

# ENSIGN

## Directional

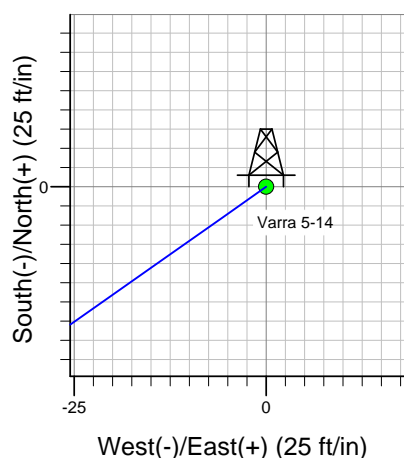
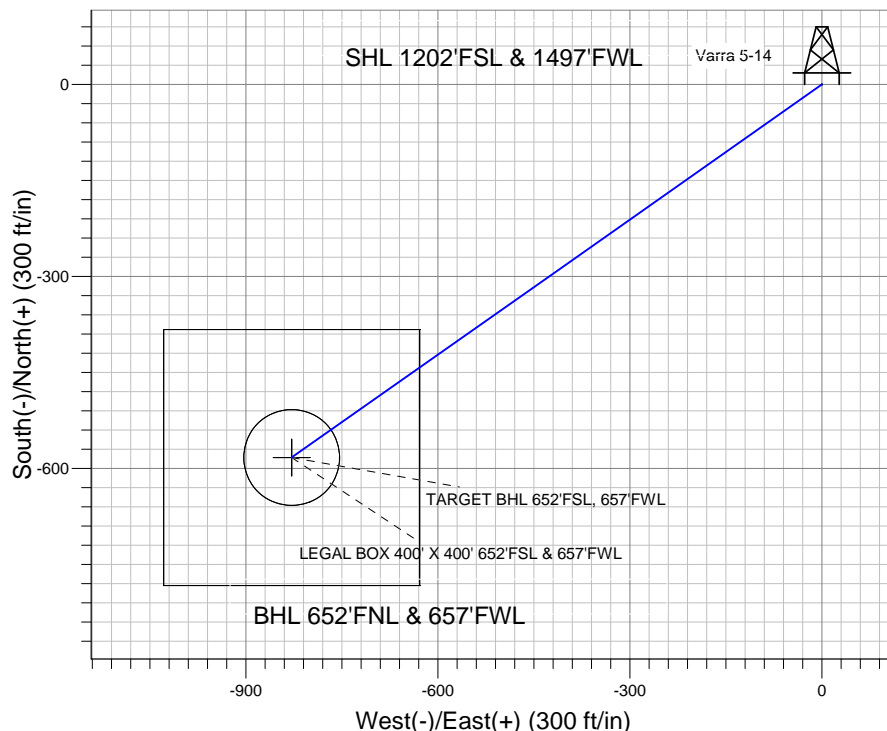
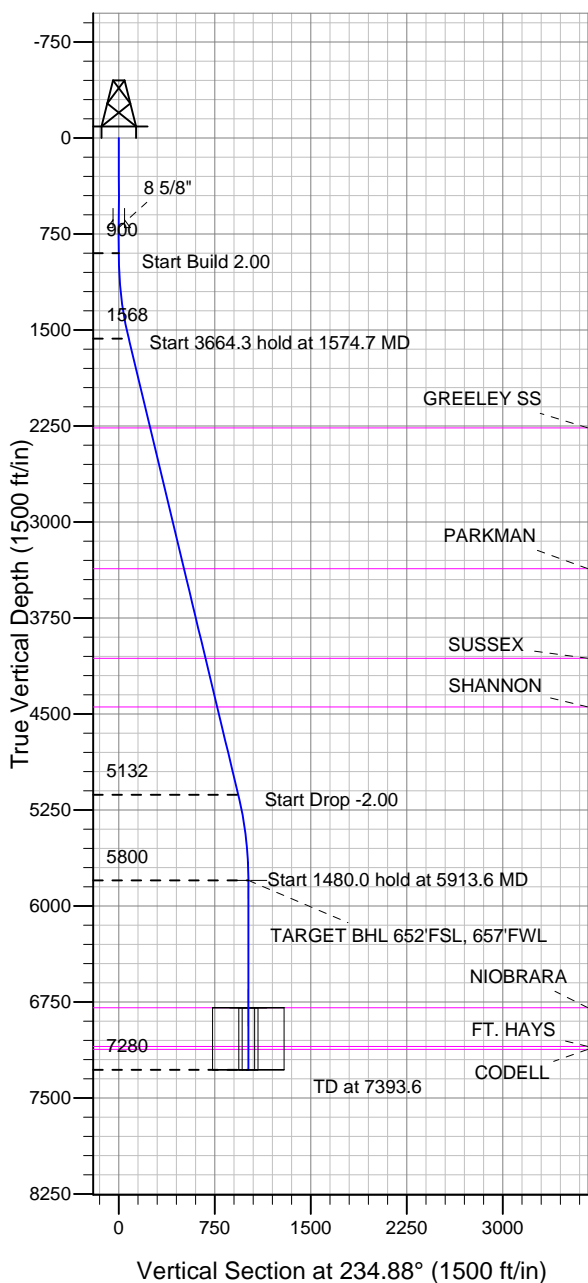
### Well Name: Varra 5-14

