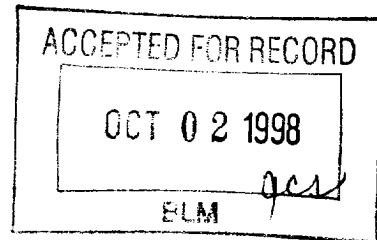


C/SF

SCIENTIFIC DRILLING INTERNATIONAL

MIDLAND, TEXAS

YATES PETROLEUM



Well Name : BRANNIGAN ANF FEDERAL #5
Field : LEA COUNTY, NM
Site :
SHL :
Plan BHL :
Date Surveyed : 1 JUNE 1998
Job Number : 32K0598212/32M0598239
Surveyor : DESPAIN/HENDRIX

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

David M. ... COMPANY REPRESENTATIVE

SCIENTIFIC DRILLING INTERNATIONAL

Client : YATES PETROLEUM
Well Name : BRANNIGAN ANF FEDERAL #5
Field : LEA COUNTY, NM
Site :
SHL :
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Page 1 of 3
Date 1 JUNE 1998
Filename : BRNGGN#5

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	2.93	S80.65°E	99.96	-0.42	2.52	-1.52	2.9
200.0	2.67	S68.55°E	199.84	-1.68	7.21	-4.01	0.6
300.0	1.96	S63.12°E	299.76	-3.31	10.91	-5.54	0.7
400.0	1.61	S68.53°E	399.71	-4.59	13.74	-6.68	0.4
500.0	1.76	S69.01°E	499.66	-5.66	16.48	-7.91	0.2
600.0	1.44	S60.74°E	599.62	-6.82	19.01	-8.92	0.4
700.0	1.41	S50.25°E	699.59	-8.22	21.05	-9.42	0.3
800.0	1.45	S48.34°E	799.56	-9.85	22.94	-9.64	0.1
900.0	1.54	S49.10°E	899.53	-11.57	24.90	-9.86	0.1
1000.0	1.48	S39.52°E	999.49	-13.45	26.74	-9.87	0.3
1100.0	1.38	S36.66°E	1099.46	-15.41	28.28	-9.62	0.1
1200.0	1.44	S33.30°E	1199.43	-17.43	29.69	-9.23	0.1
1300.0	1.22	S25.42°E	1299.41	-19.44	30.84	-8.65	0.3
1400.0	1.28	S12.09°E	1399.38	-21.49	31.53	-7.72	0.3
1500.0	0.95	S 6.43°E	1499.36	-23.41	31.85	-6.63	0.3
1600.0	0.90	S 1.94°W	1599.35	-25.02	31.92	-5.56	0.1
1700.0	1.04	S23.08°W	1699.34	-26.64	31.54	-4.16	0.4
1800.0	0.82	S40.04°W	1799.32	-28.02	30.72	-2.61	0.3
1900.0	0.79	S44.44°W	1899.31	-29.06	29.78	-1.21	0.1
2000.0	0.80	S51.53°W	1999.30	-29.99	28.75	0.18	0.1
2100.0	0.93	S61.02°W	2099.29	-30.81	27.49	1.66	0.2
2200.0	0.68	S78.28°W	2199.28	-31.33	26.20	2.94	0.3
2300.0	0.55	S47.80°W	2299.28	-31.77	25.27	3.92	0.3
2400.0	0.91	S39.09°W	2399.27	-32.71	24.41	5.19	0.4
2500.0	0.91	S28.30°W	2499.26	-34.02	23.53	6.74	0.2
2600.0	0.79	S15.95°W	2599.25	-35.39	22.97	8.09	0.2
2700.0	1.16	S 6.80°W	2699.23	-37.05	22.66	9.47	0.4
2800.0	1.14	S12.14°W	2799.21	-39.03	22.33	11.08	0.1
2900.0	0.86	S 9.38°W	2899.20	-40.74	22.00	12.51	0.3
3000.0	0.78	S 2.89°E	2999.19	-42.17	21.91	13.56	0.2
3100.0	0.83	S24.13°W	3099.18	-43.51	21.65	14.68	0.4
3200.0	0.60	S 2.47°W	3199.17	-44.69	21.33	15.73	0.4
3300.0	0.60	S24.06°W	3299.16	-45.69	21.09	16.60	0.2
3400.0	0.45	S15.94°W	3399.16	-46.55	20.77	17.43	0.2
3500.0	0.68	S18.61°W	3499.15	-47.49	20.47	18.29	0.2
3600.0	0.55	S 4.87°E	3599.15	-48.53	20.33	19.12	0.3
3700.0	0.68	S11.14°W	3699.14	-49.59	20.25	19.91	0.2
3800.0	0.53	S11.57°W	3799.14	-50.62	20.04	20.78	0.2
3900.0	0.71	S32.63°W	3899.13	-51.60	19.62	21.77	0.3

SCIENTIFIC DRILLING INTERNATIONAL

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 Height Of WELLSITE Datum Above Field Datum 0.00 ft

