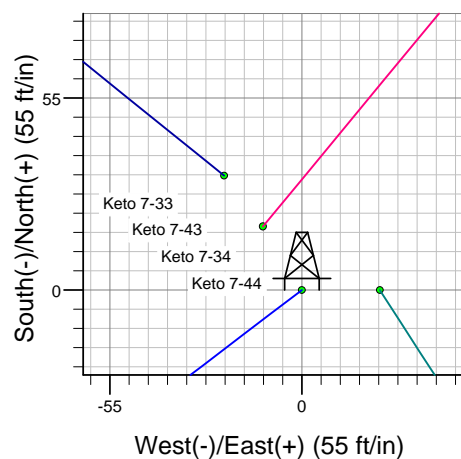
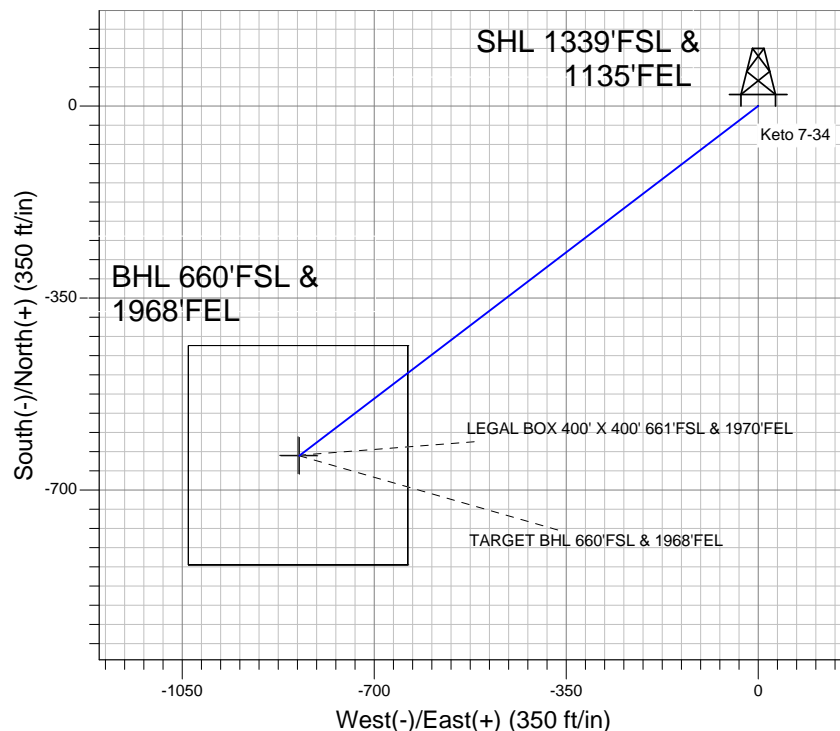
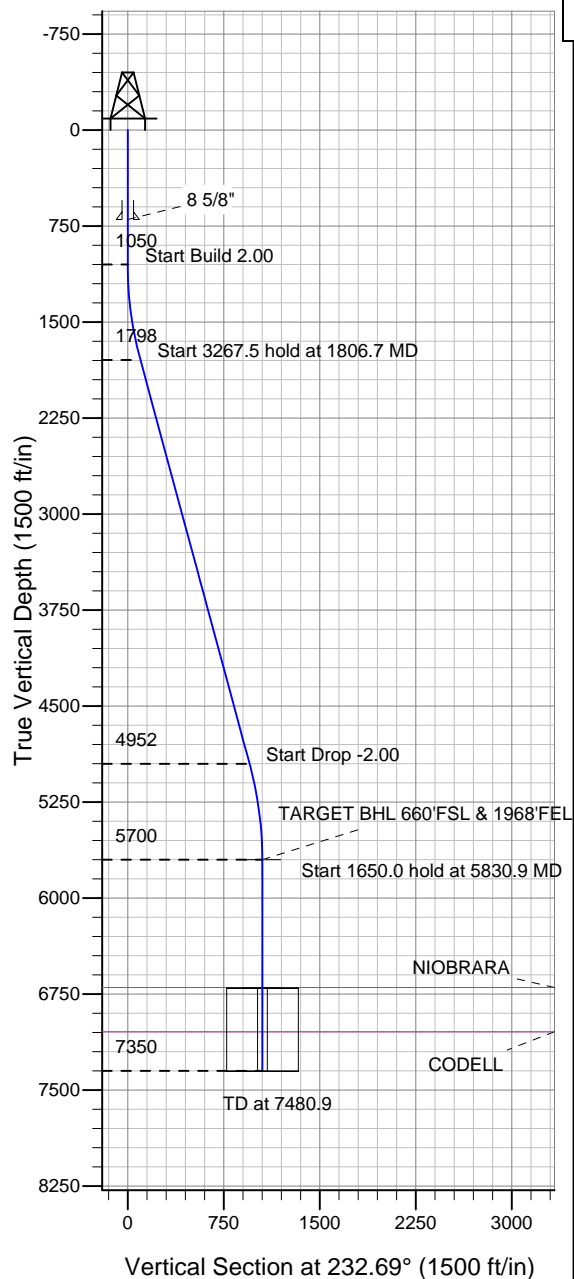


Well Name: Keto 7-34

Surface Location: Keto 7-33 Pad Sec.7-T4N-R67W
 North American Datum 1983, US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4838.0
 +N/-S 0.0 +E/-W 0.0 Northing 1361483.37 Easting 3159521.04 Latitude 40.324260 Longitude -104.927870
 Original Well EleWELL @ 4851.0ft (Original Well Elev)

