



CARRIZO OIL & GAS, INC.

Field: Niobrara CONZ'83
Site: Pergamos 4-44-7-60
Well: 1-4-34-7-60
Wellpath: Original Hole
Plan: Plan #3



CASING DETAILS

No.	TVD	MD	Name	Size
1	6257.76	6460.12	7"	7.000



Azimuths to Grid North
True North: -0.91°
Magnetic North: 7.42°

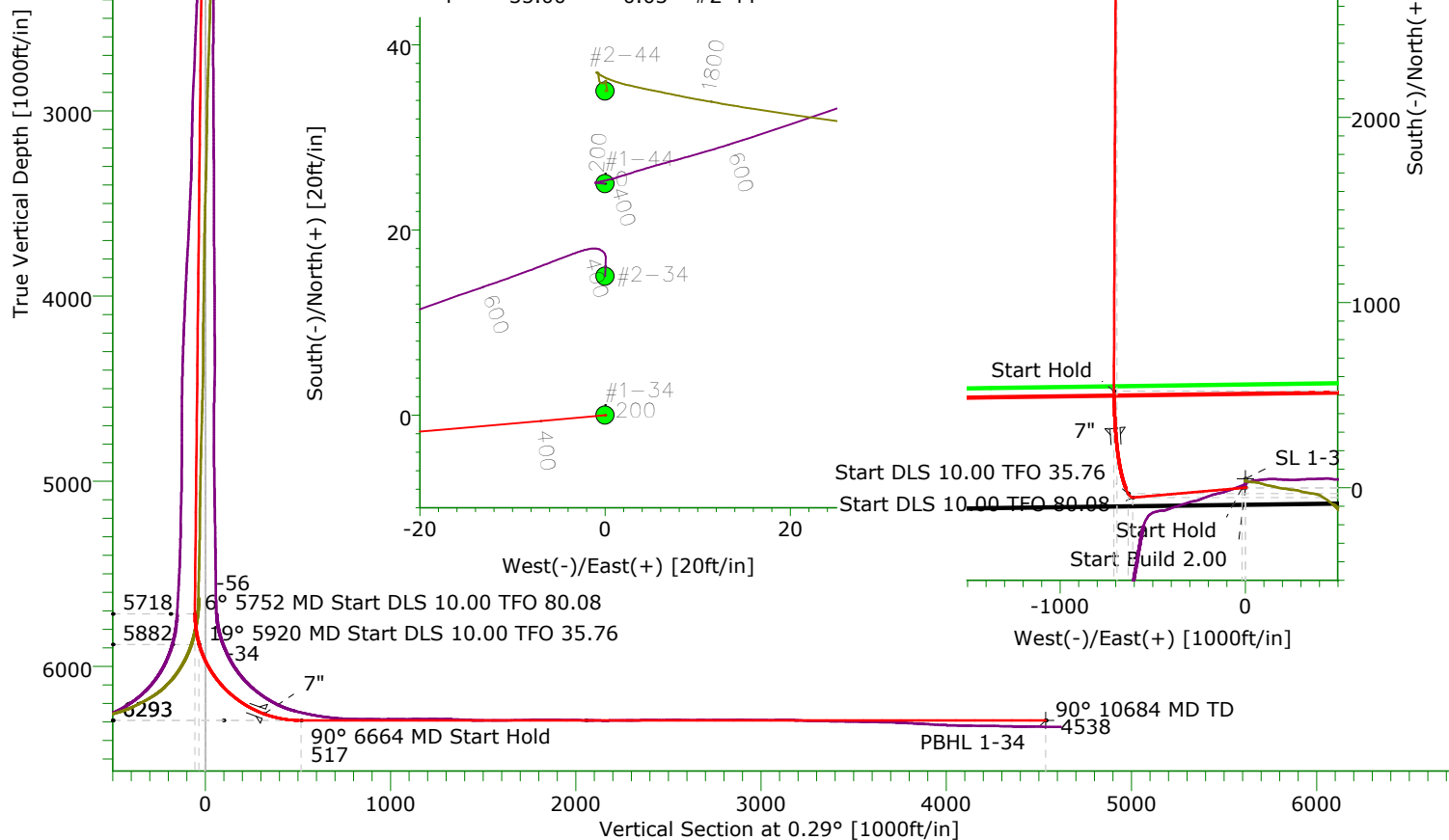
Magnetic Field
Strength: 53198nT
Dip Angle: 67.27°
Date: 10/31/2012
Model: IGRF2010

