COMPANY: Enerfin Resources Northwest

WELL: Columbia County 11-34-75 Stegosaur

FIELD: Mist Gas

COUNTY: Columbia **STATE:** Oregon

COUNTY: Columbia
Field: Mist Gas
Location: 1034.2' E & 556.76' S f/ NW Cor
Well: Columbia County 11-34-75 Steg
Company: Enerfin Resources Northwest

Schlumberger

Platform Express
TNPH / SPHI / DPHZ Porosity
Array Induction Two Inch Log

LOCATION

1034.2' E & 556.76' S f/ NW Corner
Section 34 T7N-R5W

Elev.:	K.B.	1676.74 ft	
	G.L.	1666.74 ft	
	D.F.	1775.74 ft	

Permanent Datum:	Ground Level	Elev.:	1666.74 ft
Log Measured From:	Kelly Bushing	10.0 ft	above Perm. Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	SECTION	TOWNSHIP	RANGE
	34	7N	5W

Logging Date	19-JUN-1999	**FINAL PRINT**
Run Number	One	
Depth Driller	3230 ft	
Schlumberger Depth	3232 ft	
Bottom Log Interval	3224 ft	
Top Log Interval	518 ft	
Casing Driller Size @ Depth	7.000 in @ 518 ft	@
Casing Schlumberger	518 ft	
Bit Size	6.250 in	
Type Fluid In Hole	Accu-Gauge -- Gel/ PolyCarb-KCL	
MUD Density | Viscosity	9.2 lbm/gal | 41 s	
Fluid Loss | PH	4.8 cm3 | 9.5	
Source Of Sample	Mud Tank	
RM @ Measured Temperature	1.130 ohm.m @ 76 degF	@
RMF @ Measured Temperature	0.970 ohm.m @ 76 degF	@
RMC @ Measured Temperature	1.390 ohm.m @ 76 degF	@
Source RMF | RMC	Calculated | Calculated	
RM @ MRT | RMF @ MRT	0.710 @ 125 | 0.609 @ 125	@ | @
Maximum Recorded Temperatures	125 degF	
Circulation Stopped | Time	19-JUN-1999 | 8:00	
Logger On Bottom | Time	19-JUN-1999 | 11:00	
Unit Number | Location	2105 | Casper, Wyoming	
Recorded By	S. Kinney	
Witnessed By	R. Lucas, D. Huggins	

	Run 1	Run 2
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 3

Run 4

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 INTERPRETATION 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

OTHER SERVICES1	OTHER SERVICES2
OS1:	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Neutron run without bowspring due to hole size	
Sonic and AIT run with .5" standoffs to minimize sticking	
Matrix = Sandstone	
MDEN = 2.65 g/cc	
DTM = 56 uSec/ft	
Raymer-Hunt Porosity	
Your Crew: Ted Bearce	

RUN 1		RUN 2	
SERVICE ORDER #:	6066544	SERVICE ORDER #:	
PROGRAM VERSION:	9C0-413	PROGRAM VERSION:	
FLUID LEVEL:	0 ft	FLUID LEVEL:	

