Schlumberger

FOUR – ARM HIGH RESOLUTION CONTINUOUS DIPMETER (COMPUTED)

COU
FIEL
LOC
WELL BEOWAWE NO. 85-18

COMPANY CHEVRON USA INC

COMPANY CHEVRON USA INC. GL04388_23

WELL BEOWAWE NO. 85-18

FIELD BEOWAWE GEYSERS

COUNTY LANDER STATE NEVADA

LOCATION: 2960'SOUTH & 80'WEST FROM THE NORTHEAST CORNER OF:

Other Services:
DI-SFL
BHC/GR

Sec. 18 Twp. 31N Rge. 48E

Permanent Datum: GL, Elev. 4920

Log Measured From GL, 15 Ft. Above Perm. Datum

Drilling Measured From GL

Elev.: K.B. 4935
D.F.
G.L. 4920

Date	3-8-80			
Run No.	ONE			
Depth—Driller	1008			
Depth—Logger	996			
Btm. Log Interval	996			
Top Log Interval	61			
Casing—Driller	20" @ 60	@	@	@
Casing—Logger	61			
Bit Size	17½"			
Type Fluid in Hole	LIGNOSULFONATE			
Dens. / Visc.	9.2 / 48			
pH / Fluid Loss	9.5 / 8.8 ml	ml	ml	ml
Source of Sample	FLOWLINE			
R_m @ Meas. Temp.	4.59 @ 92°F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	1.18 @ 56°F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	5.75 @ 50°F	@ °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	M / M			
R_m @ BHT	3.32 @ 130°F	@ °F	@ °F	@ °F
Time Since Circ.	12 HOURS			
Max. Rec. Temp.	130°F	°F	°F	°F
Equip. / Location	8128 / SAC			
Recorded By	LINDGREN			
Witnessed By	LOVENETTI			

SWS-1854-B

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

Changes in Mud Type or Additional Samples		
Date / Sample No.		
Depth—Driller		
Type Fluid in Hole		
Dens. / Visc.		
ph / Fluid Loss	ml	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

Run No.	1	2	3	4
Tool Type	HDT-D			
HDM No.	F-1726			
Magnetic Declination	17°			
Analog Panel No.	--			
Digital Panel No.	973			
Correlated By	--			
Computed By	PCDCC			
Plotted By	PCDCC			

Remarks — SERVICE ORDER NO.123942

"Any directional computations made from the dipmeter log must be regarded as approximate only. This is because the dipmeter log indicates the orientation of the instrument itself, rather than the direction and amount of the wall drift. Therefore, we do not and cannot guarantee the accuracy of such directional computations, and we shall not, except in the case of willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained that may result from any such computations."

TABLE OF VERTICAL DISPLACEMENT IN FEET CORRESPONDING TO VARIOUS HORIZONTAL DISTANCES AND ANGLES OF DIP

	VERTICAL DISPLACEMENT FOR HORIZONTAL DISTANCES OF				VERTICAL DISPLACEMENT FOR HORIZONTAL DISTANCES OF		
DIP ANGLES (degrees)	100'	1000'	1 mile (5280')	DIP ANGLES (degrees)	100'	1000'	1 mile (5280')
1	1.75	17.5	92.2	19	34.4	344.	1818.
2	3.5	35.	184.	20	36.4	364.	1922.
3	5.2	52.	277.	21	38.4	384.	2027.
4	7.0	70.	369.	22	40.4	404.	2133.
5	8.8	88.	462.	23	42.5	425.	2241.
6	10.5	105.	555.	24	44.5	445.	2351.
7	12.3	123.	648.	25	46.6	466.	2462.
8	14.1	141.	742.	30	57.7	577.	3048.
9	15.8	158.	836.	35	70.0	700.	3697.
10	17.6	176.	931.	40	83.9	839.	4430.
11	19.4	194.	1026.	45	100.0	1000.	5280.
12	21.3	213.	1122.	50	119.2	1192.	6293.
13	23.1	231.	1219.	55	142.8	1428.	7540.
14	24.9	249.	1316.	60	173.2	1732.	9145.
15	26.8	268.	1415.	65	214.4	2144.	11323.
16	28.7	287.	1514.	70	274.8	2748.	14507.
17	30.6	306.	1614.	75	373.2	3732.	19705.
18	32.5	325.	1716.	80	567.1	5671.	29945.

To obtain vertical displacements corresponding to multiples of hundreds feet, thousands of feet or miles, multiply the number found in the table by the number of hundreds, thousands or miles.

Example: The formation dip is 16 degrees. The vertical displacement occurring at a spot 660 feet away from the well is desired. The table shows 28.7 feet per 100 feet for 16° dip. Therefore 28.7 x 6.60 = 189.42, or 189. feet.