Surface Location: Varra 5-14 Pad Sec.5-T6N-R67W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4873.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1429868.98 3160903.86 40.511950 -104.921310  
Original Well Elev WELL @ 4885.0ft (Original Well Elev)

## Trilogy Resources, LLC. Weld County, CO



Varra 5-14 Pad Sec.5-T6N-R67W  
Varra 5-14  
Plan #1 (12-06-12)



Azimuths to True North  
Magnetic North: 8.76°

Magnetic Field  
Strength: 53017.2snT  
Dip Angle: 67.06°  
Date: 12/6/2012  
Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 652'FSL, 657'FWL	5800.0	-582.9	-828.6	40.510350	-104.924290	Point
LEGAL BOX 400' X 400' 652'FSL & 657'FWL	6795.0	-582.9	-828.6	40.510350	-104.924290	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 1202'FSL & 1497'FWL	6795.0	-582.9	-828.6	40.510350	-104.924290	Circle (Radius: 75.0)

### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	1574.7	13.49	234.88	1568.4	-45.5	-64.7	2.00	234.88	79.1	
4	5238.9	13.49	234.88	5131.6	-537.4	-764.0	0.00	0.00	934.0	
5	5913.6	0.00	0.00	5800.0	-582.9	-828.6	2.00	180.00	1013.1	TARGET BHL 652'FSL, 657'FWL
6	7393.6	0.00	0.00	7280.0	-582.9	-828.6	0.00	0.00	1013.1	



