

RCVD OCT23/06
OIL CONS. DIV.

DIST. 3

Ryan Energy Technologies

Survey Report 30 045 33842



Company: DEVON ENERGY CORPORATION
 Field: San Juan County, NM
 Site: NEBU No. 402 A
 Well: Well #402 A
 Wellpath: Original Hole

Date: 8/18/2006 Time: 10:38:25 Page: 1
 Co-ordinate(NE) Reference: Site: NEBU No. 402 A, True North
 Vertical (TVD) Reference: SITE 0.0
 Section (VS) Reference: Well (0.00N,0.00E,198.75Azi)
 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. 402 A
 Section 5 T30N R7W
 San Juan County, NM

Site Position: Northing: 2127497.56 ft
 From: Geographic Easting: 2794664.00 ft
 Position Uncertainty: 0.00 ft
 Ground Level: 6349.00 ft

Latitude: 36 50 46.932 N
 Longitude: 107 35 19.464 W
 North Reference: True
 Grid Convergence: 0.15 deg

Surf. 900/91 980/E
 BNL 2227/51722/E

md 3966 Topset CSJ
 Trd 2857

Well: Well #402 A

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 2127497.56 ft Latitude: 36 50 46.932 N
 +E/-W 0.00 ft Easting: 2794664.00 ft Longitude: 107 35 19.464 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: 10.42 deg
 Mag Dip Angle: 63.71 deg
 +E/-W Direction
 ft deg

Current Datum: SITE Height 0.00 ft
 Magnetic Data: 7/17/2006
 Field Strength: 51374 nT
 Vertical Section: Depth From (TVD) +N/-S
 ft ft

0.00 0.00 0.00 198.75

Survey Program for Definitive Wellpath

Date: 8/9/2006 Validated: No
 Actual From To Survey

Version: 0
 Toolcode

Tool Name

324.00 3900.00 Survey #1 (324.00-3900.00)
 3966.00 3966.00 Survey #2 (3966.00-3966.00)

MWD
 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	1.10	107.10	323.98	-0.91	2.97	-0.09	0.34	0.34	0.00	MWD
355.00	0.90	76.90	354.98	-0.95	3.49	-0.23	1.79	-0.65	-97.42	MWD
386.00	1.10	170.70	385.97	-1.19	3.78	-0.09	4.73	0.65	302.58	MWD
416.00	1.10	196.80	415.97	-1.75	3.74	0.45	1.66	0.00	87.00	MWD
446.00	1.80	201.30	445.96	-2.46	3.49	1.21	2.36	2.33	15.00	MWD
476.00	3.10	199.90	475.93	-3.66	3.04	2.49	4.34	4.33	-4.67	MWD
507.00	3.80	196.80	506.87	-5.43	2.46	4.35	2.34	2.26	-10.00	MWD
537.00	5.00	197.10	536.78	-7.63	1.79	6.65	4.00	4.00	1.00	MWD
569.00	6.50	188.70	568.62	-10.76	1.10	9.83	5.36	4.69	-26.25	MWD
601.00	7.90	195.70	600.37	-14.67	0.23	13.81	5.16	4.37	21.87	MWD
629.00	9.00	191.80	628.07	-18.66	-0.73	17.91	4.43	3.93	-13.93	MWD
663.00	11.00	192.90	661.55	-24.43	-2.00	23.78	5.91	5.88	3.24	MWD
692.00	12.30	193.20	689.95	-30.13	-3.33	29.60	4.49	4.48	1.03	MWD
720.00	13.60	193.60	717.24	-36.24	-4.78	35.85	4.65	4.64	1.43	MWD
751.00	14.90	194.60	747.28	-43.64	-6.64	43.46	4.27	4.19	3.23	MWD
780.00	15.40	196.10	775.27	-50.94	-8.65	51.02	2.19	1.72	5.17	MWD
812.00	17.20	195.30	805.99	-59.59	-11.08	59.99	5.67	5.62	-2.50	MWD
843.00	18.50	196.10	835.49	-68.74	-13.65	69.48	4.27	4.19	2.58	MWD
873.00	19.90	197.10	863.83	-78.19	-16.47	79.34	4.79	4.67	3.33	MWD
903.00	21.10	196.80	891.92	-88.24	-19.53	89.84	4.02	4.00	-1.00	MWD
935.00	22.30	198.10	921.66	-99.53	-23.09	101.66	4.04	3.75	4.06	MWD

