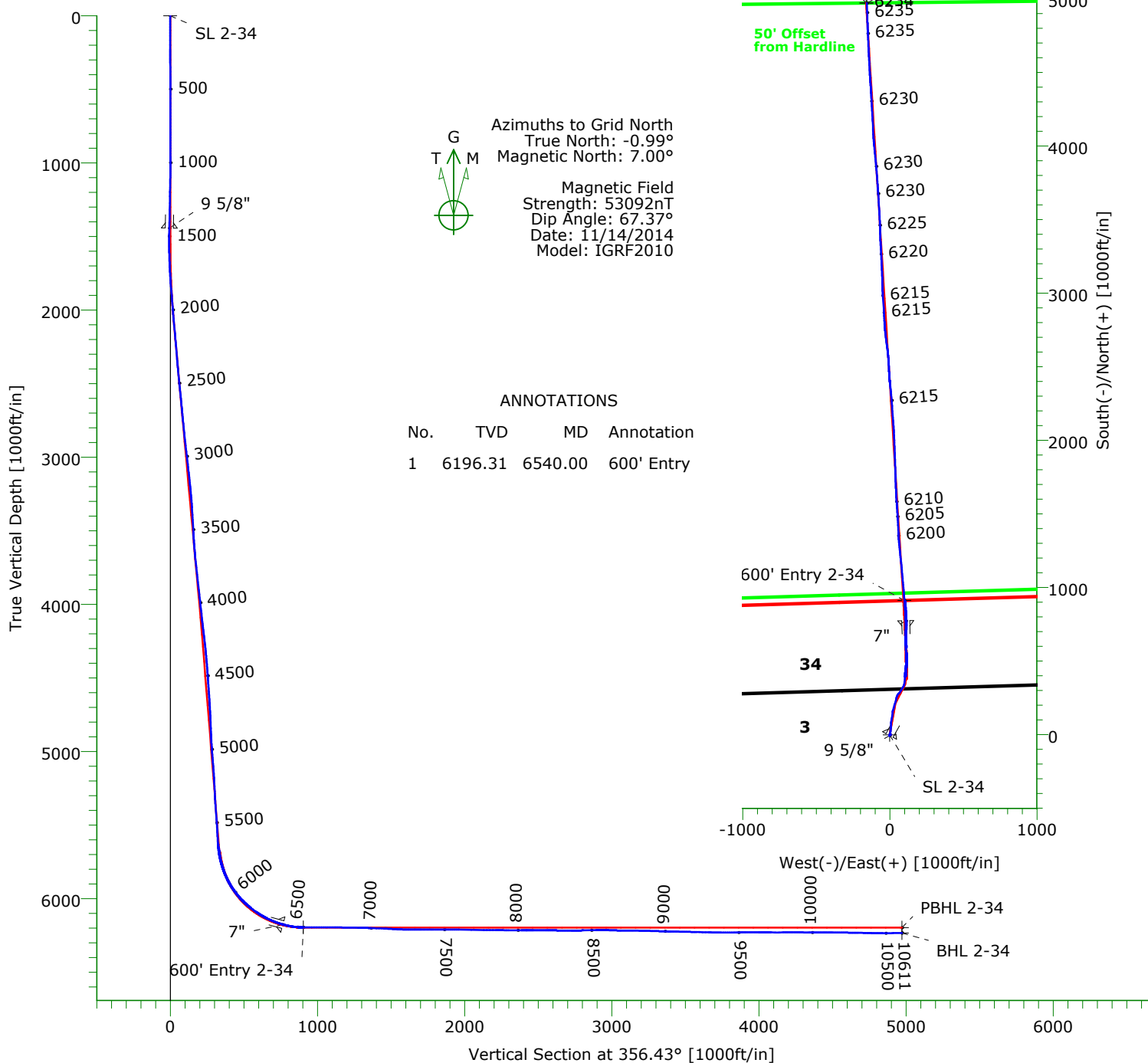


CASING DETAILS

No.	TVD	MD	Name	Size
1	1444.87	1445.00	9 5/8"	9.625
2	6177.06	6401.00	7"	7.000



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 2-34	0.00	0.00	0.00	1532965.78	3425550.75	40°47'10.482N103°57'47.661W		Point
600' Entry 2-34	6196.31	911.77	99.82	1533877.55	3425650.57	40°47'19.472N103°57'46.158W		Point
PBHL 2-34	6197.00	4972.78	-160.88	1537938.56	3425389.87	40°47'59.638N103°57'48.632W		Point
BHL 2-34	6234.21	4972.94	-155.56	1537938.72	3425395.19	40°47'59.638N103°57'48.563W		Point

