

COMPANY: NORTHWEST NATURAL GAS

WELL: IW-24BH-23-65

FIELD: MIST

COUNTY: COLUMBIA STATE: OREGON

Schlumberger

ARRAY INDUCTION BHC SONIC / SP/GR SCALE: 2" = 100'

LOCATION

County: COLUMBIA Field: MIST
 Location: 976.5 NORTH, 1256.3' EAST
 Well: IW-24BH-23-65
 Company: NORTHWEST NATURAL GAS

LOGGING DATA

Run Number: 1 Logging Date: 14.JUN.2000
 API Serial No. 39109-00051
 Permanent Datum: GROUND LEVEL
 Log Measured From: KB
 Drilling Measured From: KB
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum

LOGGING DATA

Run Number: 2 Logging Date: 14.JUN.2000
 API Serial No. 39109-00051
 Permanent Datum: GROUND LEVEL
 Log Measured From: KB
 Drilling Measured From: KB
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum

LOGGING DATA

Run Number: 3 Logging Date: 14.JUN.2000
 API Serial No. 39109-00051
 Permanent Datum: GROUND LEVEL
 Log Measured From: KB
 Drilling Measured From: KB
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum

LOGGING DATA

Run Number: 4 Logging Date: 14.JUN.2000
 API Serial No. 39109-00051
 Permanent Datum: GROUND LEVEL
 Log Measured From: KB
 Drilling Measured From: KB
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum

LOGGING DATA

Run Number: 5 Logging Date: 14.JUN.2000
 API Serial No. 39109-00051
 Permanent Datum: GROUND LEVEL
 Log Measured From: KB
 Drilling Measured From: KB
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum
 Elevation: 906 ft above Firm Datum

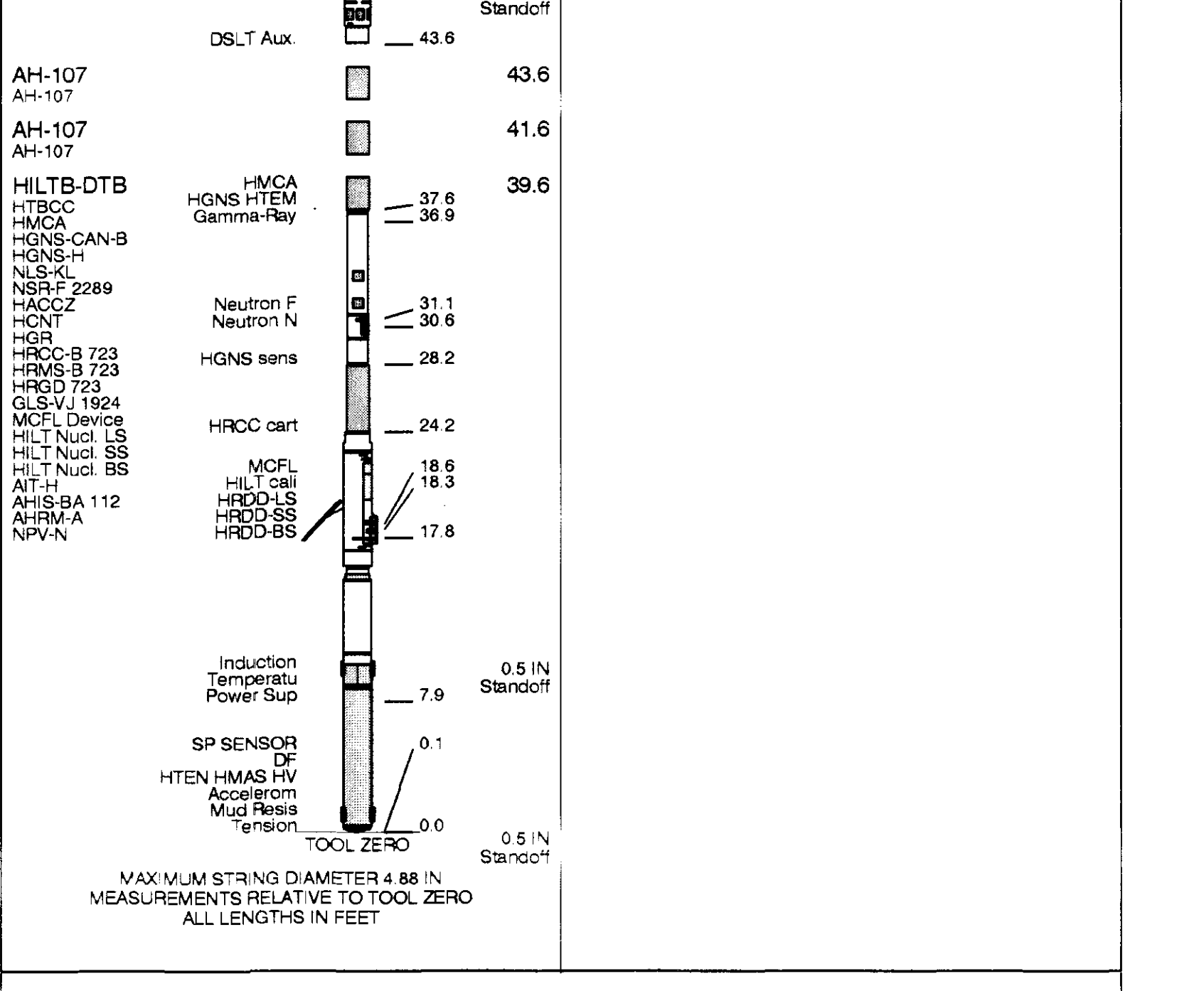
DISCLAIMER
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OTHER SERVICES1 OS1: FM OS2: OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
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REMARKS: RUN NUMBER 1 Maximum Deviation: 72 Deg at 1828 ft	REMARKS: RUN NUMBER 2
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SERVICE ORDER # PROGRAM VERSION FLUID LEVEL	9C-303	STOP	SERVICE ORDER # PROGRAM VERSION FLUID LEVEL		START	STOP
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EQUIPMENT DESCRIPTION



