ogg CC 44-08-64

HALLIBURTON
LOGGING SERVICES, INC.

5" = 100'

COMPENSATED DENSITY DUAL SPACED NEUTRON LOG

COMPANY ______
WELL ______
FIELD ______
COUNTY ______ STATE ______

COMPANY NAHAMA & WEAGANT ENERGY COMPANY
WELL ~~WINDY HILL~~ CC #44-8-64
FIELD MIST
COUNTY COLUMBIA STATE OREGON

API No 36-009-00285
Location: 830.81' WEST & 869.75' NORTH FROM THE SOUTHEAST CORNER OF:

Other Services
DIL/GR
BCS/GR
FED

Sec 8 Twp 6N Rge 4W

Permanent Datum GL Elev 1052.53'
Log Measured From KB 10' Ft Above Perm Datum
Drilling Measured From KB

Elev: K.B. 1062.53'
D.F. -
G.L. 1052.53'

Date	7-29-91			
Run No.	ONE			
Depth—Driller	1810'			
Depth—Logger	1810'			
Btm. Log Inter.	1808'			
Top Log Inter.	CASING			
Casing—Driller	8.63 @ 507'	@	@	@
Casing—Logger	507'			
Bit Size	7.87"			
Type Fluid in Hole	DRISPAC			
Dens. | Visc.	9.3 | 45	|	|	|
pH | Fluid Loss	8.5 | 16.5 ml	| ml	| ml	| ml
Source of Sample	FLOWLINE			
R_m @ Meas. Temp.	3.2 @ 72 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	4.1 @ 54 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	3.0 @ 64 °F	@ °F	@ °F	@ °F
Source R_{mf} | R_{mc}	MEAS | MEAS	|	|	|
R_m @ BHT	2.6 @ 92 °F	@ °F	@ °F	@ °F
Time Since Circ.	5.25 HOURS			
Time On Bottom	09:05			
Max. Rec. Temp.	92 °F @	°F @	°F @	°F @
Equip. | Location	7674 | BKFD	|	|	|
Recorded By	D. POZAS			
Witnessed By	J. VAUGHAN	B. PINOTTI		

Fold Here

Part Number 26000

Service Ticket No: 68242 API Serial No. PGM Version

Change in Mud Type or Additional Samples					
Date	Sample No.	|		|	
Depth—Driller					
Type Fluid in Hole					
Dens.	Visc.	|		|	
ph	Fluid Loss	|	ml	|	
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}	|		|	
R_m @ BHT		@	°F	@	°F
R_{mf} BHT		@	°F	@	°F
R_{mc} BHT		@	°F	@	°F

RESISTIVITY RWA SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

COMPUTED FROM

a	m

RESISTIVITY EQUIPMENT DATA

Run No.	Tool Type and No.	Pad Type	Tool Position	Other

Borehole Corrections
shallow medium deep

EQUIPMENT DATA

GAMMA		ACOUSTIC			DENSITY		NEUTRON	
Run No	ONE	Run No.			Run No.		Run No.	
Serial No	G-3231	Serial No.			Serial No.		Serial No.	
Model No	HA	Model No.			Model No.		Model No.	
Diameter	3.38"	No. of Cent.			Diameter		Diameter	
Detector Model No	NA	Spacing			Log Type		Log Type	
Type	SCINT				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	Depths		Speed	Scale		Scale			Scale			Scale		
No	From	To	Ft./Min.	L	R	L	R	Matrix	L	R	Matrix	L	R	Matrix
ONE	TD	CSG	30	0	150				1.65	2.65	2.65	60	0	SAND

