

Weatherford International Ltd.

WFT Survey Report X & Y's

30-015-39252



Weatherford

Company: BOPCO, L.P. Field: Eddy County, NM (Nad 27) Site: Poker Lake Unit 335H Well: PLU 335H Wellpath: 1		Date: 2/3/2012 Co-ordinate(NE) Reference: Well: PLU 335H, Grid North Vertical (TVD) Reference: SITE 3471.0 Section (VS) Reference: Well (0.00N,0.00E,314.73Azi) Survey Calculation Method: Minimum Curvature Db: Sybase		Time: 05:42:04 Page: 1						
Survey: Wft Svy Company: Weatherford International Ltd. Tool: MWD,MWD - Standard		Start Date: 1/12/2012 Engineer: Russell W Joyner Tied-to: User Defined								
Field: Eddy County, NM (Nad 27)										
Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level		Map Zone: New Mexico, Eastern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010								
Site: Poker Lake Unit 335H										
Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 3449.00 ft		Northing: 440975.68 ft Easting: 652209.37 ft Latitude: 32 12 41 045 N Longitude: 103 50 28.310 W North Reference: Grid Grid Convergence: 0 26 deg								
Well: PLU 335H		Slot Name:								
Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft		Northing: 440975.68 ft Easting: 652209.37 ft Latitude: 32 12 41.045 N Longitude: 103 50 28.310 W								
Wellpath: 1		Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 7.67 deg Mag Dip Angle: 60.12 deg								
Current Datum: SITE Magnetic Data: 10/26/2011 Field Strength: 48568 nT Vertical Section: Depth From (TVD) ft 0.00		Height 3471.00 ft +N/-S ft 0.00 +E/-W ft 0.00 Direction deg 314.73								
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
793.00	1.21	52.39	792.90	7.06	9.35	0.00	-1.68	440982.73	652218.72	Csg
4105.00	0.57	135.34	4104.78	8.78	19.22	0.04	-7.47	440984.46	652228.59	Csg
7167.00	1.53	133.57	7166.49	-14.25	40.36	0.03	-38.70	440961.43	652249.72	Tie On Gyrod
7206.00	1.46	141.07	7205.47	-14.99	41.04	0.53	-39.71	440960.68	652250.41	First Wft Svy
7278.00	1.51	137.01	7277.45	-16.40	42.27	0.16	-41.57	440959.28	652251.64	
7301.00	1.62	135.56	7300.44	-16.85	42.70	0.51	-42.20	440958.82	652252.07	
7332.00	0.71	102.05	7331.43	-17.21	43.20	3.55	-42.80	440958.47	652252.57	
7364.00	2.15	334.92	7363.43	-16.70	43.14	8.25	-42.40	440958.97	652252.51	
7395.00	5.17	327.51	7394.36	-15.00	42.14	9.84	-40.49	440960.68	652251.51	
7427.00	8.81	326.60	7426.12	-11.74	40.01	11.38	-36.69	440963.94	652249.38	
7458.00	12.52	326.97	7456.58	-6.94	36.88	11.97	-31.08	440968.74	652246.24	
7490.00	16.51	326.66	7487.55	-0.23	32.48	12.47	-23.24	440975.45	652241.85	
7521.00	20.42	324.10	7516.95	7.84	26.89	12.88	-13.59	440983.51	652236.26	
7553.00	24.68	321.84	7546.50	17.62	19.49	13.58	-1.44	440993.29	652228.85	
7584.00	28.85	319.36	7574.17	28.39	10.61	13.92	12.44	441004.06	652219.98	
7616.00	32.93	317.17	7601.63	40.63	-0.34	13.22	28.83	441016.30	652209.03	
7647.00	36.23	315.84	7627.15	53.38	-12.45	10.92	46.42	441029.06	652196.92	
7679.00	39.37	314.50	7652.43	67.29	-26.28	10.14	66.02	441042.96	652183.09	
7710.00	41.76	314.27	7675.98	81.38	-40.69	7.72	86.18	441057.06	652168.68	
7741.00	43.92	314.11	7698.71	96.08	-55.80	6.98	107.26	441071.75	652153.57	
7773.00	46.72	314.85	7721.20	112.02	-72.03	8.90	130.01	441087.70	652137.34	
7805.00	50.72	315.34	7742.31	129.05	-89.00	12.55	154.05	441104.73	652120.37	
7836.00	53.14	315.95	7761.43	146.50	-106.06	7.96	178.45	441122.18	652103.31	
7868.00	55.59	315.99	7780.07	165.20	-124.13	7.66	204.45	441140.87	652085.23	

