COMPANY: Enerfin Resources Northwest
WELL: CC 41-06-65 (Fishwhack)
FIELD: Mist
COUNTY: Columbia STATE: Oregon

5" = 100'
Schlumberger

Array Induction
BHC Sonic
Gamma Ray SP

COUNTY Columbia
Field: Mist
Location: 501' S 47 deg 3 min 9 sec
Well: CC 41-06-65 (Fishwhack)
Company: Enerfin Resources Northwest

LOCATION
501'S 47 deg 3 min 9 sec
from the SE corner of section 32
Elev.: K.B. 919 F
G.L. 909 F
D.F.
Permanent Datum: Ground Level Elev.: 909 F
Log Measured From: Kelly Bushing 10.0 F above Perm. Datum
Drilling Measured From: Kelly Bushing

API Serial No.	SECTION	TOWNSHIP	RANGE
36-009-00340	32	6N	5W

Logging Date	17-DEC-1998	
Run Number	1	
Depth Driller	2975 F	
Schlumberger Depth	2961 F	
Bottom Log Interval	2953 F	
Top Log Interval	531 F	
Casing Driller Size @ Depth	7.000 IN @ 531 F	@
Casing Schlumberger	530.5 F	
Bit Size	6.750 IN	
Type Fluid In Hole	Cypan	
MUD Density / Viscosity	9.2 LB/G / 39 S	
Fluid Loss / PH		
Source Of Sample	Flowline	
RM @ Measured Temperature	3.700 OHMM @ 65 DEGF	@
RMF @ Measured Temperature	3.910 OHMM @ 48 DEGF	@
RMC @ Measured Temperature	3.870 OHMM @ 46 DEGF	@
Source RMF / RMC	Press / Press	
RM @ MRT / RMF @ MRT	3.133 @ 78 / 2.526 @ 78	@ / @
Maximum Recorded Temperatures	78 DEGF	
Circulation Stopped / Time		
Logger On Bottom / Time	17-DEC-1998	
Unit Number / Location	3152 / Sacramento	
Recorded By	Clayton Campbell	
Witnessed By	Rob Lucas	

	Run 1	Run 2	Run 3	Run 4
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				

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: InterACT	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1

Rig: Taylor 7

0.5 inch standoffs used on Array Induction

2 centralizers used on sonic

REMARKS: RUN NUMBER 2

RUN 1		RUN 2	
SERVICE ORDER #:	6004668	SERVICE ORDER #:	
PROGRAM VERSION:	8C1-205	PROGRAM VERSION:	
FLUID LEVEL:		FLUID LEVEL:	

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

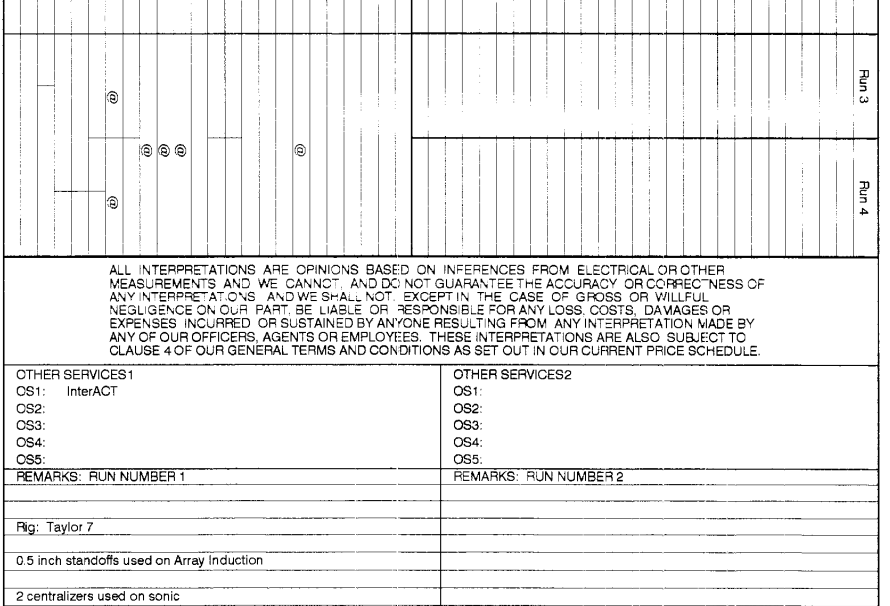
EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

