



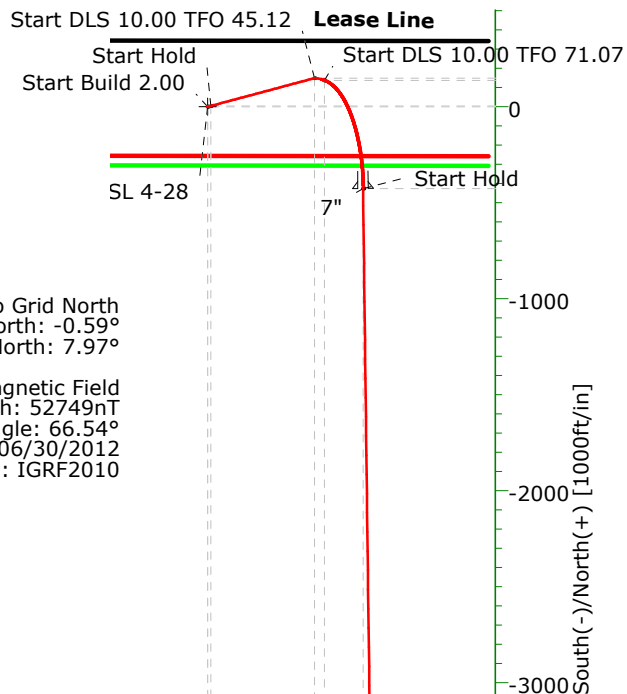
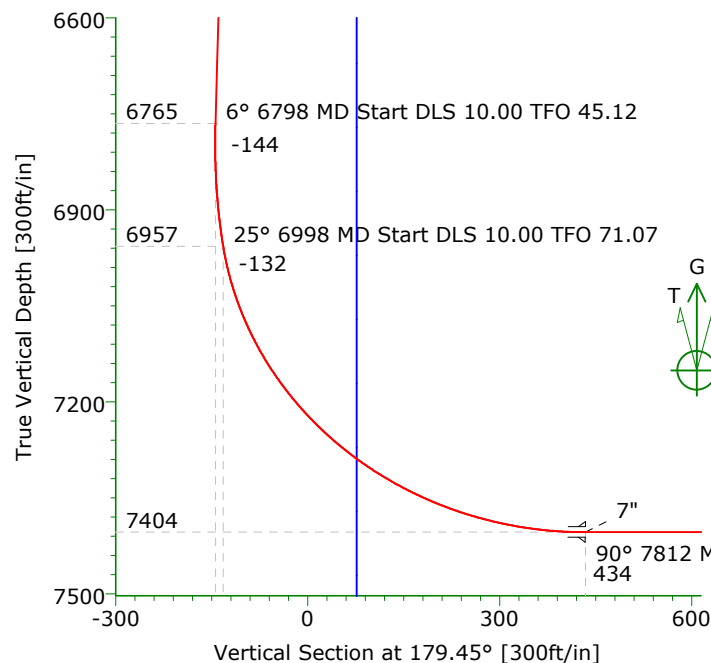
# CARRIZO OIL & GAS, INC.

Field: Niobrara COCZ'83  
Site: WEP 28 PAD  
Well: 4-28-11-3-64  
Wellpath: Original Hole  
Plan: Plan #1