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GRAPHIC PRESENTATION

CORRELATION CURVE	DEPTHS	TRUE DIP ANGLE AND DIRECTION	DRIFT & DIRECTION OF SONDE
		0° 10° 20° 30° 40° 50° 60° 70° 80° 90°	0° 10°

3-27-80SAC 123942

SCHLUMBERGER

DIPMETER ARROW PLOT

CHEVRON U.S.A., INC.
BEOWAWE 85-18
BEOWAWE GEYSERS FIELD
LANDER COUNTY, NEVADA
RUN NO. ONE 8-MAR-80
P.C.D.C.
ARROW PLOT FROM CLUSTER PROGRAM

CORRELATION LENGTH 4 FT.
STEP LENGTH 2 FT.
SEARCH ANGLE 70 DEGREES X1
HDT-D CSU PDP/11

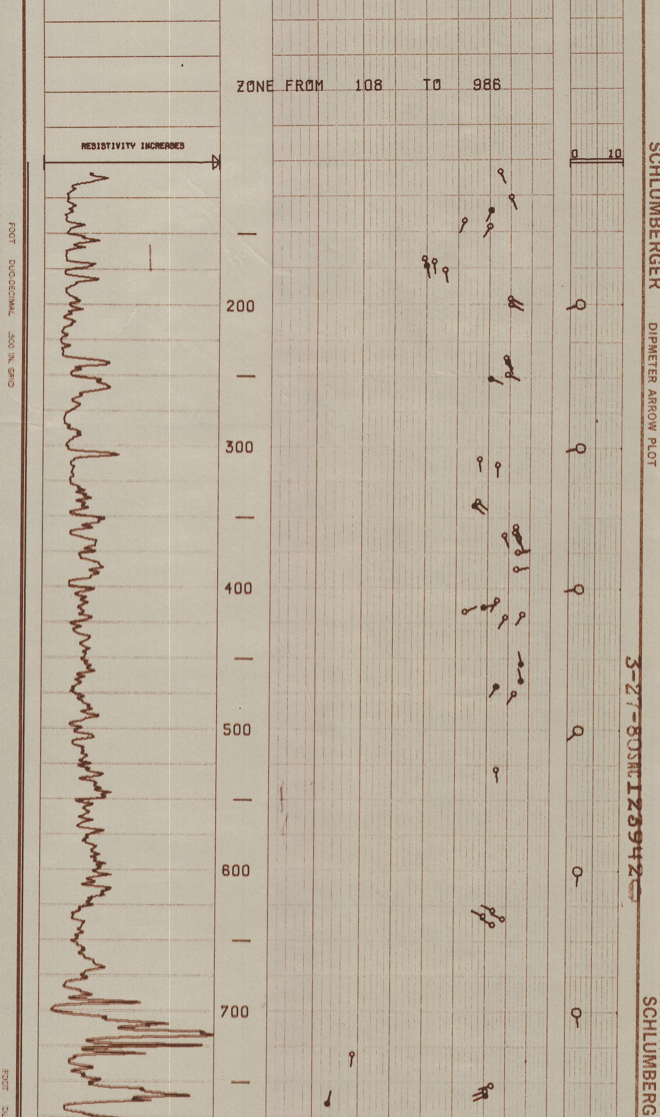
JOB 4224.00

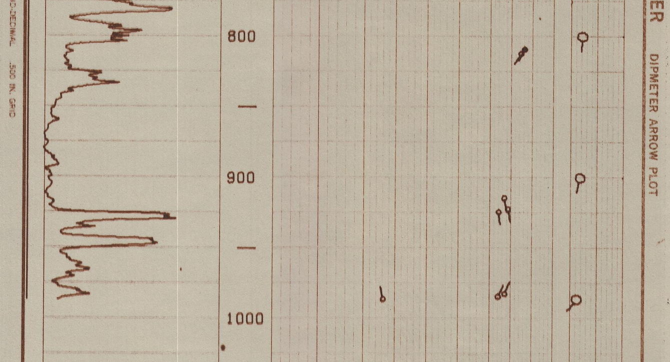
FOOT DUO-DECIMAL .500 IN. GRID

CORRELATION CURVE	DEPTHS	DIP ANGLE AND DIRECTION	BOREHOLE DRIFT
		0 10 20 30 40 50 60 70 80 90	0 10

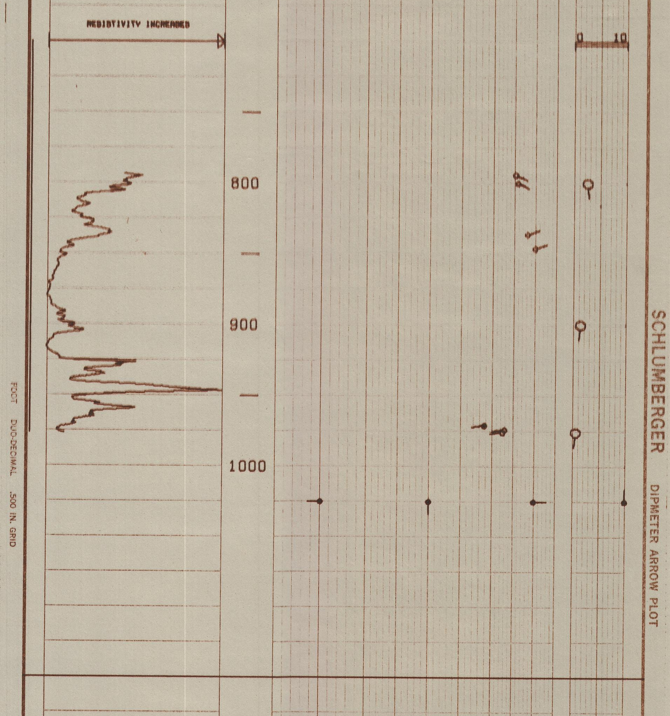
POOLED ARROW PLOT
2 LEVELS POOLED WHEN WITHIN
3.5 DEGREES SOLID ANGLE
BLACK ARROWS ARE POOLED RESULTS

CORRELATION LENGTH 4 FT.
STEP LENGTH 2 FT.
SEARCH ANGLE 70 DEGREES X1
PC0130023518307001020420





ZONE FROM 794 TO 976



JOB 4224.00

FOOT DUO-DECIMAL .500 IN. GRID

CORRELATION CURVE DEPTHS DIP ANGLE AND DIRECTION BOREHOLE DRIFT

0 10 20 30 40 50 60 70 80 90 0 10

ALL QUALITY ARROW PLOT 4224

FROM THE CLUSTER PROGRAM

BLACK ARROWS ARE HIGHEST QUALITY

CORRELATION LENGTH 4 FT.

STEP LENGTH 2 FT.

