

SCIENTIFIC DRILLING INTERNATIONAL

MIDLAND, TEXAS

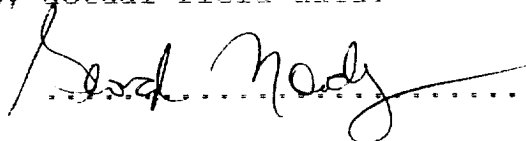
YATES PETROLEUM

Well Name : SHELL LUSK AHB #1
Location : LEA COUNTY, NM
SHL :
BHL :
ACTUAL BHL :
Date Surveyed : 16 OCTOBER 1997
Job No. : 32K0997409/32K1097460/32M1097473
Surveyor : DESPAIN/HENDRIX

Surface: F-11-16s-35e
1980/N 4 1980/W

BHL: F-11-16s-35e
1980/N 4 1969/W

This survey is correct to the best of my knowledge
and is supported by actual field data.

 COMPANY REPRESENTATIVE

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Height Of WELLSITE Datum Above Field Datum 0.00 ft

No Interpolation

MD ft	INC deg	DIR deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	D'LEG °/100
0.0	0.00	N 0.00° E	0.00	0.00	0.00	0.00	0.0
100.0	0.56	S72.59° W	100.00	-0.15	-0.47	-0.15	0.6
200.0	0.25	S71.23° W	200.00	-0.36	-1.14	-0.36	0.3
300.0	0.50	S89.05° W	299.99	-0.44	-1.78	-0.44	0.3
400.0	0.30	N74.30° W	399.99	-0.38	-2.47	-0.38	0.2
500.0	0.18	N 7.44° W	499.99	-0.15	-2.74	-0.15	0.3
600.0	0.39	N49.44° W	599.99	0.23	-3.02	0.23	0.3
700.0	0.17	N73.63° W	699.99	0.49	-3.42	0.49	0.2
800.0	0.31	N 0.49° W	799.99	0.80	-3.57	0.80	0.3
900.0	0.34	N71.13° W	899.99	1.17	-3.85	1.17	0.4
1000.0	0.36	S75.66° W	999.98	1.19	-4.44	1.19	0.2
1100.0	0.34	S75.60° W	1099.98	1.04	-5.03	1.04	0.0
1200.0	0.54	S83.91° W	1199.98	0.91	-5.78	0.91	0.2
1300.0	0.46	S50.95° W	1299.98	0.61	-6.56	0.61	0.3
1400.0	0.29	S56.37° W	1399.97	0.22	-7.09	0.22	0.2
1500.0	0.47	S61.91° W	1499.97	-0.12	-7.66	-0.12	0.2
1600.0	0.37	S56.86° W	1599.97	-0.49	-8.29	-0.49	0.1
1700.0	0.33	N84.27° W	1699.97	-0.63	-8.85	-0.63	0.2
1800.0	0.47	N53.90° W	1799.96	-0.36	-9.47	-0.36	0.2
1900.0	0.61	N73.41° W	1899.96	0.03	-10.31	0.00	0.2
2000.0	0.53	N81.34° W	1999.95	0.25	-11.27	0.25	0.1
2100.0	0.36	N64.25° W	2099.95	0.46	-12.01	0.46	0.2
2200.0	0.56	N72.17° W	2199.95	0.74	-12.76	0.74	0.2
2300.0	0.39	N52.61° W	2299.95	1.10	-13.50	1.10	0.2
2400.0	0.32	N59.92° W	2399.94	1.45	-14.01	1.45	0.1
2500.0	0.36	N33.02° W	2499.94	1.85	-14.42	1.85	0.2
2600.0	0.45	N13.72° E	2599.94	2.49	-14.50	2.49	0.3
2700.0	0.40	N 2.34° E	2699.94	3.22	-14.39	3.22	0.1
2800.0	0.72	N10.77° E	2799.93	4.19	-14.26	4.19	0.3
2900.0	0.49	N 7.53° W	2899.93	5.23	-14.20	5.23	0.3
3000.0	0.77	N10.63° E	2999.92	6.32	-14.13	6.32	0.3
3100.0	0.87	N16.03° E	3099.91	7.71	-13.80	7.71	0.1
3200.0	0.82	N 9.68° E	3199.90	9.14	-13.47	9.14	0.1
3300.0	0.70	N13.58° E	3299.89	10.44	-13.21	10.44	0.1
3400.0	0.75	N21.44° E	3399.88	11.64	-12.82	11.64	0.1
3500.0	0.83	N24.83° E	3499.87	12.91	-12.28	12.91	0.1
3600.0	0.86	N19.82° E	3599.86	14.27	-11.72	14.27	0.1
3700.0	0.81	N21.00° E	3699.85	15.64	-11.21	15.64	0.1
3800.0	0.74	N26.73° E	3799.84	16.88	-10.67	16.88	0.1
3900.0	0.47	N20.99° E	3899.84	17.84	-10.23	17.84	0.3

