



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 1-34	0.00	0.00	0.00	1532959.63	3425521.39	40°47'10.426N103°57'48.044W		Point
PBHL 1-34	6250.00	4973.78	-619.78	1537933.41	3424901.61	40°47'59.670N103°57'54.981W		Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	358.93	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	358.93	200.00	0.00	0.00	0.00	358.93	0.00	
3	569.80	3.70	358.93	569.55	11.93	-0.22	1.00	0.00	11.85	
4	5724.76	3.70	358.93	5713.77	344.36	-6.44	0.00	0.00	342.18	
5	6588.02	90.00	352.40	6250.00	911.64	-78.11	10.00	-6.54	913.96	
6	10686.12	90.00	352.40	6250.00	4973.78	-619.78	0.00	0.00	5012.06	PBHL 1-34

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Timbro Ranch 1-34-10-59 Well: 1-34-10-59 Wellpath: Original Hole	Date: 10/06/2014 Co-ordinate(NE) Reference: Well: 1-34-10-59, Grid North Vertical (TVD) Reference: 5065'GL+17'KB 5082.0 Section (VS) Reference: Well (0.00N,0.00E,352.40Azi) Plan: Plan #1	Time: 15:10:37 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

Site: Timbro Ranch 1-34-10-59

Weld County, CO

Site Position:	Northing: 1532959.63 ft	Latitude: 40 47 10.426 N
From: Map	Easting: 3425521.39 ft	Longitude: 103 57 48.044 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 5065.00 ft		Grid Convergence: 0.99 deg

Well: 1-34-10-59

Slot Name:

Well Position: +N/-S 0.00 ft	Northing: 1532959.63 ft	Latitude: 40 47 10.426 N
+E/-W 0.00 ft	Easting: 3425521.39 ft	Longitude: 103 57 48.044 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: 8.01 deg
Mag Dip Angle: 67.37 deg
+E/-W **Direction**
 ft deg

Current Datum: 5065'GL+17'KB	Height 5082.00 ft
Magnetic Data: 10/14/2014	
Field Strength: 53101 nT	
Vertical Section: Depth From (TVD)	+N/-S
ft	ft
0.00	0.00

0.00 352.40

Plan: Plan #1

Date Composed: 10/06/2014
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	358.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	358.93	200.00	0.00	0.00	0.00	0.00	0.00	358.93	
569.80	3.70	358.93	569.55	11.93	-0.22	1.00	1.00	0.00	0.00	
5724.76	3.70	358.93	5713.77	344.36	-6.44	0.00	0.00	0.00	0.00	
6588.02	90.00	352.40	6250.00	911.64	-78.11	10.00	10.00	-0.76	-6.54	
10686.12	90.00	352.40	6250.00	4973.78	-619.78	0.00	0.00	0.00	0.00	PBHL 1-34

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	358.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	358.93	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	358.93	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	1.00	358.93	299.99	0.87	-0.02	0.87	1.00	1.00	0.00	
400.00	2.00	358.93	399.96	3.49	-0.07	3.47	1.00	1.00	0.00	
500.00	3.00	358.93	499.86	7.85	-0.15	7.80	1.00	1.00	0.00	
569.80	3.70	358.93	569.55	11.93	-0.22	11.85	1.00	1.00	0.00	
600.00	3.70	358.93	599.68	13.88	-0.26	13.79	0.00	0.00	0.00	
700.00	3.70	358.93	699.47	20.32	-0.38	20.20	0.00	0.00	0.00	
800.00	3.70	358.93	799.26	26.77	-0.50	26.60	0.00	0.00	0.00	
900.00	3.70	358.93	899.06	33.22	-0.62	33.01	0.00	0.00	0.00	
1000.00	3.70	358.93	998.85	39.67	-0.74	39.42	0.00	0.00	0.00	
1100.00	3.70	358.93	1098.64	46.12	-0.86	45.83	0.00	0.00	0.00	
1200.00	3.70	358.93	1198.43	52.57	-0.98	52.24	0.00	0.00	0.00	
1300.00	3.70	358.93	1298.22	59.02	-1.10	58.64	0.00	0.00	0.00	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Timbro Ranch 1-34-10-59
Well: 1-34-10-59
Wellpath: Original Hole