## CASING DETAILS

No.	TVD	MD	Name	Size
1	7404.00	7811.81	7"	7.000



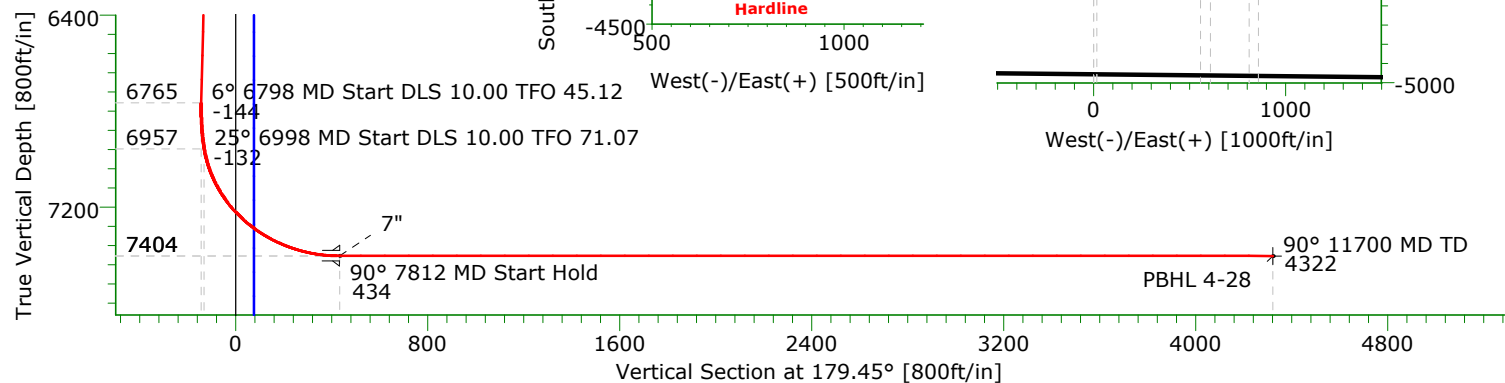
Azimuths to Grid North  
True North: -0.59°  
Magnetic North: 7.97°

Magnetic Field  
Strength: 52749nT  
Dip Angle: 66.54°  
Date: 06/30/2012  
Model: IGRF2010



Sidetrack off cement plug after drilling Pilot Hole to 8246' TVD

LEGEND  
1-27-41-3.64 (Pilot Hole)  
Plan #1



## TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 4-28	0.00	0.00	0.00	1705710.58	3264138.75	39°46'02.002N	104°33'37.399W	Point
PBHL 4-28	7404.00	-4314.34	859.40	1701396.24	3264998.15	39°45'19.279N	104°33'26.967W	Point

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1540.00	0.00	0.00	1540.00	0.00	0.00	0.00	0.00	0.00	
3	1865.00	6.50	75.00	1864.30	4.77	17.79	2.00	75.00	-4.60	
4	6797.79	6.50	75.00	6765.38	149.29	557.17	0.00	0.00	-143.94	
5	6997.82	25.00	110.00	6957.36	137.65	608.35	10.00	45.12	-131.80	
6	7811.81	90.00	179.28	7404.00	-426.36	810.28	10.00	71.07	434.12	
7	11700.10	90.00	179.28	7404.00	-4314.34	859.40	0.00	0.00	4322.39	PBHL 4-28

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara COCZ'83  
**Site:** WEP 28 PAD  
**Well:** 4-28-11-3-64  
**Wellpath:** Original Hole

**Date:** 05/25/2012  
**Co-ordinate(NE) Reference:** Well: 4-28-11-3-64, Grid North  
**Vertical (TVD) Reference:** 5580'GL+17'KB 5597.0  
**Section (VS) Reference:** Well (0.00N,0.00E,179.45Azi)  
**Plan:** Plan #1

**Page:** 1

**Field:** Niobrara COCZ'83

**Map System:** US State Plane Coordinate System 1983  
**Geo Datum:** GRS 1980  
**Sys Datum:** Mean Sea Level

**Map Zone:** Colorado, Central Zone  
**Coordinate System:** Well Centre  
**Geomagnetic Model:** IGRF2010

**Site:** WEP 28 PAD  
S:28, T:3S, R:64W  
Adams County, CO

**Site Position:**  
**From:** Map  
**Position Uncertainty:** 0.00 ft  
**Ground Level:** 5580.00 ft

**Northing:** 1705679.81 ft  
**Easting:** 3264108.71 ft

**Latitude:** 39 46 1.701 N  
**Longitude:** 104 33 37.788 W  
**North Reference:** Grid  
**Grid Convergence:** 0.59 deg