B



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Section (VS) Reference: Well (0.00N,0.00E,198.75Azi)
Survey Calculation Method: Minimum Curvature
Page: 2
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
967.00	23.70	199.60	951.11	-111.36	-27.13	114.17	4.74	4.37	4.69	MWD
998.00	25.00	199.60	979.35	-123.40	-31.42	126.95	4.19	4.19	0.00	MWD
1030.00	26.30	199.60	1008.20	-136.45	-36.06	140.80	4.06	4.06	0.00	MWD
1062.00	28.00	199.20	1036.67	-150.22	-40.91	155.40	5.34	5.31	-1.25	MWD
1094.00	29.60	198.10	1064.71	-164.82	-45.84	170.81	5.27	5.00	-3.44	MWD
1126.00	31.50	198.50	1092.27	-180.27	-50.95	187.08	5.97	5.94	1.25	MWD
1155.00	33.10	198.10	1116.78	-194.98	-55.81	202.57	5.57	5.52	-1.38	MWD
1185.00	34.70	198.10	1141.68	-210.88	-61.01	219.30	5.33	5.33	0.00	MWD
1217.00	36.40	198.90	1167.72	-228.52	-66.91	237.91	5.51	5.31	2.50	MWD
1248.00	37.90	199.20	1192.42	-246.22	-73.03	256.63	4.87	4.84	0.97	MWD
1279.00	39.40	199.90	1216.63	-264.46	-79.51	275.98	5.04	4.84	2.26	MWD
1310.00	41.00	200.30	1240.31	-283.25	-86.38	295.99	5.23	5.16	1.29	MWD
1339.00	42.30	200.30	1261.98	-301.33	-93.07	315.25	4.48	4.48	0.00	MWD
1370.00	43.80	200.60	1284.63	-321.16	-100.46	336.40	4.88	4.84	0.97	MWD
1402.00	45.60	199.90	1307.38	-342.27	-108.25	358.90	5.83	5.62	-2.19	MWD
1435.00	47.50	200.30	1330.07	-364.77	-116.49	382.85	5.82	5.76	1.21	MWD
1464.00	48.90	201.00	1349.40	-385.00	-124.11	404.46	5.15	4.83	2.41	MWD
1493.00	50.10	201.30	1368.23	-405.56	-132.07	426.49	4.21	4.14	1.03	MWD
1525.00	51.90	201.00	1388.37	-428.76	-141.04	451.34	5.67	5.62	-0.94	MWD
1555.00	53.20	201.00	1406.61	-450.99	-149.57	475.14	4.33	4.33	0.00	MWD
1586.00	54.70	200.60	1424.86	-474.42	-158.47	500.18	4.95	4.84	-1.29	MWD
1617.00	56.00	200.30	1442.48	-498.31	-167.38	525.67	4.27	4.19	-0.97	MWD
1647.00	57.20	199.90	1459.00	-521.83	-175.99	550.71	4.15	4.00	-1.33	MWD
1677.00	58.40	199.60	1474.98	-545.73	-184.57	576.09	4.09	4.00	-1.00	MWD
1710.00	60.20	199.60	1491.83	-572.46	-194.09	604.46	5.45	5.45	0.00	MWD
