Schlumberger — DUAL INDUCTION - SFL

COMPANY	EARTH REFERENCE SYSTEMS
WELL	SHAHAN #1
FIELD	WILDCAT
COUNTY	KNOX
STATE	MISSOURI
LOCATION	990'N & 790'E OF SECTION LINE
API SERIAL NO.	
SECT.	10
TWP.	62-N
RANGE	13-W
Other Services	LDT-CNL, EPT, CYBERLOOK

RECEIVED OCT 0 1989 MO Oil & Gas Council

Permanent Datum	GL	Elev. 903.0 F
Log Measured From	KB	5.0 F above Perm. Datum
Drilling Measured From	KB	Elev.: K.B. 908.0 F, D.F. 907.0 F, G.L. 903.0 F
Date	01-SEP-89	
Run No.	1	
Depth Driller	1101.0 F	
Depth Logger (Schl.)	1092.0 F	
Btm. Log Interval	1083.0 F	
Top Log Interval	180.0 F	
Casing-Driller	8 5/8" @ 180.0 F	
Casing-Logger	193.0 F	
Bit Size	12 1/4"	7 7/8"
Type Fluid in Hole	FRESH GEL	
Dens. / Visc.	9.10 LB/G	38.0 S
pH / Fluid Loss	10.3	8.8 C3
Source of Sample	MUDPIT	
Rm @ Meas. Temp.	1.300 OHMM @ 73.0 DEGF	
Rmf @ Meas. Temp.	1.900 OHMM @ 73.0 DEGF	
Rmc @ Meas. Temp.	1.800 OHMM @ 73.0 DEGF	
Source: Rmf / Rmc	EST.	EST.
Rm @ BHT	1.382 OHMM @ 71.0 DEGF	
Time Circulation Ended		
Time Logger on Bottom	SEE LOG	
Max. Rec. Temp.	71.0 DEGF	
Equip. / Location	8172	MT. VERNON
Recorded By	D. WILLIAMS	
Witnessed By	MR. ERIC OLSON	

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.	1		
Service Order No.	663968		
Drilling Fluid Level			
Salinity	80.0 PPM		
Rmf @ BHT	2.974 OHMM	@ 71.0 DEGF	@
Rmc @ BHT	3.692 OHMM	@ 71.0 DEGF	@
Logging Speed	10000.0 F/HR		
EQUIPMENT DATA			
Tool Number 1	IEM 1148		
Tool Number 2	DIS 2200		
Tool Number 3	DIC 1115		
Tool Number 4			
Tool Number 5			
Tool Number 6			
Tool Number 7			
Tool Number 8			
Tool Number 9			
Tool Number 10			
Tool Number 11			
Tool Number 12			

REMARKS:

SONDE ERRORS SET DOWNHOLE

CREW: M. DAVIS

THANKS FOR USING SCHLUMBERGER!

AFTER SURVEY TOOL CHECK SUMMARY

PERFORMED: 01-OCT-1989 09:34
PROGRAM FILE: ISM (VERSION 32.2 88/12/01 88/11/16)

DITD — TOOL CHECK

	ZERO BEFORE	ZERO AFTER	PLUS BEFORE	PLUS AFTER	UNITS
ILD	0.0	-.0	487.4	487.4	MM/M
ILM	0.0	-.0	501.5	501.2	MM/M
SFL	0.0	-.0	500.0	500.1	MM/M

