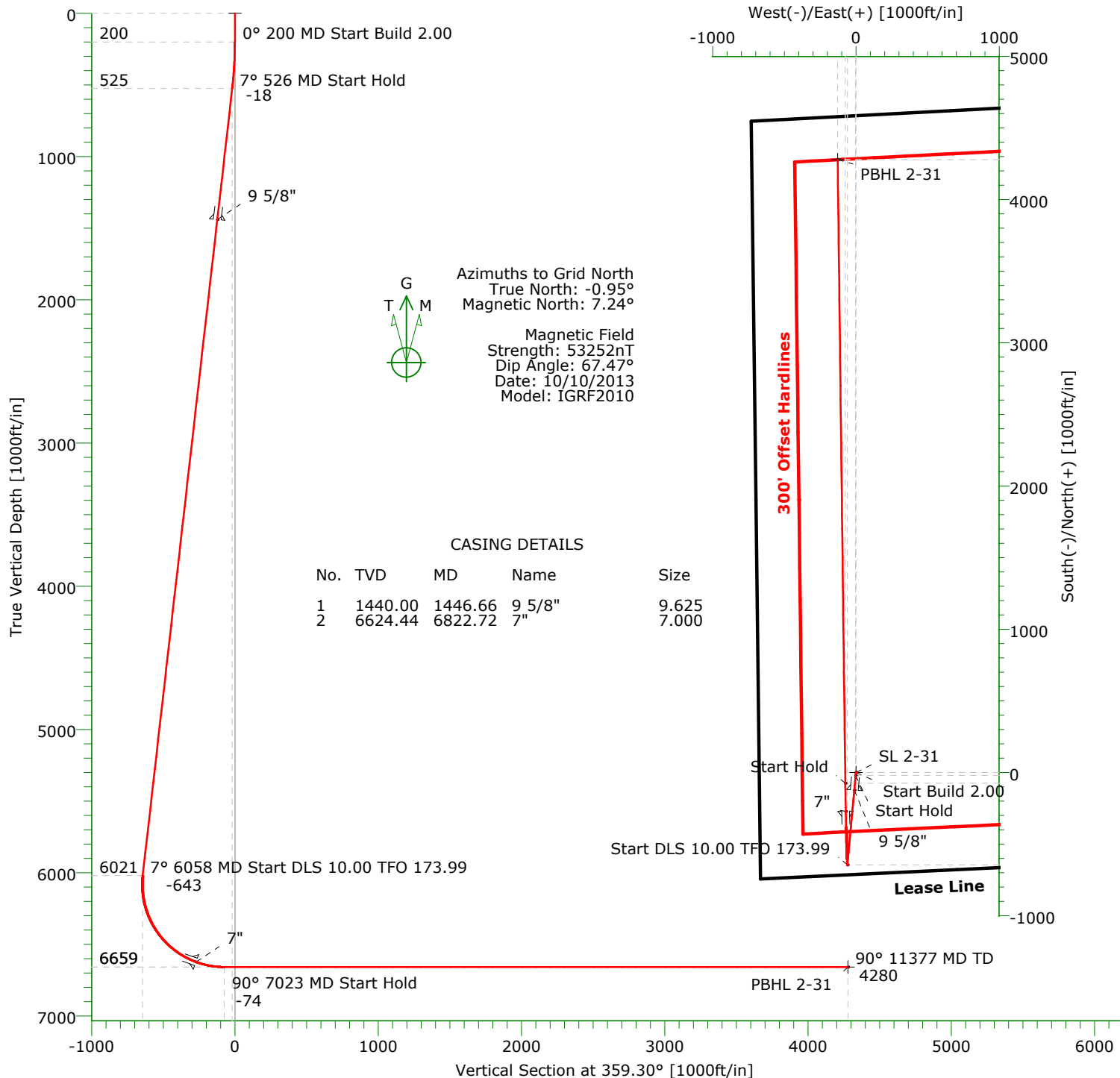




CARRIZO OIL & GAS, INC.