1739.00	61.50	199.90	1505.95	-596.29	-202.64	629.78	4.57	4.48	1.03	MWD
1769.00	62.30	200.30	1520.08	-621.14	-211.74	656.24	2.91	2.67	1.33	MWD
1800.00	63.40	200.30	1534.23	-647.01	-221.31	683.81	3.55	3.55	0.00	MWD
1831.00	64.50	199.90	1547.84	-673.17	-230.88	711.66	3.73	3.55	-1.29	MWD
1862.00	65.30	200.60	1560.99	-699.51	-240.60	739.72	3.29	2.58	2.26	MWD
1894.00	65.30	201.00	1574.37	-726.68	-250.92	768.77	1.14	0.00	1.25	MWD
1924.00	65.70	201.00	1586.81	-752.17	-260.70	796.05	1.33	1.33	0.00	MWD
1955.00	65.90	201.00	1599.51	-778.57	-270.84	824.30	0.65	0.65	0.00	MWD
1987.00	66.10	201.00	1612.53	-805.86	-281.31	853.52	0.62	0.62	0.00	MWD
2017.00	66.00	201.30	1624.71	-831.43	-291.20	880.91	0.97	-0.33	1.00	MWD
2048.00	66.00	201.70	1637.32	-857.78	-301.58	909.20	1.18	0.00	1.29	MWD
2080.00	66.00	201.70	1650.33	-884.94	-312.39	938.39	0.00	0.00	0.00	MWD
2111.00	66.30	202.00	1662.87	-911.25	-322.95	966.70	1.31	0.97	0.97	MWD
2142.00	66.20	202.00	1675.35	-937.56	-333.57	995.03	0.32	-0.32	0.00	MWD
2172.00	66.40	201.70	1687.41	-963.06	-343.80	1022.46	1.13	0.67	-1.00	MWD
2203.00	66.30	202.00	1699.85	-989.42	-354.37	1050.82	0.94	-0.32	0.97	MWD
2233.00	66.20	202.40	1711.93	-1014.84	-364.74	1078.22	1.27	-0.33	1.33	MWD
2263.00	66.30	202.70	1724.01	-1040.20	-375.27	1105.62	0.97	0.33	1.00	MWD
2294.00	66.60	202.40	1736.40	-1066.45	-386.17	1133.98	1.31	0.97	-0.97	MWD
2325.00	66.60	202.70	1748.71	-1092.72	-397.08	1162.37	0.89	0.00	0.97	MWD
2355.00	66.60	202.70	1760.62	-1118.12	-407.71	1189.83	0.00	0.00	0.00	MWD
2386.00	66.90	202.70	1772.86	-1144.40	-418.70	1218.25	0.97	0.97	0.00	MWD
2417.00	66.70	203.10	1785.07	-1170.64	-429.78	1246.67	1.35	-0.65	1.29	MWD
2478.00	66.10	203.40	1809.49	-1222.00	-451.85	1302.39	1.08	-0.98	0.49	MWD
2510.00	66.00	203.80	1822.48	-1248.80	-463.56	1331.53	1.18	-0.31	1.25	MWD
2540.00	65.20	203.80	1834.88	-1273.80	-474.58	1358.75	2.67	-2.67	0.00	MWD
2569.00	65.00	203.80	1847.09	-1297.87	-485.20	1384.95	0.69	-0.69	0.00	MWD
2599.00	64.50	203.80	1859.88	-1322.69	-496.15	1411.98	1.67	-1.67	0.00	MWD