GSR-U/Y
CNB-AB
WITM (CTS)-A

DOWNHOLE EQUIPMENT



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

Input DLIS Files

DEFAULT	HILTB .012	FN:10	FIELD	17-Dec-1998 14:09	2970.0 FT	384.0 FT

Output DLIS Files

DEFAULT	HILTB .013	FN:11	FIELD	17-Dec-1998 15:09	2970.0 FT	500.0 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 606.20 F3
Cement Volume = 336.79 F3 (assuming 4.50 IN casing O.D.)
Computed from 2970.0 FT to 531.0 FT using data channel(s) BS

OP System Version: 8C1-205

MCM

HILTB-DTB	APCW-98Q2	DSLT-TCC	APCW-98Q2
TCC-BF	APCW-98Q2		

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

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

AIT-H Answer Product Processing Summary. Data taken with tool # 277 (AHTNO)
...Acquired data from HILT/HAIT
***** Bhole Correction *****
Effective Electrical Diameter computed. Borehole mud resistivity taken as input (see GRSE parameter)
The Mud Resistivity Factor (AH/SMRF) is 1.00000 and was computed at following depth (AHMRD) 0.00 FT
Tool is run in ECCENTERED mode with a tool stand-off of 0.50 IN. Bit Size is 6.75 IN.
***** Input Selections to AIT Answer Product processing *****
Caliper (GCSE): BS Mud Resistivity (GRSE): AHMF Temperature (GTSE): LINEAR_ESTIMATE Porosity (FPHI): SPHI
***** Other parameters used by AIT-H/SAIT Answer Product processing *****
Surface Hole Temperature (SHT) 56.000 DEGF Bottom Hole Temperature (BHT) 78.000 DEGF
Total Depth (TD) 2975.000 FT
Form Factor Exponent (FEXP) 2.000 Form Factor Numerator (FNUM) 1.000
Mud Filtrate Sample Resistivity (RMFS) 3.910 OHMM Mud Filtrate Sample Temperature (MFST) 48.000 DEGF
Resitivity Connate Water (RW) 1.000 OHMM
***** AIT-H/SAIT Answer Product processing control parameters *****
Playback Mode: NORMAL

Parameters

DLIS Name	Description	Value	
AHBHM	AIT-H Bhole Correction Mode	1_ComputeElectricalDiameter	
AHBLM	AIT-H Basic Logs Mode	6_One_Two_and_Four	
AHCDE	AIT-H Casing Detection Enable	Yes	
AHCEN	AIT-H Tool Centering Flag (in Borehole)	Eccentered	
AHCSED	AIT-H Casing Shoe Estimated Depth	-50000	FT
AHMRF	AIT-H Mud Resistivity Factor	1	
AHSTA	AIT-H Tool Standoff	0.5	IN
ARTS	AIT Rt Selection (for ALLRES computation)	13_AHT90	
BHT	Bottom Hole Temperature (used in calculations)	78	DEGF
BS	Bit Size	6.750	IN
DFD	Drilling Fluid Density	9.20	LB/G
DO	Depth Offset	0.0	FT
DTCM	Delta-T Computation Mode	FULL	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	SPHI	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCM	HILT Speed Correction Mode	TSCD_SPEED_CORRECTION	
HSTI	STI Uses HILT Acceleration	YES	
MODE	Sonic Firing Mode	BHC	
MST	Mud Sample Temperature	65.00	DEGF
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	3.9100	OHMM
RTCO	RTCO - Rt Invasion Correction	YES	
RW	Resistivity of Connate Water	1.0000	OHMM
SHT	Surface Hole Temperature	56	DEGF
SPNV	SP Next Value	-20	MV
TD	Total Depth	2975	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: AITSON_1 Vertical Scale: 5" per 100' Graphics File Created: 17-Dec-1998 15:09

