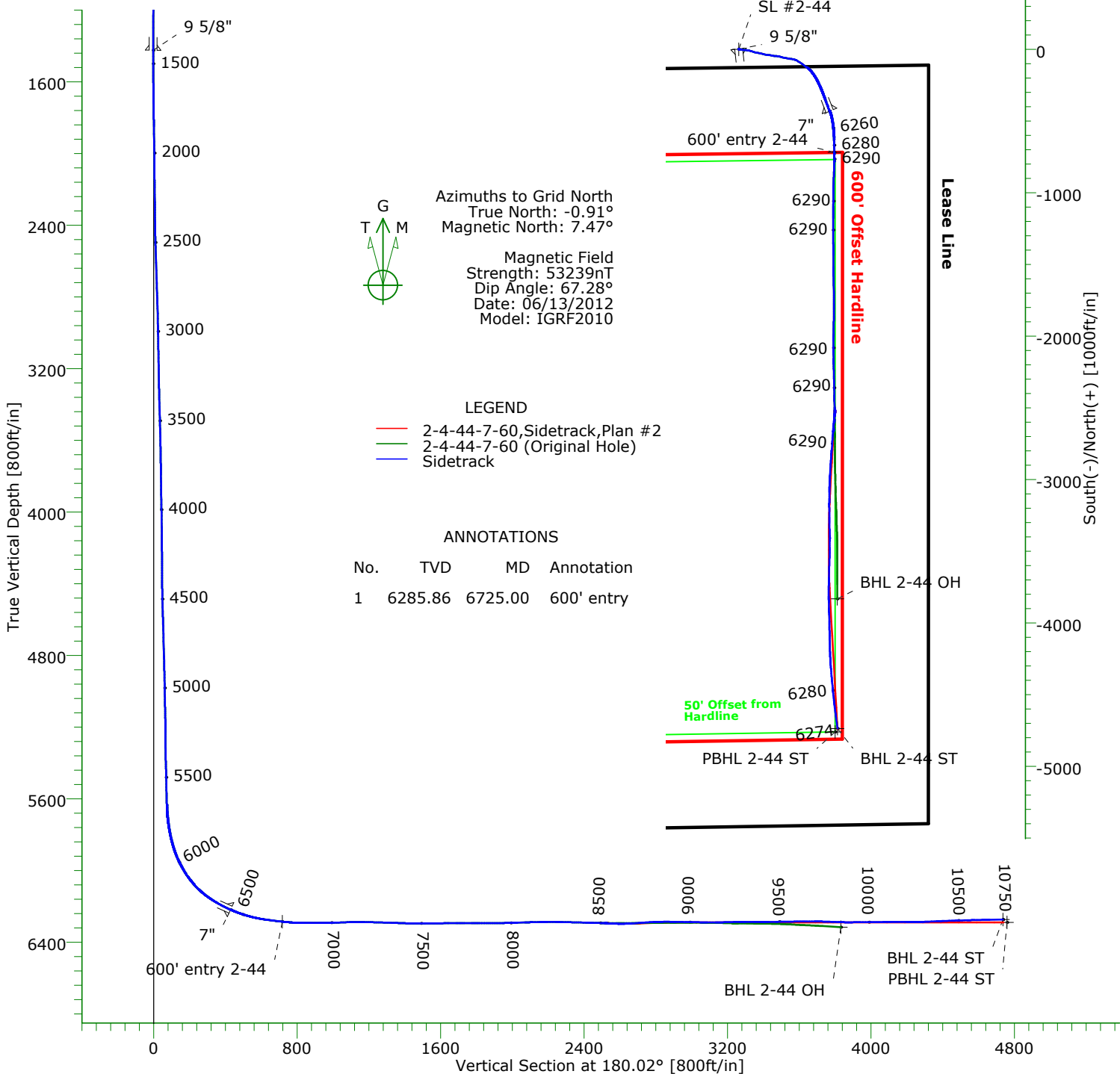


CASING DETAILS

No.	TVD	MD	Name	Size
1	1424.99	1425.00	9 5/8"	9.625
2	6219.57	6425.00	7"	7.000



Azimuths to Grid North
 True North: -0.91°
 Magnetic North: 7.47°

Magnetic Field
 Strength: 53239nT
 Dip Angle: 67.28°
 Date: 06/13/2012
 Model: IGRF2010

