

Azimuths to Grid North
True North: -1.04°
Magnetic North: 7.02°

Magnetic Field
Strength: 53151nT
Dip Angle: 67.36°
Date: 02/11/2014
Model: IGRF2010

300' Offset FWL
600' Offset FEL

CASING DETAILS

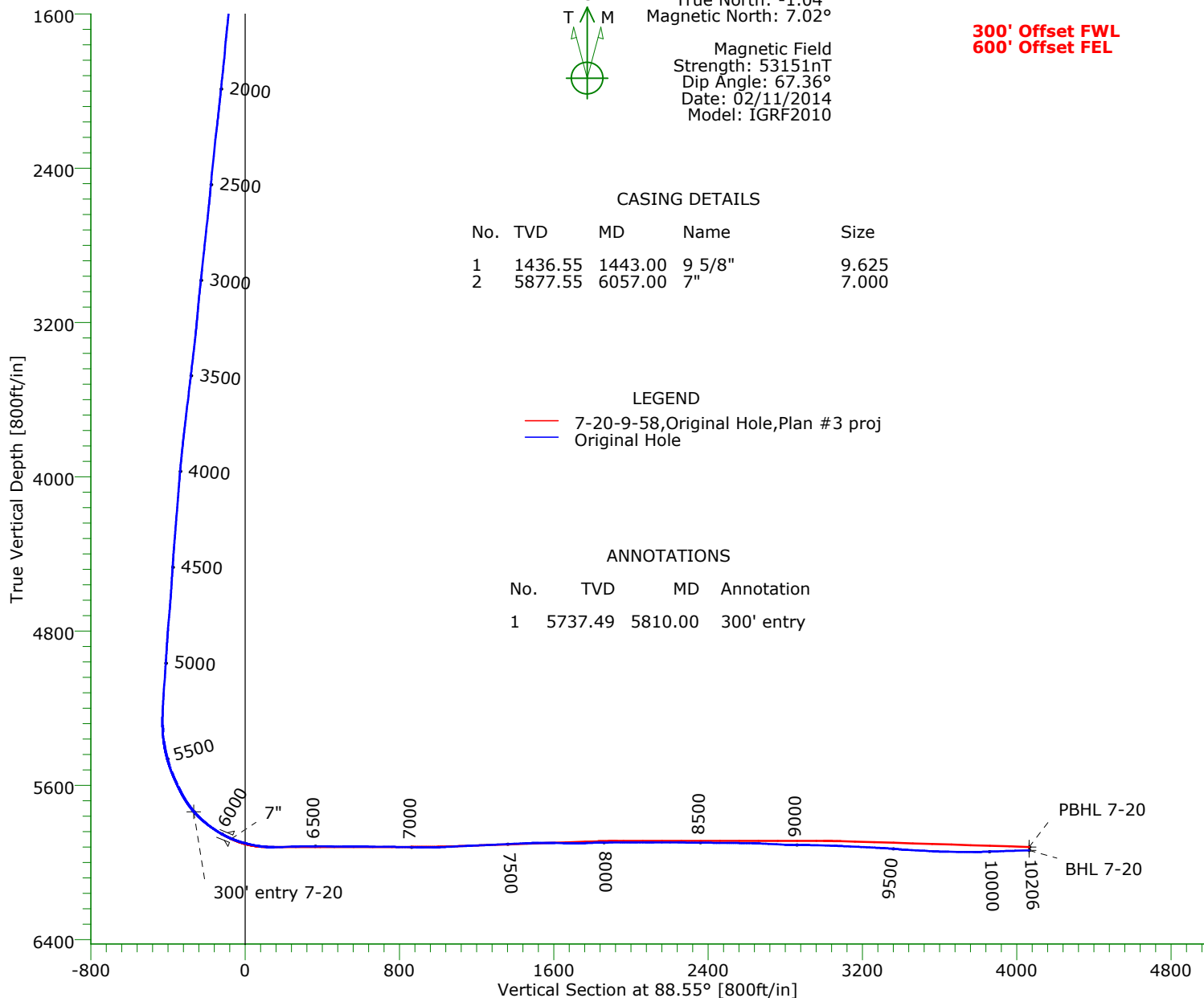
No.	TVD	MD	Name	Size
1	1436.55	1443.00	9 5/8"	9.625
2	5877.55	6057.00	7"	7.000