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.		Date: 11/24/2014		Time: 14:51:04		Page: 1	
Field: Niobrara CONZ'83		Co-ordinate(NE) Reference:		Well: 2-34-10-59, Grid North			
Site: Timbro Ranch 1-3-9-59 Pad		Vertical (TVD) Reference:		5065'GL+17"KB 5082.0			
Well: 2-34-10-59		Section (VS) Reference:		Well (0.00N,0.00E,356.43Azi)			
Wellpath: Original Hole		Survey Calculation Method:		Minimum Curvature		Db: Adapti	

Field: Niobrara CONZ'83							
Map System: US State Plane Coordinate System 1983				Map Zone: Colorado, Northern Zone			
Geo Datum: GRS 1980				Coordinate System: Well Centre			
Sys Datum: Mean Sea Level				Geomagnetic Model: IGRF2010			

Site: Timbro Ranch 1-3-9-59 Pad							
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: 2-34-10-59				Slot Name: 2-34			
Well Position: +N/-S 6.15 ft		Northing: 1532965.78 ft		Latitude: 40 47 10.482 N			
+E/-W 29.36 ft		Easting : 3425550.75 ft		Longitude: 103 57 47.661 W			
Position Uncertainty: 0.00 ft							

Wellpath: Original Hole				Drilled From: Surface			
Current Datum: 5065'GL+17"KB		Height 5082.00 ft		Tie-on Depth: 0.00 ft			
Magnetic Data: 11/14/2014				Above System Datum: Mean Sea Level			
Field Strength: 53092 nT				Declination: 8.00 deg			
Vertical Section: Depth From (TVD)		+N/-S		Mag Dip Angle: 67.37 deg			
ft		ft		+E/-W		Direction	
				ft		bearing	
0.00		0.00		0.00		356.43	

Survey Program for Definitive Wellpath					
Date: 11/24/2014		Validated: No		Version: 2	
Actual From		To		Toolcode	
ft		ft		Survey	
137.00		10551.00		Survey #1 (137.00-10551.00)	
10611.00		10611.00		Survey #2 (10611.00-10611.00)	
				MWD Project	
				Std MWD Projection	

Survey										
MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	Tool/Comment
ft	deg	bearing	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
137.00	0.70	245.70	137.00	-0.34	-0.76	-0.30	0.51	0.51	0.00	MWD
230.00	0.80	263.60	229.99	-0.65	-1.93	-0.53	0.27	0.11	19.25	MWD
321.00	0.90	49.70	320.98	-0.26	-2.01	-0.13	1.79	0.11	160.55	MWD
412.00	1.10	58.00	411.97	0.67	-0.73	0.71	0.27	0.22	9.12	MWD
502.00	0.40	89.40	501.96	1.13	0.32	1.10	0.87	-0.78	34.89	MWD
593.00	0.30	55.70	592.96	1.26	0.84	1.21	0.25	-0.11	-37.03	MWD
684.00	0.20	131.50	683.96	1.29	1.15	1.22	0.35	-0.11	83.30	MWD
775.00	0.40	79.90	774.96	1.24	1.58	1.14	0.35	0.22	-56.70	MWD
866.00	0.10	337.30	865.96	1.37	1.86	1.25	0.48	-0.33	-112.75	MWD
956.00	0.50	60.80	955.96	1.64	2.18	1.50	0.55	0.44	92.78	MWD
1047.00	0.80	191.00	1046.95	1.21	2.40	1.06	1.30	0.33	143.08	MWD
1138.00	1.40	204.60	1137.94	-0.43	1.82	-0.54	0.71	0.66	14.95	MWD
1228.00	1.20	208.60	1227.91	-2.25	0.91	-2.31	0.24	-0.22	4.44	MWD
1319.00	1.10	202.50	1318.90	-3.90	0.12	-3.90	0.17	-0.11	-6.70	MWD
1408.00	1.30	208.60	1407.88	-5.57	-0.69	-5.52	0.27	0.22	6.85	MWD
1484.00	1.20	208.60	1483.86	-7.03	-1.48	-6.92	0.13	-0.13	0.00	MWD
1569.00	0.50	6.50	1568.85	-7.44	-1.87	-7.31	1.97	-0.82	185.76	MWD
1653.00	1.80	1.20	1652.83	-5.76	-1.80	-5.64	1.55	1.55	-6.31	MWD
1738.00	3.20	19.70	1737.75	-2.19	-0.97	-2.13	1.88	1.65	21.76	MWD
1822.00	4.80	16.80	1821.55	3.38	0.83	3.32	1.92	1.90	-3.45	MWD
1907.00	5.00	12.40	1906.24	10.40	2.66	10.22	0.50	0.24	-5.18	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Timbro Ranch 1-3-9-59 Pad Well: 2-34-10-59 Wellpath: Original Hole	Date: 11/24/2014 Time: 14:51:04 Page: 2 Co-ordinate(NE) Reference: Well: 2-34-10-59, Grid North Vertical (TVD) Reference: 5065'GL+17"KB 5082.0 Section (VS) Reference: Well (0.00N,0.00E,356.43Azi) Survey Calculation Method: Minimum Curvature Db: Adapti
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Survey