TRILLOGY RESOURCES, LLC. Weld County, CO



Keto 7-33 Pad Sec.7-T4N-R67W
 Keto 7-34
 Plan #2 (11-5-11)
 13:23, November 07 2011



Azimuths to True North
 Magnetic North: 8.89°
 Magnetic Field
 Strength: 53032.0snT
 Dip Angle: 66.95°
 Date: 11/7/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 660'FSL & 1968'FEL	5700.0	-637.5	-836.5	40.322510	-104.930870	Point
LEGAL BOX 400' X 400' 661'FSL & 1970'FEL	6704.0	-636.5	-838.5	40.322513	-104.930877	Rectangle (Sides: L400.0 W400.0)

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	1050.0	0.00	0.00	1050.0	0.0	0.0	0.00	0.00	0.0	
3	1806.7	15.13	232.69	1797.9	-60.2	-79.0	2.00	232.69	99.4	
4	5074.2	15.13	232.69	4952.1	-577.3	-757.5	0.00	0.00	952.4	
5	5830.9	0.00	0.00	5700.0	-637.5	-836.5	2.00	180.00	1051.8	TARGET BHL 660'FSL & 1968'FEL
6	7480.9	0.00	0.00	7350.0	-637.5	-836.5	0.00	0.00	1051.8	



TRILLOGY RESOURCES, LLC. Weld County, CO

SEC.7-T4N-R67W

Keto 7-33 Pad Sec.7-T4N-R67W

Keto 7-34

Wellbore #1

Plan: Plan #2 (11-5-11)

Standard Planning Report

07 November, 2011

Database:	Landmark	Local Co-ordinate Reference:	Well Keto 7-34
Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Keto 7-33 Pad Sec.7-T4N-R67W	North Reference:	True
Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (11-5-11)		

Project	SEC.7-T4N-R67W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site Keto 7-33 Pad Sec.7-T4N-R67W					
Site Position:		Northing:	1,361,516.02 ft	Latitude:	40.324350
From:	Lat/Long	Easting:	3,159,498.53 ft	Longitude:	-104.927950
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.37 °

Well	Keto 7-34					
Well Position	+N/-S	-32.8 ft	Northing:	1,361,483.37 ft	Latitude:	40.324260
	+E/-W	22.3 ft	Easting:	3,159,521.04 ft	Longitude:	-104.927870
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,838.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/7/2011	8.89	66.95	53,032

Design	Plan #2 (11-5-11)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	232.69

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	
1,050.0	0.00	0.00	1,050.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,806.7	15.13	232.69	1,797.9	-60.2	-79.0	2.00	2.00	0.00	232.69	
5,074.2	15.13	232.69	4,952.1	-577.3	-757.5	0.00	0.00	0.00	0.00	
5,830.9	0.00	0.00	5,700.0	-637.5	-836.5	2.00	-2.00	0.00	180.00	TARGET BHL 660'I
7,480.9	0.00	0.00	7,350.0	-637.5	-836.5	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Keto 7-34
Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Keto 7-33 Pad Sec.7-T4N-R67W	North Reference:	True
Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (11-5-11)		

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
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,050.0	0.00	0.00	1,050.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.60	232.69	1,080.0	-0.1	-0.1	0.2	2.00	2.00	0.00
1,120.0	1.40	232.69	1,120.0	-0.5	-0.7	0.9	2.00	2.00	0.00
1,160.0	2.20	232.69	1,160.0	-1.3	-1.7	2.1	2.00	2.00	0.00
1,200.0	3.00	232.69	1,199.9	-2.4	-3.1	3.9	2.00	2.00	0.00
1,240.0	3.80	232.69	1,239.9	-3.8	-5.0	6.3	2.00	2.00	0.00
1,280.0	4.60	232.69	1,279.8	-5.6	-7.3	9.2	2.00	2.00	0.00
1,320.0	5.40	232.69	1,319.6	-7.7	-10.1	12.7	2.00	2.00	0.00
1,360.0	6.20	232.69	1,359.4	-10.2	-13.3	16.8	2.00	2.00	0.00
1,400.0	7.00	232.69	1,399.1	-12.9	-17.0	21.4	2.00	2.00	0.00
1,440.0	7.80	232.69	1,438.8	-16.1	-21.1	26.5	2.00	2.00	0.00
1,480.0	8.60	232.69	1,478.4	-19.5	-25.6	32.2	2.00	2.00	0.00
1,520.0	9.40	232.69	1,517.9	-23.3	-30.6	38.5	2.00	2.00	0.00
1,560.0	10.20	232.69	1,557.3	-27.4	-36.0	45.3	2.00	2.00	0.00
1,600.0	11.00	232.69	1,596.6	-31.9	-41.9	52.6	2.00	2.00	0.00
1,640.0	11.80	232.69	1,635.8	-36.7	-48.2	60.5	2.00	2.00	0.00
1,680.0	12.60	232.69	1,674.9	-41.8	-54.9	69.0	2.00	2.00	0.00
1,720.0	13.40	232.69	1,713.9	-47.3	-62.0	78.0	2.00	2.00	0.00
1,760.0	14.20	232.69	1,752.8	-53.1	-69.6	87.5	2.00	2.00	0.00
1,800.0	15.00	232.69	1,791.5	-59.2	-77.6	97.6	2.00	2.00	0.00
1,806.7	15.13	232.69	1,797.9	-60.2	-79.0	99.4	2.00	2.00	0.00
1,840.0	15.13	232.69	1,830.1	-65.5	-85.9	108.1	0.00	0.00	0.00
1,880.0	15.13	232.69	1,868.7	-71.8	-94.2	118.5	0.00	0.00	0.00
1,920.0	15.13	232.69	1,907.3	-78.2	-102.6	128.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Keto 7-34
Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Keto 7-33 Pad Sec.7-T4N-R67W	North Reference:	True
Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (11-5-11)		

