

COMPANY: NORTHWEST NATURAL GAS
WELL: IW-24BH-23-65
FIELD: MIST
COUNTY: COLUMBIA **STATE: OREGON**
ARRAY INDUCTION
BHC SONIC / GR
SCALE: 2" = 100'

Schlumberger

Location: 876.5 NORTH 1256.3 EAST
 NW-24BH-23-65
 COMPANY: NORTHWEST NATURAL GAS

LOGGING DATE: 20 JUN 2000 23:15
 LOGGING TIME: 08:09:00
 LOGGING DEPTH: 2770 ft
 LOGGING INTERVAL: 10 ft
 LOGGING START: 1870 ft
 LOGGING STOP: 2770 ft

FORMATION: GR
 GROUND LEVEL: 905 ft
 ELEVATION: 905 ft
 SURFACE: 905 ft

APPROXIMATE LOCATION: 976.5 NORTH 1256.3 EAST
 SECTION: 23
 TOWNSHIP: 6N
 RANGE: 3W

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APPROXIMATE LOCATION: 976.5 NORTH 1256.3 EAST
 SECTION: 23
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DISCLAIMER
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OTHER SERVICES1	OS1: PEX-AITH-BHC	OTHER SERVICES2	OS1:
OS2:		OS2:	
OS3:		OS3:	
OS4:		OS4:	
OS5:		OS5:	

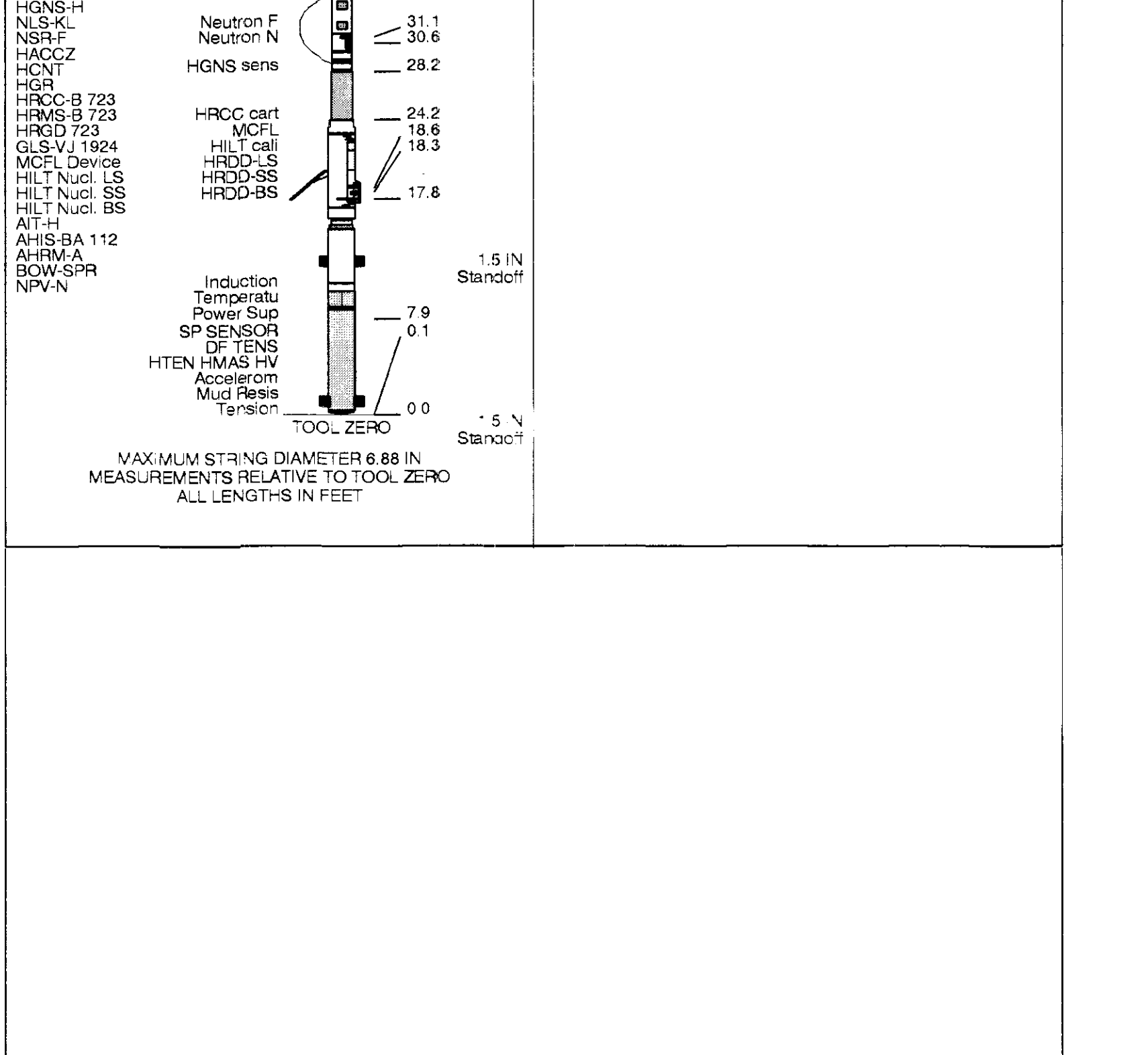
REMARKS: RUN NUMBER 1
 MAXIMUM HOLE DEVIATION: 92 DEG
 LOGGED WITH TLC EQUIPMENT