LEGEND

— 7-20-9-58, Original Hole, Plan #3 proj
— Original Hole

ANNOTATIONS

No.	TVD	MD	Annotation
1	5737.49	5810.00	300' entry



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 7-20	0.00	0.00	0.00	1513363.89	3444640.46	40°43'53.484N	103°53'44.146W	Point
300' entry 7-20	5737.49	354.09	-275.22	1513717.98	3444365.24	40°43'57.031N	103°53'47.637W	Point
PBHL 7-20	5920.00	523.13	4052.07	1513887.02	3448692.53	40°43'57.924N	103°52'51.397W	Point
BHL 7-20	5938.02	529.37	4052.31	1513893.26	3448692.77	40°43'57.986N	103°52'51.392W	Point

Wellpath: (7-20-9-58/Original Hole)

Date: 02/18/2014

PRECISION DIRECTIONAL SERVICES, INC.

713.435.6250

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.		Date: 02/18/2014	Time: 13:28:05	Page: 1
Field: Niobrara CONZ'83		Co-ordinate(NE) Reference: Well: 7-20-9-58, Grid North		
Site: Bringleson Ranch 5-20-9-58 Pad		Vertical (TVD) Reference: 4856'GL+17"KB 4873.0		
Well: 7-20-9-58		Section (VS) Reference: Well (0.00N,0.00E,88.55Azi)		
Wellpath: Original Hole		Survey Calculation Method: Minimum Curvature	Db: Sybase	

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: Bringleson Ranch 5-20-9-58 Pad				
Site Position:	Northing: 1513377.83 ft	Latitude: 40 43 53.626 N		
From: Map	Easting: 3444613.89 ft	Longitude: 103 53 44.488 W		
Position Uncertainty: 0.00 ft		North Reference: Grid		
Ground Level: 4856.00 ft		Grid Convergence: 1.04 deg		

Well: 7-20-9-58		Slot Name: 7-20		
Well Position:	+N/-S -13.94 ft	Northing: 1513363.89 ft	Latitude: 40 43 53.484 N	
	+E/-W 26.57 ft	Easting : 3444640.46 ft	Longitude: 103 53 44.146 W	
Position Uncertainty: 0.00 ft				

Wellpath: Original Hole		Drilled From: Surface		
Current Datum: 4856'GL+17"KB		Tie-on Depth: 0.00 ft		
Magnetic Data: 02/11/2014		Above System Datum: Mean Sea Level		
Field Strength: 53151 nT		Declination: 8.06 deg		
Vertical Section: Depth From (TVD)		Mag Dip Angle: 67.36 deg		
	ft	+N/-S ft	+E/-W ft	Direction deg
0.00		0.00	0.00	88.55

Survey Program for Definitive Wellpath				
Date: 02/18/2014		Validated: No	Version: 0	
Actual From ft	To ft	Survey	Toolcode	Tool Name
141.00	10134.00	Survey #1 (141.00-10134.00)	MWD	Std MWD
10206.00	10206.00	Survey #2 (10206.00-10206.00)	Project	Projection

