



O H RANDEL #17-S
SAN JUAN CO., NEW MEXICO

Surface: 835/5 890/E
Lateral ang'n 2488/N 1307/E
MD 3405 TVD 1741
BITL 7394/N 1854/E
MD 5258
TVD 1748

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	2045 00	89 31	342 95	1704 70	630.56	-172.38	0 00	0 00	653 69	
2	2397 48	89 32	350 00	1708 91	973 02	-254 76	2 00	89 96	1005 80	
3	4097 48	89 32	350 00	1729 09	2647 08	-549 94	0 00	0 00	2699 10	
4	4655 41	90 16	333 28	1731 66	3174 72	-725 05	3 00	-87 20	3254 12	
5	5266 31	90 16	333 28	1730 00	3720.40	-999 70	0 00	0 00	3852 37	

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
P2	1749 00	3720 40	-999 70	36°29'36.021N	107°59'19.544W	Point

WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#17 S	0.00	0.00	1995200.23	2678404.98	36°28'59.230N	107°59'07.300W	N/A

FIELD DETAILS
San Juan, NM (NAD 83)
Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Western Zone
Magnetic Model: bggm2006
System Datum: Mean Sea Level
Local North: True North

SITE DETAILS
OH Randel #17S
835' FSL 890' FEL of Section 15, T-26-N, R-11-W
Site Centre Latitude: 36°28'59.230N
Longitude: 107°59'07.300W
Ground Level: 6387.00
Positional Uncertainty: 0.00
Convergence: -0.09

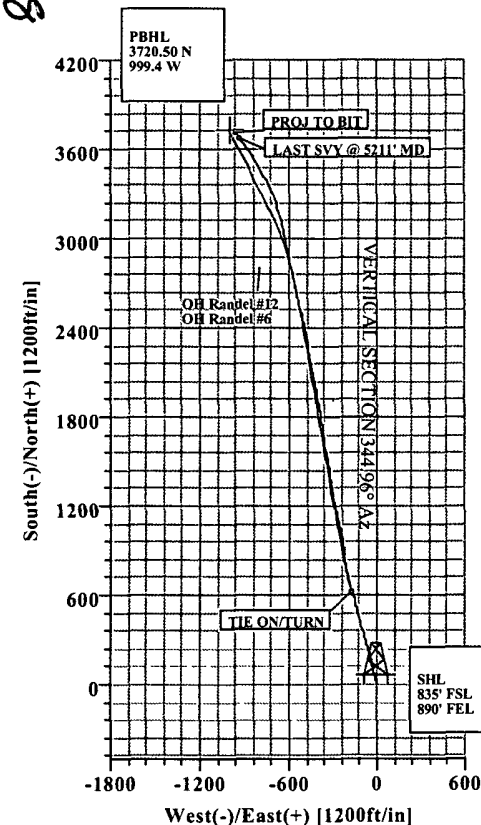
FORMATION TOP DETAILS			
No.	TVDPath	MDPath	Formation
1	668 00	668 01	Ojo Alamo SS
2	777 00	777 01	Kirtland Shale
3	1132 00	1136 42	Fruitland Formation
4	1693 62	1910 22	Top of Fruitland CI
5	1711 14	2326.33	Btm of Fruitland CI

CASING DETAILS				
No.	TVD	MD	Name	Size
1	225 00	225 00	9 5/8"	9.625
2	1699 10	1954 10	7"	7.000
3	1720 74	3405.00	4 1/2"	0.000

