

30-045-33826



Ryan Energy Technologies

Survey Report

RCVD 001306
OIL CONS. DIV.

DIST. 3



Company: DEVON ENERGY CORPORATION
Field: San Juan County, NM
Site: NEBU No. 476 A
Well: Well #476 A
Wellpath: Original Hole

Date: 9/6/2006 Time: 16:03:04 Page: 1
Co-ordinate(NE) Reference: Site: NEBU No. 476 A, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,308.08Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Field: San Juan County, NM

USA

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:

igrf2005

Site: NEBU No. 476 A
Sec. 22-31N-7W
San Juan County, NM

Site Position: Northing: 2142392.42 ft Latitude: 36 53 14.000 N
From: Geographic Easting: 2802786.94 ft Longitude: 107 33 39.000 W
Position Uncertainty: 0.00 ft North Reference: True
Ground Level: 6525.00 ft Grid Convergence: 0.16 deg

Well: Well #476 A

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 2142392.42 ft Latitude: 36 53 14.000 N
+E/-W 0.00 ft Easting: 2802786.94 ft Longitude: 107 33 39.000 W
Position Uncertainty: 0.00 ft

Wellpath: Original Hole

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 10.41 deg
Mag Dip Angle: 63.75 deg
+N/-S
+E/-W
Direction
deg

Current Datum: SITE Height 0.00 ft
Magnetic Data: 8/21/2006
Field Strength: 51392 nT
Vertical Section: Depth From (TVD)
ft

0.00 0.00 0.00 308.08

Survey Program for Definitive Wellpath

Date: 9/6/2006 Validated: No
Actual From To Survey

Version: 0
Toolcode

Tool Name

324.00 3166.00 Ryan MWD (324.00-3166.00)
3230.00 3230.00 Survey #2 (3230.00-3230.00)

MWD
Project

Surf 1820/N 1890/W
BHL 1353/N 1281/W
Md 3230
Tvd 3091

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	0.40	312.40	324.00	0.76	-0.84	1.13	0.12	0.12	0.00	MWD
354.00	0.70	306.40	354.00	0.94	-1.06	1.42	1.02	1.00	-20.00	MWD
385.00	1.20	305.70	384.99	1.24	-1.48	1.93	1.61	1.61	-2.26	MWD
416.00	2.10	309.30	415.98	1.79	-2.18	2.82	2.92	2.90	11.61	MWD
447.00	3.10	314.50	446.95	2.74	-3.22	4.22	3.31	3.23	16.77	MWD
478.00	4.00	313.50	477.89	4.07	-4.60	6.13	2.91	2.90	-3.23	MWD
509.00	4.80	314.90	508.79	5.73	-6.30	8.50	2.60	2.58	4.52	MWD
540.00	5.30	315.20	539.67	7.66	-8.23	11.20	1.62	1.61	0.97	MWD
571.00	6.20	312.40	570.52	9.81	-10.47	14.29	3.04	2.90	-9.03	MWD
603.00	6.80	310.30	602.31	12.20	-13.20	17.91	2.02	1.87	-6.56	MWD
634.00	7.70	310.60	633.06	14.74	-16.17	21.82	2.91	2.90	0.97	MWD
665.00	8.40	309.60	663.76	17.53	-19.49	26.16	2.30	2.26	-3.23	MWD
697.00	9.20	308.90	695.38	20.63	-23.29	31.05	2.52	2.50	-2.19	MWD
728.00	10.30	308.50	725.93	23.91	-27.38	36.30	3.56	3.55	-1.29	MWD
759.00	11.10	308.20	756.39	27.48	-31.90	42.06	2.59	2.58	-0.97	MWD
790.00	11.80	309.30	786.78	31.33	-36.70	48.21	2.37	2.26	3.55	MWD
821.00	12.80	308.90	817.07	35.50	-41.82	54.81	3.24	3.23	-1.29	MWD
853.00	13.80	308.50	848.21	40.10	-47.57	62.17	3.14	3.12	-1.25	MWD
883.00	14.70	308.20	877.28	44.68	-53.36	69.56	3.01	3.00	-1.00	MWD
912.00	15.50	306.80	905.28	49.28	-59.35	77.11	3.03	2.76	-4.83	MWD
943.00	16.40	306.10	935.09	54.34	-66.21	85.63	2.97	2.90	-2.26	MWD