Field: Niobrara CONZ'83
Site: Konig 2-31-11-59
Well: 2-31-11-59
Wellpath: Original Hole
Plan: Plan #4



CASING DETAILS				
No.	TVD	MD	Name	Size
1	1440.00	1446.66	9 5/8"	9.625
2	6624.44	6822.72	7"	7.000

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 2-31	0.00	0.00	0.00	1564530.11	3407312.89	40°52'25.376N	104°01'37.904W	Point
PBHL 2-31	6659.00	4278.66	-127.30	1568808.77	3407185.59	40°53'07.667N	104°01'38.636W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	185.27	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	185.27	200.00	0.00	0.00	0.00	185.27	0.00	
3	526.11	6.52	185.27	525.41	-18.46	-1.70	2.00	0.00	-18.44	
4	6057.87	6.52	185.27	6021.36	-644.15	-59.41	0.00	0.00	-643.38	
5	7022.73	90.00	359.30	6659.00	-75.00	-73.96	10.00	173.99	-74.09	
6	11376.72	90.00	359.30	6659.00	4278.66	-127.23	0.00	0.00	4279.89	PBHL 2-31

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.		Date: 09/10/2013	Time: 13:58:34	Page: 1
Field: Niobrara CONZ'83		Co-ordinate(NE) Reference: Well: 2-31-11-59, Grid North		
Site: Konig 2-31-11-59		Vertical (TVD) Reference: 5432'GL+17'KB 5449.0		
Well: 2-31-11-59		Section (VS) Reference: Well (0.00N,0.00E,359.30Azi)		
Wellpath: Original Hole		Plan: Plan #4		

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: Konig 2-31-11-59 Sec. 4, T11N, R59W 1 and 2 wells reversed 7-1-13 Weld County, CO	
Site Position:	Northing: 1564530.11 ft Latitude: 40 52 25.376 N
From: Map	Easting: 3407312.89 ft Longitude: 104 1 37.904 W
Position Uncertainty: 0.00 ft	North Reference: Grid
Ground Level: 5432.00 ft	Grid Convergence: 0.95 deg

Well: 2-31-11-59	Slot Name: 2-31
Well Position: +N/-S 0.00 ft Northing: 1564530.11 ft Latitude: 40 52 25.376 N	Longitude: 104 1 37.904 W
+E/-W 0.00 ft Easting: 3407312.89 ft	
Position Uncertainty: 0.00 ft	

Wellpath: Original Hole		Drilled From: Surface
Current Datum: 5432'GL+17'KB	Height 5449.00 ft	Tie-on Depth: 0.00 ft
Magnetic Data: 10/10/2013		Above System Datum: Mean Sea Level
Field Strength: 53252 nT		Declination: 8.19 deg
Vertical Section: Depth From (TVD)	+N/-S	Mag Dip Angle: 67.47 deg
ft	ft	+E/-W
		ft
0.00	0.00	0.00
		359.30
		deg

Plan: Plan #4	Date Composed: 09/10/2013
updated PBHL to 300' Offset	Version: 1
Principal: No	Tied-to: From Surface

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	185.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	185.27	200.00	0.00	0.00	0.00	0.00	0.00	185.27	
526.11	6.52	185.27	525.41	-18.46	-1.70	2.00	2.00	0.00	0.00	
6057.87	6.52	185.27	6021.36	-644.15	-59.41	0.00	0.00	0.00	0.00	
7022.73	90.00	359.30	6659.00	-75.00	-73.96	10.00	8.65	18.04	173.99	
11376.72	90.00	359.30	6659.00	4278.66	-127.23	0.00	0.00	0.00	0.00	PBHL 2-31