LEGEND

- 2-4-44-7-60, Sidetrack, Plan #2
- 2-4-44-7-60 (Original Hole)
- Sidetrack

ANNOTATIONS

No.	TVD	MD	Annotation
1	6285.86	6725.00	600' entry

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL #2-44	0.00	0.00	0.00	1463541.15	3390699.89	40°35'50.288N	104°05'34.983W	Point
BHL 2-44 ST	6273.93	-4737.09	689.07	1458804.06	3391388.96	40°35'03.376N	104°05'27.027W	Point
600' entry 2-44	6285.86	-718.03	666.60	1462823.12	3391366.49	40°35'43.089N	104°05'26.490W	Point
PBHL 2-44 ST	6290.00	-4760.12	671.29	1458781.03	3391371.18	40°35'03.152N	104°05'27.262W	Point
BHL 2-44 OH	6316.50	-3832.41	687.25	1459708.74	3391387.14	40°35'12.315N	104°05'26.864W	Point

Company: CARRIZO OIL & GAS, INC. **Date:** 07/06/2012 **Time:** 11:02:22 **Page:** 1
Field: Niobrara CONZ'83 **Co-ordinate(NE) Reference:** Well: 2-4-44-7-60, Grid North
Site: Pergamos 4-44-7-60 **Vertical (TVD) Reference:** 4910'GL+17'KB 4927.0
Well: 2-4-44-7-60 **Section (VS) Reference:** Well (0.00N,0.00E,180.02Azi)
Wellpath: Sidetrack **Survey Calculation Method:** Minimum Curvature **Db:** Adapti

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: Pergamos 4-44-7-60
 S:4,T:7N,R:60W
 Weld County, CO

Site Position: **From:** Map **Northing:** 1463521.27 ft **Latitude:** 40 35 50.095 N
Position Uncertainty: 0.00 ft **Easting:** 3390683.38 ft **Longitude:** 104 5 35.201 W
Ground Level: 4910.00 ft **North Reference:** Grid
Grid Convergence: 0.91 deg

Well: 2-4-44-7-60
 adjusted to Original #1

Slot Name: #2-44

Well Position: +N/-S 19.88 ft **Northing:** 1463541.15 ft **Latitude:** 40 35 50.288 N
 +E/-W 16.51 ft **Easting:** 3390699.89 ft **Longitude:** 104 5 34.983 W
Position Uncertainty: 0.00 ft

Wellpath: Sidetrack

Current Datum: 4910'GL+17'KB **Height** 4927.00 ft
Magnetic Data: 06/13/2012
Field Strength: 53239 nT
Vertical Section: Depth From (TVD) ft

Drilled From: Original Hole
Tie-on Depth: 9841.00 ft
Above System Datum: Mean Sea Level
Declination: 8.38 deg
Mag Dip Angle: 67.28 deg
+E/-W ft **Direction** deg

0.00 0.00 0.00 180.02

Survey Program for Definitive Wellpath

Date: 07/06/2012 **Validated:** No

Version: 0

Actual From	To	Survey	Toolcode	Tool Name
100.00	1500.00	Survey #1 (0)	Gyroscope	Gyroscope
1508.00	8503.00	Survey #2 (0)	MWD	Std MWD
8522.00	10675.00	Survey #1	MWD	Std MWD
10750.00	10750.00	Survey #2	Project	Projection