MD ft	Incl deg	Azim bearing	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1992.00	4.50	12.10	1990.94	17.28	4.15	16.99	0.59	-0.59	-0.35	MWD
2077.00	5.20	5.60	2075.64	24.38	5.23	24.00	1.05	0.82	-7.65	MWD
2162.00	5.30	3.70	2160.28	32.13	5.86	31.70	0.24	0.12	-2.24	MWD
2247.00	4.70	5.60	2244.96	39.51	6.45	39.03	0.73	-0.71	2.24	MWD
2332.00	4.60	5.40	2329.68	46.37	7.11	45.84	0.12	-0.12	-0.24	MWD
2417.00	5.60	3.10	2414.34	53.90	7.66	53.32	1.20	1.18	-2.71	MWD
2501.00	5.80	4.40	2497.93	62.23	8.20	61.60	0.28	0.24	1.55	MWD
2586.00	5.90	358.20	2582.48	70.88	8.39	70.22	0.75	0.12	-7.29	MWD
2671.00	5.10	357.70	2667.09	79.02	8.11	78.36	0.94	-0.94	-0.59	MWD
2756.00	5.90	8.40	2751.70	87.12	8.59	86.41	1.53	0.94	12.59	MWD
2841.00	6.20	10.90	2836.23	95.95	10.10	95.13	0.47	0.35	2.94	MWD
2926.00	6.60	13.90	2920.70	105.19	12.14	104.23	0.61	0.47	3.53	MWD
3011.00	6.70	11.40	3005.13	114.80	14.29	113.68	0.36	0.12	-2.94	MWD
3095.00	6.60	8.90	3088.56	124.37	16.01	123.13	0.36	-0.12	-2.98	MWD
3180.00	6.20	8.60	3173.03	133.73	17.45	132.39	0.47	-0.47	-0.35	MWD
3265.00	5.10	5.20	3257.62	142.04	18.48	140.61	1.35	-1.29	-4.00	MWD
3350.00	3.70	358.20	3342.37	148.54	18.74	147.08	1.76	-1.65	-8.24	MWD
3434.00	3.30	3.00	3426.21	153.66	18.78	152.20	0.59	-0.48	5.71	MWD
3519.00	3.30	16.00	3511.07	158.46	19.58	156.93	0.88	0.00	15.29	MWD
3604.00	4.70	20.40	3595.86	164.07	21.47	162.42	1.68	1.65	5.18	MWD
3689.00	5.90	16.30	3680.50	171.53	23.91	169.71	1.48	1.41	-4.82	MWD
3774.00	6.40	15.10	3765.01	180.30	26.37	178.31	0.61	0.59	-1.41	MWD
3858.00	6.80	15.60	3848.45	189.61	28.93	187.44	0.48	0.48	0.60	MWD
3943.00	7.00	15.40	3932.83	199.45	31.65	197.09	0.24	0.24	-0.24	MWD
4027.00	6.70	16.70	4016.24	209.08	34.42	206.53	0.40	-0.36	1.55	MWD
4112.00	6.60	22.50	4100.66	218.34	37.72	215.57	0.80	-0.12	6.82	MWD
4198.00	7.50	10.30	4186.02	228.43	40.61	225.46	2.03	1.05	-14.19	MWD
4283.00	6.40	5.10	4270.39	238.60	42.02	235.53	1.49	-1.29	-6.12	MWD
4368.00	5.40	14.90	4354.94	247.19	43.47	244.00	1.67	-1.18	11.53	MWD
4453.00	5.10	24.90	4439.59	254.48	46.09	251.12	1.13	-0.35	11.76	MWD