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)
1,960.0	15.13	232.69	1,945.9	-84.5	-110.9	139.4	0.00	0.00	0.00
2,000.0	15.13	232.69	1,984.5	-90.8	-119.2	149.8	0.00	0.00	0.00
2,040.0	15.13	232.69	2,023.1	-97.1	-127.5	160.3	0.00	0.00	0.00
2,080.0	15.13	232.69	2,061.8	-103.5	-135.8	170.7	0.00	0.00	0.00
2,120.0	15.13	232.69	2,100.4	-109.8	-144.1	181.2	0.00	0.00	0.00
2,160.0	15.13	232.69	2,139.0	-116.1	-152.4	191.6	0.00	0.00	0.00
2,200.0	15.13	232.69	2,177.6	-122.5	-160.7	202.0	0.00	0.00	0.00
2,240.0	15.13	232.69	2,216.2	-128.8	-169.0	212.5	0.00	0.00	0.00
2,280.0	15.13	232.69	2,254.8	-135.1	-177.3	222.9	0.00	0.00	0.00
2,320.0	15.13	232.69	2,293.4	-141.5	-185.6	233.4	0.00	0.00	0.00
2,360.0	15.13	232.69	2,332.0	-147.8	-193.9	243.8	0.00	0.00	0.00
2,400.0	15.13	232.69	2,370.7	-154.1	-202.2	254.3	0.00	0.00	0.00
2,440.0	15.13	232.69	2,409.3	-160.4	-210.5	264.7	0.00	0.00	0.00
2,480.0	15.13	232.69	2,447.9	-166.8	-218.8	275.1	0.00	0.00	0.00
2,520.0	15.13	232.69	2,486.5	-173.1	-227.1	285.6	0.00	0.00	0.00
2,560.0	15.13	232.69	2,525.1	-179.4	-235.4	296.0	0.00	0.00	0.00
2,600.0	15.13	232.69	2,563.7	-185.8	-243.7	306.5	0.00	0.00	0.00
2,640.0	15.13	232.69	2,602.3	-192.1	-252.1	316.9	0.00	0.00	0.00
2,680.0	15.13	232.69	2,640.9	-198.4	-260.4	327.4	0.00	0.00	0.00
2,720.0	15.13	232.69	2,679.6	-204.8	-268.7	337.8	0.00	0.00	0.00
2,760.0	15.13	232.69	2,718.2	-211.1	-277.0	348.2	0.00	0.00	0.00
2,800.0	15.13	232.69	2,756.8	-217.4	-285.3	358.7	0.00	0.00	0.00
2,840.0	15.13	232.69	2,795.4	-223.7	-293.6	369.1	0.00	0.00	0.00
2,880.0	15.13	232.69	2,834.0	-230.1	-301.9	379.6	0.00	0.00	0.00
2,920.0	15.13	232.69	2,872.6	-236.4	-310.2	390.0	0.00	0.00	0.00
2,960.0	15.13	232.69	2,911.2	-242.7	-318.5	400.5	0.00	0.00	0.00
3,000.0	15.13	232.69	2,949.8	-249.1	-326.8	410.9	0.00	0.00	0.00
3,040.0	15.13	232.69	2,988.5	-255.4	-335.1	421.3	0.00	0.00	0.00
3,080.0	15.13	232.69	3,027.1	-261.7	-343.4	431.8	0.00	0.00	0.00
3,120.0	15.13	232.69	3,065.7	-268.1	-351.7	442.2	0.00	0.00	0.00
3,160.0	15.13	232.69	3,104.3	-274.4	-360.0	452.7	0.00	0.00	0.00
3,200.0	15.13	232.69	3,142.9	-280.7	-368.3	463.1	0.00	0.00	0.00
3,240.0	15.13	232.69	3,181.5	-287.0	-376.6	473.6	0.00	0.00	0.00
3,280.0	15.13	232.69	3,220.1	-293.4	-384.9	484.0	0.00	0.00	0.00
3,320.0	15.13	232.69	3,258.7	-299.7	-393.3	494.4	0.00	0.00	0.00
3,360.0	15.13	232.69	3,297.4	-306.0	-401.6	504.9	0.00	0.00	0.00
3,400.0	15.13	232.69	3,336.0	-312.4	-409.9	515.3	0.00	0.00	0.00
3,440.0	15.13	232.69	3,374.6	-318.7	-418.2	525.8	0.00	0.00	0.00
3,480.0	15.13	232.69	3,413.2	-325.0	-426.5	536.2	0.00	0.00	0.00
3,520.0	15.13	232.69	3,451.8	-331.3	-434.8	546.7	0.00	0.00	0.00
3,560.0	15.13	232.69	3,490.4	-337.7	-443.1	557.1	0.00	0.00	0.00
3,600.0	15.13	232.69	3,529.0	-344.0	-451.4	567.5	0.00	0.00	0.00
3,640.0	15.13	232.69	3,567.7	-350.3	-459.7	578.0	0.00	0.00	0.00
3,680.0	15.13	232.69	3,606.3	-356.7	-468.0	588.4	0.00	0.00	0.00
3,720.0	15.13	232.69	3,644.9	-363.0	-476.3	598.9	0.00	0.00	0.00
3,760.0	15.13	232.69	3,683.5	-369.3	-484.6	609.3	0.00	0.00	0.00
3,800.0	15.13	232.69	3,722.1	-375.7	-492.9	619.8	0.00	0.00	0.00
3,840.0	15.13	232.69	3,760.7	-382.0	-501.2	630.2	0.00	0.00	0.00
3,880.0	15.13	232.69	3,799.3	-388.3	-509.5	640.6	0.00	0.00	0.00
3,920.0	15.13	232.69	3,837.9	-394.6	-517.8	651.1	0.00	0.00	0.00
3,960.0	15.13	232.69	3,876.6	-401.0	-526.1	661.5	0.00	0.00	0.00
4,000.0	15.13	232.69	3,915.2	-407.3	-534.5	672.0	0.00	0.00	0.00
4,040.0	15.13	232.69	3,953.8	-413.6	-542.8	682.4	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Keto 7-34
Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Keto 7-33 Pad Sec.7-T4N-R67W	North Reference:	True
Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (11-5-11)		

