

HARVARD PETROLEUM CORP. Unit B 3D-025-27136
STATE IG NO.1

slot #1
DELAWARE
LEA CO., NEW MEXICO

32-235-32e
Surf: 660M @ 1980/E
BHL: 251M @ 1731/E

S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : gyro
Our ref : svy1017
License :

Date printed : 9-Apr-98
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Last revised : 31-Mar-98

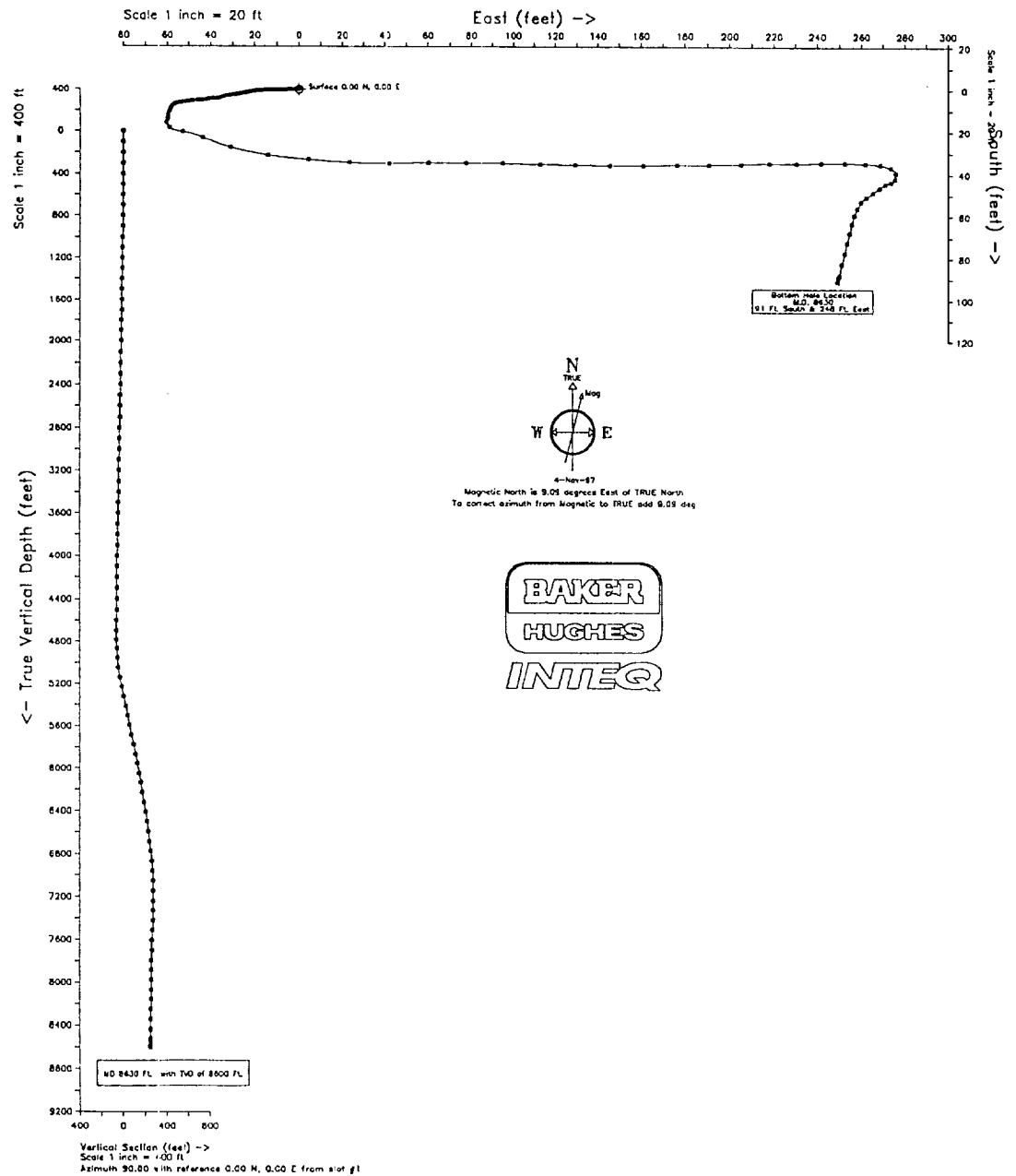
Field is centred on 0.000,0.000,0.000000,N
Structure is centred on n32 30 0.000,w103 30 0.000,0

Slot location is n32 30 0.000,w103 30 0.000
Slot Grid coordinates are N 1044470.806, E 1023538.782
Slot local coordinates are 0.00 N 0.00 E

Projection type: lambert - Texas Central (4203), Spheroid: Clarke - 1866
Reference North is True North

HARVARD PETROLEUM CORP.