**Well:** 4-28-11-3-64

**Slot Name:** 4-28

**Well Position:** +N/-S 30.77 ft  
+E/-W 30.04 ft  
**Position Uncertainty:** 0.00 ft

**Northing:** 1705710.58 ft  
**Easting :** 3264138.75 ft

**Latitude:** 39 46 2.002 N  
**Longitude:** 104 33 37.399 W

**Wellpath:** Original Hole

**Current Datum:** 5580'GL+17'KB  
**Magnetic Data:** 06/30/2012  
**Field Strength:** 52749 nT  
**Vertical Section:** Depth From (TVD)  
ft

**Height** 5597.00 ft

+N/-S  
ft

**Drilled From:** Surface  
**Tie-on Depth:** 0.00 ft  
**Above System Datum:** Mean Sea Level  
**Declination:** 8.56 deg  
**Mag Dip Angle:** 66.54 deg  
**+E/-W** ft  
**Direction** deg

0.00

0.00

0.00

179.45

**Plan:** Plan #1

**Date Composed:** 05/25/2012  
**Version:** 1  
**Tied-to:** From Surface

**Principal:** No

#### Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1540.00	0.00	0.00	1540.00	0.00	0.00	0.00	0.00	0.00	0.00	
1865.00	6.50	75.00	1864.30	4.77	17.79	2.00	2.00	0.00	75.00	
6797.79	6.50	75.00	6765.38	149.29	557.17	0.00	0.00	0.00	0.00	
6997.82	25.00	110.00	6957.36	137.65	608.35	10.00	9.25	17.50	45.12	
7811.81	90.00	179.28	7404.00	-426.36	810.28	10.00	7.99	8.51	71.07	
11700.10	90.00	179.28	7404.00	-4314.34	859.40	0.00	0.00	0.00	0.00	PBHL 4-28

#### 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
1540.00	0.00	0.00	1540.00	0.00	0.00	0.00	0.00	0.00	0.00	
1600.00	1.20	75.00	1600.00	0.16	0.61	-0.16	2.00	2.00	0.00	
1700.00	3.20	75.00	1699.92	1.16	4.31	-1.11	2.00	2.00	0.00	
1800.00	5.20	75.00	1799.64	3.05	11.39	-2.94	2.00	2.00	0.00	
1865.00	6.50	75.00	1864.30	4.77	17.79	-4.60	2.00	2.00	0.00	
1900.00	6.50	75.00	1899.08	5.79	21.61	-5.58	0.00	0.00	0.00	
2000.00	6.50	75.00	1998.44	8.72	32.55	-8.41	0.00	0.00	0.00	
2100.00	6.50	75.00	2097.79	11.65	43.48	-11.23	0.00	0.00	0.00	
2200.00	6.50	75.00	2197.15	14.58	54.42	-14.06	0.00	0.00	0.00	
2300.00	6.50	75.00	2296.51	17.51	65.35	-16.88	0.00	0.00	0.00	
2400.00	6.50	75.00	2395.86	20.44	76.29	-19.71	0.00	0.00	0.00	
2500.00	6.50	75.00	2495.22	23.37	87.22	-22.53	0.00	0.00	0.00	
2600.00	6.50	75.00	2594.58	26.30	98.16	-25.36	0.00	0.00	0.00	
2700.00	6.50	75.00	2693.94	29.23	109.09	-28.18	0.00	0.00	0.00	
2800.00	6.50	75.00	2793.29	32.16	120.03	-31.01	0.00	0.00	0.00	

