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SURVEY REPORT
YATES PETROLEUM
BIG FLAT ASN NO. 3
PATTERSON #56
LEA COUNTY, NM
MD0800GMW212

AUGUST 17, 2000

30-025-35066
State Com
8-10-165-35e
SUR: 845/S & 1980/E
BHL: 659/S & 1909/E

COPY

A Gyrodata Directional Survey

for

Yates Petroleum

Well: BIG FLAT ASN NO. 3, 4-1/2" DRILLPIPE

Location: PATTERSON #56, LEA COUNTY, NEW MEXICO

Job Number: MD0800GMW212

Run Date: 8/17/00

Surveyor: John Zugg James Taylor Ruben Clemence

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.950000 deg. N

Azimuth Correction:

Gyro: Bearings are Relative to True North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.0	0.00	0.00	N 0 0 E	0.00	0.0	0.0 0.0	0.00 N 0.00 E
0 - 11530 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4-1/2" DRILLPIPE ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO PATTERSON #56 R.K.B.							
200.0	0.45	234.74	S 54 44 W	0.22	200.0	0.8 234.7	0.45 S 0.64 W
400.0	0.44	194.99	S 14 59 W	0.15	400.0	2.2 221.8	1.64 S 1.47 W
600.0	0.46	154.03	S 25 58 E	0.16	600.0	3.4 203.0	3.11 S 1.32 W
800.0	0.49	191.95	S 11 57 W	0.16	800.0	4.8 193.8	4.67 S 1.15 W
1000.0	0.11	217.10	S 37 6 W	0.20	1000.0	5.8 194.3	5.66 S 1.44 W
1200.0	0.50	171.84	S 8 10 E	0.22	1200.0	6.8 192.1	6.69 S 1.43 W
1400.0	0.36	90.23	S 89 46 E	0.29	1400.0	7.6 185.1	7.56 S 0.67 W
1600.0	0.13	176.71	S 3 18 E	0.19	1600.0	7.8 180.2	7.78 S 0.03 W
1800.0	0.12	176.07	S 3 56 E	0.00	1800.0	8.2 180.0	8.21 S 0.00 W
2000.0	0.06	211.45	S 31 27 W	0.04	2000.0	8.5 180.3	8.50 S 0.04 W
2200.0	0.36	82.30	N 82 18 E	0.20	2200.0	8.5 176.4	8.50 S 0.53 E
2400.0	0.46	76.41	N 76 24 E	0.05	2400.0	8.5 166.8	8.23 S 1.93 E
2600.0	0.64	53.20	N 53 12 E	0.14	2600.0	8.2 154.0	7.38 S 3.60 E
2800.0	1.39	70.29	N 70 17 E	0.40	2799.9	9.0 131.0	5.89 S 6.77 E
3000.0	1.85	67.31	N 67 19 E	0.23	2999.8	12.6 107.6	3.83 S 12.03 E
3200.0	1.26	55.39	N 55 23 E	0.33	3199.8	16.9 94.5	1.33 S 16.83 E
3400.0	0.48	60.63	N 60 38 E	0.39	3399.7	19.4 89.0	0.33 N 19.37 E
3600.0	0.31	29.14	N 29 8 E	0.13	3599.7	20.4 86.6	1.21 N 20.36 E
3800.0	0.30	351.69	N 8 19 W	0.10	3799.7	20.7 83.9	2.20 N 20.54 E
4000.0	0.19	247.48	S 67 29 W	0.20	3999.7	20.3 82.7	2.60 N 20.15 E