OP System Version: 8C1-205

MCM

HILTB-DTB	APCW-98Q2	DSLT-TCC	APCW-98Q2
TCC-BF	APCW-98Q2		

Speed Corrected - Depth Matched LOG

Input DLIS Files

DEFAULT	HILTB .012	FN:10	FIELD	17-Dec-1998 14:09	2970.0 FT	384.0 FT

Output DLIS Files

DEFAULT	HILTB .013	FN:11	FIELD	17-Dec-1998 15:09

Output DLIS Files

DEFAULT	HILTB .011	FN:9	FIELD	17-Dec-1998 13:55	2976.0 FT	2625.7 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 85.85 F3
Cement Volume = 48.25 F3 (assuming 4.50 IN casing O.D.)
Computed from 2975.0 FT to 2626.0 FT using data channel(s) BS

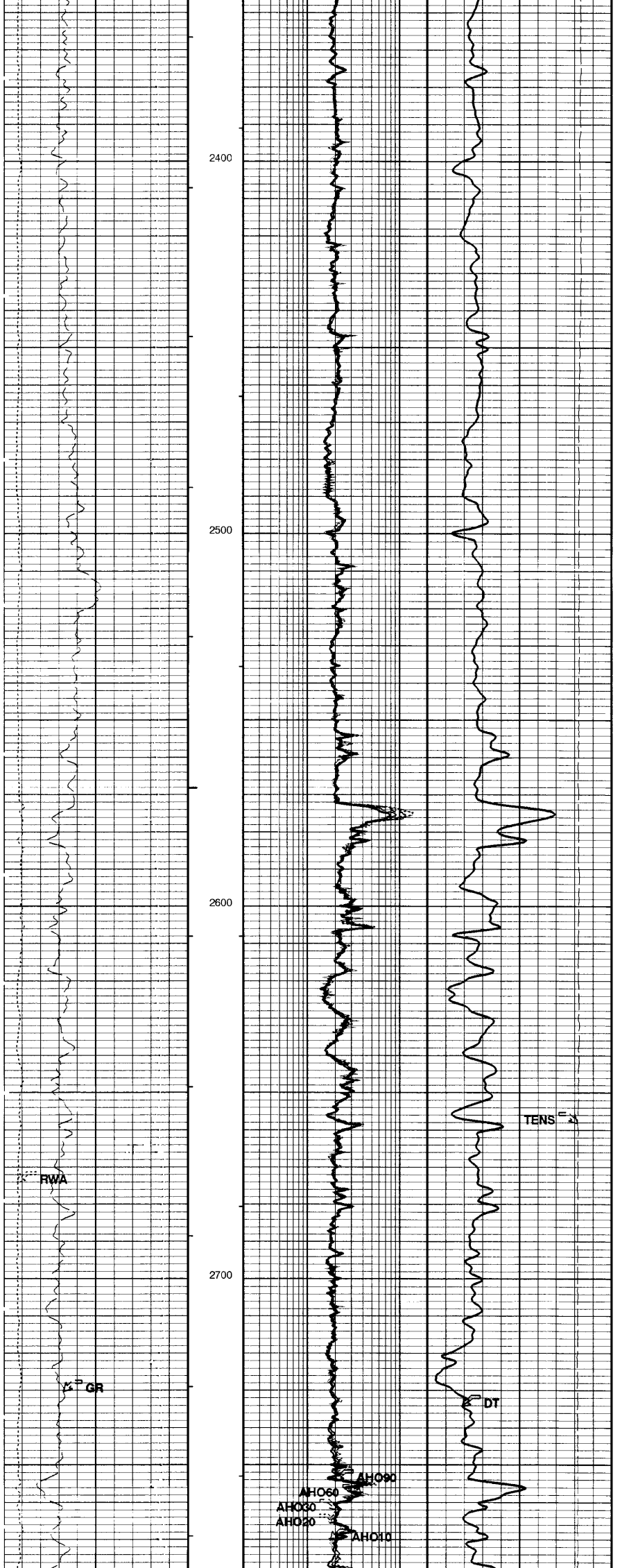
OP System Version: 8C1-205

MCM

HILTB-DTB	APCW-98Q2	DSLT-TCC	APCW-98Q2
TCC-BF	APCW-98Q2		

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



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

AIT-H Answer Product Processing Summary. Data taken with tool # 277 (AHTNO)
...Acquired data from HILT/HAIT
***** Bhole Correction *****
Effective Electrical Diameter computed. Borehole mud resistivity taken as input (see GRSE parameter)
The Mud Resistivity Factor (AH/SMRF) is 1.00000 and was computed at following depth (AHMRD) 0.00 FT
Tool is run in ECCENTERED mode with a tool stand-off of 0.50 IN. Bit Size is 6.75 IN.
***** Input Selections to AIT Answer Product processing *****
Caliper (GCSE): BS Mud Resistivity (GRSE): AHMF Temperature (GTSE): LINEAR_ESTIMATE Porosity (FPHI): SPHI
***** Other parameters used by AIT-H/SAIT Answer Product processing *****
Surface Hole Temperature (SHT) 56.000 DEGF Bottom Hole Temperature (BHT) 95.000 DEGF