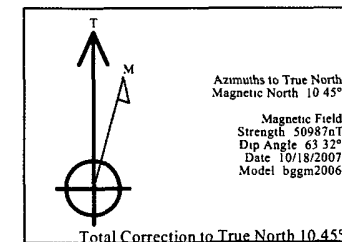
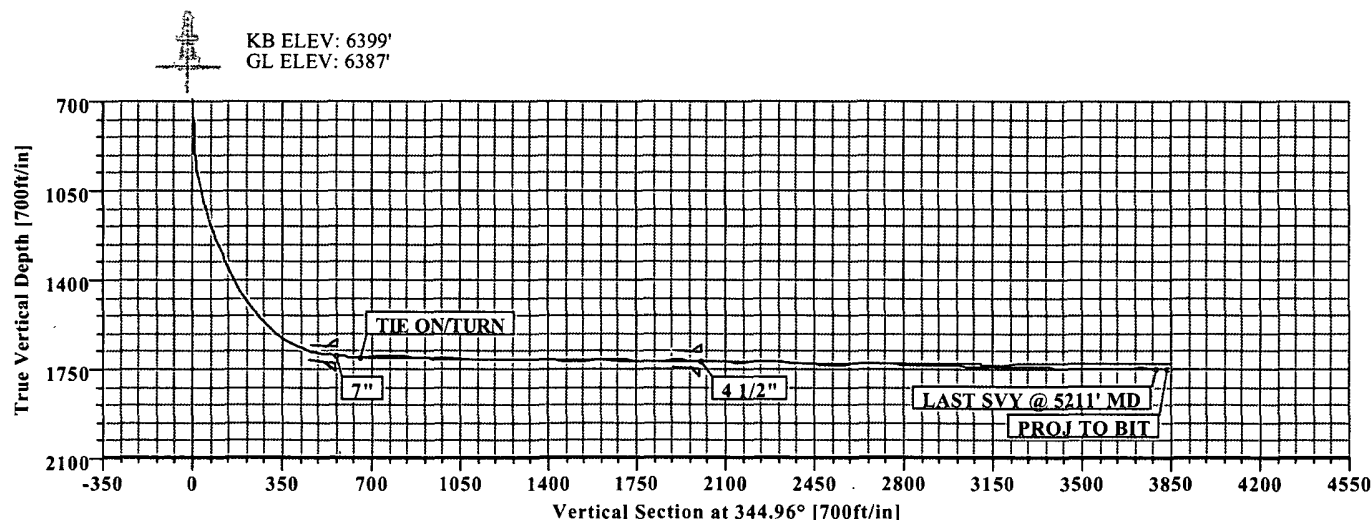
LEGEND
#17 S.1. Plan #5
ST SVY



2-1-08



30-045-32950



Survey: ST SVY (#17 S/1)
Created By: Lindsey Maddux
Date: 1/7/2008



Weatherford International, Inc.

Survey Report - Geographic

**Weatherford**

Company: XTO Energy	Date: 1/7/2008	Time: 10:26:26	Page: 1
Field: San Juan, NM (NAD 83)	Co-ordinate(NE) Reference: Site: OH Randel #17S, True North		
Site: OH Randel #17S	Vertical (TVD) Reference: SITE 6399.0		
Well: #17.S	Section (VS) Reference: Well (0.00N,0.00E,344.96Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: San Juan, NM (NAD 83)**Map System:** US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level**Map Zone:** New Mexico, Western Zone
Coordinate System: Site Centre
Geomagnetic Model: bggm2006**Site:** OH Randel #17S

835' FSL 890' FEL of Section 15, T-26-N, R-11-W

Site Position:	Northing: 1995200.23 ft	Latitude: 36 28 59.230 N
From: Geographic	Easting: 2678404.98 ft	Longitude: 107 59 7.300 W
Position Uncertainty: 0.00 ft		North Reference: True
Ground Level: 6387.00 ft		Grid Convergence: -0.09 deg

Well: #17 S**Slot Name:**

Well Position: +N/-S 0.00 ft	Northing: 1995200.23 ft	Latitude: 36 28 59.230 N
+E/-W 0.00 ft	Easting: 2678404.98 ft	Longitude: 107 59 7.300 W
Position Uncertainty: 0.00 ft		

Wellpath: 1

Current Datum: SITE	Height 6399.00 ft	Drilled From: Surface
Magnetic Data: 10/18/2007		Tie-on Depth: 0.00 ft
Field Strength: 50987 nT		Above System Datum: Mean Sea Level
Vertical Section: Depth From (TVD)		Declination: 10.45 deg
ft	+N/-S ft	Mag Dip Angle: 63.32 deg
0.00	0.00	+E/-W ft
		Direction deg
		344.96

Survey: ST SVY**Start Date:** 12/24/2007**Company:** Weatherford International, Inc
Tool: MWD;MWD - Standard**Engineer:** Lindsey Maddux
Tied-to: From Surface**Survey:** ST SVY