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)
4,080.0	15.13	232.69	3,992.4	-420.0	-551.1	692.9	0.00	0.00	0.00
4,120.0	15.13	232.69	4,031.0	-426.3	-559.4	703.3	0.00	0.00	0.00
4,160.0	15.13	232.69	4,069.6	-432.6	-567.7	713.7	0.00	0.00	0.00
4,200.0	15.13	232.69	4,108.2	-439.0	-576.0	724.2	0.00	0.00	0.00
4,240.0	15.13	232.69	4,146.8	-445.3	-584.3	734.6	0.00	0.00	0.00
4,280.0	15.13	232.69	4,185.5	-451.6	-592.6	745.1	0.00	0.00	0.00
4,320.0	15.13	232.69	4,224.1	-457.9	-600.9	755.5	0.00	0.00	0.00
4,360.0	15.13	232.69	4,262.7	-464.3	-609.2	766.0	0.00	0.00	0.00
4,400.0	15.13	232.69	4,301.3	-470.6	-617.5	776.4	0.00	0.00	0.00
4,440.0	15.13	232.69	4,339.9	-476.9	-625.8	786.8	0.00	0.00	0.00
4,480.0	15.13	232.69	4,378.5	-483.3	-634.1	797.3	0.00	0.00	0.00
4,520.0	15.13	232.69	4,417.1	-489.6	-642.4	807.7	0.00	0.00	0.00
4,560.0	15.13	232.69	4,455.7	-495.9	-650.7	818.2	0.00	0.00	0.00
4,600.0	15.13	232.69	4,494.4	-502.3	-659.0	828.6	0.00	0.00	0.00
4,640.0	15.13	232.69	4,533.0	-508.6	-667.3	839.1	0.00	0.00	0.00
4,680.0	15.13	232.69	4,571.6	-514.9	-675.7	849.5	0.00	0.00	0.00
4,720.0	15.13	232.69	4,610.2	-521.2	-684.0	859.9	0.00	0.00	0.00
4,760.0	15.13	232.69	4,648.8	-527.6	-692.3	870.4	0.00	0.00	0.00
4,800.0	15.13	232.69	4,687.4	-533.9	-700.6	880.8	0.00	0.00	0.00
4,840.0	15.13	232.69	4,726.0	-540.2	-708.9	891.3	0.00	0.00	0.00
4,880.0	15.13	232.69	4,764.6	-546.6	-717.2	901.7	0.00	0.00	0.00
4,920.0	15.13	232.69	4,803.3	-552.9	-725.5	912.2	0.00	0.00	0.00
4,960.0	15.13	232.69	4,841.9	-559.2	-733.8	922.6	0.00	0.00	0.00
5,000.0	15.13	232.69	4,880.5	-565.6	-742.1	933.0	0.00	0.00	0.00
5,040.0	15.13	232.69	4,919.1	-571.9	-750.4	943.5	0.00	0.00	0.00
5,074.2	15.13	232.69	4,952.1	-577.3	-757.5	952.4	0.00	0.00	0.00
5,080.0	15.02	232.69	4,957.7	-578.2	-758.7	953.9	2.00	-2.00	0.00
5,120.0	14.22	232.69	4,996.4	-584.3	-766.7	964.0	2.00	-2.00	0.00
5,160.0	13.42	232.69	5,035.3	-590.1	-774.3	973.6	2.00	-2.00	0.00
5,200.0	12.62	232.69	5,074.2	-595.6	-781.5	982.6	2.00	-2.00	0.00
5,240.0	11.82	232.69	5,113.3	-600.7	-788.2	991.0	2.00	-2.00	0.00
5,280.0	11.02	232.69	5,152.5	-605.5	-794.5	999.0	2.00	-2.00	0.00
5,320.0	10.22	232.69	5,191.8	-610.0	-800.4	1,006.3	2.00	-2.00	0.00
5,360.0	9.42	232.69	5,231.3	-614.1	-805.8	1,013.2	2.00	-2.00	0.00
5,400.0	8.62	232.69	5,270.8	-617.9	-810.8	1,019.4	2.00	-2.00	0.00
5,440.0	7.82	232.69	5,310.4	-621.4	-815.3	1,025.1	2.00	-2.00	0.00
5,480.0	7.02	232.69	5,350.0	-624.5	-819.5	1,030.3	2.00	-2.00	0.00
5,520.0	6.22	232.69	5,389.8	-627.3	-823.1	1,034.9	2.00	-2.00	0.00
5,560.0	5.42	232.69	5,429.5	-629.8	-826.3	1,039.0	2.00	-2.00	0.00
5,600.0	4.62	232.69	5,469.4	-631.9	-829.1	1,042.5	2.00	-2.00	0.00
5,640.0	3.82	232.69	5,509.3	-633.7	-831.5	1,045.4	2.00	-2.00	0.00
5,680.0	3.02	232.69	5,549.2	-635.1	-833.4	1,047.8	2.00	-2.00	0.00
5,720.0	2.22	232.69	5,589.2	-636.2	-834.8	1,049.6	2.00	-2.00	0.00
5,760.0	1.42	232.69	5,629.2	-637.0	-835.8	1,050.9	2.00	-2.00	0.00
5,800.0	0.62	232.69	5,669.1	-637.4	-836.4	1,051.6	2.00	-2.00	0.00
5,830.9	0.00	0.00	5,700.0	-637.5	-836.5	1,051.8	2.00	-2.00	0.00
TARGET BHL 660'FSL & 1968'FEL									
5,840.0	0.00	0.00	5,709.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
5,880.0	0.00	0.00	5,749.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
5,920.0	0.00	0.00	5,789.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
5,960.0	0.00	0.00	5,829.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,869.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,040.0	0.00	0.00	5,909.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Keto 7-34
Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Keto 7-33 Pad Sec.7-T4N-R67W	North Reference:	True
Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (11-5-11)		

