



Ryan Energy Technologies Survey Report

RCVD NOV20'06
OIL CONS. DIV.

DIST. 3

Company: DEVON ENERGY CORPORATION Date: 11/1/2006 Time: 08:52:45 Page: 1
Field: San Juan County, NM Co-ordinate(NE) Reference: Site: NEBU No. 452 A, True North
Site: NEBU No. 452 A Vertical (TVD) Reference: SITE 0.0
Well: Well #452 A Section (VS) Reference: Well (0.00N,0.00E,153.61Azi)
Wellpath: Original Hole 30 045 33814 Survey Calculation Method: Minimum Curvature Db: Sybase

Field: San Juan County, NM Surface 1825/S 1510/E MD Jvd
USA BHL 1125/S 1188/E 3502 3385
Map System: US State Plane Coordinate System 1983 Map Zone: New Mexico, Western Zone
Geo Datum: GRS 1980 Coordinate System: Site Centre
Sys Datum: Mean Sea Level Geomagnetic Model: igrf2005

Site: NEBU No. 452 A
Sec. 15-31N-7W
San Juan 452 A
Site Position: Northing: 2146038.46 ft Latitude: 36 53 50.000 N
From: Geographic Easting: 2804644.67 ft Longitude: 107 33 16.000 W
Position Uncertainty: 0.00 ft North Reference: True
Ground Level: 6516.00 ft Grid Convergence: 0.17 deg

Well: Well #452 A Slot Name:
Well Position: +N/-S 0.00 ft Northing: 2146038.46 ft Latitude: 36 53 50.000 N
+E/-W 0.00 ft Easting: 2804644.67 ft Longitude: 107 33 16.000 W
Position Uncertainty: 0.00 ft

Wellpath: Original Hole Drilled From: Surface
Current Datum: SITE Tie-on Depth: 0.00 ft
Magnetic Data: 7/17/2006 Height 0.00 ft Above System Datum: Mean Sea Level
Field Strength: 51408 nT Declination: 10.42 deg
Vertical Section: Depth From (TVD) +N/-S +E/-W Mag Dip Angle: 63.76 deg
ft ft ft Direction deg
0.00 0.00 0.00 153.61

Survey Program for Definitive Wellpath
Date: 11/1/2006 Validated: No Version: 0
Actual From To Survey Toolcode Tool Name
ft ft
324.00 3163.00 Survey #1 (324.00-3163.00) MWD
3502.00 3502.00 Survey #2 (3502.00-3502.00) Project

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
324.00	0.60	41.70	323.99	1.27	1.13	-0.63	0.19	0.19	0.00	MWD
354.00	0.90	6.20	353.99	1.62	1.26	-0.89	1.80	1.00	-118.33	MWD
386.00	0.70	195.70	385.99	1.68	1.23	-0.96	4.98	-0.62	-532.81	MWD
416.00	1.00	204.10	415.99	1.26	1.08	-0.65	1.08	1.00	28.00	MWD
447.00	1.90	159.10	446.98	0.54	1.15	0.03	4.47	2.90	-145.16	MWD
478.00	2.10	184.10	477.96	-0.51	1.29	1.03	2.86	0.65	80.65	MWD
509.00	2.30	181.60	508.94	-1.70	1.23	2.07	0.72	0.65	-8.06	MWD
540.00	2.50	160.90	539.91	-2.96	1.44	3.29	2.85	0.65	-66.77	MWD
571.00	3.60	169.30	570.87	-4.55	1.84	4.90	3.82	3.55	27.10	MWD
603.00	4.60	167.20	602.78	-6.79	2.31	7.11	3.16	3.12	-6.56	MWD
634.00	5.30	163.00	633.67	-9.37	3.00	9.73	2.54	2.26	-13.55	MWD
665.00	6.00	161.90	664.52	-12.28	3.93	12.75	2.28	2.26	-3.55	MWD
697.00	7.70	163.40	696.29	-15.93	5.06	16.52	5.34	5.31	4.69	MWD
727.00	8.40	163.40	725.99	-19.95	6.26	20.66	2.33	2.33	0.00	MWD
759.00	10.00	162.30	757.58	-24.84	7.77	25.71	5.03	5.00	-3.44	MWD
790.00	11.20	165.80	788.05	-30.32	9.33	31.31	4.39	3.87	11.29	MWD
822.00	12.70	165.10	819.36	-36.74	11.00	37.79	4.71	4.69	-2.19	MWD
852.00	13.30	164.80	848.59	-43.25	12.75	44.41	2.01	2.00	-1.00	MWD
884.00	14.50	164.40	879.65	-50.66	14.79	51.96	3.76	3.75	-1.25	MWD
914.00	15.90	162.60	908.60	-58.20	17.03	59.71	4.92	4.67	-6.00	MWD
945.00	16.60	162.60	938.36	-66.48	19.62	68.27	2.26	2.26	0.00	MWD