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
141.00	1.10	275.40	140.99	0.13	-1.35	-1.34	0.78	0.78	0.00	MWD
232.00	1.60	16.00	231.98	1.43	-1.87	-1.83	2.31	0.55	110.55	MWD
324.00	3.50	35.00	323.88	4.97	0.10	0.22	2.23	2.07	20.65	MWD
417.00	3.50	12.60	416.71	10.06	2.35	2.60	1.46	0.00	-24.09	MWD
509.00	3.80	342.40	508.53	15.71	2.04	2.43	2.09	0.33	-32.83	MWD
600.00	4.40	332.70	599.30	21.69	-0.48	0.07	1.01	0.66	-10.66	MWD
692.00	5.50	318.00	690.96	28.10	-5.05	-4.33	1.82	1.20	-15.98	MWD
783.00	6.50	310.10	781.46	34.66	-11.90	-11.02	1.42	1.10	-8.68	MWD
875.00	6.30	308.00	872.89	41.12	-19.86	-18.82	0.33	-0.22	-2.28	MWD
966.00	6.40	309.40	963.33	47.41	-27.72	-26.51	0.20	0.11	1.54	MWD
1058.00	6.20	309.40	1054.78	53.82	-35.52	-34.15	0.22	-0.22	0.00	MWD
1149.00	7.50	310.40	1145.12	60.79	-43.84	-42.29	1.43	1.43	1.10	MWD
1241.00	7.80	311.60	1236.31	68.83	-53.08	-51.32	0.37	0.33	1.30	MWD
1332.00	7.60	311.80	1326.48	76.94	-62.18	-60.22	0.22	-0.22	0.22	MWD
1403.00	7.40	313.40	1396.88	83.21	-69.01	-66.88	0.41	-0.28	2.25	MWD
1499.00	7.00	314.30	1492.12	91.54	-77.69	-75.34	0.43	-0.42	0.94	MWD
1585.00	7.50	308.10	1577.43	98.66	-85.85	-83.33	1.08	0.58	-7.21	MWD
1669.00	7.30	304.30	1660.73	105.05	-94.58	-91.89	0.63	-0.24	-4.52	MWD
1754.00	6.30	303.60	1745.14	110.68	-102.92	-100.09	1.18	-1.18	-0.82	MWD
1840.00	6.40	301.10	1830.61	115.76	-110.96	-107.99	0.34	0.12	-2.91	MWD
1925.00	7.10	300.60	1915.02	120.89	-119.53	-116.44	0.83	0.82	-0.59	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Bringleson Ranch 5-20-9-58 Pad Well: 7-20-9-58 Wellpath: Original Hole	Date: 02/18/2014 Time: 13:28:05 Page: 2 Co-ordinate(NE) Reference: Well: 7-20-9-58, Grid North Vertical (TVD) Reference: 4856'GL+17"KB 4873.0 Section (VS) Reference: Well (0.00N,0.00E,88.55Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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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
2010.00	7.00	296.90	1999.38	125.90	-128.67	-125.45	0.55	-0.12	-4.35	MWD
2051.00	6.30	297.10	2040.10	128.06	-132.91	-129.62	1.71	-1.71	0.49	MWD
2138.00	7.70	297.40	2126.45	132.92	-142.33	-138.92	1.61	1.61	0.34	MWD
2180.00	7.60	294.10	2168.08	135.34	-147.36	-143.89	1.07	-0.24	-7.86	MWD
2265.00	6.90	291.60	2252.40	139.52	-157.24	-153.66	0.90	-0.82	-2.94	MWD
2351.00	6.90	303.20	2337.78	144.25	-166.37	-162.66	1.62	0.00	13.49	MWD
2436.00	6.90	303.40	2422.16	149.86	-174.90	-171.05	0.03	0.00	0.24	MWD
2521.00	6.30	306.40	2506.60	155.43	-182.92	-178.93	0.81	-0.71	3.53	MWD
2606.00	7.90	310.90	2590.94	162.03	-191.09	-186.93	1.99	1.88	5.29	MWD
2690.00	7.80	306.70	2674.16	169.21	-200.02	-195.68	0.69	-0.12	-5.00	MWD
2775.00	7.70	305.00	2758.38	175.93	-209.31	-204.79	0.29	-0.12	-2.00	MWD
2860.00	7.40	304.10	2842.64	182.26	-218.51	-213.83	0.38	-0.35	-1.06	MWD
2945.00	7.40	300.20	2926.94	188.08	-227.77	-222.94	0.59	0.00	-4.59	MWD
3031.00	6.60	289.30	3012.30	192.50	-237.22	-232.28	1.80	-0.93	-12.67	MWD
3116.00	6.20	299.00	3096.77	196.34	-245.85	-240.80	1.35	-0.47	11.41	MWD
3201.00	6.60	307.40	3181.24	201.54	-253.74	-248.56	1.20	0.47	9.88	MWD
