



Weatherford International Ltd.

WFT Survey Report X&Y's



Weatherford

30 015 41506

Company: Occidental Permian Ltd.
Field: Eddy Co, NM (Nad 27)
Site: Nimitz 12 Fed #4H
Well: Nimitz 12 Fed #4H
Wellpath: 1

Date: 5/6/2014 Time: 08:18:11 Page: 1
Co-ordinate(NE) Reference: Well: Nimitz 12 Fed #4H, Grid North
Vertical (TVD) Reference: SITE 3528.4
Section (VS) Reference: Well (0.00N,0.00E,359.79Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: Start Date:

Company: Engineer:
Tool: Tied-to:

Site: Nimitz 12 Fed #4H

Site Position: Northing: 446040.70 ft Latitude: 32 13 31.094 N
From: Map Easting: 653838.70 ft Longitude: 103 50 9.072 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3503.40 ft Grid Convergence: 0.27 deg

Well: Nimitz 12 Fed #4H Slot Name:

Well Position: +N-S 0.00 ft Northing: 446040.70 ft Latitude: 32 13 31.094 N
+E-W 0.00 ft Easting: 653838.70 ft Longitude: 103 50 9.072 W
Position Uncertainty: 0.00 ft

Wellpath: 1 Drilled From: Surface
Current Datum: SITE Height 3528.40 ft Tie-on Depth: 0.00 ft
Magnetic Data: 2/28/2013 Above System Datum: Mean Sea Level
Field Strength: 48443 nT Declination: 7.50 deg
Vertical Section: Depth From (TVD) +N-S +E-W Direction
ft ft ft deg
0.00 0.00 0.00 359.79

Survey Program for Definitive Wellpath

Date: 5/6/2014 Validated: No Version: 0
Actual From To Survey Toolcode Tool Name
ft ft
0.00 515.00 Gyro (0.00-515.00) NS-GYRO-MS North sensing gyrocompassing m
515.00 12120.00 MWD (515.00-12120.00) MWD MWD - Standard

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	446040.70	653838.70	
100.00	0.35	257.17	100.00	-0.07	-0.30	0.35	-0.07	446040.63	653838.40	
200.00	0.35	253.24	200.00	-0.22	-0.89	-0.02	-0.22	446040.48	653837.81	
300.00	0.42	260.09	300.00	-0.37	-1.54	0.08	-0.37	446040.33	653837.16	
400.00	0.47	244.57	399.99	-0.61	-2.27	0.13	-0.61	446040.09	653836.43	
500.00	0.49	243.58	499.99	-0.98	-3.03	0.02	-0.97	446039.72	653835.67	
515.00	0.49	232.94	514.99	-1.05	-3.14	0.61	-1.04	446039.65	653835.56	TieOn MS Gyro
520.01	0.49	232.84	520.00	-1.07	-3.17	0.10	-1.06	446039.63	653835.53	Csg
715.00	0.69	230.13	714.98	-2.34	-4.74	0.10	-2.32	446038.36	653833.96	First WFT MWD
777.00	0.63	216.95	776.97	-2.85	-5.23	0.26	-2.83	446037.85	653833.47	
869.00	0.70	213.16	868.97	-3.72	-5.84	0.09	-3.70	446036.98	653832.86	
961.00	0.66	216.30	960.96	-4.62	-6.47	0.06	-4.60	446036.08	653832.23	
1056.00	0.47	209.25	1055.96	-5.40	-6.98	0.21	-5.37	446035.30	653831.72	
1150.00	0.25	197.81	1149.95	-5.93	-7.23	0.25	-5.90	446034.77	653831.47	
1245.00	0.16	191.82	1244.95	-6.26	-7.32	0.10	-6.23	446034.44	653831.38	
1339.00	0.14	176.43	1338.95	-6.50	-7.34	0.05	-6.47	446034.20	653831.36	
1434.00	0.10	187.33	1433.95	-6.70	-7.34	0.05	-6.67	446034.00	653831.36	
1528.00	0.07	205.02	1527.95	-6.83	-7.38	0.04	-6.81	446033.87	653831.32	
1623.00	0.00	43.65	1622.95	-6.89	-7.40	0.07	-6.86	446033.81	653831.30	
1717.00	0.16	290.08	1716.95	-6.84	-7.53	0.17	-6.81	446033.86	653831.17	
1812.00	0.25	218.04	1811.95	-6.96	-7.78	0.27	-6.93	446033.74	653830.92	
1906.00	0.21	267.20	1905.95	-7.13	-8.08	0.21	-7.10	446033.57	653830.62	
2001.00	0.20	271.02	2000.95	-7.13	-8.42	0.02	-7.10	446033.57	653830.28	
2095.00	0.14	231.93	2094.95	-7.20	-8.67	0.14	-7.17	446033.50	653830.03	