LEGEND

- 1-4-44-7-60 (Original Hole)
- 2-4-34-7-60 (Original Hole)
- 2-4-44-7-60 (Sidetrack)
- Plan #3

SLOTS

No.	+N/-S	+E/-W	Name
1	0.00	0.00	#1-34
2	25.00	0.02	#1-44
3	15.00	0.00	#2-34
4	35.00	0.03	#2-44



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 1-34	0.00	48.12	0.82	1463554.27	3390700.68	40°35'50.418N	104°05'34.970W	Point
PBHL 1-34	6293.00	4541.16	-692.63	1468047.31	3390007.23	40°36'34.919N	104°05'43.035W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	525.00	6.50	265.00	524.30	-1.60	-18.35	2.00	265.00	-1.70	
4	5752.10	6.50	265.00	5717.80	-53.18	-607.82	0.00	0.00	-56.25	
5	5920.12	19.00	326.00	5881.88	-31.17	-632.77	10.00	80.08	-34.38	
6	6664.00	90.00	0.25	6293.00	520.99	-710.04	10.00	35.76	517.39	
7	10684.21	90.00	0.25	6293.00	4541.16	-692.63	0.00	0.00	4537.60	PBHL 1-34

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Pergamos 4-44-7-60 Well: 1-4-34-7-60 Wellpath: Original Hole	Date: 10/01/2012 Co-ordinate(NE) Reference: Well: 1-4-34-7-60, Grid North Vertical (TVD) Reference: 4910'GL+17"KB 4927.0 Section (VS) Reference: Well (0.00N,0.00E,0.29Azi) Plan: Plan #3	Time: 14:41:04 Page: 1
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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 Position Uncertainty: 0.00 ft Ground Level: 4910.00 ft	Northing: 1463521.27 ft Easting: 3390683.38 ft Latitude: 40 35 50.095 N Longitude: 104 5 35.201 W North Reference: Grid Grid Convergence: 0.91 deg

Well: 1-4-34-7-60 Adjusted slot 9-28, 10-01	Slot Name: #1-34
Well Position: +N/-S -15.12 ft +E/-W 16.48 ft Position Uncertainty: 0.00 ft	Northing: 1463506.15 ft Easting : 3390699.86 ft Latitude: 40 35 49.943 N Longitude: 104 5 34.990 W

Wellpath: Original Hole Current Datum: 4910'GL+17"KB Magnetic Data: 10/31/2012 Field Strength: 53198 nT Vertical Section: Depth From (TVD) ft	Height 4927.00 ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.33 deg Mag Dip Angle: 67.27 deg +E/-W ft Direction deg
0.00	0.00	0.00

Plan: Plan #3 Adjusted SL 15' south of 2-34 Principal: No	Date Composed: 10/01/2012 Version: 1 Tied-to: From Surface
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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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
525.00	6.50	265.00	524.30	-1.60	-18.35	2.00	2.00	0.00	265.00	
5752.10	6.50	265.00	5717.80	-53.18	-607.82	0.00	0.00	0.00	0.00	
5920.12	19.00	326.00	5881.88	-31.17	-632.77	10.00	7.44	36.30	80.08	
6664.00	90.00	0.25	6293.00	520.99	-710.04	10.00	9.54	4.60	35.76	
10684.21	90.00	0.25	6293.00	4541.16	-692.63	0.00	0.00	0.00	0.00	PBHL 1-34

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	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	2.00	265.00	299.98	-0.15	-1.74	-0.16	2.00	2.00	0.00	
400.00	4.00	265.00	399.84	-0.61	-6.95	-0.64	2.00	2.00	0.00	
500.00	6.00	265.00	499.45	-1.37	-15.63	-1.45	2.00	2.00	0.00	
525.00	6.50	265.00	524.30	-1.60	-18.35	-1.70	2.00	2.00	0.00	
600.00	6.50	265.00	598.82	-2.34	-26.80	-2.48	0.00	0.00	0.00	
700.00	6.50	265.00	698.18	-3.33	-38.08	-3.52	0.00	0.00	0.00	
800.00	6.50	265.00	797.54	-4.32	-49.36	-4.57	0.00	0.00	0.00	
900.00	6.50	265.00	896.89	-5.30	-60.63	-5.61	0.00	0.00	0.00	
1000.00	6.50	265.00	996.25	-6.29	-71.91	-6.66	0.00	0.00	0.00	
1100.00	6.50	265.00	1095.61	-7.28	-83.19	-7.70	0.00	0.00	0.00	
1200.00	6.50	265.00	1194.96	-8.26	-94.47	-8.74	0.00	0.00	0.00	
1300.00	6.50	265.00	1294.32	-9.25	-105.74	-9.79	0.00	0.00	0.00	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Pergamos 4-44-7-60
Well: 1-4-34-7-60
Wellpath: Original Hole

