5 inch

Schlumberger

DUAL INDUCTION - SFL

COUNTY COOS
FIELD WILDCAT
LOCATION 2130' FSL & 2399' FWL OF:
WELL "WNS MENASHA" #32-1
COMPANY CARBON ENERGY INT.

COMPANY CARBON ENERGY INT.
WELL "WNS MENASHA" #32-1
FIELD WILDCAT
COUNTY COOS **STATE** OREGON

LOCATION			Other Services:
2130' FSL & 2399' FWL OF:			DIL/GR LDT/CNL/GR SHDT
API SERIAL NO.	**SECT.**	**TWP.**	**RANGE**
36-011-00026	32	26S	13W

Permanent Datum GL Elev. 165.0 F
Log Measured From KB 18.0 F above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 183.0 F
D.F. 182.0 F
G.L. 165.0 F

Date	09-NOV-1993				
Run No.	ONE				
Depth Driller	1158.0 F				
Depth Logger (Schl.)	1157.0 F				
Btm. Log Interval	1151.0 F				
Top Log Interval	154.0 F				
Casing-Driller	9 5/8 @ 154.0 F		@		@
Casing-Logger	154.0 F				
Bit Size	8 3/4 @ 1158.0 F		@		@
Type Fluid in Hole	FRESH				
Dens. | Visc.	8.80 LB/G	33.0 S			
pH | Fld. Loss		10.4 C3			
Source of Sample	FLOWLINE				
Rm @ Meas. Temp.	5.510 OHMM @ 55.0 DEGF			@	
Rmf @ Meas. Temp.	6.850 OHMM @ 53.0 DEGF			@	
Rmc @ Meas. Temp.	4.470 OHMM @ 53.0 DEGF			@	
Source: Rmf | Rmc	MEASURED	MEASURED			
Rm @ BHT	3.838 OHMM @ 82.0 DEGF			@	
TIME Circulation Ended	17:00 9-NOV-93				
TIME Logger on Bottom	21:00 9-NOV-93				
Max. Rec. Temp.	82.0 DEGF				
Equip. | Location	8504	SACRAMENTO			
Recorded By	M.DEMSKIE				
Witnessed By	S.PAPPAJOHN				

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

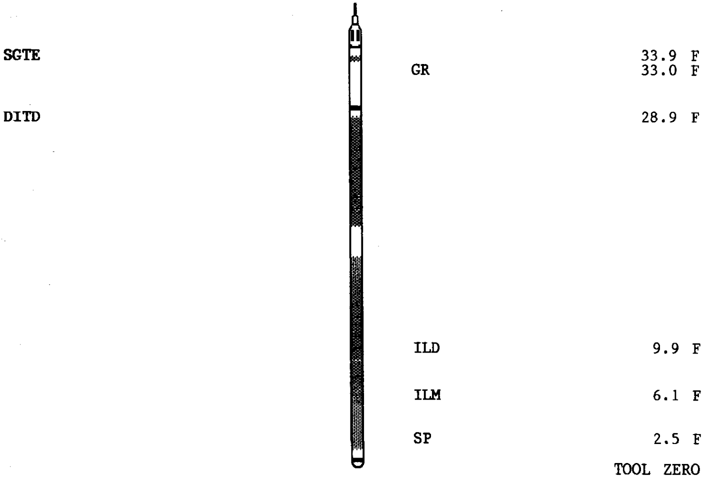
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

Run No.	ONE	
Service Order No.	624386	
Drilling Fluid Level	5.0 F	
Salinity		
Rmf @ BHT	4.618 OHMM @ 82.0 DEGF	@
Rmc @ BHT	3.013 OHMM @ 82.0 DEGF	@
Logging Speed	3600.0 F/HR	
EQUIPMENT DATA		
Tool Number 1	DIS-EB 1342	
Tool Number 2	DIC-DA 1386	
Tool Number 3	MCD-DA 663	
Tool Number 4	SGC-JC 3206	
Tool Number 5	IEM-BD 304	
Tool Number 6	NLM-BC 207	
Tool Number 7		
Tool Number 8		
Tool Number 9		
Tool Number 10		
Tool Number 11		
Tool Number 12		

REMARKS:

TWO 1.5" STANDOFFS RUN ON INDUCTION TOOL
SOME HEADER INFORMATION NOT AVAILABLE AT WELLSITE

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 38.2 F.
TOTAL TOOL STRING WEIGHT IS 493. LB IN AIR.

