



Scientific Drilling Survey Report



Company: BP Date: 5/3/2006 Time: 12:06:30 Page: 1
Field: SAN JUAN, New Mexico Co-ordinate(NE) Reference: Well: Sellers LS #6M, Grid North
Site: SEC 30-T30N-R10W Vertical (TVD) Reference: SITE 6127.0
Well: Sellers LS #6M Section (VS) Reference: Well (0.00N,0.00E,349.53Azi)
Wellpath: ACTUAL Survey Calculation Method: Minimum Curvature Db: Sybase

Field: SAN JUAN, New Mexico
SAN JUAN COUNTY, NEW MEXICO
USA
Map System: US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level

30-045-32928

Site: SEC 30-T30N-R10W

SAN JUAN NEW MEXICO

Site Position: Northing: ft
From: Lease Line Easting: ft
Position Uncertainty: 0.00 ft
Ground Level: 9113.00 ft

Latitude: ft
Longitude: ft
North Reference: Grid
Grid Convergence: -0.06 deg

Surface: 1730/N 985/W
BNL 978/N 772/W
MD 7302 TVD 7191

Well: Sellers LS #6M

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 2105150.41 ft Latitude: 36 47 6.716 N
+E/-W 0.00 ft Easting: 2694797.39 ft Longitude: 107 55 47.914 W
Position Uncertainty: 0.00 ft

Wellpath: ACTUAL

Current Datum: SITE Height 6127.00 ft
Magnetic Data: 3/6/2006
Field Strength: 51332 nT
Vertical Section: Depth From (TVD) +N/-S
ft ft

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 10.65 deg
Mag Dip Angle: 63.63 deg
+E/-W Direction
ft deg

0.00 0.00 0.00 349.53

Survey Program for Definitive Wellpath

Date: 5/3/2006 Validated: No
Actual From To Survey
ft ft

Version: 1
Toolcode

Tool Name

241.00 3363.00 MWD Survey (241.00-3363.00) MWD ISCWSA MWD - Standard
3795.00 7302.00 Extrapolated Survey (3795.00-7 INC+TREND Inclinator + known azi trend

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
200.03	1.60	266.78	200.00	-0.16	-2.79	0.35	0.80	0.80	0.00	9 5/8"
241.00	1.93	266.78	240.95	-0.23	-4.05	0.51	0.80	0.80	0.00	MWD ISCWSA
271.00	2.21	267.80	270.93	-0.28	-5.13	0.66	0.94	0.93	3.40	MWD ISCWSA
302.00	2.60	276.23	301.91	-0.23	-6.43	0.95	1.70	1.26	27.19	MWD ISCWSA
333.00	3.28	280.50	332.87	0.01	-8.00	1.47	2.30	2.19	13.77	MWD ISCWSA
364.00	4.13	289.08	363.80	0.54	-9.93	2.33	3.27	2.74	27.68	MWD ISCWSA
394.00	4.73	291.25	393.71	1.34	-12.10	3.52	2.08	2.00	7.23	MWD ISCWSA
425.00	5.11	289.89	424.60	2.27	-14.59	4.89	1.28	1.23	-4.39	MWD ISCWSA
455.00	5.51	294.63	454.47	3.33	-17.16	6.39	1.98	1.33	15.80	MWD ISCWSA
486.00	6.00	293.60	485.31	4.60	-20.00	8.15	1.62	1.58	-3.32	MWD ISCWSA
517.00	6.60	294.88	516.13	6.00	-23.10	10.09	1.99	1.94	4.13	MWD ISCWSA
547.00	7.20	293.80	545.91	7.48	-26.38	12.15	2.05	2.00	-3.60	MWD ISCWSA
578.00	7.42	293.23	576.66	9.05	-30.00	14.35	0.75	0.71	-1.84	MWD ISCWSA
609.00	7.75	294.48	607.38	10.71	-33.74	16.66	1.19	1.06	4.03	MWD ISCWSA
639.00	8.08	293.72	637.10	12.39	-37.51	19.00	1.15	1.10	-2.53	MWD ISCWSA
670.00	8.48	292.91	667.78	14.16	-41.61	21.49	1.34	1.29	-2.61	MWD ISCWSA
701.00	8.70	291.25	698.43	15.90	-45.90	23.98	1.07	0.71	-5.35	MWD ISCWSA
731.00	8.59	290.96	728.09	17.52	-50.11	26.34	0.39	-0.37	-0.97	MWD ISCWSA
761.00	8.77	291.95	757.74	19.18	-54.32	28.73	0.78	0.60	3.30	MWD ISCWSA
792.00	9.24	292.28	788.36	21.01	-58.82	31.35	1.53	1.52	1.06	MWD ISCWSA
822.00	9.53	295.67	817.96	23.00	-63.28	34.11	2.08	0.97	11.30	MWD ISCWSA