MD	Incl	Azim	TVD	+N/-S	+E/-W	Map	Map	Latitude	Longitude
ft	deg	deg	ft	ft	ft	Northing	Easting	Deg Min Sec	Deg Min Sec
0.00	0.00	0.00	0.00	0.00	0.00	1995200.23	2678404.98	36 28 59.230 N	107 59 7.300 W
225.00	0.18	355.33	225.00	0.35	-0.03	1995200.58	2678404.95	36 28 59.233 N	107 59 7.300 W
389.00	0.31	355.33	389.00	1.05	-0.09	1995201.28	2678404.90	36 28 59.240 N	107 59 7.301 W
481.00	0.31	346.95	481.00	1.54	-0.16	1995201.77	2678404.82	36 28 59.245 N	107 59 7.302 W
573.00	0.25	359.20	573.00	1.98	-0.22	1995202.21	2678404.76	36 28 59.250 N	107 59 7.303 W
665.00	0.50	346.33	664.99	2.57	-0.32	1995202.80	2678404.67	36 28 59.255 N	107 59 7.304 W
757.00	0.75	325.45	756.99	3.46	-0.76	1995203.69	2678404.23	36 28 59.264 N	107 59 7.309 W
786.00	0.94	334.20	785.99	3.83	-0.97	1995204.06	2678404.02	36 28 59.268 N	107 59 7.312 W
816.00	1.81	330.95	815.98	4.47	-1.30	1995204.69	2678403.69	36 28 59.274 N	107 59 7.316 W
847.00	2.88	342.83	846.95	5.64	-1.77	1995205.87	2678403.22	36 28 59.286 N	107 59 7.322 W
878.00	4.19	346.83	877.89	7.48	-2.26	1995207.72	2678402.74	36 28 59.304 N	107 59 7.328 W
908.00	5.56	346.08	907.78	9.96	-2.86	1995210.19	2678402.14	36 28 59.329 N	107 59 7.335 W
938.00	7.13	346.33	937.60	13.18	-3.65	1995213.42	2678401.36	36 28 59.360 N	107 59 7.345 W
968.00	8.50	346.08	967.32	17.14	-4.62	1995217.38	2678400.39	36 28 59.400 N	107 59 7.357 W
1000.00	9.88	344.08	998.91	22.08	-5.94	1995222.32	2678399.07	36 28 59.448 N	107 59 7.373 W
1031.00	11.06	344.58	1029.39	27.50	-7.46	1995227.74	2678397.56	36 28 59.502 N	107 59 7.391 W
1063.00	12.25	344.83	1060.73	33.74	-9.17	1995233.98	2678395.87	36 28 59.564 N	107 59 7.412 W
1094.00	13.56	345.08	1090.94	40.43	-10.96	1995240.67	2678394.08	36 28 59.630 N	107 59 7.434 W
1126.00	15.06	346.08	1121.95	48.09	-12.93	1995248.33	2678392.13	36 28 59.706 N	107 59 7.458 W
1158.00	16.69	345.95	1152.73	56.58	-15.05	1995256.83	2678390.03	36 28 59.790 N	107 59 7.484 W
1189.00	18.13	345.83	1182.31	65.57	-17.31	1995265.83	2678387.78	36 28 59.878 N	107 59 7.512 W
1221.00	19.63	346.95	1212.59	75.64	-19.74	1995275.90	2678385.36	36 28 59.978 N	107 59 7.542 W
1253.00	20.94	346.83	1242.60	86.44	-22.26	1995286.71	2678382.86	36 29 0.085 N	107 59 7.573 W



Weatherford International, Inc.

Survey Report - Geographic

**Weatherford®**

Company: XTO Energy	Date: 1/7/2008	Time: 10:26:26	Page: 2
Field: San Juan, NM (NAD 83)	Co-ordinate(NE) Reference:	Site: OH Randel #17S, True North	
Site: OH Randel #17S	Vertical (TVD) Reference:	SITE 6399.0	
Well: #17 S	Section (VS) Reference:	Well (0.00N,0.00E,344.96Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: ST SVY

