Schlumberger

FOUR - ARM
HIGH RESOLUTION
CONTINUOUS DIPMETER

COUNTY COLUMBIA
FIELD MIST
LOCATION 899'W AND 1537'N
WELL "STEELHEAD" #43-33-75
COMPANY NAHAMA & WEAGANT ENERGY CO.

COMPANY NAHAMA & WFAGANT ENFRGY CO.

WELL Columbia Cty ~~"STEELHEAD"~~ #43 33 75

FIELD MIST

COUNTY COLUMBIA **STATE** OREGON

LOCATION 899'W AND 1537'N
FROM SE CORNER

API SERIAL NO.	SECT.	TWP.	RANGE
36 009 00295	33	7N	5W

Other Services:
DIL
SLT
LDT
CNT
SHDT

Permanent Datum GL **Elev** 1041.0 F
Log Measured From KB 10.0 F above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 1051.0 F
D.F.
G.L. 1041.0 F

Date	17-JUN-1992			
Run No.	ONE			
Depth Driller	2548.0 F			
Depth Logger (Schl.)	2547.0 F			
Btm. Log Interval	2546.0 F			
Top Log Interval	1500.0 F			
Casing-Driller	9 5/8" @ 520.0 F	@		@
Casing-Logger	520.0 F			
Bit Size	8 1/2" @ 2548.0 F	@		@
Type Fluid in Hole	POLYMER/GEL			
Dens. / Visc.	9.50 LB/G	41.0 S		
pH / Fld. Loss	8.5	6.0 C3		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	2.970 OHMM @ 76.0 DEGF		@	
Rmf @ Meas. Temp.	4.550 OHMM @ 76.0 DEGF		@	
Rmc @ Meas. Temp.	2.660 OHMM @ 76.0 DEGF		@	
Source: Rmf / Rmc	MEASURED	MEASURED		
Rm @ BHT	2.595 OHMM @ 88.0 DEGF		@	
TIME: Circulation Ended	15:00 6-17			
TIME: Logger on Bottom	22:14 6-17			
Max. Rec. Temp.	88.0 DEGF			
Equip. / Location	8504	SACRAMENTO		
Recorded By	SCOTT PILCH			
Witnessed By	JEFF VAUGHAN,BOB PINOTTI			

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

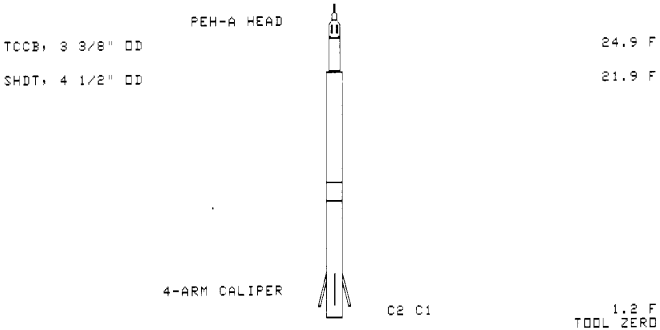
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.	595051			
Drilling Fluid Level	5.0 F			
Salinity	650.0 PPM			
Rmf @ BHT	3.975 OHMM	@	88.0 DEGF	@
Rmo @ BHT	2.324 OHMM	@	88.0 DEGF	@
Logging Speed	3600.0 F/HR			
EQUIPMENT DATA				
Tool Number 1	SHDS-B 919			
Tool Number 2	SHDI-BB 879			
Tool Number 3	SHDC-B 411			
Tool Number 4	TCC-B 1414			
Tool Number 5	TCM-AB 1515			
Tool Number 6				
Tool Number 7				
Tool Number 8				
Tool Number 9				
Tool Number 10				
Tool Number 11				
Tool Number 12				

REMARKS:

MAXIMUM HOLE DEVIATION IS 13.5 DEGREES AT 1778 FT.

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 27.9 F.
TOTAL TOOL STRING WEIGHT IS 457. LB IN AIR.

