HALLIBURTON
LOGGING SERVICES, INC.

FINAL PRINT

DUAL INDUCTION ACOUSTIC VELOCITY LOG

5" = 100'

COMPANY ________________
WELL ________________
FIELD ________________
COUNTY __________ ST __

COMPANY D Y OIL INC.

WELL LANE NO. CC-24-5 ~~REDRILL~~ -A

FIELD MIST

COUNTY COLUMBIA

STATE OR

API NO.
LOCATION

SEC. TWP RGE

OTHER SERVICES

NONE

PERMANENT DATUM G.L. ELEV.
LOG MEASURED FROM K.B. 11.5FT.ABOVE PERM.DATUM
DRILLING MEASURED FROM KELLY BUSHING

ELEV.:K.B.
D.F.
G.L.

DATE	11/15/89			
RUN NO.	ONE			
DEPTH-DRILLER	1126			
DEPTH- LOGGER	1128			
BTM. LOG INTER.	1125			
TOP LOG INTER.	397			
CASING-DRILLER	9 5/8@397	@	@	@
CASING- LOGGER	397			
BIT SIZE	8 3/4			
TYPE FLUID IN HOLE	LIGNO-SULFO			
DENS. : VISC	10.3 :42	:	:	:
PH : FLUID LOSS	9.5 :6.0	:	:	:
SOURCE OF SAMPLE	CIRCULATED			
RM @ MEAS. TEMP.	2.9 @72.	@	@	@
RMF @ MEAS. TEMP.	2.7 @74.	@	@	@
RMC @ MEAS. TEMP.	3.3 @70.	@	@	@
SOURCE RMF : RMC	MEAS.:MEAS.	:	:	:
RM @ BHT	2.27 @94.	@	@	@
TIME SINCE CIRC.	2.75 HRS.			
TIME ON BOTTOM	7:45 AM			
MAX. REC. TEMP.	94. @BHT	@	@	@
EQUIP. : LOCATION	2890 :WDLND	:	:	:
RECORDED BY	D.MCDANIEL			
WITNESSED BY	B.PORTWOOD			

Fold Here

Service Ticket No.: 12336 API Serial No.: PGM Version: 1.31 PC

Change in Mud Type or Additional Samples		
Date/Sample No.	11/15/89:ONE	/ / :
Depth-Driller		
Type Fluid in Hole		
Dens. : Visc.	:	:
pH. : Fluid Loss	:	:
Source of Sample		
Rm @ Meas.Temp.	@	@
Rmf @ Meas.Temp.	@	@
Rmc @ Meas.Temp.	@	@
Source: Rmf:Rmc	:	:
Rm @ BHT	2.27 @94.	@
Rmf @ BHT	2.16 @94.	@
Rmc @ BHT	2.51 @94.	@

RESISTIVITY SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

Run No	Tool Type & No	Pad Type	Tool Pos.	Other
ONE	DUAL W109432	N/A	1.5"S.O.	M412
ONE	SGRD W108932	N/A	1.5"S.O.	M416

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	N/A	Run No.	N/A
Serial No.	W108581	Serial No.	W112458	Serial No.	W109740	Serial No.	W108749
Model No.	432	Model No.	305	Model No.	465	Model No.	434
Diameter	3 5/8	No.of Cent.	FOUR	Diameter	4 1/2	Diameter	3 3/8
Detector Model No.	N/A	Spacing	1 FOOT	Log Type	SDL	Log Type	DSN
Type	SCINT.			Source Type	CS 137	Source Type	AM241BE
Length	4 IN.	LSA	YES	Serial No.	118	Serial No.	66
Distance To Source	N/A	FWDA	NO	Strength	1.5 CU	Strength	19. CU

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale			Scale			Scale		
No.	From	To	Ft/Min	L	R	L	R	Matrix	L	R	Matrix	L	R	Matrix
ONE	1125	397	30	0	150	150	50	57						
					API			US/FT						