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**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
2900.00	6.50	75.00	2892.65	35.09	130.96	-33.83	0.00	0.00	0.00	
3000.00	6.50	75.00	2992.01	38.02	141.90	-36.66	0.00	0.00	0.00	
3100.00	6.50	75.00	3091.36	40.95	152.83	-39.48	0.00	0.00	0.00	
3200.00	6.50	75.00	3190.72	43.88	163.76	-42.31	0.00	0.00	0.00	
3300.00	6.50	75.00	3290.08	46.81	174.70	-45.13	0.00	0.00	0.00	
3400.00	6.50	75.00	3389.44	49.74	185.63	-47.96	0.00	0.00	0.00	
3500.00	6.50	75.00	3488.79	52.67	196.57	-50.78	0.00	0.00	0.00	
3600.00	6.50	75.00	3588.15	55.60	207.50	-53.61	0.00	0.00	0.00	
3700.00	6.50	75.00	3687.51	58.53	218.44	-56.43	0.00	0.00	0.00	
3800.00	6.50	75.00	3786.86	61.46	229.37	-59.26	0.00	0.00	0.00	
3900.00	6.50	75.00	3886.22	64.39	240.31	-62.08	0.00	0.00	0.00	
4000.00	6.50	75.00	3985.58	67.32	251.24	-64.91	0.00	0.00	0.00	
4100.00	6.50	75.00	4084.94	70.25	262.18	-67.73	0.00	0.00	0.00	
4200.00	6.50	75.00	4184.29	73.18	273.11	-70.55	0.00	0.00	0.00	
4300.00	6.50	75.00	4283.65	76.11	284.05	-73.38	0.00	0.00	0.00	
4400.00	6.50	75.00	4383.01	79.04	294.98	-76.20	0.00	0.00	0.00	
4500.00	6.50	75.00	4482.37	81.97	305.91	-79.03	0.00	0.00	0.00	
4600.00	6.50	75.00	4581.72	84.90	316.85	-81.85	0.00	0.00	0.00	
4700.00	6.50	75.00	4681.08	87.83	327.78	-84.68	0.00	0.00	0.00	
4800.00	6.50	75.00	4780.44	90.76	338.72	-87.50	0.00	0.00	0.00	
4900.00	6.50	75.00	4879.79	93.69	349.65	-90.33	0.00	0.00	0.00	
5000.00	6.50	75.00	4979.15	96.62	360.59	-93.15	0.00	0.00	0.00	
5100.00	6.50	75.00	5078.51	99.55	371.52	-95.98	0.00	0.00	0.00	
5200.00	6.50	75.00	5177.87	102.48	382.46	-98.80	0.00	0.00	0.00	
5300.00	6.50	75.00	5277.22	105.41	393.39	-101.63	0.00	0.00	0.00	
5400.00	6.50	75.00	5376.58	108.34	404.33	-104.45	0.00	0.00	0.00	
5500.00	6.50	75.00	5475.94	111.27	415.26	-107.28	0.00	0.00	0.00	
5600.00	6.50	75.00	5575.29	114.20	426.19	-110.10	0.00	0.00	0.00	
5700.00	6.50	75.00	5674.65	117.13	437.13	-112.93	0.00	0.00	0.00	
5800.00	6.50	75.00	5774.01	120.06	448.06	-115.75	0.00	0.00	0.00	
5900.00	6.50	75.00	5873.37	122.99	459.00	-118.58	0.00	0.00	0.00	
6000.00	6.50	75.00	5972.72	125.92	469.93	-121.40	0.00	0.00	0.00	
6100.00	6.50	75.00	6072.08	128.85	480.87	-124.23	0.00	0.00	0.00	
6200.00	6.50	75.00	6171.44	131.78	491.80	-127.05	0.00	0.00	0.00	
6300.00	6.50	75.00	6270.79	134.71	502.74	-129.88	0.00	0.00	0.00	
6400.00	6.50	75.00	6370.15	137.64	513.67	-132.70	0.00	0.00	0.00	
6500.00	6.50	75.00	6469.51	140.57	524.61	-135.53	0.00	0.00	0.00	
6600.00	6.50	75.00	6568.87	143.50	535.54	-138.35	0.00	0.00	0.00	
6700.00	6.50	75.00	6668.22	146.43	546.48	-141.18	0.00	0.00	0.00	
6797.79	6.50	75.00	6765.38	149.29	557.17	-143.94	0.00	0.00	0.00	
6800.00	6.66	76.35	6767.58	149.36	557.41	-144.00	10.00	7.14	61.12	
6850.00	10.83	95.07	6817.00	149.62	564.92	-144.19	10.00	8.35	37.43	
6900.00	15.50	103.07	6865.67	147.70	576.11	-142.16	10.00	9.34	16.00	
6950.00	20.32	107.39	6913.24	143.59	590.91	-137.91	10.00	9.65	8.64	
6997.82	25.00	110.00	6957.36	137.65	608.35	-131.80	10.00	9.78	5.46	
7000.00	25.07	110.49	6959.33	137.33	609.21	-131.47	10.00	3.28	22.32	
7050.00	27.12	120.88	7004.26	127.77	628.93	-121.72	10.00	4.09	20.79	
7100.00	29.82	129.72	7048.23	113.97	648.28	-107.74	10.00	5.40	17.69	
7150.00	33.01	137.11	7090.91	96.03	667.12	-89.62	10.00	6.39	14.78	
7200.00	36.57	143.27	7131.97	74.10	685.31	-67.51	10.00	7.12	12.32	
7250.00	40.40	148.45	7171.11	48.33	702.71	-41.59	10.00	7.65	10.35	
7300.00	44.43	152.85	7208.03	18.93	719.18	-12.03	10.00	8.05	8.81	
7350.00	48.60	156.66	7242.44	-13.88	734.61	20.93	10.00	8.34	7.61	