## **Directional**

### **Trilogy Resources, LLC. Weld County, CO**

**SEC.5-T6N-R67W**

**Varra 5-14 Pad Sec.5-T6N-R67W**

**Varra 5-14**

**Wellbore #1**

**Plan: Plan #1 (12-06-12)**

### **Standard Planning Report**

**06 December, 2012**

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,574.7	13.49	234.88	1,568.4	-45.5	-64.7	2.00	2.00	0.00	234.88	
5,238.9	13.49	234.88	5,131.6	-537.4	-764.0	0.00	0.00	0.00	0.00	
5,913.6	0.00	0.00	5,800.0	-582.9	-828.6	2.00	-2.00	0.00	180.00	TARGET BHL 652'±
7,393.6	0.00	0.00	7,280.0	-582.9	-828.6	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Varra 5-14
<b>Company:</b>	Trilogy Resources, LLC. Weld County, CO	<b>TVD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T6N-R67W	<b>MD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Site:</b>	Varra 5-14 Pad Sec.5-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Varra 5-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-06-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.40	234.88	920.0	0.0	-0.1	0.1	2.00	2.00	0.00
960.0	1.20	234.88	960.0	-0.4	-0.5	0.6	2.00	2.00	0.00
1,000.0	2.00	234.88	1,000.0	-1.0	-1.4	1.7	2.00	2.00	0.00
1,040.0	2.80	234.88	1,039.9	-2.0	-2.8	3.4	2.00	2.00	0.00
1,080.0	3.60	234.88	1,079.9	-3.3	-4.6	5.7	2.00	2.00	0.00
1,120.0	4.40	234.88	1,119.8	-4.9	-6.9	8.4	2.00	2.00	0.00
1,160.0	5.20	234.88	1,159.6	-6.8	-9.6	11.8	2.00	2.00	0.00
1,200.0	6.00	234.88	1,199.5	-9.0	-12.8	15.7	2.00	2.00	0.00
1,240.0	6.80	234.88	1,239.2	-11.6	-16.5	20.2	2.00	2.00	0.00
1,280.0	7.60	234.88	1,278.9	-14.5	-20.6	25.2	2.00	2.00	0.00
1,320.0	8.40	234.88	1,318.5	-17.7	-25.1	30.7	2.00	2.00	0.00
1,360.0	9.20	234.88	1,358.0	-21.2	-30.1	36.9	2.00	2.00	0.00
1,400.0	10.00	234.88	1,397.5	-25.0	-35.6	43.5	2.00	2.00	0.00
1,440.0	10.80	234.88	1,436.8	-29.2	-41.5	50.7	2.00	2.00	0.00
1,480.0	11.60	234.88	1,476.0	-33.7	-47.9	58.5	2.00	2.00	0.00
1,520.0	12.40	234.88	1,515.2	-38.4	-54.7	66.8	2.00	2.00	0.00
1,560.0	13.20	234.88	1,554.2	-43.5	-61.9	75.7	2.00	2.00	0.00
1,574.7	13.49	234.88	1,568.4	-45.5	-64.7	79.1	2.00	2.00	0.00
1,600.0	13.49	234.88	1,593.1	-48.9	-69.5	85.0	0.00	0.00	0.00
1,640.0	13.49	234.88	1,632.0	-54.3	-77.1	94.3	0.00	0.00	0.00
1,680.0	13.49	234.88	1,670.9	-59.6	-84.8	103.7	0.00	0.00	0.00
1,720.0	13.49	234.88	1,709.8	-65.0	-92.4	113.0	0.00	0.00	0.00
1,760.0	13.49	234.88	1,748.7	-70.4	-100.0	122.3	0.00	0.00	0.00
1,800.0	13.49	234.88	1,787.6	-75.7	-107.7	131.7	0.00	0.00	0.00
1,840.0	13.49	234.88	1,826.5	-81.1	-115.3	141.0	0.00	0.00	0.00
1,880.0	13.49	234.88	1,865.4	-86.5	-122.9	150.3	0.00	0.00	0.00
1,920.0	13.49	234.88	1,904.2	-91.9	-130.6	159.7	0.00	0.00	0.00
1,960.0	13.49	234.88	1,943.1	-97.2	-138.2	169.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Varra 5-14
<b>Company:</b>	Trilogy Resources, LLC. Weld County, CO	<b>TVD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T6N-R67W	<b>MD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Site:</b>	Varra 5-14 Pad Sec.5-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Varra 5-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-06-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,000.0	13.49	234.88	1,982.0	-102.6	-145.8	178.3	0.00	0.00	0.00
2,040.0	13.49	234.88	2,020.9	-108.0	-153.5	187.7	0.00	0.00	0.00
2,080.0	13.49	234.88	2,059.8	-113.3	-161.1	197.0	0.00	0.00	0.00
2,120.0	13.49	234.88	2,098.7	-118.7	-168.7	206.3	0.00	0.00	0.00
2,160.0	13.49	234.88	2,137.6	-124.1	-176.4	215.7	0.00	0.00	0.00
2,200.0	13.49	234.88	2,176.5	-129.4	-184.0	225.0	0.00	0.00	0.00
2,240.0	13.49	234.88	2,215.4	-134.8	-191.6	234.3	0.00	0.00	0.00
2,280.0	13.49	234.88	2,254.3	-140.2	-199.3	243.6	0.00	0.00	0.00