Main Log - 5"/100

ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume: 519.792 F3 FROM 1157.00 F TO 154.000 F
Integrated Cement Volume: 251.735 F3 FROM 1157.00 F TO 154.000 F
(ASSUMING 7.00000 IN O.D. CASING)

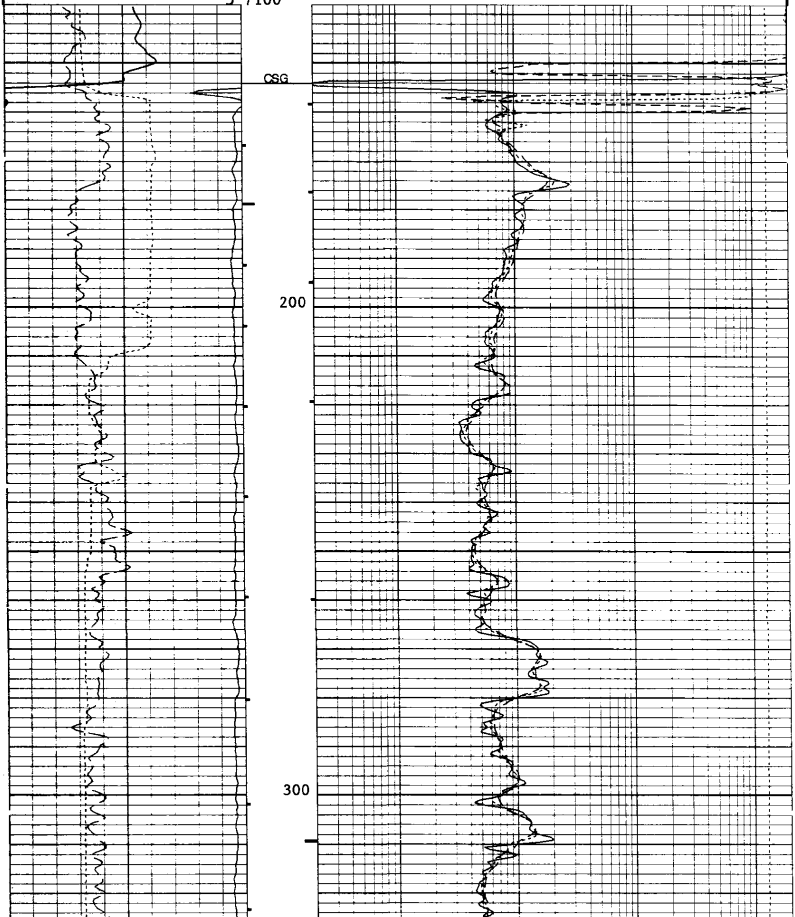
EVENT MARK SUMMARY:

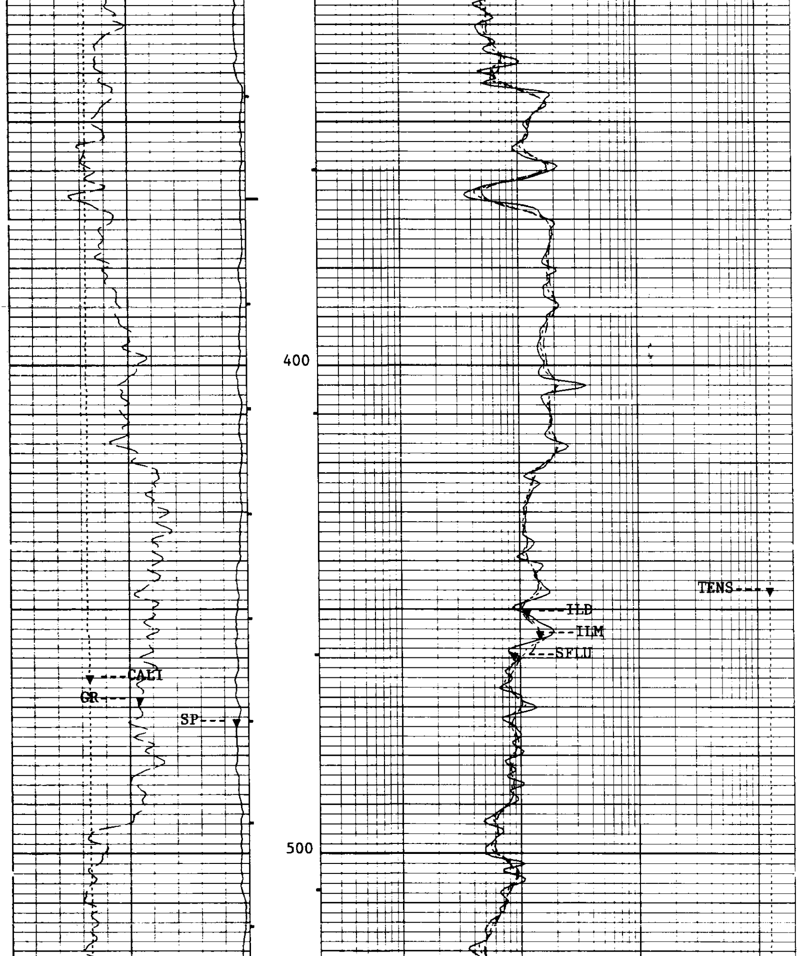
OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
Integrated Hole Volume	10.0000 F3	LEFT EDGE
Integrated Cement Volume	10.0000 F3	RIGHT EDGE

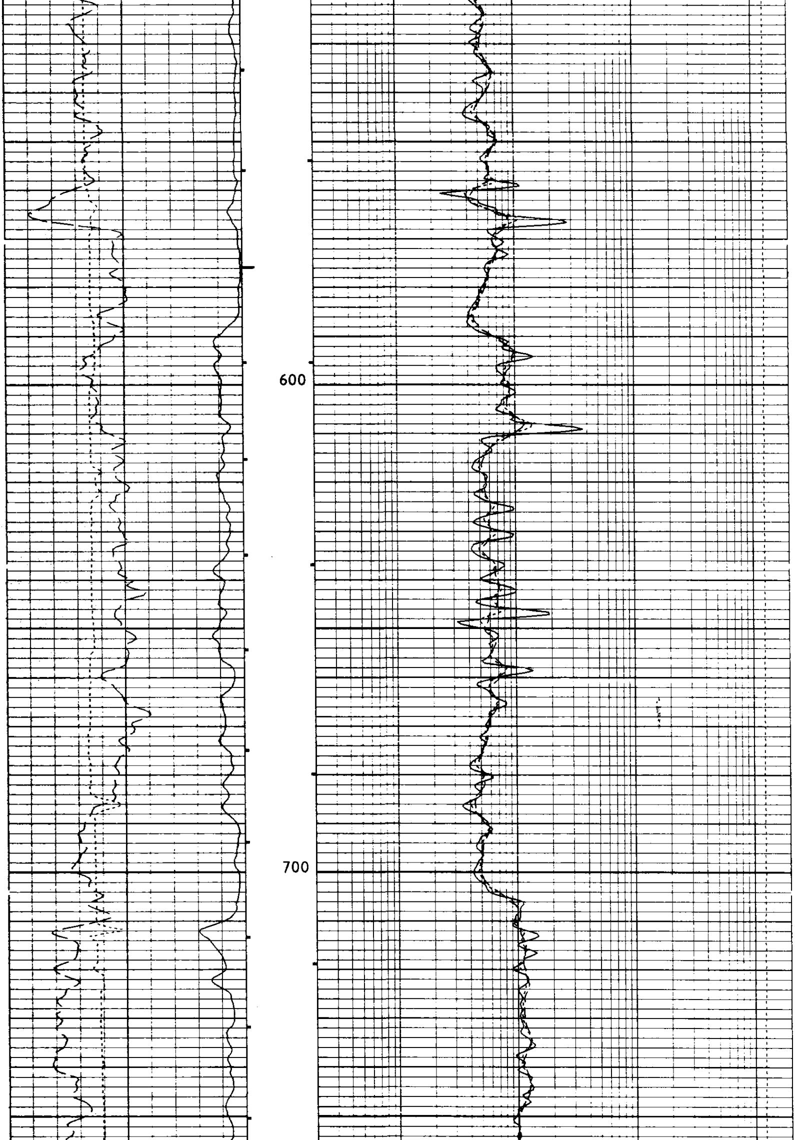
Curve	Left	Right
TENS(LBF)	10000.	0.0
CALI(IN)	6.0000	16.000
ILD(OHMM)	.20000	2000.0
GR(GAPI)	0.0	150.00
ILM(OHMM)	.20000	2000.0
SP(MV)	-100.0	0.0
SFLU(OHMM)	.20000	2000.0