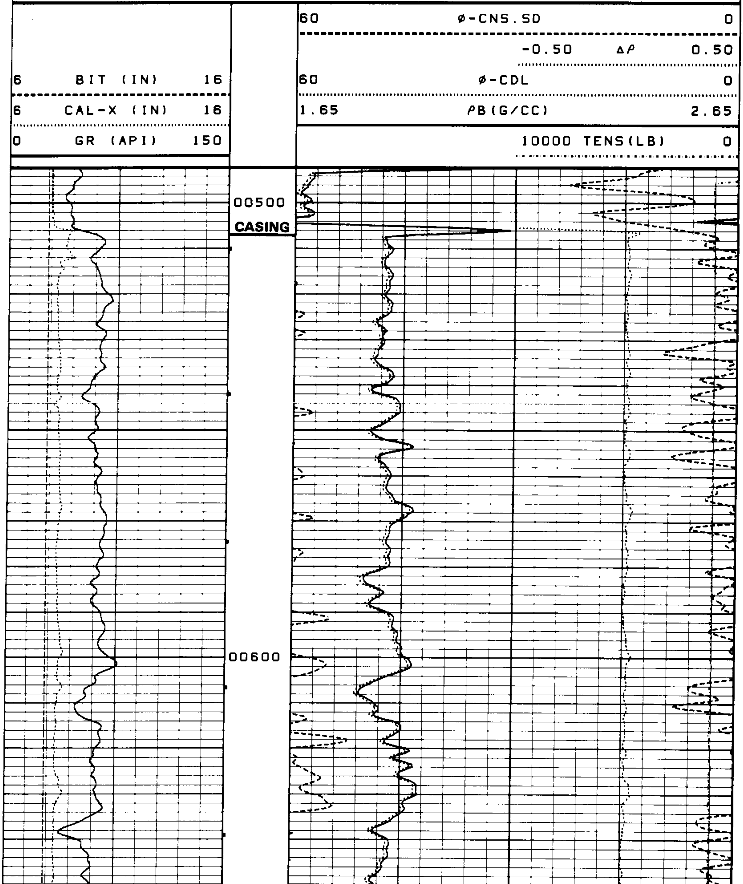
a =　m =　Δt_{sh} =　Δt_{fl} =　ρ_{fl} =

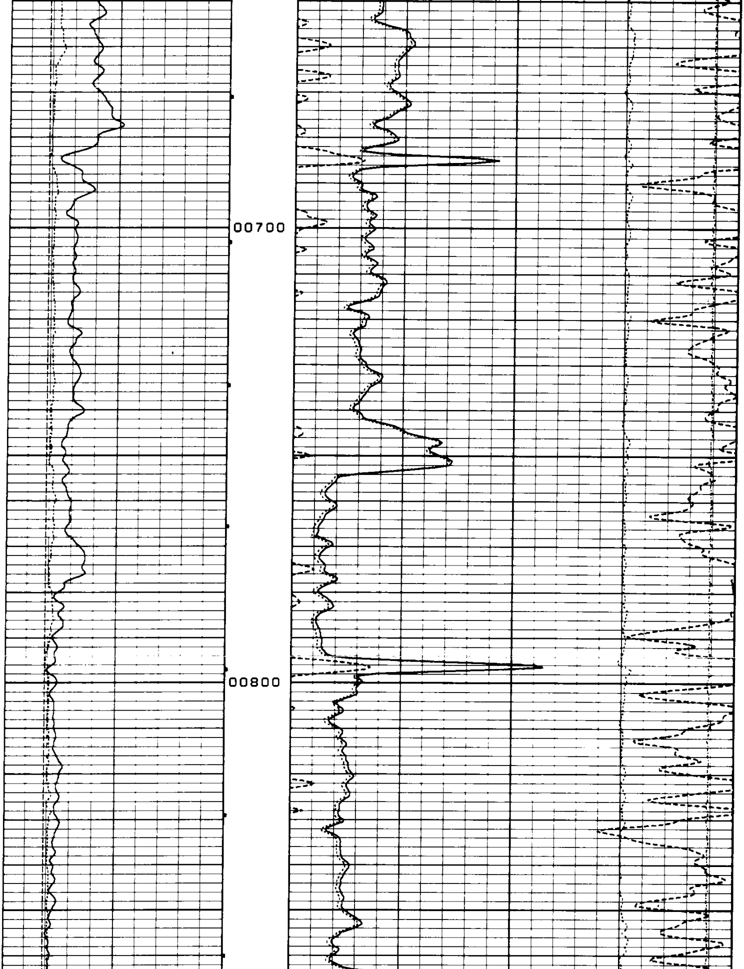