Survey

MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	Tool/Comment
ft	deg	deg	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
100.00	0.15	39.89	100.00	0.10	0.08	-0.10	0.15	0.15	0.00	Gyroscope
200.00	0.17	160.66	200.00	0.06	0.22	-0.06	0.28	0.02	120.76	Gyroscope
300.00	0.13	317.76	300.00	0.00	0.19	0.00	0.30	-0.04	157.10	Gyroscope
400.00	0.18	21.59	400.00	0.24	0.17	-0.24	0.17	0.05	63.83	Gyroscope
500.00	0.12	306.32	500.00	0.45	0.14	-0.45	0.19	-0.06	-75.27	Gyroscope
600.00	0.22	4.65	600.00	0.71	0.07	-0.71	0.19	0.10	58.33	Gyroscope
700.00	0.13	0.12	700.00	1.02	0.09	-1.02	0.10	-0.10	-4.53	Gyroscope
800.00	0.02	329.37	800.00	1.15	0.08	-1.15	0.11	-0.11	-30.75	Gyroscope
900.00	0.15	200.05	900.00	1.04	0.03	-1.04	0.16	0.13	-129.32	Gyroscope
1000.00	0.19	242.73	1000.00	0.84	-0.17	-0.84	0.13	0.04	42.68	Gyroscope
1100.00	0.23	306.13	1100.00	0.88	-0.48	-0.88	0.22	0.03	63.40	Gyroscope
1200.00	0.39	353.50	1200.00	1.33	-0.67	-1.33	0.29	0.16	47.36	Gyroscope
1300.00	0.16	339.40	1299.99	1.80	-0.76	-1.80	0.24	-0.23	-14.09	Gyroscope
1400.00	0.12	56.99	1399.99	1.99	-0.72	-1.99	0.18	-0.04	77.59	Gyroscope
1500.00	0.33	269.04	1499.99	2.04	-0.92	-2.04	0.43	0.20	-147.95	Gyroscope
1508.00	0.10	209.50	1507.99	2.03	-0.94	-2.03	3.61	-2.82	-744.25	MWD
1594.00	1.50	116.50	1593.98	1.47	0.03	-1.47	1.75	1.63	-108.14	MWD
1679.00	2.90	102.20	1678.92	0.51	3.12	-0.52	1.76	1.65	-16.82	MWD
1764.00	4.40	101.20	1763.74	-0.57	8.42	0.57	1.77	1.76	-1.18	MWD

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Pergamos 4-44-7-60
Well: 2-4-44-7-60
Wellpath: Sidetrack

Date: 07/06/2012 **Time:** 11:02:22 **Page:** 2
Co-ordinate(NE) Reference: Well: 2-4-44-7-60, Grid North
Vertical (TVD) Reference: 4910'GL+17'KB 4927.0
Section (VS) Reference: Well (0.00N,0.00E,180.02Azi)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