Ryan Energy Technologied Survey Report



Company: DEVON ENERGY CORPORATION
Field: San Juan County, NM
Site: NEBU No. 452 A
Well: Well #452 A
Wellpath: Original Hole

Date: 11/1/2006 Time: 08:52:45 Page: 2
Co-ordinate(NE) Reference: Site: NEBU No. 452 A, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,153.61Azi)
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
978.00	18.00	159.50	969.87	-75.75	22.82	78.00	5.08	4.24	-9.39	MWD
1008.00	18.00	159.10	998.40	-84.43	26.10	87.23	0.41	0.00	-1.33	MWD
1040.00	19.70	158.80	1028.68	-94.08	29.81	97.52	5.32	5.31	-0.94	MWD
1069.00	19.70	160.50	1055.98	-103.24	33.21	107.24	1.98	0.00	5.86	MWD
1100.00	20.50	160.20	1085.10	-113.27	36.79	117.82	2.60	2.58	-0.97	MWD
1129.00	21.40	160.50	1112.18	-123.04	40.28	128.12	3.13	3.10	1.03	MWD
1160.00	22.60	161.60	1140.92	-134.02	44.05	139.63	4.09	3.87	3.55	MWD
1191.00	23.00	159.50	1169.50	-145.35	48.05	151.56	2.92	1.29	-6.77	MWD
1221.00	23.60	160.90	1197.05	-156.51	52.07	163.34	2.72	2.00	4.67	MWD
1254.00	24.50	157.00	1227.19	-169.05	56.90	176.73	5.53	2.73	-11.82	MWD
1284.00	24.90	157.40	1254.44	-180.61	61.76	189.24	1.45	1.33	1.33	MWD
1313.00	24.90	154.90	1280.75	-191.77	66.69	201.43	3.63	0.00	-8.62	MWD
1343.00	25.10	152.40	1307.94	-203.13	72.32	214.11	3.58	0.67	-8.33	MWD
1373.00	24.90	152.10	1335.13	-214.35	78.23	226.78	0.79	-0.67	-1.00	MWD
1405.00	24.50	151.00	1364.20	-226.11	84.59	240.15	1.90	-1.25	-3.44	MWD
1436.00	24.30	150.70	1392.43	-237.29	90.83	252.94	0.76	-0.65	-0.97	MWD
1467.00	23.60	150.70	1420.76	-248.27	96.99	265.51	2.26	-2.26	0.00	MWD
1498.00	24.10	151.00	1449.12	-259.22	103.10	278.03	1.66	1.61	0.97	MWD
1528.00	23.30	152.10	1476.59	-269.82	108.84	290.08	3.05	-2.67	3.67	MWD
1559.00	23.40	151.00	1505.05	-280.62	114.69	302.35	1.44	0.32	-3.55	MWD
1590.00	23.90	152.10	1533.44	-291.55	120.62	314.78	2.15	1.61	3.55	MWD
1621.00	23.70	150.70	1561.81	-302.54	126.61	327.28	1.93	-0.65	-4.52	MWD
1652.00	23.30	149.60	1590.24	-313.26	132.76	339.62	1.91	-1.29	-3.55	MWD
1682.00	23.20	150.00	1617.80	-323.49	138.71	351.44	0.62	-0.33	1.33	MWD
