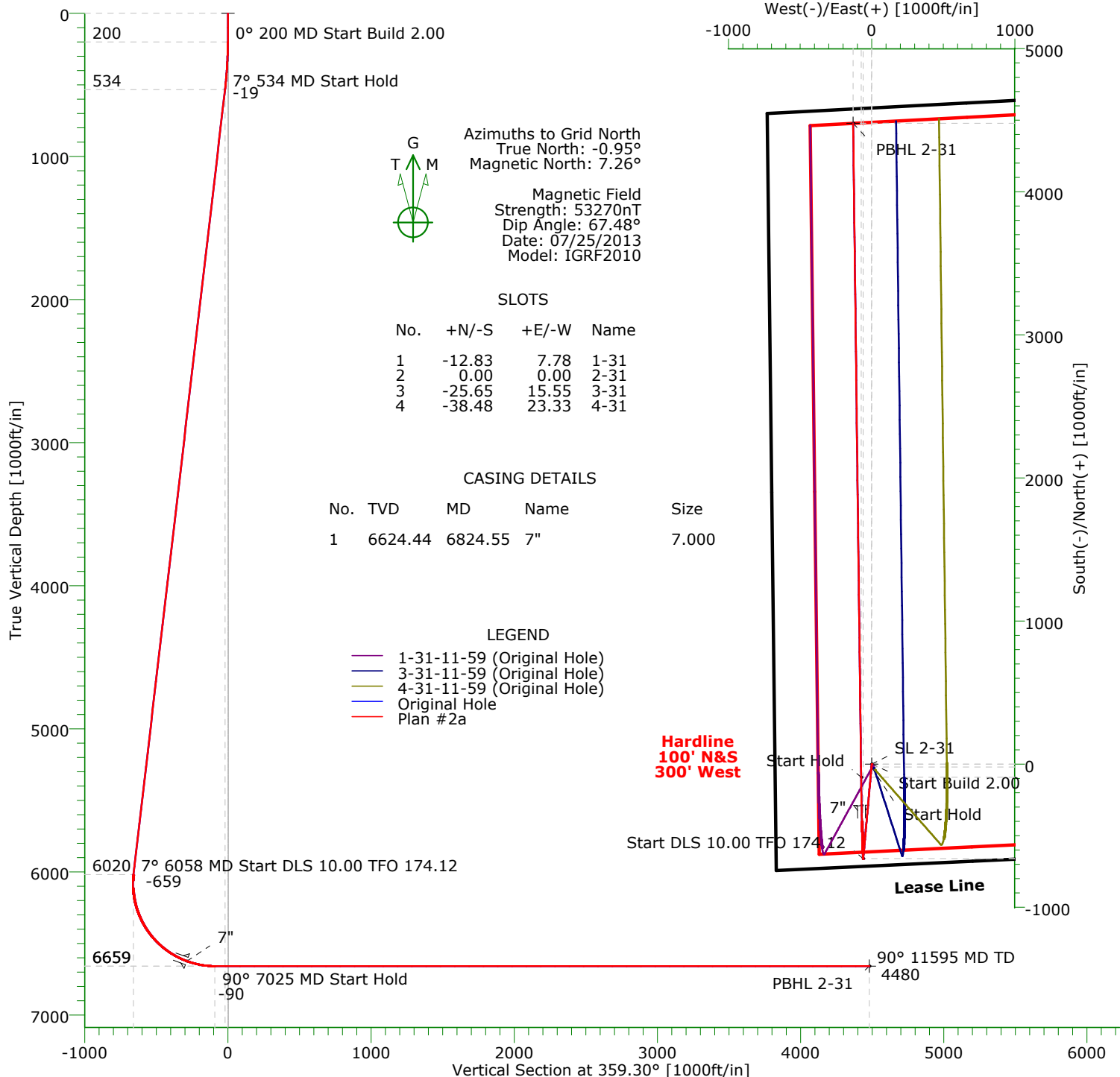




CARRIZO OIL & GAS, INC.