Total Depth (TD) 2975.000 FT
***** AIT-H/SAIT Answer Product processing control parameters *****
(AHAPL): 2_BholeCorr_BasicLogs
(AHBHM): 1_ComputeElectricalDiameter (AHBLM): 6_One_Two_and_Four

Parameters

DLIS Name	Description	Value	
AHBHM	AIT-H Bhole Correction Mode	1_ComputeElectricalDiameter	
AHBLM	AIT-H Basic Logs Mode	6_One_Two_and_Four	
AHCDE	AIT-H Casing Detection Enable	Yes	
AHCEN	AIT-H Tool Centering Flag (in Borehole)	Eccentered	
AHCSED	AIT-H Casing Shoe Estimated Depth	-50000	FT
AHMRF	AIT-H Mud Resistivity Factor	1	
AHSTA	AIT-H Tool Standoff	0.5	IN
ARTS	AIT Rt Selection (for ALLRES computation)	13_AHT90	
BHT	Bottom Hole Temperature (used in calculations)	95	DEGF
BS	Bit Size	6.750	IN
DFD	Drilling Fluid Density	9.20	LB/G
DTCM	Delta-T Computation Mode	FULL	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	SPHI	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCM	HILT Speed Correction Mode	TSCD_SPEED_CORRECTION	
HSTI	STI Uses HILT Acceleration	YES	
MODE	Sonic Firing Mode	BHC	
MST	Mud Sample Temperature	65.00	DEGF
RMFS	Resistivity of Mud Filtrate Sample	3.9100	OHMM
RTCO	RTCO - Rt Invasion Correction	YES	
RW	Resistivity of Connate Water	1.0000	OHMM
SHT	Surface Hole Temperature	56	DEGF
SPNV	SP Next Value	0	MV
TD	Total Depth	2975	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: AITSON_1 Vertical Scale: 5" per 100' Graphics File Created: 17-Dec-1998 13:55

