HALLIBURTON
LOGGING SERVICES, INC.

5" = 100'

DUAL INDUCTION LATEROLOG COMPENSATED SONIC LOG

COMPANY ____
WELL ____
FIELD ____
COUNTY ____ STATE ____

COMPANY NAHAMA & WEAGANT ENERGY COMPANY
WELL BIG~~FOO~~T CC #34-31-65
FIELD MIST
COUNTY COLUMBIA STATE OREGON

API No.: 36-009-00284
Location: 2047.19' WEST & 661.60' NORTH OF THE SOUTHEAST CORNER OF:
Sec. 31 Twp. 6N Rge. 5W

Other Services: NONE

Permanent Datum GL Elev. 786.44'
Log Measured From KB 10' Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 796.44'
D.F. –
G.L. 786.44'

Date	8-17-91			
Run No.	ONE			
Depth—Driller	2063'			
Depth—Logger	2042'			
Btm. Log Inter.	2040'			
Top Log Inter.	CASING			
Casing—Driller	8.63" @ 502'	@	@	@
Casing—Logger	503'			
Bit Size	7.87"			
Type Fluid in Hole	GEL-POLYMER			
Dens. I Visc.	9.8 I 47	I	I	I
pH I Fluid Loss	8.5 I 5.6 ml	I ml	I ml	I ml
Source of Sample	FLOWLINE			
R_m @ Meas. Temp.	3.0 @ 76 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	2.8 @ 72 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	3.3 @ 72 °F	@ °F	@ °F	@ °F
Source R_{mf} R_{mc}	MEAS I MEAS	I	I	I
R_m @ BHT	2.4 @ 98 °F	@ °F	@ °F	@ °F
Time Since Circ.	2.5 HOURS			
Time On Bottom	14:09			
Max. Rec. Temp.	98 °F @	°F @	°F @	°F @
Equip. I Location	7674 I BKFD	I	I	I
Recorded By	D. POZAS			
Witnessed By	J. VAUGHAN	D. HUGGINS	B. PINOTTI	

Part Number 26000

Fold Here

Service Ticket No.: 68246 API Serial No.: PGM Version:

Change in Mud Type or Additional Samples		
Date / Sample No.	I	I
Depth—Driller		
Type Fluid in Hole		
Dens. / Visc.	I	I
ph / Fluid Loss	I ml	I
Source of Sample		
R_m @ Meas.Temp.	@ °F	@ °F
R_{mf} @ Meas. Temp.	@ °F	@ °F
R_{mc} @ Meas. Temp.	@ °F	@ °F
Source: R_{mf} / R_{mc}	I	I
R_m @ BHT	@ °F	@ °F
R_{mf} BHT	@ °F	@ °F
R_{mc} BHT	@ °F	@ °F

RESISTIVITY/RWA SCALE CHANGES / COMPUTED FROM

Type Log	Depth	Scale Up Hole	Scale Down Hole	a	m

RESISTIVITY EQUIPMENT DATA

Run No.	Tool Type and No.	Pad Type	Tool Position	Other
ONE	DIL #G-5512		S.O.	CAL #G-9204

Borehole Corrections:
shallow. medium. deep.

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	G-3231	Serial No.	G-3037	Serial No.		Serial No.	
Model No.	HA	Model No.	BA	Model No.		Model No.	
Diameter	3.38"	No. of Cent.	TWO	Diameter		Diameter	
Detector Model No.	NA	Spacing	TOP	Log Type		Log Type	
Type	SCINT		BOTTOM	Source Type		Source Type	
Length	4.5'	LSA	☐ Yes ☐ No	Serial No.		Serial No.	
Distance to Source	NA	FWDA	☐ Yes ☐ No	Strength		Strength	

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run No.	Depths From	Depths To	Speed Ft./Min.	Scale L	Scale R	Scale L	Scale R	Matrix	Scale L	Scale R	Matrix	Scale L	Scale R	Matrix
ONE	TD	CSG	45	0	150	175	275	55.6						

a = m = Δt_{sh} = Δt_{fl} = ρ_{fl} =

REMARKS: TAYLOR DRILLING

CASED HOLE PARAMETERS
From: To:
Bit Size
Csg. O.D.
Csg. Wt.