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



Azimuths to Grid North
True North: -0.95°
Magnetic North: 7.26°

Magnetic Field
Strength: 53270nT
Dip Angle: 67.48°
Date: 07/25/2013
Model: IGRF2010

SLOTS

No.	+N/-S	+E/-W	Name
1	-12.83	7.78	1-31
2	0.00	0.00	2-31
3	-25.65	15.55	3-31
4	-38.48	23.33	4-31

CASING DETAILS

No.	TVD	MD	Name	Size
1	6624.44	6824.55	7"	7.000

LEGEND

- 1-31-11-59 (Original Hole)
- 3-31-11-59 (Original Hole)
- 4-31-11-59 (Original Hole)
- Original Hole
- Plan #2a

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	4478.80	-129.80	1569008.91	3407183.09	40°53'09.645N	104°01'38.626W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	185.14	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	185.14	200.00	0.00	0.00	0.00	185.14	0.00	
3	534.31	6.69	185.14	533.55	-19.41	-1.74	2.00	0.00	-19.38	
4	6058.05	6.69	185.14	6019.72	-659.97	-59.31	0.00	0.00	-659.19	
5	7024.56	90.00	359.30	6659.00	-91.00	-73.89	10.00	174.12	-90.09	
6	11594.71	90.00	359.30	6659.00	4478.80	-129.80	0.00	0.00	4480.05	PBHL 2-31

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.		Date: 07/01/2013	Time: 15:19:13	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 #2a		

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
From: Map	Easting: 3407312.89 ft
Position Uncertainty: 0.00 ft	Latitude: 40 52 25.376 N
Ground Level: 5432.00 ft	Longitude: 104 1 37.904 W
	North Reference: Grid
	Grid Convergence: 0.95 deg

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

Wellpath: Original Hole	Drilled From: Surface
Current Datum: 5432'GL+17'KB	Tie-on Depth: 0.00 ft
Magnetic Data: 07/25/2013	Above System Datum: Mean Sea Level
Field Strength: 53270 nT	Declination: 8.22 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 67.48 deg
ft	+E/-W
	Direction
	deg
0.00	0.00
0.00	359.30

Plan: Plan #2a	Date Composed: 07/01/2013
updated SL	Version: 1
Principal: Yes	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	185.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	185.14	200.00	0.00	0.00	0.00	0.00	0.00	185.14	
534.31	6.69	185.14	533.55	-19.41	-1.74	2.00	2.00	0.00	0.00	
6058.05	6.69	185.14	6019.72	-659.97	-59.31	0.00	0.00	0.00	0.00	
7024.56	90.00	359.30	6659.00	-91.00	-73.89	10.00	8.62	18.02	174.12	
11594.71	90.00	359.30	6659.00	4478.80	-129.80	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	185.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	185.14	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	185.14	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	2.00	185.14	299.98	-1.74	-0.16	-1.74	2.00	2.00	0.00	
400.00	4.00	185.14	399.84	-6.95	-0.62	-6.94	2.00	2.00	0.00	
500.00	6.00	185.14	499.45	-15.63	-1.40	-15.61	2.00	2.00	0.00	
534.31	6.69	185.14	533.55	-19.41	-1.74	-19.38	2.00	2.00	0.00	
600.00	6.69	185.14	598.79	-27.02	-2.43	-26.99	0.00	0.00	0.00	
700.00	6.69	185.14	698.11	-38.62	-3.47	-38.57	0.00	0.00	0.00	
800.00	6.69	185.14	797.43	-50.22	-4.51	-50.16	0.00	0.00	0.00	
900.00	6.69	185.14	896.75	-61.81	-5.55	-61.74	0.00	0.00	0.00	
1000.00	6.69	185.14	996.07	-73.41	-6.60	-73.32	0.00	0.00	0.00	
1100.00	6.69	185.14	1095.39	-85.01	-7.64	-84.91	0.00	0.00	0.00	
1200.00	6.69	185.14	1194.71	-96.60	-8.68	-96.49	0.00	0.00	0.00	
1300.00	6.69	185.14	1294.03	-108.20	-9.72	-108.07	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: 07/01/2013
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 #2a