4538.00	4.20	27.40	4524.31	260.67	49.12	257.11	1.09	-1.06	2.94	MWD
4624.00	4.40	13.20	4610.07	266.68	51.32	262.97	1.26	0.23	-16.51	MWD
4709.00	4.20	33.90	4694.83	272.44	53.80	268.56	1.83	-0.24	24.35	MWD
4794.00	3.70	47.80	4779.63	276.86	57.57	272.74	1.27	-0.59	16.35	MWD
4879.00	3.40	48.80	4864.47	280.37	61.50	275.99	0.36	-0.35	1.18	MWD
4964.00	4.70	34.80	4949.26	284.89	65.38	280.26	1.91	1.53	-16.47	MWD
5049.00	5.80	30.20	5033.90	291.46	69.53	286.56	1.38	1.29	-5.41	MWD
5134.00	4.90	30.90	5118.53	298.29	73.55	293.13	1.06	-1.06	0.82	MWD
5219.00	3.80	34.80	5203.28	303.71	77.02	298.33	1.34	-1.29	4.59	MWD
5304.00	4.10	39.20	5288.08	308.38	80.55	302.77	0.50	0.35	5.18	MWD
5390.00	4.90	36.00	5373.82	313.74	84.65	307.85	0.97	0.93	-3.72	MWD
5474.00	4.90	25.10	5457.51	319.89	88.28	313.77	1.11	0.00	-12.98	MWD
5560.00	3.90	25.60	5543.26	325.85	91.11	319.54	1.16	-1.16	0.58	MWD
5602.00	3.40	30.60	5585.17	328.21	92.36	321.82	1.41	-1.19	11.90	MWD
5645.00	3.90	25.80	5628.08	330.62	93.64	324.15	1.36	1.16	-11.16	MWD
5687.00	6.80	16.80	5669.90	334.29	94.98	327.73	7.17	6.90	-21.43	MWD
5730.00	11.60	16.30	5712.33	340.88	96.93	334.18	11.16	11.16	-1.16	MWD
5772.00	14.70	12.60	5753.23	350.14	99.28	343.28	7.64	7.38	-8.81	MWD
5815.00	18.90	8.40	5794.38	362.36	101.49	355.33	10.16	9.77	-9.77	MWD
5857.00	22.40	1.90	5833.68	377.09	102.75	369.96	9.95	8.33	-15.48	MWD
5899.00	26.20	1.60	5871.96	394.36	103.28	387.17	9.05	9.05	-0.71	MWD
5941.00	31.50	3.80	5908.73	414.60	104.26	407.30	12.87	12.62	5.24	MWD
5984.00	36.00	7.20	5944.48	438.36	106.59	430.87	11.35	10.47	7.91	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Timbro Ranch 1-3-9-59 Pad Well: 2-34-10-59 Wellpath: Original Hole	Date: 11/24/2014 Time: 14:51:04 Page: 3 Co-ordinate(NE) Reference: Well: 2-34-10-59, Grid North Vertical (TVD) Reference: 5065'GL+17"KB 5082.0 Section (VS) Reference: Well (0.00N,0.00E,356.43Azi) Survey Calculation Method: Minimum Curvature Db: Adapti
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Survey