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)
6,080.0	0.00	0.00	5,949.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,120.0	0.00	0.00	5,989.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,160.0	0.00	0.00	6,029.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,069.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,240.0	0.00	0.00	6,109.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,280.0	0.00	0.00	6,149.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,189.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,229.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,269.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,309.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,480.0	0.00	0.00	6,349.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,520.0	0.00	0.00	6,389.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,560.0	0.00	0.00	6,429.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,469.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,640.0	0.00	0.00	6,509.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,680.0	0.00	0.00	6,549.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,720.0	0.00	0.00	6,589.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,760.0	0.00	0.00	6,629.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,669.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,830.9	0.00	0.00	6,700.0	-637.5	-836.5	1,051.8	0.00	0.00	0.00
NIORARA									
6,834.9	0.00	0.00	6,704.0	-637.5	-836.5	1,051.8	0.00	0.00	0.00
LEGAL BOX 400' X 400' 661'FSL & 1970'FEL									
6,840.0	0.00	0.00	6,709.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,880.0	0.00	0.00	6,749.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,920.0	0.00	0.00	6,789.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
6,960.0	0.00	0.00	6,829.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,869.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,040.0	0.00	0.00	6,909.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,080.0	0.00	0.00	6,949.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,120.0	0.00	0.00	6,989.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,160.0	0.00	0.00	7,029.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,175.9	0.00	0.00	7,045.0	-637.5	-836.5	1,051.8	0.00	0.00	0.00
CODELL									
7,200.0	0.00	0.00	7,069.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,240.0	0.00	0.00	7,109.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,280.0	0.00	0.00	7,149.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,320.0	0.00	0.00	7,189.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,360.0	0.00	0.00	7,229.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,269.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,440.0	0.00	0.00	7,309.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,480.0	0.00	0.00	7,349.1	-637.5	-836.5	1,051.8	0.00	0.00	0.00
7,480.9	0.00	0.00	7,350.0	-637.5	-836.5	1,051.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Keto 7-34
Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Project:	SEC.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Keto 7-33 Pad Sec.7-T4N-R67W	North Reference:	True
Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (11-5-11)		

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
LEGAL BOX 400' X 400'	0.00	0.00	6,704.0	-636.5	-838.5	1,360,841.47	3,158,686.66	40.322513	-104.930877
- plan misses target center by 2.2ft at 6834.9ft MD (6704.0 TVD, -637.5 N, -836.5 E)									
- Rectangle (sides W400.0 H400.0 D650.0)									
TARGET BHL 660'FS	0.00	0.00	5,700.0	-637.5	-836.5	1,360,840.50	3,158,688.69	40.322510	-104.930870
- plan hits target center									
- Point									

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

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,830.9	6,700.0	NIOBRARA		0.00	
7,175.9	7,045.0	CODELL		0.00	



Directional

TRILLOGY RESOURCES, LLC. Weld County, CO

SEC.7-T4N-R67W

Keto 7-33 Pad Sec.7-T4N-R67W

Keto 7-34

Wellbore #1

Plan #2 (11-5-11)