Scientific Drilling

Survey Report

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Field: SAN JUAN, New Mexico	Co-ordinate(NE) Reference: Well: Sellers LS #6M, Grid North		
Site: SEC 30-T30N-R10W	Vertical (TVD) Reference: SITE 6127.0		
Well: Sellers LS #6M	Section (VS) Reference: Well (0.00N,0.00E,349.53Azi)		
Wellpath: ACTUAL	Survey Calculation Method: Minimum Curvature	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
853.00	10.04	301.38	848.51	25.52	-67.90	37.43	3.53	1.65	18.42	MWD ISCWSA
886.00	10.19	306.37	881.00	28.74	-72.71	41.48	2.69	0.45	15.12	MWD ISCWSA
920.00	10.50	309.65	914.45	32.50	-77.52	46.05	1.96	0.91	9.65	MWD ISCWSA
950.00	10.83	315.55	943.93	36.26	-81.60	50.48	3.80	1.10	19.67	MWD ISCWSA
984.00	11.34	319.53	977.29	41.08	-86.00	56.03	2.70	1.50	11.71	MWD ISCWSA
1047.00	12.05	330.30	1038.99	51.51	-93.28	67.60	3.64	1.13	17.10	MWD ISCWSA
1078.00	12.62	334.39	1069.28	57.37	-96.35	73.93	3.36	1.84	13.19	MWD ISCWSA
1110.00	13.09	337.67	1100.48	63.88	-99.24	80.85	2.71	1.47	10.25	MWD ISCWSA
1142.00	13.58	340.83	1131.61	70.78	-101.85	88.11	2.74	1.53	9.87	MWD ISCWSA
1173.00	14.17	344.93	1161.71	77.88	-104.03	95.49	3.70	1.90	13.23	MWD ISCWSA
1189.81	14.42	346.45	1178.00	81.90	-105.05	99.63	2.69	1.51	9.02	OJO ALAMO
1205.00	14.66	347.77	1192.70	85.62	-105.90	103.44	2.69	1.56	8.72	MWD ISCWSA
1236.00	15.58	350.26	1222.63	93.56	-107.44	111.52	3.63	2.97	8.03	MWD ISCWSA
1268.00	16.61	350.42	1253.37	102.30	-108.93	120.39	3.22	3.22	0.50	MWD ISCWSA
1300.00	17.55	349.43	1283.96	111.56	-110.57	129.79	3.07	2.94	-3.09	MWD ISCWSA
1332.00	18.57	348.63	1314.39	121.30	-112.46	139.71	3.28	3.19	-2.50	MWD ISCWSA
1364.00	19.09	348.26	1344.67	131.41	-114.53	150.04	1.67	1.62	-1.16	MWD ISCWSA
1367.52	19.18	348.39	1348.00	132.54	-114.77	151.19	2.75	2.49	3.56	KIRTLAND
1396.00	19.89	349.36	1374.84	141.89	-116.60	160.71	2.75	2.50	3.42	MWD ISCWSA
1428.00	20.35	350.18	1404.89	152.72	-118.56	171.72	1.69	1.44	2.56	MWD ISCWSA
1460.00	20.64	350.19	1434.86	163.76	-120.47	182.92	0.91	0.91	0.03	MWD ISCWSA
1490.00	20.16	351.37	1462.98	174.08	-122.14	193.38	2.11	-1.60	3.93	MWD ISCWSA
1522.00	19.25	351.63	1493.11	184.75	-123.74	204.16	2.86	-2.84	0.81	MWD ISCWSA
1554.00	19.35	351.70	1523.31	195.22	-125.27	214.73	0.32	0.31	0.22	MWD ISCWSA