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude Deg Min Sec	Longitude Deg Min Sec
1284.00	22.19	345.08	1271.43	97.49	-25.03	1995297.76	2678380.11	36 29 0.194 N	107 59 7.606 W
1316.00	23.69	345.58	1300.90	109.56	-28.18	1995309.83	2678376.97	36 29 0.313 N	107 59 7.645 W
1348.00	24.94	344.95	1330.06	122.30	-31.54	1995322.58	2678373.64	36 29 0.439 N	107 59 7.686 W
1380.00	26.50	346.33	1358.89	135.76	-34.98	1995336.04	2678370.22	36 29 0.572 N	107 59 7.728 W
1411.00	28.13	344.95	1386.43	149.53	-38.51	1995349.82	2678366.71	36 29 0.709 N	107 59 7.772 W
1443.00	29.38	344.58	1414.49	164.39	-42.55	1995364.68	2678362.69	36 29 0.856 N	107 59 7.821 W
1474.00	31.13	344.95	1441.26	179.46	-46.66	1995379.76	2678358.61	36 29 1.005 N	107 59 7.871 W
1537.00	33.94	344.20	1494.37	212.11	-55.68	1995412.43	2678349.64	36 29 1.328 N	107 59 7.982 W
1569.00	35.50	343.08	1520.67	229.60	-60.81	1995429.92	2678344.53	36 29 1.501 N	107 59 8.045 W
1601.00	38.44	342.45	1546.24	247.98	-66.52	1995448.31	2678338.86	36 29 1.682 N	107 59 8.115 W
1632.00	42.63	342.08	1569.79	267.16	-72.66	1995467.50	2678332.75	36 29 1.872 N	107 59 8.190 W
1664.00	46.94	342.33	1592.50	288.62	-79.54	1995488.97	2678325.90	36 29 2.084 N	107 59 8.274 W
1696.00	51.56	343.33	1613.38	311.78	-86.69	1995512.14	2678318.79	36 29 2.313 N	107 59 8.362 W
1727.00	56.56	344.20	1631.57	335.87	-93.70	1995536.24	2678311.81	36 29 2.551 N	107 59 8.447 W
1759.00	61.50	344.83	1648.03	362.30	-101.02	1995562.69	2678304.54	36 29 2.813 N	107 59 8.537 W
1791.00	66.44	344.70	1662.07	390.04	-108.57	1995590.44	2678297.03	36 29 3.087 N	107 59 8.630 W
1821.00	71.38	344.70	1672.86	417.03	-115.96	1995617.44	2678289.68	36 29 3.354 N	107 59 8.720 W
1852.00	75.38	345.45	1681.73	445.72	-123.60	1995646.15	2678282.08	36 29 3.638 N	107 59 8.814 W
1862.00	76.38	345.70	1684.17	455.12	-126.02	1995655.54	2678279.68	36 29 3.731 N	107 59 8.843 W
1894.00	79.38	345.70	1690.88	485.43	-133.75	1995685.87	2678272.00	36 29 4.030 N	107 59 8.938 W
1922.00	82.56	345.08	1695.28	512.19	-140.72	1995712.63	2678265.07	36 29 4.295 N	107 59 9.023 W
1937.00	83.38	345.58	1697.11	526.59	-144.49	1995727.04	2678261.32	36 29 4.437 N	107 59 9.069 W
1953.00	83.31	345.95	1698.97	541.99	-148.40	1995742.45	2678257.44	36 29 4.590 N	107 59 9.117 W
1954.10	83.37	345.97	1699.10	543.05	-148.66	1995743.51	2678257.18	36 29 4.600 N	107 59 9.121 W
1968.00	84.19	346.20	1700.60	556.46	-151.99	1995756.93	2678253.87	36 29 4.733 N	107 59 9.161 W
1983.00	85.81	346.08	1701.91	570.97	-155.57	1995771.44	2678250.32	36 29 4.876 N	107 59 9.205 W