3286.00	8.20	311.50	3265.53	208.52	-262.17	-256.80	1.98	1.88	4.82	MWD
3371.00	8.70	308.50	3349.61	216.54	-271.74	-266.17	0.78	0.59	-3.53	MWD
3456.00	9.30	312.20	3433.57	225.15	-281.86	-276.07	0.98	0.71	4.35	MWD
3541.00	8.40	307.30	3517.55	233.53	-291.88	-285.88	1.38	-1.06	-5.76	MWD
3626.00	8.80	307.30	3601.60	241.23	-301.99	-295.79	0.47	0.47	0.00	MWD
3711.00	9.10	310.80	3685.56	249.56	-312.25	-305.84	0.73	0.35	4.12	MWD
3796.00	8.40	306.60	3769.57	257.66	-322.33	-315.70	1.11	-0.82	-4.94	MWD
3881.00	7.10	301.60	3853.80	264.11	-331.79	-325.00	1.72	-1.53	-5.88	MWD
3966.00	6.00	294.90	3938.24	268.74	-340.29	-333.38	1.57	-1.29	-7.88	MWD
4052.00	4.70	287.60	4023.87	271.69	-347.73	-340.74	1.70	-1.51	-8.49	MWD
4136.00	5.20	293.90	4107.55	274.28	-354.49	-347.43	0.88	0.60	7.50	MWD
4222.00	4.90	290.00	4193.22	277.11	-361.50	-354.37	0.53	-0.35	-4.53	MWD
4306.00	5.10	298.30	4276.90	280.11	-368.16	-360.95	0.89	0.24	9.88	MWD
4391.00	5.70	305.30	4361.52	284.34	-374.93	-367.62	1.05	0.71	8.24	MWD
4477.00	4.40	298.10	4447.19	288.36	-381.33	-373.91	1.68	-1.51	-8.37	MWD
4562.00	5.20	315.90	4531.90	292.66	-386.88	-379.35	1.98	0.94	20.94	MWD
4647.00	6.30	320.30	4616.47	299.02	-392.54	-384.85	1.39	1.29	5.18	MWD
4732.00	7.40	314.80	4700.86	306.46	-399.41	-391.52	1.51	1.29	-6.47	MWD
4817.00	6.90	317.30	4785.20	314.07	-406.75	-398.68	0.69	-0.59	2.94	MWD
4902.00	4.80	310.40	4869.75	320.13	-412.93	-404.69	2.60	-2.47	-8.12	MWD
4987.00	5.90	319.70	4954.38	325.77	-418.46	-410.08	1.64	1.29	10.94	MWD
5072.00	6.60	321.70	5038.88	332.93	-424.31	-415.75	0.86	0.82	2.35	MWD
5157.00	6.30	320.40	5123.34	340.36	-430.31	-421.56	0.39	-0.35	-1.53	MWD
5242.00	5.10	324.30	5207.92	347.02	-435.49	-426.57	1.48	-1.41	4.59	MWD
5280.00	4.10	336.60	5245.80	349.64	-437.02	-428.03	3.68	-2.63	32.37	MWD
5323.00	2.00	25.80	5288.74	351.73	-437.30	-428.26	7.39	-4.88	114.42	MWD
5365.00	4.30	94.90	5330.68	352.25	-435.41	-426.36	9.63	5.48	164.52	MWD
5408.00	7.20	99.10	5373.46	351.69	-431.14	-422.11	6.81	6.74	9.77	MWD
5450.00	11.30	100.20	5414.91	350.54	-424.49	-415.49	9.77	9.76	2.62	MWD
5493.00	15.40	101.20	5456.74	348.69	-414.74	-405.78	9.55	9.53	2.33	MWD
5536.00	19.30	107.00	5497.78	345.50	-402.34	-393.47	9.91	9.07	13.49	MWD
5578.00	22.20	104.40	5537.05	341.50	-388.01	-379.25	7.24	6.90	-6.19	MWD
5621.00	24.70	94.70	5576.51	338.74	-371.18	-362.49	10.68	5.81	-22.56	MWD
5663.00	25.60	85.40	5614.54	338.75	-353.38	-344.70	9.64	2.14	-22.14	MWD
5706.00	29.50	79.60	5652.67	341.41	-333.70	-324.95	11.00	9.07	-13.49	MWD
5748.00	33.80	77.00	5688.41	345.90	-312.13	-303.28	10.74	10.24	-6.19	MWD
5791.00	39.10	77.90	5722.99	351.44	-287.20	-278.22	12.39	12.33	2.09	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.	Date: 02/18/2014	Time: 13:28:05	Page: 3
Field: Niobrara CONZ'83	Co-ordinate(NE) Reference: Well: 7-20-9-58, Grid North		
Site: Bringleson Ranch 5-20-9-58 Pad	Vertical (TVD) Reference: 4856'GL+17"KB 4873.0		
Well: 7-20-9-58	Section (VS) Reference: Well (0.00N,0.00E,88.55Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature		Db: Sybase