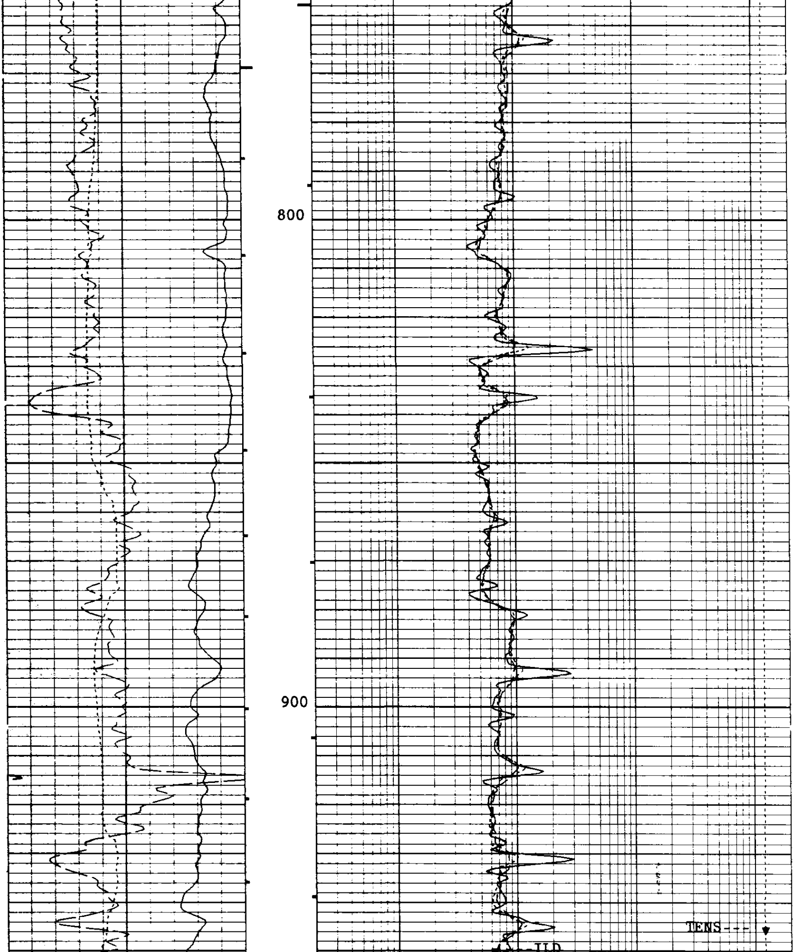
CP 38.2 FILE 7 09-NOV-1993 22:10 (UP)