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1	RUN 2

SURFACE EQUIPMENT

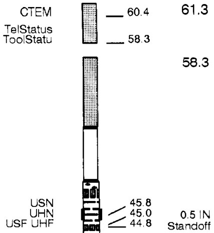
GSR-U/Y
NCT-B
CNB-AB
NCS-VB

WITM (DTS)-A

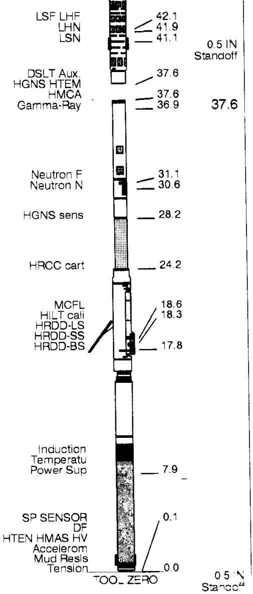
DOWNHOLE EQUIPMENT

DTC-H
ECH-KC
DTCH0-A
DTCH1-A

DSLT-FTB
DSLC-B
ECH-KH
SLS-W



HILTB-FTB
HGNSD-B
HMCA
HGNS-H
NLS-KL
NSR-F
HACCZ
HCNT
HGR
HRCC-B
HRMS-B
HRGD
GLS-VJ
MCFL Device
HILT Nucl. LS
HILT Nucl. SS
HILT Nucl. BS
AIT-H
AHIS-BA
NPV-N



MAXIMUM STRING DIAMETER 4.88 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Input DLIS Files

DEFAULT	HILTD .004	FN:3	PRODUCER	19-Jun-1999 13:17	3240.0 FT	63.5 FT
DEFAULT	HILTD .003	FN:2	PRODUCER	19-Jun-1999 12:55	3234.0 FT	2732.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 613.33 ft3

Cement Volume = 489.96 ft3 (assuming 2.88 in casing O.D.)

Computed from 3230.0 ft to 493.5 ft

OP System Version: 9C0-413

MCM

HILTD	OP9-KP1	DSLT-BB	OP9-KP1
DTCH	9C0-413		

PIP SUMMARY

⊢ Integrated Hole Volume Minor Pip Every 10 F3

⊢ Integrated Hole Volume Major Pip Every 100 F3

⊣ Integrated Cement Volume Minor Pip Every 10 F3

⊣ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

HRDD Density Correction (HDRA)
-0.25 (G/C3) 0.25

Env.Corr.Thermal Neutron Porosity (TNPH)
1.2 (V/V) 0.6

Env.Corr.Thermal Neutron Porosity (TNPH)
0.6 (V V) 0

Crossover

SP (SP)
-100 (MV) 0

Micro Normal Resistivity (HMNO) (OHMM)
0 30

Tension (TENS)
10000 (LBF) 0

RWA (RWA)
0 (OHMM) 3

Micro Inverse Resistivity (HMIN) (OHMM)
0 30

Sonic Porosity (SPHI)
0.6 (V/V) 0

Caliper (HCAL)
6 (IN) 16

Resistivity standoff (RSOZ)
2 (IN) 0

AIT-H 90 Inch Investigation (AHT90)
0 (OHMM) 20

Formation Pe (PEFZ)
-1 (----) 9

Bit Size (BS)
6 (IN) 16

Density Stand-off (DSOZ)
2 (IN) 0

AIT-H 60 Inch Investigation (AHT60)
0 (OHMM) 20

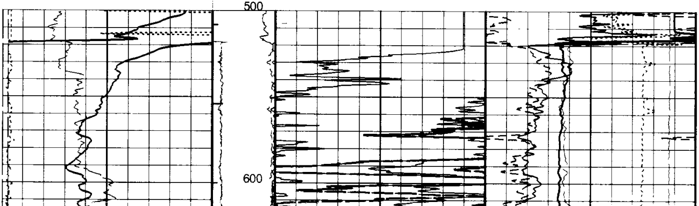
Std Res Density Porosity (DPHZ)
1.2 (V/V) 0.6