Date: 10/01/2012
Co-ordinate(NE) Reference: Well: 1-4-34-7-60, Grid North
Vertical (TVD) Reference: 4910'GL+17'KB 4927.0
Section (VS) Reference: Well (0.00N,0.00E,0.29Azi)
Plan: Plan #3

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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
1400.00	6.50	265.00	1393.68	-10.24	-117.02	-10.83	0.00	0.00	0.00	
1500.00	6.50	265.00	1493.04	-11.22	-128.30	-11.87	0.00	0.00	0.00	
1600.00	6.50	265.00	1592.39	-12.21	-139.58	-12.92	0.00	0.00	0.00	
1700.00	6.50	265.00	1691.75	-13.20	-150.85	-13.96	0.00	0.00	0.00	
1800.00	6.50	265.00	1791.11	-14.18	-162.13	-15.00	0.00	0.00	0.00	
1900.00	6.50	265.00	1890.46	-15.17	-173.41	-16.05	0.00	0.00	0.00	
2000.00	6.50	265.00	1989.82	-16.16	-184.68	-17.09	0.00	0.00	0.00	
2100.00	6.50	265.00	2089.18	-17.14	-195.96	-18.14	0.00	0.00	0.00	
2200.00	6.50	265.00	2188.54	-18.13	-207.24	-19.18	0.00	0.00	0.00	
2300.00	6.50	265.00	2287.89	-19.12	-218.52	-20.22	0.00	0.00	0.00	
2400.00	6.50	265.00	2387.25	-20.10	-229.79	-21.27	0.00	0.00	0.00	
2500.00	6.50	265.00	2486.61	-21.09	-241.07	-22.31	0.00	0.00	0.00	
2600.00	6.50	265.00	2585.96	-22.08	-252.35	-23.35	0.00	0.00	0.00	
2700.00	6.50	265.00	2685.32	-23.06	-263.63	-24.40	0.00	0.00	0.00	
2800.00	6.50	265.00	2784.68	-24.05	-274.90	-25.44	0.00	0.00	0.00	
2900.00	6.50	265.00	2884.04	-25.04	-286.18	-26.49	0.00	0.00	0.00	
3000.00	6.50	265.00	2983.39	-26.02	-297.46	-27.53	0.00	0.00	0.00	
3100.00	6.50	265.00	3082.75	-27.01	-308.73	-28.57	0.00	0.00	0.00	
3200.00	6.50	265.00	3182.11	-28.00	-320.01	-29.62	0.00	0.00	0.00	
3300.00	6.50	265.00	3281.47	-28.98	-331.29	-30.66	0.00	0.00	0.00	
3400.00	6.50	265.00	3380.82	-29.97	-342.57	-31.70	0.00	0.00	0.00	
3500.00	6.50	265.00	3480.18	-30.96	-353.84	-32.75	0.00	0.00	0.00	
3600.00	6.50	265.00	3579.54	-31.94	-365.12	-33.79	0.00	0.00	0.00	
3700.00	6.50	265.00	3678.89	-32.93	-376.40	-34.84	0.00	0.00	0.00	
3800.00	6.50	265.00	3778.25	-33.92	-387.67	-35.88	0.00	0.00	0.00	