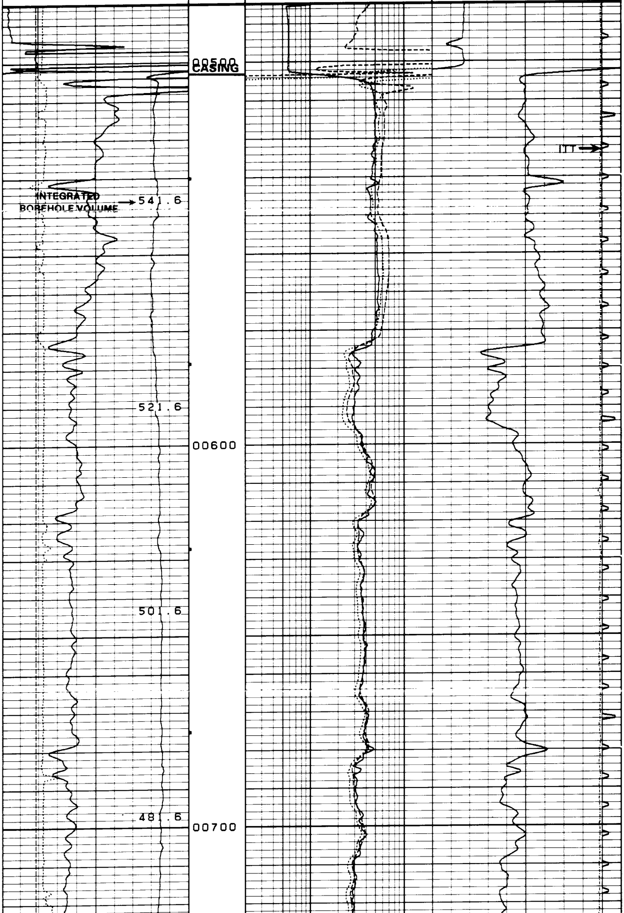
Halliburton Logging Services, Inc. does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Halliburton Logging Services, Inc. personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions or recommendations agrees that Halliburton Logging Services, Inc. is not responsible, except where due to gross negligence or willful misconduct, for any loss, damages, or expenses resulting from the use thereof.