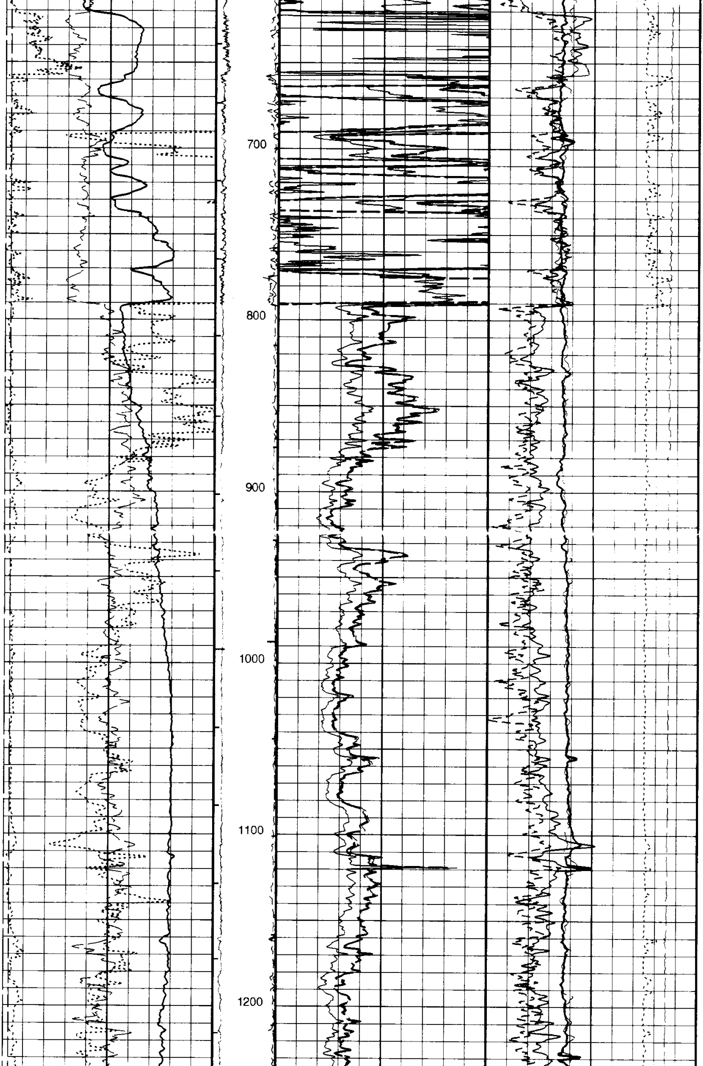
Gamma Ray (GR)
0 (GAPI) 150

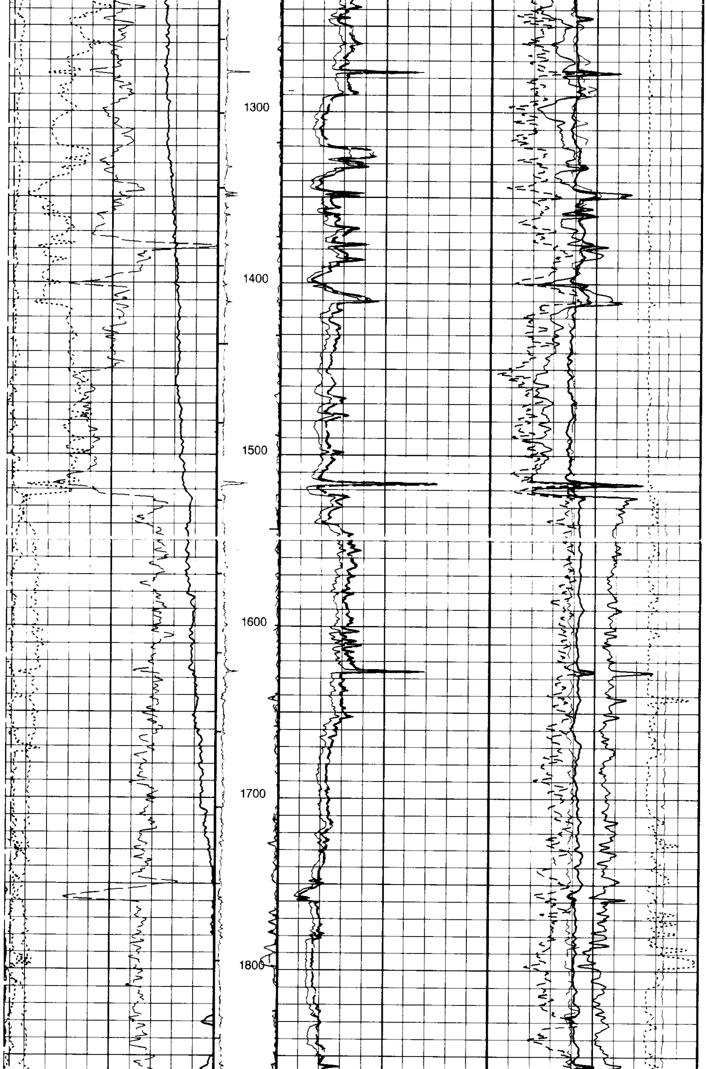