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	6.69	185.14	1393.35	-119.80	-10.77	-119.66	0.00	0.00	0.00	
1500.00	6.69	185.14	1492.67	-131.39	-11.81	-131.24	0.00	0.00	0.00	
1600.00	6.69	185.14	1591.99	-142.99	-12.85	-142.82	0.00	0.00	0.00	
1700.00	6.69	185.14	1691.31	-154.59	-13.89	-154.40	0.00	0.00	0.00	
1800.00	6.69	185.14	1790.63	-166.18	-14.93	-165.99	0.00	0.00	0.00	
1900.00	6.69	185.14	1889.95	-177.78	-15.98	-177.57	0.00	0.00	0.00	
2000.00	6.69	185.14	1989.27	-189.37	-17.02	-189.15	0.00	0.00	0.00	
2100.00	6.69	185.14	2088.59	-200.97	-18.06	-200.74	0.00	0.00	0.00	
2200.00	6.69	185.14	2187.91	-212.57	-19.10	-212.32	0.00	0.00	0.00	
2300.00	6.69	185.14	2287.23	-224.16	-20.14	-223.90	0.00	0.00	0.00	
2400.00	6.69	185.14	2386.55	-235.76	-21.19	-235.48	0.00	0.00	0.00	
2500.00	6.69	185.14	2485.87	-247.36	-22.23	-247.07	0.00	0.00	0.00	
2600.00	6.69	185.14	2585.19	-258.95	-23.27	-258.65	0.00	0.00	0.00	
2700.00	6.69	185.14	2684.51	-270.55	-24.31	-270.23	0.00	0.00	0.00	
2800.00	6.69	185.14	2783.83	-282.15	-25.36	-281.82	0.00	0.00	0.00	
2900.00	6.69	185.14	2883.15	-293.74	-26.40	-293.40	0.00	0.00	0.00	
3000.00	6.69	185.14	2982.47	-305.34	-27.44	-304.98	0.00	0.00	0.00	
3100.00	6.69	185.14	3081.79	-316.94	-28.48	-316.56	0.00	0.00	0.00	
3200.00	6.69	185.14	3181.11	-328.53	-29.52	-328.15	0.00	0.00	0.00	
3300.00	6.69	185.14	3280.43	-340.13	-30.57	-339.73	0.00	0.00	0.00	
3400.00	6.69	185.14	3379.75	-351.73	-31.61	-351.31	0.00	0.00	0.00	
3500.00	6.69	185.14	3479.07	-363.32	-32.65	-362.90	0.00	0.00	0.00	
3600.00	6.69	185.14	3578.39	-374.92	-33.69	-374.48	0.00	0.00	0.00	
3700.00	6.69	185.14	3677.71	-386.51	-34.73	-386.06	0.00	0.00	0.00	
3800.00	6.69	185.14	3777.03	-398.11	-35.78	-397.64	0.00	0.00	0.00	
3900.00	6.69	185.14	3876.35	-409.71	-36.82	-409.23	0.00	0.00	0.00	
4000.00	6.69	185.14	3975.67	-421.30	-37.86	-420.81	0.00	0.00	0.00	
4100.00	6.69	185.14	4074.99	-432.90	-38.90	-432.39	0.00	0.00	0.00	
4200.00	6.69	185.14	4174.31	-444.50	-39.95	-443.98	0.00	0.00	0.00	
4300.00	6.69	185.14	4273.63	-456.09	-40.99	-455.56	0.00	0.00	0.00	
4400.00	6.69	185.14	4372.95	-467.69	-42.03	-467.14	0.00	0.00	0.00	
4500.00	6.69	185.14	4472.27	-479.29	-43.07	-478.72	0.00	0.00	0.00	
4600.00	6.69	185.14	4571.59	-490.88	-44.11	-490.31	0.00	0.00	0.00	
4700.00	6.69	185.14	4670.91	-502.48	-45.16	-501.89	0.00	0.00	0.00	
4800.00	6.69	185.14	4770.23	-514.08	-46.20	-513.47	0.00	0.00	0.00	
4900.00	6.69	185.14	4869.55	-525.67	-47.24	-525.06	0.00	0.00	0.00	
5000.00	6.69	185.14	4968.87	-537.27	-48.28	-536.64	0.00	0.00	0.00	
5100.00	6.69	185.14	5068.19	-548.87	-49.32	-548.22	0.00	0.00	0.00	
5200.00	6.69	185.14	5167.51	-560.46	-50.37	-559.80	0.00	0.00	0.00	
5300.00	6.69	185.14	5266.83	-572.06	-51.41	-571.39	0.00	0.00	0.00	
5400.00	6.69	185.14	5366.15	-583.65	-52.45	-582.97	0.00	0.00	0.00	
5500.00	6.69	185.14	5465.47	-595.25	-53.49	-594.55	0.00	0.00	0.00	
5600.00	6.69	185.14	5564.79	-606.85	-54.53	-606.14	0.00	0.00	0.00	
5700.00	6.69	185.14	5664.11	-618.44	-55.58	-617.72	0.00	0.00	0.00	
5800.00	6.69	185.14	5763.43	-630.04	-56.62	-629.30	0.00	0.00	0.00	
5900.00	6.69	185.14	5862.75	-641.64	-57.66	-640.88	0.00	0.00	0.00	
6000.00	6.69	185.14	5962.07	-653.23	-58.70	-652.47	0.00	0.00	0.00	
6058.05	6.69	185.14	6019.72	-659.97	-59.31	-659.19	0.00	0.00	0.00	
6100.00	2.55	194.83	6061.53	-663.30	-59.77	-662.52	10.00	-9.86	23.10	
6200.00	7.57	354.16	6161.30	-658.88	-61.01	-658.09	10.00	5.02	159.33	
6300.00	17.56	357.14	6258.78	-637.21	-62.44	-636.40	10.00	9.98	2.98	
6400.00	27.55	357.99	6351.01	-598.94	-64.00	-598.11	10.00	9.99	0.85	
6500.00	37.55	358.41	6435.20	-545.23	-65.66	-544.38	10.00	10.00	0.42	
6600.00	47.55	358.67	6508.78	-477.71	-67.37	-476.85	10.00	10.00	0.26	