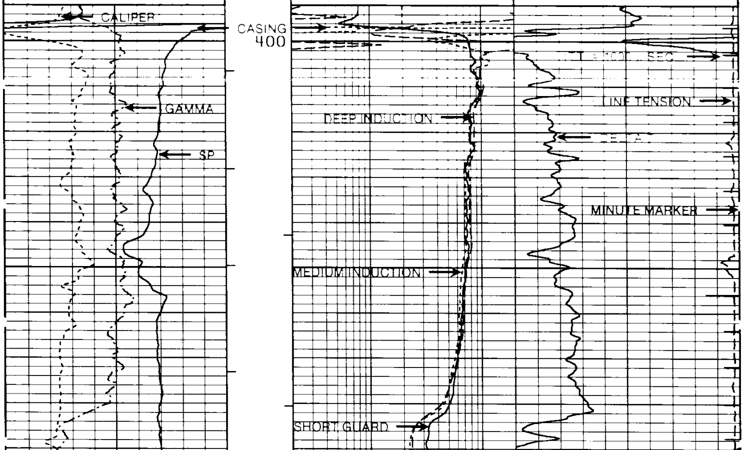
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5 1/2 INCH CASING.
HOLE DEVIATION IN EXCESS OF 40. DEGREES THROUGH MOST OF LOGGED INTERVAL.

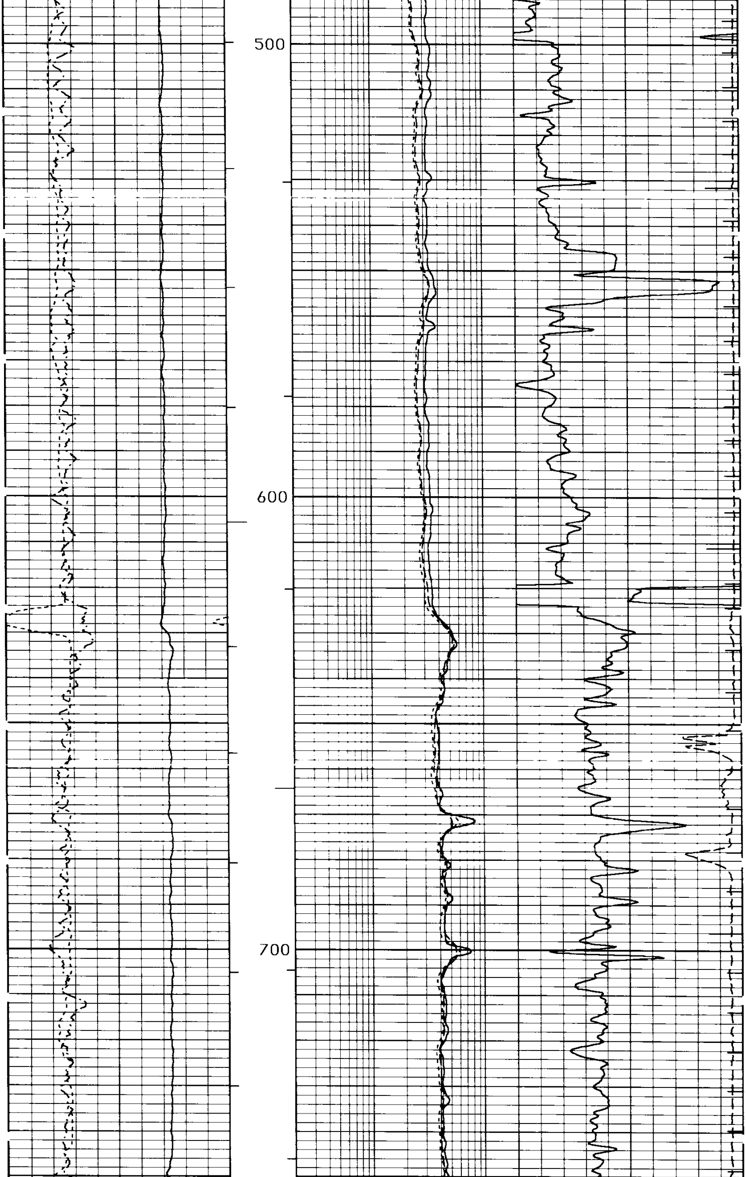
CREW ON LOCATION: B. JEFFREY AND J. JOHNSON
THANK YOU FOR USING HALLIBURTON LOGGING SERVICES!!