REMARKS RIG: TAYLOR DRILLING

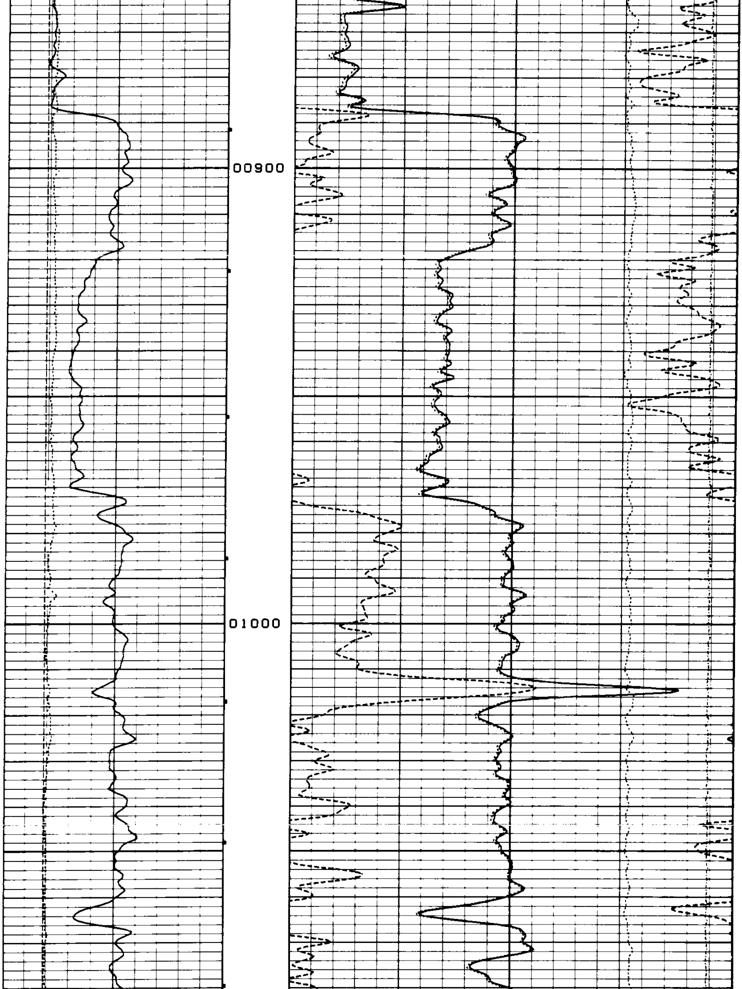
CASED HOLE PARAMETERS	
From	To
Bit Size	
Csg O D	
Csg. Wt	