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
1849.00	6.20	99.10	1848.38	-1.93	16.16	1.93	2.13	2.12	-2.47	MWD
1935.00	6.10	97.50	1933.88	-3.26	25.27	3.25	0.23	-0.12	-1.86	MWD
2020.00	5.80	96.10	2018.43	-4.31	34.02	4.30	0.39	-0.35	-1.65	MWD
2105.00	5.10	93.80	2103.04	-5.02	42.06	5.00	0.86	-0.82	-2.71	MWD
2190.00	5.60	97.70	2187.67	-5.82	49.94	5.80	0.73	0.59	4.59	MWD
2275.00	5.50	97.30	2272.27	-6.90	58.09	6.88	0.13	-0.12	-0.47	MWD
2361.00	5.00	96.20	2357.91	-7.82	65.90	7.80	0.59	-0.58	-1.28	MWD
2445.00	5.60	100.10	2441.55	-8.94	73.58	8.91	0.83	0.71	4.64	MWD
2530.00	6.20	108.40	2526.10	-11.11	82.02	11.09	1.23	0.71	9.76	MWD
2615.00	6.20	107.30	2610.61	-13.93	90.75	13.90	0.14	0.00	-1.29	MWD
2700.00	6.10	107.50	2695.12	-16.65	99.44	16.62	0.12	-0.12	0.24	MWD
2785.00	6.30	108.20	2779.62	-19.47	108.18	19.43	0.25	0.24	0.82	MWD
2871.00	6.40	103.10	2865.09	-22.03	117.33	21.98	0.67	0.12	-5.93	MWD
2956.00	6.20	101.50	2949.58	-24.01	126.44	23.97	0.31	-0.24	-1.88	MWD
3041.00	5.70	100.10	3034.12	-25.67	135.10	25.62	0.61	-0.59	-1.65	MWD
3126.00	5.20	101.20	3118.74	-27.16	143.03	27.11	0.60	-0.59	1.29	MWD
3212.00	5.50	102.40	3204.36	-28.80	150.88	28.75	0.37	0.35	1.40	MWD
3297.00	5.50	99.20	3288.97	-30.33	158.88	30.27	0.36	0.00	-3.76	MWD
3380.00	6.20	103.60	3371.54	-32.02	167.16	31.96	1.00	0.84	5.30	MWD
3463.00	6.50	105.00	3454.03	-34.29	176.06	34.22	0.41	0.36	1.69	MWD
3547.00	6.60	102.10	3537.48	-36.53	185.37	36.46	0.41	0.12	-3.45	MWD
3631.00	6.90	101.30	3620.90	-38.53	195.04	38.46	0.37	0.36	-0.95	MWD
3717.00	7.10	93.60	3706.26	-39.88	205.41	39.80	1.11	0.23	-8.95	MWD
3802.00	6.00	98.00	3790.70	-40.82	215.05	40.75	1.42	-1.29	5.18	MWD
3887.00	5.70	99.40	3875.26	-42.13	223.61	42.05	0.39	-0.35	1.65	MWD
3972.00	5.50	99.60	3959.85	-43.50	231.79	43.42	0.24	-0.24	0.24	MWD
4056.00	5.20	99.90	4043.49	-44.83	239.51	44.74	0.36	-0.36	0.36	MWD
4142.00	4.90	98.70	4129.16	-46.05	246.98	45.97	0.37	-0.35	-1.40	MWD
4227.00	5.50	92.00	4213.81	-46.74	254.64	46.65	1.00	0.71	-7.88	MWD
4312.00	6.20	92.90	4298.36	-47.12	263.30	47.02	0.83	0.82	1.06	MWD
4397.00	5.60	93.10	4382.91	-47.57	272.02	47.48	0.71	-0.71	0.24	MWD
4482.00	5.50	104.50	4467.52	-48.82	280.11	48.72	1.30	-0.12	13.41	MWD
4567.00	5.40	107.90	4552.13	-51.07	287.86	50.97	0.40	-0.12	4.00	MWD
4652.00	6.40	105.20	4636.68	-53.54	296.24	53.43	1.22	1.18	-3.18	MWD
4738.00	6.70	103.80	4722.12	-55.99	305.73	55.89	0.40	0.35	-1.63	MWD
4823.00	6.50	103.80	4806.56	-58.32	315.22	58.21	0.24	-0.24	0.00	MWD
4908.00	5.70	100.10	4891.07	-60.21	324.05	60.10	1.05	-0.94	-4.35	MWD
4993.00	6.10	100.80	4975.62	-61.80	332.64	61.68	0.48	0.47	0.82	MWD
5078.00	5.60	102.90	5060.18	-63.57	341.12	63.45	0.64	-0.59	2.47	MWD
5164.00	6.30	99.20	5145.72	-65.26	349.87	65.14	0.93	0.81	-4.30	MWD
5249.00	5.30	90.80	5230.28	-66.06	358.40	65.94	1.54	-1.18	-9.88	MWD
5334.00	5.40	99.20	5314.91	-66.75	366.27	66.63	0.93	0.12	9.88	MWD
5419.00	6.20	103.50	5399.48	-68.47	374.68	68.33	1.07	0.94	5.06	MWD
5504.00	5.40	103.80	5484.04	-70.49	383.03	70.36	0.94	-0.94	0.35	MWD
5590.00	4.90	104.00	5569.70	-72.35	390.52	72.21	0.58	-0.58	0.23	MWD
5610.00	4.70	105.00	5589.63	-72.76	392.15	72.63	1.08	-1.00	5.00	MWD
5653.00	4.50	100.10	5632.49	-73.52	395.51	73.38	1.03	-0.47	-11.40	MWD
5695.00	8.00	115.60	5674.23	-75.07	399.77	74.93	9.18	8.33	36.90	MWD
5738.00	12.00	121.90	5716.57	-78.72	406.26	78.58	9.63	9.30	14.65	MWD
5781.00	16.30	123.80	5758.26	-84.45	415.08	84.30	10.06	10.00	4.42	MWD
5823.00	20.40	123.10	5798.11	-91.73	426.11	91.58	9.78	9.76	-1.67	MWD
5866.00	24.40	123.30	5837.86	-100.70	439.82	100.54	9.30	9.30	0.47	MWD
5908.00	28.30	125.80	5875.49	-111.29	455.15	111.13	9.65	9.29	5.95	MWD
5951.00	32.30	128.20	5912.61	-124.36	472.45	124.20	9.72	9.30	5.58	MWD

