



<b>COMPANY</b> NORTHWEST NATURAL GAS		<b>WELL</b> IW 22H-22-65		<b>FIELD</b> MIST GAS STORAGE		<b>COUNTY</b> COLUMBIA		<b>STATE</b> OREGON	
<b>LOCATION</b> N 03-02-15 E 22N1 5W & S 95-56-45 E		<b>LOG MEASURED FROM</b> KELLY BUSHING		<b>LOG MEASURED TO</b> KELLY BUSHING		<b>DATE</b> 21-OCT-1997		<b>PERMITS</b> SONIC INDUCTION FMS DENSITY GAMMA RAY 2 D.F. 36-009-00323	
<b>API SERIAL NO.</b> 36-009-00323		<b>SECT.</b> 22		<b>TWP.</b> 9N		<b>RANGE</b> 5W		<b>OTHER SERVICES:</b>	
<b>PERMITS</b> SONIC INDUCTION FMS DENSITY GAMMA RAY 2 D.F. 36-009-00323		<b>LOG MEASURED FROM</b> KELLY BUSHING		<b>LOG MEASURED TO</b> KELLY BUSHING		<b>DATE</b> 21-OCT-1997		<b>PERMITS</b> SONIC INDUCTION FMS DENSITY GAMMA RAY 2 D.F. 36-009-00323	
<b>DEPTH DRILLER</b> ONE		<b>DEPTH LOGGER (Schl.)</b> 1823.0 F		<b>Btm Log Interval</b> 1784.0 F		<b>Top Log Interval</b> 350.0 F		<b>Casing-Driller</b> 13.28" @ 332.0 F	
<b>BT Size</b> @		<b>Casing-Logger</b> 332.0 F		<b>Type Fluid in Hole</b> LNSD		<b>Dens.</b> 10.00 LB/G		<b>Visc.</b> 55.0 S	
<b>pH</b>		<b>Flowline</b>		<b>Flowline</b>		<b>Flowline</b>		<b>Flowline</b>	
<b>Source of Sample</b>		<b>Flowline</b>		<b>Flowline</b>		<b>Flowline</b>		<b>Flowline</b>	
<b>Fm @ Meas. Temp.</b> 2.000 CHMM @ 88.0 DEGF		<b>Fm @ Meas. Temp.</b> 1.140 CHMM @ 88.0 DEGF		<b>Fm @ Meas. Temp.</b> 1.890 CHMM @ 66.0 DEGF		<b>Fm @ Meas. Temp.</b> 1.613 CHMM @ 86.0 DEGF		<b>Fm @ Meas. Temp.</b> 1.613 CHMM @ 86.0 DEGF	
<b>Source: Hnt</b> FMC		<b>Source: Hnt</b> FMC		<b>Source: Hnt</b> FMC		<b>Source: Hnt</b> FMC		<b>Source: Hnt</b> FMC	
<b>Fm @ BHT</b> 1.613 CHMM @ 86.0 DEGF		<b>Fm @ BHT</b> 1.613 CHMM @ 86.0 DEGF		<b>Fm @ BHT</b> 1.613 CHMM @ 86.0 DEGF		<b>Fm @ BHT</b> 1.613 CHMM @ 86.0 DEGF		<b>Fm @ BHT</b> 1.613 CHMM @ 86.0 DEGF	
<b>Loggers on Bottom</b> SEE LOG		<b>Loggers on Bottom</b> SEE LOG		<b>Loggers on Bottom</b> SEE LOG		<b>Loggers on Bottom</b> SEE LOG		<b>Loggers on Bottom</b> SEE LOG	
<b>Max. Rec. Temp.</b> 8303		<b>Max. Rec. Temp.</b> 8303		<b>Max. Rec. Temp.</b> 8303		<b>Max. Rec. Temp.</b> 8303		<b>Max. Rec. Temp.</b> 8303	
<b>Equipment</b> BAKERSFIELD		<b>Equipment</b> BAKERSFIELD		<b>Equipment</b> BAKERSFIELD		<b>Equipment</b> BAKERSFIELD		<b>Equipment</b> BAKERSFIELD	
<b>Witnessed By</b> MR. MEYER / MR. THOMAS		<b>Witnessed By</b> MR. MEYER / MR. THOMAS		<b>Witnessed By</b> MR. MEYER / MR. THOMAS		<b>Witnessed By</b> MR. MEYER / MR. THOMAS		<b>Witnessed By</b> MR. MEYER / MR. THOMAS	