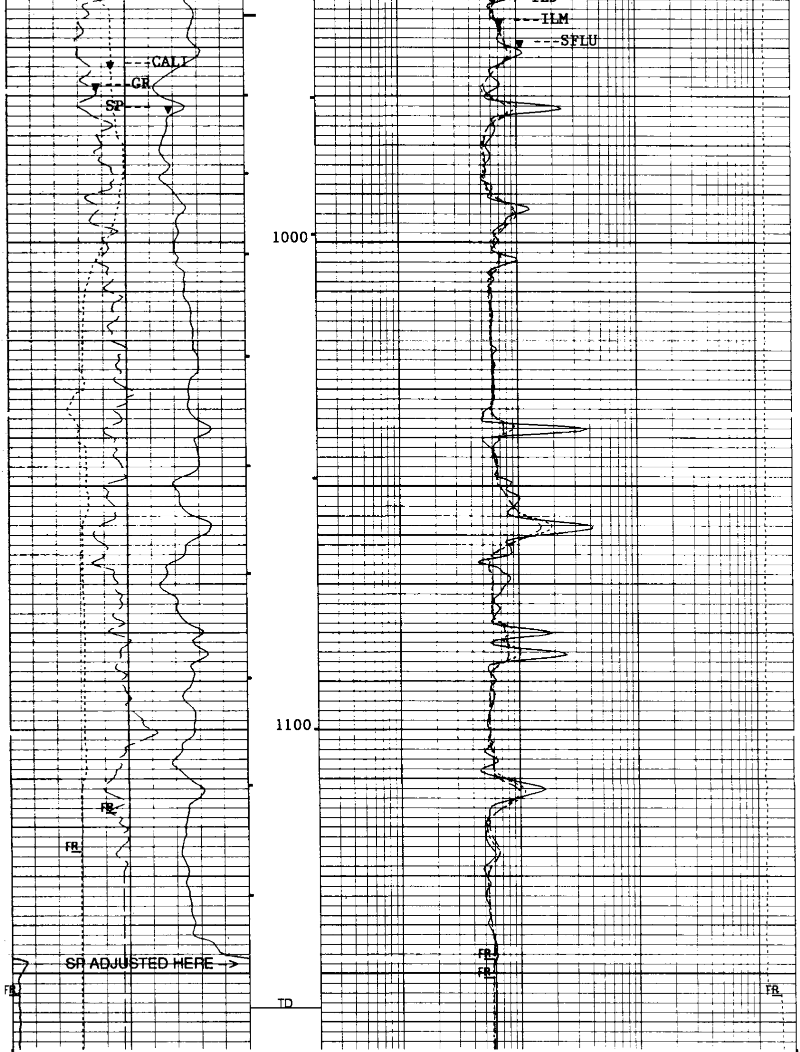
5"/100'











5"/100'

CP 38.2 FILE 7 09-NOV-1993 21:53 (UP)

CALI(IN)	6.0000	16.000
GR(GAPI)	0.0	150.00
SP(MV)	-100.0	0.0
TENS(LBF)	10000.	0.0
ILD(OHMM)	.20000	2000.0
ILM(OHMM)	.20000	2000.0
SFLU(OHMM)	.20000	2000.0

SENSOR MEASURE POINT TO TOOL ZERO

CALI	31.9	FEET	GR	40.0	FEET
ILM	6.1	FEET	ILD	9.9	FEET
SP	2.5	FEET	SFL	6.8	FEET
TENS	2.5	FEET	SPAR	2.5	FEET

PARAMETERS

PARAMETER	VALUE	UNIT
WMUD - Weight of Mud	8.90000	LB/G
MSEC - Medium Sonde Error Correction	8.00000	MM/M
SBR - Shoulder Bed Resistivity	1.00000	OHMM
DSEC - Deep Sonde Error Correction	6.70000	MM/M
FCD - Future Casing Diameter	7.00000	IN
NCJT - NGT Calibration Jig Type	GSRY	
BS - Bit Size	8.75000	IN
BHS - BoreHole Status (Open or Cased)	OPEN	

Repeat Section - 5"/100'

ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume:	138.802 F3	FROM 1157.00 F	TO 883.000 F
Integrated Cement Volume:	65.3078 F3	FROM 1157.00 F	TO 883.000 F