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Pergamos 4-44-7-60
Well: 2-4-44-7-60
Wellpath: Sidetrack

Date: 07/06/2012 **Time:** 11:02:22 **Page:** 3
Co-ordinate(NE) Reference: Well: 2-4-44-7-60, Grid North
Vertical (TVD) Reference: 4910'GL+17'KB 4927.0
Section (VS) Reference: Well (0.00N,0.00E,180.02Azi)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

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
5994.00	34.60	134.00	5948.50	-139.95	490.27	139.78	9.15	5.35	13.49	MWD
6036.00	35.80	141.20	5982.83	-157.82	506.55	157.64	10.28	2.86	17.14	MWD
6079.00	38.00	146.00	6017.22	-178.60	521.84	178.42	8.43	5.12	11.16	MWD
6120.00	40.90	149.90	6048.88	-200.69	535.64	200.50	9.30	7.07	9.51	MWD
6163.00	45.80	153.40	6080.15	-226.67	549.61	226.47	12.69	11.40	8.14	MWD
6206.00	48.50	155.70	6109.39	-255.13	563.14	254.93	7.40	6.28	5.35	MWD
6248.00	54.20	157.60	6135.61	-285.24	576.11	285.04	14.02	13.57	4.52	MWD
6291.00	58.60	158.70	6159.40	-318.48	589.43	318.27	10.45	10.23	2.56	MWD
6333.00	62.00	159.00	6180.21	-352.50	602.59	352.29	8.12	8.10	0.71	MWD
6423.00	67.20	158.70	6218.80	-428.29	631.92	428.07	5.79	5.78	-0.33	MWD
6465.00	70.10	166.00	6234.11	-465.54	643.75	465.32	17.60	6.90	17.38	MWD
6507.00	72.70	170.60	6247.51	-504.51	651.80	504.28	12.08	6.19	10.95	MWD
6549.00	75.90	173.60	6258.87	-544.55	657.35	544.32	10.26	7.62	7.14	MWD
6592.00	79.60	175.90	6268.00	-586.38	661.19	586.15	10.07	8.60	5.35	MWD
6635.00	82.10	177.50	6274.84	-628.76	663.63	628.53	6.88	5.81	3.72	MWD
6677.00	83.10	178.00	6280.24	-670.38	665.26	670.14	2.66	2.38	1.19	MWD
6720.00	83.40	178.70	6285.30	-713.06	666.49	712.83	1.76	0.70	1.63	MWD
6762.00	85.60	180.10	6289.32	-754.86	666.93	754.63	6.20	5.24	3.33	MWD
6805.00	87.90	181.70	6291.76	-797.78	666.26	797.55	6.51	5.35	3.72	MWD
6847.00	89.30	182.60	6292.79	-839.74	664.68	839.51	3.96	3.33	2.14	MWD
6888.00	90.10	182.20	6293.00	-880.70	662.96	880.47	2.18	1.95	-0.98	MWD
6931.00	90.00	181.70	6292.97	-923.68	661.50	923.45	1.19	-0.23	-1.16	MWD
7016.00	92.00	180.60	6291.48	-1008.64	659.79	1008.41	2.69	2.35	-1.29	MWD
7100.00	91.40	180.40	6288.99	-1092.60	659.06	1092.37	0.75	-0.71	-0.24	MWD