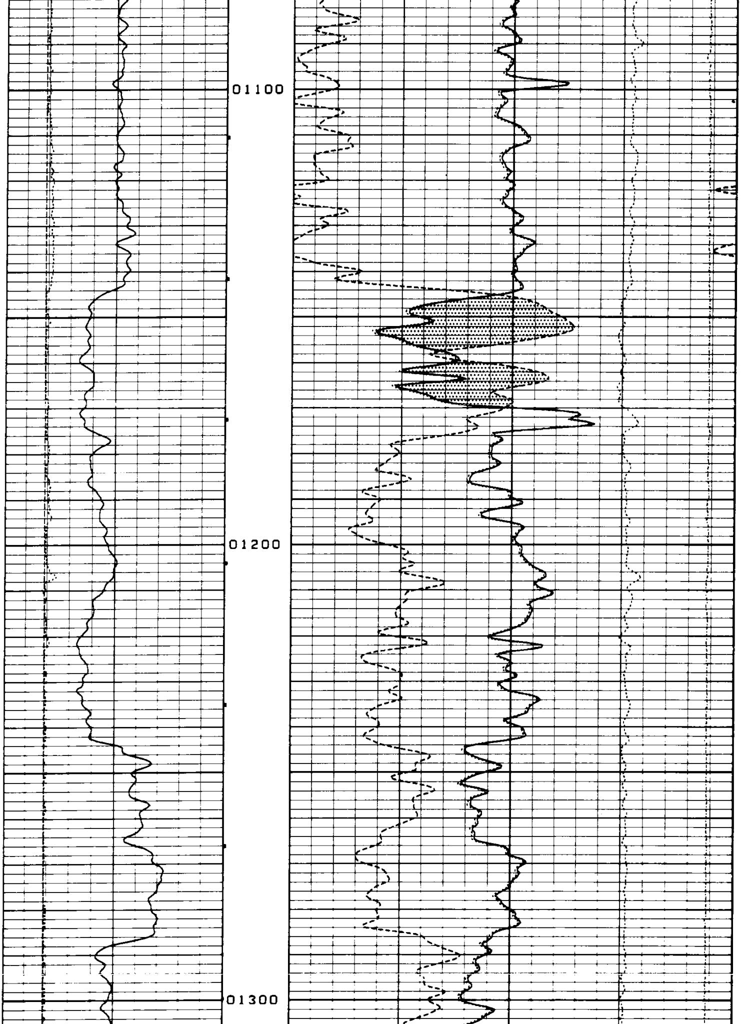
Halliburton Logging Services, Inc. does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Halliburton Logging Services, Inc. personnel or which may appear on the log or in any other form. Any user 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