Provide signature page for Directional Survey



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Wellpath: 1

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Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
2190.00	0.20	241.45	2189.95	-7.35	-8.91	0.07	-7.32	446033.35	653829.79	
2284.00	0.16	215.59	2283.95	-7.54	-9.13	0.10	-7.50	446033.16	653829.57	
2379.00	0.10	246.75	2378.95	-7.68	-9.28	0.10	-7.64	446033.02	653829.42	
2473.00	0.07	247.38	2472.95	-7.73	-9.41	0.03	-7.70	446032.97	653829.29	
2568.00	0.10	124.89	2567.95	-7.80	-9.40	0.16	-7.77	446032.90	653829.30	
2662.00	0.10	177.25	2661.95	-7.93	-9.33	0.09	-7.90	446032.77	653829.37	
2757.00	0.16	232.01	2756.95	-8.10	-9.43	0.14	-8.06	446032.60	653829.27	
2851.00	0.22	257.38	2850.95	-8.22	-9.71	0.11	-8.18	446032.48	653828.99	
3040.00	0.10	280.43	3039.95	-8.27	-10.22	0.07	-8.23	446032.43	653828.48	
3229.00	0.36	280.95	3228.95	-8.12	-10.97	0.14	-8.08	446032.58	653827.73	
3419.00	0.00	280.95	3418.94	-8.01	-11.55	0.19	-7.97	446032.69	653827.15	
3608.00	0.35	154.18	3607.94	-8.53	-11.30	0.19	-8.49	446032.17	653827.40	
3797.00	0.85	174.78	3796.93	-10.44	-10.92	0.28	-10.40	446030.26	653827.78	
3986.00	1.22	172.70	3985.90	-13.84	-10.54	0.20	-13.80	446026.86	653828.16	
4158.00	0.43	283.75	4157.89	-15.50	-10.93	0.83	-15.46	446025.20	653827.77	
4272.00	0.86	268.66	4271.88	-15.42	-12.20	0.40	-15.37	446025.28	653826.50	
4300.12	0.92	307.50	4300.00	-15.29	-12.60	2.12	-15.24	446025.41	653826.10	Csg
4366.00	1.97	347.39	4365.86	-13.86	-13.26	2.12	-13.81	446026.84	653825.44	
4461.00	3.15	354.26	4460.76	-9.67	-13.88	1.28	-9.62	446031.03	653824.82	
4556.00	5.09	1.28	4555.51	-2.86	-14.05	2.11	-2.80	446037.84	653824.65	
4650.00	6.79	5.44	4649.00	6.85	-13.43	1.86	6.89	446047.55	653825.27	
4744.00	7.19	7.60	4742.31	18.21	-12.12	0.51	18.25	446058.91	653826.58	
4839.00	7.20	8.61	4836.56	29.99	-10.44	0.13	30.03	446070.69	653828.26	
4933.00	6.55	356.10	4929.89	41.16	-9.93	1.73	41.20	446081.86	653828.77	
5028.00	6.38	353.68	5024.28	51.81	-10.88	0.34	51.85	446092.51	653827.82	
5123.00	6.44	5.31	5118.69	62.36	-10.97	1.37	62.40	446103.06	653827.73	
5217.00	6.37	7.41	5212.11	72.78	-9.80	0.26	72.82	446113.48	653828.90	
5312.00	6.54	1.33	5306.50	83.42	-9.00	0.74	83.45	446124.12	653829.70	
5406.00	6.86	1.79	5399.86	94.38	-8.70	0.35	94.41	446135.08	653830.00	
5500.00	7.06	1.36	5493.17	105.77	-8.39	0.22	105.80	446146.47	653830.31	
5595.00	5.81	8.21	5587.57	116.37	-7.56	1.54	116.39	446157.07	653831.14	
5689.00	5.52	11.77	5681.11	125.50	-5.96	0.48	125.52	446166.20	653832.74	
5784.00	5.46	10.13	5775.68	134.42	-4.23	0.18	134.44	446175.12	653834.47	
5878.00	5.20	7.77	5869.27	143.05	-2.87	0.36	143.06	446183.75	653835.83	
5973.00	6.65	7.97	5963.76	152.76	-1.53	1.53	152.76	446193.46	653837.17	
6067.00	6.94	7.92	6057.10	163.77	0.01	0.31	163.77	446204.47	653838.71	
6162.00	7.26	11.30	6151.37	175.35	1.98	0.55	175.34	446216.05	653840.68	
6256.00	6.82	3.35	6244.66	186.74	3.47	1.14	186.73	446227.44	653842.17	
6351.00	6.76	5.31	6339.00	197.94	4.31	0.25	197.92	446238.64	653843.01	
6445.00	6.67	4.86	6432.35	208.89	5.29	0.11	208.87	446249.59	653843.99	
6539.00	6.22	6.26	6525.76	219.39	6.31	0.51	219.36	446260.09	653845.01	
6634.00	6.39	357.26	6620.19	229.79	6.62	1.05	229.76	446270.49	653845.32	
6728.00	6.24	355.40	6713.62	240.10	5.96	0.27	240.08	446280.80	653844.66	
6823.00	5.92	359.38	6808.08	250.15	5.49	0.56	250.13	446290.85	653844.19	
6917.00	5.76	358.40	6901.59	259.71	5.30	0.20	259.69	446300.41	653844.00	
7012.00	5.63	359.15	6996.13	269.14	5.10	0.16	269.12	446309.84	653843.80	
7107.00	5.39	358.21	7090.69	278.25	4.89	0.27	278.23	446318.95	653843.59	
7201.00	6.45	0.04	7184.18	287.95	4.76	1.15	287.93	446328.65	653843.46	
7233.00	8.50	0.11	7215.91	292.11	4.77	6.41	292.09	446332.81	653843.47	
7264.00	10.40	1.35	7246.49	297.20	4.84	6.16	297.18	446337.90	653843.54	
7296.00	12.17	1.76	7277.87	303.46	5.01	5.54	303.44	446344.16	653843.71	
7327.00	13.67	0.51	7308.08	310.39	5.14	4.92	310.37	446351.09	653843.84	