1998.00	86.88	345.58	1702.86	585.48	-159.23	1995785.96	2678246.68	36 29 5.020 N	107 59 9.250 W
2013.00	86.88	343.83	1703.68	599.93	-163.18	1995800.42	2678242.75	36 29 5.163 N	107 59 9.298 W
2037.00	88.88	342.95	1704.57	622.91	-170.04	1995823.41	2678235.93	36 29 5.390 N	107 59 9.382 W
2045.00	89.31	342.95	1704.70	630.56	-172.38	1995831.06	2678233.60	36 29 5.466 N	107 59 9.411 W
2120.00	94.69	343.70	1702.08	702.34	-193.88	1995902.87	2678212.21	36 29 6.175 N	107 59 9.674 W
2142.00	90.19	344.45	1701.14	723.47	-199.91	1995924.01	2678206.21	36 29 6.384 N	107 59 9.748 W
2158.00	88.88	345.70	1701.27	738.93	-204.03	1995939.47	2678202.12	36 29 6.537 N	107 59 9.799 W
2173.00	89.00	347.83	1701.55	753.52	-207.47	1995954.08	2678198.71	36 29 6.682 N	107 59 9.841 W
2188.00	90.38	352.45	1701.63	768.30	-210.03	1995968.86	2678196.16	36 29 6.828 N	107 59 9.872 W
2203.00	90.25	350.70	1701.55	783.14	-212.23	1995983.70	2678193.99	36 29 6.974 N	107 59 9.899 W
2219.00	88.44	350.70	1701.73	798.92	-214.82	1995999.49	2678191.43	36 29 7.131 N	107 59 9.931 W
2250.00	84.06	352.20	1703.76	829.50	-219.42	1996030.08	2678186.88	36 29 7.433 N	107 59 9.987 W
2280.00	83.94	352.83	1706.89	859.09	-223.30	1996059.66	2678183.04	36 29 7.726 N	107 59 10.035 W
2295.00	84.63	351.70	1708.39	873.88	-225.31	1996074.46	2678181.05	36 29 7.872 N	107 59 10.059 W
2310.00	84.81	352.08	1709.77	888.66	-227.42	1996089.25	2678178.97	36 29 8.018 N	107 59 10.085 W
2330.00	85.75	350.45	1711.41	908.36	-230.44	1996108.95	2678175.97	36 29 8.213 N	107 59 10.122 W
2340.00	86.13	350.33	1712.12	918.20	-232.11	1996118.79	2678174.32	36 29 8.310 N	107 59 10.143 W
2355.00	87.06	349.58	1713.01	932.94	-234.72	1996133.54	2678171.73	36 29 8.456 N	107 59 10.174 W
2370.00	87.94	348.95	1713.67	947.66	-237.51	1996148.26	2678168.97	36 29 8.601 N	107 59 10.209 W
2385.00	88.81	348.08	1714.09	962.36	-240.50	1996162.96	2678166.00	36 29 8.747 N	107 59 10.245 W
2399.00	88.88	347.20	1714.38	976.03	-243.49	1996176.64	2678163.03	36 29 8.882 N	107 59 10.282 W
2430.00	89.00	349.58	1714.95	1006.39	-249.73	1996207.01	2678156.84	36 29 9.182 N	107 59 10.358 W
2460.00	89.13	348.20	1715.44	1035.82	-255.51	1996236.45	2678151.11	36 29 9.473 N	107 59 10.429 W
2489.00	89.56	347.08	1715.77	1064.15	-261.72	1996264.79	2678144.94	36 29 9.753 N	107 59 10.505 W
2519.00	91.06	348.08	1715.61	1093.44	-268.17	1996294.09	2678138.54	36 29 10.043 N	107 59 10.584 W
2549.00	91.13	348.08	1715.03	1122.79	-274.37	1996323.45	2678132.39	36 29 10.333 N	107 59 10.660 W