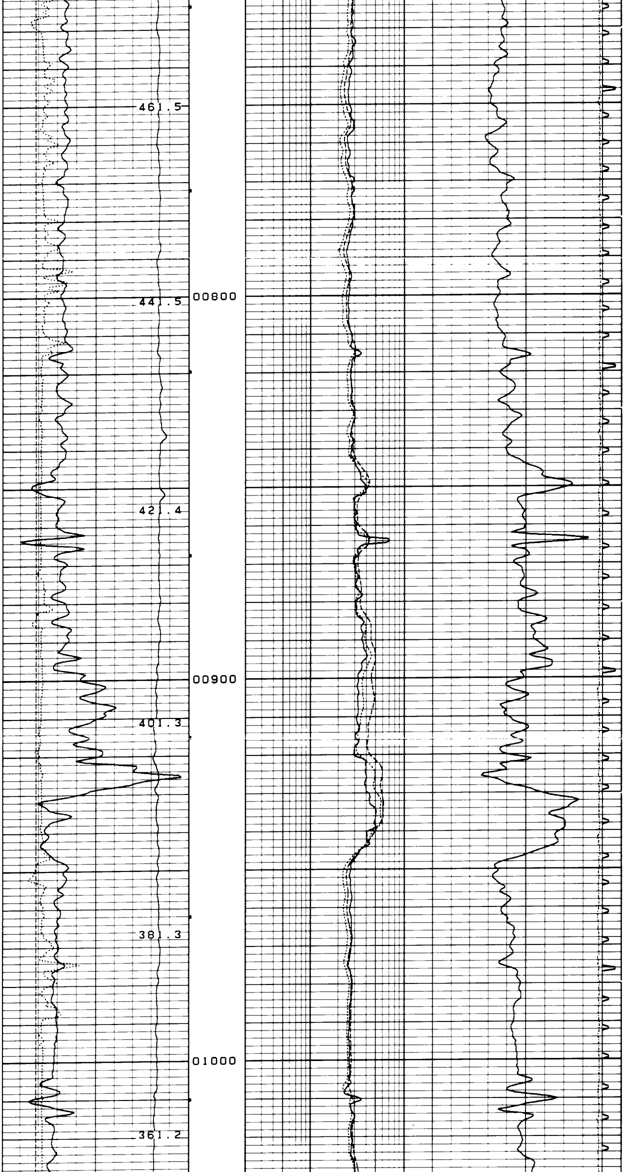
08-17-91 14:51 484.5 68246 0326-01 0 5

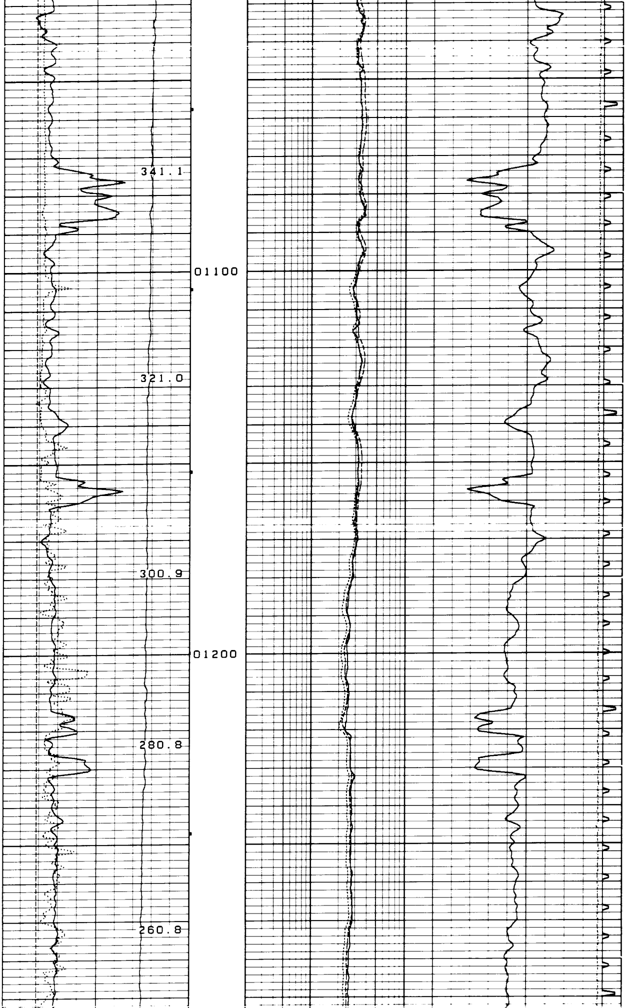
0.0 RWA-Ø BS 3.0
6 BIT (IN) 16
6 CAL-X (IN) 16
20 SP (MV) 170