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Wellpath: 1

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Section (VS) Reference: Well (0.00N,0.00E,359.79Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
7359.00	14.38	0.75	7339.13	318.14	5.23	2.23	318.12	446358.84	653843.93	
7390.00	15.55	1.00	7369.08	326.15	5.35	3.78	326.12	446366.85	653844.05	
7422.00	17.77	0.97	7399.73	335.32	5.51	6.94	335.30	446376.02	653844.21	
7453.00	20.23	1.29	7429.04	345.41	5.71	7.94	345.39	446386.11	653844.41	
7485.00	22.40	1.27	7458.85	357.04	5.97	6.78	357.01	446397.74	653844.67	
7516.00	25.17	1.57	7487.21	369.53	6.28	8.94	369.51	446410.23	653844.98	
7548.00	27.59	0.35	7515.88	383.75	6.51	7.75	383.72	446424.45	653845.21	
7579.00	29.18	0.29	7543.15	398.49	6.59	5.13	398.46	446439.19	653845.29	
7611.00	31.23	359.76	7570.81	414.58	6.60	6.46	414.56	446455.28	653845.30	
7642.00	33.33	0.03	7597.01	431.14	6.57	6.79	431.11	446471.84	653845.27	
7674.00	35.78	359.07	7623.37	449.29	6.42	7.84	449.26	446489.99	653845.12	
7705.00	38.73	0.01	7648.04	468.05	6.28	9.69	468.02	446508.75	653844.98	
7737.00	41.64	359.57	7672.48	488.69	6.20	9.14	488.67	446529.39	653844.90	
7768.00	44.48	359.11	7695.13	509.86	5.95	9.22	509.83	446550.56	653844.65	
7800.00	46.66	358.19	7717.53	532.70	5.41	7.11	532.68	446573.40	653844.11	
7831.00	49.19	358.20	7738.30	555.70	4.68	8.16	555.68	446596.40	653843.38	
7863.00	51.14	357.08	7758.80	580.25	3.67	6.66	580.23	446620.95	653842.37	
7894.00	52.48	357.57	7777.97	604.58	2.53	4.50	604.57	446645.28	653841.23	
7926.00	54.63	357.78	7796.97	630.30	1.49	6.74	630.29	446671.00	653840.19	
7957.00	57.29	357.27	7814.33	655.96	0.38	8.69	655.96	446696.66	653839.08	
7989.00	60.22	357.20	7830.92	683.29	-0.94	9.16	683.29	446723.99	653837.76	
8020.00	62.48	356.84	7845.78	710.45	-2.36	7.36	710.46	446751.15	653836.34	
8052.00	64.17	356.68	7860.15	739.00	-3.97	5.30	739.01	446779.70	653834.73	
8083.00	66.46	356.73	7873.10	767.12	-5.59	7.39	767.14	446807.82	653833.11	
8115.00	67.74	357.81	7885.55	796.56	-6.99	5.07	796.58	446837.26	653831.71	
8146.00	70.46	357.32	7896.61	825.50	-8.23	8.90	825.52	446866.20	653830.47	