Perm Indicator

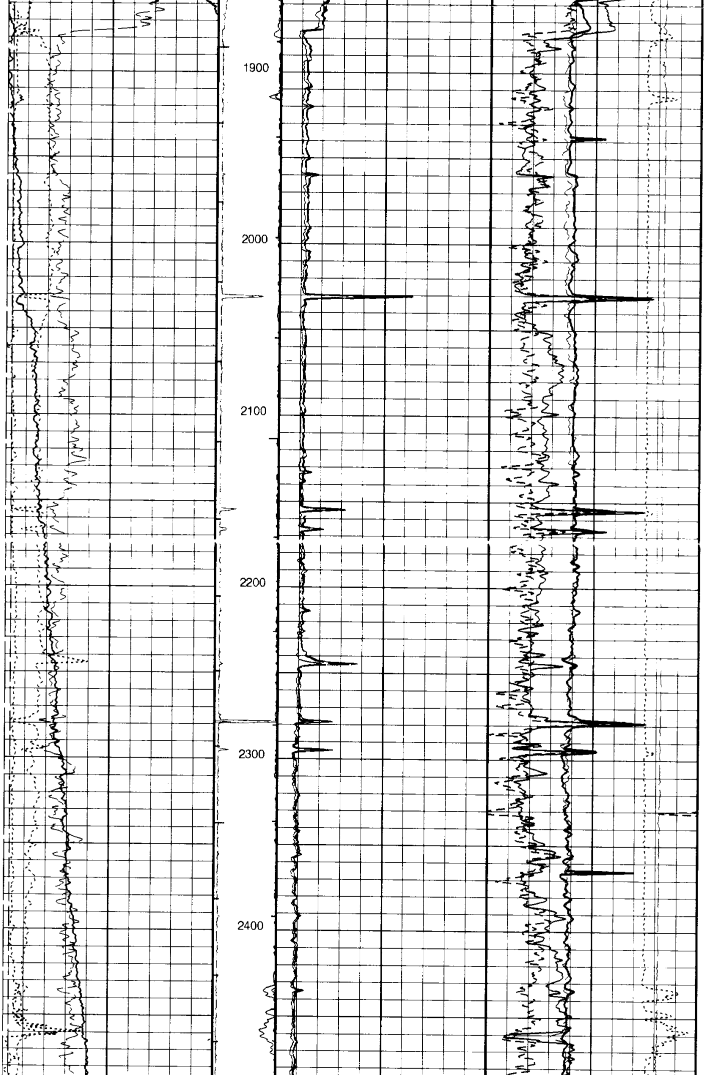
AIT-H 10 Inch Investigation (AHT10)
0 (OHMM) 20