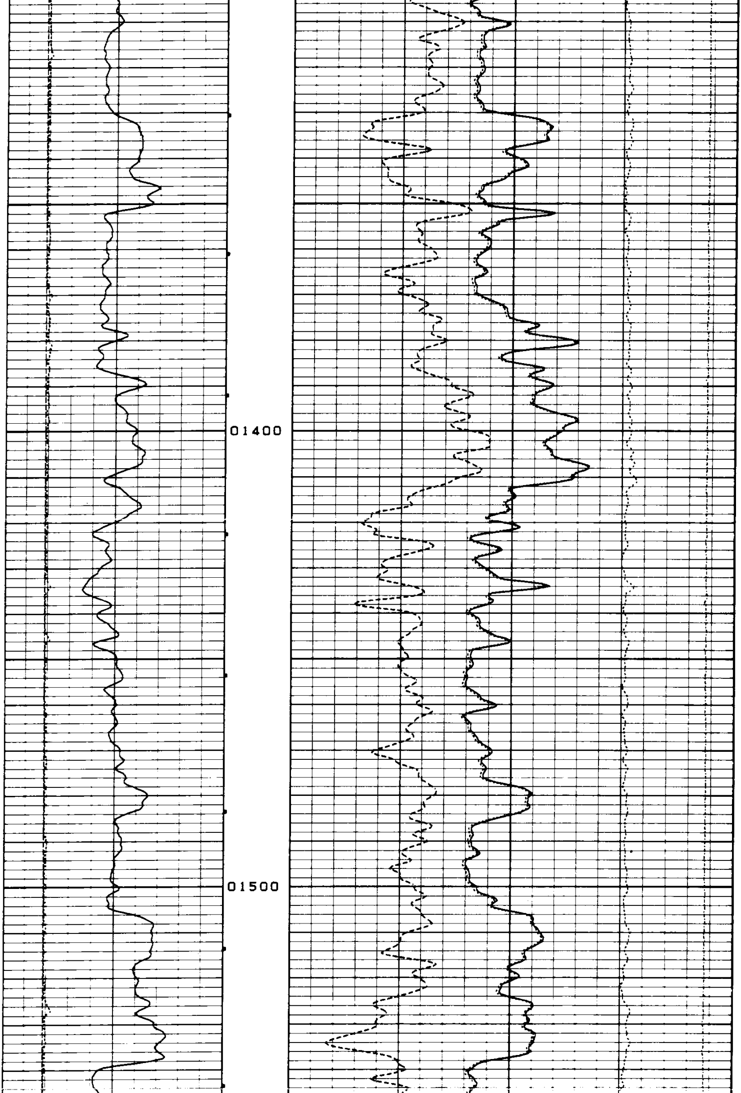
07-29-91	09:51	492.0	68242	0352-02	0	10

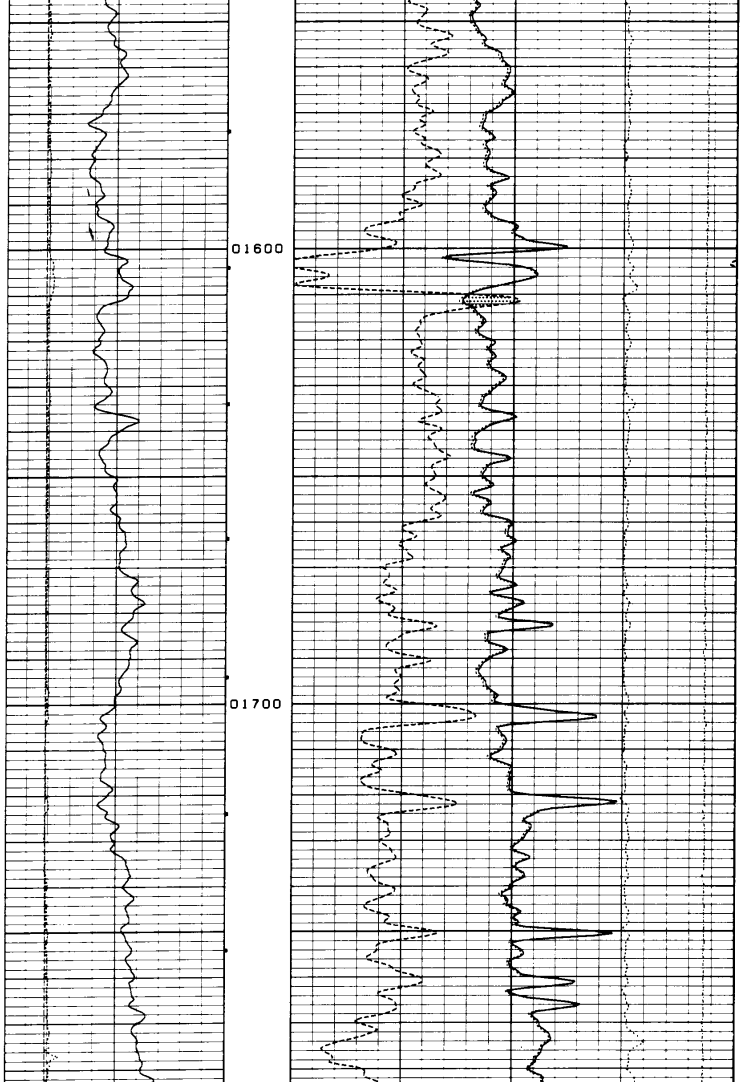


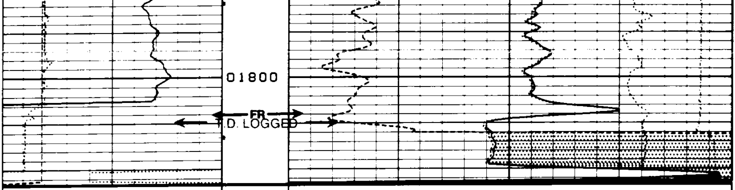












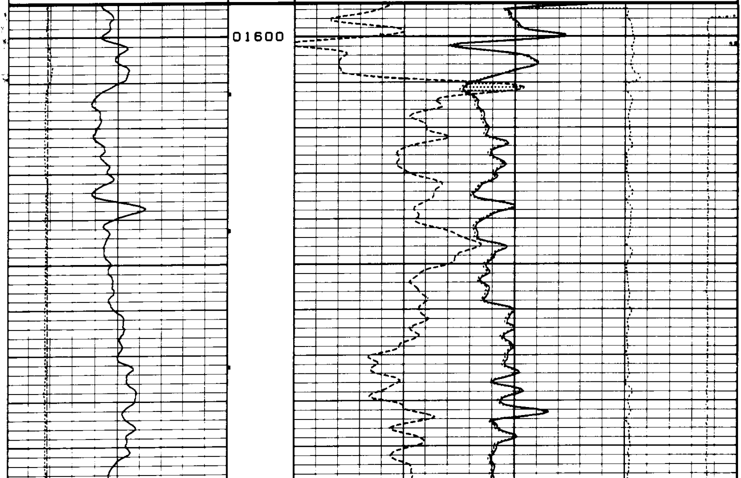
6	BIT (IN)	16		
6	CAL-X (IN)	16		
0	GR (API)	150		
			60 Ø-CNS.SD 0	
			-0.50 Δρ 0.50	
			60 Ø-CDL 0	
			1.65 ρB(G/CC) 2.65	
			10000 TENS(LB) 0	

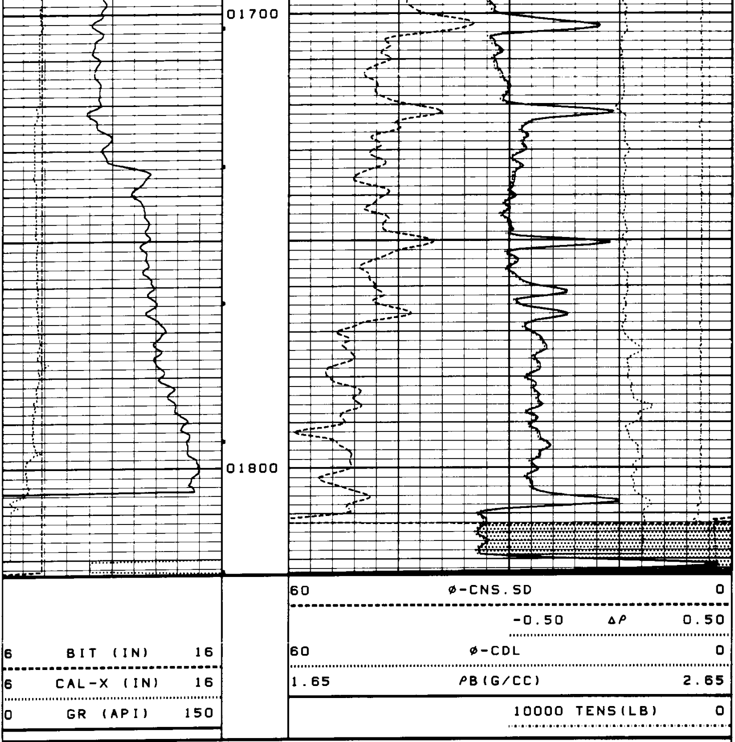
07-29-91 09:16 1823.0 68242 0308-99 0 10

REPEAT SECTION

07-29-91 09:13 1592.5 68242 0352-02 0 9

6	BIT (IN)	16		
6	CAL-X (IN)	16		
0	GR (API)	150		
			60 Ø-CNS.SD 0	
			-0.50 Δρ 0.50	
			60 Ø-CDL 0	
			1.65 ρB(G/CC) 2.65	
			10000 TENS(LB) 0	





07-29-91	09:06	1823.0	68242	0308-99	0	9

07-29-91	10:03	0.0	68242	0308-99	0	7

COMPENSATED NEUTRON AFTER SURVEY TOOL CHECK

TOOL TYPE: CNT-KB SERIAL NO:00135

VERIFIER NO: 00079 SOURCE NO: 00893

VERIFIER CHECK

	BEFORE	AFTER	UNITS
LS DETECTOR	244.9	244.1	CPS
SS DETECTOR	347.9	348.9	CPS
TOOL RATIO:	1.420	1.429	SS/LS
TOOL POROSITY:	10.88	11.04	LM-PU