8178.00	73.18	358.22	7906.59	855.87	-9.41	8.91	855.90	446896.57	653829.29	
8209.00	75.14	358.50	7915.05	885.68	-10.26	6.38	885.71	446926.38	653828.44	
8241.00	78.17	358.95	7922.44	916.81	-10.95	9.57	916.84	446957.51	653827.75	
8273.00	80.52	359.54	7928.35	948.25	-11.37	7.56	948.28	446988.95	653827.33	
8304.00	82.28	0.43	7932.99	978.90	-11.37	6.35	978.93	447019.60	653827.33	
8335.00	84.82	0.34	7936.47	1009.70	-11.17	8.20	1009.73	447050.40	653827.53	
8368.00	87.06	1.37	7938.81	1042.61	-10.67	7.47	1042.64	447083.31	653828.03	
8522.00	90.56	359.92	7942.00	1196.54	-8.94	2.46	1196.56	447237.24	653829.76	
8616.00	90.98	0.59	7940.74	1290.53	-8.52	0.84	1290.55	447331.23	653830.18	
8711.00	88.95	0.85	7940.80	1385.52	-7.33	2.15	1385.53	447426.22	653831.37	
8807.00	92.52	1.96	7939.57	1481.46	-4.98	3.89	1481.47	447522.16	653833.72	
8901.00	90.63	1.48	7936.98	1575.38	-2.16	2.07	1575.38	447616.08	653836.54	
8996.00	87.69	0.53	7938.38	1670.34	-0.49	3.25	1670.33	447711.04	653838.21	
9090.00	87.90	1.00	7941.99	1764.27	0.76	0.55	1764.25	447804.97	653839.46	
9278.00	87.27	1.67	7949.91	1952.05	5.14	0.49	1952.01	447992.75	653843.84	
9372.00	89.09	1.16	7952.90	2045.97	7.46	2.01	2045.92	448086.67	653846.16	
9465.00	89.51	359.10	7954.04	2138.95	7.67	2.26	2138.91	448179.65	653846.37	
9560.00	89.16	357.38	7955.14	2233.90	4.75	1.85	2233.87	448274.60	653843.45	
9655.00	90.63	357.34	7955.31	2328.79	0.38	1.55	2328.78	448369.49	653839.08	
9749.00	91.26	358.47	7953.76	2422.72	-3.06	1.38	2422.71	448463.42	653835.64	
9845.00	91.75	358.36	7951.24	2518.65	-5.71	0.52	2518.65	448559.35	653832.99	
9939.00	90.63	357.41	7949.29	2612.56	-9.18	1.56	2612.58	448653.26	653829.52	
10034.00	89.58	358.76	7949.11	2707.50	-12.36	1.80	2707.53	448748.20	653826.34	
10129.00	89.65	358.98	7949.75	2802.48	-14.23	0.24	2802.52	448843.18	653824.47	
10224.00	88.25	357.50	7951.49	2897.42	-17.15	2.14	2897.46	448938.12	653821.55	
10319.00	89.51	358.81	7953.35	2992.35	-20.20	1.91	2992.40	449033.05	653818.50	
10414.00	92.65	1.73	7951.56	3087.31	-19.76	4.51	3087.36	449128.01	653818.94	