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Survey Report - Geographic

**Weatherford**

Company: XTO Energy Date: 1/7/2008 Time: 10:26:26 Page: 3
Field: San Juan, NM (NAD 83) Co-ordinate(NE) Reference: Site: OH Randel #17S, True North
Site: OH Randel #17S Vertical (TVD) Reference: SITE 6399.0
Well: #17 S Section (VS) Reference: Well (0.00N,0.00E,344.96Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: ST SVY

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →		
								Deg	Min	Sec	Deg	Min	Sec
2579.00	90.69	347.58	1714.56	1152.11	-280.69	1996352.78	2678126.11	36	29	10.623 N	107	59	10.737 W
2610.00	91.00	348.08	1714.10	1182.41	-287.22	1996383.09	2678119.62	36	29	10.923 N	107	59	10.817 W
2640.00	90.25	348.33	1713.77	1211.78	-293.36	1996412.47	2678113.54	36	29	11.213 N	107	59	10.893 W
2669.00	90.13	349.95	1713.68	1240.26	-298.82	1996440.95	2678108.12	36	29	11.495 N	107	59	10.959 W
2700.00	90.31	352.08	1713.56	1270.87	-303.66	1996471.58	2678103.33	36	29	11.798 N	107	59	11.019 W
2760.00	88.50	352.08	1714.18	1330.30	-311.93	1996531.01	2678095.15	36	29	12.385 N	107	59	11.120 W
2790.00	87.75	353.33	1715.16	1360.04	-315.73	1996560.76	2678091.39	36	29	12.679 N	107	59	11.167 W
2820.00	87.21	351.20	1716.48	1389.73	-319.77	1996590.46	2678087.41	36	29	12.973 N	107	59	11.216 W
2850.00	88.94	349.33	1717.49	1419.28	-324.84	1996620.02	2678082.38	36	29	13.265 N	107	59	11.278 W
2881.00	89.69	348.95	1717.86	1449.72	-330.68	1996650.47	2678076.59	36	29	13.566 N	107	59	11.350 W
2910.00	89.00	349.83	1718.19	1478.23	-336.02	1996678.98	2678071.30	36	29	13.848 N	107	59	11.415 W
2941.00	90.94	349.58	1718.21	1508.73	-341.56	1996709.49	2678065.81	36	29	14.150 N	107	59	11.483 W
3001.00	92.81	349.33	1716.25	1567.68	-352.53	1996768.46	2678054.93	36	29	14.733 N	107	59	11.617 W
3030.00	90.75	350.70	1715.34	1596.22	-357.56	1996797.01	2678049.95	36	29	15.015 N	107	59	11.679 W
3060.00	90.94	351.83	1714.90	1625.87	-362.11	1996826.67	2678045.44	36	29	15.308 N	107	59	11.735 W
3080.00	89.38	352.08	1714.85	1645.67	-364.91	1996846.47	2678042.67	36	29	15.504 N	107	59	11.769 W
3110.00	87.94	351.83	1715.55	1675.37	-369.11	1996876.18	2678038.52	36	29	15.798 N	107	59	11.820 W
3141.00	85.38	352.08	1717.35	1706.01	-373.44	1996906.82	2678034.24	36	29	16.101 N	107	59	11.873 W
3171.00	88.19	351.83	1719.04	1735.66	-377.63	1996936.49	2678030.09	36	29	16.394 N	107	59	11.925 W
3201.00	90.56	351.20	1719.36	1765.33	-382.06	1996966.16	2678025.71	36	29	16.687 N	107	59	11.979 W
3231.00	91.69	350.70	1718.77	1794.95	-386.77	1996995.79	2678021.04	36	29	16.980 N	107	59	12.037 W
3261.00	92.75	350.33	1717.61	1824.52	-391.71	1997025.36	2678016.15	36	29	17.273 N	107	59	12.097 W
3292.00	90.38	350.83	1716.77	1855.09	-396.79	1997055.94	2678011.12	36	29	17.575 N	107	59	12.159 W
3321.00	88.38	350.58	1717.08	1883.70	-401.47	1997084.56	2678006.49	36	29	17.858 N	107	59	12.217 W