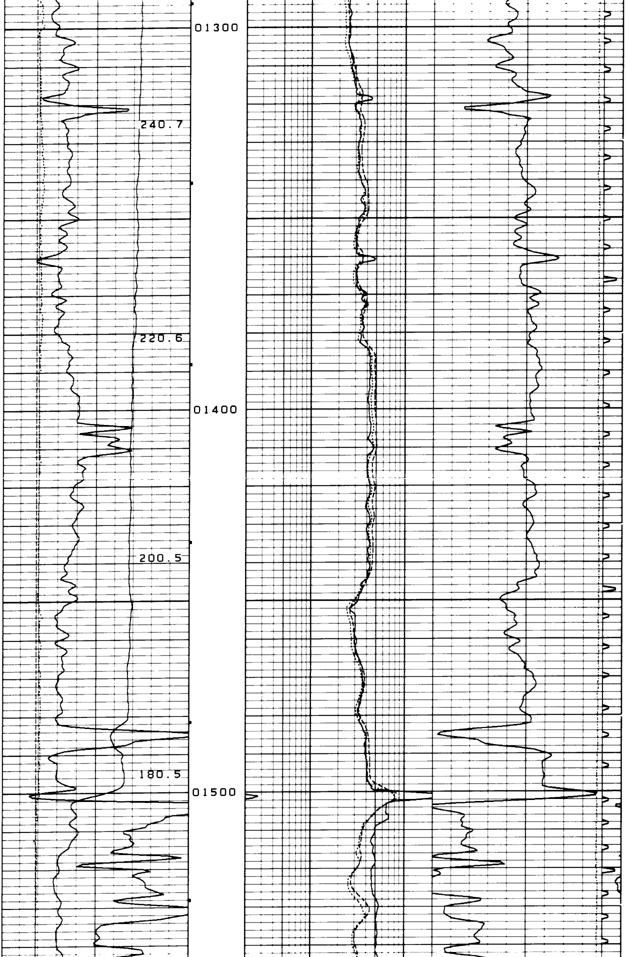
0.2 R-LL (Ω-M) 20
0.2 R-ILM(Ω-M) 20
0.2 R-ILD(Ω-M) 20

