

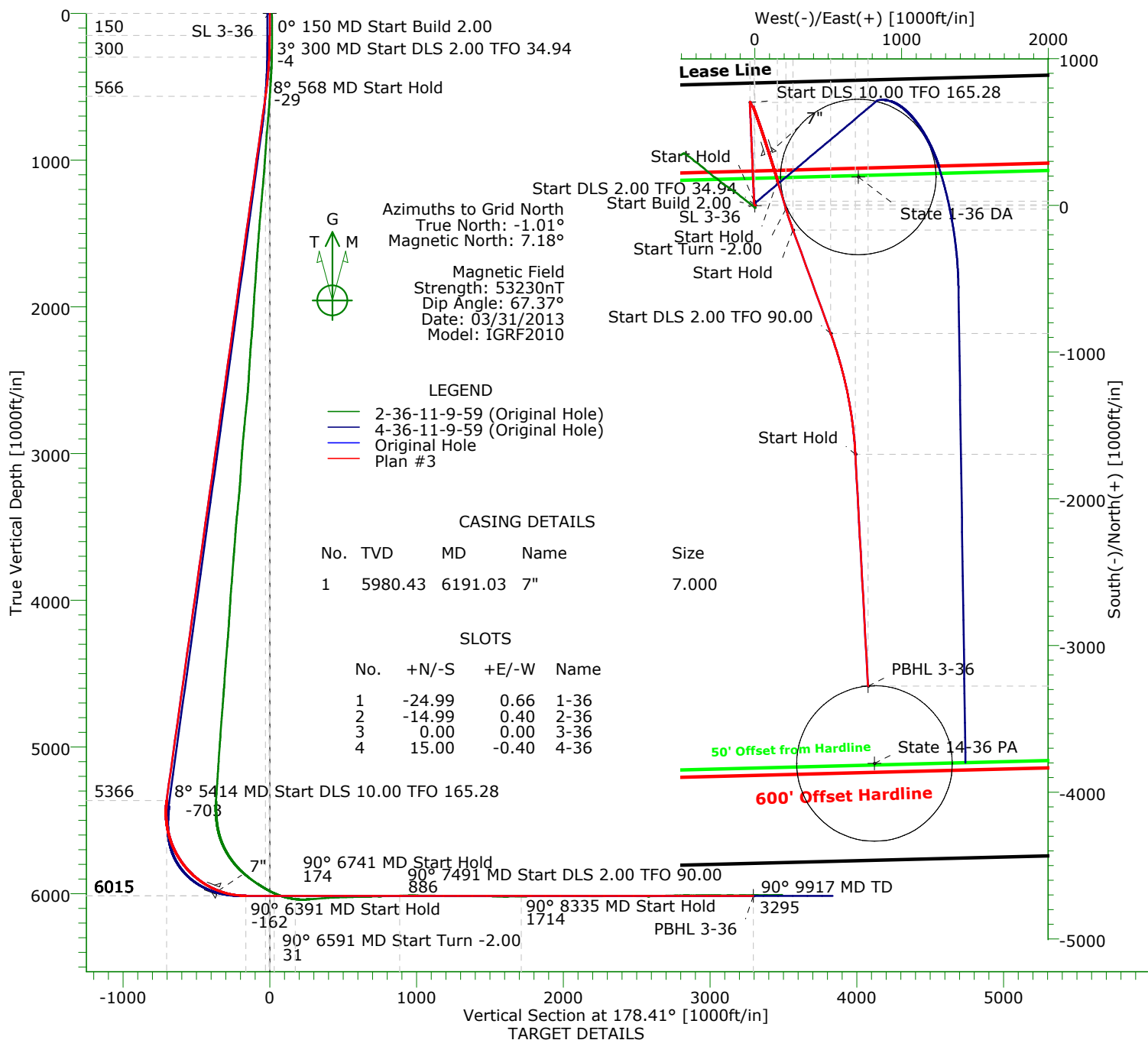


CARRIZO OIL & GAS, INC.