Date: 10/06/2014
Co-ordinate(NE) Reference: Well: 1-34-10-59, Grid North
Vertical (TVD) Reference: 5065'GL+17'KB 5082.0
Section (VS) Reference: Well (0.00N,0.00E,352.40Azi)
Plan: Plan #1

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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
1400.00	3.70	358.93	1398.01	65.46	-1.22	65.05	0.00	0.00	0.00	9 5/8"
1401.99	3.70	358.93	1400.00	65.59	-1.23	65.18	0.00	0.00	0.00	
1500.00	3.70	358.93	1497.81	71.91	-1.34	71.46	0.00	0.00	0.00	
1600.00	3.70	358.93	1597.60	78.36	-1.47	77.87	0.00	0.00	0.00	
1700.00	3.70	358.93	1697.39	84.81	-1.59	84.28	0.00	0.00	0.00	
1800.00	3.70	358.93	1797.18	91.26	-1.71	90.68	0.00	0.00	0.00	
1900.00	3.70	358.93	1896.97	97.71	-1.83	97.09	0.00	0.00	0.00	
2000.00	3.70	358.93	1996.77	104.16	-1.95	103.50	0.00	0.00	0.00	
2100.00	3.70	358.93	2096.56	110.61	-2.07	109.91	0.00	0.00	0.00	
2200.00	3.70	358.93	2196.35	117.05	-2.19	116.32	0.00	0.00	0.00	
2300.00	3.70	358.93	2296.14	123.50	-2.31	122.72	0.00	0.00	0.00	
2400.00	3.70	358.93	2395.93	129.95	-2.43	129.13	0.00	0.00	0.00	
2500.00	3.70	358.93	2495.72	136.40	-2.55	135.54	0.00	0.00	0.00	
2600.00	3.70	358.93	2595.52	142.85	-2.67	141.95	0.00	0.00	0.00	
2700.00	3.70	358.93	2695.31	149.30	-2.79	148.36	0.00	0.00	0.00	
2800.00	3.70	358.93	2795.10	155.75	-2.91	154.76	0.00	0.00	0.00	
2900.00	3.70	358.93	2894.89	162.20	-3.03	161.17	0.00	0.00	0.00	
3000.00	3.70	358.93	2994.68	168.64	-3.15	167.58	0.00	0.00	0.00	
3100.00	3.70	358.93	3094.47	175.09	-3.27	173.99	0.00	0.00	0.00	
3200.00	3.70	358.93	3194.27	181.54	-3.39	180.40	0.00	0.00	0.00	
3300.00	3.70	358.93	3294.06	187.99	-3.51	186.80	0.00	0.00	0.00	
3400.00	3.70	358.93	3393.85	194.44	-3.64	193.21	0.00	0.00	0.00	
3500.00	3.70	358.93	3493.64	200.89	-3.76	199.62	0.00	0.00	0.00	
3600.00	3.70	358.93	3593.43	207.34	-3.88	206.03	0.00	0.00	0.00	
3700.00	3.70	358.93	3693.23	213.78	-4.00	212.44	0.00	0.00	0.00	
3800.00	3.70	358.93	3793.02	220.23	-4.12	218.84	0.00	0.00	0.00	