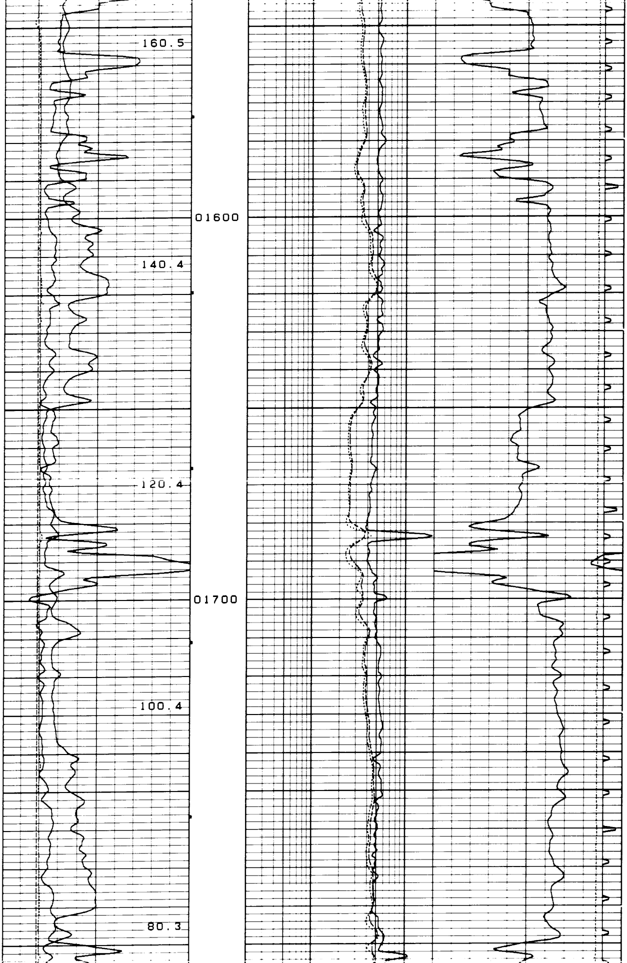
-27 3
175 BCS ΔT 75
10000 TENS(LB) 0

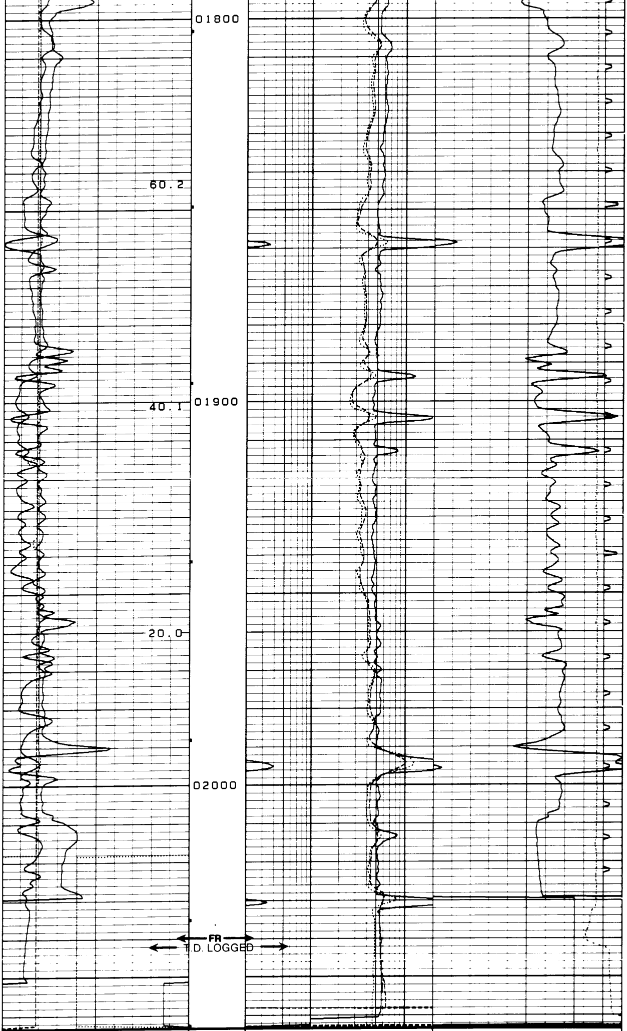












0.0	RWA-Ø BS	3.0		0.2	R-LL (Ω-M)	20			
6	BIT (IN)	16		0.2	R-ILM(Ω-M)	20	-27		3
6	CAL-X (IN)	16		0.2	R-ILD(Ω-M)	20	175	BCS ΔT	75
20	SP (MV)	170					10000	TENS(LB)	0