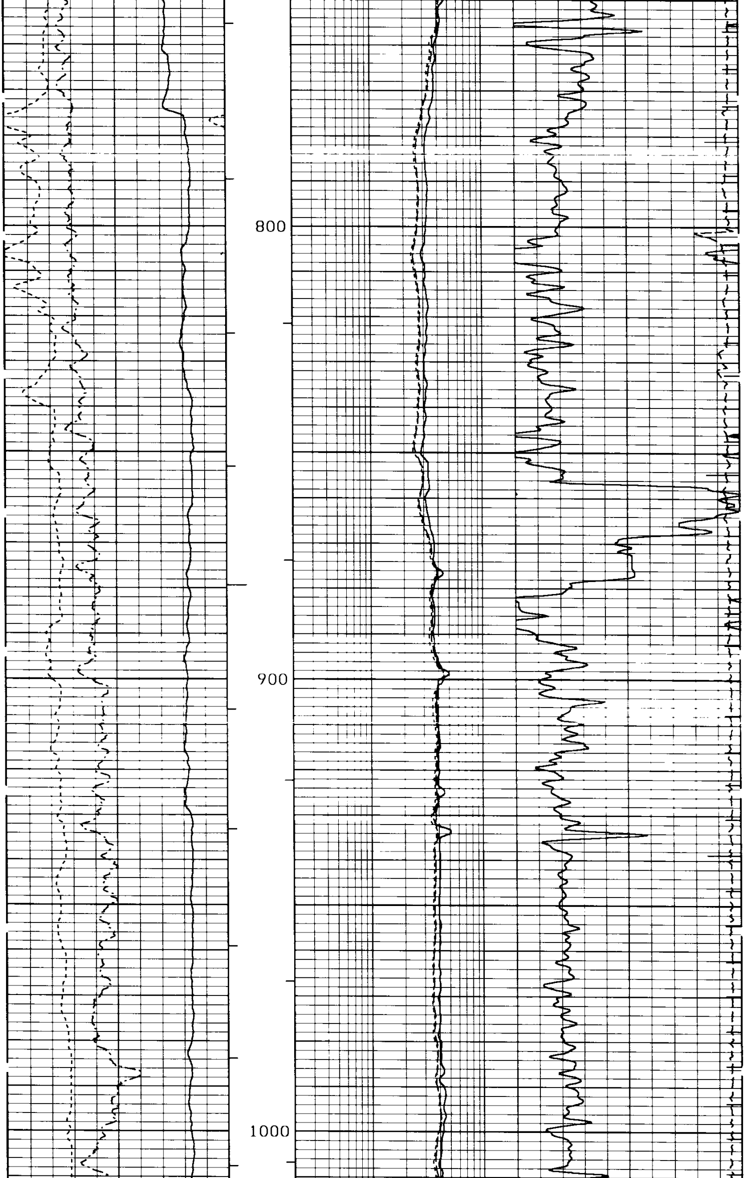
Halliburton Logging Services, Inc. does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by HLS personnel or which may appear on the log or in any other form. Any user of such data, interpretations,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

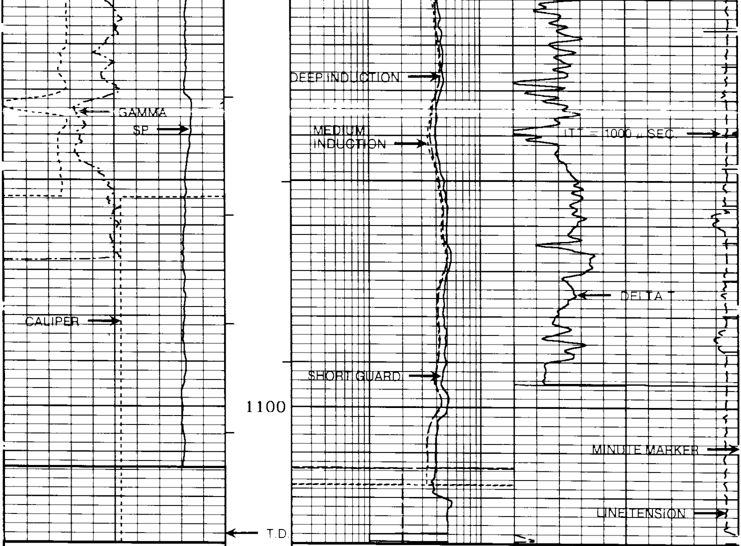
	GAMMA	
0	API	150
	CALIPER	
6	INCHES	16
	SP	
	-]10[+	