8 11/15/06



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Co-ordinate(NE) Reference: Site: NEBU No. 476 A, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,308.08Azi)
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
975.00	17.40	306.80	965.71	59.87	-73.69	94.93	3.19	3.12	2.19	MWD
1006.00	18.50	308.20	995.20	65.68	-81.26	104.48	3.81	3.55	4.52	MWD
1037.00	19.40	310.00	1024.52	72.03	-89.07	114.54	3.46	2.90	5.81	MWD
1068.00	20.40	310.60	1053.66	78.86	-97.12	125.09	3.29	3.23	1.94	MWD
1098.00	21.30	311.00	1081.70	85.84	-105.20	135.75	3.04	3.00	1.33	MWD
1129.00	22.20	311.40	1110.49	93.41	-113.84	147.22	2.94	2.90	1.29	MWD
1161.00	23.30	310.00	1140.00	101.47	-123.23	159.58	3.83	3.44	-4.37	MWD
1252.00	25.80	307.10	1222.77	124.99	-152.81	197.38	3.05	2.75	-3.19	MWD
1344.00	25.90	306.80	1305.57	149.10	-184.87	237.48	0.18	0.11	-0.33	MWD
1436.00	25.90	306.40	1388.33	173.06	-217.13	277.65	0.19	0.00	-0.43	MWD
1528.00	26.00	306.80	1471.05	197.06	-249.45	317.90	0.22	0.11	0.43	MWD
1621.00	25.90	306.80	1554.67	221.44	-282.04	358.58	0.11	-0.11	0.00	MWD
1714.00	25.90	307.50	1638.33	245.97	-314.42	399.20	0.33	0.00	0.75	MWD
1808.00	25.70	307.10	1722.96	270.77	-346.96	440.11	0.28	-0.21	-0.43	MWD
1901.00	24.30	307.50	1807.25	294.58	-378.23	479.41	1.52	-1.51	0.43	MWD
1992.00	24.50	308.20	1890.12	317.65	-407.91	517.00	0.39	0.22	0.77	MWD
2023.00	24.30	308.20	1918.35	325.57	-417.97	529.80	0.65	-0.65	0.00	MWD
2055.00	24.30	308.90	1947.52	333.77	-428.27	542.97	0.90	0.00	2.19	MWD
2086.00	23.30	308.50	1975.88	341.60	-438.03	555.48	3.27	-3.23	-1.29	MWD
2117.00	22.30	307.80	2004.46	349.02	-447.48	567.49	3.34	-3.23	-2.26	MWD
2146.00	21.60	307.50	2031.35	355.64	-456.06	578.33	2.44	-2.41	-1.03	MWD
2178.00	21.70	306.40	2061.10	362.74	-465.50	590.14	1.31	0.31	-3.44	MWD
2209.00	21.40	305.40	2089.93	369.41	-474.72	601.51	1.53	-0.97	-3.23	MWD
2241.00	21.10	305.40	2119.75	376.13	-484.17	613.10	0.94	-0.94	0.00	MWD
2271.00	20.60	304.00	2147.79	382.21	-492.95	623.76	2.35	-1.67	-4.67	MWD