08-17-91 14:18 2063.0 68246 0308-99 0 5

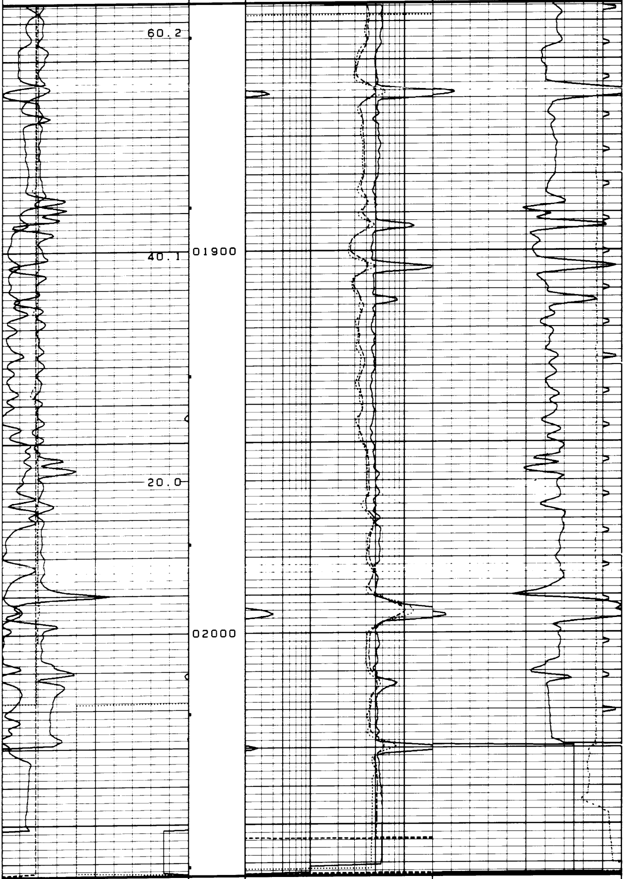
REPEAT SECTION

08-17-91 14:15 1835.0 68246 0326-01 0 4

0.0 RWA-Ø BS 3.0
6 BIT (IN) 16
6 CAL-X (IN) 16
20 SP (MV) 170

0.2 R-LL (Ω-M) 20
0.2 R-ILM(Ω-M) 20
0.2 R-ILD(Ω-M) 20

-27 3
175 BCS ΔT 75
10000 TENS(LB) 0



0.0 RWA-Ø BS 3.0
6 BIT (IN) 16
6 CAL-X (IN) 16
20 SP (MV) 170

0.2 R-LL (Ω-M) 20
0.2 R-ILM(Ω-M) 20
0.2 R-ILD(Ω-M) 20

-27 3
175 BCS ΔT 75
10000 TENS(LB) 0

08-17-91 14:10 2063.0 68246 0308-99 0 4

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08-17-91     14:54      637.5      68246   0326-01      0           4

                DUAL  INDUCTION AFTER SURVEY CALIBRATION

          TOOL TYPE: DIL-FA            SERIAL  NO:05512

                         LOW                    HIGH
                  BEFORE    AFTER         BEFORE    AFTER     UNITS
ILD                  0.0      0.0          401.8    402.4     MMHO/M
ILM                  0.0      0.0          464.0    464.0     MMHO/M
LL RES              20.0     19.9         1500.0   1502.6      OHM-M
LL COND            0.267    0.266           20.0     19.9      OHM-M

ILD SONDE ERROR CORRECTION:  1.06  MMHO/M
ILM SONDE ERROR CORRECTION: -3.89  MMHO/M
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08-17-91     14:02      658.5      68246   0326-01      0           3

                DUAL  INDUCTION BEFORE SURVEY CALIBRATION

          TOOL TYPE: DIL-FA            SERIAL  NO:05512

                MEASURED                   CALIBRATED
              LOW      HIGH              LOW       HIGH    UNITS
ILD           0.0     401.2              0.0      401.8    MMHO/M
ILM           4.4     463.9              0.0      464.0    MMHO/M
LL RES       20.9    1492.0             20.0     1500.0     OHM-M
LL COND     0.269      20.9            0.267       20.0     OHM-M

ILD SONDE ERROR CORRECTION:  1.06  MMHO/M
ILM SONDE ERROR CORRECTION: -3.89  MMHO/M
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08-17-91     13:38        0.0      68246   0326-01      0           2

                GAMMA RAY  BEFORE SURVEY CALIBRATION

          TOOL TYPE: UGR-HA            SERIAL  NO:03231

           BACKGROUND     CALIBRATOR    STANDARD    UNITS
             394.2          1358.4        218.0      GAPI

DELTA COUNTS PER SEC: 964.2            CPS/API =   4.422
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08-17-91    13:01         3.0     68246   0326-01       0          1

              CALIPER BEFORE SURVEY CALIBRATION

        TOOL TYPE: XCA-CD              SERIAL  NO:09204

                MEASURED                     CALIBRATED
              SMALL   LARGE    UNITS      SMALL    LARGE    UNITS

CALX          6.78   13.78      IN        7.00     14.00     IN
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07-22-91    11:54         0.0      7674   0326-01       0          0

            DUAL INDUCTION            SHOP CALIBRATION

        TOOL TYPE: DIL-FA              SERIAL  NO:05512

          TEST LOOP CALIBRATION        INTERNAL CALIBRATION
        MEASURED       REFERENCE      MEASURED        CALIBRATED
          LOW    HIGH   ZERO    REF      LOW   HIGH     ZERO   CAL   UNITS

ILD     -5.0   394.3    0.0   400.0    -4.0   397.5    0.0  401.8 MMHO/M

ILM      5.6   465.2    0.0   464.0     1.7   461.4    0.0  464.0 MMHO/M

ILD SONDE ERROR CORRECTION:  1.06  MMHO/M
ILM SONDE ERROR CORRECTION: -3.89  MMHO/M
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