7186.00	89.30	179.90	6288.46	-1178.59	658.84	1178.36	2.51	-2.44	-0.58	MWD
7271.00	88.50	179.90	6290.10	-1263.58	658.98	1263.35	0.94	-0.94	0.00	MWD
7356.00	87.70	179.90	6292.91	-1348.53	659.13	1348.30	0.94	-0.94	0.00	MWD
7441.00	89.20	179.60	6295.21	-1433.49	659.50	1433.26	1.80	1.76	-0.35	MWD
7526.00	90.70	179.60	6295.29	-1518.49	660.10	1518.26	1.76	1.76	0.00	MWD
7611.00	90.10	178.90	6294.69	-1603.48	661.21	1603.25	1.08	-0.71	-0.82	MWD
7654.00	90.50	179.20	6294.47	-1646.47	661.92	1646.24	1.16	0.93	0.70	MWD
7696.00	90.40	179.20	6294.14	-1688.47	662.51	1688.24	0.24	-0.24	0.00	MWD
7739.00	90.00	179.40	6293.99	-1731.46	663.03	1731.23	1.04	-0.93	0.47	MWD
7782.00	90.00	179.90	6293.99	-1774.46	663.30	1774.23	1.16	0.00	1.16	MWD
7824.00	90.40	180.40	6293.84	-1816.46	663.19	1816.23	1.52	0.95	1.19	MWD
7867.00	90.30	180.60	6293.58	-1859.46	662.81	1859.23	0.52	-0.23	0.47	MWD
7909.00	90.00	180.40	6293.47	-1901.46	662.45	1901.23	0.86	-0.71	-0.48	MWD
7952.00	90.20	180.80	6293.40	-1944.46	662.00	1944.22	1.04	0.47	0.93	MWD
7994.00	90.80	181.30	6293.03	-1986.45	661.23	1986.22	1.86	1.43	1.19	MWD
8037.00	92.20	180.30	6291.90	-2029.43	660.63	2029.20	4.00	3.26	-2.33	MWD
8079.00	92.20	180.30	6290.29	-2071.40	660.41	2071.16	0.00	0.00	0.00	MWD
8122.00	91.30	179.40	6288.98	-2114.37	660.52	2114.14	2.96	-2.09	-2.09	MWD
8163.00	91.50	179.20	6287.98	-2155.36	661.02	2155.13	0.69	0.49	-0.49	MWD
8205.00	89.80	178.90	6287.50	-2197.35	661.72	2197.12	4.11	-4.05	-0.71	MWD
8248.00	89.60	178.70	6287.72	-2240.34	662.62	2240.11	0.66	-0.47	-0.47	MWD
8291.00	88.70	178.70	6288.36	-2283.32	663.59	2283.09	2.09	-2.09	0.00	MWD
8333.00	88.90	178.50	6289.24	-2325.30	664.62	2325.07	0.67	0.48	-0.48	MWD
8376.00	88.50	178.50	6290.22	-2368.27	665.74	2368.04	0.93	-0.93	0.00	MWD
8418.00	88.30	178.70	6291.39	-2410.25	666.77	2410.01	0.67	-0.48	0.48	MWD
8461.00	88.90	179.40	6292.44	-2453.23	667.48	2452.99	2.14	1.40	1.63	MWD
8503.00	88.60	179.40	6293.36	-2495.21	667.92	2494.98	0.71	-0.71	0.00	MWD
8522.00	87.90	180.00	6293.94	-2514.20	668.02	2513.97	4.85	-3.68	3.16	MWD
8546.00	86.30	182.40	6295.15	-2538.17	667.52	2537.93	12.01	-6.67	10.00	MWD