Structure : STATE IG NO.1 Slot : slot #1
 Field : DELAWARE Location : LEA CO., NEW MEXICO



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 STATE IG NO.1, slot #1
 DELAWARE, LEA CO., NEW MEXICO

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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
0.00	0.00	0.00	0.00	0.00 N 0.00 E	0.00	0.00
100.00	0.06	216.80	100.00	0.04 S 0.03 W	0.06	-0.03
200.00	0.18	303.53	200.00	0.00 S 0.20 W	0.19	-0.20
300.00	0.24	292.22	300.00	0.16 N 0.52 W	0.07	-0.52
00.00	0.20	270.91	400.00	0.25 N 0.89 W	0.09	-0.89
500.00	0.18	256.69	500.00	0.21 N 1.22 W	0.05	-1.22
600.00	0.09	228.99	600.00	0.13 N 1.43 W	0.11	-1.43
700.00	0.34	276.50	700.00	0.11 N 1.79 W	0.29	-1.79
800.00	0.64	267.22	799.99	0.12 N 2.64 W	0.30	-2.64
900.00	0.64	262.65	899.99	0.02 N 3.74 W	0.05	-3.74
1000.00	0.70	269.91	999.98	0.05 S 4.90 W	0.10	-4.90
1100.00	0.75	264.38	1099.97	0.12 S 6.16 W	0.09	-6.16
1200.00	0.79	273.67	1199.96	0.14 S 7.51 W	0.13	-7.51
1300.00	0.86	269.42	1299.95	0.10 S 8.95 W	0.09	-8.95
1400.00	0.92	265.53	1399.94	0.17 S 10.50 W	0.09	-10.50
1500.00	0.84	265.66	1499.93	0.29 S 12.03 W	0.08	-12.03
1600.00	0.92	272.23	1599.92	0.31 S 13.57 W	0.13	-13.57
1700.00	0.98	268.34	1699.90	0.31 S 15.22 W	0.09	-15.22
1800.00	1.08	266.38	1799.89	0.39 S 17.01 W	0.11	-17.01
30.00	0.91	259.54	1899.87	0.60 S 18.73 W	0.21	-18.73
2000.00	0.93	260.47	1999.86	0.87 S 20.31 W	0.03	-20.31
2100.00	0.82	256.91	2099.85	1.17 S 21.81 W	0.12	-21.81
2200.00	0.80	265.39	2199.84	1.39 S 23.20 W	0.12	-23.20
2300.00	0.81	261.74	2299.83	1.55 S 24.60 W	0.05	-24.60
2400.00	0.91	259.32	2399.82	1.80 S 26.08 W	0.11	-26.08

All data is in feet unless otherwise stated.
 Coordinates from slot #1 and TVD from rotary table.
 Bottom hole distance is 265.00 on azimuth 110.11 degrees from wellhead.
 Vertical section is from N 0.00 E 0.00 on azimuth 90.00 degrees.

Calculation uses the minimum curvature method.
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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
2500.00	0.93	259.79	2499.80	2.09 S	27.67 W	-27.67
2600.00	0.98	262.05	2599.79	2.35 S	29.31 W	-29.31
2700.00	0.98	256.09	2699.78	2.67 S	30.99 W	-30.99
2800.00	1.03	257.59	2799.76	3.07 S	32.70 W	-32.70
30.00	0.98	252.19	2899.74	3.53 S	34.39 W	-34.39
3000.00	0.91	253.25	2999.73	4.02 S	35.96 W	-35.96
3100.00	0.89	269.15	3099.72	4.26 S	37.50 W	-37.50
3200.00	1.01	262.85	3199.70	4.38 S	39.16 W	-39.16
3300.00	1.01	257.05	3299.69	4.69 S	40.90 W	-40.90
3400.00	0.98	266.00	3399.67	4.95 S	42.61 W	-42.61
3500.00	1.06	265.70	3499.66	5.08 S	44.39 W	-44.39
3600.00	1.13	266.77	3599.64	5.20 S	46.30 W	-46.30
3700.00	1.17	265.13	3699.62	5.34 S	48.30 W	-48.30
3800.00	1.14	260.35	3799.60	5.60 S	50.30 W	-50.30
3900.00	1.03	260.27	3899.58	5.92 S	52.17 W	-52.17
4000.00	0.99	264.14	3999.57	6.16 S	53.92 W	-53.92
4100.00	0.87	253.57	4099.55	6.46 S	55.50 W	-55.50
4200.00	0.78	236.94	4199.54	7.05 S	56.80 W	-56.80
4300.00	0.69	221.14	4299.53	7.88 S	57.77 W	-57.77
4400.00	0.76	207.30	4399.53	8.92 S	58.48 W	-58.48
4500.00	1.01	194.56	4499.51	10.37 S	59.00 W	-59.00
4600.00	1.02	191.02	4599.50	12.10 S	59.40 W	-59.40
4700.00	1.28	187.91	4699.48	14.08 S	59.72 W	-59.72
4782.00	1.36	206.78	4781.46	15.85 S	60.28 W	-60.28
4863.00	3.50	130.50	4862.39	18.31 S	58.83 W	-58.83