	DEEP			TENSION	
.2	OHM-M	20	11000	POUNDS	1000
	MEDIUM				
.2	OHM-M	20	100	<TDI<	0
	GUARD			DELTA-T	
.2	OHM-M	20	150	USEC	50

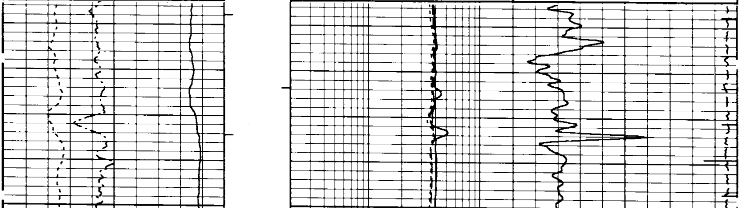


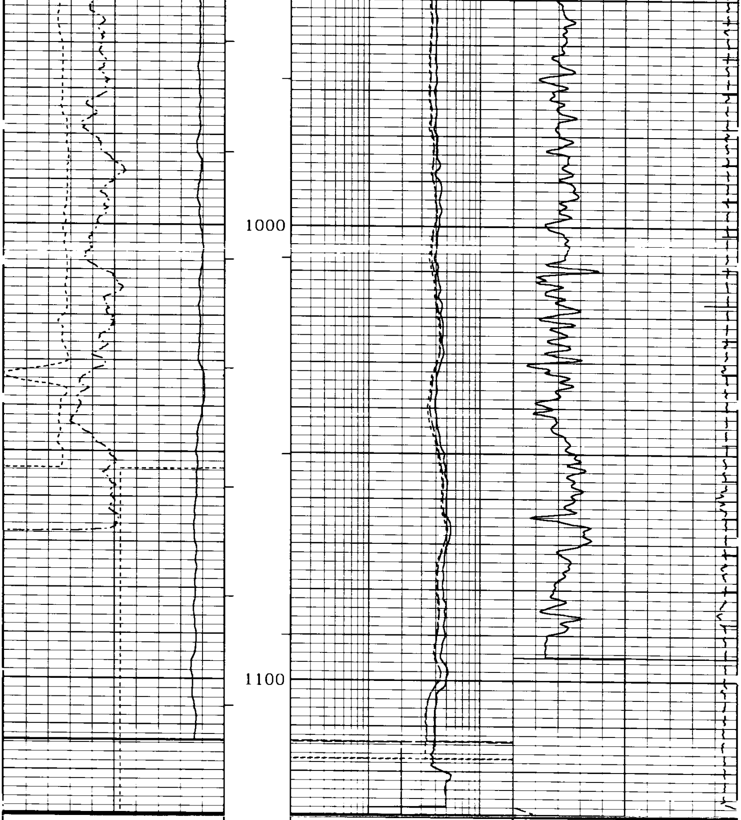






GAMMA	DEEP	TENSION
0 API 150	.2 OHM-M 20	11000 POUNDS 1000
CALIPER	MEDIUM	
6 INCHES 16	.2 OHM-M 20	100 <TDI< 0
SP	GUARD	DELTA-T
-]10[+	.2 OHM-M 20	150 USEC 50
	REPEAT SECTION	





GAMMA			
0	API	150	
CALIPER			
6	INCHES	16	
SP			
	-]10[+		

	DEEP			TENSION	
.2	OHM-M	20	11000	POUNDS	1000
	MEDIUM				
.2	OHM-M	20	100	<TDI<	0
	GUARD			DELTA-T	
.2	OHM-M	20	150	USEC	50