2,291.0	13.49	234.88	2,265.0	-141.7	-201.4	246.2	0.00	0.00	0.00
<b>GREELEY SS</b>									
2,320.0	13.49	234.88	2,293.2	-145.6	-206.9	253.0	0.00	0.00	0.00
2,360.0	13.49	234.88	2,332.1	-150.9	-214.6	262.3	0.00	0.00	0.00
2,400.0	13.49	234.88	2,371.0	-156.3	-222.2	271.6	0.00	0.00	0.00
2,440.0	13.49	234.88	2,409.9	-161.7	-229.8	281.0	0.00	0.00	0.00
2,480.0	13.49	234.88	2,448.8	-167.0	-237.5	290.3	0.00	0.00	0.00
2,520.0	13.49	234.88	2,487.7	-172.4	-245.1	299.6	0.00	0.00	0.00
2,560.0	13.49	234.88	2,526.6	-177.8	-252.7	309.0	0.00	0.00	0.00
2,600.0	13.49	234.88	2,565.5	-183.1	-260.4	318.3	0.00	0.00	0.00
2,640.0	13.49	234.88	2,604.4	-188.5	-268.0	327.6	0.00	0.00	0.00
2,680.0	13.49	234.88	2,643.3	-193.9	-275.6	337.0	0.00	0.00	0.00
2,720.0	13.49	234.88	2,682.2	-199.2	-283.3	346.3	0.00	0.00	0.00
2,760.0	13.49	234.88	2,721.1	-204.6	-290.9	355.6	0.00	0.00	0.00
2,800.0	13.49	234.88	2,760.0	-210.0	-298.5	365.0	0.00	0.00	0.00
2,840.0	13.49	234.88	2,798.9	-215.4	-306.2	374.3	0.00	0.00	0.00
2,880.0	13.49	234.88	2,837.8	-220.7	-313.8	383.6	0.00	0.00	0.00
2,920.0	13.49	234.88	2,876.6	-226.1	-321.4	393.0	0.00	0.00	0.00
2,960.0	13.49	234.88	2,915.5	-231.5	-329.1	402.3	0.00	0.00	0.00
3,000.0	13.49	234.88	2,954.4	-236.8	-336.7	411.6	0.00	0.00	0.00
3,040.0	13.49	234.88	2,993.3	-242.2	-344.3	421.0	0.00	0.00	0.00
3,080.0	13.49	234.88	3,032.2	-247.6	-352.0	430.3	0.00	0.00	0.00
3,120.0	13.49	234.88	3,071.1	-252.9	-359.6	439.6	0.00	0.00	0.00
3,160.0	13.49	234.88	3,110.0	-258.3	-367.2	449.0	0.00	0.00	0.00
3,200.0	13.49	234.88	3,148.9	-263.7	-374.9	458.3	0.00	0.00	0.00
3,240.0	13.49	234.88	3,187.8	-269.1	-382.5	467.6	0.00	0.00	0.00
3,280.0	13.49	234.88	3,226.7	-274.4	-390.1	477.0	0.00	0.00	0.00
3,320.0	13.49	234.88	3,265.6	-279.8	-397.8	486.3	0.00	0.00	0.00
3,360.0	13.49	234.88	3,304.5	-285.2	-405.4	495.6	0.00	0.00	0.00
3,400.0	13.49	234.88	3,343.4	-290.5	-413.0	505.0	0.00	0.00	0.00
3,422.2	13.49	234.88	3,365.0	-293.5	-417.3	510.2	0.00	0.00	0.00
<b>PARKMAN</b>									
3,440.0	13.49	234.88	3,382.3	-295.9	-420.7	514.3	0.00	0.00	0.00
3,480.0	13.49	234.88	3,421.2	-301.3	-428.3	523.6	0.00	0.00	0.00
3,520.0	13.49	234.88	3,460.1	-306.6	-435.9	533.0	0.00	0.00	0.00
3,560.0	13.49	234.88	3,499.0	-312.0	-443.6	542.3	0.00	0.00	0.00
3,600.0	13.49	234.88	3,537.9	-317.4	-451.2	551.6	0.00	0.00	0.00
3,640.0	13.49	234.88	3,576.8	-322.8	-458.8	561.0	0.00	0.00	0.00
3,680.0	13.49	234.88	3,615.7	-328.1	-466.5	570.3	0.00	0.00	0.00
3,720.0	13.49	234.88	3,654.6	-333.5	-474.1	579.6	0.00	0.00	0.00
3,760.0	13.49	234.88	3,693.5	-338.9	-481.7	589.0	0.00	0.00	0.00
3,800.0	13.49	234.88	3,732.4	-344.2	-489.4	598.3	0.00	0.00	0.00
3,840.0	13.49	234.88	3,771.3	-349.6	-497.0	607.6	0.00	0.00	0.00
3,880.0	13.49	234.88	3,810.2	-355.0	-504.6	617.0	0.00	0.00	0.00
3,920.0	13.49	234.88	3,849.0	-360.3	-512.3	626.3	0.00	0.00	0.00
3,960.0	13.49	234.88	3,887.9	-365.7	-519.9	635.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Varra 5-14
<b>Company:</b>	Trilogy Resources, LLC. Weld County, CO	<b>TVD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T6N-R67W	<b>MD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Site:</b>	Varra 5-14 Pad Sec.5-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Varra 5-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-06-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,000.0	13.49	234.88	3,926.8	-371.1	-527.5	645.0	0.00	0.00	0.00
4,040.0	13.49	234.88	3,965.7	-376.5	-535.2	654.3	0.00	0.00	0.00
4,080.0	13.49	234.88	4,004.6	-381.8	-542.8	663.6	0.00	0.00	0.00
4,120.0	13.49	234.88	4,043.5	-387.2	-550.4	673.0	0.00	0.00	0.00
4,142.1	13.49	234.88	4,065.0	-390.2	-554.6	678.1	0.00	0.00	0.00
<b>SUSSEX</b>									