MD ft	Incl deg	Azim bearing	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
6026.00	39.80	5.40	5977.62	464.00	109.40	456.28	9.42	9.05	-4.29	MWD
6069.00	43.90	2.40	6009.64	492.61	111.33	484.72	10.61	9.53	-6.98	MWD
6111.00	49.10	359.60	6038.55	523.05	111.82	515.07	13.29	12.38	-6.67	MWD
6154.00	52.90	357.20	6065.60	556.45	110.87	548.46	9.84	8.84	-5.58	MWD
6196.00	54.50	356.80	6090.47	590.25	109.10	582.31	3.89	3.81	-0.95	MWD
6238.00	58.00	359.40	6113.80	625.14	107.96	617.20	9.79	8.33	6.19	MWD
6281.00	64.50	0.30	6134.47	662.82	107.87	654.81	15.23	15.12	2.09	MWD
6323.00	67.40	0.70	6151.59	701.17	108.21	693.07	6.96	6.90	0.95	MWD
6363.00	70.90	0.50	6165.82	738.54	108.60	730.34	8.76	8.75	-0.50	MWD
6448.00	79.40	356.60	6187.60	820.58	106.46	812.36	10.94	10.00	-4.59	MWD
6494.00	84.10	355.80	6194.19	865.99	103.45	857.87	10.36	10.22	-1.74	MWD
6536.00	90.10	355.20	6196.32	907.79	100.16	899.79	14.36	14.29	-1.43	MWD
6540.00	90.12	355.22	6196.31	911.77	99.82	903.79	0.66	0.47	0.47	600' Entry
6579.00	90.30	355.40	6196.17	950.64	96.63	942.78	0.66	0.47	0.47	MWD
6664.00	90.00	355.00	6195.95	1035.34	89.52	1027.76	0.59	-0.35	-0.47	MWD
6749.00	89.70	354.50	6196.17	1119.99	81.74	1112.72	0.69	-0.35	-0.59	MWD
6834.00	89.00	353.80	6197.13	1204.54	73.08	1197.65	1.16	-0.82	-0.82	MWD
6919.00	89.10	354.70	6198.54	1289.10	64.57	1282.57	1.07	0.12	1.06	MWD
7004.00	88.00	357.20	6200.69	1373.85	58.56	1367.54	3.21	-1.29	2.94	MWD
7089.00	87.60	357.00	6203.96	1458.68	54.27	1452.47	0.53	-0.47	-0.24	MWD
7174.00	86.80	356.10	6208.11	1543.42	49.16	1537.36	1.42	-0.94	-1.06	MWD
7259.00	89.00	356.80	6211.22	1628.20	43.90	1622.30	2.72	2.59	0.82	MWD
7344.00	90.80	358.00	6211.37	1713.10	40.04	1707.28	2.55	2.12	1.41	MWD
7428.00	89.60	358.40	6211.08	1797.06	37.41	1791.24	1.51	-1.43	0.48	MWD
7513.00	90.20	358.00	6211.23	1882.02	34.74	1876.20	0.85	0.71	-0.47	MWD
7598.00	89.30	357.70	6211.60	1966.95	31.55	1961.17	1.12	-1.06	-0.35	MWD
7683.00	89.30	357.20	6212.64	2051.86	27.77	2046.15	0.59	0.00	-0.59	MWD
7767.00	89.30	355.90	6213.66	2135.70	22.71	2130.14	1.55	0.00	-1.55	MWD
7851.00	89.40	355.60	6214.61	2219.47	16.49	2214.13	0.38	0.12	-0.36	MWD
7936.00	90.00	355.00	6215.06	2304.18	9.52	2299.11	1.00	0.71	-0.71	MWD
8021.00	90.00	353.30	6215.06	2388.73	0.86	2384.04	2.00	0.00	-2.00	MWD
8106.00	89.30	358.40	6215.58	2473.48	-5.29	2469.01	6.06	-0.82	6.00	MWD
8191.00	89.80	355.60	6216.25	2558.35	-9.74	2553.99	3.35	0.59	-3.29	MWD
8276.00	89.50	351.70	6216.77	2642.81	-19.14	2638.88	4.60	-0.35	-4.59	MWD
8361.00	89.80	353.80	6217.29	2727.13	-29.86	2723.69	2.50	0.35	2.47	MWD