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
5810.00	41.36	77.14	5737.49	354.09	-275.22	-266.18	12.17	11.89	-4.02	300' entry
5833.00	44.10	76.30	5754.39	357.68	-260.04	-250.90	12.17	11.92	-3.64	MWD
5876.00	50.40	75.90	5783.56	365.27	-229.40	-220.09	14.67	14.65	-0.93	MWD
5918.00	54.10	73.10	5809.27	374.16	-197.42	-187.89	10.26	8.81	-6.67	MWD
5961.00	57.90	72.10	5833.31	384.82	-163.41	-153.62	9.04	8.84	-2.33	MWD
6003.00	61.60	72.40	5854.47	395.88	-128.86	-118.80	8.83	8.81	0.71	MWD
6103.00	73.10	79.60	5892.96	417.91	-39.48	-28.90	13.27	11.50	7.20	MWD
6149.00	77.50	80.80	5904.63	425.48	4.35	15.12	9.89	9.57	2.61	MWD
6195.00	80.00	81.40	5913.60	432.46	48.92	59.85	5.58	5.43	1.30	MWD
6240.00	84.90	82.30	5919.51	438.78	93.07	104.14	11.07	10.89	2.00	MWD
6286.00	90.90	82.60	5921.20	444.82	138.62	149.83	13.06	13.04	0.65	MWD
6332.00	92.00	82.60	5920.03	450.74	184.22	195.56	2.39	2.39	0.00	MWD
6377.00	92.00	82.40	5918.46	456.61	228.80	240.29	0.44	0.00	-0.44	MWD
6423.00	91.00	83.30	5917.26	462.33	274.43	286.04	2.92	-2.17	1.96	MWD
6469.00	90.40	83.00	5916.70	467.82	320.10	331.83	1.46	-1.30	-0.65	MWD
6515.00	89.70	84.40	5916.66	472.87	365.82	377.67	3.40	-1.52	3.04	MWD
6558.00	89.40	84.50	5916.99	477.03	408.62	420.56	0.74	-0.70	0.23	MWD
6599.00	89.30	85.80	5917.46	480.49	449.47	461.48	3.18	-0.24	3.17	MWD
6642.00	89.50	86.10	5917.91	483.53	492.36	504.43	0.84	0.47	0.70	MWD
6685.00	90.00	87.70	5918.10	485.85	535.29	547.41	3.90	1.16	3.72	MWD
6727.00	89.50	89.80	5918.28	486.77	577.28	589.41	5.14	-1.19	5.00	MWD
6769.00	89.60	91.60	5918.61	486.26	619.27	631.38	4.29	0.24	4.29	MWD
6812.00	89.40	92.80	5918.99	484.61	662.24	674.29	2.83	-0.47	2.79	MWD
6854.00	89.30	92.80	5919.46	482.55	704.19	716.17	0.24	-0.24	0.00	MWD
6897.00	89.70	93.20	5919.84	480.30	747.12	759.04	1.32	0.93	0.93	MWD
6940.00	88.90	93.00	5920.36	477.98	790.06	801.90	1.92	-1.86	-0.47	MWD
6982.00	89.00	93.20	5921.13	475.71	831.99	843.76	0.53	0.24	0.48	MWD
7025.00	88.80	93.50	5921.96	473.20	874.91	886.60	0.84	-0.47	0.70	MWD
7068.00	90.10	93.20	5922.37	470.68	917.83	929.45	3.10	3.02	-0.70	MWD
7110.00	90.40	92.60	5922.19	468.56	959.78	971.33	1.60	0.71	-1.43	MWD
7153.00	92.20	92.40	5921.21	466.68	1002.72	1014.21	4.21	4.19	-0.47	MWD
7195.00	92.80	92.10	5919.38	465.04	1044.65	1056.08	1.60	1.43	-0.71	MWD
7238.00	92.90	92.30	5917.24	463.39	1087.57	1098.94	0.52	0.23	0.47	MWD
7280.00	93.00	92.30	5915.08	461.70	1129.48	1140.80	0.24	0.24	0.00	MWD
7323.00	92.40	91.40	5913.05	460.32	1172.41	1183.68	2.51	-1.40	-2.09	MWD
7365.00	92.20	91.00	5911.37	459.44	1214.36	1225.60	1.06	-0.48	-0.95	MWD
7408.00	92.40	90.90	5909.64	458.73	1257.32	1268.53	0.52	0.47	-0.23	MWD
7450.00	92.60	91.00	5907.81	458.03	1299.28	1310.45	0.53	0.48	0.24	MWD
7493.00	92.60	91.00	5905.86	457.28	1342.23	1353.37	0.00	0.00	0.00	MWD