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Pergamos 4-44-7-60
Well: 2-4-44-7-60
Wellpath: Sidetrack

Date: 07/06/2012 **Time:** 11:02:22 **Page:** 4
Co-ordinate(NE) Reference: Well: 2-4-44-7-60, Grid North
Vertical (TVD) Reference: 4910'GL+17'KB 4927.0
Section (VS) Reference: Well (0.00N,0.00E,180.02Azi)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

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
8567.00	87.40	183.80	6296.31	-2559.10	666.38	2558.87	8.47	5.24	6.67	MWD
8589.00	88.20	184.50	6297.15	-2581.03	664.79	2580.80	4.83	3.64	3.18	MWD
8610.00	89.70	185.20	6297.54	-2601.95	663.02	2601.72	7.88	7.14	3.33	MWD
8631.00	90.80	185.50	6297.44	-2622.86	661.06	2622.63	5.43	5.24	1.43	MWD
8652.00	91.80	185.40	6296.97	-2643.76	659.07	2643.53	4.79	4.76	-0.48	MWD
8674.00	93.90	184.50	6295.87	-2665.65	657.17	2665.42	10.38	9.55	-4.09	MWD
8715.00	94.20	184.10	6292.98	-2706.43	654.10	2706.20	1.22	0.73	-0.98	MWD
8758.00	93.60	184.30	6290.05	-2749.21	650.96	2748.99	1.47	-1.40	0.47	MWD
8801.00	92.50	184.30	6287.77	-2792.03	647.74	2791.80	2.56	-2.56	0.00	MWD
8843.00	90.40	184.00	6286.70	-2833.91	644.70	2833.68	5.05	-5.00	-0.71	MWD
8886.00	89.70	184.10	6286.66	-2876.80	641.67	2876.57	1.64	-1.63	0.23	MWD
8928.00	89.00	183.40	6287.14	-2918.70	638.92	2918.48	2.36	-1.67	-1.67	MWD
8971.00	88.50	183.40	6288.08	-2961.62	636.37	2961.40	1.16	-1.16	0.00	MWD
9014.00	89.50	182.40	6288.83	-3004.56	634.20	3004.33	3.29	2.33	-2.33	MWD
9057.00	88.90	181.90	6289.43	-3047.52	632.58	3047.30	1.82	-1.40	-1.16	MWD
9099.00	90.00	180.80	6289.83	-3089.51	631.59	3089.29	3.70	2.62	-2.62	MWD
9142.00	89.80	180.60	6289.91	-3132.50	631.07	3132.28	0.66	-0.47	-0.47	MWD
9185.00	91.50	180.10	6289.42	-3175.50	630.81	3175.28	4.12	3.95	-1.16	MWD
9228.00	91.40	179.40	6288.33	-3218.48	630.99	3218.26	1.64	-0.23	-1.63	MWD
9270.00	91.00	179.20	6287.45	-3260.47	631.51	3260.25	1.06	-0.95	-0.48	MWD
9313.00	90.00	179.40	6287.08	-3303.47	632.03	3303.24	2.37	-2.33	0.47	MWD
9356.00	89.60	179.20	6287.23	-3346.46	632.56	3346.24	1.04	-0.93	-0.47	MWD
9398.00	89.20	178.50	6287.67	-3388.45	633.40	3388.23	1.92	-0.95	-1.67	MWD
9441.00	91.00	180.40	6287.59	-3431.44	633.81	3431.22	6.09	4.19	4.42	MWD
9482.00	91.00	180.10	6286.88	-3472.44	633.63	3472.22	0.73	0.00	-0.73	MWD
9525.00	90.90	181.00	6286.16	-3515.43	633.22	3515.21	2.11	-0.23	2.09	MWD
9567.00	90.80	181.70	6285.54	-3557.41	632.23	3557.19	1.68	-0.24	1.67	MWD