1713.00	23.50	146.80	1646.26	-333.95	145.15	363.67	4.20	0.97	-10.32	MWD
1745.00	22.90	146.50	1675.67	-344.48	152.08	376.18	1.91	-1.87	-0.94	MWD
1776.00	22.30	147.90	1704.29	-354.49	158.54	388.02	2.60	-1.94	4.52	MWD
1804.00	21.90	148.60	1730.24	-363.45	164.08	398.51	1.71	-1.43	2.50	MWD
1836.00	22.20	147.20	1759.90	-373.63	170.46	410.46	1.89	0.94	-4.37	MWD
1867.00	21.50	148.60	1788.67	-383.40	176.60	421.94	2.81	-2.26	4.52	MWD
1899.00	21.20	148.60	1818.47	-393.34	182.67	433.54	0.94	-0.94	0.00	MWD
1928.00	20.40	149.30	1845.58	-402.17	187.98	443.81	2.89	-2.76	2.41	MWD
1959.00	20.00	148.60	1874.68	-411.34	193.50	454.48	1.51	-1.29	-2.26	MWD
1990.00	20.40	149.30	1903.77	-420.51	199.02	465.14	1.51	1.29	2.26	MWD
2021.00	19.70	148.90	1932.89	-429.63	204.48	475.74	2.30	-2.26	-1.29	MWD
2053.00	19.90	149.60	1963.00	-438.94	210.02	486.55	0.97	0.62	2.19	MWD
2083.00	20.00	147.90	1991.20	-447.69	215.33	496.75	1.96	0.33	-5.67	MWD
2115.00	19.70	148.90	2021.30	-456.95	221.02	507.57	1.42	-0.94	3.12	MWD
2146.00	19.70	148.20	2050.48	-465.86	226.47	517.98	0.76	0.00	-2.26	MWD
2177.00	19.00	146.50	2079.73	-474.51	232.01	528.19	2.90	-2.26	-5.48	MWD
2209.00	18.00	147.90	2110.08	-483.04	237.52	538.27	3.42	-3.12	4.37	MWD
2240.00	17.30	150.30	2139.62	-491.10	242.34	547.64	3.26	-2.26	7.74	MWD
2271.00	16.90	147.50	2169.25	-498.91	247.05	556.72	2.95	-1.29	-9.03	MWD
2302.00	16.50	146.80	2198.94	-506.39	251.88	565.58	1.44	-1.29	-2.26	MWD
2334.00	15.60	150.70	2229.70	-513.95	256.48	574.39	4.39	-2.81	12.19	MWD
2363.00	15.80	150.30	2257.61	-520.78	260.34	582.22	0.78	0.69	-1.38	MWD
2394.00	15.10	150.00	2287.49	-527.94	264.45	590.46	2.27	-2.26	-0.97	MWD
2425.00	14.40	148.60	2317.47	-534.73	268.48	598.33	2.53	-2.26	-4.52	MWD
2456.00	13.60	152.10	2347.55	-541.24	272.19	605.82	3.76	-2.58	11.29	MWD
2486.00	13.20	150.70	2376.73	-547.34	275.52	612.76	1.72	-1.33	-4.67	MWD
2517.00	12.90	150.70	2406.93	-553.45	278.94	619.76	0.97	-0.97	0.00	MWD
2546.00	12.60	153.50	2435.22	-559.10	281.94	626.15	2.37	-1.03	9.66	MWD
2578.00	11.50	152.80	2466.51	-565.06	284.95	632.83	3.47	-3.44	-2.19	MWD