SEARCH ANGLE 70 DEGREES X1

PC0130023518307001020420

ZONE FROM 94 TO 986

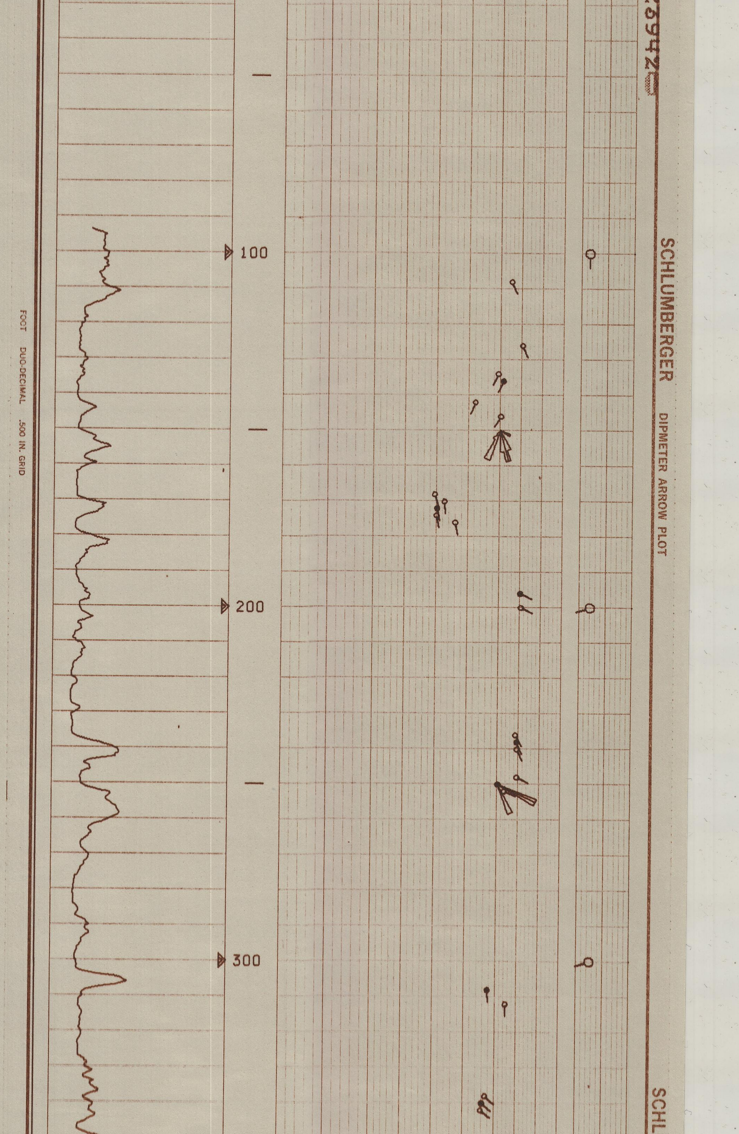
RESISTIVITY INCREASES

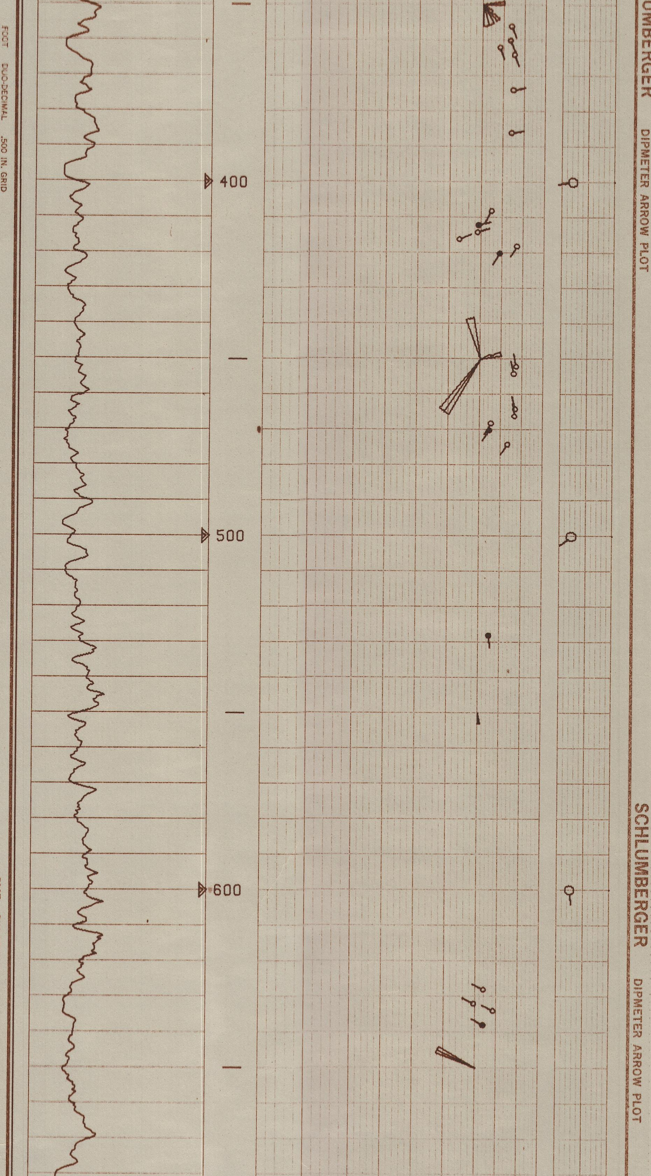
0 10

SCHLUMBERGER