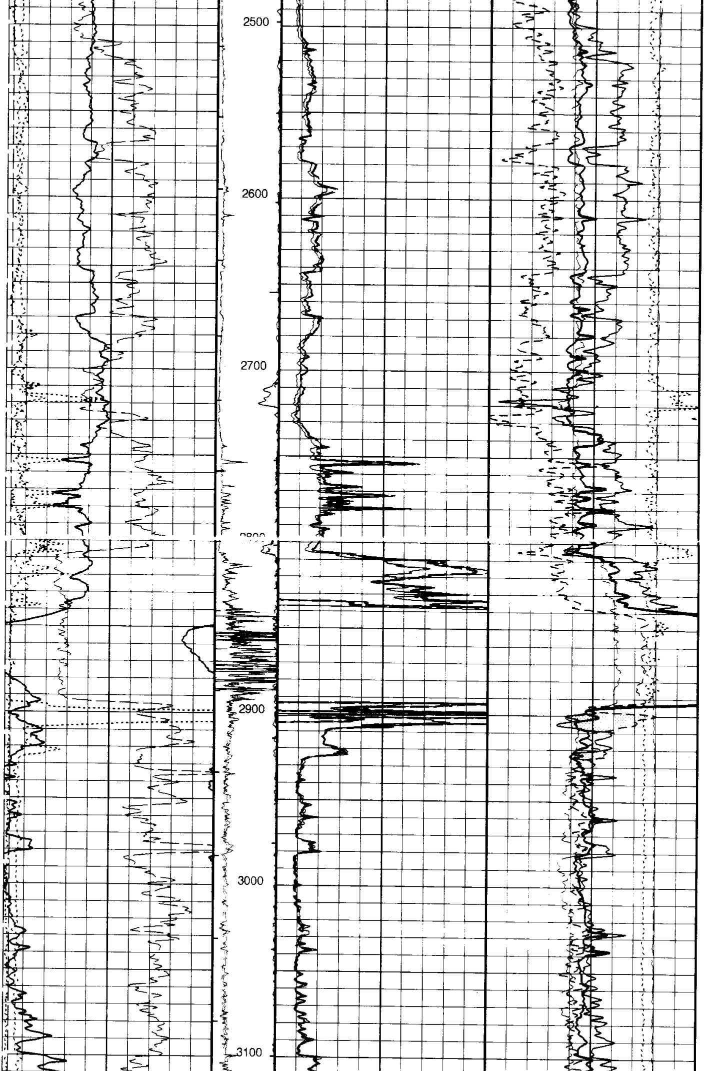
Std Res Density Porosity (DPHZ)
0.6 (V/V) 0

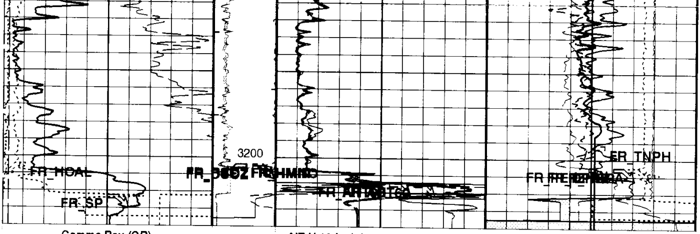












Gamma Ray (GR)
0 (GAPI) 150

Bit Size (BS)
6 (IN) 16

Caliper (HCAL)
6 (IN) 16

RWA (RWA)
0 (OHMM) 3

SP (SP)
-100 (MV) 0

Perm Indicator

Density Stand-off (DSOZ)
2 (IN) 0

Resistivity standoff (RSOZ)
2 (IN) 0

Micro Inverse Resistivity (HMIN)
(OHMM)
0 30

Micro Normal Resistivity (HMNO)
(OHMM)
0 30

AIT-H 10 Inch Investigation (AHT10)
0 (OHMM) 20

AIT-H 60 Inch Investigation (AHT60)
0 (OHMM) 20

AIT-H 90 Inch Investigation (AHT90)
0 (OHMM) 20

Std Res Density Porosity (DPHZ)
0.6 (V/V) 0

Std Res Density Porosity (DPHZ)
1.2 (V/V) 0.6

Formation Pe (PEFZ)
-1 (----) 9

Sonic Porosity (SPHI)
0.6 (V/V) 0

Tension (TENS)
10000 (LBF) 0

Crossover

Env.Corr.Thermal Neutron Porosity (TNPH)
0.6 (V/V) 0

Env.Corr.Thermal Neutron Porosity (TNPH)
1.2 (V/V) 0.6

HRDD Density Correction (HDRA)
-0.25 (G/C3) 0.25

PIP SUMMARY

⊢ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Cement Volume Minor Pip Every 10 F3
⊣ Integrated Cement Volume Major Pip Every 100 F3

■ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
AHBHM	AIT-H Bhole Correction Mode	2_COMPUTESTANDOFF	
AHBLM	AIT-H Basic Logs Mode	6_ONE_TWO_AND_FOUR	
AHBPO	AIT-H Basic Logs Processing Option	STANDARD_PROCESSING	
AHCDE	AIT-H Casing Detection Enable	YES	
AHCEN	AIT-H Tool Centering Flag (in Borehole)	ECCENTERED	
AHMRF	AIT-H Mud Resistivity Factor	1.000	
AHSAP	AIT-H Suspend Answer Product Processing	0_NOSUSPENSION	
AHSTA	AIT-H Tool Standoff	0.500	in
ARTS	AIT Rt Selection (for ALLRES computation)	13_AHT90	
BHFL	Borehole Fluid Type	WATER	
BHS	Bore Hole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	125.0	degF
BS	Bit Size	6.250	in
BSAL	Borehole Salinity	2900.0	ppm
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
CDTS	C-Delta-T Shale	100.0	us/ft
CSIZ	Current Casing Size	7.000	in
CWEI	Casing Weight	0.000	lbm/ft
DFD	Drilling Fluid Density	9.200	lbm/gal
DHC	Density Hole Correction	BS	

DTF	Delta-T Fluid	189.0	us/ft
DTM	Delta-T Matrix	56.000	us/ft
FD	Fluid Density	1.000	g/cm3
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	1.000	
FPHI	Form Factor Porosity Source	DPHZ	
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.010	degF/ft
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HSCM	HILT Speed Correction Mode	NO_SC	
HSCO	Hole Size Correction Option	YES	
HSTI	STI Uses HILT Acceleration	NO	
MATR	Rock Matrix Type	SAND	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.650	g/cm3
MPOF	MCFL Processing Operation Mode	ON	
MST	Mud Sample Temperature	76.000	degF
MWCO	Mud Weight Correction Option	NO	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	STDRES	
NSAR	HRDD Depth Sampling Rate	1.000	in
PTCO	Pressure/Temperature Correction Option	NO	
RMFS	Resistivity of Mud Filtrate Sample	0.970	ohm.m
RTCO	RTCO - Rt Invasion Correction	YES	
RW	Resistivity of Connate Water	1.000	ohm.m
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68.000	degF
SOCN	Standoff Distance	0.200	in
SOCO	Standoff Correction Option	YES	
SPDR	SP Drift	0.000	mV/ft
SPFS	Sonic Porosity Formula	R-H	
SPNV	SP Next Value	0.000	mV
SPSO	Sonic Porosity Source	DT	
TD	Total Depth	3230.0	ft
TDL	Total Depth - Logger	3230.0	ft
TWS	Temperature of Connate Water Sample	100.0	degF

Format: S2   Vertical Scale: 2" per 100'   Graphics File Created: 19-Jun-1999 17:49

OP System Version: 9C0-413

MCM

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DTCH	9C0-413		

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COMPANY: Enerfin Resources Northwest

WELL: Columbia County 11-34-75 Stegosaur

FIELD: Mist Gas

COUNTY: Columbia

STATE: Oregon

BOTTOM LOG INTERVAL	3224 ft
SCHLUMBERGER DEPTH	3232 ft
DEPTH DRILLER	3230 ft
KELLY BUSHING	1676.74 ft
DRILL FLOOR	1775.74 ft
GROUND LEVEL	1666.74 ft

Schlumberger

Platform Express
TNPH / SPHI / DPHZ Porosity
Array Induction Two Inch Log