3900.00	6.50	265.00	3877.61	-34.90	-398.95	-36.92	0.00	0.00	0.00	
4000.00	6.50	265.00	3976.97	-35.89	-410.23	-37.97	0.00	0.00	0.00	
4100.00	6.50	265.00	4076.32	-36.88	-421.51	-39.01	0.00	0.00	0.00	
4200.00	6.50	265.00	4175.68	-37.86	-432.78	-40.05	0.00	0.00	0.00	
4300.00	6.50	265.00	4275.04	-38.85	-444.06	-41.10	0.00	0.00	0.00	
4400.00	6.50	265.00	4374.39	-39.84	-455.34	-42.14	0.00	0.00	0.00	
4500.00	6.50	265.00	4473.75	-40.82	-466.62	-43.18	0.00	0.00	0.00	
4600.00	6.50	265.00	4573.11	-41.81	-477.89	-44.23	0.00	0.00	0.00	
4700.00	6.50	265.00	4672.47	-42.80	-489.17	-45.27	0.00	0.00	0.00	
4800.00	6.50	265.00	4771.82	-43.78	-500.45	-46.32	0.00	0.00	0.00	
4900.00	6.50	265.00	4871.18	-44.77	-511.72	-47.36	0.00	0.00	0.00	
5000.00	6.50	265.00	4970.54	-45.76	-523.00	-48.40	0.00	0.00	0.00	
5100.00	6.50	265.00	5069.89	-46.74	-534.28	-49.45	0.00	0.00	0.00	
5200.00	6.50	265.00	5169.25	-47.73	-545.56	-50.49	0.00	0.00	0.00	
5300.00	6.50	265.00	5268.61	-48.72	-556.83	-51.53	0.00	0.00	0.00	
5400.00	6.50	265.00	5367.97	-49.70	-568.11	-52.58	0.00	0.00	0.00	
5500.00	6.50	265.00	5467.32	-50.69	-579.39	-53.62	0.00	0.00	0.00	
5600.00	6.50	265.00	5566.68	-51.68	-590.67	-54.67	0.00	0.00	0.00	
5700.00	6.50	265.00	5666.04	-52.66	-601.94	-55.71	0.00	0.00	0.00	
5752.10	6.50	265.00	5717.80	-53.18	-607.82	-56.25	0.00	0.00	0.00	
5800.00	8.71	297.91	5765.30	-51.72	-613.73	-54.82	10.00	4.61	68.71	
5900.00	17.12	323.66	5862.76	-36.27	-629.18	-39.46	10.00	8.42	25.75	
5920.12	19.00	326.00	5881.88	-31.17	-632.77	-34.38	10.00	9.33	11.63	
6000.00	25.89	336.72	5955.70	-4.33	-646.95	-7.60	10.00	8.63	13.42	
6100.00	35.14	344.27	6041.78	43.55	-663.43	40.19	10.00	9.25	7.55	
6200.00	44.69	348.95	6118.41	105.92	-678.01	102.49	10.00	9.54	4.68	
6300.00	54.37	352.26	6183.25	180.89	-690.25	177.40	10.00	9.68	3.31	
6400.00	64.12	354.85	6234.34	266.18	-699.78	262.64	10.00	9.75	2.59	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Pergamos 4-44-7-60
Well: 1-4-34-7-60
Wellpath: Original Hole