ILD SONDE ERROR CORRECTION : 7.3 MM/M
ILM SONDE ERROR CORRECTION : 7.7 MM/M

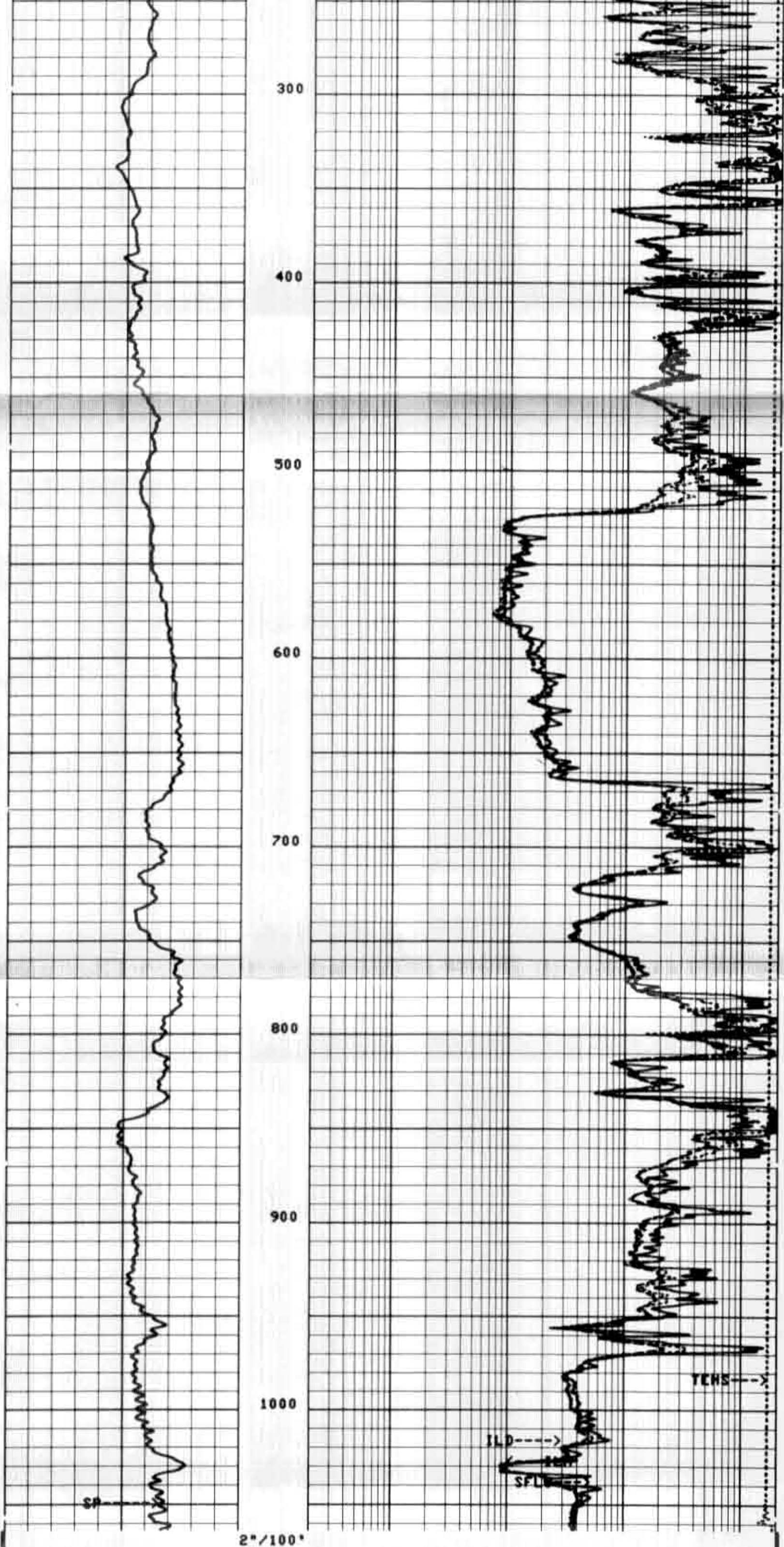
BEFORE SURVEY: ZERO: 01-OCT-1989 09:09 PLUS: 01-OCT-1989 09:09
AFTER SURVEY CHECK: ZERO: 01-OCT-1989 09:33 PLUS: 01-OCT-1989 09:34

CP 32.2 FILE 4 01-OCT-1989 09:34

TENS(LBF) 10000. — 0.0
ILD (OHMM) .20000 — 2000.0
ILM (OHMM) .20000 — 2000.0
SP (MV) -160.0 — 40.000; SFLU(OHMM) .20000 — 2000.0

CP 32.2 FILE 2 01-OCT-1989 09:32

2"/100'



2"/100'

CP 32.2 FILE 2 01-OCT-1989 09:27

TENS(LBF) 10000. — 0.0
ILD (OHMM) .20000 — 2000.0
ILM (OHMM) .20000 — 2000.0
SP (MV) -160.0 — 40.000; SFLU(OHMM) .20000 — 2000.0