1586.00	18.84	351.84	1553.55	205.58	-126.77	225.19	1.60	-1.59	0.44	MWD ISCWSA
1618.00	18.08	352.46	1583.90	215.61	-128.16	235.31	2.45	-2.37	1.94	MWD ISCWSA
1650.00	17.28	354.53	1614.39	225.27	-129.26	245.01	3.18	-2.50	6.47	MWD ISCWSA
1681.00	16.54	355.12	1644.05	234.25	-130.07	253.99	2.45	-2.39	1.90	MWD ISCWSA
1713.00	16.25	355.24	1674.75	243.25	-130.83	262.97	0.91	-0.91	0.37	MWD ISCWSA
1745.00	16.37	355.58	1705.46	252.21	-131.55	271.91	0.48	0.37	1.06	MWD ISCWSA
1776.00	16.81	355.90	1735.17	261.03	-132.21	280.71	1.45	1.42	1.03	MWD ISCWSA
1808.00	15.92	353.41	1765.87	270.01	-133.04	289.69	3.54	-2.78	-7.78	MWD ISCWSA
1840.00	16.21	352.43	1796.62	278.80	-134.14	298.53	1.24	0.91	-3.06	MWD ISCWSA
1872.00	16.46	351.89	1827.33	287.71	-135.36	307.52	0.91	0.78	-1.69	MWD ISCWSA
1904.00	15.20	351.92	1858.12	296.35	-136.59	316.24	3.94	-3.94	0.09	MWD ISCWSA
1933.00	16.12	350.66	1886.04	304.09	-137.78	324.07	3.38	3.17	-4.34	MWD ISCWSA
1999.00	16.60	351.31	1949.37	322.45	-140.69	342.65	0.78	0.73	0.98	MWD ISCWSA
2030.00	16.83	351.39	1979.06	331.27	-142.03	351.56	0.75	0.74	0.26	MWD ISCWSA
2036.21	16.71	351.24	1985.00	333.04	-142.30	353.35	2.01	-1.87	-2.48	FRUITLAND
2061.00	16.25	350.60	2008.77	339.98	-143.41	360.38	2.01	-1.87	-2.57	MWD ISCWSA
2124.00	16.65	350.95	2069.20	357.59	-146.27	378.22	0.65	0.63	0.56	MWD ISCWSA
2188.00	16.87	351.21	2130.48	375.82	-149.13	396.67	0.36	0.34	0.41	MWD ISCWSA
2218.00	17.18	351.53	2159.16	384.51	-150.45	405.45	1.08	1.03	1.07	MWD ISCWSA
2249.00	17.01	348.23	2188.79	393.48	-152.05	414.55	3.18	-0.55	-10.65	MWD ISCWSA
2313.00	19.46	347.07	2249.57	413.03	-156.35	434.57	3.87	3.83	-1.81	MWD ISCWSA
2334.70	20.01	346.96	2270.00	420.17	-157.99	441.89	2.52	2.52	-0.49	FRUITLAND COAL
2344.00	20.24	346.92	2278.73	423.29	-158.72	445.08	2.52	2.52	-0.47	MWD ISCWSA
2376.00	19.38	346.61	2308.84	433.85	-161.20	455.92	2.71	-2.69	-0.97	MWD ISCWSA
2472.00	17.32	345.14	2399.95	463.16	-168.55	486.07	2.20	-2.15	-1.53	MWD ISCWSA
2504.00	17.49	343.47	2430.49	472.37	-171.14	495.61	1.65	0.53	-5.22	MWD ISCWSA
2537.00	17.11	345.57	2462.00	481.83	-173.76	505.38	2.22	-1.15	6.36	MWD ISCWSA
2570.00	16.75	347.71	2493.57	491.17	-175.99	514.98	2.18	-1.09	6.48	MWD ISCWSA
2601.00	16.72	349.06	2523.25	499.92	-177.78	523.90	1.26	-0.10	4.35	MWD ISCWSA