4,160.0	13.49	234.88	4,082.4	-392.6	-558.1	682.3	0.00	0.00	0.00
4,200.0	13.49	234.88	4,121.3	-397.9	-565.7	691.6	0.00	0.00	0.00
4,240.0	13.49	234.88	4,160.2	-403.3	-573.3	701.0	0.00	0.00	0.00
4,280.0	13.49	234.88	4,199.1	-408.7	-581.0	710.3	0.00	0.00	0.00
4,320.0	13.49	234.88	4,238.0	-414.0	-588.6	719.6	0.00	0.00	0.00
4,360.0	13.49	234.88	4,276.9	-419.4	-596.2	729.0	0.00	0.00	0.00
4,400.0	13.49	234.88	4,315.8	-424.8	-603.9	738.3	0.00	0.00	0.00
4,440.0	13.49	234.88	4,354.7	-430.1	-611.5	747.6	0.00	0.00	0.00
4,480.0	13.49	234.88	4,393.6	-435.5	-619.1	757.0	0.00	0.00	0.00
4,520.0	13.49	234.88	4,432.5	-440.9	-626.8	766.3	0.00	0.00	0.00
4,532.9	13.49	234.88	4,445.0	-442.6	-629.2	769.3	0.00	0.00	0.00
<b>SHANNON</b>									
4,560.0	13.49	234.88	4,471.4	-446.3	-634.4	775.6	0.00	0.00	0.00
4,600.0	13.49	234.88	4,510.3	-451.6	-642.0	785.0	0.00	0.00	0.00
4,640.0	13.49	234.88	4,549.2	-457.0	-649.7	794.3	0.00	0.00	0.00
4,680.0	13.49	234.88	4,588.1	-462.4	-657.3	803.6	0.00	0.00	0.00
4,720.0	13.49	234.88	4,627.0	-467.7	-664.9	813.0	0.00	0.00	0.00
4,760.0	13.49	234.88	4,665.9	-473.1	-672.6	822.3	0.00	0.00	0.00
4,800.0	13.49	234.88	4,704.8	-478.5	-680.2	831.6	0.00	0.00	0.00
4,840.0	13.49	234.88	4,743.7	-483.8	-687.8	841.0	0.00	0.00	0.00
4,880.0	13.49	234.88	4,782.5	-489.2	-695.5	850.3	0.00	0.00	0.00
4,920.0	13.49	234.88	4,821.4	-494.6	-703.1	859.6	0.00	0.00	0.00
4,960.0	13.49	234.88	4,860.3	-500.0	-710.7	869.0	0.00	0.00	0.00
5,000.0	13.49	234.88	4,899.2	-505.3	-718.4	878.3	0.00	0.00	0.00
5,040.0	13.49	234.88	4,938.1	-510.7	-726.0	887.6	0.00	0.00	0.00
5,080.0	13.49	234.88	4,977.0	-516.1	-733.6	897.0	0.00	0.00	0.00
5,120.0	13.49	234.88	5,015.9	-521.4	-741.3	906.3	0.00	0.00	0.00
5,160.0	13.49	234.88	5,054.8	-526.8	-748.9	915.6	0.00	0.00	0.00
5,200.0	13.49	234.88	5,093.7	-532.2	-756.5	925.0	0.00	0.00	0.00
5,238.9	13.49	234.88	5,131.6	-537.4	-764.0	934.0	0.00	0.00	0.00
5,240.0	13.47	234.88	5,132.6	-537.5	-764.2	934.3	2.00	-2.00	0.00
5,280.0	12.67	234.88	5,171.6	-542.7	-771.6	943.3	2.00	-2.00	0.00
5,320.0	11.87	234.88	5,210.7	-547.6	-778.5	951.8	2.00	-2.00	0.00
5,360.0	11.07	234.88	5,249.9	-552.2	-785.0	959.8	2.00	-2.00	0.00
5,400.0	10.27	234.88	5,289.2	-556.5	-791.1	967.2	2.00	-2.00	0.00
5,440.0	9.47	234.88	5,328.6	-560.4	-796.7	974.1	2.00	-2.00	0.00
5,480.0	8.67	234.88	5,368.1	-564.1	-801.9	980.4	2.00	-2.00	0.00
5,520.0	7.87	234.88	5,407.7	-567.4	-806.6	986.1	2.00	-2.00	0.00
5,560.0	7.07	234.88	5,447.3	-570.4	-810.8	991.3	2.00	-2.00	0.00
5,600.0	6.27	234.88	5,487.0	-573.0	-814.6	996.0	2.00	-2.00	0.00
5,640.0	5.47	234.88	5,526.8	-575.4	-818.0	1,000.1	2.00	-2.00	0.00
5,680.0	4.67	234.88	5,566.7	-577.4	-820.9	1,003.6	2.00	-2.00	0.00
5,720.0	3.87	234.88	5,606.6	-579.1	-823.3	1,006.6	2.00	-2.00	0.00
5,760.0	3.07	234.88	5,646.5	-580.5	-825.3	1,009.0	2.00	-2.00	0.00
5,800.0	2.27	234.88	5,686.5	-581.6	-826.8	1,010.9	2.00	-2.00	0.00
5,840.0	1.47	234.88	5,726.4	-582.3	-827.9	1,012.2	2.00	-2.00	0.00
5,880.0	0.67	234.88	5,766.4	-582.8	-828.5	1,012.9	2.00	-2.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Varra 5-14
<b>Company:</b>	Trilogy Resources, LLC. Weld County, CO	<b>TVD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T6N-R67W	<b>MD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Site:</b>	Varra 5-14 Pad Sec.5-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Varra 5-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-06-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,913.6	0.00	0.00	5,800.0	-582.9	-828.6	1,013.1	2.00	-2.00	0.00
5,920.0	0.00	0.00	5,806.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