SERVICE ORDER #	8265003	SERVICE ORDER #	
PROGRAM VERSION	9C1-303	PROGRAM VERSION	
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL

EQUIPMENT DESCRIPTION

RUN 1	RUN 2
SURFACE EQUIPMENT	
WTM (CTS)-A	

DOWNHOLE EQUIPMENT



MAXIMUM STRING DIAMETER 6.88 IN
 MEASUREMENTS RELATIVE TO TOOL ZERO
 ALL LENGTHS IN FEET

Input DLIS Files

DEFAULT	HILTB_004	FN:3	PRODUCER	20-Jun-2000 23:15	2746.0 FT	1680.5 FT
DEFAULT	HILTB_016	FN:15	PRODUCER	20-Jun-2000 20:04	2076.0 FT	1612.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 337.47 ft3
 Cement Volume = 192.87 ft3 (assuming 5.50 in casing O.D.)
 Computed from 2745.5 ft to 1870.0 ft

OP System Version: 9C1-303

HILTB	OP91-KP1a	DSL-T-BA	OP91-KP1a
TCCBF	OP91-KP1a	ACTS1	OP91-KP1a

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 10 Inch Investigation (AHT10)	(OHMM)	6
AIT-H 10 Inch Investigation (AHT10)	Delta-T (DT)	75
AIT-H 10 Inch Investigation (AHT10)	(OHMM)	90 175

Gamma Ray (GR)	(GAPI)	150
AIT-H 90 Inch Investigation (AHT90)	(OHMM)	90 1000
AIT-H 90 Inch Investigation Conductivity (AHTC90)	(MM/M)	0

AIT-H 10 Inch Investigation (AHT10)	(OHMM)	6
AIT-H 10 Inch Investigation (AHT10)	Delta-T (DT)	75
AIT-H 10 Inch Investigation (AHT10)	(OHMM)	90 175

Parameters

DLIS Name	Description	Value
AH3HM	Array Induction Borehole Correction Mode	2 COMPUTESTANDOFF
AH3BV	Array Induction Borehole Correction Code Version Number	30.6623.11
AH3LM	Array Induction Basic Logs Mode	1_TWO
AH3LV	Array Induction Basic Logs Code Version Number	973
AH3PO	Array Induction Basic Logs Processing Option	STANDARD_PROCESSING
AH3DE	Array Induction Casing Detection Enable	YES
AH3EN	Array Induction Tool Centering Flag (in Borehole)	ECCENTERED
AH3RFV	Array Induction Response Set Version for Four ft Resolution	30.6623.11
AH3RF	Array Induction Mud Resistivity Factor	1.000
AH3RSV	Array Induction Response Set Version for One ft Resolution	30.6623.11
AH3RV	Array Induction Radial Profiling Code Version Number	700
AH3SAP	Array Induction Radial Parameterization Code Version Number	710
AH3STA	Array Induction Tool Standoff	1.500 in
AH3TRV	Array Induction Radial Parameterization Code Version Number	30.6623.11
BHT	Bottom Hole Temperature (used in calculations)	212.0 degF
BS	Bit Size	7.875 in
DTM	Delta-T Computation Mode	FULL
PEXP	Form Factor Exponent	2.000
FNUM	Form Factor Numerator	1.000
GCSE	Generalized Caliper Selection	0.010 degF/ft
GDEY	Average Angular Deviation of Borehole from Normal	0.000
GGRD	Geothermal Gradient	0.010 degF/ft
GRSE	Generalized Mud Resistivity Selection	AHMF
GTRC	Generalized Temperature Selection	TEMP
HSCM	HILT Speed Correction Mode	NO SC
HSTI	STI Uses HILT Acceleration	YES
MODE	Sonic Firing Mode	BHC
SHT	Surface Hole Temperature	68.000 degF
SPDR	SP Drift	0.000 mV/ft
SPNV	SP Next Value	0.000 mV
TD	Total Depth	2762.0 ft

Format: AITSONS2 Vertical Scale: 2" per 100' Graphics File Created: 20-Jun-2000 23:47

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WELL: IW-24BH-23-65

FIELD: MIST

COUNTY: COLUMBIA

STATE: OREGON

ARRAY INDUCTION

BHC SONIC / GR / SP

SCALE: 2" = 100'

Schlumberger

BOTTOM LOG INTERVAL	2740 ft
SCHLUMBERGER DEPTH	2762 ft
DEPTH DRILLER	2770 ft
KELLY BUSHING	923 ft
DRILL FLOOR	923 ft
GROUND LEVEL	905 ft