SENSOR MEASURE POINT TO TOOL ZERO

ILM	5.8	FEET	ILD	9.4	FEET
SP	2.5	FEET	SFL	6.4	FEET
TENS	2.5	FEET	SPAR	2.5	FEET

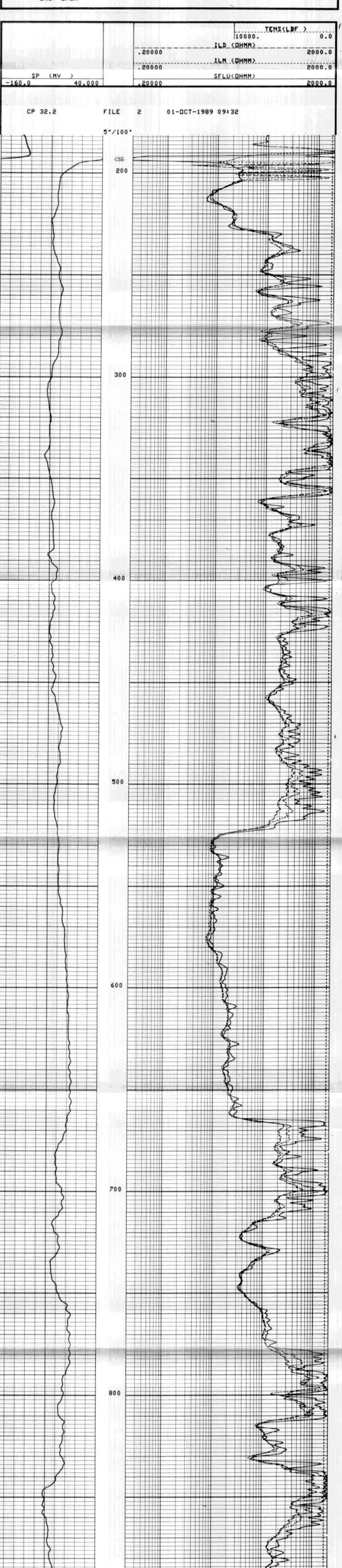
PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
MSEC	7.70000	MM/M	SBR	2.00000	OHMM
DSEC	7.30000	MM/M	BS	6.25000	IN
BHS	OPEN				

TENS(LBF) 10000. — 0.0
ILD (OHMM) .20000 — 2000.0
ILM (OHMM) .20000 — 2000.0
SP (MV) -160.0 — 40.000; SFLU(OHMM) .20000 — 2000.0

CP 32.2 FILE 2 01-OCT-1989 09:32

5"/100'



5"/100'

CP 32.2 FILE 2 01-OCT-1989 09:27

TENS(LBF) 10000. — 0.0
ILD (OHMM) .20000 — 2000.0
ILM (OHMM) .20000 — 2000.0
SP (MV) -160.0 — 40.000; SFLU(OHMM) .20000 — 2000.0

SENSOR MEASURE POINT TO TOOL ZERO

ILM	5.8	FEET	ILD	9.4	FEET
SP	2.5	FEET	SFL	6.4	FEET
TENS	2.5	FEET	SPAR	2.5	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
MSEC	7.70000	MM/M	SBR	2.00000	OHMM
DSEC	7.30000	MM/M	BS	6.25000	IN
BHS	OPEN				