3352.00	87.88	349.45	1718.09	1914.22	-406.84	1997115.08	2678001.16	36	29	18.160 N	107	59	12.283 W
3382.00	86.88	349.33	1719.46	1943.67	-412.36	1997144.55	2677995.69	36	29	18.451 N	107	59	12.350 W
3405.00	86.73	349.23	1720.74	1966.24	-416.63	1997167.12	2677991.45	36	29	18.674 N	107	59	12.402 W
3412.00	86.69	349.20	1721.14	1973.10	-417.94	1997173.99	2677990.16	36	29	18.742 N	107	59	12.418 W
3441.00	87.88	348.95	1722.52	2001.54	-423.43	1997202.44	2677984.71	36	29	19.023 N	107	59	12.486 W
3471.00	88.31	348.95	1723.52	2030.97	-429.18	1997231.87	2677979.01	36	29	19.314 N	107	59	12.556 W
3502.00	88.50	348.83	1724.38	2061.38	-435.15	1997262.29	2677973.09	36	29	19.615 N	107	59	12.629 W
3534.00	89.00	348.33	1725.08	2092.74	-441.48	1997293.66	2677966.80	36	29	19.925 N	107	59	12.707 W
3566.00	90.69	348.70	1725.16	2124.10	-447.85	1997325.03	2677960.48	36	29	20.235 N	107	59	12.785 W
3598.00	91.81	349.08	1724.46	2155.49	-454.02	1997356.43	2677954.37	36	29	20.546 N	107	59	12.860 W
3630.00	92.44	349.33	1723.28	2186.90	-460.01	1997387.85	2677948.43	36	29	20.856 N	107	59	12.934 W
3657.00	92.19	349.58	1722.19	2213.42	-464.94	1997414.38	2677943.53	36	29	21.119 N	107	59	12.994 W
3688.00	87.81	350.58	1722.19	2243.95	-470.28	1997444.92	2677938.24	36	29	21.421 N	107	59	13.060 W
3720.00	85.50	350.95	1724.05	2275.48	-475.41	1997476.45	2677933.16	36	29	21.732 N	107	59	13.122 W
3751.00	84.50	350.70	1726.76	2305.97	-480.33	1997506.95	2677928.29	36	29	22.034 N	107	59	13.183 W
3782.00	86.38	348.58	1729.22	2336.36	-485.89	1997537.35	2677922.78	36	29	22.334 N	107	59	13.251 W
3813.00	88.25	348.33	1730.67	2366.70	-492.09	1997567.70	2677916.63	36	29	22.634 N	107	59	13.327 W
3844.00	89.00	348.33	1731.42	2397.05	-498.36	1997598.06	2677910.41	36	29	22.935 N	107	59	13.403 W
3875.00	89.06	347.83	1731.94	2427.38	-504.76	1997628.40	2677904.06	36	29	23.234 N	107	59	13.482 W
3902.00	89.38	347.95	1732.31	2453.77	-510.42	1997654.80	2677898.43	36	29	23.495 N	107	59	13.551 W
3937.00	90.19	347.58	1732.44	2487.98	-517.84	1997689.02	2677891.07	36	29	23.834 N	107	59	13.642 W
3968.00	90.56	346.95	1732.24	2518.21	-524.67	1997719.27	2677884.28	36	29	24.133 N	107	59	13.726 W
4000.00	91.19	347.20	1731.75	2549.40	-531.83	1997750.46	2677877.18	36	29	24.441 N	107	59	13.813 W
4032.00	91.13	347.70	1731.10	2580.63	-538.78	1997781.70	2677870.27	36	29	24.750 N	107	59	13.899 W
4064.00	89.31	347.83	1730.98	2611.90	-545.56	1997812.99	2677863.54	36	29	25.059 N	107	59	13.982 W
4096.00	89.81	346.95	1731.22	2643.13	-552.55	1997844.22	2677856.61	36	29	25.368 N	107	59	14.067 W
4129.00	90.19	347.33	1731.22	2675.30	-559.89	1997876.41	2677849.31	36	29	25.686 N	107	59	14.157 W
4160.00	88.56	347.95	1731.56	2705.58	-566.53	1997906.70	2677842.72	36	29	25.986 N	107	59	14.238 W
4191.00	88.13	347.58	1732.46	2735.86	-573.09	1997936.99	2677836.21	36	29	26.285 N	107	59	14.319 W



