

Company: BP	Date: 4/27/2005	Time: 09:00:03	Page: 1
Field: Lea County, NM	Co-ordinate(NE) Reference:	Well: BULL RED STATE 6, Grid North	
Site: SEC6-T18S-R34E	Vertical (TVD) Reference:	AGL=4082'+KB=15' 4097.0	
Well: BULL RED STATE 6	Section (VS) Reference:	Site (0.00N,0.00E,203.63Azi)	
Wellpath: SIDETRACK #1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Field: Lea County, NM
SEC6-T18S-R34E
USA

Map System: US State Plane Coordinate System 1927
Geo Datum: NAD27 (Clarke 1866)
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: igrf2005

Site: SEC6-T18S-R34E

Lea county, NM

Site Position:	Northing: 649173.440 ft	Latitude: 32 46 56.918 N
From: Map	Easting: 727710.580 ft	Longitude: 103 35 32.705 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 4082.00 ft		Grid Convergence: 0.40 deg

Well: BULL RED STATE 6

Slot Name:

Well Position: +N/-S 0.00 ft	Northing: 649173.440 ft	Latitude: 32 46 56.918 N
+E/-W 0.00 ft	Easting: 727710.580 ft	Longitude: 103 35 32.705 W
Position Uncertainty: 0.00 ft		

Wellpath: SIDETRACK #1

Current Datum: AGL=4082'+KB=15'	Height 4097.00 ft	Drilled From: Surface
Magnetic Data: 4/15/2005		Tie-on Depth: 0.00 ft
Field Strength: 49612 nT		Above System Datum: Mean Sea Level
Vertical Section: Depth From (TVD)	+N/-S ft	Declination: 8.37 deg
		Mag Dip Angle: 60.86 deg
		+E/-W ft
		Direction deg
0.00	0.00	0.00 203.63

Survey Program for Definitive Wellpath

Date: 4/21/2005
Actual From ft
To ft

Validated: No
Survey

Version: 55
Toolcode

Tool Name

0.00	5556.00	Gyro data (0.00-8373.00) (0)	GYD-BM-MS	Gyrodata - bat/mem drop m/s
5556.00	9400.00	MWD SURVEY (5556.00-9400.00)	MWD ISCWSA	MWD - Standard

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	359.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
200.00	0.07	67.17	200.00	0.05	0.11	-0.09	0.03	0.03	0.00	GYD-BM-MS
400.00	0.08	14.68	400.00	0.23	0.26	-0.32	0.03	0.00	-26.24	GYD-BM-MS
600.00	0.15	254.53	600.00	0.30	0.04	-0.29	0.10	0.03	-60.08	GYD-BM-MS
800.00	0.14	289.04	800.00	0.30	-0.44	-0.10	0.04	0.00	17.25	GYD-BM-MS
1000.00	0.09	31.47	1000.00	0.52	-0.59	-0.24	0.09	-0.02	51.22	GYD-BM-MS
1200.00	0.10	79.23	1200.00	0.69	-0.34	-0.49	0.04	0.00	23.88	GYD-BM-MS
1400.00	0.11	83.06	1400.00	0.74	0.03	-0.69	0.01	0.00	1.91	GYD-BM-MS
1600.00	0.13	93.31	1600.00	0.75	0.44	-0.87	0.01	0.01	5.12	GYD-BM-MS
1800.00	0.10	278.57	1800.00	0.76	0.50	-0.90	0.11	-0.01	-87.37	GYD-BM-MS
2000.00	0.09	323.88	2000.00	0.92	0.23	-0.93	0.04	0.00	22.65	GYD-BM-MS
2200.00	0.25	36.45	2200.00	1.39	0.40	-1.44	0.12	0.08	36.29	GYD-BM-MS
2400.00	0.38	33.70	2399.99	2.30	1.03	-2.52	0.07	0.06	-1.37	GYD-BM-MS
2600.00	0.49	16.20	2599.99	3.67	1.63	-4.02	0.09	0.05	-8.75	GYD-BM-MS
2800.00	0.82	4.68	2799.97	5.92	1.99	-6.22	0.18	0.16	-5.76	GYD-BM-MS
3000.00	0.94	13.89	2999.95	8.94	2.50	-9.19	0.09	0.06	4.60	GYD-BM-MS
3200.00	1.04	16.31	3199.92	12.27	3.40	-12.61	0.05	0.05	1.21	GYD-BM-MS
3400.00	1.04	30.30	3399.89	15.58	4.83	-16.21	0.13	0.00	6.99	GYD-BM-MS
3600.00	1.10	21.93	3599.85	18.93	6.46	-19.93	0.08	0.03	-4.18	GYD-BM-MS
3800.00	1.15	21.58	3799.82	22.58	7.92	-23.86	0.03	0.02	-0.17	GYD-BM-MS
4000.00	1.32	26.49	3999.77	26.50	9.68	-28.16	0.10	0.08	2.45	GYD-BM-MS
4200.00	1.25	34.39	4199.72	30.37	11.94	-32.61	0.10	-0.03	3.95	GYD-BM-MS