8446.00	91.40	357.00	6216.40	2811.83	-36.68	2808.66	4.21	1.88	3.76	MWD
8531.00	91.40	356.50	6214.32	2896.67	-41.50	2893.64	0.59	0.00	-0.59	MWD
8616.00	87.80	356.50	6214.91	2981.50	-46.69	2978.62	4.24	-4.24	0.00	MWD
8701.00	89.10	358.70	6217.21	3066.39	-50.24	3063.56	3.01	1.53	2.59	MWD
8786.00	89.80	357.20	6218.03	3151.32	-53.28	3148.53	1.95	0.82	-1.76	MWD
8871.00	88.60	357.50	6219.21	3236.22	-57.21	3233.51	1.46	-1.41	0.35	MWD
8956.00	88.10	356.60	6221.66	3321.07	-61.59	3318.46	1.21	-0.59	-1.06	MWD
9041.00	88.90	358.60	6223.89	3405.97	-65.14	3403.41	2.53	0.94	2.35	MWD
9127.00	88.80	357.50	6225.61	3491.90	-68.07	3489.36	1.28	-0.12	-1.28	MWD
9212.00	88.50	356.60	6227.62	3576.76	-72.44	3574.33	1.12	-0.35	-1.06	MWD
9297.00	88.70	356.30	6229.69	3661.57	-77.70	3659.30	0.42	0.24	-0.35	MWD
9382.00	90.30	355.90	6230.43	3746.37	-83.48	3744.30	1.94	1.88	-0.47	MWD
9467.00	90.10	355.40	6230.14	3831.12	-89.93	3829.29	0.63	-0.24	-0.59	MWD
9552.00	90.40	354.30	6229.77	3915.78	-97.56	3914.25	1.34	0.35	-1.29	MWD
9636.00	89.70	354.50	6229.69	3999.38	-105.76	3998.20	0.87	-0.83	0.24	MWD
9720.00	89.90	357.00	6229.99	4083.14	-111.98	4082.19	2.99	0.24	2.98	MWD
9804.00	90.10	357.20	6229.99	4167.03	-116.23	4166.18	0.34	0.24	0.24	MWD
9889.00	90.00	356.50	6229.91	4251.90	-120.90	4251.18	0.83	-0.12	-0.82	MWD
9974.00	89.70	357.30	6230.13	4336.78	-125.50	4336.17	1.01	-0.35	0.94	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Timbro Ranch 1-3-9-59 Pad Well: 2-34-10-59 Wellpath: Original Hole	Date: 11/24/2014 Time: 14:51:04 Page: 4 Co-ordinate(NE) Reference: Well: 2-34-10-59, Grid North Vertical (TVD) Reference: 5065'GL+17'KB 5082.0 Section (VS) Reference: Well (0.00N,0.00E,356.43Azi) Survey Calculation Method: Minimum Curvature Db: Adapti
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Survey

MD ft	Incl deg	Azim bearing	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
10059.00	90.00	355.20	6230.36	4421.59	-131.06	4421.17	2.50	0.35	-2.47	MWD
10143.00	89.40	357.50	6230.80	4505.41	-136.41	4505.16	2.83	-0.71	2.74	MWD
10229.00	89.60	356.60	6231.55	4591.29	-140.83	4591.15	1.07	0.23	-1.05	MWD
10314.00	88.80	357.70	6232.73	4676.18	-145.06	4676.14	1.60	-0.94	1.29	MWD
10399.00	88.30	357.30	6234.89	4761.07	-148.76	4761.09	0.75	-0.59	-0.47	MWD
10484.00	90.60	358.60	6235.70	4846.00	-151.80	4846.05	3.11	2.71	1.53	MWD
10551.00	90.70	358.20	6234.94	4912.97	-153.67	4913.01	0.62	0.15	-0.60	MWD
10611.00	90.70	358.20	6234.21	4972.94	-155.56	4972.97	0.00	0.00	0.00	Project

Annotation

MD ft	TVD ft	
6540.00	6196.31	600' Entry