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MD ft	INC deg	DIR deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	D'LEG °/100
4000.0	0.56	N23.66°E	3999.83	18.67	-9.89	18.67	0.1
4100.0	0.54	N12.36°E	4099.83	19.57	-9.59	19.57	0.1
4200.0	0.39	N 0.12°E	4199.83	20.37	-9.49	20.37	0.2
4300.0	0.43	N 0.51°E	4299.82	21.09	-9.49	21.09	0.0
4400.0	0.49	N 6.32°W	4399.82	21.89	-9.53	21.89	0.1
4500.0	0.48	N21.87°W	4499.81	22.70	-9.73	22.70	0.1
4600.0	0.53	N23.65°W	4599.81	23.52	-10.07	23.52	0.1
4700.0	0.37	N53.30°W	4699.81	24.13	-10.52	24.13	0.3
4800.0	0.34	N52.91°W	4799.81	24.50	-11.01	24.50	0.0
4900.0	0.47	N55.95°W	4899.80	24.91	-11.59	24.91	0.1
5000.0	0.37	N58.63°W	4999.80	25.31	-12.21	25.31	0.1
5100.0	0.49	N66.01°W	5099.80	25.65	-12.87	25.65	0.1
5200.0	0.66	N61.55°W	5199.79	26.10	-13.77	26.10	0.2
5300.0	0.59	N43.94°W	5299.79	26.75	-14.63	26.75	0.2
5400.0	0.54	N30.76°W	5399.78	27.52	-15.23	27.52	0.1
5500.0	0.40	N41.74°W	5499.78	28.19	-15.71	28.19	0.2
5600.0	0.46	N46.36°W	5599.78	28.73	-16.23	28.73	0.1
5700.0	0.48	N42.70°W	5699.77	29.31	-16.80	29.31	0.0
5800.0	0.34	N18.44°W	5799.77	29.90	-17.18	29.90	0.2
5900.0	0.27	N14.03°E	5899.77	30.41	-17.22	30.41	0.2
6000.0	0.02	N 8.62°E	5999.77	30.66	-17.16	30.66	0.3
6100.0	0.14	S 6.20°W	6099.77	30.55	-17.17	30.55	0.2
6200.0	0.23	S16.27°W	6199.77	30.24	-17.24	30.24	0.1
6300.0	0.29	S 3.00°E	6299.77	29.79	-17.28	29.79	0.1
6400.0	0.28	S12.46°E	6399.77	29.30	-17.21	29.30	0.0
6500.0	0.22	S39.21°E	6499.77	28.91	-17.04	28.91	0.1
6600.0	0.16	S17.81°W	6599.76	28.63	-16.96	28.63	0.2
6700.0	0.21	S23.36°E	6699.76	28.33	-16.93	28.33	0.1
6800.0	0.18	S28.13°W	6799.76	28.02	-16.93	28.02	0.2
6900.0	0.58	S13.21°E	6899.76	27.39	-16.89	27.39	0.5
7000.0	0.64	S20.52°E	6999.75	26.38	-16.58	26.38	0.1
7100.0	0.60	S12.53°E	7099.75	25.34	-16.27	25.34	0.1
7200.0	0.50	S12.20°W	7199.75	24.40	-16.25	24.40	0.3
7300.0	0.69	S28.06°W	7299.74	23.45	-16.63	23.45	0.2
7400.0	0.60	S15.76°W	7399.73	22.41	-17.05	22.41	0.2
7500.0	0.63	S40.84°W	7499.73	21.49	-17.55	21.49	0.3
7600.0	0.47	S42.67°W	7599.72	20.77	-18.19	20.77	0.2
7700.0	0.46	S46.97°W	7699.72	20.20	-18.76	20.20	0.0
7800.0	0.50	S61.24°W	7799.72	19.71	-19.44	19.71	0.1
7900.0	1.15	N 5.48°W	7899.71	20.50	-19.92	20.50	1.4