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                  SHORT GUARD   SHOP CALIBRATION SUMMARY
PERFORMED:  11:18:08  11/09/89    LAST SHOP CALIBRATION:   10:57:24  10/12/89
SERIAL NUMBER: 108932             PROGRAM VERSION: 1.31 PC
MODEL: #405
PERFORMED BY: JOHNSON
                        MEASURED        CALIBRATED         UNITS
                        --------        ----------         -----
EXT. CAL. POINT #1         2.007           2.000           OHM-M
EXT. CAL. POINT #2        20.018          20.000           OHM-M
EXT. CAL. POINT #3       200.207         200.000           OHM-M
INTERNAL REFERENCE        19.954          19.937           OHM-M

                  SHORT GUARD   BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  06:47:03  11/15/89    LAST SHOP CALIBRATION:   11:18:08  11/09/89

                          SHOP             FIELD           UNITS
                        --------         ---------        ------
INTERNAL REFERENCE        19.937          19.965           OHM-M


                  SHORT GUARD   AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  08:10:41  11/15/89    LAST SHOP CALIBRATION:   11:18:08  11/09/89

                         BEFORE            AFTER           UNITS
                        --------         ---------         -----
INTERNAL REFERENCE        19.965          19.899           OHM-M


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                 DUAL INDUCTION   SHOP CALIBRATION SUMMARY
PERFORMED:  11:25:10  11/09/89    LAST SHOP CALIBRATION:   11:05:42  10/12/89
SERIAL NUMBER: 109432             PROGRAM VERSION: 1.31 PC
MODEL: #412
PERFORMED BY: JOHNSON

                           DEEP INDUCTION         MEDIUM INDUCTION
                        MEASURED   CALIBRATED   MEASURED   CALIBRATED    UNITS
                        ---------------------   ---------------------   -------
TOOL ZERO                   .044        .000        .125        .000    MMHOS/M
INTERNAL REFERENCE       496.260     497.213     505.173     504.112    MMHOS/M
WHEEL                    499.256     500.000     501.897     500.000    MMHOS/M
MANDREL BASE               3.683       3.922       5.771       6.411    MMHOS/M

                 DUAL INDUCTION BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  06:48:42  11/15/89    LAST SHOP CALIBRATION:   11:25:10  11/09/89

                           DEEP INDUCTION         MEDIUM INDUCTION
                           SHOP     FIELD         SHOP       FIELD       UNITS
                        ---------------------   ---------------------   -------
TOOL ZERO                   .000        .587        .000       -.222    MMHOS/M
INTERNAL REFERENCE       497.212     495.305     504.111     504.782    MMHOS/M
MANDREL BASE               3.922       3.922       6.411       6.411    MMHOS/M

                 DUAL INDUCTION AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  08:12:30  11/15/89    LAST SHOP CALIBRATION:   11:25:10  11/09/89

                           DEEP INDUCTION         MEDIUM INDUCTION
                          BEFORE     AFTER       BEFORE       AFTER      UNITS
                        ---------------------   ---------------------   -------
TOOL ZERO                   .587       1.130       -.222       -.246    MMHOS/M
INTERNAL REFERENCE       495.304     500.721     504.781     509.250    MMHOS/M
MANDREL BASE               3.922       3.922       6.411       6.411    MMHOS/M


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                      GAMMA   SHOP CALIBRATION SUMMARY
PERFORMED:  23:05:22  11/04/89    LAST SHOP CALIBRATION:   14:46:48  10/12/89
SERIAL NUMBER: 108581             PROGRAM VERSION: 1.31 PC
MODEL: #432         FIELD CALIBRATOR: #2141
PERFORMED BY: JOHNSON

                        MEASURED        CALIBRATED         UNITS
                        --------        ----------         -----
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BACKGROUND                  25            23              API-CPS
BACKGROUND+CALIBRATOR      299           281              API-CPS
CALIBRATOR                 274           258              API-CPS

                    GAMMA  BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  05:43:22  11/15/89    LAST SHOP CALIBRATION:   23:05:22  11/04/89
FIELD CALIBRATOR: #2141

                          SHOP          FIELD            UNITS
                        --------      ----------         -----
BACKGROUND                  23            29              API-CPS
BACKGROUND+CALIBRATOR      281           279              API-CPS
CALIBRATOR                 258           250              API-CPS