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Date: 8/18/2006 **Time:** 10:38:25 **Page:** 3
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Section (VS) Reference: Well (0.00N,0.00E,198.75Azi)
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
2628.00	63.90	203.80	1872.51	-1346.58	-506.68	1437.99	2.07	-2.07	0.00	MWD
2659.00	63.00	203.40	1886.36	-1371.99	-517.79	1465.62	3.12	-2.90	-1.29	MWD
2690.00	62.30	203.40	1900.60	-1397.26	-528.72	1493.06	2.26	-2.26	0.00	MWD
2721.00	61.70	203.40	1915.16	-1422.38	-539.59	1520.34	1.94	-1.94	0.00	MWD
2753.00	61.20	203.10	1930.45	-1448.21	-550.69	1548.36	1.77	-1.56	-0.94	MWD
2784.00	60.70	203.40	1945.50	-1473.11	-561.38	1575.38	1.82	-1.61	0.97	MWD
2815.00	60.30	203.40	1960.77	-1497.87	-572.10	1602.27	1.29	-1.29	0.00	MWD
2847.00	59.20	202.70	1976.89	-1523.30	-582.92	1629.84	3.92	-3.44	-2.19	MWD
2878.00	59.00	201.30	1992.81	-1547.97	-592.89	1656.39	3.93	-0.65	-4.52	MWD
2909.00	57.80	200.60	2009.05	-1572.62	-602.33	1682.78	4.32	-3.87	-2.26	MWD
2942.00	56.00	200.30	2027.07	-1598.52	-611.99	1710.41	5.51	-5.45	-0.91	MWD
2975.00	53.90	200.30	2046.03	-1623.86	-621.36	1737.41	6.36	-6.36	0.00	MWD
3002.00	52.80	199.60	2062.14	-1644.22	-628.75	1759.07	4.57	-4.07	-2.59	MWD
3034.00	51.70	199.20	2081.73	-1668.09	-637.16	1784.37	3.58	-3.44	-1.25	MWD
3065.00	50.70	197.80	2101.16	-1690.99	-644.82	1808.53	4.77	-3.23	-4.52	MWD
3097.00	48.90	197.40	2121.81	-1714.29	-652.22	1832.96	5.71	-5.62	-1.25	MWD
3129.00	47.30	196.80	2143.18	-1737.05	-659.22	1856.77	5.19	-5.00	-1.87	MWD
3161.00	45.50	196.10	2165.25	-1759.28	-665.78	1879.92	5.84	-5.62	-2.19	MWD
3190.00	44.30	195.30	2185.79	-1778.98	-671.32	1900.36	4.57	-4.14	-2.76	MWD
3222.00	43.50	192.90	2208.85	-1800.50	-676.73	1922.48	5.77	-2.50	-7.50	MWD
3252.00	42.40	191.80	2230.81	-1820.47	-681.11	1942.79	4.44	-3.67	-3.67	MWD
3282.00	41.40	191.50	2253.14	-1840.09	-685.15	1962.67	3.40	-3.33	-1.00	MWD
3311.00	40.40	191.10	2275.06	-1858.71	-688.87	1981.50	3.56	-3.45	-1.38	MWD
3344.00	38.40	191.10	2300.56	-1879.26	-692.91	2002.25	6.06	-6.06	0.00	MWD
3377.00	36.40	191.10	2326.77	-1898.93	-696.76	2022.12	6.06	-6.06	0.00	MWD
3408.00	34.70	191.10	2351.99	-1916.61	-700.23	2039.98	5.48	-5.48	0.00	MWD
3437.00	33.80	190.40	2375.96	-1932.65	-703.28	2056.14	3.39	-3.10	-2.41	MWD
3467.00	32.60	190.10	2401.06	-1948.81	-706.20	2072.39	4.04	-4.00	-1.00	MWD
3498.00	31.50	189.40	2427.34	-1965.02	-708.99	2088.64	3.75	-3.55	-2.26	MWD
3530.00	30.00	188.30	2454.84	-1981.19	-711.51	2104.76	5.01	-4.69	-3.44	MWD
3561.00	28.50	188.70	2481.89	-1996.17	-713.75	2119.66	4.88	-4.84	1.29	MWD
3591.00	27.50	188.30	2508.37	-2010.10	-715.83	2133.52	3.39	-3.33	-1.33	MWD
3622.00	26.20	190.40	2536.03	-2023.91	-718.10	2147.33	5.19	-4.19	6.77	MWD
3653.00	25.20	189.00	2563.97	-2037.16	-720.37	2160.60	3.77	-3.23	-4.52	MWD
3683.00	24.40	189.00	2591.20	-2049.59	-722.34	2173.01	2.67	-2.67	0.00	MWD
3713.00	23.50	189.00	2618.62	-2061.62	-724.24	2185.01	3.00	-3.00	0.00	MWD
3744.00	22.50	188.70	2647.15	-2073.59	-726.11	2196.94	3.25	-3.23	-0.97	MWD
3777.00	20.80	189.40	2677.82	-2085.61	-728.02	2208.94	5.21	-5.15	2.12	MWD
3806.00	20.40	188.30	2704.97	-2095.69	-729.59	2218.99	1.92	-1.38	-3.79	MWD
3838.00	18.90	188.70	2735.10	-2106.33	-731.18	2229.58	4.71	-4.69	1.25	MWD
3870.00	17.40	189.40	2765.51	-2116.18	-732.74	2239.41	4.74	-4.69	2.19	MWD
3900.00	17.10	189.00	2794.16	-2124.96	-734.17	2248.18	1.08	-1.00	-1.33	MWD
3966.00	17.10	189.00	2857.24	-2144.13	-737.20	2267.30	0.00	0.00	0.00	Project