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WFT Survey Report X & Y's



Weatherford

Company: BOPCO, L.P.	Date: 2/3/2012	Time: 05:42:04	Page: 2
Field: Eddy County, NM (Nad 27)	Co-ordinate(NE) Reference:	Well: PLU 335H, Grid North	
Site: Poker Lake Unit 335H	Vertical (TVD) Reference:	SITE 3471.0	
Well: PLU 335H	Section (VS) Reference:	Well (0.00N,0.00E,314.73Azi)	
Wellpath: 1	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
7899.00	58.21	316.06	7797.00	183.89	-142.16	8.45	230.41	441159.56	652067.21	
7930.00	60.43	315.76	7812.81	203.03	-160.71	7.21	257.07	441178.71	652048.66	
7962.00	62.25	314.92	7828.16	223.00	-180.45	6.14	285.14	441198.68	652028.92	
7993.00	63.74	314.04	7842.24	242.35	-200.16	5.43	312.76	441218.03	652009.21	
8025.00	66.18	313.75	7855.78	262.45	-221.05	7.67	341.75	441238.13	651988.32	
8056.00	69.44	314.24	7867.48	282.39	-241.69	10.62	370.44	441258.07	651967.67	
8088.00	73.80	315.21	7877.57	303.76	-263.26	13.93	400.80	441279.43	651946.11	
8119.00	78.05	316.11	7885.11	325.26	-284.27	14.00	430.86	441300.93	651925.10	
8151.00	81.48	316.23	7890.80	347.97	-306.08	10.73	462.34	441323.65	651903.29	
8182.00	84.85	315.83	7894.48	370.12	-327.44	10.95	493.11	441345.80	651881.93	
8214.00	86.68	314.99	7896.85	392.85	-349.85	6.29	525.01	441368.52	651859.52	
8246.00	89.41	314.36	7897.94	415.33	-372.59	8.76	556.99	441391.01	651836.78	
8277.00	90.52	313.89	7897.96	436.91	-394.84	3.89	587.99	441412.59	651814.53	
8309.00	91.29	313.75	7897.45	459.07	-417.92	2.45	619.98	441434.74	651791.45	
8340.00	91.99	313.56	7896.56	480.46	-440.34	2.34	650.96	441456.13	651769.03	
8372.00	92.20	313.27	7895.40	502.43	-463.57	1.12	682.93	441478.11	651745.80	
8403.00	92.13	313.29	7894.22	523.67	-486.12	0.23	713.90	441499.35	651723.24	
8435.00	91.43	312.70	7893.23	545.48	-509.52	2.86	745.87	441521.16	651699.85	
8466.00	89.69	312.14	7892.93	566.39	-532.40	5.90	776.84	441542.07	651676.97	
8498.00	89.41	311.55	7893.18	587.74	-556.24	2.04	808.80	441563.42	651653.13	
8529.00	90.03	311.54	7893.33	608.30	-579.44	2.00	839.75	441583.97	651629.93	
8561.00	90.80	311.76	7893.10	629.56	-603.35	2.50	871.71	441605.24	651606.02	
8592.00	89.76	311.80	7892.95	650.22	-626.47	3.36	902.66	441625.89	651582.90	
8623.00	88.78	312.18	7893.34	670.96	-649.51	3.39	933.63	441646.63	651559.86	
8655.00	88.99	312.35	7893.96	692.47	-673.18	0.84	965.59	441668.15	651536.19	
8710.00	89.83	312.43	7894.53	729.55	-713.80	1.53	1020.54	441705.23	651495.57	
8770.00	90.50	312.19	7894.36	769.94	-758.17	1.18	1080.49	441745.61	651451.20	Csg
8810.00	90.94	312.03	7893.86	796.76	-787.84	1.18	1120.44	441772.43	651421.53	
8874.00	91.43	312.09	7892.54	839.62	-835.35	0.77	1184.36	441815.30	651374.02	
8970.00	90.80	313.14	7890.67	904.61	-905.98	1.28	1280.27	441880.28	651303.39	
9065.00	90.80	313.01	7889.34	969.48	-975.37	0.14	1375.22	441945.16	651234.00	
9161.00	91.29	313.62	7887.59	1035.33	-1045.21	0.81	1471.18	442011.00	651164.16	
9257.00	91.22	313.21	7885.49	1101.29	-1114.92	0.43	1567.13	442076.97	651094.45	
9353.00	91.15	313.43	7883.50	1167.14	-1184.75	0.24	1663.08	442142.82	651024.62	
9448.00	91.01	313.11	7881.71	1232.24	-1253.91	0.37	1758.03	442207.92	650955.46	
9544.00	89.13	312.34	7881.59	1297.38	-1324.43	2.12	1853.97	442273.05	650884.94	
9639.00	90.80	312.44	7881.65	1361.42	-1394.59	1.76	1948.88	442337.10	650814.78	
9735.00	93.53	313.36	7878.03	1426.71	-1464.86	3.00	2044.76	442402.39	650744.51	
9831.00	93.46	313.00	7872.17	1492.28	-1534.73	0.38	2140.54	442467.96	650674.63	
9926.00	92.98	311.50	7866.84	1556.06	-1604.94	1.66	2235.30	442531.73	650604.43	
10022.00	92.41	311.74	7862.32	1619.75	-1676.63	0.64	2331.05	442595.42	650532.74	
10117.00	94.09	312.99	7856.94	1683.66	-1746.70	2.20	2425.81	442659.33	650462.66	
10213.00	94.59	313.67	7849.67	1749.34	-1816.34	0.88	2521.51	442725.02	650393.03	
10309.00	94.10	315.12	7842.40	1816.31	-1884.73	1.59	2617.23	442791.98	650324.64	
10405.00	92.84	315.75	7836.59	1884.58	-1951.97	1.47	2713.04	442860.25	650257.40	
10500.00	91.16	314.41	7833.27	1951.80	-2019.01	2.26	2807.98	442927.48	650190.36	
10596.00	91.92	314.65	7830.69	2019.10	-2087.42	0.83	2903.94	442994.77	650121.95	
10692.00	90.38	315.15	7828.77	2086.85	-2155.40	1.69	2999.92	443062.52	650053.97	
10718.00	90.80	315.18	7828.50	2105.28	-2173.73	1.62	3025.92	443080.96	650035.63	
10813.00	90.66	316.74	7827.29	2173.57	-2239.77	1.65	3120.88	443149.24	649969.60	
10909.00	91.02	317.29	7825.88	2243.79	-2305.21	0.68	3216.80	443219.46	649904.16	
11005.00	90.17	316.63	7824.88	2313.95	-2370.73	1.12	3312.72	443289.62	649838.64	

