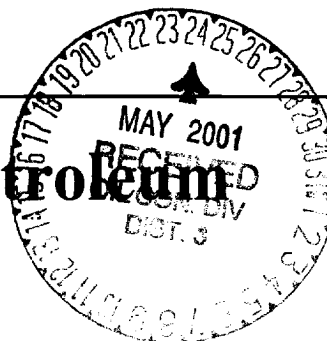




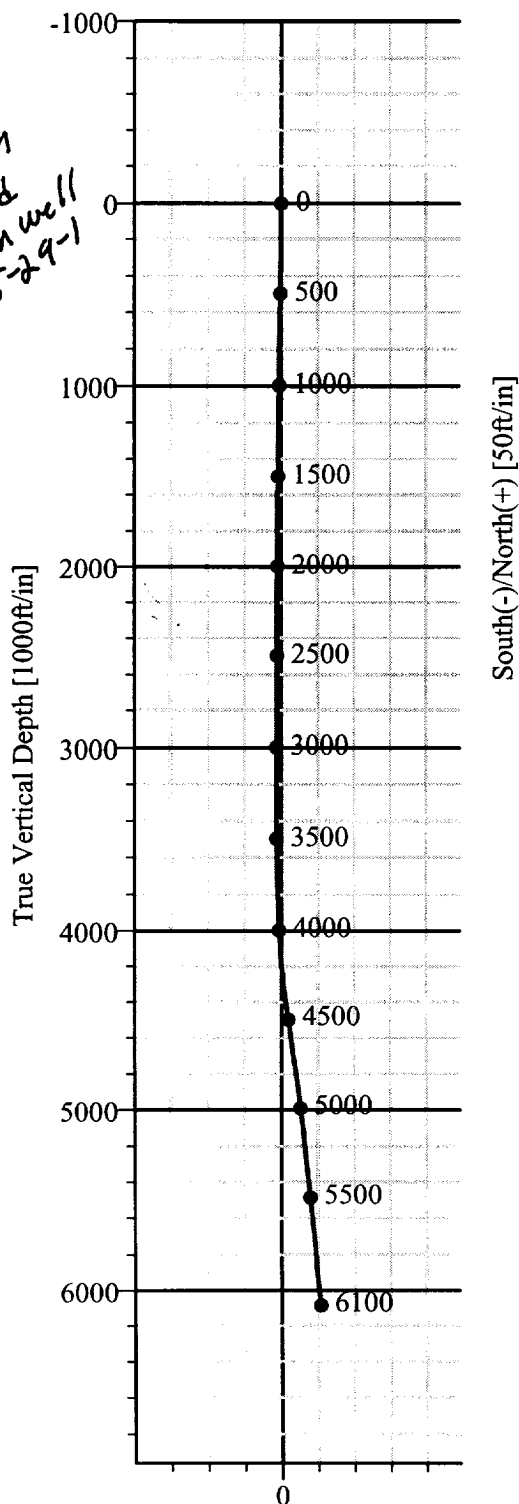
Scientific
Drilling

Phillips Petroleum

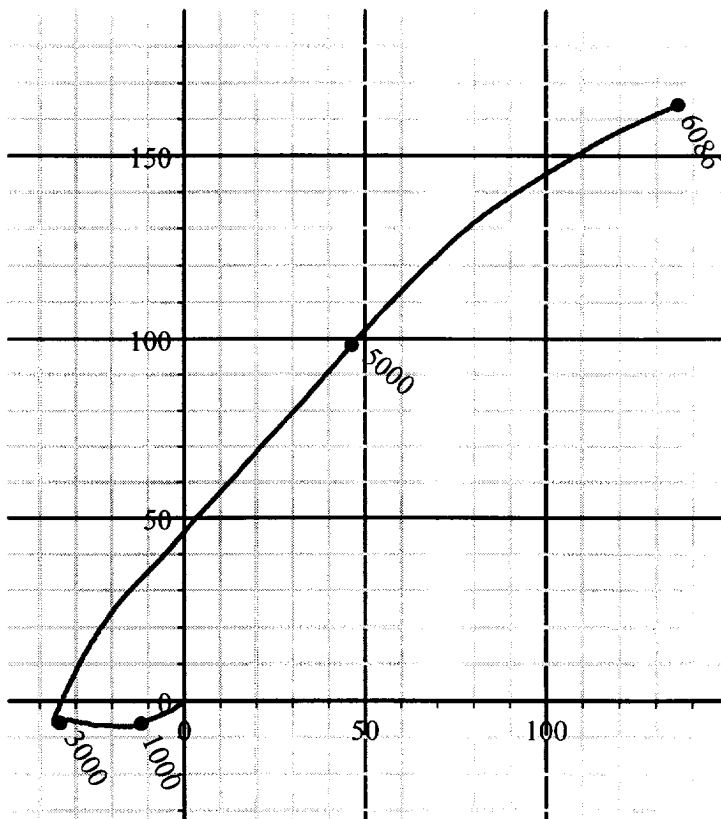


Field: San Juan County, NM
Site: San Juan 32-8 Unit 26-A
Well: 32-8 Unit 26-A
Wellpath: OH
Survey: Survey #1