Ryan Energy Technologied Survey Report



Company: DEVON ENERGY CORPORATION
Field: San Juan County, NM
Site: NEBU No. 452 A
Well: Well #452 A
Wellpath: Original Hole

Date: 11/1/2006 **Time:** 08:52:45 **Page:** 3
Co-ordinate(NE) Reference: Site: NEBU No. 452 A, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,153.61Azi)
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
2609.00	11.10	156.00	2496.91	-570.54	287.58	638.90	2.40	-1.29	10.32	MWD
2640.00	10.60	151.40	2527.36	-575.77	290.16	644.73	3.22	-1.61	-14.84	MWD
2671.00	9.80	151.80	2557.87	-580.59	292.77	650.22	2.59	-2.58	1.29	MWD
2702.00	9.50	153.50	2588.43	-585.21	295.16	655.42	1.33	-0.97	5.48	MWD
2734.00	8.20	157.00	2620.05	-589.67	297.23	660.33	4.40	-4.06	10.94	MWD
2765.00	8.00	156.00	2650.74	-593.68	298.97	664.70	0.79	-0.65	-3.23	MWD
2796.00	7.00	154.60	2681.47	-597.36	300.66	668.74	3.28	-3.23	-4.52	MWD
2886.00	5.50	153.50	2770.94	-606.17	304.94	678.54	1.67	-1.67	-1.22	MWD
2978.00	4.80	161.20	2862.57	-613.76	308.14	686.76	1.07	-0.76	8.37	MWD
3070.00	3.90	154.60	2954.30	-620.23	310.73	693.71	1.12	-0.98	-7.17	MWD
3163.00	4.20	159.50	3047.07	-626.28	313.27	700.26	0.49	0.32	5.27	MWD
3502.00	4.20	159.50	3385.16	-649.53	321.97	724.95	0.00	0.00	0.00	PROJECTED to TD