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: 07/01/2013
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 #2a

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
6700.00	57.55	358.86	6569.51	-398.45	-69.06	-397.57	10.00	10.00	0.19	
6800.00	67.55	359.02	6615.56	-309.84	-70.69	-308.95	10.00	10.00	0.15	7"
6824.55	70.00	359.05	6624.44	-286.96	-71.08	-286.07	10.00	10.00	0.14	
6900.00	77.54	359.15	6645.51	-214.57	-72.22	-213.68	10.00	10.00	0.13	
7000.00	87.54	359.27	6658.47	-115.55	-73.58	-114.65	10.00	10.00	0.12	
7024.56	90.00	359.30	6659.00	-91.00	-73.89	-90.09	10.00	10.00	0.12	
7100.00	90.00	359.30	6659.00	-15.57	-74.81	-14.65	0.00	0.00	0.00	
7200.00	90.00	359.30	6659.00	84.42	-76.04	85.35	0.00	0.00	0.00	
7300.00	90.00	359.30	6659.00	184.42	-77.26	185.35	0.00	0.00	0.00	
7400.00	90.00	359.30	6659.00	284.41	-78.48	285.35	0.00	0.00	0.00	
7500.00	90.00	359.30	6659.00	384.40	-79.71	385.35	0.00	0.00	0.00	
7600.00	90.00	359.30	6659.00	484.39	-80.93	485.35	0.00	0.00	0.00	
7700.00	90.00	359.30	6659.00	584.39	-82.15	585.35	0.00	0.00	0.00	
7800.00	90.00	359.30	6659.00	684.38	-83.38	685.35	0.00	0.00	0.00	
7900.00	90.00	359.30	6659.00	784.37	-84.60	785.35	0.00	0.00	0.00	
8000.00	90.00	359.30	6659.00	884.36	-85.82	885.35	0.00	0.00	0.00	
8100.00	90.00	359.30	6659.00	984.36	-87.05	985.35	0.00	0.00	0.00	
8200.00	90.00	359.30	6659.00	1084.35	-88.27	1085.35	0.00	0.00	0.00	
8300.00	90.00	359.30	6659.00	1184.34	-89.49	1185.35	0.00	0.00	0.00	
8400.00	90.00	359.30	6659.00	1284.33	-90.72	1285.35	0.00	0.00	0.00	
8500.00	90.00	359.30	6659.00	1384.33	-91.94	1385.35	0.00	0.00	0.00	
8600.00	90.00	359.30	6659.00	1484.32	-93.16	1485.35	0.00	0.00	0.00	
8700.00	90.00	359.30	6659.00	1584.31	-94.39	1585.35	0.00	0.00	0.00	
8800.00	90.00	359.30	6659.00	1684.30	-95.61	1685.35	0.00	0.00	0.00	
8900.00	90.00	359.30	6659.00	1784.30	-96.83	1785.35	0.00	0.00	0.00	
9000.00	90.00	359.30	6659.00	1884.29	-98.06	1885.35	0.00	0.00	0.00	
9100.00	90.00	359.30	6659.00	1984.28	-99.28	1985.35	0.00	0.00	0.00	
9200.00	90.00	359.30	6659.00	2084.27	-100.50	2085.35	0.00	0.00	0.00	