9610.00	90.40	181.90	6285.09	-3600.39	630.88	3600.17	1.04	-0.93	0.47	MWD
9653.00	90.30	181.50	6284.83	-3643.37	629.61	3643.15	0.96	-0.23	-0.93	MWD
9695.00	90.00	181.50	6284.72	-3685.35	628.51	3685.14	0.71	-0.71	0.00	MWD
9738.00	88.60	180.80	6285.24	-3728.34	627.64	3728.12	3.64	-3.26	-1.63	MWD
9780.00	88.00	180.10	6286.49	-3770.32	627.31	3770.10	2.19	-1.43	-1.67	MWD
9823.00	87.60	179.90	6288.14	-3813.29	627.31	3813.07	1.04	-0.93	-0.47	MWD
9866.00	89.10	178.90	6289.38	-3856.27	627.76	3856.05	4.19	3.49	-2.33	MWD
9908.00	90.80	178.90	6289.41	-3898.26	628.57	3898.04	4.05	4.05	0.00	MWD
9951.00	90.50	178.30	6288.93	-3941.24	629.62	3941.02	1.56	-0.70	-1.40	MWD
9994.00	90.20	178.30	6288.66	-3984.22	630.90	3984.00	0.70	-0.70	0.00	MWD
10036.00	90.70	178.90	6288.33	-4026.21	631.92	4025.99	1.86	1.19	1.43	MWD
10079.00	90.20	178.20	6288.00	-4069.19	633.01	4068.97	2.00	-1.16	-1.63	MWD
10122.00	90.50	179.20	6287.73	-4112.18	633.99	4111.96	2.43	0.70	2.33	MWD
10164.00	90.10	178.70	6287.51	-4154.17	634.76	4153.95	1.52	-0.95	-1.19	MWD
10207.00	90.50	178.50	6287.29	-4197.16	635.81	4196.94	1.04	0.93	-0.47	MWD
10249.00	89.30	177.10	6287.36	-4239.13	637.42	4238.90	4.39	-2.86	-3.33	MWD
10292.00	91.40	176.10	6287.10	-4282.05	639.97	4281.82	5.41	4.88	-2.33	MWD
10335.00	92.60	175.50	6285.60	-4324.90	643.12	4324.68	3.12	2.79	-1.40	MWD
10377.00	92.40	175.40	6283.77	-4366.73	646.44	4366.51	0.53	-0.48	-0.24	MWD
10420.00	92.10	174.50	6282.08	-4409.53	650.23	4409.30	2.20	-0.70	-2.09	MWD
10462.00	91.90	174.60	6280.61	-4451.32	654.21	4451.09	0.53	-0.48	0.24	MWD
10505.00	91.80	173.90	6279.22	-4494.08	658.52	4493.85	1.64	-0.23	-1.63	MWD
10548.00	91.60	173.80	6277.95	-4536.81	663.12	4536.58	0.52	-0.47	-0.23	MWD
10590.00	91.50	172.70	6276.81	-4578.50	668.06	4578.27	2.63	-0.24	-2.62	MWD
10633.00	91.10	172.90	6275.84	-4621.15	673.45	4620.92	1.04	-0.93	0.47	MWD
10675.00	90.90	172.20	6275.10	-4662.79	678.89	4662.56	1.73	-0.48	-1.67	MWD

Company: CARRIZO OIL & GAS, INC.

Field: Niobrara CONZ'83

Site: Pergamos 4-44-7-60

Well: 2-4-44-7-60

Wellpath: Sidetrack

Date: 07/06/2012

Time: 11:02:22

Page: 5

Co-ordinate(NE) Reference: Well: 2-4-44-7-60, Grid North

Vertical (TVD) Reference: 4910'GL+17'KB 4927.0

Section (VS) Reference: Well (0.00N,0.00E,180.02Azi)

Survey Calculation Method: Minimum Curvature **Db:** Adapti

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
10750.00	90.90	172.20	6273.93	-4737.09	689.07	4736.85	0.00	0.00	0.00	PROJECTED to TD