189-20046

Schlumberger

DUAL DIPMETER STRUCTURAL RESULT

MSD*

Four Arm
High Resolution Continuous Dipmeter

*A Mark of Schlumberger

Using the following logs: SHDT

Company: Laclede Gas Company

Well: Frisella #1-S

Field: Florrisant

County: St. Louis

State: Missouri | Reference No: OKC.8022

Date Logged: 18-Nov-94 | Date Computed: 23-Nov-94

Location: Sec: -

Elevations KB: - DF: - GL: 538'

Permanent Datum: GL | API No.: -

RECEIVED
DEC 06 1994
Oil & Gas Council

FOLD HERE — 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 our General Terms and Conditions as set out in our current Price Schedule

FIELD RECORDING	Engineer:	Milligan	Location:	Mt Pleasant	Cyberpack Version:	CP32.6
COMPUTATION	Analyst.	F.D. Rogers	Center:	OKCICS	Baseline:	20.4X4

RUN NUMBER	ONE	TWO	THREE	FOUR
CORRELATION	4 ft.	-	-	-
STEP LENGTH	2 ft.	-	-	-
SEARCH ANGLE	30 Deg. X 2	-	-	-
BIT SIZE	6.25 in.	-	-	-
TYPE FLUID	Water	-	-	-

Remarks:

Magnetic declination is 0.64 degrees East.

Run One.

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

DIP ANGLES (degrees)	VERTICAL DISPLACEMENT FOR HORIZONTAL DISTANCES OF 100	1000	1 Mile (5280')	DIP ANGLES (degrees)	VERTICAL DISPLACEMENT FOR HORIZONTAL DISTANCES OF 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 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 degree dip. Therefore 28.7 x 6.60 = 189.42, or 189. feet.

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 computations.

GRAPHIC PRESENTATION

LOG FILE 011

LOG FILE 013

LOG FILE 012

LOG FILE 014

LOG FILE 013

LOG FILE 012

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