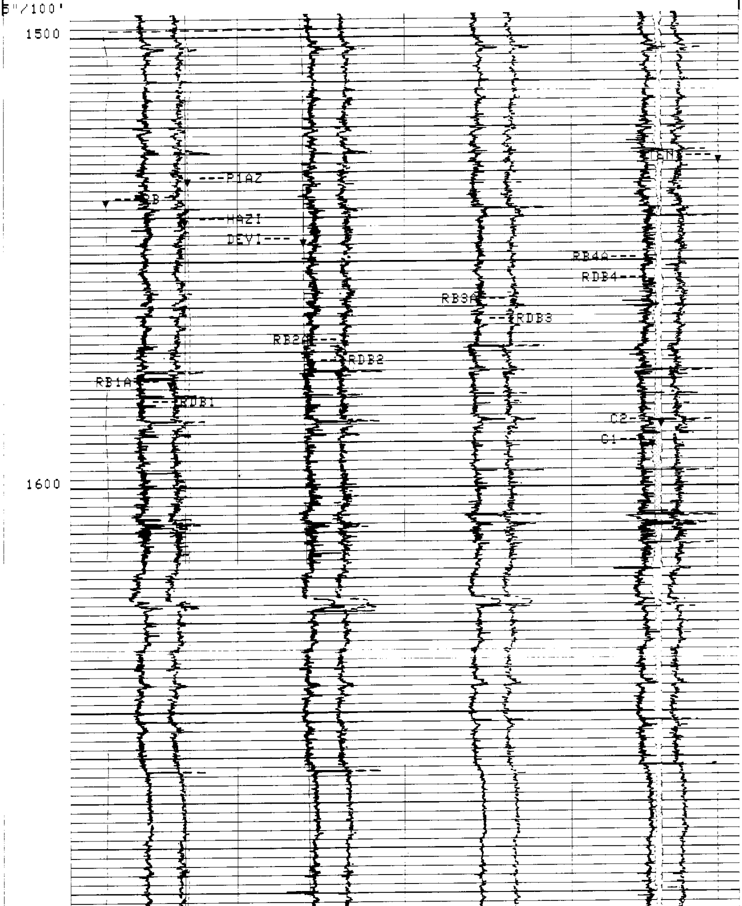
MAIN LOG

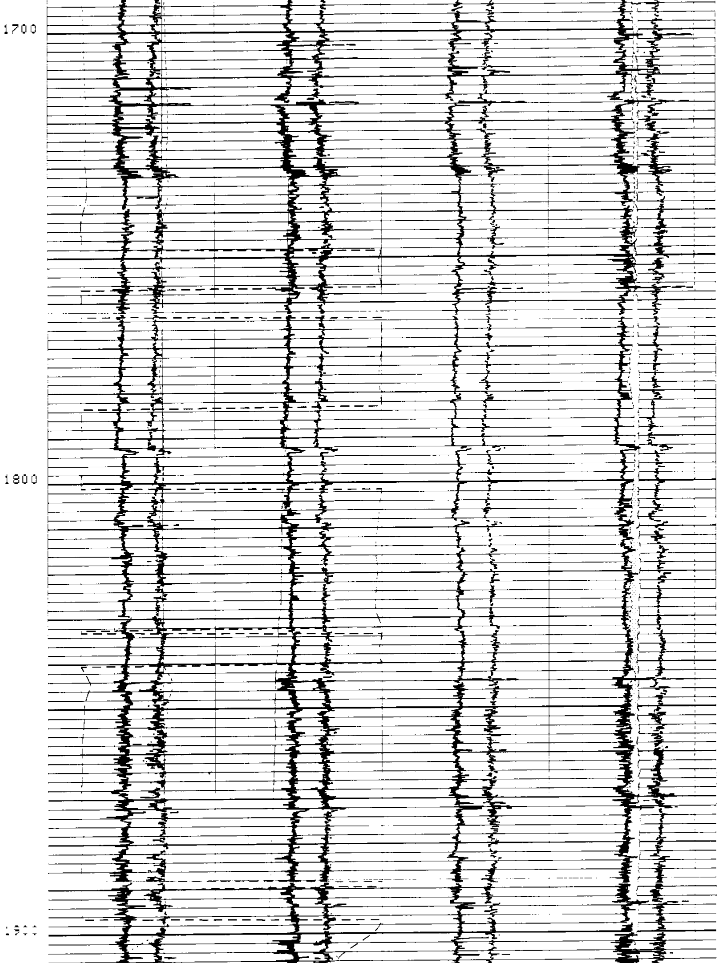
Curve	Left	Right
RB1A	-1000.	4000.0
RB2A	-1000.	4000.0
RDB1	0.0	5000.0
RDB2	0.0	5000.0
TENS(LBF)	10000.	0.0
P1AZ(DEG)	-40.00	360.00
RB3A	-1000.	4000.0
RB4A	-1000.	4000.0
RB(DEG)	-40.00	360.00
RDB3	0.0	5000.0
RDB4	0.0	5000.0
HAZI(DEG)	-40.00	360.00
C2(IN)	24.000	4.0000
DEVI(DEG)	0.0	20.000
C1(IN)	24.000	4.0000