9300.00	90.00	359.30	6659.00	2184.27	-101.73	2185.35	0.00	0.00	0.00	
9400.00	90.00	359.30	6659.00	2284.26	-102.95	2285.35	0.00	0.00	0.00	
9500.00	90.00	359.30	6659.00	2384.25	-104.17	2385.35	0.00	0.00	0.00	
9600.00	90.00	359.30	6659.00	2484.24	-105.40	2485.35	0.00	0.00	0.00	
9700.00	90.00	359.30	6659.00	2584.24	-106.62	2585.35	0.00	0.00	0.00	
9800.00	90.00	359.30	6659.00	2684.23	-107.84	2685.35	0.00	0.00	0.00	
9900.00	90.00	359.30	6659.00	2784.22	-109.07	2785.35	0.00	0.00	0.00	
10000.00	90.00	359.30	6659.00	2884.21	-110.29	2885.35	0.00	0.00	0.00	
10100.00	90.00	359.30	6659.00	2984.21	-111.51	2985.35	0.00	0.00	0.00	
10200.00	90.00	359.30	6659.00	3084.20	-112.74	3085.35	0.00	0.00	0.00	
10300.00	90.00	359.30	6659.00	3184.19	-113.96	3185.35	0.00	0.00	0.00	
10400.00	90.00	359.30	6659.00	3284.18	-115.18	3285.35	0.00	0.00	0.00	
10500.00	90.00	359.30	6659.00	3384.18	-116.41	3385.35	0.00	0.00	0.00	
10600.00	90.00	359.30	6659.00	3484.17	-117.63	3485.35	0.00	0.00	0.00	
10700.00	90.00	359.30	6659.00	3584.16	-118.85	3585.35	0.00	0.00	0.00	
10800.00	90.00	359.30	6659.00	3684.15	-120.08	3685.35	0.00	0.00	0.00	
10900.00	90.00	359.30	6659.00	3784.15	-121.30	3785.35	0.00	0.00	0.00	
11000.00	90.00	359.30	6659.00	3884.14	-122.52	3885.35	0.00	0.00	0.00	
11100.00	90.00	359.30	6659.00	3984.13	-123.75	3985.35	0.00	0.00	0.00	
11200.00	90.00	359.30	6659.00	4084.12	-124.97	4085.35	0.00	0.00	0.00	
11300.00	90.00	359.30	6659.00	4184.12	-126.19	4185.35	0.00	0.00	0.00	
11400.00	90.00	359.30	6659.00	4284.11	-127.42	4285.35	0.00	0.00	0.00	
11500.00	90.00	359.30	6659.00	4384.10	-128.64	4385.35	0.00	0.00	0.00	
11594.71	90.00	359.30	6659.00	4478.80	-129.80	4480.05	0.00	0.00	0.00	PBHL 2-31

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: 07/01/2013
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 #2a

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 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	4478.80	-129.80	1569008.91	3407183.09	40	53	9.645	N	104	1 38.626 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
6824.55	6624.44	7.000	8.750	7"