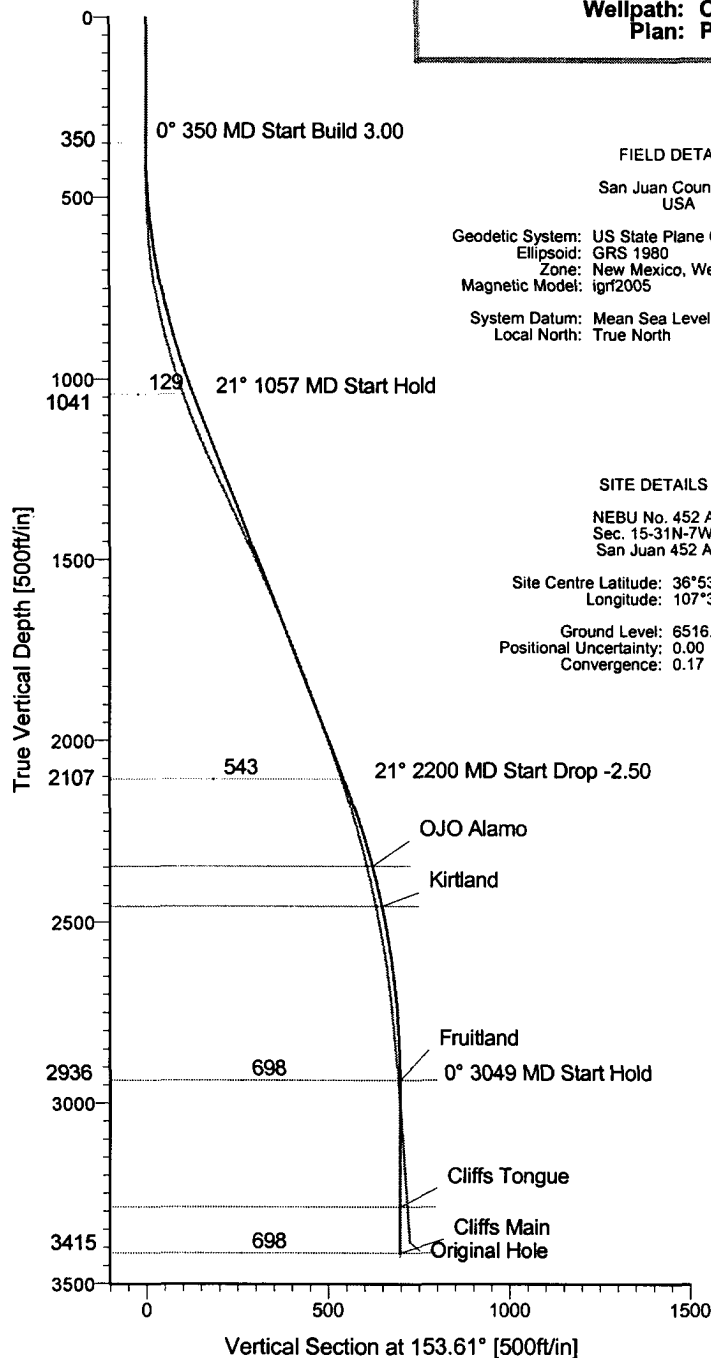
DEVON ENERGY CORPORATION

Field: San Juan County, NM
 Site: NEBU No. 452 A
 Well: Well #452 A
 Wellpath: Original Hole
 Plan: Plan #2



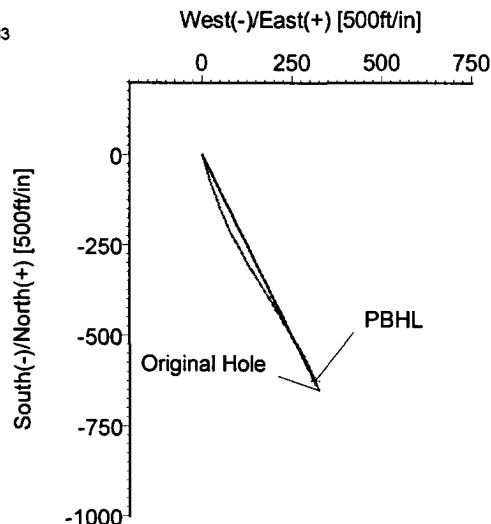
Azimuths to True North
 Magnetic North: 10.42°

Magnetic Field
 Strength: 51408nT
 Dip Angle: 63.76°
 Date: 7/17/2006
 Model: igrf2005



FIELD DETAILS
 San Juan County, NM
 USA
 Geodetic System: US State Plane Coordinate System 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico, Western Zone
 Magnetic Model: igrf2005
 System Datum: Mean Sea Level
 Local North: True North

SITE DETAILS
 NEBU No. 452 A
 Sec. 15-31N-7W
 San Juan 452 A
 Site Centre Latitude: 36°53'50.000N
 Longitude: 107°33'16.000W
 Ground Level: 6516.00
 Positional Uncertainty: 0.00
 Convergence: 0.17



WELLPATH DETAILS

Original Hole			
Rig:	SITE		
Ref. Datum:	Origin +N/-S	Origin +E/-W	Starting From TVD
V.Section Angle	0.00	0.00	0.00
153.61°			

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	3415.00	-625.46	310.35	36°53'43.815N	107°33'12.179W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	153.61	0.00	0.00	0.00	0.00	0.00	0.00	
2	350.00	0.00	153.61	350.00	0.00	0.00	0.00	0.00	0.00	
3	1056.94	21.21	153.61	1040.91	-115.87	57.49	3.00	153.61	129.35	
4	2200.39	21.21	153.61	2106.91	-486.41	241.36	0.00	0.00	543.00	
5	3048.72	0.00	153.61	2936.00	-625.46	310.35	2.50	180.00	698.22	
6	3527.72	0.00	153.61	3415.00	-625.46	310.35	0.00	0.00	698.22	PBHL