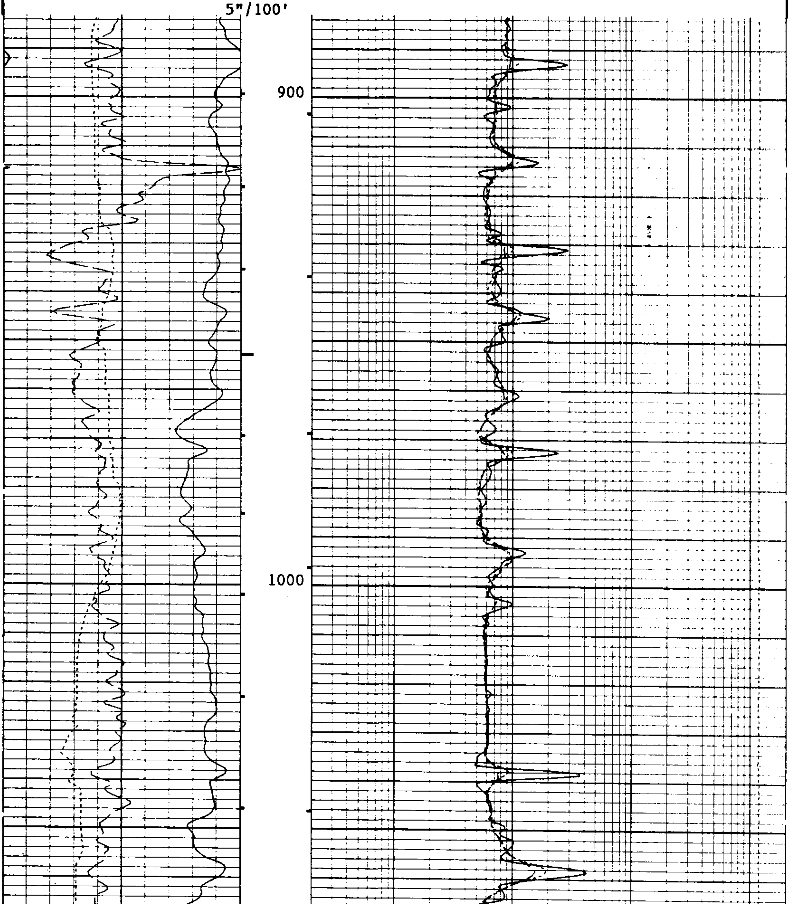
(ASSUMING 7.00000 IN O.D. CASING)

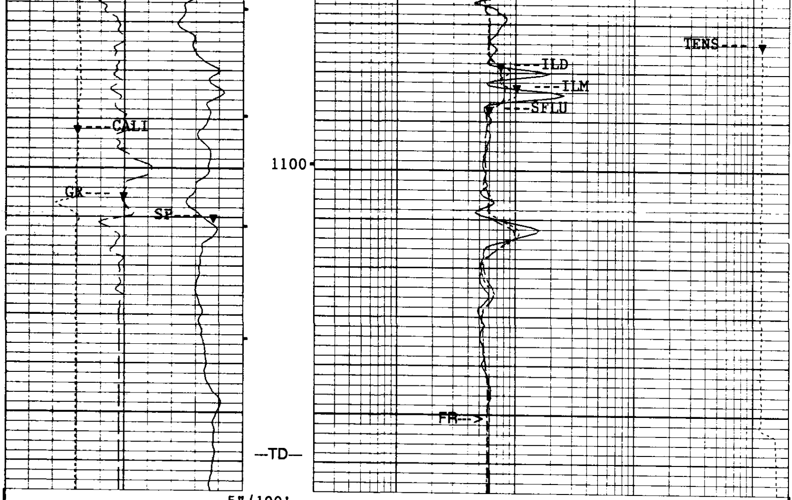
EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
Integrated Hole Volume	10.0000 F3	LEFT EDGE
Integrated Cement Volume	10.0000 F3	RIGHT EDGE

CALI(IN)	6.0000	16.000
GR(GAPI)	0.0	150.00
SP(MV)	-100.0	0.0
TENS(LBF)	10000.	0.0
ILD(OHMM)	.20000	2000.0
ILM(OHMM)	.20000	2000.0
SFLU(OHMM)	.20000	2000.0

CP 38.2 FILE 6 09-NOV-1993 21:51 (UP)





5"/100'

CP 38.2 FILE 6 09-NOV-1993 21:43 (UP)

Curve	Left	Right
TENS(LBF)	10000.	0.0
CALI(IN)	6.0000	16.000
GR(GAPI)	0.0	150.00
SP(MV)	-100.0	0.0
ILD(OHMM)	.20000	2000.0
ILM(OHMM)	.20000	2000.0
SFLU(OHMM)	.20000	2000.0

SENSOR MEASURE POINT TO TOOL ZERO

CALI	31.9	FEET	GR	40.0	FEET
ILM	6.1	FEET	ILD	9.9	FEET
SP	2.5	FEET	SFL	6.8	FEET
TENS	2.5	FEET	SPAR	2.5	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
WMUD	8.90000	LB/G	MSEC	8.00000	MM/M
SBR	1.00000	OHMM	DSEC	6.70000	MM/M
FCD	7.00000	IN	NCJT	GSRY	
BS	8.75000	IN	BHS	OPEN	