DEVON ENERGY CORPORATION

Field: San Juan County, NM
Site: NEBU No. 402 A
Well: Well #402 A
Wellpath: Original Hole
Plan: Plan #1

Plan vs Actual



Azimuths to True North
Magnetic North: 10.42°

Magnetic Field
Strength: 51374nT
Dip Angle: 63.71°
Date: 7/17/2006
Model: igr2005

SITE DETAILS

NEBU No. 402 A
Section 5 T30N R7W
San Juan County, NM

Site Centre Latitude: 36°50'46.932N
Longitude: 107°35'19.464W

Ground Level: 6349.00
Positional Uncertainty: 0.00
Convergence: 0.15

FIELD DETAILS

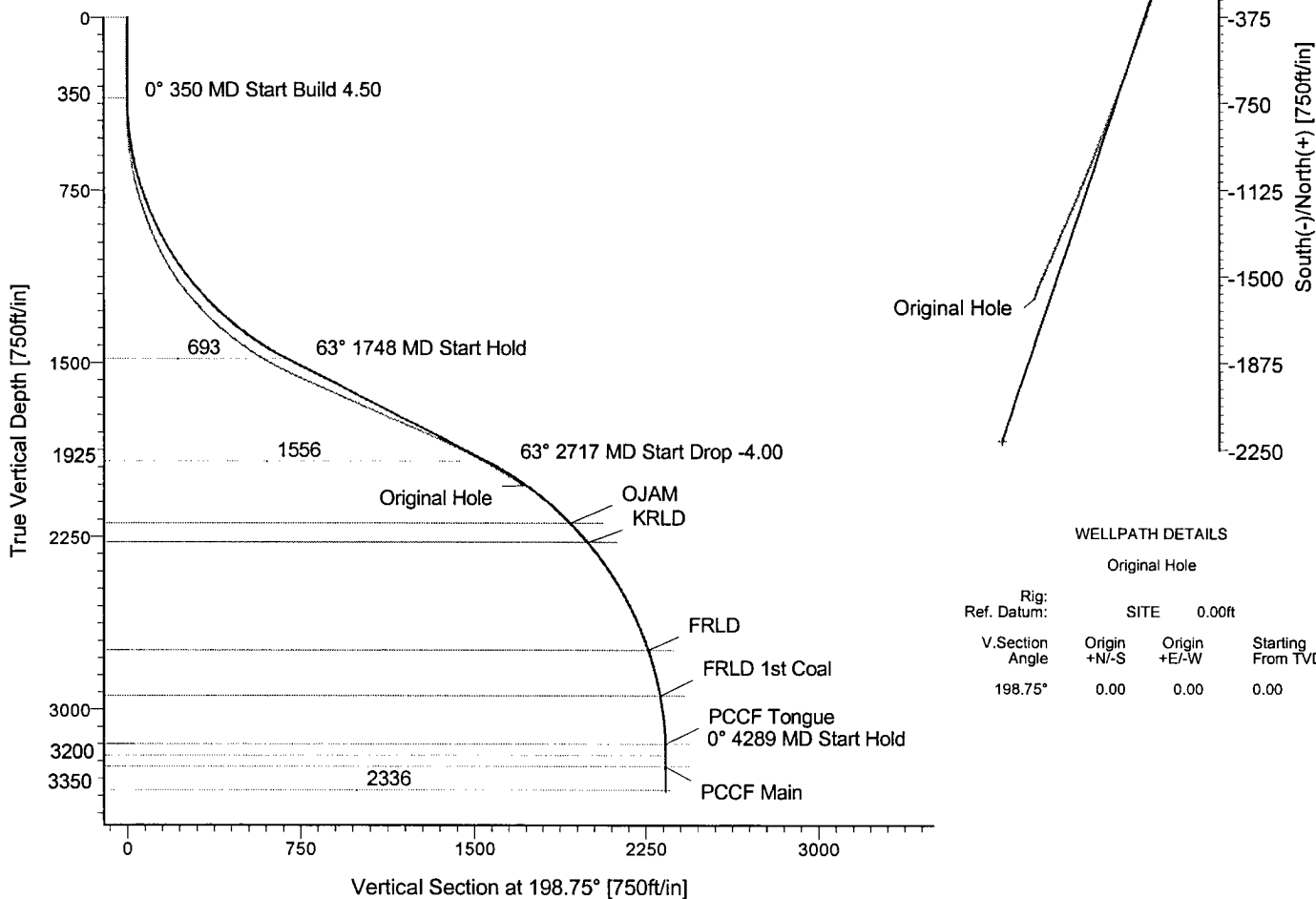
San Juan County, NM
USA

Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Western Zone
Magnetic Model: igr2005

System Datum: Mean Sea Level
Local North: True North

West(-)/East(+) [750ft/in]

-1500 -1125 -750 -375 0



WELLPATH DETAILS

Original Hole

Rig:	SITE	0.00ft	
Ref. Datum:			
V. Section Angle	Origin +N/-S	Origin +E/-W	Starting From TVD
198.75°	0.00	0.00	0.00

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	3350.00	-2211.88	-750.83	36°50'25.060N	107°35'28.701W	Point

Ryan Energy Technology
19510 Oil Center Blvd
Houston, TX 77073
Ph: 281-443-1414
Fx: 281-443-1676



Ryan The leader in
UNDERGROUND INTELLIGENCE™

Plan: Plan #1 (Well #402 A/Original Hole)
Created By: Alvaro Gonzalez Date: 6/7/2006
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____