8 ft
Posted in
C102 and
C104 in well
file 5-29-1



Vertical Section at 39.63° [1000ft/in]



West(-)/East(+) [50ft/in]

BOTTOM HOLE CLOSURE

213.29 ft. 39.63° Azimuth

FINAL STATION

6100.0' MD 6086.3' TVD
6.11° Angle 63.6° Azimuth
North 164.28 ft. East 136.03 ft.
213.29' Vert. Sec.

Survey: Survey #1 (32-8 Unit 26-A/OH)

Created By: Judi Moore

Date: 5/22/2001



Scientific
Drilling

Scientific Drilling SURVEY REPORT

Company: Phillips Petroleum Date: 5/22/2001 Time: 16:16:34 Page: 1
Field: San Juan County, NM Co-ordinate(N/E) Reference: Site: San Juan 32-8 Unit 26-A, True Nort
Site: San Juan 32-8 Unit 26-A Vertical (TVD) Reference: SITE 0.0
Well: 32-8 Unit 26-A Section (VS) Reference: Well (0.00N,0.00E,39.63Az)
Wellpath: OH Survey Calculation Method: Minimum Curvature Db: Sybase

C-16-31-8

Survey: Survey #1 Start Date: 5/11/2001
Company: Scientific Drilling Engineer: Dave Doney
Tool: Gyro, Tied-to: From Surface

Survey

Meas Depth ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	CLen ft	CLSD ft	CLSA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.40	227.27	100.00	-0.35	-0.24	-0.26	0.40	100.00	0.35	227.27
200.00	0.29	229.11	200.00	-0.94	-0.64	-0.70	0.11	100.00	0.95	227.76
300.00	0.75	236.44	299.99	-1.82	-1.17	-1.44	0.46	100.00	1.85	231.00
400.00	0.82	239.39	399.98	-3.12	-1.89	-2.60	0.08	100.00	3.22	233.96
500.00	0.86	239.44	499.97	-4.50	-2.64	-3.86	0.04	100.00	4.68	235.67
600.00	0.96	248.77	599.96	-5.93	-3.32	-5.29	0.18	100.00	6.25	237.86
700.00	0.99	248.60	699.95	-7.42	-3.94	-6.88	0.03	100.00	7.93	240.17
800.00	1.04	247.79	799.93	-8.98	-4.60	-8.52	0.05	100.00	9.68	241.63
900.00	1.06	247.11	899.91	-10.60	-5.30	-10.21	0.02	100.00	11.51	242.56
1000.00	1.11	246.15	999.90	-12.29	-6.05	-11.95	0.05	100.00	13.40	243.13
1100.00	1.09	256.96	1099.88	-13.91	-6.66	-13.76	0.21	100.00	15.29	244.17
1200.00	1.03	265.87	1199.86	-15.29	-6.94	-15.59	0.18	100.00	17.06	246.00
1300.00	1.07	272.39	1299.84	-16.47	-6.97	-17.42	0.13	100.00	18.76	248.20
1400.00	1.20	275.86	1399.82	-17.62	-6.82	-19.39	0.15	100.00	20.56	250.62
1500.00	1.12	275.02	1499.80	-18.76	-6.63	-21.41	0.08	100.00	22.41	252.80
1600.00	0.68	265.92	1599.79	-19.72	-6.58	-22.97	0.46	100.00	23.90	254.01
1700.00	0.53	267.14	1699.78	-20.44	-6.65	-24.03	0.15	100.00	24.93	254.53
1800.00	0.65	284.52	1799.78	-21.00	-6.53	-25.04	0.21	100.00	25.87	255.38
1900.00	0.69	286.16	1899.77	-21.48	-6.22	-26.16	0.04	100.00	26.89	256.62
2000.00	0.56	278.51	1999.77	-21.97	-5.98	-27.23	0.15	100.00	27.87	257.61
2100.00	0.49	271.83	2099.76	-22.48	-5.90	-28.14	0.09	100.00	28.75	258.17
2200.00	0.35	284.33	2199.76	-22.88	-5.81	-28.86	0.17	100.00	29.44	258.62
2300.00	0.36	282.36	2299.76	-23.15	-5.66	-29.46	0.02	100.00	30.00	259.12
2400.00	0.32	284.57	2399.76	-23.41	-5.53	-30.04	0.04	100.00	30.54	259.58
2500.00	0.26	285.92	2499.76	-23.62	-5.39	-30.53	0.06	100.00	31.00	259.98
2600.00	0.27	289.85	2599.75	-23.79	-5.25	-30.97	0.02	100.00	31.41	260.38
2700.00	0.38	280.93	2699.75	-24.03	-5.11	-31.51	0.12	100.00	31.93	260.79
2800.00	0.57	261.24	2799.75	-24.56	-5.12	-32.33	0.25	100.00	32.74	261.00
2900.00	0.66	250.28	2899.74	-25.43	-5.39	-33.37	0.15	100.00	33.80	260.82
3000.00	0.66	239.43	2999.74	-26.47	-5.88	-34.40	0.12	100.00	34.90	260.30
3100.00	0.35	245.93	3099.73	-27.28	-6.30	-35.18	0.31	100.00	35.74	259.85
3200.00	0.24	267.85	3199.73	-27.70	-6.43	-35.67	0.16	100.00	36.24	259.78
3300.00	0.10	274.38	3299.73	-27.89	-6.43	-35.96	0.14	100.00	36.53	259.86
3400.00	0.37	327.44	3399.73	-27.84	-6.15	-36.22	0.32	100.00	36.74	260.36
3500.00	0.90	17.34	3499.72	-27.01	-5.13	-36.16	0.72	100.00	36.53	261.93
3600.00	1.34	24.89	3599.70	-25.16	-3.32	-35.44	0.46	100.00	35.59	264.65
3700.00	1.51	22.48	3699.67	-22.77	-1.04	-34.44	0.18	100.00	34.46	268.27
3800.00	1.66	25.13	3799.64	-20.11	1.49	-33.32	0.17	100.00	33.36	272.56
3900.00	2.28	27.12	3899.58	-16.76	4.57	-31.80	0.62	100.00	32.13	278.18
4000.00	2.80	25.76	3999.48	-12.45	8.54	-29.83	0.52	100.00	31.03	285.98
4100.00	3.94	29.72	4099.30	-6.69	13.72	-27.07	1.16	100.00	30.35	296.89
4200.00	4.80	34.79	4199.01	0.86	20.14	-22.98	0.94	100.00	30.56	311.24
4300.00	6.42	40.54	4298.53	10.62	27.83	-16.96	1.71	100.00	32.59	328.65
4400.00	7.55	44.53	4397.79	22.76	36.76	-8.71	1.23	100.00	37.78	346.66
4500.00	7.22	40.49	4496.96	35.59	46.22	-0.03	0.62	100.00	46.22	359.97
4600.00	8.61	43.12	4596.00	49.34	56.47	9.17	1.44	100.00	57.21	9.22
4700.00	8.34	41.18	4694.91	64.06	67.39	19.06	0.39	100.00	70.03	15.79
4800.00	8.37	42.31	4793.85	78.58	78.23	28.74	0.17	100.00	83.34	20.17