Calibration Summary

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                 AFTER SURVEY TOOL CHECK SUMMARY

   PERFORMED:     09-NOV-1993 22:14
   PROGRAM FILE:  ISN      (VERSION     38.2     92/10/12   92/10/12)


 DITD                          TOOL   CHECK

                         ZERO                         PLUS
               BEFORE           AFTER         BEFORE      AFTER     UNITS
      ILD          .1               .1         496.4      495.3     MM/M
      ILM         -.0              -.0         495.7      493.8     MM/M
      SFL          .1               .1         500.0      488.3     MM/M

 ILD SONDE ERROR CORRECTION :          6.7 MM/M
 ILM SONDE ERROR CORRECTION :          8.0 MM/M

 BEFORE SURVEY:             ZERO: 09-NOV-1993 22:12  PLUS: 09-NOV-1993 21:13
 AFTER SURVEY CHECK:        ZERO: 09-NOV-1993 22:13  PLUS: 09-NOV-1993 22:14

    CP 38.2              FILE    10       09-NOV-1993 22:14


                 BEFORE SURVEY CALIBRATION SUMMARY


   PERFORMED:     09-NOV-1993 21:13
   PROGRAM FILE:  ISN      (VERSION     38.2     92/10/12   92/10/12)


 DITD              ELECTRONICS CALIBRATION SUMMARY

                MEASURED                    CALIBRATED
              ZERO    PLUS               ZERO        PLUS           UNITS
      ILD      .03    538.0               0.0        496.4           MM/M
      ILM      .04    526.8               0.0        495.7           MM/M
      SFL      .18    521.7               0.0        500.0           MM/M

 ILD SONDE ERROR CORRECTION :          6.7 MM/M
 ILM SONDE ERROR CORRECTION :          8.0 MM/M

 ZERO: 09-NOV-1993 21:12  PLUS: 09-NOV-1993 21:13  COMP: 09-NOV-1993 21:13


 SGTE              DETECTOR CALIBRATION SUMMARY

                MEASURED
              BKGD     JIG         CALIBRATED          UNITS
      GR       32      198            165              GAPI

 BACK: 09-NOV-1993 20:44   JIG: 09-NOV-1993 20:46  COMP: 09-NOV-1993 20:46


 MCDB              CALIPER CALIBRATION SUMMARY

                MEASURED                    CALIBRATED
              SMALL   LARGE              SMALL       LARGE          UNITS
     CALI      6.58   10.02               8.00       12.00           IN
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SMALL: 09-NOV-1993 20:41 LARGE: 09-NOV-1993 20:43 COMP: 09-NOV-1993 20:43

   CP 38.2           FILE    4      09-NOV-1993 21:13



              SHOP SUMMARY


  PERFORMED:     14-OCT-1993 08:46
  PROGRAM FILE: SHOP   (VERSION    38.2    92/10/12  92/10/12)


 DITD             ELECTRONICS CALIBRATION SUMMARY

             TEST LOOP CALIBRATION             TOOL CHECK
           MEASURED          CALIBRATED        CALIBRATED
          ZERO     PLUS     ZERO     PLUS     ZERO      PLUS    UNITS
    ILD   -6.3     501.2     0.0     500.0     0.0      496.4   MM/M
    ILM   -8.8     518.8     0.0     500.0     0.0      495.7   MM/M
 ILD  SONDE ERROR CORRECTION :       6.7 MM/M
 ILM  SONDE ERROR CORRECTION :       8.0 MM/M

                  (IS:1342, IC:1422)

   CP 38.2           FILE    2      14-OCT-1993 08:46
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COMPANY	CARBON ENERGY INT.			SCHL.	FR	1151.0 F
				SCHL.	TD	1157.0 F
WELL	"WNS MENASHA" #32-1			DRLR.	TD	1158.0 F
FIELD	WILDCAT			Elev:	KB	183.0 F
					DF	182.0 F
COUNTY	COOS	**STATE**	OREGON		GL	165.0 F

Schlumberger

DUAL INDUCTION - SFL