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MEASURED DEPTH feet	IN C L deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
4200.0	0.20	6.87	N 6 52 E	0.17	4199.7	20.1 82.0	2.81 N 19.88 E
4400.0	0.30	149.14	S 30 52 E	0.24	4399.7	20.4 82.4	2.70 N 20.19 E
4600.0	0.09	34.15	N 34 9 E	0.18	4599.7	20.7 83.4	2.38 N 20.55 E
4800.0	0.21	328.53	N 31 28 W	0.09	4799.7	20.6 82.2	2.82 N 20.46 E
5000.0	0.52	188.95	S 8 57 W	0.34	4999.7	20.3 83.7	2.23 N 20.13 E
5200.0	0.98	184.82	S 4 49 W	0.23	5199.7	19.8 91.1	0.37 S 19.84 E
5400.0	1.00	175.43	S 4 34 E	0.08	5399.7	20.2 100.8	3.80 S 19.84 E
5600.0	0.87	180.09	S 0 5 W	0.07	5599.7	21.2 109.4	7.05 S 19.98 E
5800.0	0.44	169.92	S 10 5 E	0.22	5799.6	22.2 114.9	9.32 S 20.11 E
6000.0	0.73	180.69	S 0 42 W	0.15	5999.6	23.2 119.3	11.35 S 20.23 E
6200.0	0.55	203.52	S 23 31 W	0.15	6199.6	24.0 124.2	13.50 S 19.83 E
6400.0	0.72	190.19	S 10 11 W	0.11	6399.6	24.8 129.1	15.62 S 19.22 E
6600.0	0.49	187.79	S 7 47 W	0.12	6599.6	25.9 133.2	17.70 S 18.88 E
6800.0	0.57	183.98	S 3 59 W	0.04	6799.6	27.0 136.3	19.54 S 18.70 E
7000.0	0.64	228.32	S 48 19 W	0.23	6999.6	27.7 140.1	21.27 S 17.79 E
7200.0	1.19	256.70	S 76 42 W	0.35	7199.6	27.0 146.4	22.49 S 14.94 E
7400.0	1.03	226.25	S 46 15 W	0.30	7399.5	26.9 154.4	24.22 S 11.62 E
7600.0	1.33	221.90	S 41 54 W	0.16	7599.5	28.6 162.1	27.20 S 8.77 E
7800.0	1.31	214.44	S 34 26 W	0.09	7799.4	31.4 169.1	30.81 S 5.93 E
8000.0	1.49	220.96	S 40 58 W	0.12	7999.4	34.8 175.2	34.66 S 2.93 E
8200.0	1.36	195.50	S 15 30 W	0.32	8199.3	38.9 179.1	38.92 S 0.58 E
8400.0	0.92	175.62	S 4 23 E	0.29	8399.3	42.8 179.9	42.81 S 0.07 E
8600.0	1.10	194.15	S 14 9 W	0.18	8599.2	46.3 180.3	46.28 S 0.27 W
8800.0	1.25	222.30	S 42 18 W	0.29	8799.2	49.8 182.5	49.75 S 2.21 W

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MEASURED DEPTH feet	I N C L deg.	A Z I M U T H deg.	B O R E H O L E B E A R I N G deg. min.	D O G L E G S E V E R I T Y deg./ 100 ft.	V E R T I C A L D E P T H feet	C L O S U R E D I S T. A Z I M U T H feet deg.	H O R I Z O N T A L C O O R D I N A T E S feet
9000.0	0.96	214.88	S 34 53 W	0.16	8999.2	52.9 185.0	52.75 S 4.64 W
9100.0	0.60	227.88	S 47 53 W	0.40	9099.1	54.1 185.9	53.79 S 5.51 W
9200.0	0.74	212.93	S 32 56 W	0.22	9199.1	55.0 186.5	54.68 S 6.25 W
9300.0	0.87	236.42	S 56 25 W	0.35	9299.1	56.1 187.4	55.64 S 7.23 W
9400.0	1.40	213.21	S 33 13 W	0.69	9399.1	57.7 188.5	57.07 S 8.53 W
9500.0	1.09	201.08	S 21 5 W	0.40	9499.1	59.7 189.2	58.98 S 9.54 W
9600.0	0.73	209.42	S 29 25 W	0.38	9599.1	61.3 189.6	60.42 S 10.19 W
9700.0	0.55	202.56	S 22 33 W	0.19	9699.1	62.3 189.9	61.42 S 10.69 W
9800.0	0.95	209.69	S 29 41 W	0.41	9799.1	63.6 190.2	62.59 S 11.28 W
9900.0	0.61	250.77	S 70 46 W	0.63	9899.0	64.6 190.9	63.48 S 12.20 W
10000.0	0.56	206.01	S 26 1 W	0.45	9999.0	65.4 191.4	64.10 S 12.92 W
10100.0	0.38	234.34	S 54 20 W	0.29	10099.0	66.1 191.7	64.73 S 13.41 W
10200.0	0.60	229.84	S 49 51 W	0.22	10199.0	66.8 192.2	65.27 S 14.08 W
10300.0	1.18	212.15	S 32 9 W	0.63	10299.0	68.1 192.7	66.47 S 15.02 W
10400.0	1.41	229.60	S 49 36 W	0.46	10399.0	70.1 193.6	68.14 S 16.51 W
10500.0	1.82	223.93	S 43 56 W	0.44	10499.0	72.5 194.8	70.08 S 18.55 W
10600.0	1.54	246.20	S 66 12 W	0.71	10598.9	74.7 196.2	71.77 S 20.88 W
10700.0	1.29	250.29	S 70 17 W	0.27	10698.9	76.3 197.7	72.69 S 23.16 W
10800.0	1.46	258.18	S 78 11 W	0.26	10798.9	77.6 199.2	73.33 S 25.47 W
10900.0	1.32	226.70	S 46 42 W	0.77	10898.8	79.3 200.3	74.38 S 27.55 W
11000.0	2.53	219.83	S 39 50 W	1.23	10998.8	82.4 201.2	76.86 S 29.80 W
11100.0	2.98	209.74	S 29 44 W	0.66	11098.7	87.1 201.9	80.81 S 32.50 W
11200.0	3.51	208.75	S 28 45 W	0.53	11198.5	92.7 202.4	85.75 S 35.27 W
11300.0	3.20	199.32	S 19 19 W	0.63	11298.3	98.5 202.5	91.07 S 37.66 W