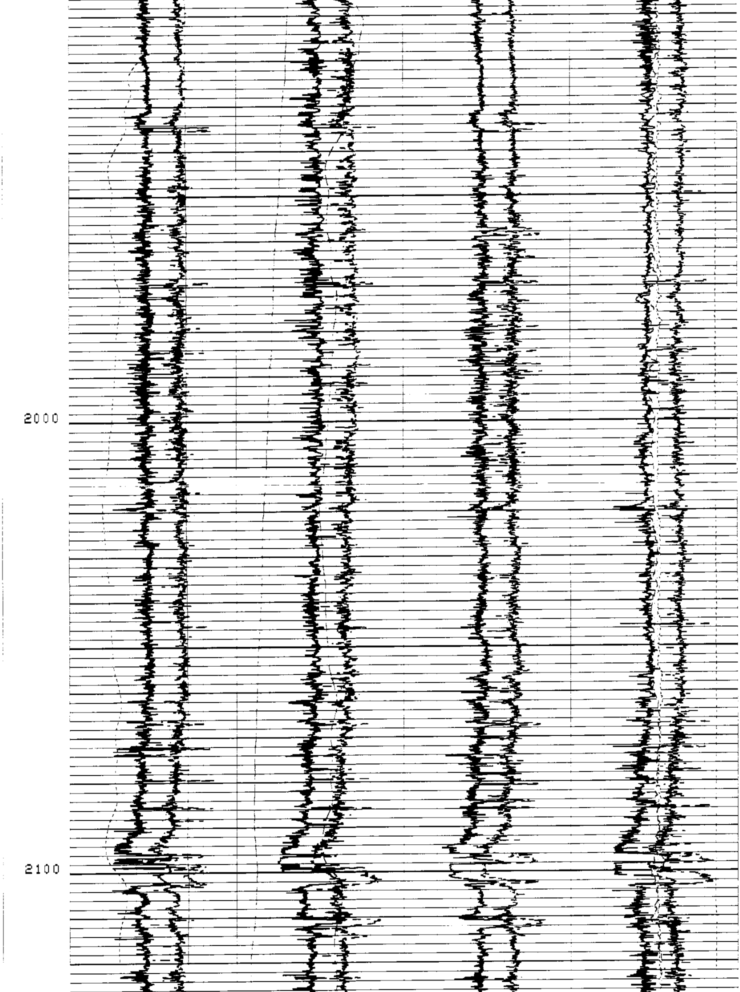
C2 -- C1

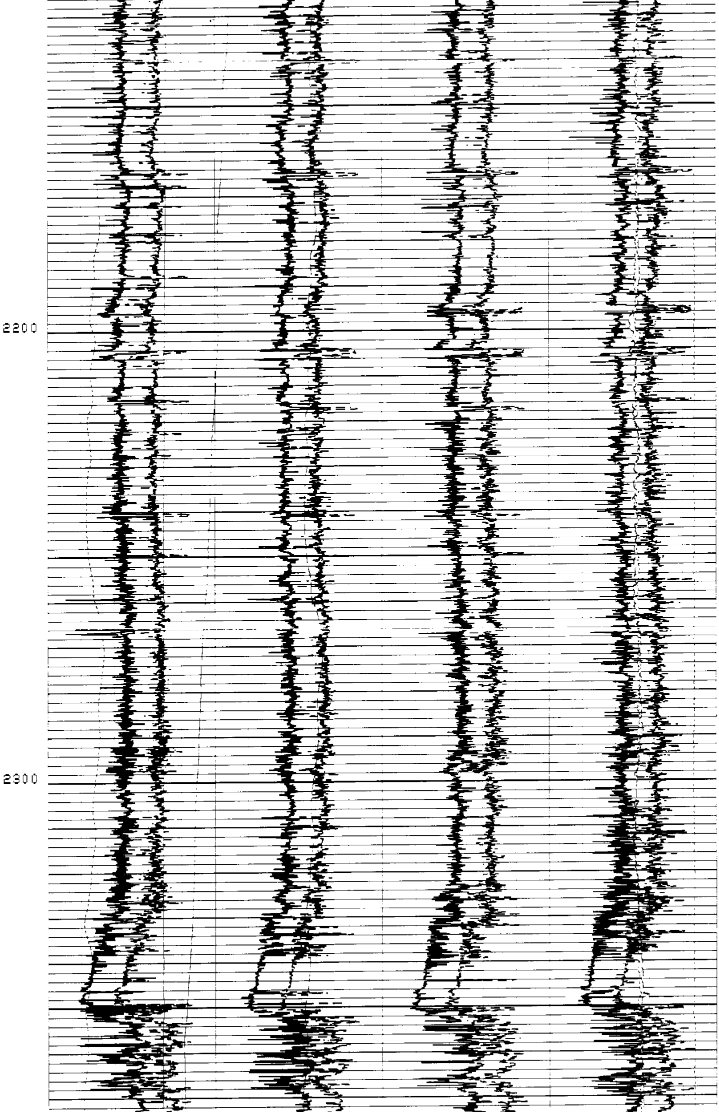