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Company: BOPCO, L.P.
Field: Eddy County, NM (Nad 27)
Site: Poker Lake Unit 335H
Well: PLU 335H
Wellpath: 1

Date: 2/3/2012 Time: 05:42:04 Page: 3
Co-ordinate(NE) Reference: Well: PLU 335H, Grid North
Vertical (TVD) Reference: SITE 3471.0
Section (VS) Reference: Well: (0.00N,0.00E,314.73Azi)
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
11101.00	89.54	315.72	7825.13	2383.20	-2437.20	1.15	3408.68	443358.88	649772.16	
11197.00	91.72	318.57	7824.07	2453.56	-2502.48	3.74	3504.58	443429.24	649706.88	
11292.00	88.78	316.68	7823.66	2523.73	-2566.50	3.68	3599.44	443499.41	649642.87	
11388.00	86.95	314.68	7827.23	2592.36	-2633.52	2.82	3695.35	443568.04	649575.85	
11483.00	86.68	314.83	7832.51	2659.15	-2700.88	0.33	3790.21	443634.82	649508.49	
11578.00	89.13	316.13	7835.98	2726.83	-2767.44	2.92	3885.13	443702.51	649441.93	
11674.00	88.28	315.63	7838.15	2795.73	-2834.25	1.03	3981.08	443771.41	649375.12	
11769.00	89.06	316.31	7840.36	2864.01	-2900.26	1.09	4076.03	443839.69	649309.11	
11864.00	90.31	317.06	7840.88	2933.13	-2965.43	1.53	4170.97	443908.81	649243.94	
11960.00	90.66	317.13	7840.07	3003.45	-3030.78	0.37	4266.89	443979.12	649178.59	
12055.00	92.48	315.88	7837.47	3072.33	-3096.14	2.32	4361.80	444048.01	649113.23	
12150.00	92.06	314.93	7833.70	3139.93	-3162.78	1.09	4456.72	444115.60	649046.58	
12245.00	91.92	314.50	7830.40	3206.73	-3230.25	0.48	4551.66	444182.40	648979.12	
12341.00	89.97	311.79	7828.82	3272.36	-3300.28	3.48	4647.60	444248.03	648909.09	
12436.00	91.30	313.40	7827.77	3336.65	-3370.20	2.20	4742.52	444312.32	648839.16	
12531.00	89.41	311.55	7827.18	3400.79	-3440.27	2.78	4837.44	444376.47	648769.10	
12627.00	89.34	311.12	7828.23	3464.19	-3512.34	0.45	4933.26	444439.87	648697.02	
12722.00	90.87	314.13	7828.05	3528.52	-3582.24	3.55	5028.18	444504.19	648627.13	
12818.00	89.90	311.10	7827.41	3593.50	-3652.87	3.31	5124.10	444569.18	648556.50	
12913.00	91.65	311.51	7826.12	3656.20	-3724.23	1.89	5218.92	444631.88	648485.14	
13008.00	91.30	312.25	7823.68	3719.60	-3794.94	0.86	5313.77	444695.28	648414.43	
13104.00	90.52	312.60	7822.15	3784.35	-3865.79	0.89	5409.68	444760.03	648343.58	
13199.00	92.70	313.74	7819.48	3849.32	-3935.04	2.59	5504.60	444825.00	648274.33	
13294.00	93.60	313.61	7814.26	3914.82	-4003.65	0.96	5599.44	444890.50	648205.72	