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	185.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	185.27	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	185.27	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	2.00	185.27	299.98	-1.74	-0.16	-1.74	2.00	2.00	0.00	
400.00	4.00	185.27	399.84	-6.95	-0.64	-6.94	2.00	2.00	0.00	
500.00	6.00	185.27	499.45	-15.63	-1.44	-15.61	2.00	2.00	0.00	
526.11	6.52	185.27	525.41	-18.46	-1.70	-18.44	2.00	2.00	0.00	
600.00	6.52	185.27	598.82	-26.82	-2.47	-26.79	0.00	0.00	0.00	
700.00	6.52	185.27	698.17	-38.13	-3.52	-38.09	0.00	0.00	0.00	
800.00	6.52	185.27	797.52	-49.44	-4.56	-49.38	0.00	0.00	0.00	
900.00	6.52	185.27	896.88	-60.75	-5.60	-60.68	0.00	0.00	0.00	
1000.00	6.52	185.27	996.23	-72.06	-6.65	-71.98	0.00	0.00	0.00	
1100.00	6.52	185.27	1095.58	-83.37	-7.69	-83.27	0.00	0.00	0.00	
1200.00	6.52	185.27	1194.93	-94.69	-8.73	-94.57	0.00	0.00	0.00	
1300.00	6.52	185.27	1294.29	-106.00	-9.78	-105.87	0.00	0.00	0.00	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Konig 2-31-11-59
Well: 2-31-11-59
Wellpath: Original Hole

Date: 09/10/2013
Co-ordinate(NE) Reference: Well: 2-31-11-59, Grid North
Vertical (TVD) Reference: 5432'GL+17'KB 5449.0
Section (VS) Reference: Well (0.00N,0.00E,359.30Azi)
Plan: Plan #4