Date: 10/01/2012
Co-ordinate(NE) Reference: Well: 1-4-34-7-60, Grid North
Vertical (TVD) Reference: 4910'GL+17"KB 4927.0
Section (VS) Reference: Well (0.00N,0.00E,0.29Azi)
Plan: Plan #3

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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
6460.12	70.00	356.20	6257.76	321.35	-704.08	317.78	10.00	9.78	2.25	7"
6500.00	73.91	357.04	6270.11	359.20	-706.31	355.62	10.00	9.80	2.11	
6600.00	83.72	359.03	6289.49	457.12	-709.64	453.52	10.00	9.81	1.98	
6664.00	90.00	0.25	6293.00	520.99	-710.04	517.39	10.00	9.82	1.91	
6700.00	90.00	0.25	6293.00	556.98	-709.89	553.38	0.00	0.00	0.00	
6800.00	90.00	0.25	6293.00	656.98	-709.45	653.38	0.00	0.00	0.00	
6900.00	90.00	0.25	6293.00	756.98	-709.02	753.38	0.00	0.00	0.00	
7000.00	90.00	0.25	6293.00	856.98	-708.59	853.38	0.00	0.00	0.00	
7100.00	90.00	0.25	6293.00	956.98	-708.15	953.38	0.00	0.00	0.00	
7200.00	90.00	0.25	6293.00	1056.98	-707.72	1053.38	0.00	0.00	0.00	
7300.00	90.00	0.25	6293.00	1156.98	-707.29	1153.38	0.00	0.00	0.00	
7400.00	90.00	0.25	6293.00	1256.98	-706.85	1253.38	0.00	0.00	0.00	
7500.00	90.00	0.25	6293.00	1356.98	-706.42	1353.38	0.00	0.00	0.00	
7600.00	90.00	0.25	6293.00	1456.98	-705.99	1453.38	0.00	0.00	0.00	
7700.00	90.00	0.25	6293.00	1556.98	-705.55	1553.38	0.00	0.00	0.00	
7800.00	90.00	0.25	6293.00	1656.97	-705.12	1653.38	0.00	0.00	0.00	
7900.00	90.00	0.25	6293.00	1756.97	-704.69	1753.38	0.00	0.00	0.00	
8000.00	90.00	0.25	6293.00	1856.97	-704.26	1853.38	0.00	0.00	0.00	
8100.00	90.00	0.25	6293.00	1956.97	-703.82	1953.38	0.00	0.00	0.00	
8200.00	90.00	0.25	6293.00	2056.97	-703.39	2053.38	0.00	0.00	0.00	
8300.00	90.00	0.25	6293.00	2156.97	-702.96	2153.38	0.00	0.00	0.00	
8400.00	90.00	0.25	6293.00	2256.97	-702.52	2253.38	0.00	0.00	0.00	
8500.00	90.00	0.25	6293.00	2356.97	-702.09	2353.38	0.00	0.00	0.00	
8600.00	90.00	0.25	6293.00	2456.97	-701.66	2453.38	0.00	0.00	0.00	
8700.00	90.00	0.25	6293.00	2556.97	-701.22	2553.38	0.00	0.00	0.00	
8800.00	90.00	0.25	6293.00	2656.97	-700.79	2653.38	0.00	0.00	0.00	
8900.00	90.00	0.25	6293.00	2756.96	-700.36	2753.38	0.00	0.00	0.00	
9000.00	90.00	0.25	6293.00	2856.96	-699.92	2853.38	0.00	0.00	0.00	
9100.00	90.00	0.25	6293.00	2956.96	-699.49	2953.38	0.00	0.00	0.00	
9200.00	90.00	0.25	6293.00	3056.96	-699.06	3053.38	0.00	0.00	0.00	
9300.00	90.00	0.25	6293.00	3156.96	-698.62	3153.38	0.00	0.00	0.00	
9400.00	90.00	0.25	6293.00	3256.96	-698.19	3253.38	0.00	0.00	0.00	
9500.00	90.00	0.25	6293.00	3356.96	-697.76	3353.38	0.00	0.00	0.00	
9600.00	90.00	0.25	6293.00	3456.96	-697.33	3453.38	0.00	0.00	0.00	
9700.00	90.00	0.25	6293.00	3556.96	-696.89	3553.38	0.00	0.00	0.00	
9800.00	90.00	0.25	6293.00	3656.96	-696.46	3653.38	0.00	0.00	0.00	
9900.00	90.00	0.25	6293.00	3756.95	-696.03	3753.38	0.00	0.00	0.00	
10000.00	90.00	0.25	6293.00	3856.95	-695.59	3853.38	0.00	0.00	0.00	
10100.00	90.00	0.25	6293.00	3956.95	-695.16	3953.38	0.00	0.00	0.00	
10200.00	90.00	0.25	6293.00	4056.95	-694.73	4053.38	0.00	0.00	0.00	
10300.00	90.00	0.25	6293.00	4156.95	-694.29	4153.38	0.00	0.00	0.00	
10400.00	90.00	0.25	6293.00	4256.95	-693.86	4253.38	0.00	0.00	0.00	
10500.00	90.00	0.25	6293.00	4356.95	-693.43	4353.38	0.00	0.00	0.00	
10600.00	90.00	0.25	6293.00	4456.95	-692.99	4453.38	0.00	0.00	0.00	
10684.21	90.00	0.25	6293.00	4541.16	-692.63	4537.60	0.00	0.00	0.00	PBHL 1-34

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->			<--- Longitude --->		
SL 1-34			0.00	48.12	0.82	1463554.27	3390700.68	40	35	50.418 N	104	5	34.970 W
PBHL 1-34			6293.00	4541.16	-692.63	1468047.31	3390007.23	40	36	34.919 N	104	5	43.035 W

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Pergamos 4-44-7-60
Well: 1-4-34-7-60
Wellpath: Original Hole

Date: 10/01/2012
Co-ordinate(NE) Reference: Well: 1-4-34-7-60, Grid North
Vertical (TVD) Reference: 4910'GL+17"KB 4927.0
Section (VS) Reference: Well (0.00N,0.00E,0.29Azi)
Plan: Plan #3

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Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
6460.12	6257.76	7.000	8.500	7"