C1 -- C2

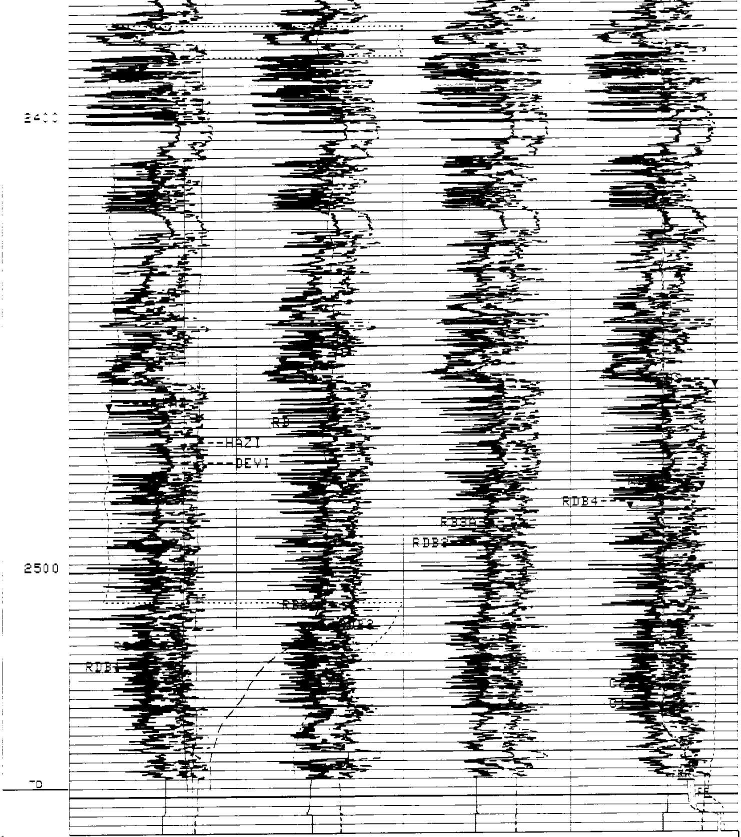
CP 32.6 FILE 29 17-JUN-1992 22:37 (UP)