Anticollision Report

07 November, 2011

Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	Local Co-ordinate Reference:	Well Keto 7-34
Project:	SEC.7-T4N-R67W	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Reference Site:	Keto 7-33 Pad Sec.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (11-5-11)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (11-5-11)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	11/7/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	7,480.9	Plan #2 (11-5-11) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Keto 7-33 Pad Sec.7-T4N-R67W						
Keto 7-43 - Wellbore #1 - Plan #1 (11-5-11)	1,050.0	1,050.0	21.4	16.9	4.751	CC
Keto 7-43 - Wellbore #1 - Plan #1 (11-5-11)	1,100.0	1,100.0	21.4	16.7	4.547	ES
Keto 7-43 - Wellbore #1 - Plan #1 (11-5-11)	1,200.0	1,199.9	22.1	17.0	4.319	SF
Keto 7-44 - Wellbore #1 - Plan #2 (11-5-11)	834.1	834.1	22.3	18.8	6.328	CC
Keto 7-44 - Wellbore #1 - Plan #2 (11-5-11)	900.0	899.8	22.5	18.7	5.922	ES
Keto 7-44 - Wellbore #1 - Plan #2 (11-5-11)	1,000.0	999.2	24.6	20.4	5.854	SF

Keto 7-33 Pad Sec.7-T4N-R67W - Keto 7-43 - Wellbore #1 - Plan #1 (11-5-11)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-31.48	18.2	-11.2	21.4					
100.0	100.0	100.0	100.0	0.1	0.1	-31.48	18.2	-11.2	21.4	21.1	0.22	95.027		
200.0	200.0	200.0	200.0	0.3	0.3	-31.48	18.2	-11.2	21.4	20.7	0.67	31.676		
300.0	300.0	300.0	300.0	0.6	0.6	-31.48	18.2	-11.2	21.4	20.2	1.12	19.005		
400.0	400.0	400.0	400.0	0.8	0.8	-31.48	18.2	-11.2	21.4	19.8	1.57	13.575		
500.0	500.0	500.0	500.0	1.0	1.0	-31.48	18.2	-11.2	21.4	19.3	2.02	10.559		
600.0	600.0	600.0	600.0	1.2	1.2	-31.48	18.2	-11.2	21.4	18.9	2.47	8.639		
700.0	700.0	700.0	700.0	1.5	1.5	-31.48	18.2	-11.2	21.4	18.4	2.92	7.310		
800.0	800.0	800.0	800.0	1.7	1.7	-31.48	18.2	-11.2	21.4	18.0	3.37	6.335		
900.0	900.0	900.0	900.0	1.9	1.9	-31.48	18.2	-11.2	21.4	17.5	3.82	5.590		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-31.48	18.2	-11.2	21.4	17.1	4.27	5.001		
1,050.0	1,050.0	1,050.0	1,050.0	2.2	2.2	-31.48	18.2	-11.2	21.4	16.9	4.50	4.751	CC	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.4	96.99	18.2	-11.2	21.4	16.7	4.71	4.547	ES	
1,200.0	1,199.9	1,199.9	1,199.9	2.5	2.6	105.99	18.2	-11.2	22.1	17.0	5.12	4.319	SF	
1,300.0	1,299.7	1,299.4	1,299.4	2.7	2.8	122.13	18.5	-10.9	25.3	19.7	5.53	4.563		
1,400.0	1,399.1	1,397.6	1,397.5	2.9	3.0	140.50	21.1	-8.7	35.1	29.2	5.95	5.904		
1,500.0	1,498.2	1,494.0	1,493.7	3.2	3.2	152.97	26.2	-4.5	53.3	46.9	6.36	8.381		
1,600.0	1,596.6	1,588.1	1,587.4	3.5	3.5	160.07	33.6	1.5	79.1	72.3	6.76	11.702		
1,700.0	1,694.4	1,679.3	1,677.7	3.8	3.7	164.13	43.0	9.3	111.9	104.7	7.16	15.629		
1,806.7	1,797.9	1,772.9	1,770.0	4.2	3.9	166.68	54.9	19.2	153.9	146.3	7.57	20.314		
1,900.0	1,888.0	1,851.8	1,847.4	4.6	4.2	168.19	66.8	29.0	194.8	186.9	7.97	24.440		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	Local Co-ordinate Reference:	Well Keto 7-34
Project:	SEC.7-T4N-R67W	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Reference Site:	Keto 7-33 Pad Sec.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (11-5-11)	Offset TVD Reference:	Offset Datum