Page 2 of 3
 Date 1 JUNE 1998
 Filename : BRNGGN#5

No Interpolation

MD ft	INC deg	DIR deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	D'LEG °/100
4000.0	0.96	S30.79°W	3999.12	-52.84	18.85	23.18	0.3
4100.0	0.89	S17.32°W	4099.11	-54.30	18.19	24.67	0.2
4200.0	0.75	S22.68°W	4199.10	-55.65	17.71	25.95	0.2
4300.0	0.96	S36.65°W	4299.08	-56.92	16.96	27.38	0.3
4400.0	1.15	S22.02°W	4399.07	-58.52	16.08	29.12	0.3
4500.0	1.09	S14.38°W	4499.05	-60.38	15.47	30.85	0.2
4600.0	1.01	S28.76°W	4599.03	-62.07	14.81	32.50	0.3
4700.0	1.04	S32.31°W	4699.02	-63.61	13.90	34.23	0.1
4800.0	1.39	S28.30°W	4799.00	-65.44	12.84	36.26	0.4
4880.0	1.20	S24.17°W	4878.97	-67.06	12.04	37.97	0.3
4897.0	6.29	S56.92°W	4895.93	-67.73	11.18	39.05	31.3
4990.0	10.70	S56.21°W	4987.89	-75.32	-0.27	52.55	4.7
5083.0	13.15	S52.55°W	5078.88	-86.56	-15.84	71.56	2.8
5176.0	14.49	S50.16°W	5169.18	-100.44	-33.18	93.67	1.6
5269.0	15.32	S47.37°W	5259.06	-116.22	-51.15	117.56	1.2
5362.0	16.24	S46.10°W	5348.55	-133.56	-69.56	142.85	1.1
5455.0	17.72	S48.15°W	5437.49	-152.02	-89.47	169.99	1.7
5548.0	17.81	S47.88°W	5526.06	-171.00	-110.56	198.35	0.1
5641.0	16.23	S46.01°W	5614.98	-189.57	-130.47	225.56	1.8
5734.0	17.71	S48.01°W	5703.93	-208.06	-150.33	252.70	1.7
5827.0	17.71	S47.07°W	5792.53	-227.15	-171.20	280.98	0.3
5920.0	16.30	S44.81°W	5881.46	-246.05	-190.76	308.17	1.7
6013.0	16.12	S45.83°W	5970.76	-264.30	-209.22	334.13	0.4
6106.0	17.35	S47.10°W	6059.82	-282.74	-228.64	360.91	1.4
6199.0	16.76	S46.04°W	6148.73	-301.49	-248.45	388.18	0.7
6292.0	17.03	S46.91°W	6237.72	-320.10	-268.04	415.20	0.4
6385.0	14.79	S39.11°W	6327.16	-338.62	-285.48	440.61	3.3
6478.0	14.06	S45.43°W	6417.23	-355.76	-301.02	463.70	1.9
6571.0	13.14	S46.19°W	6507.62	-371.00	-316.69	485.56	1.0
6664.0	12.23	S45.60°W	6598.35	-385.21	-331.36	505.99	1.0
6757.0	11.52	S44.24°W	6689.36	-398.76	-344.88	525.12	0.8
6850.0	11.00	S43.74°W	6780.57	-411.82	-357.49	543.27	0.6
6943.0	10.28	S43.66°W	6871.97	-424.24	-369.35	560.42	0.8
7036.0	9.44	S49.99°W	6963.60	-435.14	-380.93	576.32	1.5
7129.0	9.73	S41.63°W	7055.31	-445.92	-391.99	591.77	1.5
7222.0	10.43	S39.42°W	7146.87	-458.30	-402.55	607.97	0.9
7315.0	10.11	S40.04°W	7238.38	-471.05	-413.15	624.45	0.4
7408.0	8.51	S44.65°W	7330.15	-482.20	-423.24	639.45	1.9
7501.0	7.97	S45.17°W	7422.19	-491.64	-432.65	652.78	0.6
7594.0	7.80	S47.01°W	7514.31	-500.49	-441.84	665.53	0.3

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Page 3 of 3
 Date 1 JUNE 1998
 Filename : BRNGGN#5

Height Of WELLSITE Datum Above Field Datum 0.00 ft

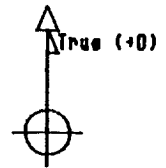
No Interpolation

MD ft	INC deg	DIR deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	D'LEG °/100
7687.0	7.63	S50.60°W	7606.47	-508.71	-451.22	678.00	0.5
7780.0	7.92	S51.46°W	7698.62	-516.62	-461.01	690.53	0.3
7873.0	7.09	S42.70°W	7790.82	-524.83	-469.91	702.64	1.5
7966.0	6.04	S47.40°W	7883.21	-532.36	-477.40	713.26	1.3
8059.0	6.18	S49.43°W	7975.69	-538.93	-484.81	723.15	0.3
8152.0	7.15	S51.41°W	8068.06	-545.79	-493.13	733.91	1.1
8245.0	7.91	S49.47°W	8160.25	-553.56	-502.52	746.05	0.9
8338.0	7.26	S53.21°W	8252.44	-561.24	-512.09	758.27	0.9
8431.0	6.13	S54.20°W	8344.80	-567.66	-520.83	769.02	1.2
8524.0	5.33	S57.96°W	8437.34	-572.86	-528.52	778.16	0.9
8617.0	3.97	S64.04°W	8530.03	-576.56	-535.07	785.44	1.6
8710.0	3.54	S61.19°W	8622.83	-579.35	-540.48	791.27	0.5
8834.0	2.78	S65.61°W	8746.64	-582.44	-546.58	797.80	0.6

Origin of Bottom Hole Closure WELLSITE CENTRE
 Bottom Hole Closure 799 ft S43.18°W



SCIENTIFIC DRILLING
FOR
YATES PETROLEUM
BRANNIGAN AND FEDERAL 85
IN
LEA COUNTY, NM



Departure Scale 1 inch = 200 ft