DEFAULT	HILTB_003	FN:2 PRODUCER	14-Jun-2000 04:22	1824.0 FT	307.5 FT
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DEFAULT	HILTB_004	FN:3 PRODUCER	14-Jun-2000 05:27	1828.0 FT	312.5 FT
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Integrated Hole/Cement Volume Summary

Hole Volume = 1361.46 F3
 Cement Volume = 746.22 F3 (assuming 8.63 IN casing O.D.)
 Computed from 1829.0 FT to 313.0 FT using data channel(s) HCAL

OP System Version: 9C1-303

HILTB-DTB	OP91-KP1a	DSLT-TCC	OP91-KP1a
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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)	0	6
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AIT-H 10 Inch Investigation (AHT10) (OHMM)	0	30 175	Delta-T (DT) (US/F)	75
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AIT-H 90 Inch Investigation Conductivity (AHTC90) (MM/M)	0	1000
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AIT-H 90 Inch Investigation (AHT90) (OHMM)	0	30 1000	AIT-H 90 Inch Investigation Conductivity (AHTC90) (MM/M)	0
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AIT-H 10 Inch Investigation (AHT10) (OHMM)	0	6	AIT-H 10 Inch Investigation (AHT10) (OHMM)	0	30 175	Delta-T (DT) (US/F)	75
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Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
ABHBM	Array Induction Borehole Correction Mode	2 ComputeStandoff
ABHVB	Array Induction Borehole Correction Code Version Number	870
ABHLM	Array Induction Basic Logs Mode	5_One_Two_and_Four
ABHVL	Array Induction Basic Logs Code Version Number	973
ABHPO	Array Induction Basic Logs Processing Option	Standard_Processing
AHCDE	Array Induction Casing Detection Enable	Yes
AHCEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered
AHCRS	Array Induction Casing Show Estimated Depth	-50000
AHFRSV	Array Induction Response Set Version for Four R Resolution	30.66.23.11
AHMRF	Array Induction Mud Resistivity Factor	1
AHORSV	Array Induction Response Set Version for One R Resolution	30.66.23.11
AHFPV	Array Induction Radial Profiling Code Version Number	700
AHSTA	Array Induction Tool Standoff	710
AHTRSV	Array Induction Response Set Version for Two R Resolution	30.66.23.11
BHT	Bottom Hole Temperature (used in calculations)	212
BS	Bit Size	9.875
DFD	Drilling Fluid Density	8.80
DO	Depth Offset for Logical Unit 1	5.0
DTCCM	Delta-T Computation Mode	FULL
FEXP	Form Factor Exponent	2
FNUM	Form Factor Numerator	1
AWOSE	Generalized Caliper Selection	NO SC
GDEV	Average Angular Deviation of Borehole from Normal	0.0
GGRD	Geothermal Gradient	0.01
GSSE	Generalized Mud Resistivity Selection	AITH RESIST
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE
HSCM	HILT Speed Correction Mode	NO SC
HST	STI Use HILT Acceleration	YES
MODE	Sonic Firing Mode	BHC
MST	Mud Sample Temperature	57.00
MS	Mud Sample	NORMAL
SHT	Surface Hole Temperature	68
SPNV	SP Next Value	0
TD	Total Depth	1838

Format: AITSONS2 Vertical Scale: 2" per 100' Graphics File Created: 14-Jun-2000 05:27

OP System Version: 9C1-303

HILTB-DTB	OP91-KP1a	DSLT-TCC	OP91-KP1a
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DEFAULT	HILTB_003	FN:2 PRODUCER	14-Jun-2000 04:22	1824.0 FT	307.5 FT
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DEFAULT	HILTB_004	FN:3 PRODUCER	14-Jun-2000 05:27		
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COMPANY:	NORTHWEST NATURAL GAS	BOTTOM LOG INTERVAL	1818 ft
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WELL:	IW-24BH-23-65	SCHLUMBERGER DEPTH	1828 ft
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FIELD:	MIST	DEPTH DRILLER	1838 ft
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COUNTY:	COLUMBIA	KELLY BUSHING	923 ft
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STATE:	OREGON	DRILL FLOOR	923 ft
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		GROUND LEVEL	905 ft
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ARRAY INDUCTION BHC SONIC / SP/GR SCALE: 2" = 100'