SUR: A-6-18s-34e, 660/N & 495/E
 BHL: A-6-18s-34e, 635/N & 509/E
 API #30-025-36939

Scientific Drilling

Survey Report

Company: BP
Field: Lea County, NM
Site: SEC6-T18S-R34E
Well: BULL RED STATE 6
Wellpath: SIDETRACK #1

Date: 4/27/2005
Co-ordinate(NE) Reference: Well: BULL RED STATE 6, Grid North
Vertical (TVD) Reference: AGL=4082'+KB=15' 4097.0
Section (VS) Reference: Site (0.00N,0.00E,203.63Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Page: 2

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
4400.00	1.38	37.35	4399.67	34.08	14.63	-37.09	0.07	0.06	1.48	GYD-BM-MS
4600.00	1.31	28.62	4599.61	38.00	17.19	-41.71	0.11	-0.03	-4.36	GYD-BM-MS
4800.00	1.22	24.37	4799.56	41.95	19.16	-46.11	0.06	-0.04	-2.12	GYD-BM-MS
4800.44	1.22	24.37	4800.00	41.96	19.17	-46.12	0.00	0.00	0.00	8 5/8"
4900.00	1.26	25.60	4899.54	43.91	20.08	-48.28	0.05	0.04	1.24	GYD-BM-MS
5000.00	1.39	26.89	4999.51	45.98	21.10	-50.59	0.13	0.13	1.29	GYD-BM-MS
5100.00	1.39	26.83	5099.48	48.15	22.20	-53.01	0.00	0.00	-0.06	GYD-BM-MS
5200.00	1.45	24.39	5199.45	50.38	23.27	-55.48	0.09	0.06	-2.44	GYD-BM-MS
5300.00	1.47	24.91	5299.42	52.70	24.33	-58.03	0.02	0.02	0.52	GYD-BM-MS
5400.00	1.51	29.08	5399.39	55.01	25.51	-60.63	0.12	0.04	4.17	GYD-BM-MS
5500.00	1.51	24.50	5499.35	57.36	26.70	-63.25	0.12	0.00	-4.58	GYD-BM-MS
5556.00	1.00	117.33	5555.34	57.81	27.44	-63.96	3.31	-0.91	165.77	MWD ISCWSA
5588.00	1.56	132.97	5587.33	57.38	28.01	-63.80	2.05	1.75	48.87	MWD ISCWSA
5620.00	1.74	131.62	5619.32	56.76	28.69	-63.50	0.58	0.56	-4.22	MWD ISCWSA
5652.00	1.61	133.64	5651.31	56.13	29.38	-63.20	0.45	-0.41	6.31	MWD ISCWSA
5684.00	2.28	152.19	5683.29	55.26	30.00	-62.65	2.85	2.09	57.97	MWD ISCWSA
5747.00	3.97	168.66	5746.19	52.01	31.01	-60.08	3.01	2.68	26.14	MWD ISCWSA
5779.00	4.24	169.43	5778.11	49.76	31.45	-58.19	0.86	0.84	2.41	MWD ISCWSA
5809.00	4.17	167.52	5808.03	47.61	31.89	-56.40	0.52	-0.23	-6.37	MWD ISCWSA
5840.00	4.25	175.35	5838.95	45.36	32.22	-54.47	1.87	0.26	25.26	MWD ISCWSA
5935.00	5.53	203.29	5933.61	37.65	30.70	-46.80	2.81	1.35	29.41	MWD ISCWSA
6028.00	4.82	207.53	6026.23	30.07	27.12	-38.42	0.87	-0.76	4.56	MWD ISCWSA
6124.00	4.40	222.70	6121.93	23.78	22.76	-30.91	1.34	-0.44	15.80	MWD ISCWSA
6216.00	4.09	225.41	6213.67	18.89	18.03	-24.53	0.40	-0.34	2.95	MWD ISCWSA
6311.00	4.26	229.45	6308.42	14.21	12.93	-18.21	0.36	0.18	4.25	MWD ISCWSA
6406.00	2.42	200.52	6403.26	10.04	9.55	-13.03	2.57	-1.94	-30.45	MWD ISCWSA
6501.00	1.44	76.92	6498.23	8.43	10.01	-11.74	3.61	-1.03	-130.11	MWD ISCWSA
6598.00	1.21	91.02	6595.21	8.69	12.22	-12.86	0.41	-0.24	14.54	MWD ISCWSA
6694.00	1.89	159.26	6691.18	7.19	13.80	-12.12	1.90	0.71	71.08	MWD ISCWSA