5"/100'

CP 32.6 FILE 29 17-JUN-1992 22:14 (UP)

C2 -- C1

C1 -- C2

RB1A RB2A

-1000. 4000.0 -1000. 4000.0

RDB1 RDB2 TENS(LBF)

0.0 5000.0 0.0 5000.0 10000. 0.0

P1AZ(DEG) RB3A RB4A

-40.00 360.00 -1000. 4000.0 -1000. 4000.0

RB(DEG) RDB3 RDB4

-40.00 360.00 0.0 5000.0 0.0 5000.0

HAZI(DEG) C2(IN)

-40.00 360.00 24.000 4.0000

DEVI(DEG) C1(IN)

0.0 20.000 24.000 4.0000

SPEED CORRECTION NOT APPLIED

NO KNUCKLE JOINT IS USED (SOFF = -1)

RB1A RB2A

-1000. 4000.0 -1000. 4000.0

RDB1 RDB2 TENS(LBF)

0.0 5000.0 0.0 5000.0 10000. 0.0

P1AZ(DEG) RB3A RB4A

-40.00 360.00 -1000. 4000.0 -1000. 4000.0

RB(DEG) RDB3 RDB4

-40.00 360.00 0.0 5000.0 0.0 5000.0

HAZI(DEG) C2(IN)

-40.00 360.00 24.000 4.0000

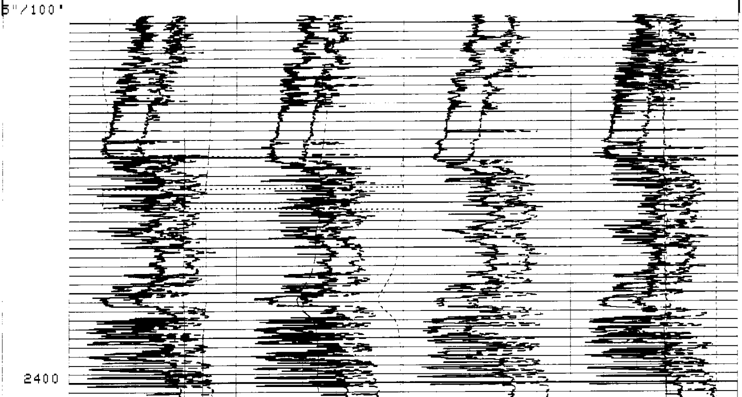
DEVI(DEG) C1(IN)