Field: Niobrara CONZ'83
 Site: Castor 36-11-9-59 Pad
 Well: 3-36-11-9-59
 Wellpath: Original Hole
 Plan: Plan #3



Precision
 Directional Services



Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Castor 36-11-9-59 Pad Well: 3-36-11-9-59 Wellpath: Original Hole	Date: 04/03/2013 Co-ordinate(NE) Reference: Well: 3-36-11-9-59, Grid North Vertical (TVD) Reference: 4889'GL+17'KB 4906.0 Section (VS) Reference: Well (0.00N,0.00E,178.41Azi) Plan: Plan #3	Time: 12:18:04 Page: 1
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Field: Niobrara CONZ'83 Map System: US State Plane Coordinate System 1983 Geo Datum: GRS 1980 Sys Datum: Mean Sea Level	Map Zone: Colorado, Northern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010
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Site: Castor 36-11-9-59 Pad S:36,T:9N,R:59W Weld County, CO Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 4889.00 ft	Northing: 1506091.93 ft Easting: 3434989.54 ft Latitude: 40 42 43.346 N Longitude: 103 55 51.158 W North Reference: Grid Grid Convergence: 1.01 deg
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Well: 3-36-11-9-59 835FNL 1270FWL Well Position: +N/-S 24.99 ft +E/-W -0.66 ft Position Uncertainty: 0.00 ft	Slot Name: 3-36 Latitude: 40 42 43.593 N Longitude: 103 55 51.161 W
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Wellpath: Original Hole Current Datum: 4889'GL+17'KB Magnetic Data: 04/30/2013 Field Strength: 53230 nT Vertical Section: Depth From (TVD) ft	Height 4906.00 ft +N/-S ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.19 deg Mag Dip Angle: 67.37 deg +E/-W ft Direction deg
0.00	0.00	0.00 178.41

Plan: Plan #3 updated lateral Principal: Yes	Date Composed: 04/03/2013 Version: 1 Tied-to: From Surface
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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	89.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	89.49	150.00	0.00	0.00	0.00	0.00	0.00	89.49	
300.00	3.00	335.00	299.93	3.56	-1.66	2.00	2.00	0.00	335.00	
567.73	8.00	357.58	566.37	28.54	-5.41	2.00	1.87	8.43	34.94	
5414.02	8.00	357.58	5365.50	702.41	-33.89	0.00	0.00	0.00	0.00	
6391.10	90.00	163.00	6015.00	166.39	154.02	10.00	8.39	16.93	165.28	
6591.10	90.00	163.00	6015.00	-24.87	212.49	0.00	0.00	0.00	0.00	
6741.10	90.00	160.00	6015.00	-167.11	260.08	2.00	0.00	-2.00	-90.00	
7491.10	90.00	160.00	6015.00	-871.87	516.60	0.00	0.00	0.00	0.00	
8335.32	90.00	176.88	6015.00	-1695.99	685.13	2.00	0.00	2.00	90.00	
9916.76	90.00	176.88	6015.00	-3275.09	771.08	0.00	0.00	0.00	0.00	PBHL 3-36

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	89.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	89.49	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	89.49	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	1.00	335.00	200.00	0.40	-0.18	-0.40	2.00	2.00	0.00	
300.00	3.00	335.00	299.93	3.56	-1.66	-3.60	2.00	2.00	0.00	
400.00	4.78	348.88	399.70	10.02	-3.57	-10.11	2.00	1.78	13.88	
500.00	6.68	355.07	499.20	19.90	-4.87	-20.03	2.00	1.90	6.19	
567.73	8.00	357.58	566.37	28.54	-5.41	-28.68	2.00	1.94	3.70	
600.00	8.00	357.58	598.33	33.03	-5.60	-33.17	0.00	0.00	0.00	
700.00	8.00	357.58	697.35	46.93	-6.19	-47.09	0.00	0.00	0.00	
800.00	8.00	357.58	796.38	60.84	-6.77	-61.00	0.00	0.00	0.00	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Castor 36-11-9-59 Pad
Well: 3-36-11-9-59
Wellpath: Original Hole

Date: 04/03/2013
Co-ordinate(NE) Reference: Well: 3-36-11-9-59, Grid North
Vertical (TVD) Reference: 4889'GL+17'KB 4906.0
Section (VS) Reference: Well (0.00N,0.00E,178.41Azi)
Plan: Plan #3