2304.00	19.40	301.90	2178.80	388.35	-502.42	635.00	4.24	-3.64	-6.36	MWD
2334.00	18.40	301.50	2207.18	393.46	-510.68	644.66	3.36	-3.33	-1.33	MWD
2365.00	17.20	301.90	2236.70	398.44	-518.75	654.07	3.89	-3.87	1.29	MWD
2397.00	16.10	304.00	2267.36	403.42	-526.44	663.20	3.92	-3.44	6.56	MWD
2428.00	15.50	305.70	2297.18	408.24	-533.37	671.63	2.44	-1.94	5.48	MWD
2458.00	14.90	307.80	2326.14	412.94	-539.67	679.49	2.71	-2.00	7.00	MWD
2489.00	14.30	307.10	2356.13	417.70	-545.88	687.31	2.02	-1.94	-2.26	MWD
2519.00	13.40	307.50	2385.26	422.05	-551.59	694.49	3.02	-3.00	1.33	MWD
2550.00	13.20	306.40	2415.43	426.33	-557.29	701.62	1.04	-0.65	-3.55	MWD
2582.00	12.50	304.30	2446.63	430.45	-563.09	708.72	2.63	-2.19	-6.56	MWD
2613.00	11.40	304.70	2476.96	434.09	-568.38	715.13	3.56	-3.55	1.29	MWD
2644.00	10.70	306.80	2507.38	437.56	-573.20	721.06	2.60	-2.26	6.77	MWD
2674.00	10.20	306.40	2536.88	440.80	-577.57	726.50	1.68	-1.67	-1.33	MWD
2705.00	9.40	306.40	2567.43	443.93	-581.82	731.78	2.58	-2.58	0.00	MWD
2736.00	8.50	307.50	2598.05	446.83	-585.67	736.60	2.96	-2.90	3.55	MWD
2768.00	7.60	310.00	2629.74	449.63	-589.17	741.08	3.02	-2.81	7.81	MWD
2798.00	6.90	312.40	2659.50	452.12	-592.02	744.86	2.54	-2.33	8.00	MWD
2828.00	6.10	314.90	2689.31	454.46	-594.48	748.24	2.83	-2.67	8.33	MWD
2858.00	5.20	316.30	2719.16	456.57	-596.55	751.17	3.03	-3.00	4.67	MWD
2890.00	4.10	317.30	2751.05	458.46	-598.33	753.73	3.45	-3.44	3.12	MWD
2921.00	3.30	317.30	2781.99	459.93	-599.68	755.71	2.58	-2.58	0.00	MWD
2952.00	3.00	315.60	2812.94	461.16	-600.86	757.39	1.01	-0.97	-5.48	MWD
2981.00	2.70	317.30	2841.91	462.21	-601.85	758.82	1.07	-1.03	5.86	MWD
3012.00	2.70	317.30	2872.87	463.28	-602.84	760.26	0.00	0.00	0.00	MWD
3043.00	2.90	313.10	2903.83	464.35	-603.91	761.76	0.92	0.65	-13.55	MWD
3074.00	2.70	313.80	2934.80	465.39	-605.01	763.27	0.65	-0.65	2.26	MWD
3166.00	1.30	268.10	3026.74	466.86	-607.62	766.23	2.19	-1.52	-49.67	MWD
3230.00	1.30	268.10	3090.73	466.81	-609.07	767.34	0.00	0.00	0.00	PROJECTED to TD