**Company:** CARRIZO OIL & GAS, INC.  
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**Date:** 05/25/2012  
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**Section (VS) Reference:** Well (0.00N,0.00E,179.45Azi)  
**Plan:** Plan #1

**Page:** 3

**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
7400.00	52.88	160.00	7274.08	-49.85	748.86	57.03	10.00	8.56	6.68	
7450.00	57.24	162.98	7302.72	-88.71	761.84	96.01	10.00	8.73	5.96	
7500.00	61.67	165.68	7328.13	-130.16	773.45	137.57	10.00	8.86	5.40	
7550.00	66.15	168.16	7350.11	-173.88	783.59	181.40	10.00	8.95	4.96	
7600.00	70.66	170.47	7368.52	-219.55	792.19	227.15	10.00	9.03	4.63	
7650.00	75.20	172.66	7383.19	-266.82	799.19	274.48	10.00	9.08	4.38	
7700.00	79.76	174.76	7394.03	-315.32	804.53	323.03	10.00	9.12	4.20	
7750.00	84.34	176.80	7400.94	-364.69	808.17	372.43	10.00	9.15	4.08	
7800.00	88.92	178.80	7403.89	-414.55	810.08	422.31	10.00	9.16	4.01	
7811.81	90.00	179.28	7404.00	-426.36	810.28	434.12	10.00	9.17	4.00	7"
7900.00	90.00	179.28	7404.00	-514.54	811.40	522.31	0.00	0.00	0.00	
8000.00	90.00	179.28	7404.00	-614.53	812.66	622.31	0.00	0.00	0.00	
8100.00	90.00	179.28	7404.00	-714.53	813.92	722.31	0.00	0.00	0.00	
8200.00	90.00	179.28	7404.00	-814.52	815.19	822.30	0.00	0.00	0.00	
8300.00	90.00	179.28	7404.00	-914.51	816.45	922.30	0.00	0.00	0.00	
8400.00	90.00	179.28	7404.00	-1014.50	817.71	1022.30	0.00	0.00	0.00	
8500.00	90.00	179.28	7404.00	-1114.49	818.98	1122.30	0.00	0.00	0.00	
8600.00	90.00	179.28	7404.00	-1214.49	820.24	1222.30	0.00	0.00	0.00	
8700.00	90.00	179.28	7404.00	-1314.48	821.50	1322.30	0.00	0.00	0.00	
8800.00	90.00	179.28	7404.00	-1414.47	822.77	1422.30	0.00	0.00	0.00	
8900.00	90.00	179.28	7404.00	-1514.46	824.03	1522.30	0.00	0.00	0.00	
9000.00	90.00	179.28	7404.00	-1614.45	825.29	1622.30	0.00	0.00	0.00	
9100.00	90.00	179.28	7404.00	-1714.45	826.56	1722.30	0.00	0.00	0.00	
9200.00	90.00	179.28	7404.00	-1814.44	827.82	1822.30	0.00	0.00	0.00	
9300.00	90.00	179.28	7404.00	-1914.43	829.08	1922.30	0.00	0.00	0.00	
9400.00	90.00	179.28	7404.00	-2014.42	830.34	2022.30	0.00	0.00	0.00	