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
1400.00	6.52	185.27	1393.64	-117.31	-10.82	-117.17	0.00	0.00	0.00	9 5/8"
1446.66	6.52	185.27	1440.00	-122.59	-11.31	-122.44	0.00	0.00	0.00	
1500.00	6.52	185.27	1492.99	-128.62	-11.86	-128.46	0.00	0.00	0.00	
1600.00	6.52	185.27	1592.35	-139.93	-12.91	-139.76	0.00	0.00	0.00	
1700.00	6.52	185.27	1691.70	-151.24	-13.95	-151.06	0.00	0.00	0.00	
1800.00	6.52	185.27	1791.05	-162.55	-14.99	-162.36	0.00	0.00	0.00	
1900.00	6.52	185.27	1890.40	-173.86	-16.04	-173.65	0.00	0.00	0.00	
2000.00	6.52	185.27	1989.76	-185.17	-17.08	-184.95	0.00	0.00	0.00	
2100.00	6.52	185.27	2089.11	-196.48	-18.12	-196.25	0.00	0.00	0.00	
2200.00	6.52	185.27	2188.46	-207.79	-19.17	-207.55	0.00	0.00	0.00	
2300.00	6.52	185.27	2287.82	-219.11	-20.21	-218.84	0.00	0.00	0.00	
2400.00	6.52	185.27	2387.17	-230.42	-21.25	-230.14	0.00	0.00	0.00	
2500.00	6.52	185.27	2486.52	-241.73	-22.30	-241.44	0.00	0.00	0.00	
2600.00	6.52	185.27	2585.87	-253.04	-23.34	-252.73	0.00	0.00	0.00	
2700.00	6.52	185.27	2685.23	-264.35	-24.38	-264.03	0.00	0.00	0.00	
2800.00	6.52	185.27	2784.58	-275.66	-25.43	-275.33	0.00	0.00	0.00	
2900.00	6.52	185.27	2883.93	-286.97	-26.47	-286.63	0.00	0.00	0.00	
3000.00	6.52	185.27	2983.28	-298.28	-27.51	-297.92	0.00	0.00	0.00	
3100.00	6.52	185.27	3082.64	-309.59	-28.55	-309.22	0.00	0.00	0.00	
3200.00	6.52	185.27	3181.99	-320.90	-29.60	-320.52	0.00	0.00	0.00	
3300.00	6.52	185.27	3281.34	-332.21	-30.64	-331.82	0.00	0.00	0.00	
3400.00	6.52	185.27	3380.70	-343.53	-31.68	-343.11	0.00	0.00	0.00	
3500.00	6.52	185.27	3480.05	-354.84	-32.73	-354.41	0.00	0.00	0.00	
3600.00	6.52	185.27	3579.40	-366.15	-33.77	-365.71	0.00	0.00	0.00	
3700.00	6.52	185.27	3678.75	-377.46	-34.81	-377.00	0.00	0.00	0.00	
3800.00	6.52	185.27	3778.11	-388.77	-35.86	-388.30	0.00	0.00	0.00	
3900.00	6.52	185.27	3877.46	-400.08	-36.90	-399.60	0.00	0.00	0.00	
4000.00	6.52	185.27	3976.81	-411.39	-37.94	-410.90	0.00	0.00	0.00	
4100.00	6.52	185.27	4076.17	-422.70	-38.99	-422.19	0.00	0.00	0.00	
4200.00	6.52	185.27	4175.52	-434.01	-40.03	-433.49	0.00	0.00	0.00	
4300.00	6.52	185.27	4274.87	-445.32	-41.07	-444.79	0.00	0.00	0.00	
4400.00	6.52	185.27	4374.22	-456.63	-42.12	-456.09	0.00	0.00	0.00	
4500.00	6.52	185.27	4473.58	-467.95	-43.16	-467.38	0.00	0.00	0.00	
4600.00	6.52	185.27	4572.93	-479.26	-44.20	-478.68	0.00	0.00	0.00	
4700.00	6.52	185.27	4672.28	-490.57	-45.25	-489.98	0.00	0.00	0.00	
4800.00	6.52	185.27	4771.63	-501.88	-46.29	-501.28	0.00	0.00	0.00	
4900.00	6.52	185.27	4870.99	-513.19	-47.33	-512.57	0.00	0.00	0.00	
5000.00	6.52	185.27	4970.34	-524.50	-48.38	-523.87	0.00	0.00	0.00	
5100.00	6.52	185.27	5069.69	-535.81	-49.42	-535.17	0.00	0.00	0.00	
5200.00	6.52	185.27	5169.05	-547.12	-50.46	-546.46	0.00	0.00	0.00	
5300.00	6.52	185.27	5268.40	-558.43	-51.51	-557.76	0.00	0.00	0.00	
5400.00	6.52	185.27	5367.75	-569.74	-52.55	-569.06	0.00	0.00	0.00	
5500.00	6.52	185.27	5467.10	-581.05	-53.59	-580.36	0.00	0.00	0.00	
5600.00	6.52	185.27	5566.46	-592.37	-54.64	-591.65	0.00	0.00	0.00	
5700.00	6.52	185.27	5665.81	-603.68	-55.68	-602.95	0.00	0.00	0.00	
5800.00	6.52	185.27	5765.16	-614.99	-56.72	-614.25	0.00	0.00	0.00	
5900.00	6.52	185.27	5864.52	-626.30	-57.77	-625.55	0.00	0.00	0.00	
6000.00	6.52	185.27	5963.87	-637.61	-58.81	-636.84	0.00	0.00	0.00	
6057.87	6.52	185.27	6021.36	-644.15	-59.41	-643.38	0.00	0.00	0.00	
6100.00	2.37	195.98	6063.36	-647.38	-59.87	-646.60	10.00	-9.85	25.41	
6150.00	2.81	345.28	6113.34	-647.19	-60.47	-646.40	10.00	0.87	298.61	
6200.00	7.76	354.29	6163.11	-642.64	-61.12	-641.85	10.00	9.89	18.02	
6250.00	12.74	356.29	6212.30	-633.77	-61.81	-632.97	10.00	9.98	3.99	
6300.00	17.74	357.17	6260.52	-620.65	-62.54	-619.84	10.00	9.99	1.77	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Konig 2-31-11-59
Well: 2-31-11-59
Wellpath: Original Hole