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MD ft	INC deg	DIR deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	D'LEG °/100
8000.0	5.11	N12.38°E	7999.54	25.85	-19.06	25.85	4.0
8100.0	8.15	N15.14°E	8098.86	37.05	-16.25	37.05	3.1
8200.0	8.74	N16.66°E	8197.78	51.17	-12.22	51.17	0.6
8300.0	9.43	N17.70°E	8296.52	66.25	-7.55	66.25	0.7
8400.0	10.15	N18.34°E	8395.07	82.42	-2.29	82.42	0.7
8500.0	10.60	N18.15°E	8493.43	99.53	3.35	99.53	0.5
8600.0	10.87	N17.82°E	8591.68	117.24	9.10	117.24	0.3
8700.0	11.02	N17.36°E	8689.86	135.34	14.84	135.34	0.2
8800.0	11.32	N16.37°E	8787.97	153.88	20.46	153.88	0.4
8900.0	11.57	N15.32°E	8885.98	172.97	25.87	172.97	0.3
9000.0	11.85	N14.16°E	8983.90	192.60	31.03	192.60	0.4
9100.0	12.06	N13.35°E	9081.73	212.72	35.96	212.72	0.3
9200.0	11.30	N 7.07°E	9179.66	232.60	39.57	232.60	1.5
9300.0	9.36	N 8.82°W	9278.06	250.37	39.53	250.37	3.4
9400.0	6.79	N27.67°W	9377.07	263.64	35.54	263.64	3.7
9500.0	4.04	N27.35°W	9476.62	272.01	31.18	272.01	2.8
9600.0	3.54	N21.05°W	9576.40	278.02	28.45	278.02	0.7
9700.0	3.53	N22.18°W	9676.21	283.75	26.18	283.75	0.1
9800.0	3.53	N23.83°W	9776.02	289.42	23.77	289.42	0.1
9900.0	3.46	N27.30°W	9875.83	294.92	21.14	294.92	0.2
10000.0	3.40	N26.04°W	9975.65	300.26	18.46	300.26	0.1
10100.0	2.92	N27.00°W	10075.50	305.20	16.00	305.20	0.5
10200.0	2.88	N24.05°W	10175.37	309.76	13.82	309.76	0.2
10300.0	2.88	N25.87°W	10275.25	314.31	11.70	314.31	0.1
10400.0	2.46	N26.35°W	10375.14	318.50	9.65	318.50	0.4
10500.0	2.01	N21.50°W	10475.06	322.05	8.06	322.05	0.5
10600.0	1.41	N 9.79°W	10575.02	324.90	7.20	324.90	0.7
10700.0	1.00	N41.04°E	10675.00	326.77	7.57	326.77	1.1
10800.0	0.51	N80.28°E	10774.99	327.50	8.58	327.50	0.7
10900.0	0.29	S43.31°E	10874.99	327.39	9.19	327.39	0.4
11000.0	0.80	S62.79°W	10974.99	326.89	8.74	326.89	0.9
11100.0	1.26	S60.21°W	11074.97	326.02	7.17	326.02	0.5
11200.0	1.60	S55.23°W	11174.94	324.68	5.07	324.68	0.4
11286.0	1.56	S66.50°W	11260.91	323.53	3.01	323.53	0.4
11379.0	1.62	S55.76°W	11353.87	322.28	0.76	322.28	0.3
11472.0	1.23	S44.12°W	11446.84	320.83	-1.02	320.83	0.5
11565.0	1.12	S34.08°W	11539.82	319.36	-2.23	319.36	0.3
11658.0	1.81	S22.95°W	11632.79	317.25	-3.31	317.25	0.8
11751.0	1.87	S19.36°W	11725.74	314.47	-4.38	314.47	0.1
11844.0	2.18	S22.97°W	11818.68	311.41	-5.58	311.41	0.4

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11937.0	2.10	S30.48°W	11911.62	308.31	-7.13	308.31	0.3
12030.0	2.07	S29.10°W	12004.56	305.38	-8.81	305.38	0.1
12123.0	1.71	S28.09°W	12097.51	302.68	-10.28	302.68	0.4
12216.0	1.67	S20.35°W	12190.47	300.19	-11.41	300.19	0.2

Origin of Bottom Hole Closure WELLSITE CENTRE

Bottom Hole Closure 300 ft N 2.18°W