Scientific Drilling

Survey Report

Company: BP Field: SAN JUAN, New Mexico Site: SEC 30-T30N-R10W Well: Sellers LS #6M Wellpath: ACTUAL	Date: 5/3/2006 Co-ordinate(NE) Reference: Well: Sellers LS #6M, Grid North Vertical (TVD) Reference: SITE 6127.0 Section (VS) Reference: Well (0.00N,0.00E,349.53Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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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
2634.00	16.89	348.36	2554.84	509.27	-179.65	533.44	0.80	0.52	-2.12	MWD ISCWSA
2640.43	16.91	348.48	2561.00	511.10	-180.03	535.31	0.60	0.26	1.88	PICTURED CLIFFS
2665.00	16.97	348.94	2584.50	518.12	-181.43	542.47	0.60	0.26	1.87	MWD ISCWSA
2697.00	16.77	349.74	2615.12	527.25	-183.14	551.75	0.96	-0.62	2.50	MWD ISCWSA
2729.00	16.54	350.18	2645.78	536.28	-184.74	560.92	0.82	-0.72	1.37	MWD ISCWSA
2761.00	16.42	350.90	2676.47	545.23	-186.24	570.00	0.74	-0.37	2.25	MWD ISCWSA
2793.00	16.53	350.13	2707.15	554.18	-187.73	579.07	0.76	0.34	-2.41	MWD ISCWSA
2853.00	16.76	349.40	2764.64	571.10	-190.79	596.26	0.52	0.38	-1.22	MWD ISCWSA
2918.00	17.54	348.60	2826.75	589.91	-194.45	615.42	1.25	1.20	-1.23	MWD ISCWSA
2981.00	18.51	347.82	2886.65	608.99	-198.43	634.91	1.59	1.54	-1.24	MWD ISCWSA
3013.00	17.77	350.49	2917.06	618.77	-200.31	644.87	3.48	-2.31	8.34	MWD ISCWSA
3077.00	15.50	355.11	2978.38	636.93	-202.65	663.15	4.10	-3.55	7.22	MWD ISCWSA
3098.36	14.88	355.21	2999.00	642.51	-203.13	668.72	2.89	-2.89	0.46	LEWIS
3139.00	13.71	355.42	3038.38	652.51	-203.95	678.71	2.89	-2.89	0.52	MWD ISCWSA
3204.00	13.39	355.07	3101.57	667.69	-205.21	693.86	0.51	-0.49	-0.54	MWD ISCWSA
3231.00	13.05	355.57	3127.85	673.84	-205.71	700.00	1.33	-1.26	1.85	MWD ISCWSA
3267.00	12.92	354.65	3162.93	681.90	-206.40	708.05	0.68	-0.36	-2.56	MWD ISCWSA
3299.00	13.42	354.87	3194.09	689.16	-207.07	715.31	1.57	1.56	0.69	MWD ISCWSA
3331.00	13.20	354.77	3225.23	696.50	-207.73	722.65	0.69	-0.69	-0.31	MWD ISCWSA
3363.00	12.94	354.48	3256.40	703.70	-208.41	729.86	0.84	-0.81	-0.91	MWD ISCWSA
3795.00	0.00	0.00	3684.74	752.05	-213.08	778.25	3.00	-3.00	0.00	INC+TREND
4039.26	0.00	0.00	3929.00	752.05	-213.08	778.25	0.00	0.00	0.00	cliff house
4460.26	0.00	0.00	4350.00	752.05	-213.08	778.25	0.00	0.00	0.00	MENELEE
4570.00	0.00	0.00	4459.74	752.05	-213.08	778.25	0.00	0.00	0.00	7"
4750.00	0.00	0.00	4639.74	752.05	-213.08	778.25	0.00	0.00	0.00	INC+TREND
4974.26	0.00	0.00	4864.00	752.05	-213.08	778.25	0.00	0.00	0.00	POINT LOOKOUT
5359.26	0.00	0.00	5249.00	752.05	-213.08	778.25	0.00	0.00	0.00	MANCOS
6944.26	0.00	0.00	6834.00	752.05	-213.08	778.25	0.00	0.00	0.00	GREENHORN
6998.26	0.00	0.00	6888.00	752.05	-213.08	778.25	0.00	0.00	0.00	GRANEROS
7055.26	0.00	0.00	6945.00	752.05	-213.08	778.25	0.00	0.00	0.00	TWO WELLS
7127.26	0.00	0.00	7017.00	752.05	-213.08	778.25	0.00	0.00	0.00	PAGUATE
7187.26	0.00	0.00	7077.00	752.05	-213.08	778.25	0.00	0.00	0.00	CUBERO
7213.26	0.00	0.00	7103.00	752.05	-213.08	778.25	0.00	0.00	0.00	L. CUBERO
7243.26	0.00	0.00	7133.00	752.05	-213.08	778.25	0.00	0.00	0.00	ENCINAL CYN
7302.00	0.00	0.00	7191.74	752.05	-213.08	778.25	0.00	0.00	0.00	projected to TD