OP System Version: 8C1-205

MCM

HILTB-DTB	APCW-98Q2	DSLT-TCC	APCW-98Q2
TCC-BF	APCW-98Q2		

Speed Corrected - Depth Matched LOG

Output DLIS Files

DEFAULT	HILTB .011	FN:9	FIELD	17-Dec-1998 13:55

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool-CTS Wellsite Calibration - Electronics Calibration Check - Thru Cal Mag. & Phase Master: Nov 13 14:05 1998 Before: Dec 15 11:25 1998							
Thru Cal Magnitude - 0	0	0.6315	0.6573	N/A	N/A	N/A	V
Thru Cal Magnitude - 1	0	1.298	1.351	N/A	N/A	N/A	V
Thru Cal Magnitude - 2	0	0.6428	0.6689	N/A	N/A	N/A	V
Thru Cal Magnitude - 3	0	0.7272	0.7569	N/A	N/A	N/A	V
Thru Cal Magnitude - 4	0	1.364	1.420	N/A	N/A	N/A	V
Thru Cal Magnitude - 5	0	1.972	2.052	N/A	N/A	N/A	V
Thru Cal Magnitude - 6	0	1.973	2.054	N/A	N/A	N/A	V
Thru Cal Magnitude - 7	0	1.410	1.469	N/A	N/A	N/A	V
Phase - 0	0	69.32	70.12	N/A	N/A	N/A	DEG
Phase - 1	0	68.31	69.11	N/A	N/A	N/A	DEG
Phase - 2	0	64.61	65.42	N/A	N/A	N/A	DEG
Phase - 3	0	63.82	64.64	N/A	N/A	N/A	DEG
Phase - 4	0	57.54	58.37	N/A	N/A	N/A	DEG
Phase - 5	0	55.71	56.56	N/A	N/A	N/A	DEG
Phase - 6	0	55.71	56.56	N/A	N/A	N/A	DEG
Phase - 7	0	51.91	52.90	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool-CTS Wellsite Calibration - Electronics Calibration Check - Auxiliary Master: Nov 13 14:05 1998 Before: Dec 15 11:25 1998							
AIT-H SPA Plus	990.5	991.9	992.2	N/A	N/A	N/A	MV
AIT-H SPA Zero	0	-0.07865	-0.05143	N/A	N/A	N/A	MV
AIT-H Temperature Plus	0.9150	0.9185	0.9188	N/A	N/A	N/A	V
AIT-H Temperature Zero	0	-0.00008107	-0.00003086	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-CTS Wellsite Calibration - Test Loop Gain Correction Master: Nov 13 14:05 1998							
Test Loop Gain Magnitude - 0	0	1.021	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 1	0	1.020	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 2	0	1.026	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 3	0	1.039	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 4	0	1.006	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 5	0	1.007	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 6	0	1.019	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 7	0	1.026	N/A	N/A	N/A	N/A	V
Phase - 0	0	0.5495	N/A	N/A	N/A	N/A	DEG
Phase - 1	0	0.5732	N/A	N/A	N/A	N/A	DEG
Phase - 2	0	-0.1529	N/A	N/A	N/A	N/A	DEG
Phase - 3	0	-0.1251	N/A	N/A	N/A	N/A	DEG
Phase - 4	0	-0.1453	N/A	N/A	N/A	N/A	DEG
Phase - 5	0	-0.3386	N/A	N/A	N/A	N/A	DEG
Phase - 6	0	-0.1193	N/A	N/A	N/A	N/A	DEG
Phase - 7	0	-0.5297	N/A	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool-CTS Wellsite Calibration - Sonde Error Correction Master: Nov 13 14:05 1998							
R Sonde Error Correction - 0	0	-121.1	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 1	0	169.6	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 2	0	112.3	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 3	0	60.69	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 4	0	26.51	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 5	0	14.90	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 6	0	9.526	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 7	0	-0.6869	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 0	0	87.68	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 1	0	-57.69	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 2	0	-2.876	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 3	0	-49.28	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 4	0	-39.52	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 5	0	26.86	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 6	0	0.9300	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 7	0	-1.066	N/A	N/A	N/A	N/A	MM/M
High resolution Integrated Logging Tool-CTS Wellsite Calibration - Mud Gain Correction Master: Nov 13 14:05 1998							
Coarse - Mag, Real, Imag - 0	0	0.9692	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 1	0	0.9693	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 2	0	0.9693	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 0	0	0.9740	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 1	0	0.9740	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 2	0	0.9740	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool-CTS Wellsite Calibration - Detector Calibration Before: Dec 15 11:23 1998							
Gamma Ray Background	30.00	N/A	29.50	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	0.4748	N/A	0.4748	N/A	N/A	0.04316	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI
High resolution Integrated Logging Tool-CTS Wellsite Calibration - Zero Measurement Master: Dec 13 14:12 1998 Before: Dec 15 11:25 1998							
CNTC Background	25.15	25.15	25.27	N/A	N/A	3.773	CPS
CFTC Background	27.33	27.33	26.42	N/A	N/A	4.100	CPS
High resolution Integrated Logging Tool-CTS Wellsite Calibration - Accelerometer Calibration Before: Dec 17 13:32 1998							
Z-Axis Acceleration	32.19	N/A	32.16	N/A	N/A	N/A	F/S2