13389.00	92.77	313.84	7808.98	3980.39	-4072.20	0.91	5694.28	444956.06	648137.17	
13484.00	92.35	314.73	7804.74	4046.65	-4140.14	1.04	5789.18	445022.33	648069.23	
13580.00	92.55	314.49	7800.64	4114.01	-4208.42	0.33	5885.09	445089.68	648000.95	
13675.00	92.41	313.14	7796.53	4179.72	-4276.90	1.43	5979.99	445155.39	647932.47	
13770.00	92.76	312.98	7792.24	4244.51	-4346.24	0.41	6074.85	445220.19	647863.13	
13866.00	91.92	312.72	7788.32	4309.74	-4416.56	0.92	6170.72	445285.42	647792.81	
13961.00	92.06	313.62	7785.02	4374.70	-4485.81	0.96	6265.62	445350.38	647723.56	
14056.00	91.92	312.78	7781.72	4439.69	-4555.01	0.90	6360.53	445415.37	647654.35	
14152.00	92.06	313.07	7778.39	4505.03	-4625.27	0.34	6456.42	445480.71	647584.10	
14247.00	89.90	314.55	7776.77	4570.78	-4693.81	2.76	6551.39	445546.46	647515.56	
14343.00	89.90	315.62	7776.93	4638.77	-4761.59	1.11	6647.39	445614.44	647447.78	
14438.00	89.90	315.00	7777.10	4706.30	-4828.40	0.65	6742.38	445681.98	647380.97	
14534.00	91.64	317.09	7775.81	4775.40	-4895.02	2.83	6838.34	445751.07	647314.35	
14629.00	90.87	315.50	7773.73	4844.06	-4960.64	1.86	6933.28	445819.73	647248.73	
14724.00	91.36	315.54	7771.88	4911.82	-5027.19	0.52	7028.25	445887.50	647182.18	
14820.00	90.66	314.64	7770.19	4979.80	-5094.95	1.19	7124.23	445955.48	647114.41	
14915.00	89.93	314.53	7769.70	5046.49	-5162.61	0.78	7219.23	446022.16	647046.76	
15010.00	89.69	314.26	7770.01	5112.95	-5230.49	0.38	7314.23	446088.62	646978.88	
15106.00	90.17	314.16	7770.13	5179.89	-5299.30	0.51	7410.22	446155.56	646910.06	
15201.00	91.29	315.83	7768.92	5247.05	-5366.48	2.12	7505.21	446222.72	646842.89	
15297.00	90.87	315.75	7767.11	5315.85	-5433.40	0.45	7601.17	446291.52	646775.96	
15392.00	91.22	315.44	7765.38	5383.71	-5499.87	0.49	7696.15	446359.38	646709.50	
15487.00	90.73	314.52	7763.76	5450.85	-5567.06	1.10	7791.13	446426.52	646642.31	
15583.00	91.43	314.68	7761.95	5518.24	-5635.40	0.75	7887.11	446493.92	646573.97	
15679.00	90.66	314.38	7760.20	5585.55	-5703.82	0.86	7983.10	446561.23	646505.55	
15774.00	91.36	313.52	7758.53	5651.47	-5772.21	1.17	8078.07	446627.15	646437.16	
15870.00	91.43	313.92	7756.19	5717.80	-5841.57	0.42	8174.03	446693.48	646367.80	
15965.00	91.78	315.75	7753.53	5784.75	-5908.91	1.96	8268.99	446760.43	646300.46	
16060.00	89.34	314.90	7752.60	5852.30	-5975.69	2.72	8363.97	446827.98	646233.68	