7536.00	92.60	91.20	5903.91	456.46	1385.17	1396.28	0.46	0.00	0.47	MWD
7578.00	92.80	90.90	5901.93	455.69	1427.12	1438.19	0.86	0.48	-0.71	MWD
7621.00	91.90	90.30	5900.17	455.24	1470.08	1481.13	2.51	-2.09	-1.40	MWD
7663.00	90.70	88.40	5899.22	455.71	1512.06	1523.11	5.35	-2.86	-4.52	MWD
7706.00	89.60	87.20	5899.10	457.36	1555.03	1566.11	3.79	-2.56	-2.79	MWD
7748.00	88.90	85.10	5899.65	460.18	1596.93	1608.06	5.27	-1.67	-5.00	MWD
7790.00	88.90	84.90	5900.46	463.84	1638.76	1649.97	0.48	0.00	-0.48	MWD
7833.00	90.00	86.50	5900.87	467.07	1681.64	1692.92	4.52	2.56	3.72	MWD
7875.00	90.60	88.60	5900.65	468.86	1723.60	1734.91	5.20	1.43	5.00	MWD
7918.00	92.10	89.10	5899.64	469.73	1766.57	1777.89	3.68	3.49	1.16	MWD
7960.00	91.80	88.90	5898.21	470.46	1808.54	1819.87	0.86	-0.71	-0.48	MWD
8003.00	90.30	89.50	5897.42	471.06	1851.53	1862.86	3.76	-3.49	1.40	MWD
8045.00	90.00	89.80	5897.31	471.32	1893.53	1904.85	1.01	-0.71	0.71	MWD
8088.00	90.00	90.00	5897.31	471.39	1936.53	1947.84	0.47	0.00	0.47	MWD
8131.00	90.40	90.00	5897.16	471.39	1979.53	1990.82	0.93	0.93	0.00	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Bringleson Ranch 5-20-9-58 Pad Well: 7-20-9-58 Wellpath: Original Hole	Date: 02/18/2014 Time: 13:28:05 Page: 4 Co-ordinate(NE) Reference: Well: 7-20-9-58, Grid North Vertical (TVD) Reference: 4856'GL+17'KB 4873.0 Section (VS) Reference: Well (0.00N,0.00E,88.55Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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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
8173.00	90.30	89.60	5896.90	471.54	2021.53	2032.81	0.98	-0.24	-0.95	MWD
8216.00	90.20	89.80	5896.72	471.76	2064.53	2075.80	0.52	-0.23	0.47	MWD
8258.00	89.80	89.30	5896.72	472.09	2106.52	2117.80	1.52	-0.95	-1.19	MWD
8301.00	89.90	89.30	5896.83	472.62	2149.52	2160.79	0.23	0.23	0.00	MWD
8343.00	89.80	89.30	5896.94	473.13	2191.52	2202.79	0.24	-0.24	0.00	MWD
8386.00	89.70	89.30	5897.13	473.66	2234.51	2245.78	0.23	-0.23	0.00	MWD
8428.00	89.60	88.90	5897.38	474.32	2276.51	2287.78	0.98	-0.24	-0.95	MWD
8471.00	89.30	88.90	5897.80	475.14	2319.50	2330.78	0.70	-0.70	0.00	MWD
8514.00	89.40	88.90	5898.28	475.97	2362.49	2373.78	0.23	0.23	0.00	MWD
8556.00	89.60	89.10	5898.65	476.70	2404.48	2415.77	0.67	0.48	0.48	MWD
8599.00	89.50	89.30	5898.99	477.30	2447.47	2458.77	0.52	-0.23	0.47	MWD
8641.00	89.50	87.70	5899.36	478.40	2489.46	2500.77	3.81	0.00	-3.81	MWD
8683.00	89.40	87.40	5899.76	480.19	2531.42	2542.76	0.75	-0.24	-0.71	MWD
8726.00	89.20	87.70	5900.28	482.03	2574.37	2585.75	0.84	-0.47	0.70	MWD
8769.00	89.10	87.50	5900.92	483.83	2617.33	2628.74	0.52	-0.23	-0.47	MWD
8811.00	87.50	88.40	5902.17	485.33	2659.28	2670.71	4.37	-3.81	2.14	MWD
8854.00	87.20	88.40	5904.16	486.53	2702.22	2713.67	0.70	-0.70	0.00	MWD