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10508.00	89.93	359.45	7949.44	3181.26	-18.79	3.78	3181.31	449221.96	653819.91	
10603.00	89.86	359.04	7949.62	3276.25	-20.04	0.44	3276.30	449316.95	653818.66	
10698.00	91.68	359.96	7948.34	3371.24	-20.87	2.15	3371.29	449411.94	653817.83	
10793.00	92.45	1.25	7944.92	3466.17	-19.87	1.58	3466.22	449506.87	653818.83	
10888.00	90.28	0.98	7942.66	3561.11	-18.02	2.30	3561.16	449601.81	653820.68	
10981.00	89.93	1.26	7942.48	3654.10	-16.21	0.48	3654.13	449694.80	653822.49	
11075.00	90.77	0.78	7941.91	3748.08	-14.53	1.03	3748.11	449788.78	653824.17	
11169.00	89.79	359.63	7941.45	3842.07	-14.20	1.61	3842.10	449882.77	653824.50	
11264.00	90.77	0.84	7940.99	3937.07	-13.81	1.64	3937.09	449977.77	653824.89	
11359.00	89.72	359.60	7940.58	4032.07	-13.44	1.71	4032.09	450072.77	653825.26	
11452.00	89.65	0.19	7941.09	4125.06	-13.61	0.64	4125.09	450165.76	653825.09	
11546.00	90.49	359.69	7940.98	4219.06	-13.71	1.04	4219.08	450259.76	653824.99	
11640.00	89.58	358.70	7940.92	4313.05	-15.03	1.43	4313.08	450353.75	653823.67	
11735.00	90.21	0.09	7941.09	4408.04	-16.03	1.61	4408.07	450448.74	653822.67	
11829.00	89.37	358.75	7941.44	4502.03	-16.99	1.68	4502.07	450542.73	653821.71	
11925.00	89.79	357.68	7942.14	4597.98	-19.98	1.20	4598.03	450638.68	653818.72	
12020.00	89.72	357.79	7942.55	4692.91	-23.73	0.14	4692.96	450733.61	653814.97	
12058.00	90.49	358.10	7942.48	4730.88	-25.09	2.18	4730.94	450771.58	653813.61	Last WFT MWD
12120.00	90.49	358.10	7941.95	4792.85	-27.15	0.00	4792.91	450833.55	653811.55	Proj to Bit

Annotation

MD ft	TVD ft	
515.00	514.99	TieOn MS Gyro
715.00	714.98	First WFT MWD
12058.00	7942.48	Last WFT MWD
12120.00	7941.95	Proj to Bit

Occidental Permian Ltd.