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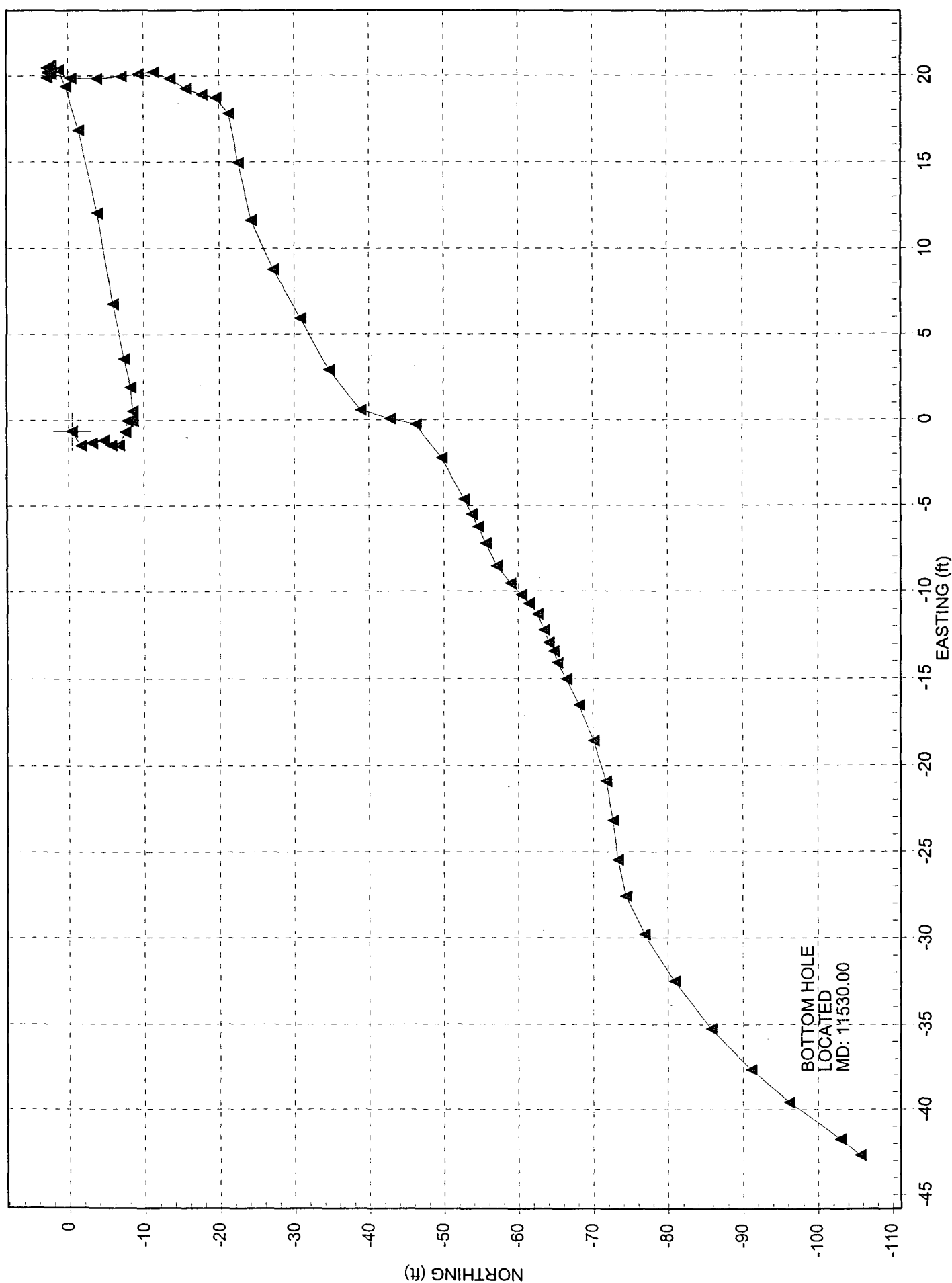
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11400.0	3.01	202.41	S 22 24 W	0.25	11398.2	104.0 202.4	96.13 S 39.59 W
11500.0	5.22	194.50	S 14 30 W	2.27	11497.9	111.1 202.1	102.97 S 41.73 W
11530.0	5.68	203.37	S 23 22 W	3.19	11527.8	113.9 202.0	105.65 S 42.66 W

Final Station Closure: Distance: 113.94 ft Az: 201.99 deg.