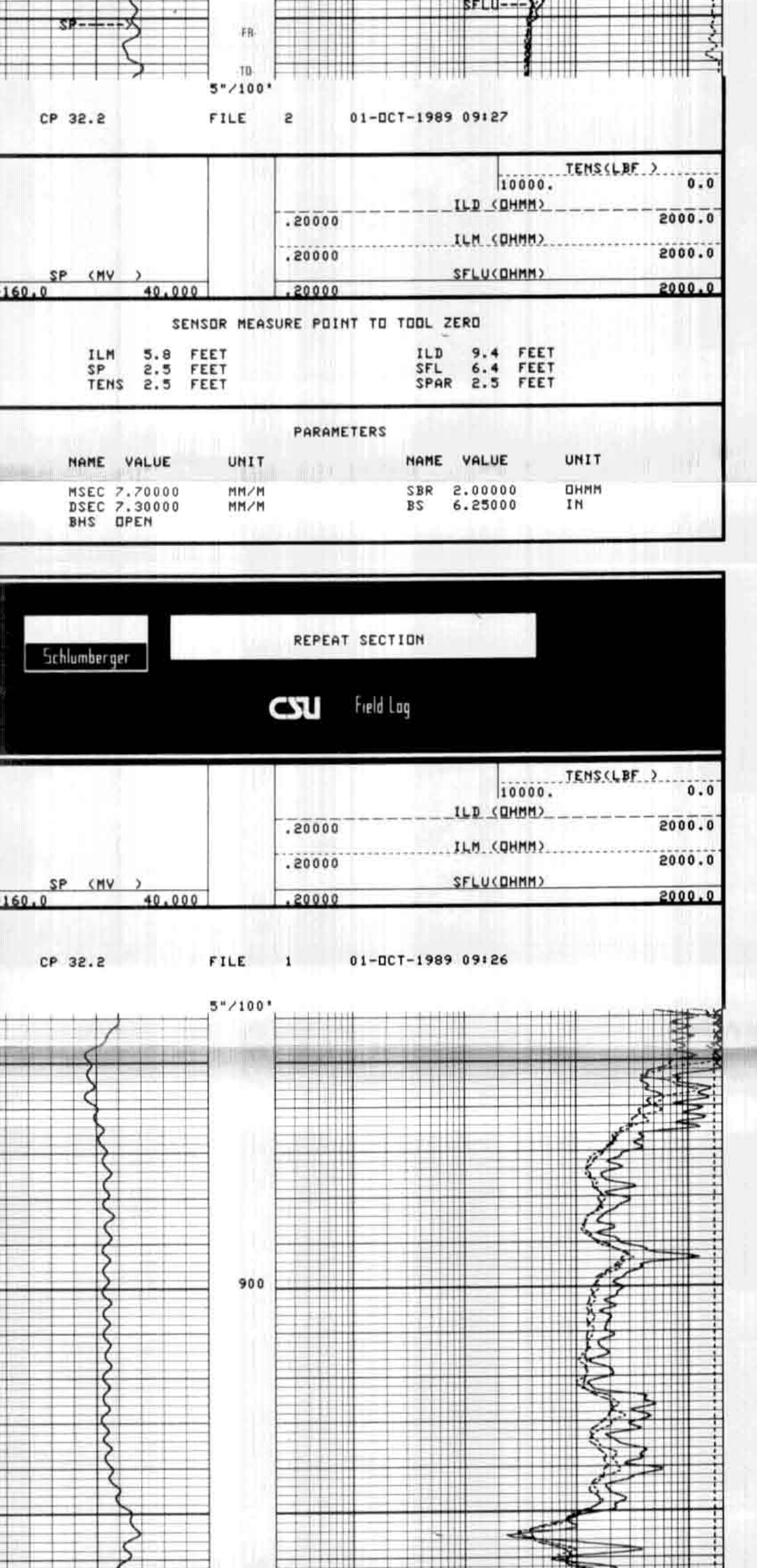
Schlumberger — REPEAT SECTION

CSU Field Log

TENS(LBF) 10000. — 0.0
ILD (OHMM) .20000 — 2000.0
ILM (OHMM) .20000 — 2000.0
SP (MV) -160.0 — 40.000; SFLU(OHMM) .20000 — 2000.0

CP 32.2 FILE 1 01-OCT-1989 09:26

5"/100'



5"/100'

CP 32.2 FILE 1 01-OCT-1989 09:23

TENS(LBF) 10000. — 0.0
ILD (OHMM) .20000 — 2000.0
ILM (OHMM) .20000 — 2000.0
SP (MV) -160.0 — 40.000; SFLU(OHMM) .20000 — 2000.0

SENSOR MEASURE POINT TO TOOL ZERO

ILM	5.8	FEET	ILD	9.4	FEET
SP	2.5	FEET	SFL	6.4	FEET
TENS	2.5	FEET	SPAR	2.5	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
MSEC	7.70000	MM/M	SBR	2.00000	OHMM
DSEC	7.30000	MM/M	BS	6.25000	IN
BHS	OPEN				

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 01-OCT-1989 09:10
PROGRAM FILE: ISM (VERSION 32.2 88/12/01 88/11/16)

DITD — ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	MEASURED PLUS	CALIBRATED ZERO	CALIBRATED PLUS	UNITS
ILD	-.11	536.7	0.0	487.4	MM/M
ILM	-.23	537.0	0.0	501.5	MM/M
SFL	-.53	536.4	0.0	500.0	MM/M

ILD SONDE ERROR CORRECTION : 7.3 MM/M
ILM SONDE ERROR CORRECTION : 7.7 MM/M

ZERO: 01-OCT-1989 09:09 PLUS: 01-OCT-1989 09:09 COMP: 01-OCT-1989 09:09

CP 32.2 FILE 0 01-OCT-1989 09:10

SHOP SUMMARY

PERFORMED: 19-SEP-1989 14:48
PROGRAM FILE: SHOP (VERSION 32.2 88/12/01 88/11/16)

DITD — ELECTRONICS CALIBRATION SUMMARY

	TEST LOOP CALIBRATION MEASURED ZERO	MEASURED PLUS	CALIBRATED ZERO	CALIBRATED PLUS	TOOL CHECK CALIBRATED ZERO	PLUS	UNITS
ILD	-6.4	540.6	0.0	500.0	0.0	487.4	MM/M
ILM	-7.9	527.2	0.0	500.0	0.0	501.5	MM/M

ILD SONDE ERROR CORRECTION : 5.3 MM/M
ILM SONDE ERROR CORRECTION : 6.5 MM/M

(IS:2200, IC:1115)