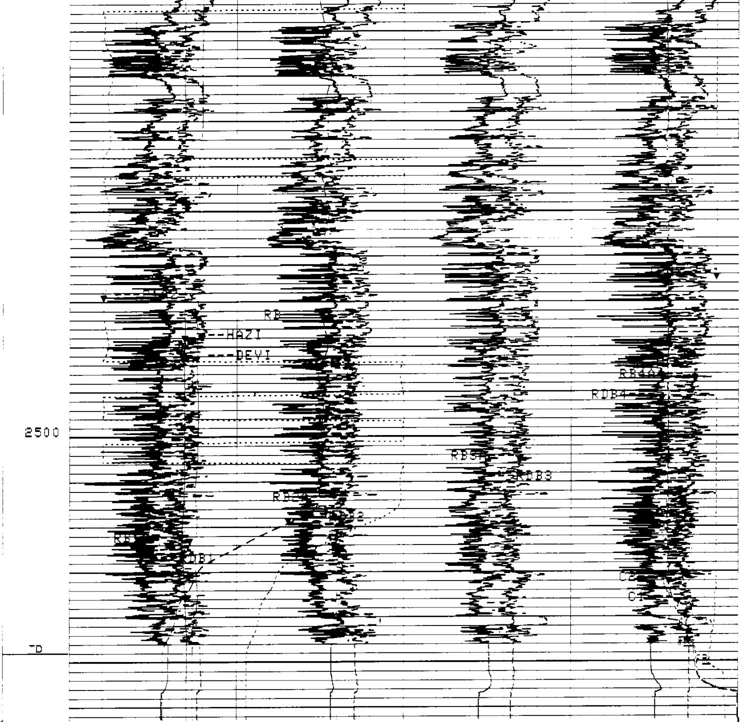
0.0 20.000 24.000 4.0000

C2 -- C1

C1 -- C2

CP 32.6 FILE 28 17-JUN-1992 22:12 (UP)





5"/100'

CP 32.6 FILE 28 17-JUN-1992 22:06 (UP)

C2 -- C1

C1 -- C2

RB1A		
-1000.		4000.0
RDB1		
0.0		5000.0
P1AZ(DEG)		
-40.00		360.00

RB2A		
-1000.		4000.0
RDB2		
0.0		5000.0

RB3A		
-1000.		4000.0

TENS(LBF)		
10000.		0.0
RB4A		
-1000.		4000.0

RB(DEG)		RDB3		RDB4	
-40.00	360.00	0.0	5000.0	0.0	5000.0
HAZI(DEG)		C2(IN)			
-40.00	360.00	24.000	4.0000		
DEVI(DEG)		C1(IN)			
0.0	20.000	24.000	4.0000		

SENSOR MEASURE POINT TO TOOL ZERO

SHDW 1.3 FEET
RSHD 1.3 FEET
TENS -2.8 FEET
ZB 1.3 FEET

PARAMETERS

PARAMETER	VALUE	UNIT
PADT - Presentation Allow Disallow Threshold	.500000	DEG
MFIN - Magnetic Field Intensity	.540000	OER
MDEC - Magnetic Field Declination	20.0000	DEG
MINC - Magnetic Field Inclination	67.0000	DEG
SHDS - Stratigraphic HiRes Dipmeter Sonde	B	
SHDI - SHDT Inclinometer	BB	
VREF - Voltage Reference	-5.00000	V
FCDD - Fast Channel Depth Definition	1.	
SOFF - Stand Off	-1.00000	IN
IDFD - Input Data Format	RAW	
ODFD - Output Data Format	RAW	
ICMD - Inclinometry Computation Mode	AUTO	
AFMD - Accelerometer Filtering Mode	HAMM	
XMOD - EMEX Voltage Regulation Mode	AUTO	
XGAI - Gain Setting	2	
XOFF - Offset Setting	0	
FCD - Future Casing Diameter	4.50000	IN
SPCR - Speed Correction Constant	DISA	
BS - Bit Size	8.50000	IN
BHS - BoreHole Status (Open or Cased)	OPEN	

CALIBRATIONS SUMMARY

SPEED CORRECTION NOT APPLIED

NO KNUCKLE JOINT IS USED (SOFF = -1)

RB1A		RB2A			
-1000.	4000.0	-1000.	4000.0		
RDB1		RDB2		TENS(LBF)	
0.0	5000.0	0.0	5000.0	10000.	0.0
P1AZ(DEG)		RB3A		RB4A	
-40.00	360.00	-1000.	4000.0	-1000.	4000.0
RB(DEG)		RDB3		RDB4	
-40.00	360.00	0.0	5000.0	0.0	5000.0
HAZI(DEG)		C2(IN)			
-40.00	360.00	24.000	4.0000		
DEVI(DEG)		C1(IN)			
0.0	10.000	24.000	4.0000		