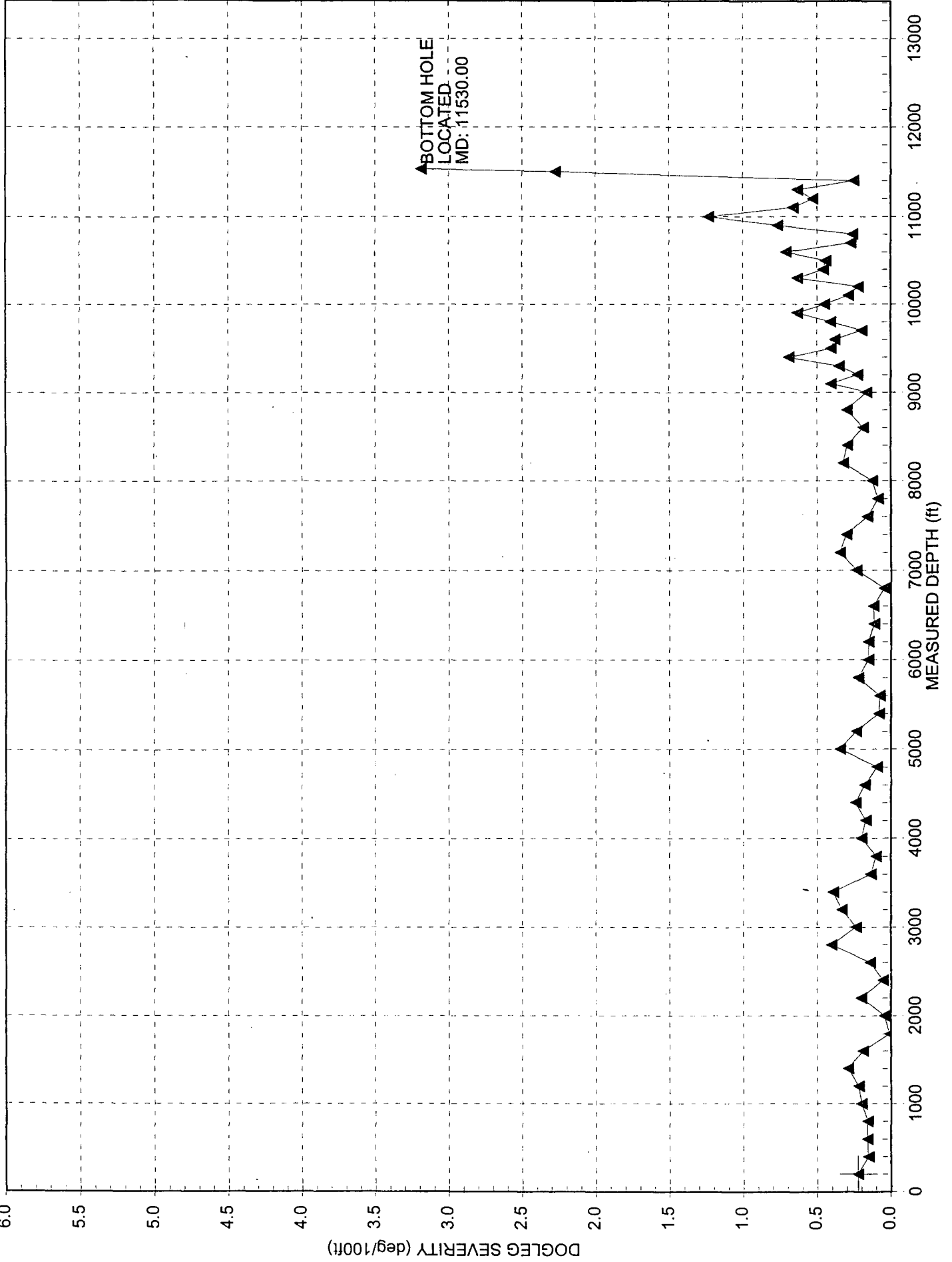
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