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Company: BOPCO, L.P.	Date: 2/3/2012	Time: 05:42:04	Page: 4
Field: Eddy County, NM (Nad 27)	Co-ordinate(NE) Reference: Well: PLU 335H, Grid North		
Site: Poker Lake Unit 335H	Vertical (TVD) Reference: SITE 3471.0		
Well: PLU 335H	Section (VS) Reference: Well (0.00N,0.00E,314.73Azi)		
Wellpath: 1	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
16156.00	89.12	314.55	7753.89	5919.85	-6043.89	0.43	8459.96	446895.53	646165.48	
16245.00	89.68	313.83	7754.82	5981.88	-6107.70	1.02	8548.95	446957.56	646101.67	Last Wft Svy
16305.00	89.68	313.83	7755.16	6023.43	-6150.99	0.00	8608.94	446999.11	646058.38	Pro. To Bit

Annotation

MD ft	TVD ft	
7167.00	7166.49	Tie On Gyrodata
7206.00	7205.47	First Wft Svy
16245.00	7754.82	Last Wft Svy
16305.00	7755.16	Pro To Bit

BOPCO, L.P.

Poker Lake Unit 335H Eddy Co, NM

KB ELEV: 3471
GL ELEV: 3449

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	8770.00	90.55	312.60	7894.33	770.10	-758.03	0.00	0.00	1080.49	
2	8829.34	91.66	314.00	7893.19	810.79	-801.21	3.00	51.60	1139.81	
3	9770.41	91.66	314.00	7866.00	1464.18	-1477.92	0.00	0.00	2080.40	Tgt After Csg
4	9801.40	91.10	314.74	7865.26	1485.84	-1500.07	3.00	127.05	2111.38	
5	11854.94	91.10	314.74	7826.00	2930.99	-2958.51	0.00	0.00	4164.55	Tgt 2
6	11867.41	90.72	314.73	7825.80	2939.77	-2967.37	3.00	-179.17	4177.02	
7	16300.27	90.72	314.73	7770.00	6059.34	-6116.23	0.00	0.00	8609.52	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
PLU 335H	0.00	0.00	440975.68	652209.37	32°12'41.045N	103°50'28.310W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	7770.00	6059.34	-6116.23	447035.01	646093.14	Point
Tgt 2	7826.00	2930.99	-2958.51	443906.67	649250.86	Point
Tgt After Csg	7866.00	1464.18	-1477.92	442439.86	650731.45	Point