All data is in feet unless otherwise stated.
 Coordinates from slot #1 and TVD from rotary table.
 Bottom hole distance is 265.00 on azimuth 110.11 degrees from wellhead.
 Vertical section is from N 0.00 E 0.00 on azimuth 90.00 degrees.
 Calculation uses the minimum curvature method.
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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
4954.00	4.90	94.50	4953.16	20.42 S	3.20	-52.85
5048.00	7.10	113.20	5046.65	23.03 S	3.10	-43.50
5141.00	9.60	106.20	5138.66	27.46 S	2.90	-30.77
5334.00	11.60	98.20	5230.07	30.95 S	2.67	-14.07
5626.00	11.60	95.00	5320.20	33.08 S	0.70	4.30
5420.00	11.90	93.10	5412.23	34.43 S	0.52	23.39
5512.00	11.60	89.70	5502.30	34.89 S	0.82	42.12
5605.00	10.80	88.80	5593.53	34.66 S	0.88	60.18
5697.00	11.00	90.00	5683.87	34.48 S	0.33	77.57
5788.00	11.10	91.30	5773.18	34.68 S	0.30	95.01
5881.00	10.80	91.10	5864.49	35.05 S	0.33	112.67
5973.00	10.00	91.20	5954.97	35.38 S	0.87	129.28
6067.00	9.80	90.40	6047.58	35.61 S	0.26	145.44
6159.00	9.60	89.80	6138.26	35.64 S	0.24	160.94
6252.00	9.30	89.40	6230.00	35.53 S	0.33	176.21
6344.00	8.90	89.20	6320.84	35.35 S	0.44	190.76
6437.00	8.80	88.60	6412.73	35.08 S	0.15	205.06
6526.00	7.90	88.50	6500.79	34.75 S	1.01	217.98
6619.00	7.30	89.60	6592.97	34.54 S	0.66	230.28
6711.00	6.80	89.60	6684.27	34.46 S	0.54	241.57
6804.00	6.30	90.10	6776.67	34.44 S	0.54	252.18
6896.00	5.40	91.50	6868.19	34.56 S	0.99	261.55
6987.00	3.40	100.40	6958.92	35.16 S	2.32	268.49
7081.00	2.90	115.10	7052.77	36.67 S	1.01	273.38
7175.00	1.90	176.60	7146.70	39.23 S	2.77	275.63

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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R	Dogleg Deg/100ft	Vert Sect
7268.00	1.70	200.00	7239.66	42.07 S	0.81	275.25
7360.00	1.70	256.20	7331.63	43.68 S	1.74	273.46
7450.00	1.80	242.90	7421.58	44.64 S	0.46	270.90
7542.00	2.30	234.50	7513.53	46.37 S	0.63	268.11
35.00	2.30	229.00	7606.45	48.68 S	0.24	265.19
7726.00	2.20	240.20	7697.38	50.74 S	0.49	262.29
7818.00	2.10	216.10	7789.32	52.98 S	0.98	259.77
7910.00	2.30	205.60	7881.25	56.01 S	0.49	257.98
8001.00	2.30	198.10	7972.18	59.39 S	0.33	256.62
8094.00	2.80	194.40	8065.08	63.37 S	0.57	255.48
8186.00	2.80	191.10	8156.98	67.75 S	0.18	254.48
8279.00	3.00	193.80	8249.86	72.34 S	0.26	253.47
8370.00	3.30	194.00	8340.72	77.19 S	0.33	252.26
8464.00	3.50	193.10	8434.55	82.61 S	0.22	250.96
8556.00	3.30	194.30	8526.39	87.91 S	0.23	249.67
8580.00	3.00	195.40	8550.35	89.19 S	1.28	249.33
8620.00	2.70	194.20	8590.31	91.11 S	0.76	248.82
8630.00	3.00	19.85	8600.30	91.09 S	56.93	248.85

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NO Targets associated with this wellpath