5,960.0	0.00	0.00	5,846.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,886.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,040.0	0.00	0.00	5,926.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,080.0	0.00	0.00	5,966.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,120.0	0.00	0.00	6,006.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,160.0	0.00	0.00	6,046.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,086.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,240.0	0.00	0.00	6,126.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,280.0	0.00	0.00	6,166.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,320.0	0.00	0.00	6,206.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,360.0	0.00	0.00	6,246.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,286.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,440.0	0.00	0.00	6,326.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,480.0	0.00	0.00	6,366.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,520.0	0.00	0.00	6,406.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,560.0	0.00	0.00	6,446.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,486.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,640.0	0.00	0.00	6,526.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,680.0	0.00	0.00	6,566.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,720.0	0.00	0.00	6,606.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,760.0	0.00	0.00	6,646.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,686.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,840.0	0.00	0.00	6,726.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,880.0	0.00	0.00	6,766.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,908.6	0.00	0.00	6,795.0	-582.9	-828.6	1,013.1	0.00	0.00	0.00
<b>NIORARA</b>									
6,920.0	0.00	0.00	6,806.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
6,960.0	0.00	0.00	6,846.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,886.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,040.0	0.00	0.00	6,926.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,080.0	0.00	0.00	6,966.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,120.0	0.00	0.00	7,006.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,160.0	0.00	0.00	7,046.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,086.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,211.6	0.00	0.00	7,098.0	-582.9	-828.6	1,013.1	0.00	0.00	0.00
<b>FT. HAYS</b>									
7,233.6	0.00	0.00	7,120.0	-582.9	-828.6	1,013.1	0.00	0.00	0.00
<b>CODELL</b>									
7,240.0	0.00	0.00	7,126.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,280.0	0.00	0.00	7,166.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,320.0	0.00	0.00	7,206.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,360.0	0.00	0.00	7,246.4	-582.9	-828.6	1,013.1	0.00	0.00	0.00
7,393.6	0.00	0.00	7,280.0	-582.9	-828.6	1,013.1	0.00	0.00	0.00

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
700.0	700.0	8 5/8"	8-5/8	12-1/4

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Varra 5-14
<b>Company:</b>	Trilogy Resources, LLC. Weld County, CO	<b>TVD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Project:</b>	SEC.5-T6N-R67W	<b>MD Reference:</b>	WELL @ 4885.0ft (Original Well Elev)
<b>Site:</b>	Varra 5-14 Pad Sec.5-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Varra 5-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (12-06-12)		

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	2,291.0	2,265.0	GREELEY SS		0.00	
	3,422.2	3,365.0	PARKMAN		0.00	
	4,142.1	4,065.0	SUSSEX		0.00	
	4,532.9	4,445.0	SHANNON		0.00	
	6,908.6	6,795.0	NIOBRARA		0.00	
	7,211.6	7,098.0	FT. HAYS		0.00	
	7,233.6	7,120.0	CODELL		0.00	