Offset Design Keto 7-33 Pad Sec.7-T4N-R67W - Keto 7-43 - Wellbore #1 - Plan #1 (11-5-11)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,000.0	1,984.5	1,934.0	1,927.5	5.1	4.4	169.20	80.9	40.6	241.4	233.0	8.40	28.725		
2,100.0	2,081.1	2,018.4	2,009.3	5.5	4.8	169.89	96.9	53.8	290.0	281.1	8.84	32.804		
2,200.0	2,177.6	2,105.6	2,093.8	6.0	5.1	170.39	113.5	67.6	338.8	329.6	9.28	36.507		
2,300.0	2,274.1	2,192.8	2,178.3	6.5	5.5	170.77	130.2	81.3	387.7	378.0	9.73	39.847		
2,400.0	2,370.7	2,280.1	2,262.8	7.1	5.8	171.06	146.9	95.1	436.6	426.4	10.18	42.870		
2,500.0	2,467.2	2,367.3	2,347.3	7.6	6.2	171.30	163.5	108.9	485.5	474.9	10.64	45.610		
2,600.0	2,563.7	2,454.5	2,431.8	8.1	6.6	171.49	180.2	122.7	534.4	523.3	11.11	48.103		
2,700.0	2,660.3	2,541.7	2,516.3	8.6	7.0	171.65	196.9	136.4	583.3	571.7	11.58	50.376		
2,800.0	2,756.8	2,628.9	2,600.8	9.2	7.4	171.78	213.5	150.2	632.2	620.2	12.05	52.455		
2,900.0	2,853.3	2,716.1	2,685.3	9.7	7.8	171.90	230.2	164.0	681.1	668.6	12.53	54.362		
3,000.0	2,949.8	2,803.4	2,769.8	10.2	8.2	172.00	246.9	177.7	730.0	717.0	13.01	56.115		
3,100.0	3,046.4	2,890.6	2,854.3	10.8	8.6	172.09	263.5	191.5	778.9	765.4	13.49	57.730		
3,200.0	3,142.9	2,977.8	2,938.8	11.3	9.1	172.16	280.2	205.3	827.8	813.9	13.98	59.222		
3,300.0	3,239.4	3,065.0	3,023.3	11.9	9.5	172.23	296.9	219.0	876.8	862.3	14.47	60.604		
3,400.0	3,336.0	3,152.2	3,107.8	12.4	9.9	172.29	313.6	232.8	925.7	910.7	14.96	61.887		
3,500.0	3,432.5	3,239.4	3,192.3	13.0	10.3	172.35	330.2	246.6	974.6	959.1	15.45	63.082		
3,600.0	3,529.0	3,326.7	3,276.8	13.5	10.8	172.40	346.9	260.3	1,023.5	1,007.6	15.94	64.196		
3,700.0	3,625.6	3,413.9	3,361.3	14.1	11.2	172.44	363.6	274.1	1,072.4	1,056.0	16.44	65.236		
3,800.0	3,722.1	3,501.1	3,445.7	14.6	11.6	172.48	380.2	287.9	1,121.3	1,104.4	16.94	66.210		
3,900.0	3,818.6	3,588.3	3,530.2	15.2	12.1	172.52	396.9	301.6	1,170.3	1,152.8	17.43	67.122		
4,000.0	3,915.2	3,675.5	3,614.7	15.7	12.5	172.56	413.6	315.4	1,219.2	1,201.2	17.93	67.978		
4,100.0	4,011.7	3,762.7	3,699.2	16.3	12.9	172.59	430.2	329.2	1,268.1	1,249.7	18.44	68.784		
4,200.0	4,108.2	3,850.0	3,783.7	16.8	13.4	172.62	446.9	343.0	1,317.0	1,298.1	18.94	69.543		
4,300.0	4,204.8	3,937.2	3,868.2	17.4	13.8	172.65	463.6	356.7	1,365.9	1,346.5	19.44	70.259		
4,400.0	4,301.3	4,024.4	3,952.7	17.9	14.2	172.67	480.2	370.5	1,414.8	1,394.9	19.95	70.935		
4,500.0	4,397.8	4,111.6	4,037.2	18.5	14.7	172.70	496.9	384.3	1,463.8	1,443.3	20.45	71.575		
4,600.0	4,494.4	4,198.8	4,121.7	19.0	15.1	172.72	513.6	398.0	1,512.7	1,491.7	20.96	72.181		
4,700.0	4,590.9	4,286.0	4,206.2	19.6	15.6	172.74	530.3	411.8	1,561.6	1,540.1	21.46	72.756		
4,800.0	4,687.4	4,374.4	4,291.8	20.1	16.0	172.76	547.1	425.7	1,610.5	1,588.5	21.97	73.294		
4,900.0	4,784.0	4,579.6	4,492.3	20.7	16.8	172.83	580.7	453.5	1,656.3	1,633.6	22.68	73.037		
5,000.0	4,880.5	4,799.4	4,709.9	21.3	17.4	172.97	604.3	473.0	1,695.3	1,672.0	23.38	72.527		
5,074.2	4,952.1	4,971.3	4,881.3	21.7	17.7	173.11	613.8	480.8	1,719.6	1,695.7	23.88	72.001		
5,100.0	4,977.0	5,032.8	4,942.8	21.8	17.8	173.19	615.3	482.0	1,727.0	1,702.9	24.10	71.672		
5,200.0	5,074.2	5,164.3	5,074.2	22.2	18.0	173.37	615.7	482.4	1,750.6	1,725.9	24.72	70.806		
5,300.0	5,172.2	5,262.2	5,172.2	22.5	18.1	173.49	615.7	482.4	1,770.6	1,745.3	25.28	70.053		
5,400.0	5,270.8	5,360.8	5,270.8	22.8	18.2	173.59	615.7	482.4	1,787.2	1,761.4	25.79	69.293		
5,500.0	5,369.9	5,459.9	5,369.9	23.1	18.4	173.67	615.7	482.4	1,800.4	1,774.1	26.27	68.528		
5,600.0	5,469.4	5,559.4	5,469.4	23.3	18.5	173.72	615.7	482.4	1,810.1	1,783.4	26.72	67.755		
5,700.0	5,569.2	5,659.2	5,569.2	23.4	18.6	173.76	615.7	482.4	1,816.4	1,789.3	27.12	66.974		
5,800.0	5,669.1	5,759.2	5,669.1	23.6	18.8	173.77	615.7	482.4	1,819.2	1,791.7	27.49	66.184		
5,830.9	5,700.0	5,790.0	5,700.0	23.6	18.8	46.46	615.7	482.4	1,819.3	1,791.7	27.59	65.933		
5,900.0	5,769.1	5,859.2	5,769.1	23.7	18.9	46.46	615.7	482.4	1,819.3	1,791.5	27.85	65.326		
6,000.0	5,869.1	5,959.2	5,869.1	23.8	19.1	46.46	615.7	482.4	1,819.3	1,791.1	28.22	64.471		
6,100.0	5,969.1	6,059.2	5,969.1	23.9	19.2	46.46	615.7	482.4	1,819.3	1,790.8	28.59	63.632		
6,200.0	6,069.1	6,159.2	6,069.1	24.0	19.4	46.46	615.7	482.4	1,819.3	1,790.4	28.97	62.810		
6,300.0	6,169.1	6,259.2	6,169.1	24.1	19.5	46.46	615.7	482.4	1,819.3	1,790.0	29.34	62.005		
6,400.0	6,269.1	6,359.2	6,269.1	24.2	19.7	46.46	615.7	482.4	1,819.3	1,789.6	29.72	61.216		
6,500.0	6,369.1	6,459.2	6,369.1	24.3	19.8	46.46	615.7	482.4	1,819.3	1,789.2	30.10	60.443		
6,600.0	6,469.1	6,559.2	6,469.1	24.4	20.0	46.46	615.7	482.4	1,819.3	1,788.9	30.48	59.686		
6,700.0	6,569.1	6,659.2	6,569.1	24.5	20.1	46.46	615.7	482.4	1,819.3	1,788.5	30.87	58.944		
6,800.0	6,669.1	6,759.2	6,669.1	24.7	20.3	46.46	615.7	482.4	1,819.3	1,788.1	31.25	58.217		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	Local Co-ordinate Reference:	Well Keto 7-34
Project:	SEC.7-T4N-R67W	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Reference Site:	Keto 7-33 Pad Sec.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (11-5-11)	Offset TVD Reference:	Offset Datum