8896.00	87.20	88.20	5906.21	487.78	2744.15	2755.62	0.48	0.00	-0.48	MWD
8939.00	87.10	88.10	5908.35	489.16	2787.08	2798.56	0.33	-0.23	-0.23	MWD
8981.00	89.30	88.10	5909.66	490.56	2829.03	2840.54	5.24	5.24	0.00	MWD
9024.00	89.90	87.90	5909.96	492.06	2872.00	2883.54	1.47	1.40	-0.47	MWD
9066.00	88.70	87.50	5910.48	493.74	2913.97	2925.53	3.01	-2.86	-0.95	MWD
9109.00	88.30	87.40	5911.60	495.65	2956.91	2968.50	0.96	-0.93	-0.23	MWD
9151.00	88.40	87.40	5912.81	497.56	2998.85	3010.48	0.24	0.24	0.00	MWD
9194.00	88.30	87.00	5914.05	499.66	3041.78	3053.45	0.96	-0.23	-0.93	MWD
9236.00	87.50	87.70	5915.59	501.60	3083.70	3095.41	2.53	-1.90	1.67	MWD
9279.00	87.20	87.90	5917.58	503.25	3126.63	3138.36	0.84	-0.70	0.47	MWD
9321.00	87.20	88.10	5919.63	504.71	3168.55	3180.31	0.48	0.00	0.48	MWD
9364.00	87.10	87.90	5921.77	506.21	3211.47	3223.25	0.52	-0.23	-0.47	MWD
9406.00	87.30	87.70	5923.82	507.82	3253.39	3265.20	0.67	0.48	-0.48	MWD
9449.00	86.60	87.70	5926.11	509.54	3296.30	3308.13	1.63	-1.63	0.00	MWD
9491.00	85.60	87.70	5928.96	511.23	3338.16	3350.03	2.38	-2.38	0.00	MWD
9534.00	85.10	88.80	5932.45	512.54	3381.00	3392.89	2.80	-1.16	2.56	MWD
9577.00	86.90	88.90	5935.45	513.40	3423.89	3435.78	4.19	4.19	0.23	MWD
9619.00	87.10	88.90	5937.65	514.20	3465.82	3477.72	0.48	0.48	0.00	MWD
9662.00	86.80	88.80	5939.94	515.06	3508.75	3520.66	0.74	-0.70	-0.23	MWD
9704.00	86.60	88.90	5942.35	515.90	3550.67	3562.59	0.53	-0.48	0.24	MWD
9747.00	88.10	88.80	5944.34	516.77	3593.62	3605.54	3.50	3.49	-0.23	MWD
9789.00	89.30	88.40	5945.29	517.79	3635.59	3647.53	3.01	2.86	-0.95	MWD
9832.00	89.30	88.60	5945.82	518.92	3678.57	3690.53	0.47	0.00	0.47	MWD
9874.00	89.90	88.60	5946.11	519.94	3720.56	3732.53	1.43	1.43	0.00	MWD
9917.00	90.30	88.10	5946.04	521.18	3763.54	3775.53	1.49	0.93	-1.16	MWD
9959.00	91.50	88.80	5945.38	522.32	3805.52	3817.52	3.31	2.86	1.67	MWD
10002.00	91.90	88.60	5944.10	523.29	3848.49	3860.50	1.04	0.93	-0.47	MWD
10044.00	92.00	88.20	5942.67	524.47	3890.45	3902.48	0.98	0.24	-0.95	MWD
10087.00	91.80	88.10	5941.25	525.85	3933.40	3945.45	0.52	-0.47	-0.23	MWD
10129.00	91.50	88.20	5940.04	527.21	3975.37	3987.43	0.75	-0.71	0.24	MWD
10134.00	91.50	88.40	5939.91	527.36	3980.36	3992.43	4.00	0.00	4.00	MWD
10206.00	91.50	88.40	5938.02	529.37	4052.31	4064.41	0.00	0.00	0.00	PROJECTED to TD

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Survey Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Bringleson Ranch 5-20-9-58 Pad
Well: 7-20-9-58
Wellpath: Original Hole

Date: 02/18/2014 **Time:** 13:28:05 **Page:** 5
Co-ordinate(NE) Reference: Well: 7-20-9-58, Grid North
Vertical (TVD) Reference: 4856'GL+17'KB 4873.0
Section (VS) Reference: Well (0.00N,0.00E,88.55Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Annotation

MD ft	TVD ft	
5810.00	5737.49	300' entry