9500.00	90.00	179.28	7404.00	-2114.41	831.61	2122.30	0.00	0.00	0.00	
9600.00	90.00	179.28	7404.00	-2214.41	832.87	2222.30	0.00	0.00	0.00	
9700.00	90.00	179.28	7404.00	-2314.40	834.13	2322.30	0.00	0.00	0.00	
9800.00	90.00	179.28	7404.00	-2414.39	835.40	2422.30	0.00	0.00	0.00	
9900.00	90.00	179.28	7404.00	-2514.38	836.66	2522.30	0.00	0.00	0.00	
10000.00	90.00	179.28	7404.00	-2614.37	837.92	2622.30	0.00	0.00	0.00	
10100.00	90.00	179.28	7404.00	-2714.37	839.19	2722.30	0.00	0.00	0.00	
10200.00	90.00	179.28	7404.00	-2814.36	840.45	2822.30	0.00	0.00	0.00	
10300.00	90.00	179.28	7404.00	-2914.35	841.71	2922.30	0.00	0.00	0.00	
10400.00	90.00	179.28	7404.00	-3014.34	842.98	3022.29	0.00	0.00	0.00	
10500.00	90.00	179.28	7404.00	-3114.33	844.24	3122.29	0.00	0.00	0.00	
10600.00	90.00	179.28	7404.00	-3214.33	845.50	3222.29	0.00	0.00	0.00	
10700.00	90.00	179.28	7404.00	-3314.32	846.77	3322.29	0.00	0.00	0.00	
10800.00	90.00	179.28	7404.00	-3414.31	848.03	3422.29	0.00	0.00	0.00	
10900.00	90.00	179.28	7404.00	-3514.30	849.29	3522.29	0.00	0.00	0.00	
11000.00	90.00	179.28	7404.00	-3614.29	850.56	3622.29	0.00	0.00	0.00	
11100.00	90.00	179.28	7404.00	-3714.29	851.82	3722.29	0.00	0.00	0.00	
11200.00	90.00	179.28	7404.00	-3814.28	853.08	3822.29	0.00	0.00	0.00	
11300.00	90.00	179.28	7404.00	-3914.27	854.35	3922.29	0.00	0.00	0.00	
11400.00	90.00	179.28	7404.00	-4014.26	855.61	4022.29	0.00	0.00	0.00	
11500.00	90.00	179.28	7404.00	-4114.25	856.87	4122.29	0.00	0.00	0.00	
11600.00	90.00	179.28	7404.00	-4214.25	858.14	4222.29	0.00	0.00	0.00	
11700.10	90.00	179.28	7404.00	-4314.34	859.40	4322.39	0.00	0.00	0.00	PBHL 4-28

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**Plan:** Plan #1

**Time:** 11:59:35  
**Page:** 4

#### Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->		
								Deg	Min	Sec	Deg	Min	Sec
SL 4-28			0.00	0.00	0.00	1705710.583264	138.75	39	46	2.002 N	104	33	37.399 W
PBHL 4-28			7404.00	-4314.34	859.40	1701396.243264	998.15	39	45	19.279 N	104	33	26.967 W

#### Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
7811.81	7404.00	7.000	8.750	7"