3900.00	3.70	358.93	3892.81	226.68	-4.24	225.25	0.00	0.00	0.00	
4000.00	3.70	358.93	3992.60	233.13	-4.36	231.66	0.00	0.00	0.00	
4100.00	3.70	358.93	4092.39	239.58	-4.48	238.07	0.00	0.00	0.00	
4200.00	3.70	358.93	4192.18	246.03	-4.60	244.48	0.00	0.00	0.00	
4300.00	3.70	358.93	4291.98	252.48	-4.72	250.88	0.00	0.00	0.00	
4400.00	3.70	358.93	4391.77	258.93	-4.84	257.29	0.00	0.00	0.00	
4500.00	3.70	358.93	4491.56	265.37	-4.96	263.70	0.00	0.00	0.00	
4600.00	3.70	358.93	4591.35	271.82	-5.08	270.11	0.00	0.00	0.00	
4700.00	3.70	358.93	4691.14	278.27	-5.20	276.52	0.00	0.00	0.00	
4800.00	3.70	358.93	4790.94	284.72	-5.32	282.92	0.00	0.00	0.00	
4900.00	3.70	358.93	4890.73	291.17	-5.44	289.33	0.00	0.00	0.00	
5000.00	3.70	358.93	4990.52	297.62	-5.56	295.74	0.00	0.00	0.00	
5100.00	3.70	358.93	5090.31	304.07	-5.68	302.15	0.00	0.00	0.00	
5200.00	3.70	358.93	5190.10	310.52	-5.81	308.56	0.00	0.00	0.00	
5300.00	3.70	358.93	5289.89	316.96	-5.93	314.96	0.00	0.00	0.00	
5400.00	3.70	358.93	5389.69	323.41	-6.05	321.37	0.00	0.00	0.00	
5500.00	3.70	358.93	5489.48	329.86	-6.17	327.78	0.00	0.00	0.00	
5600.00	3.70	358.93	5589.27	336.31	-6.29	334.19	0.00	0.00	0.00	
5700.00	3.70	358.93	5689.06	342.76	-6.41	340.60	0.00	0.00	0.00	
5724.76	3.70	358.93	5713.77	344.36	-6.44	342.18	0.00	0.00	0.00	
5800.00	11.21	354.53	5788.32	354.07	-7.18	351.91	10.00	9.98	-5.85	
5900.00	21.20	353.49	5884.23	381.78	-10.17	379.77	10.00	10.00	-1.04	
6000.00	31.20	353.10	5973.84	425.57	-15.34	423.86	10.00	10.00	-0.39	
6100.00	41.20	352.89	6054.43	484.12	-22.55	482.85	10.00	10.00	-0.21	
6200.00	51.20	352.74	6123.56	555.63	-31.57	554.93	10.00	10.00	-0.14	7"
6300.00	61.20	352.64	6179.12	637.95	-42.14	637.92	10.00	10.00	-0.11	
6388.02	70.00	352.56	6215.45	717.36	-52.46	718.00	10.00	10.00	-0.09	
6400.00	71.20	352.55	6219.43	728.57	-53.92	729.30	10.00	10.00	-0.08	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Timbro Ranch 1-34-10-59
Well: 1-34-10-59
Wellpath: Original Hole