DEVON ENERGY CORPORATION

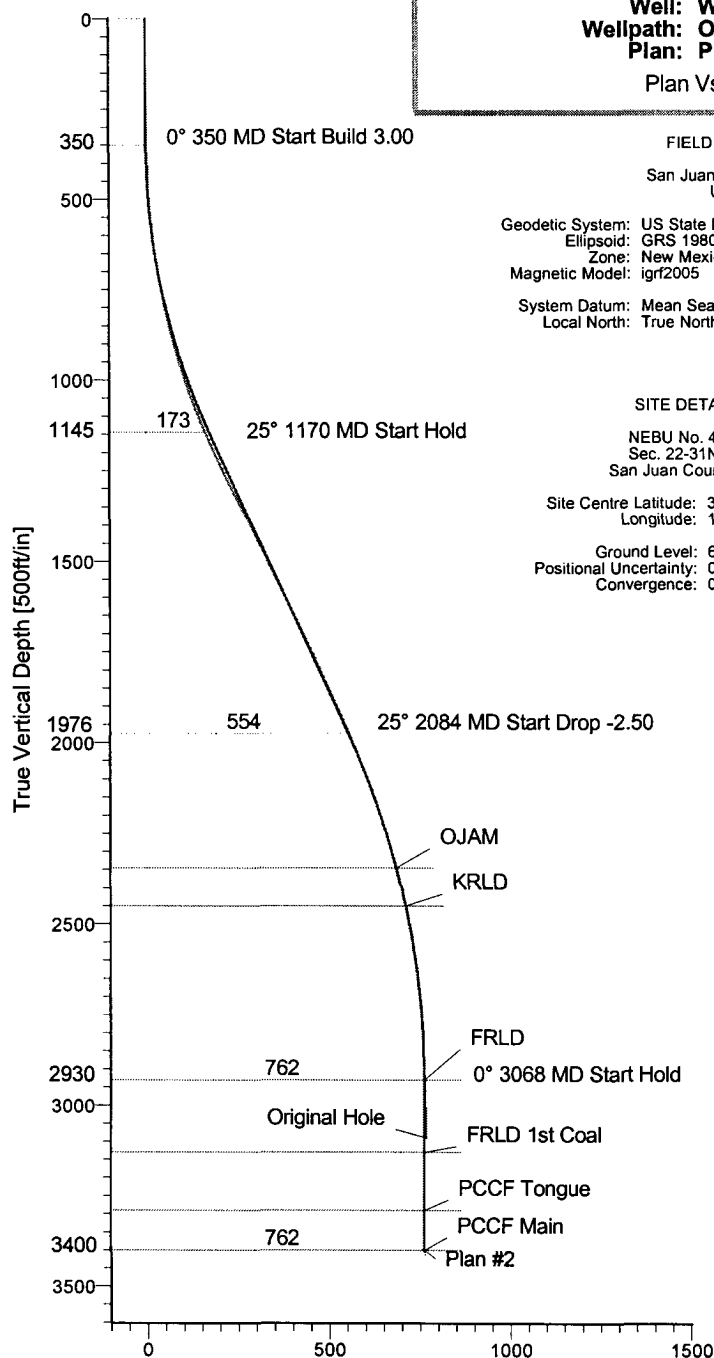
Field: San Juan County, NM
Site: NEBU No. 476 A
Well: Well #476 A
Wellpath: Original Hole
Plan: Plan #2

Plan Vs Actual



Azimuths to True North
Magnetic North: 10.41°

Magnetic Field
Strength: 51392nT
Dip Angle: 63.75°
Date: 8/21/2006
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

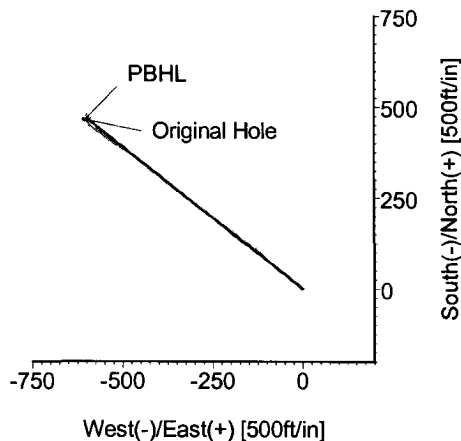
System Datum: Mean Sea Level
Local North: True North

SITE DETAILS

NEBU No. 476 A
Sec. 22-31N-7W
San Juan County, NM

Site Centre Latitude: 36°53'14.000N
Longitude: 107°33'39.000W

Ground Level: 6525.00
Positional Uncertainty: 0.00
Convergence: 0.16



WELLPATH DETAILS

Original Hole

Rig:			
Ref. Datum:	SITE	0.00ft	
V. Section Angle	Origin +N/-S	Origin +E/-W	Starting From TVD
308.08°	0.00	0.00	0.00

Vertical Section at 308.08° [500ft/in]

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	3400.00	469.77	-599.48	36°53'18.645N	107°33'46.380W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	308.08	0.00	0.00	0.00	0.00	0.00	0.00	
2	350.00	0.00	308.08	350.00	0.00	0.00	0.00	0.00	0.00	
3	1169.68	24.59	308.08	1144.75	106.84	-136.34	3.00	308.08	173.21	
4	2084.18	24.59	308.08	1976.30	341.56	-435.87	0.00	0.00	553.76	
5	3067.79	0.00	308.08	2930.00	469.77	-599.48	2.50	180.00	761.62	
6	3537.79	0.00	308.08	3400.00	469.77	-599.48	0.00	0.00	761.62	PBHL

Ryan Energy Technology
19510 Oil Center Blvd
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Ryan The leader in
UNDERGROUND INTELLIGENCE™

Plan: Plan #2 (Well #476 A/Original Hole)

Created By: Alexis Gonzalez Date: 8/9/2006
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____