The well name, location and borehole reference data were furnished by the customer.

All interpretations are based on inferences from electrical or other measurements and the operator does not guarantee the accuracy or correctness of any measurements and we are not responsible for any loss or damage or consequences of sustained by anyone resulting from any measurements made by any of our field's employees. These interpretations are also subject to Cause 4 of our General Terms and Conditions as set forth in our current Price Schedule.

<b>Run No.</b>	CNE
<b>Service Order No.</b>	
<b>Drilling Fluid Level</b>	0.0 F
<b>Salinity</b>	
<b>Rmf @ BHT</b>	695 CHMM @ 86.0 DEGF
<b>Rmc @ BHT</b>	691 CHMM @ 86.0 DEGF
<b>Logging Speed</b>	1800.0 F/HR
<b>EQUIPMENT DATA</b>	
<b>Tool Number 1</b>	FMS
<b>Tool Number 2</b>	DRS 4788
<b>Tool Number 3</b>	NSCE 2879
<b>Tool Number 4</b>	CNCHA 1345
<b>Tool Number 5</b>	SGCSA 483
<b>Tool Number 6</b>	TOCB 1289
<b>Tool Number 7</b>	TCM 353
<b>Tool Number 8</b>	
<b>Tool Number 9</b>	
<b>Tool Number 10</b>	
<b>Tool Number 11</b>	
<b>Tool Number 12</b>	
<b>REMARKS:</b>	
RAN CENTRALIZERS ON THE INDUCTION AND THE SONIC.	
TOOL TURNERS RAN ON THE CNL AND THE LDT.	
FLEX JOINTS RAN ABOVE THE DIT, SLT AND THE CNL.	
DID NOT TAG TD DUE TO PUSHDOWN JOB.	
CREW: DAN LEE	
TLC MAN: DAVID BLYTHE	
THANKS FOR USING SCHLUMBERGER!!!	

SPEED CORRECTION NOT APPLIED

ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume: 154.450 F3 FROM 1817.50 F TO 311.500 F

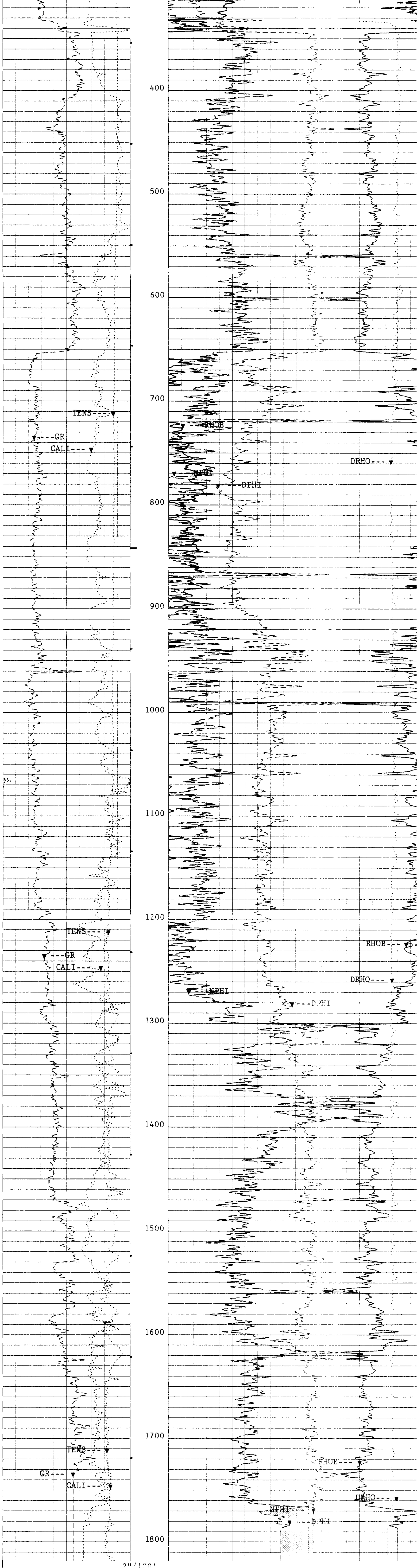
EVENT MARK SUMMARY:

OUTPUT INTERVAL DEPTH TRACK  
BETWEEN PIPS EDGE

Integrated Hole Volume 10.0000 F3 LEFT EDGE

<b>TENS(LBF)</b>	0.0	30000	2500	25000
<b>GR(GAP)</b>	150.00	60000	0.0	
<b>CALI(IN.)</b>	16.000	60000	0.0	

CP 44.2 FILE 83 23-NOV-1997 11:17  
INPUT FILE(S) 83 CREATION DATE 22-OCT-1997



CP 44.2 FILE 83 23-NOV-1997 11:08  
INPUT FILE(S) 83 CREATION DATE 22-OCT-1997

<b>TENS(LBF)</b>	0.0	30000	2500	25000
<b>GR(GAP)</b>	150.00	60000	0.0	
<b>CALI(IN.)</b>	16.000	60000	0.0	

SENSOR MEASURE POINT TO TOOL ZERO

LDTD 31.2 FEET SGTL 59.7 FEET  
MESTC 2.2 FEET DTT 3.0 FEET  
CNTH 49.2 FEET GPIT 1.1 FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PADT	0.0	DEG	PP	NORM	
DO	0.0	F	WMUD	10.0000	LB/G
NCJT	GSRY		DHC	BS	
BFM	LIQU		NPDC	BS	
HSCO	YES		SOCO	NO	
MCCO	NO		BSCO	NO	
PTCO	NO		MWCO	NO	
SDAI	SOCN		MCCO	NO	
SOCN	.500000	IN	MCOR	NATU	
ANGL	0.0	DEG	FSAL	-50900.0	PPM
BHFL	WATE		GGRD	.0100000	DY/F
FD	1.00000	G/C3	MDEN	2.65000	G/C3
AFMO	HAMM		FCSR	0.1	
MDEC	18.6381	DEG	LCMO	AUTO	
ICSD	-50000.0	F	GLM	DIPM	
PTYP	MCC		RBS	AUTO	
SOFF	-1.00000	IN	MLM	1800	
ODFO	INCL		CSR	.6	
XGAI	3		XMOD	AUTO	
DPPM	STAN		KOFF	0	
HC	CALI		MATR	SAND	
SPCR	DISA		FCD	8.67500	IN
MRT	102.000	DEGF	TDL	1399.00	F
RMFS	3.72000	DEGM	DFD	9.50000	LB/G
MST	69.0000	OHMF	RMS	2.31000	CHMF
BS	12.2500	IN	MFST	66.0000	DEGF
			BHS	OPEN	

<b>COMPANY</b>	NORTHWEST NATURAL GAS	<b>SCHL. FR</b>	1764.0 F
<b>WELL</b>	IW 22H-22-65	<b>SCHL. TD</b>	1820.0 F
<b>FIELD</b>	MIST GAS STORAGE	<b>DRLR. TD</b>	1825.0 F
<b>COUNTY</b>	COLUMBIA	<b>Elev: KB</b>	593.5 F
		<b>DF</b>	
		<b>GL</b>	583.5 F