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
900.00	8.00	357.58	895.41	74.74	-7.36	-74.92	0.00	0.00	0.00	
1000.00	8.00	357.58	994.43	88.65	-7.95	-88.83	0.00	0.00	0.00	
1100.00	8.00	357.58	1093.46	102.55	-8.54	-102.75	0.00	0.00	0.00	
1200.00	8.00	357.58	1192.49	116.46	-9.12	-116.66	0.00	0.00	0.00	
1300.00	8.00	357.58	1291.51	130.36	-9.71	-130.58	0.00	0.00	0.00	
1400.00	8.00	357.58	1390.54	144.27	-10.30	-144.50	0.00	0.00	0.00	
1500.00	8.00	357.58	1489.57	158.17	-10.89	-158.41	0.00	0.00	0.00	
1600.00	8.00	357.58	1588.59	172.08	-11.48	-172.33	0.00	0.00	0.00	
1700.00	8.00	357.58	1687.62	185.98	-12.06	-186.24	0.00	0.00	0.00	
1800.00	8.00	357.58	1786.65	199.89	-12.65	-200.16	0.00	0.00	0.00	
1900.00	8.00	357.58	1885.67	213.79	-13.24	-214.08	0.00	0.00	0.00	
2000.00	8.00	357.58	1984.70	227.70	-13.83	-227.99	0.00	0.00	0.00	
2100.00	8.00	357.58	2083.73	241.60	-14.41	-241.91	0.00	0.00	0.00	
2200.00	8.00	357.58	2182.75	255.51	-15.00	-255.82	0.00	0.00	0.00	
2300.00	8.00	357.58	2281.78	269.41	-15.59	-269.74	0.00	0.00	0.00	
2400.00	8.00	357.58	2380.81	283.32	-16.18	-283.66	0.00	0.00	0.00	
2500.00	8.00	357.58	2479.83	297.22	-16.76	-297.57	0.00	0.00	0.00	
2600.00	8.00	357.58	2578.86	311.13	-17.35	-311.49	0.00	0.00	0.00	
2700.00	8.00	357.58	2677.89	325.03	-17.94	-325.40	0.00	0.00	0.00	
2800.00	8.00	357.58	2776.91	338.93	-18.53	-339.32	0.00	0.00	0.00	
2900.00	8.00	357.58	2875.94	352.84	-19.12	-353.23	0.00	0.00	0.00	
3000.00	8.00	357.58	2974.97	366.74	-19.70	-367.15	0.00	0.00	0.00	
3100.00	8.00	357.58	3074.00	380.65	-20.29	-381.07	0.00	0.00	0.00	
3200.00	8.00	357.58	3173.02	394.55	-20.88	-394.98	0.00	0.00	0.00	
3300.00	8.00	357.58	3272.05	408.46	-21.47	-408.90	0.00	0.00	0.00	
3400.00	8.00	357.58	3371.08	422.36	-22.05	-422.81	0.00	0.00	0.00	
3500.00	8.00	357.58	3470.10	436.27	-22.64	-436.73	0.00	0.00	0.00	
3600.00	8.00	357.58	3569.13	450.17	-23.23	-450.65	0.00	0.00	0.00	
3700.00	8.00	357.58	3668.16	464.08	-23.82	-464.56	0.00	0.00	0.00	
3800.00	8.00	357.58	3767.18	477.98	-24.40	-478.48	0.00	0.00	0.00	
3900.00	8.00	357.58	3866.21	491.89	-24.99	-492.39	0.00	0.00	0.00	
4000.00	8.00	357.58	3965.24	505.79	-25.58	-506.31	0.00	0.00	0.00	
4100.00	8.00	357.58	4064.26	519.70	-26.17	-520.22	0.00	0.00	0.00	
4200.00	8.00	357.58	4163.29	533.60	-26.75	-534.14	0.00	0.00	0.00	
4300.00	8.00	357.58	4262.32	547.51	-27.34	-548.06	0.00	0.00	0.00	
4400.00	8.00	357.58	4361.34	561.41	-27.93	-561.97	0.00	0.00	0.00	
4500.00	8.00	357.58	4460.37	575.32	-28.52	-575.89	0.00	0.00	0.00	
4600.00	8.00	357.58	4559.40	589.22	-29.11	-589.80	0.00	0.00	0.00	
4700.00	8.00	357.58	4658.42	603.13	-29.69	-603.72	0.00	0.00	0.00	
4800.00	8.00	357.58	4757.45	617.03	-30.28	-617.64	0.00	0.00	0.00	
4900.00	8.00	357.58	4856.48	630.94	-30.87	-631.55	0.00	0.00	0.00	
5000.00	8.00	357.58	4955.50	644.84	-31.46	-645.47	0.00	0.00	0.00	
5100.00	8.00	357.58	5054.53	658.75	-32.04	-659.38	0.00	0.00	0.00	
5200.00	8.00	357.58	5153.56	672.65	-32.63	-673.30	0.00	0.00	0.00	
5300.00	8.00	357.58	5252.59	686.56	-33.22	-687.21	0.00	0.00	0.00	
5400.00	8.00	357.58	5351.61	700.46	-33.81	-701.13	0.00	0.00	0.00	
5414.02	8.00	357.58	5365.50	702.41	-33.89	-703.08	0.00	0.00	0.00	
5500.00	2.20	96.00	5451.19	708.23	-32.50	-708.86	10.00	-6.74	114.47	
5600.00	11.05	152.56	5550.48	699.50	-26.16	-699.96	10.00	8.85	56.56	
5700.00	20.96	157.70	5646.48	674.39	-14.92	-674.54	10.00	9.91	5.14	
5800.00	30.93	159.62	5736.29	633.64	0.85	-633.38	10.00	9.97	1.91	
5900.00	40.91	160.66	5817.17	578.51	20.70	-577.72	10.00	9.98	1.05	
6000.00	50.91	161.35	5886.66	510.67	44.01	-509.26	10.00	9.99	0.69	
6100.00	60.90	161.87	5942.65	432.19	70.08	-430.07	10.00	9.99	0.52	