Scientific Drilling SURVEY REPORT

Company: Phillips Petroleum	Date: 5/22/2001	Time: 16:16:34	Page: 2
Field: San Juan County, NM	Co-ordinate(NE) Reference:	Site: San Juan 32-8 Unit 26-A, True North	
Site: San Juan 32-8 Unit 26-A	Vertical (TVD) Reference:	SITE 0.0	
Well: 32-8 Unit 26-A	Section (VS) Reference:	Well (0.00N,0.00E,39.63Azi)	
Wellpath: OH	Survey Calculation Method:	Minimum Curvature Db: Sybase	

Survey

Meas Depth ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	CLen ft	CLSD ft	CLSA deg
4900.00	7.27	40.67	4892.92	92.18	88.41	37.76	1.12	100.00	96.14	23.13
5000.00	6.72	40.80	4992.17	104.36	97.64	45.71	0.55	100.00	107.81	25.08
5100.00	6.46	43.25	5091.51	115.82	106.17	53.38	0.38	100.00	118.83	26.69
5200.00	6.07	44.66	5190.92	126.70	114.03	60.95	0.42	100.00	129.30	28.13
5300.00	5.80	46.42	5290.38	136.98	121.27	68.33	0.33	100.00	139.20	29.40
5400.00	5.34	49.01	5389.91	146.59	127.80	75.50	0.52	100.00	148.44	30.57
5500.00	5.76	53.41	5489.44	156.06	133.85	83.05	0.60	100.00	157.52	31.82
5600.00	6.08	57.05	5588.91	165.98	139.72	91.52	0.49	100.00	167.03	33.23
5700.00	5.69	58.83	5688.38	175.72	145.17	100.20	0.43	100.00	176.39	34.62
5800.00	5.69	58.03	5787.89	185.10	150.36	108.65	0.08	100.00	185.51	35.85
5900.00	5.48	62.00	5887.41	194.22	155.22	117.07	0.44	100.00	194.42	37.02
6000.00	6.27	65.94	5986.89	203.53	159.69	126.28	0.89	100.00	203.59	38.34
6100.00	6.11	63.60	6086.30	213.29	164.28	136.03	0.30	100.00	213.29	39.63