/A	DEGF
YEAR OF CALIBRATION :	N/A	N/A	93	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	12	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	186	N/A	N/A	N/A	
Scintillation Gamma-Ray - N Wellsite Calibration - Detector Calibration							
Before: Calibration not done							
Gamma Ray (Jig - Bkg)	N/A	N/A	N/A	N/A	N/A	N/A	GAPI
Gamma Ray (Calibrated)	165.0	N/A	N/A	N/A	N/A	15.00	GAPI

Full-Bore Scanner - A / Equipment Identification

Primary Equipment:	
FullBore Scanner Sonde	FBSS - A
GPIT Cartridge - C	GPIC - C
	-
FullBore Scanner Sonde Cartridge	FBSC - A
Insulating Sub	AH - 185
Flex Joint	AH - 184
FullBore Scanner Control Cartridge	FBCC - A
Auxiliary Equipment:	
Electronics Cartridge Housing	ECH - MRA

Full-Bore Scanner - A Wellsite Calibration

Caliper Calibration

Phase	Caliper #1 Small Jig IN	Value	Phase	Caliper #2 Small Jig IN	Value
Before		8.053	Before		7.834
	6.800 (Minimum) 8.000 (Nominal) 9.200 (Maximum)			6.800 (Minimum) 8.000 (Nominal) 9.200 (Maximum)	
Phase	Caliper #1 Large Jig IN	Value	Phase	Caliper #2 Large Jig IN	Value
Before		11.84	Before		11.65
	10.20 (Minimum) 12.00 (Nominal) 13.80 (Maximum)			10.20 (Minimum) 12.00 (Nominal) 13.80 (Maximum)	

Before: 21-MAY-2000 15:01

Scintillation Gamma-Ray - N / Equipment Identification

Primary Equipment:	
Scintillation Gamma Cartridge	SGC - SA
Scintillation Gamma Detector	SGD - TAA
Auxiliary Equipment:	
Scintillation Gamma Housing	SGH - K
Gamma Source Radioactive	GSR - U/Y

Scintillation Gamma-Ray - N Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		43.84	Before	NOT DONE	N/A	Before	NOT DONE	N/A
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			N/A (Minimum) N/A (Nominal) N/A (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)	

Before: Calibration not done

COMPANY: **NORTHWEST NATURAL GAS**

WELL: **OM 22-26-65 RD**
FIELD: **MIST**
COUNTY: **COLUMBIA**
STATE: **OREGON**

BOTTOM LOG INTERVAL	2136 ft
SCHLUMBERGER DEPTH	2144 ft
DEPTH DRILLER	2151 ft
KELLY BUSHING	631 ft
DRILL FLOOR	629 ft
GROUND LEVEL	621 ft

Schlumberger

FORMATION MICRO IMAGER
GR
SCALE: 5" = 100'