                    GAMMA  AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  08:28:42  11/15/89    LAST SHOP CALIBRATION:   23:05:22  11/04/89

                         BEFORE          AFTER           UNITS
                        --------      ----------         -----
BACKGROUND                  29            21              API-CPS
BACKGROUND+CALIBRATOR      279           272              API-CPS
CALIBRATOR                 250           251              API-CPS


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                   CALIPER   SHOP CALIBRATION SUMMARY
PERFORMED:  05:31:50  11/15/89    LAST SHOP CALIBRATION:   12:00:42  10/05/89
SERIAL NUMBER: TAN                PROGRAM VERSION: 1.31 PC
MODEL: #202
PERFORMED BY: MCDANIEL

                        MEASURED      CALIBRATED         UNITS
                        --------      ----------         -----
VALUE 1                    7.871         8.000            INCHES
VALUE 2                   16.005        16.000            INCHES

                   CALIPER  BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  05:35:08  11/15/89    LAST SHOP CALIBRATION:   05:31:50  11/15/89

                          SHOP          FIELD            UNITS
                        --------      ---------          -----
VALUE 1                    8.000         7.999            INCHES

                   CALIPER  AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  08:20:22  11/15/89    LAST SHOP CALIBRATION:   05:31:50  11/15/89

                         BEFORE          AFTER           UNITS
                        --------      ---------          -----
VALUE 1                    8.000         7.999            INCHES


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                   TENSION   SHOP CALIBRATION SUMMARY
PERFORMED:  06:43:39  11/15/89    LAST SHOP CALIBRATION:   03:38:43  11/08/89
SERIAL NUMBER: TOP                PROGRAM VERSION: 1.31 PC


                        H L S CALIBRATION SUMMARY TABLE
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   SERVICE or SIGNAL          SHOP       BEFORE      AFTER      CHANGE    TOLERANCE
------------------------   ---------   ---------   ---------   --------   ---------
GUARD                        19.937      19.965      19.899       .065      +/-.80
DEEP INDUCTION              497.212     495.304     500.721     -5.416      +/- 20
MEDIUM INDUCTION            504.111     504.781     509.250     -4.469      +/- 20
GAMMA                       258         250         251         -1          +/- 9.0
CALIPER VALUE 1               8.000       8.000       7.999       .000      +/- 0.50
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EVENTS

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 1  5:20:10 00000 >DATE OF LOG: MMDD                1115
 2  5:27:49 01000 >PLS SOFTWARE REVISION            1.31
 3  5:27:49 01000 >CURRENT REVISION UPDATE NUMBER PC
 4  5:54:50 01000 >CASING SIZE O.D. (INCHES)         5.500+0
 5  5:54:50 01000 >BIT SIZE? (INCHES)                7.875+0
 6  5:54:53 01000 >DT-MATRIX(40=DOL<DT<70=SHALY)     5.700+1
 7  5:54:53 01000 >DT-SHALE (100=MIN<DT<160=MAX)     1.000+2
 8  5:54:53 01000 >FOR FORMATION FACTOR(.5<A<2.5)    1.000+0
 9  5:54:54 01000 >FOR FORMATION FACTOR(1.2<M<2.5)  2.000+0
10  5:55: 9 01000 >BIT SIZE? (INCHES)                8.750+0
11  5:55:31 01000 >FOR FORMATION FACTOR(.5<A<2.5)    8.100-1
12  5:55:34 01000 >>LOG PARAMETERS UPDATED HERE
13  7:13:13 01130 >LOGGING SECTION NO.                   2
14  7:21:22 00892 >"HALTING" END OF SECTION
15  7:27: 3 01130 >LOGGING SECTION NO.                   3
16  7:35:18 00888 >"HALTING" END OF SECTION
17  7:35:20 00888 >"HALTING" END OF SECTION
18  7:39:54 99996 >LOGGING SECTION NO.                   4
19  7:40: 4 99992 >"HALTING" END OF SECTION
20  7:41:25 01130 >LOGGING SECTION NO.                   5
21  8: 7: 5 00391 >"HALTING" END OF SECTION
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