The HGNS Neutron Master Calibration was done with the following parameters :

NCT-B Water Temperature 72.0 DEGF
Thermal Housing Size 3.367 IN

High resolution Integrated Logging Tool-CTS / Equipment Identification

Primary Equipment:		
Array Induction Tool - H	AIT - H	277
Array Induction Sonde	AHIS - BA	277
HILT Gamma-Ray Neutron Sonde-NOTEL	HGNS - B	828
Gamma-Ray	HGR -	
Neutron with Alpha Source	HCNT -	
Z-Axis Accelerometer	HACC -	
Compensated Neutron Box	CNB - AB	
HILT HTBC DTB mode	HTBC -	756
Auxiliary Equipment:		
Gamma Source Radioactive	GSR - U/Y	
HGNS Housing	HGNS -	828

High resolution Integrated Logging Tool-CTS Wellsite Calibration
Electronics Calibration Check - Thru Cal Mag. & Phase

Idx	Phase	Value	Nominal	Value	Nominal
		Thru Cal Magnitude V		Phase DEG	
0	Master	0.6315	0.6050	69.32	71.00
	Before	0.6573		70.12	
1	Master	1.298	1.270	68.31	70.00
	Before	1.351		69.11	
2	Master	0.6428	0.6230	64.61	66.00
	Before	0.6689		65.42	
3	Master	0.7272	0.7040	63.82	65.00
	Before	0.7569		64.64	
4	Master	1.364	1.337	57.54	59.00
	Before	1.420		58.37	
5	Master	1.972	1.955	55.71	57.00
	Before	2.052		56.56	
6	Master	1.973	1.955	55.71	57.00
	Before	2.054		56.56	
7	Master	1.410	1.415	51.91	53.00
	Before	1.469		52.90	
		60.00 % (Minimum) (Nominal) 140.0 % (Maximum)		Nom -60.00 (Minimum) (Nominal) Nom + 60.00 (Maximum)	

Master: Nov 13 14:05 1998 Before: Dec 15 11:25 1998

High resolution Integrated Logging Tool-CTS Wellsite Calibration
Electronics Calibration Check - Auxiliary

Phase	AIT-H SPA Plus MV	Value	Phase	AIT-H SPA Zero MV	Value
Master		991.9	Master		-0.07865
Before		992.2	Before		-0.05143
	941.0 (Minimum) 990.5 (Nominal) 1040 (Maximum)			-50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)	
Phase	AIT-H Temperature Plus V	Value	Phase	AIT-H Temperature Zero V	Value
Master		0.9185	Master		-8.107E-05
Before		0.9188	Before		-3.086E-05
	0.8700 (Minimum) 0.9150 (Nominal) 0.9600 (Maximum)			-0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	

Master: Nov 13 14:05 1998 Before: Dec 15 11:25 1998

High resolution Integrated Logging Tool-CTS Wellsite Calibration
Test Loop Gain Correction

Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG
0	1.021	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	0.5495	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
1	1.020	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	0.5732	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
2	1.026	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	-0.1529	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
3	1.039	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	-0.1251	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
4	1.006	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	-0.1453	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
5	1.007	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	-0.3386	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
6	1.019	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	-0.1193	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)
7	1.026	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	-0.5297	-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)