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude Deg Min Sec			Longitude Deg Min Sec		
csg point			3929.00	830.00	-235.00	2105980.34	2694562.41	36	47	14.920 N	107	55	50.813 W
cliff house			3929.00	830.00	-235.00	2105980.34	2694562.41	36	47	14.920 N	107	55	50.813 W
PBHL			7195.00	830.00	-235.00	2105980.34	2694562.41	36	47	14.920 N	107	55	50.813 W
-Circle (Radius: 100)													

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
200.03	200.00	9.625	12.250	9 5/8"
4570.00	4459.74	7.000	8.750	7"

Scientific Drilling Survey Report

Company: BP	Date: 5/3/2006	Time: 12:06:30	Page: 4
Field: SAN JUAN, New Mexico	Co-ordinate(NE) Reference:	Well: Sellers LS #6M, Grid North	
Site: SEC 30-T30N-R10W	Vertical (TVD) Reference:	SITE: 6127.0	
Well: Sellers LS #6M	Section (VS) Reference:	Well (0.00N,0.00E,349.53Azi)	
Wellpath: ACTUAL	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
1189.81	1178.00	OJO ALAMO		0.00	0.00
1367.52	1348.00	KIRTLAND		0.00	0.00
2036.21	1985.00	FRUITLAND		0.00	0.00
2334.70	2270.00	FRUITLAND COAL		0.00	0.00
2640.43	2561.00	PICTURED CLIFFS		0.00	0.00
3098.36	2999.00	LEWIS		0.00	0.00
4039.26	3929.00	CLIFF HOUSE		0.00	0.00
4460.26	4350.00	MENEFEE		0.00	0.00
4974.26	4864.00	POINT LOOKOUT		0.00	0.00
5359.26	5249.00	MANCOS		0.00	0.00
6944.26	6834.00	GREENHORN		0.00	0.00
6998.26	6888.00	GRANEROS		0.00	0.00
7055.26	6945.00	TWO WELLS		0.00	0.00
7127.26	7017.00	PAGUATE		0.00	0.00
7187.26	7077.00	CUBERO		0.00	0.00
7213.26	7103.00	L. CUBERO		0.00	0.00
7243.26	7133.00	ENCINAL CYN		0.00	0.00