Date: 09/10/2013
Co-ordinate(NE) Reference: Well: 2-31-11-59, Grid North
Vertical (TVD) Reference: 5432'GL+17'KB 5449.0
Section (VS) Reference: Well (0.00N,0.00E,359.30Azi)
Plan: Plan #4

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
6350.00	22.74	357.67	6307.42	-603.38	-63.31	-602.56	10.00	9.99	1.01	
6400.00	27.73	358.00	6352.64	-582.09	-64.11	-581.26	10.00	10.00	0.66	
6450.00	32.73	358.24	6395.82	-556.93	-64.93	-556.10	10.00	10.00	0.47	
6500.00	37.73	358.42	6436.65	-528.11	-65.77	-527.26	10.00	10.00	0.36	
6550.00	42.73	358.56	6474.81	-495.84	-66.62	-494.98	10.00	10.00	0.29	
6600.00	47.73	358.68	6510.01	-460.36	-67.47	-459.50	10.00	10.00	0.24	
6650.00	52.73	358.78	6541.99	-421.95	-68.32	-421.08	10.00	10.00	0.20	
6700.00	57.73	358.87	6570.49	-380.90	-69.16	-380.03	10.00	10.00	0.18	
6750.00	62.73	358.95	6595.31	-337.52	-69.99	-336.64	10.00	10.00	0.16	
6800.00	67.73	359.02	6616.25	-292.14	-70.79	-291.26	10.00	10.00	0.14	
6822.72	70.00	359.05	6624.44	-270.95	-71.15	-270.07	10.00	10.00	0.14	7"
6850.00	72.73	359.09	6633.16	-245.11	-71.57	-244.22	10.00	10.00	0.13	
6900.00	77.73	359.15	6645.91	-196.78	-72.31	-195.89	10.00	10.00	0.13	
6950.00	82.73	359.21	6654.39	-147.53	-73.02	-146.63	10.00	10.00	0.12	
7000.00	87.73	359.27	6658.55	-97.72	-73.68	-96.82	10.00	10.00	0.12	
7022.73	90.00	359.30	6659.00	-75.00	-73.96	-74.09	10.00	10.00	0.12	
7100.00	90.00	359.30	6659.00	2.26	-74.91	3.18	0.00	0.00	0.00	
7200.00	90.00	359.30	6659.00	102.25	-76.13	103.18	0.00	0.00	0.00	
7300.00	90.00	359.30	6659.00	202.25	-77.35	203.18	0.00	0.00	0.00	
7400.00	90.00	359.30	6659.00	302.24	-78.58	303.18	0.00	0.00	0.00	
7500.00	90.00	359.30	6659.00	402.23	-79.80	403.18	0.00	0.00	0.00	
7600.00	90.00	359.30	6659.00	502.22	-81.02	503.18	0.00	0.00	0.00	
7700.00	90.00	359.30	6659.00	602.22	-82.25	603.18	0.00	0.00	0.00	
7800.00	90.00	359.30	6659.00	702.21	-83.47	703.18	0.00	0.00	0.00	
7900.00	90.00	359.30	6659.00	802.20	-84.69	803.18	0.00	0.00	0.00	
8000.00	90.00	359.30	6659.00	902.19	-85.92	903.18	0.00	0.00	0.00	
8100.00	90.00	359.30	6659.00	1002.19	-87.14	1003.18	0.00	0.00	0.00	
8200.00	90.00	359.30	6659.00	1102.18	-88.36	1103.18	0.00	0.00	0.00	
8300.00	90.00	359.30	6659.00	1202.17	-89.59	1203.18	0.00	0.00	0.00	
8400.00	90.00	359.30	6659.00	1302.16	-90.81	1303.18	0.00	0.00	0.00	
8500.00	90.00	359.30	6659.00	1402.16	-92.03	1403.18	0.00	0.00	0.00	
8600.00	90.00	359.30	6659.00	1502.15	-93.26	1503.18	0.00	0.00	0.00	
8700.00	90.00	359.30	6659.00	1602.14	-94.48	1603.18	0.00	0.00	0.00	
8800.00	90.00	359.30	6659.00	1702.13	-95.70	1703.18	0.00	0.00	0.00	
8900.00	90.00	359.30	6659.00	1802.13	-96.93	1803.18	0.00	0.00	0.00	
9000.00	90.00	359.30	6659.00	1902.12	-98.15	1903.18	0.00	0.00	0.00	
9100.00	90.00	359.30	6659.00	2002.11	-99.37	2003.18	0.00	0.00	0.00	
9200.00	90.00	359.30	6659.00	2102.10	-100.60	2103.18	0.00	0.00	0.00	
9300.00	90.00	359.30	6659.00	2202.10	-101.82	2203.18	0.00	0.00	0.00	
9400.00	90.00	359.30	6659.00	2302.09	-103.04	2303.18	0.00	0.00	0.00	
9500.00	90.00	359.30	6659.00	2402.08	-104.27	2403.18	0.00	0.00	0.00	
9600.00	90.00	359.30	6659.00	2502.07	-105.49	2503.18	0.00	0.00	0.00	
9700.00	90.00	359.30	6659.00	2602.07	-106.71	2603.18	0.00	0.00	0.00	
9800.00	90.00	359.30	6659.00	2702.06	-107.94	2703.18	0.00	0.00	0.00	
9900.00	90.00	359.30	6659.00	2802.05	-109.16	2803.18	0.00	0.00	0.00	
10000.00	90.00	359.30	6659.00	2902.04	-110.38	2903.18	0.00	0.00	0.00	
10100.00	90.00	359.30	6659.00	3002.04	-111.61	3003.18	0.00	0.00	0.00	
10200.00	90.00	359.30	6659.00	3102.03	-112.83	3103.18	0.00	0.00	0.00	
10300.00	90.00	359.30	6659.00	3202.02	-114.05	3203.18	0.00	0.00	0.00	
10400.00	90.00	359.30	6659.00	3302.01	-115.28	3303.18	0.00	0.00	0.00	
10500.00	90.00	359.30	6659.00	3402.01	-116.50	3403.18	0.00	0.00	0.00	
10600.00	90.00	359.30	6659.00	3502.00	-117.72	3503.18	0.00	0.00	0.00	
10700.00	90.00	359.30	6659.00	3601.99	-118.95	3603.18	0.00	0.00	0.00	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Konig 2-31-11-59
Well: 2-31-11-59
Wellpath: Original Hole