6788.00	2.17	200.90	6785.13	4.08	13.71	-9.23	1.56	0.30	44.30	MWD ISCWSA
6884.00	3.00	222.52	6881.03	0.53	11.36	-5.04	1.32	0.86	22.52	MWD ISCWSA
6980.00	2.47	237.49	6976.92	-2.43	7.92	-0.95	0.92	-0.55	15.59	MWD ISCWSA
7076.00	1.20	217.86	7072.87	-4.34	5.56	1.75	1.46	-1.32	-20.45	MWD ISCWSA
7171.00	0.98	77.04	7167.86	-4.94	5.74	2.23	2.16	-0.23	-148.23	MWD ISCWSA
7265.00	1.26	62.38	7261.85	-4.28	7.44	0.94	0.42	0.30	-15.60	MWD ISCWSA
7360.00	1.54	43.12	7356.82	-2.87	9.24	-1.08	0.57	0.29	-20.27	MWD ISCWSA
7456.00	1.60	29.58	7452.78	-0.76	10.78	-3.63	0.39	0.06	-14.10	MWD ISCWSA
7548.00	1.87	31.86	7544.74	1.63	12.21	-6.39	0.30	0.29	2.48	MWD ISCWSA
7641.00	2.15	12.18	7637.68	4.63	13.38	-9.60	0.80	0.30	-21.16	MWD ISCWSA
7737.00	2.00	6.53	7733.62	8.05	13.95	-12.97	0.26	-0.16	-5.89	MWD ISCWSA
7832.00	1.51	331.84	7828.58	10.80	13.54	-15.32	1.21	-0.52	-36.52	MWD ISCWSA
7927.00	1.48	326.31	7923.55	12.93	12.27	-16.76	0.16	-0.03	-5.82	MWD ISCWSA
8022.00	1.42	315.80	8018.52	14.79	10.77	-17.87	0.29	-0.06	-11.06	MWD ISCWSA
8117.00	1.21	300.14	8113.49	16.14	9.08	-18.43	0.44	-0.22	-16.48	MWD ISCWSA
8211.00	1.56	294.05	8207.46	17.16	7.06	-18.55	0.40	0.37	-6.48	MWD ISCWSA
8305.00	1.58	294.05	8301.43	18.21	4.71	-18.57	0.02	0.02	0.00	MWD ISCWSA
8398.00	1.35	284.91	8394.40	19.01	2.48	-18.41	0.35	-0.25	-9.83	MWD ISCWSA
8492.00	1.01	292.70	8488.38	19.62	0.64	-18.23	0.40	-0.36	8.29	MWD ISCWSA
8587.00	1.03	289.65	8583.36	20.23	-0.94	-18.16	0.06	0.02	-3.21	MWD ISCWSA
8680.00	0.95	279.14	8676.35	20.63	-2.48	-17.90	0.21	-0.09	-11.30	MWD ISCWSA
8776.00	1.25	284.07	8772.33	21.01	-4.28	-17.53	0.33	0.31	5.14	MWD ISCWSA
8966.00	1.01	285.63	8962.29	21.97	-7.91	-16.95	0.13	-0.13	0.82	MWD ISCWSA
9061.00	1.09	297.88	9057.28	22.61	-9.51	-16.91	0.25	0.08	12.89	MWD ISCWSA

Company: BP Field: Lea County, NM Site: SEC6-T18S-R34E Well: BULL RED STATE 6 Wellpath: SIDETRACK #1	Date: 4/27/2005 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 09:00:03 Well: BULL RED STATE 6, Grid North AGL=4082'+KB=15' 4097.0 Site (0.00N,0.00E,203.63Azi) Minimum Curvature	Page: 3 Db: Sybase
---	--	---	-------------------------------------

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
9156.00	0.87	286.05	9152.26	23.24	-11.00	-16.88	0.31	-0.23	-12.45	MWD ISCWSA
9250.00	0.85	299.54	9246.25	23.78	-12.30	-16.85	0.22	-0.02	14.35	MWD ISCWSA
9350.00	0.79	305.71	9346.24	24.55	-13.50	-17.08	0.11	-0.06	6.17	MWD ISCWSA
9400.00	0.79	305.71	9396.24	24.95	-14.06	-17.22	0.00	0.00	0.00	Projected to TD

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
4800.44	4800.00	8.625	12.250	8 5/8"

Annotation

MD ft	TVD ft	
9400.00	9396.24	Projected to TD