Annotation

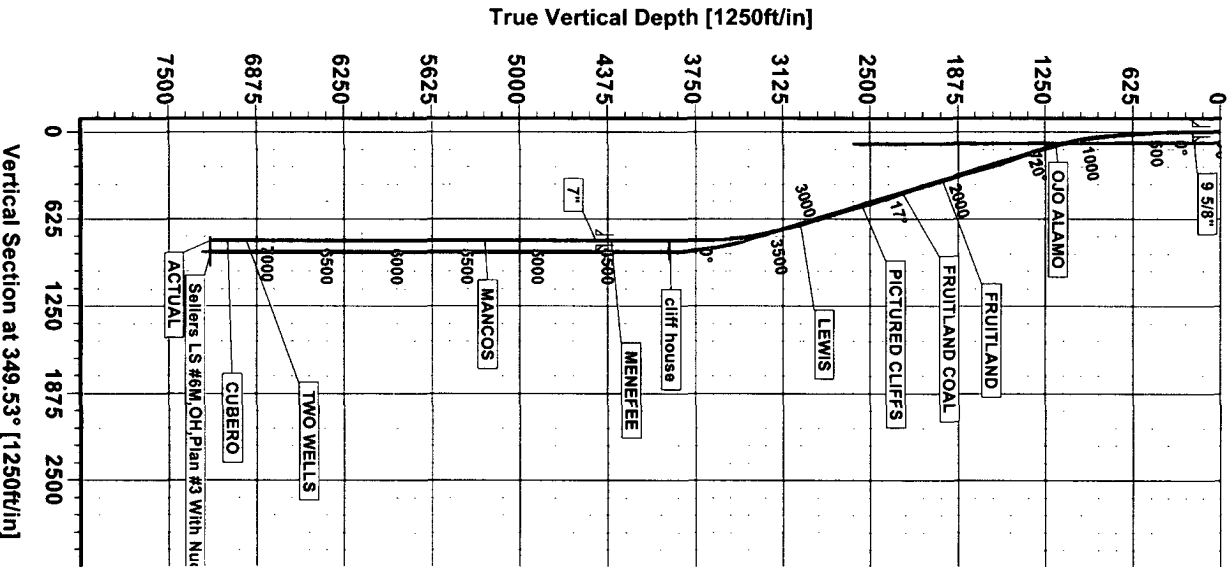
MD ft	TVD ft	
7302.00	7191.74	projected to TD



Field: SAN JUAN, New Mexico
 Site: SEC 30-T30N-R10W
 Well: Sellers LS #6M
 Wellpath: ACTUAL



COMPARISON PLOT



PLANNED -----
ACTUAL -----

LEGEND
 --- Sellers LS #6M, OH, Plan #3 With Nudge
 --- Sellers LS 6N (ACTUAL)
 --- Well #6 (OH)
 --- ACTUAL

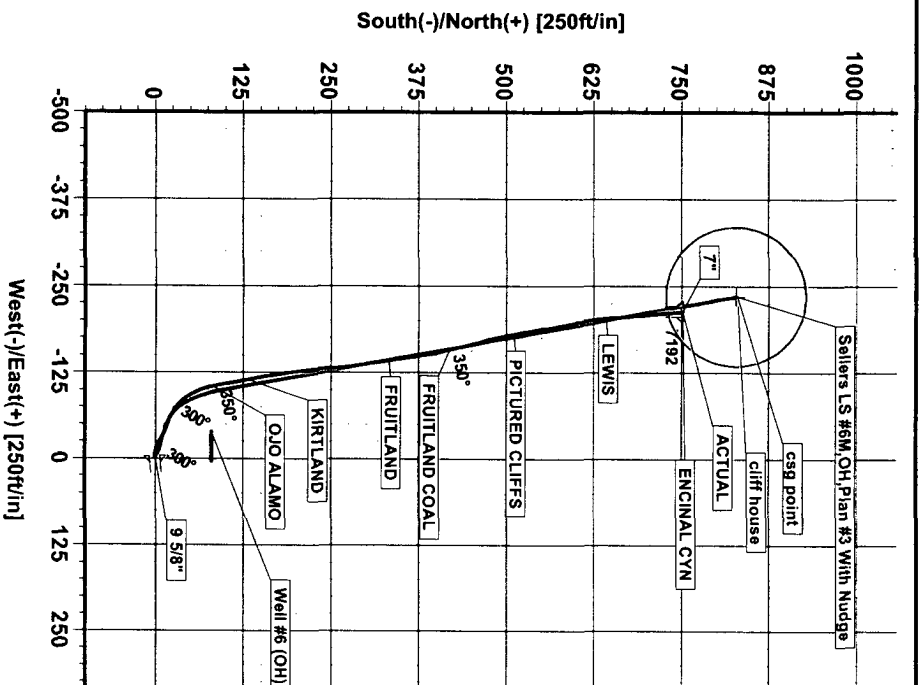
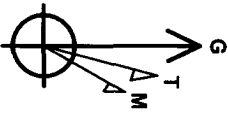
FORMATION TOP DETAILS