TOOL CONSTANT: 0.965

07-29-91	09:59	0.0	68242	0308-99	0	6

COMPENSATED DENSITY AFTER SURVEY TOOL CHECK

TOOL TYPE: CDT-KA SERIAL NO:00126

VERIFIER NO: 00079 SOURCE NO: 00018

VERIFIER CHECK

	BEFORE	AFTER	UNITS
LS DETECTOR	265.7	266.5	CPS
SS DETECTOR	394.9	394.9	CPS
BULK DENSITY	2.381	2.379	G/CC

07-29-91	08:42	0.0	68242	0308-99	0	5

COMPENSATED NEUTRON BEFORE SURVEY TOOL CHECK

TOOL TYPE: CNT-KB SERIAL NO:00135

VERIFIER NO: 00079 SOURCE NO: 00893

	VERIFIER CHECK	UNITS
LS DETECTOR	244.9	CPS
SS DETECTOR	347.9	CPS
TOOL RATIO:	1.420	SS/LS
TOOL POROSITY:	10.88	LM-PU

TOOL CONSTANT: 0.965

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07-29-91    08:37        0.0      68242   0308-99       0             4

          COMPENSATED DENSITY BEFORE SURVEY TOOL CHECK

          TOOL TYPE: CDT-KA              SERIAL  NO:00126
          VERIFIER NO: 00079             SOURCE NO: 00018

                               VERIFIER CHECK  UNITS
LS DETECTOR                       265.7         CPS
SS DETECTOR                       394.9         CPS
BULK DENSITY                      2.381         G/CC
```

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07-29-91    08:32        0.0      68242   0308-99       0             3

              GAMMA RAY  BEFORE SURVEY CALIBRATION

          TOOL TYPE: GRT-HA              SERIAL  NO:03231

           BACKGROUND     CALIBRATOR   STANDARD    UNITS
             110.0          996.4       218.0       GAPI
DELTA COUNTS PER SEC: 886.4            CPS/API =   4.066
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07-29-91    08:29        0.0      68242   0308-99       0             2

               CALIPER BEFORE SURVEY CALIBRATION

          TOOL TYPE: XCA-KA              SERIAL  NO:00126

              MEASURED                    CALIBRATED
            SMALL    LARGE    UNITS      SMALL    LARGE    UNITS
CALX        7.50    16.10      IN        7.00    14.00      IN
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07-22-91     10:39        0.0       7674   0308-99      0             1

            COMPENSATED NEUTRON SHOP CALIBRATION

         TOOL TYPE: CNT-KB               SERIAL  NO:00135


         VERIFIER NO: 00079              SOURCE NO: 00893

                        LOW - Ø       MED - Ø      HIGH - Ø    UNITS
TANK RATIO:              0.566         1.389         2.176      SS/LS
TANK POROSITY:          -0.34         11.23         25.89       LM-PU
LS DETECTOR           2544.7         531.6         230.8        CPS
SS DETECTOR           1487.2         767.9         537.2        CPS
TOOL RATIO:              0.584         1.439         2.320      SS/LS
TOOL POROSITY:          -0.36         11.21         27.06       LM-PU

TOOL CONSTANT:   0.965
SURFACE TEMPERATURE:    70° F

FIELD VERIFIER
        SS DETECTOR    LS DETECTOR   RATIO     POROSITY
         352.2 CPS      240.8 CPS    1.462      11.64
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07-22-91     09:54        0.0       7674   0308-99      0             0

            COMPENSATED DENSITY SHOP CALIBRATION

         TOOL TYPE: CDT-KA               SERIAL  NO:00126


         VERIFIER NO: 00079              SOURCE NO: 00018

            MAG BLK(CPS)    ALUM BLK(CPS)    SPINE    DEN/SPINE
                                             ANGLE      RATIO
LS DETECTOR   1232.7           274.4
                                             76.1       0.568
SS DETECTOR    762.7           527.0

FIELD VERIFIER

                          VERIFIER CHECK   UNITS

LS DETECTOR                  265.8          CPS
SS DETECTOR                  393.4          CPS
BULK DENSITY                 2.376          G/CC
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