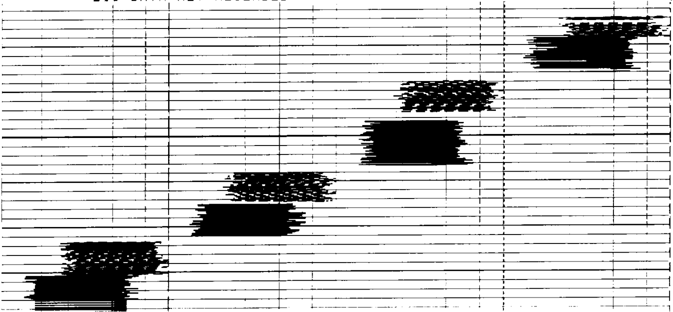
C2 -- C1

C1 -- C2

CP 32.6 FILE 3 17-JUN-1992 15:00 (UP)

2.33333"/MIN

*** LIS DATA NOT RECORDED ***



2.33333"/MIN

*** LIS DATA NOT RECORDED ***

CP 32.6 FILE 9 17-JUN-1992 14:59 (UP)

C2 -- C1

C1 -- C2

RB1A
-1000. 4000.0

RB2A
-1000. 4000.0

RDB1
0.0 5000.0

RDB2
0.0 5000.0

TENS(LBF)
10000. 0.0

P1AZ(DEG)
-40.00 360.00

RB3A
-1000. 4000.0

RB4A
-1000. 4000.0

RB(DEG)
-40.00 360.00

RDB3
0.0 5000.0

RDB4
0.0 5000.0

HAZI(DEG)
-40.00 360.00

C2(IN)
24.000 4.0000

DEVI(DEG)
0.0 10.000

C1(IN)
24.000 4.0000

SENSOR MEASURE POINT TO TOOL ZERO

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SHDW  1.3  FEET                    TENS -4.0  FEET
RSHD  1.3  FEET                    ZB    1.3  FEET
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PARAMETERS

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NAME  VALUE       UNIT             NAME  VALUE       UNIT

PADT .500000      DEG              SPEE 2500         F/HR
MFIN .540000      DER              MDEC 19.5000      DEG
MINC 67.0000      DEG              SHDS B
SHDI BB                            VREF -5.00000     V
FCDD 1.                            SOFF -1.00000     IN
IDFO RAW                           ODFO RAW
ICMO AUTO                          AFMO HAMM
XMOD MANU                          XGAI 2
XOFF 0                             SPCR DISA
BS   8.50000      IN               BHS  OPEN
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                 BEFORE SURVEY CALIBRATION SUMMARY

   PERFORMED:     17-JUN-1992 14:57
   PROGRAM FILE: TDIP   (VERSION    32.6    91/08/23  91/08/23)


  SHDT             CALIPER CALIBRATION SUMMARY

              MEASURED                      CALIBRATED
             SMALL   LARGE                  SMALL     LARGE       UNITS
     C1      6.62    10.43                  8.00      12.00        IN
     C2      6.97    10.98                  8.00      12.00        IN

  SMALL: 17-JUN-1992 14:55 LARGE: 17-JUN-1992 14:56 COMP: 17-JUN-1992 14:56

     CP 32.6            FILE    2       17-JUN-1992 14:57
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COMPANY	NAHAMA & WEAGANT ENERGY CO.			SCHL. FR	2546.0 F
				SCHL. TD	2547.0 F
WELL	"STEELHEAD" #43-33-75			DRLR. TD	2548.0 F
				Elev. KB	1051.0 F
FIELD	MIST			DF	
COUNTY	COLUMBIA	**STATE**	OREGON	GL	1041.0 F

Schlumberger

FOUR - ARM

HIGH RESOLUTION

CONTINUOUS DIPMETER