No.	TVDP Path	MD Path	Formation
1	1178.00	1189.81	OJO ALAMO
2	1348.00	1367.52	KIRTLAND
3	1985.00	2036.21	FRUITLAND
4	2270.00	2334.70	FRUITLAND COAL
5	2561.00	2640.43	PICTURED CLIFFS
6	2999.00	3098.36	LEWIS
7	3929.00	4039.26	CLIFF HOUSE
8	4350.00	4460.26	MENEFFEE
9	4864.00	4974.26	POINT LOOKOUT
10	5249.00	5359.26	MANCOS
11	6834.00	6944.26	GREENHORN
12	6888.00	6998.26	GRANEROS
13	6945.00	7055.26	TWO WELLS
14	7017.00	7127.26	PAGUATE
15	7077.00	7187.26	CUBERO
16	7103.00	7213.26	L. CUBERO
17	7133.00	7243.26	ENCINAL CYN

FORMATION TOP DETAILS

Azimuths to Grid North
 True North: 0.06°
 Magnetic North: 10.71°

Magnetic Field
 Strength: 5133.2nT
 Dip Angle: 63.63°
 Date: 3/6/2006
 Model: bgm2005



SURVEY PROGRAM

Date : 5/3/2006 Validated : No Version : 1

Depth Fm Depth To Survey/Plan
 241.00 3363.00 MWD Survey
 3795.00 7302.00 Extrapolated Survey

Tool
 MWD ISCWSA
 INC+TREND

SITE DETAILS

SEC 30-T30N-R10W
 SAN JUAN NEW MEXICO

Ground Level: 9113.00
 Positional Uncertainty: 0.00
 Convergence: -0.06

FIELD DETAILS

SAN JUAN, New Mexico
 SAN JUAN COUNTY, NEW MEXICO
 USA

Geodetic System: US State Plane Coordinate System 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico, Western Zone
 Magnetic Model: bgm2005

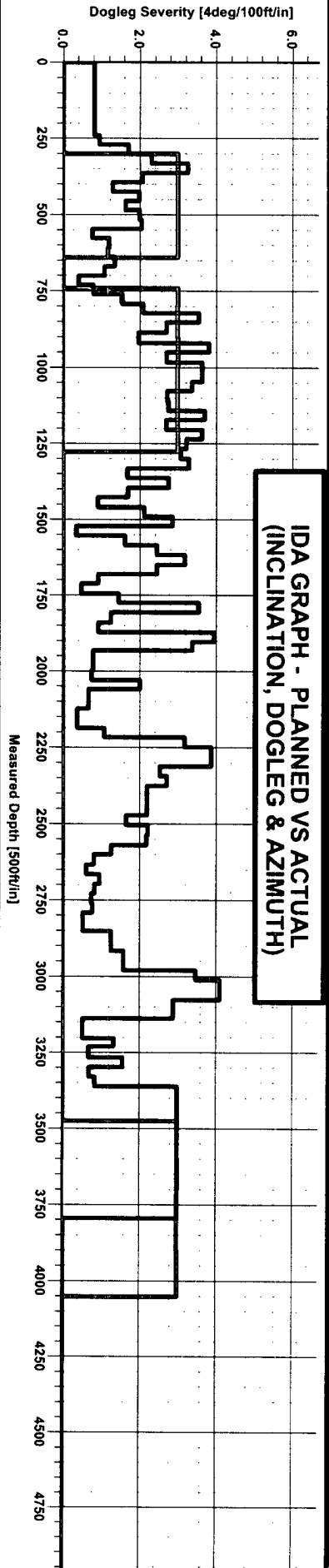


Scientific Drilling
Directional Drilling Operations

Field: SAN JUAN, New Mexico
Site: SEC 30-T30N-R10W
Well: Sellers LS #6M
Wellpath: ACTUAL



IDA GRAPH - PLANNED VS ACTUAL
(INCLINATION, DOGLEG & AZIMUTH)



LEGEND
— Sellers LS #6M, ACTUAL, Plan #3 With Nudge
--- ACTUAL