FIELD DETAILS

Eddy County, NM (Nad 27)

Geodetic System: US State Plane Coordinate System 1927

Ellipsoid: NAD27 (Clarke 1866)

Zone: New Mexico, Eastern Zone

Magnetic Model: IGRF2010

System Datum: Mean Sea Level

Local North: Grid North

SITE DETAILS

Poker Lake Unit 335H

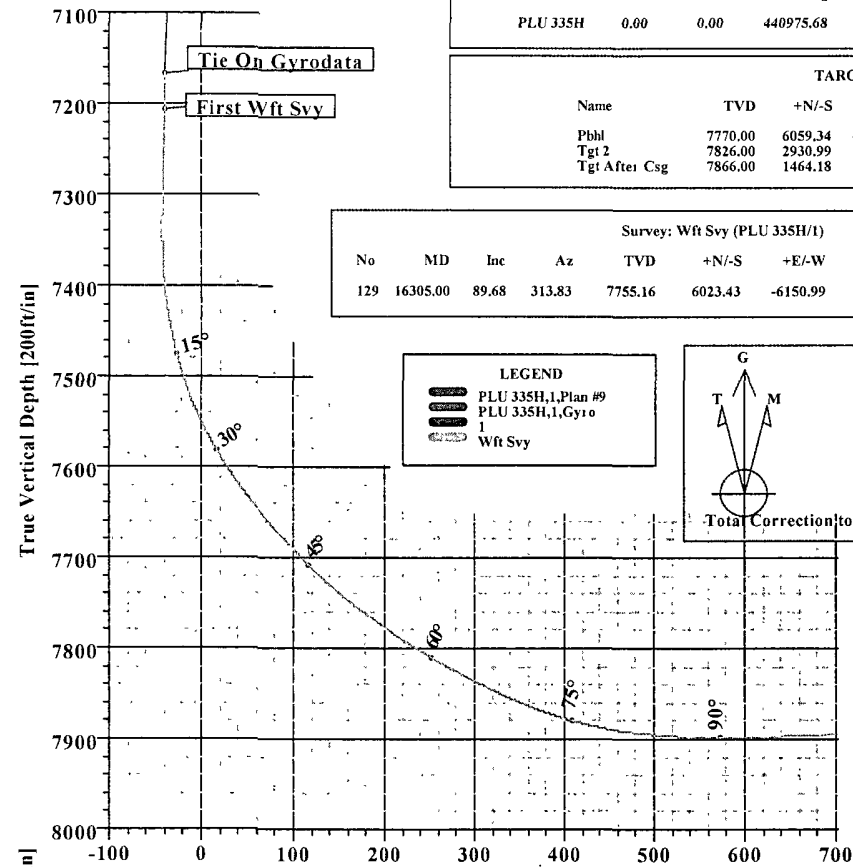
Site Centre Northing: 440975.68

Easting: 652209.37

Ground Level: 3449.00

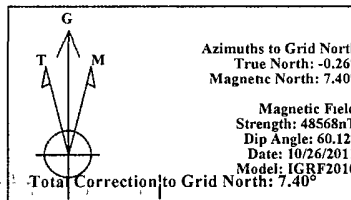
Positional Uncertainty: 0.00

Convergence: 0.26



No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
129	16305.00	89.68	313.83	7755.16	6023.43	-6150.99	0.00	0.00	8608.94

LEGEND	
PLU 335H, 1, Plan #9	
PLU 335H, 1, Gyro	
Wft Svy	



Azimuths to Grid North
True North: -0.26°
Magnetic North: 7.40°

Magnetic Field
Strength: 48568nT
Dip Angle: 60.12°
Date: 10/26/2011
Model: IGRF2010

Total Correction to Grid North: 7.40°