Date: 10/06/2014
Co-ordinate(NE) Reference: Well: 1-34-10-59, Grid North
Vertical (TVD) Reference: 5065'GL+17'KB 5082.0
Section (VS) Reference: Well (0.00N,0.00E,352.40Azi)
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
6500.00	81.20	352.47	6243.25	824.73	-66.57	826.29	10.00	10.00	-0.08	
6588.02	90.00	352.40	6250.00	911.64	-78.11	913.96	10.00	10.00	-0.07	
6600.00	90.00	352.40	6250.00	923.51	-79.69	925.94	0.00	0.00	0.00	
6700.00	90.00	352.40	6250.00	1022.64	-92.91	1025.94	0.00	0.00	0.00	
6800.00	90.00	352.40	6250.00	1121.76	-106.13	1125.94	0.00	0.00	0.00	
6900.00	90.00	352.40	6250.00	1220.88	-119.35	1225.94	0.00	0.00	0.00	
7000.00	90.00	352.40	6250.00	1320.00	-132.56	1325.94	0.00	0.00	0.00	
7100.00	90.00	352.40	6250.00	1419.13	-145.78	1425.94	0.00	0.00	0.00	
7200.00	90.00	352.40	6250.00	1518.25	-159.00	1525.94	0.00	0.00	0.00	
7300.00	90.00	352.40	6250.00	1617.37	-172.22	1625.94	0.00	0.00	0.00	
7400.00	90.00	352.40	6250.00	1716.49	-185.43	1725.94	0.00	0.00	0.00	
7500.00	90.00	352.40	6250.00	1815.62	-198.65	1825.94	0.00	0.00	0.00	
7600.00	90.00	352.40	6250.00	1914.74	-211.87	1925.94	0.00	0.00	0.00	
7700.00	90.00	352.40	6250.00	2013.86	-225.09	2025.94	0.00	0.00	0.00	
7800.00	90.00	352.40	6250.00	2112.98	-238.30	2125.94	0.00	0.00	0.00	
7900.00	90.00	352.40	6250.00	2212.11	-251.52	2225.94	0.00	0.00	0.00	
8000.00	90.00	352.40	6250.00	2311.23	-264.74	2325.94	0.00	0.00	0.00	
8100.00	90.00	352.40	6250.00	2410.35	-277.96	2425.94	0.00	0.00	0.00	
8200.00	90.00	352.40	6250.00	2509.48	-291.17	2525.94	0.00	0.00	0.00	
8300.00	90.00	352.40	6250.00	2608.60	-304.39	2625.94	0.00	0.00	0.00	
8400.00	90.00	352.40	6250.00	2707.72	-317.61	2725.94	0.00	0.00	0.00	
8500.00	90.00	352.40	6250.00	2806.84	-330.83	2825.94	0.00	0.00	0.00	
8600.00	90.00	352.40	6250.00	2905.97	-344.05	2925.94	0.00	0.00	0.00	
8700.00	90.00	352.40	6250.00	3005.09	-357.26	3025.94	0.00	0.00	0.00	
8800.00	90.00	352.40	6250.00	3104.21	-370.48	3125.94	0.00	0.00	0.00	
8900.00	90.00	352.40	6250.00	3203.33	-383.70	3225.94	0.00	0.00	0.00	
9000.00	90.00	352.40	6250.00	3302.46	-396.92	3325.94	0.00	0.00	0.00	
9100.00	90.00	352.40	6250.00	3401.58	-410.13	3425.94	0.00	0.00	0.00	
9200.00	90.00	352.40	6250.00	3500.70	-423.35	3525.94	0.00	0.00	0.00	
9300.00	90.00	352.40	6250.00	3599.82	-436.57	3625.94	0.00	0.00	0.00	
9400.00	90.00	352.40	6250.00	3698.95	-449.79	3725.94	0.00	0.00	0.00	
9500.00	90.00	352.40	6250.00	3798.07	-463.00	3825.94	0.00	0.00	0.00	
9600.00	90.00	352.40	6250.00	3897.19	-476.22	3925.94	0.00	0.00	0.00	
9700.00	90.00	352.40	6250.00	3996.31	-489.44	4025.94	0.00	0.00	0.00	
9800.00	90.00	352.40	6250.00	4095.44	-502.66	4125.94	0.00	0.00	0.00	
9900.00	90.00	352.40	6250.00	4194.56	-515.87	4225.94	0.00	0.00	0.00	
10000.00	90.00	352.40	6250.00	4293.68	-529.09	4325.94	0.00	0.00	0.00	
10100.00	90.00	352.40	6250.00	4392.81	-542.31	4425.94	0.00	0.00	0.00	
10200.00	90.00	352.40	6250.00	4491.93	-555.53	4525.94	0.00	0.00	0.00	
10300.00	90.00	352.40	6250.00	4591.05	-568.74	4625.94	0.00	0.00	0.00	
10400.00	90.00	352.40	6250.00	4690.17	-581.96	4725.94	0.00	0.00	0.00	
10500.00	90.00	352.40	6250.00	4789.30	-595.18	4825.94	0.00	0.00	0.00	
10600.00	90.00	352.40	6250.00	4888.42	-608.40	4925.94	0.00	0.00	0.00	
10686.12	90.00	352.40	6250.00	4973.78	-619.78	5012.06	0.00	0.00	0.00	PBHL 1-34

Targets

Name	Description	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->				
	Dip.							Deg	Min	Sec	Deg	Min	Sec		
SL 1-34			0.00	0.00	0.00	1532959.63	3425521.39	40	47	10.426	N	103	57	48.044	W
PBHL 1-34			6250.00	4973.78	-619.78	1537933.41	3424901.61	40	47	59.670	N	103	57	54.981	W

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.

Field: Niobrara CONZ'83

Site: Timbro Ranch 1-34-10-59

Well: 1-34-10-59

Wellpath: Original Hole

Date: 10/06/2014

Time: 15:10:37

Page: 4

Co-ordinate(NE) Reference: Well: 1-34-10-59, Grid North

Vertical (TVD) Reference: 5065'GL+17'KB 5082.0

Section (VS) Reference: Well (0.00N,0.00E,352.40Azi)

Plan: Plan #1

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
1401.99	1400.00	9.625	12.250	9 5/8"
6388.02	6215.45	7.000	8.500	7"