Master: Nov 13 14:05 1998

High resolution Integrated Logging Tool-CTS Wellsite Calibration
Sonde Error Correction

Idx	Value	R Sonde Error Correction MM/M	Value	X Sonde Error Correction MM/M
0	-121.1	-231.0 (Minimum) -56.00 (Nominal) 119.0 (Maximum)	87.68	-2250 (Minimum) 0 (Nominal) 2250 (Maximum)
1	169.6	114.0 (Minimum) 159.0 (Nominal) 204.0 (Maximum)	-57.69	-625.0 (Minimum) 0 (Nominal) 625.0 (Maximum)
2	112.3	66.00 (Minimum) 111.0 (Nominal) 156.0 (Maximum)	-2.876	-350.0 (Minimum) 0 (Nominal) 350.0 (Maximum)
3	60.69	39.00 (Minimum) 64.00 (Nominal) 89.00 (Maximum)	-49.28	-250.0 (Minimum) 0 (Nominal) 250.0 (Maximum)
4	26.51	15.00 (Minimum) 25.00 (Nominal) 35.00 (Maximum)	-39.52	-63.00 (Minimum) 0 (Nominal) 63.00 (Maximum)
5	14.90	4.000 (Minimum) 14.00 (Nominal) 24.00 (Maximum)	26.86	-50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)
6	9.526	5.000 (Minimum) 10.00 (Nominal) 15.00 (Maximum)	0.9300	-30.00 (Minimum) 0 (Nominal) 30.00 (Maximum)
7	-0.6869	-5.000 (Minimum) 0 (Nominal) 5.000 (Maximum)	-1.066	-30.00 (Minimum) 0 (Nominal) 30.00 (Maximum)

Master: Nov 13 14:05 1998

High resolution Integrated Logging Tool-CTS Wellsite Calibration
Mud Gain Correction

Idx	Value	Coarse - Mag, Real, Imag	Value	Fine - Mag, Real, Imag
0	0.9692	0.6000 (Minimum) 1.000 (Nominal) 1.400 (Maximum)	0.9740	0.6000 (Minimum) 1.000 (Nominal) 1.400 (Maximum)
1	0.9693	0.6000 (Minimum) 1.000 (Nominal) 1.400 (Maximum)	0.9740	0.6000 (Minimum) 1.000 (Nominal) 1.400 (Maximum)
2	0.9693	0.6000 (Minimum) 1.000 (Nominal) 1.400 (Maximum)	0.9740	0.6000 (Minimum) 1.000 (Nominal) 1.400 (Maximum)

Master: Nov 13 14:05 1998

High resolution Integrated Logging Tool-CTS Wellsite Calibration
Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		29.50	Before		0.4748	Before		165.0
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			0.4316 (Minimum) 0.4748 (Nominal) 0.5180 (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)	

Before: Dec 15 11:23 1998

High resolution Integrated Logging Tool-CTS Wellsite Calibration
Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		25.15	Master		27.33
Before		25.27	Before		26.42
	5.000 (Minimum) 25.15 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 27.33 (Nominal) 40.00 (Maximum)	

Master: Dec 13 14:12 1998 Before: Dec 15 11:25 1998

High resolution Integrated Logging Tool-CTS
Wellsite Calibration
Accelerometer Calibration

Phase	Z-Axis Acceleration F/S2	Value
Before		32.16
	31.53 (Minimum) 32.19 (Nominal) 32.84 (Maximum)	

Before: Dec 17 13:32 1998

COMPANY:	Enerfin Resources Northwest	BOTTOM LOG INTERVAL	2953 F
		SCHLUMBERGER DEPTH	2961 F
WELL:	CC 41-06-65 (Fishwhack)	DEPTH DRILLER	2975 F
FIELD:	Mist	KELLY BUSHING	919 F
COUNTY:	Columbia	DRILL FLOOR	
STATE:	Oregon	GROUND LEVEL	909 F

5" = 100'
Schlumberger

Array Induction
BHC Sonic
Gamma Ray SP