Date: 09/10/2013
Co-ordinate(NE) Reference: Well: 2-31-11-59, Grid North
Vertical (TVD) Reference: 5432'GL+17'KB 5449.0
Section (VS) Reference: Well (0.00N,0.00E,359.30Azi)
Plan: Plan #4

Page: 4

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
10800.00	90.00	359.30	6659.00	3701.99	-120.17	3703.18	0.00	0.00	0.00	
10900.00	90.00	359.30	6659.00	3801.98	-121.39	3803.18	0.00	0.00	0.00	
11000.00	90.00	359.30	6659.00	3901.97	-122.62	3903.18	0.00	0.00	0.00	
11100.00	90.00	359.30	6659.00	4001.96	-123.84	4003.18	0.00	0.00	0.00	
11200.00	90.00	359.30	6659.00	4101.96	-125.06	4103.18	0.00	0.00	0.00	
11300.00	90.00	359.30	6659.00	4201.95	-126.29	4203.18	0.00	0.00	0.00	
11376.72	90.00	359.30	6659.00	4278.66	-127.23	4279.89	0.00	0.00	0.00	PBHL 2-31

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->		
SL 2-31			0.00	0.00	0.00	1564530.11	3407312.89	40	52	25.376 N	104	1	37.904 W
PBHL 2-31			6659.00	4278.66	-127.30	1568808.77	3407185.59	40	53	7.667 N	104	1	38.636 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
1446.66	1440.00	9.625	12.250	9 5/8"
6822.72	6624.44	7.000	8.750	7"