Precision Directional Services, Inc.

Planning Report

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Wellpath: Original Hole

Date: 04/03/2013
Co-ordinate(NE) Reference: Well: 3-36-11-9-59, Grid North
Vertical (TVD) Reference: 4889'GL+17'KB 4906.0
Section (VS) Reference: Well (0.00N,0.00E,178.41Azi)
Plan: Plan #3

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
6191.03	70.00	162.26	5980.43	353.49	95.54	-350.70	10.00	10.00	0.43	7"
6200.00	70.90	162.30	5983.44	345.44	98.11	-342.58	10.00	10.00	0.40	
6300.00	80.89	162.68	6007.78	253.06	127.25	-249.43	10.00	10.00	0.38	
6391.10	90.00	163.00	6015.00	166.39	154.02	-162.05	10.00	10.00	0.36	
6400.00	90.00	163.00	6015.00	157.87	156.62	-153.47	0.00	0.00	0.00	
6500.00	90.00	163.00	6015.00	62.24	185.86	-57.06	0.00	0.00	0.00	
6591.10	90.00	163.00	6015.00	-24.87	212.49	30.76	0.00	0.00	0.00	
6600.00	90.00	162.82	6015.00	-33.38	215.11	39.34	2.00	0.00	-2.00	
6700.00	90.00	160.82	6015.00	-128.39	246.31	135.17	2.00	0.00	-2.00	
6741.10	90.00	160.00	6015.00	-167.11	260.08	174.26	2.00	0.00	-2.00	
6800.00	90.00	160.00	6015.00	-222.46	280.23	230.15	0.00	0.00	0.00	
6900.00	90.00	160.00	6015.00	-316.43	314.43	325.03	0.00	0.00	0.00	
7000.00	90.00	160.00	6015.00	-410.40	348.63	419.91	0.00	0.00	0.00	
7100.00	90.00	160.00	6015.00	-504.36	382.84	514.79	0.00	0.00	0.00	
7200.00	90.00	160.00	6015.00	-598.33	417.04	609.68	0.00	0.00	0.00	
7300.00	90.00	160.00	6015.00	-692.30	451.24	704.56	0.00	0.00	0.00	
7400.00	90.00	160.00	6015.00	-786.27	485.44	799.44	0.00	0.00	0.00	
7491.10	90.00	160.00	6015.00	-871.87	516.60	885.87	0.00	0.00	0.00	
7500.00	90.00	160.18	6015.00	-880.25	519.63	894.33	2.00	0.00	2.00	
7600.00	90.00	162.18	6015.00	-974.89	551.89	989.83	2.00	0.00	2.00	
7700.00	90.00	164.18	6015.00	-1070.61	580.83	1086.31	2.00	0.00	2.00	
7800.00	90.00	166.18	6015.00	-1167.28	606.41	1183.65	2.00	0.00	2.00	
7900.00	90.00	168.18	6015.00	-1264.78	628.60	1281.73	2.00	0.00	2.00	
8000.00	90.00	170.18	6015.00	-1363.00	647.38	1380.43	2.00	0.00	2.00	
8100.00	90.00	172.18	6015.00	-1461.81	662.71	1479.63	2.00	0.00	2.00	
8200.00	90.00	174.18	6015.00	-1561.10	674.59	1579.21	2.00	0.00	2.00	
8300.00	90.00	176.18	6015.00	-1660.74	683.00	1679.05	2.00	0.00	2.00	
8335.32	90.00	176.88	6015.00	-1695.99	685.13	1714.35	2.00	0.00	2.00	