Weatherford International, Inc.

Survey Report - Geographic

**Weatherford®**

Company: XTO Energy Date: 1/7/2008 Time: 10:26:26 Page: 4
Field: San Juan, NM (NAD 83) Co-ordinate(NE) Reference: Site: OH Randel #17S, True North
Site: OH Randel #17S Vertical (TVD) Reference: SITE 6399.0
Well: #17 S Section (VS) Reference: Well (0.00N,0.00E,344.96Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: ST SVY

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude			Longitude		
								Deg	Min	Sec	Deg	Min	Sec
4224.00	88.25	346.95	1733.50	2768.03	-580.37	1997969.17	2677828.99	36	29	26.603 N	107	59	14.408 W
4256.00	87.81	347.95	1734.60	2799.25	-587.31	1998000.40	2677822.09	36	29	26.912 N	107	59	14.493 W
4288.00	87.81	348.45	1735.82	2830.55	-593.85	1998031.71	2677815.60	36	29	27.221 N	107	59	14.573 W
4320.00	88.56	348.20	1736.84	2861.87	-600.33	1998063.04	2677809.17	36	29	27.531 N	107	59	14.652 W
4353.00	88.81	348.45	1737.59	2894.18	-607.00	1998095.36	2677802.55	36	29	27.851 N	107	59	14.734 W
4385.00	88.75	348.20	1738.28	2925.51	-613.48	1998126.70	2677796.12	36	29	28.160 N	107	59	14.813 W
4417.00	88.88	347.45	1738.94	2956.79	-620.22	1998157.99	2677789.43	36	29	28.470 N	107	59	14.896 W
4449.00	89.00	347.20	1739.53	2988.00	-627.24	1998189.21	2677782.45	36	29	28.778 N	107	59	14.982 W
4481.00	89.00	347.45	1740.09	3019.22	-634.26	1998220.44	2677775.48	36	29	29.087 N	107	59	15.068 W
4513.00	89.13	347.58	1740.61	3050.45	-641.18	1998251.69	2677768.62	36	29	29.396 N	107	59	15.153 W
4545.00	88.63	346.33	1741.24	3081.62	-648.40	1998282.87	2677761.44	36	29	29.704 N	107	59	15.241 W
4577.00	89.06	345.58	1741.88	3112.66	-656.17	1998313.92	2677753.73	36	29	30.011 N	107	59	15.336 W
4609.00	89.44	344.83	1742.30	3143.59	-664.34	1998344.87	2677745.61	36	29	30.317 N	107	59	15.436 W
4641.00	89.25	343.20	1742.67	3174.35	-673.15	1998375.64	2677736.84	36	29	30.621 N	107	59	15.544 W
4673.00	88.38	340.83	1743.33	3204.78	-683.03	1998406.08	2677727.01	36	29	30.922 N	107	59	15.665 W
4705.00	88.44	340.95	1744.21	3235.01	-693.50	1998436.32	2677716.59	36	29	31.221 N	107	59	15.794 W
4737.00	88.88	339.58	1744.96	3265.12	-704.30	1998466.45	2677705.83	36	29	31.519 N	107	59	15.926 W
4769.00	87.13	338.45	1746.08	3294.98	-715.75	1998496.33	2677694.43	36	29	31.814 N	107	59	16.066 W
4801.00	86.13	336.08	1747.96	3324.44	-728.10	1998525.81	2677682.13	36	29	32.105 N	107	59	16.217 W
4833.00	86.25	335.45	1750.08	3353.55	-741.20	1998554.94	2677669.07	36	29	32.393 N	107	59	16.378 W
4865.00	87.56	333.20	1751.81	3382.35	-755.05	1998583.76	2677655.27	36	29	32.678 N	107	59	16.547 W
4897.00	88.75	331.83	1752.84	3410.72	-769.81	1998612.16	2677640.56	36	29	32.959 N	107	59	16.728 W
4927.00	89.94	330.58	1753.19	3437.01	-784.26	1998638.47	2677626.15	36	29	33.219 N	107	59	16.905 W
4959.00	91.56	329.08	1752.77	3464.67	-800.34	1998666.15	2677610.11	36	29	33.492 N	107	59	17.102 W
4991.00	92.16	328.08	1751.73	3491.96	-817.01	1998693.47	2677593.48	36	29	33.762 N	107	59	17.306 W
5023.00	92.19	328.33	1750.51	3519.14	-833.86	1998720.68	2677576.68	36	29	34.031 N	107	59	17.513 W
5055.00	92.44	328.08	1749.22	3546.32	-850.70	1998747.88	2677559.88	36	29	34.300 N	107	59	17.719 W
5085.00	93.00	327.08	1747.80	3571.61	-866.77	1998773.20	2677543.85	36	29	34.550 N	107	59	17.916 W
5117.00	91.56	326.20	1746.52	3598.32	-884.35	1998799.93	2677526.31	36	29	34.814 N	107	59	18.131 W
5148.00	89.44	325.70	1746.25	3624.00	-901.71	1998825.64	2677509.00	36	29	35.068 N	107	59	18.344 W
5179.00	89.19	325.58	1746.62	3649.59	-919.20	1998851.26	2677491.54	36	29	35.321 N	107	59	18.558 W
5211.00	89.31	325.20	1747.04	3675.92	-937.38	1998877.62	2677473.41	36	29	35.581 N	107	59	18.781 W
5258.00	89.31	325.20	1747.61	3714.51	-964.20	1998916.26	2677446.65	36	29	35.963 N	107	59	19.109 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
225.00	225.00	9.625	12.250	9 5/8"
1954.10	1699.10	7.000	8.500	7"
3405.00	1720.74	0.000	0.000	4 1/2"

Annotation

MD ft	TVD ft	
2045.00	1704.70	TIE ON/TURN
5211.00	1747.04	LAST SVY @ 5211' MD
5258.00	1747.61	PROJ TO BIT