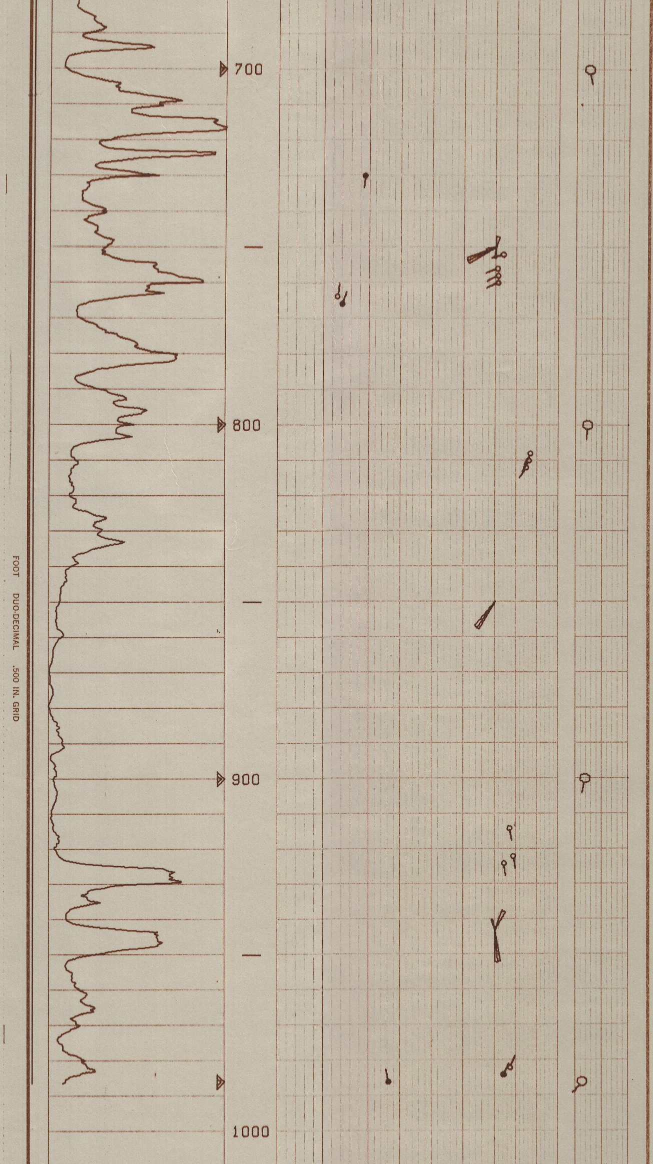
DIPMETER ARROW PLOT

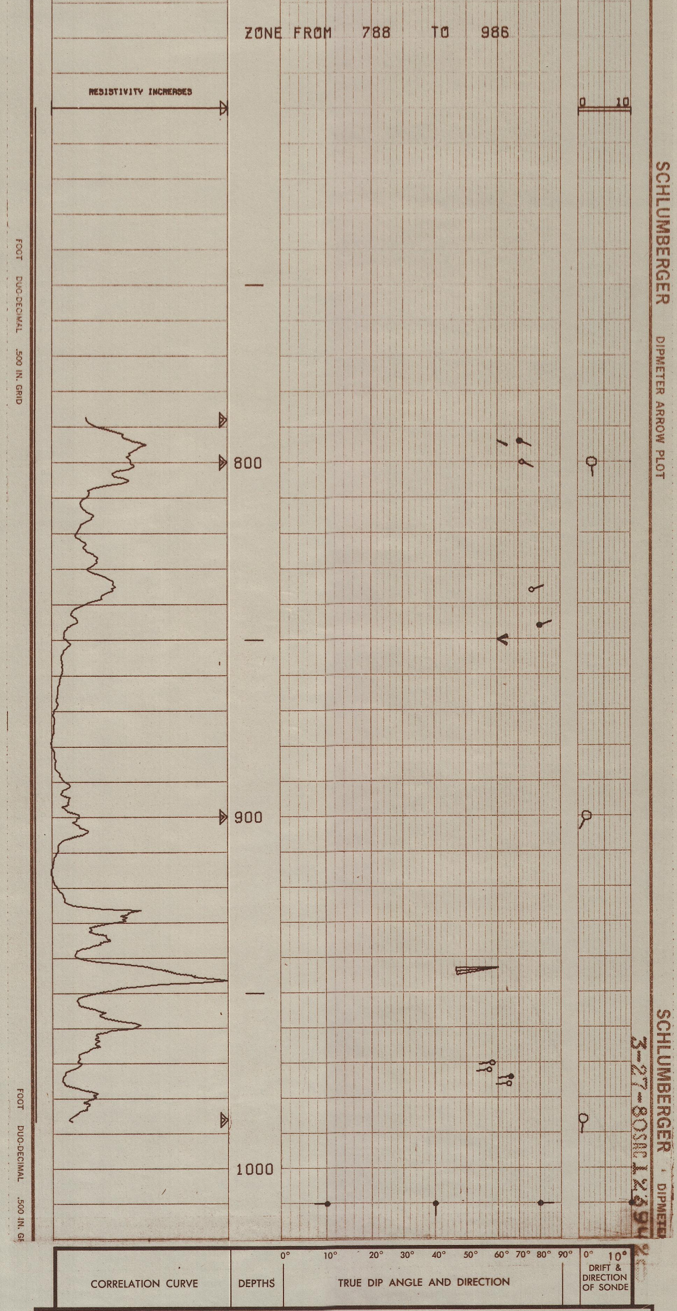
3-27-80SWL1Z





SCHLUMBERGER DIPMETER ARROW PLOT





COMPANY CHEVRON USA INC.	Rm 4.59 @ 92 °F	SCHL. FR 996
WELL BEOWAWE NO. 85-18	Rmf 1.18 @ 56 °F	SCHL. TD 996
FIELD BEOWAWE GEYSERS	Rmc 5.75 @ 50 °F	DRLR TD 1008
COUNTY LANDER STATE NEVADA	BHT 130 °F	Elev: KB 4935 DF -- GL 4920