Nimitz 12 Fed #4H Eddy Co, NM



KB ELEV: 3528.4
GL ELEV: 3503.4

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	359.79	0.00	0.00	0.00	0.00	0.00	0.00	
2	4400.00	0.00	359.79	4400.00	0.00	0.00	0.00	359.79	0.00	
3	4712.00	6.24	359.79	4711.38	16.97	-0.06	2.00	359.79	16.97	
4	7322.73	6.24	359.79	7306.65	300.74	-1.10	0.00	0.00	300.74	
5	8369.73	90.00	359.79	7945.00	1012.69	-3.72	8.00	0.00	1012.70	
6	12150.67	90.00	359.79	7945.00	4793.60	-17.60	0.00	0.00	4793.63	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Nimitz 12 Fed #4H	0.00	0.00	446040.70	653838.70	32°13'31.094N	103°50'09.072W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	7945.00	4793.60	-17.60	450834.30	653821.10	Point

Survey: MWD (Nimitz 12 Fed #4H/1)

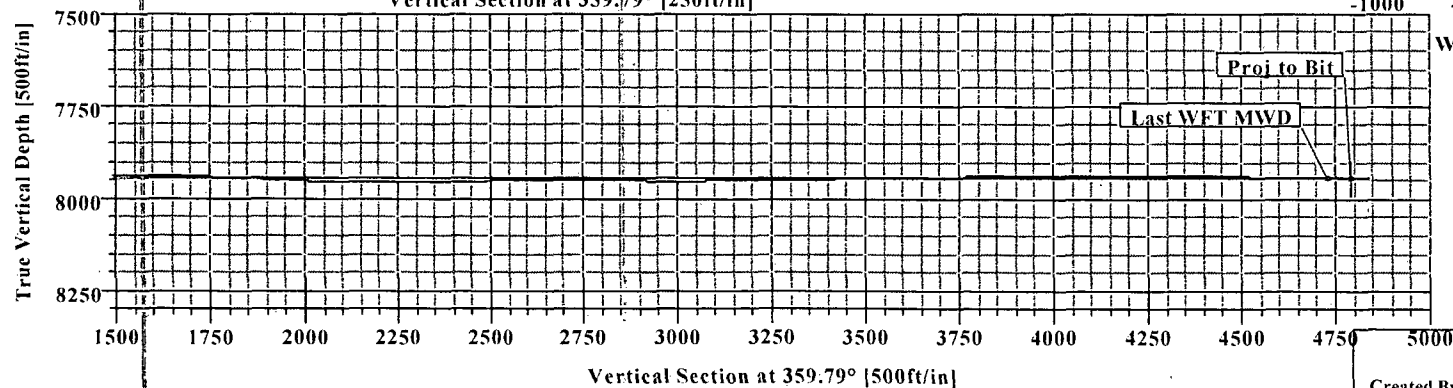
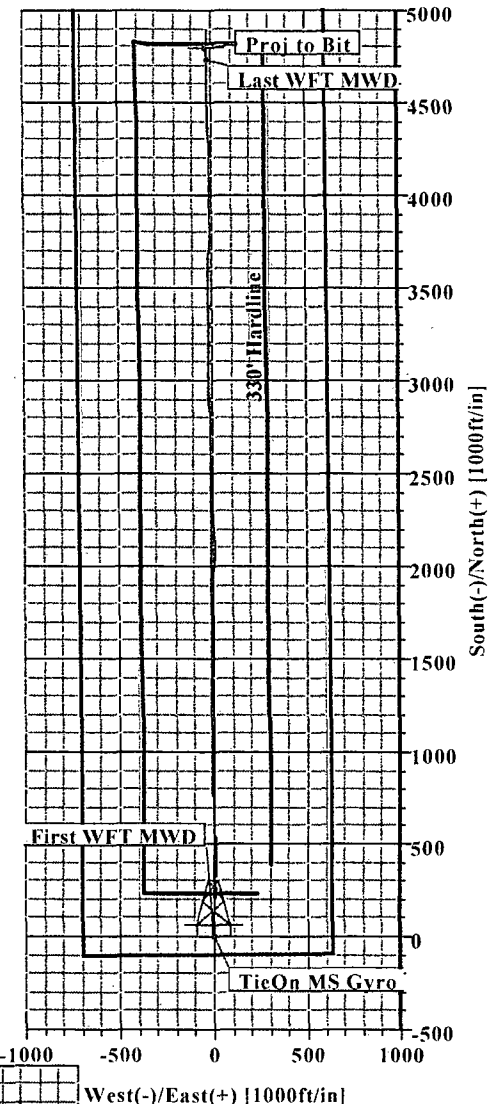
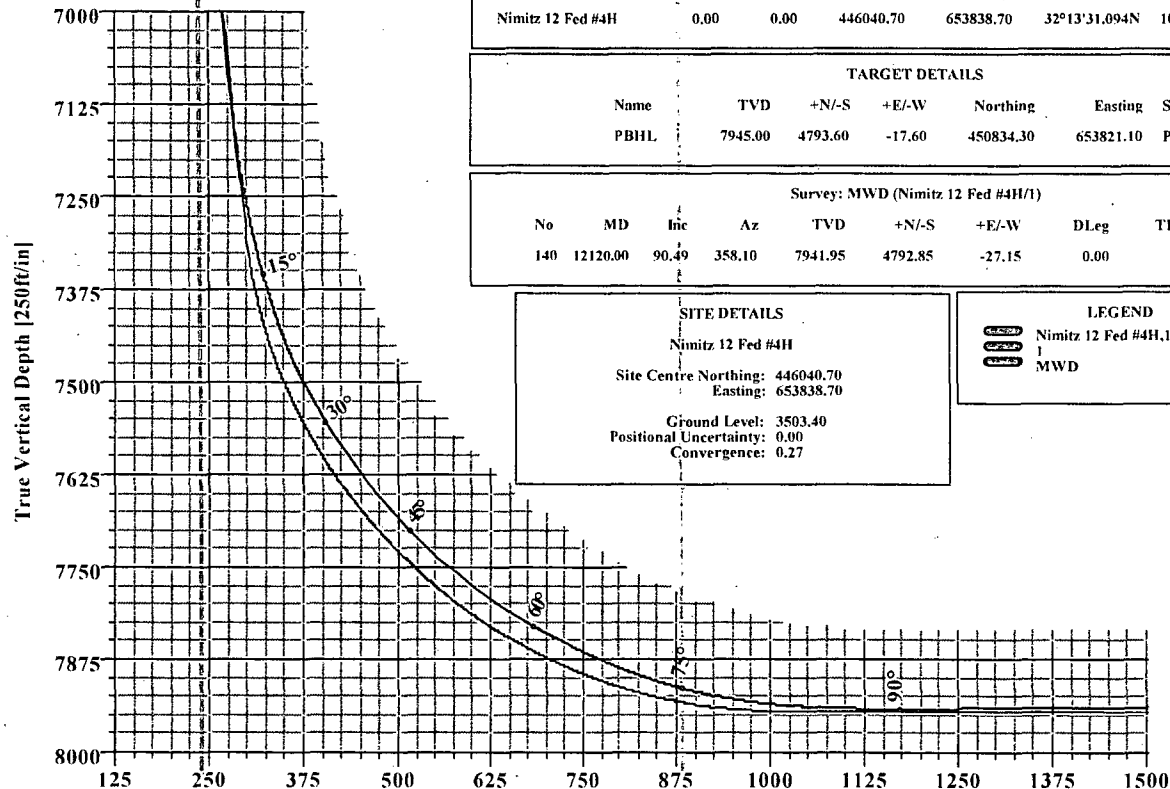
No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
140	12120.00	90.49	358.10	7941.95	4792.85	-27.15	0.00	0.00	4792.91

SITE DETAILS

Nimitz 12 Fed #4H
Site Centre Northing: 446040.70
Easting: 653838.70
Ground Level: 3503.40
Positional Uncertainty: 0.00
Convergence: 0.27

LEGEND

- Nimitz 12 Fed #4H, Plan #3
- MWD



Weatherford

Survey: MWD (Nimitz 12 Fed #4H/1)

Created By: Michael Dill

Date: 5/6/2014