8400.00	90.00	176.88	6015.00	-1760.58	688.65	1779.01	0.00	0.00	0.00	
8500.00	90.00	176.88	6015.00	-1860.43	694.08	1878.97	0.00	0.00	0.00	
8600.00	90.00	176.88	6015.00	-1960.28	699.52	1978.93	0.00	0.00	0.00	
8700.00	90.00	176.88	6015.00	-2060.13	704.95	2078.90	0.00	0.00	0.00	
8800.00	90.00	176.88	6015.00	-2159.98	710.39	2178.86	0.00	0.00	0.00	
8900.00	90.00	176.88	6015.00	-2259.84	715.82	2278.83	0.00	0.00	0.00	
9000.00	90.00	176.88	6015.00	-2359.69	721.26	2378.79	0.00	0.00	0.00	
9100.00	90.00	176.88	6015.00	-2459.54	726.69	2478.76	0.00	0.00	0.00	
9200.00	90.00	176.88	6015.00	-2559.39	732.13	2578.72	0.00	0.00	0.00	
9300.00	90.00	176.88	6015.00	-2659.25	737.56	2678.69	0.00	0.00	0.00	
9400.00	90.00	176.88	6015.00	-2759.10	743.00	2778.65	0.00	0.00	0.00	
9500.00	90.00	176.88	6015.00	-2858.95	748.43	2878.62	0.00	0.00	0.00	
9600.00	90.00	176.88	6015.00	-2958.80	753.86	2978.58	0.00	0.00	0.00	
9700.00	90.00	176.88	6015.00	-3058.65	759.30	3078.54	0.00	0.00	0.00	
9800.00	90.00	176.88	6015.00	-3158.51	764.73	3178.51	0.00	0.00	0.00	
9900.00	90.00	176.88	6015.00	-3258.36	770.17	3278.47	0.00	0.00	0.00	
9916.76	90.00	176.88	6015.00	-3275.09	771.08	3295.22	0.00	0.00	0.00	PBHL 3-36

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->			<--- Longitude --->		
State 14-36 PA -Circle (Radius: 530)			-100.00	-3803.20	815.74	1502313.72	3435804.62	40	42	5.876 N	103	55	41.445 W
State 1-36 DA			-100.00	193.85	704.87	1506310.77	3435693.75	40	42	45.385 N	103	55	41.964 W

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Castor 36-11-9-59 Pad Well: 3-36-11-9-59 Wellpath: Original Hole	Date: 04/03/2013 Time: 12:18:04 Page: 4 Co-ordinate(NE) Reference: Well: 3-36-11-9-59, Grid North Vertical (TVD) Reference: 4889'GL+17'KB 4906.0 Section (VS) Reference: Well (0.00N,0.00E,178.41Azi) Plan: Plan #3
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Targets

Name	Description		TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->				
	Dip.	Dir.						Deg	Min	Sec	Deg	Min	Sec		
-Circle (Radius: 530)															
SL 3-36			0.00	0.00	0.00	1506116.923434988.88		40	42	43.593	N	103	55	51.161	W
PBHL 3-36			6015.00	-3275.09	771.08	1502841.833435759.96		40	42	11.101	N	103	55	41.903	W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
6191.03	5980.43	7.000	8.500	7"