Offset Design Keto 7-33 Pad Sec.7-T4N-R67W - Keto 7-43 - Wellbore #1 - Plan #1 (11-5-11)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
6,900.0	6,769.1	6,859.2	6,769.1	24.8	20.4	46.46	615.7	482.4	1,819.3	1,787.7	31.64	57.505	
7,000.0	6,869.1	6,959.2	6,869.1	24.9	20.6	46.46	615.7	482.4	1,819.3	1,787.3	32.03	56.807	
7,100.0	6,969.1	7,059.2	6,969.1	25.0	20.8	46.46	615.7	482.4	1,819.3	1,786.9	32.42	56.123	
7,200.0	7,069.1	7,159.2	7,069.1	25.2	20.9	46.46	615.7	482.4	1,819.3	1,786.5	32.81	55.453	
7,300.0	7,169.1	7,259.2	7,169.1	25.3	21.1	46.46	615.7	482.4	1,819.3	1,786.1	33.20	54.797	
7,400.0	7,269.1	7,359.2	7,269.1	25.4	21.3	46.46	615.7	482.4	1,819.3	1,785.7	33.60	54.153	
7,480.9	7,350.0	7,440.0	7,350.0	25.5	21.4	46.46	615.7	482.4	1,819.3	1,785.4	33.92	53.642	

Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	Local Co-ordinate Reference:	Well Keto 7-34
Project:	SEC.7-T4N-R67W	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Reference Site:	Keto 7-33 Pad Sec.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (11-5-11)	Offset TVD Reference:	Offset Datum

Offset Design Keto 7-33 Pad Sec.7-T4N-R67W - Keto 7-44 - Wellbore #1 - Plan #2 (11-5-11)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.01	0.0	22.3	22.3					
100.0	100.0	100.0	100.0	0.1	0.1	90.01	0.0	22.3	22.3	22.1	0.22	99.244		
200.0	200.0	200.0	200.0	0.3	0.3	90.01	0.0	22.3	22.3	21.6	0.67	33.081		
300.0	300.0	300.0	300.0	0.6	0.6	90.01	0.0	22.3	22.3	21.2	1.12	19.849		
400.0	400.0	400.0	400.0	0.8	0.8	90.01	0.0	22.3	22.3	20.7	1.57	14.178		
500.0	500.0	500.0	500.0	1.0	1.0	90.01	0.0	22.3	22.3	20.3	2.02	11.027		
600.0	600.0	600.0	600.0	1.2	1.2	90.01	0.0	22.3	22.3	19.8	2.47	9.022		
700.0	700.0	700.0	700.0	1.5	1.5	90.01	0.0	22.3	22.3	19.4	2.92	7.634		
800.0	800.0	800.0	800.0	1.7	1.7	90.01	0.0	22.3	22.3	18.9	3.37	6.616		
834.1	834.1	834.1	834.1	1.8	1.8	90.01	0.0	22.3	22.3	18.8	3.52	6.328 CC		
900.0	900.0	899.8	899.8	1.9	1.9	90.93	-0.4	22.5	22.5	18.7	3.81	5.922 ES		
1,000.0	1,000.0	999.2	999.2	2.1	2.1	97.62	-3.3	24.4	24.6	20.4	4.21	5.854 SF		
1,050.0	1,050.0	1,048.8	1,048.7	2.2	2.2	102.54	-5.8	26.1	26.7	22.3	4.42	6.047		
1,100.0	1,100.0	1,098.3	1,098.0	2.3	2.3	-125.52	-9.0	28.1	29.9	25.3	4.61	6.476		
1,200.0	1,199.9	1,196.8	1,195.9	2.5	2.5	-119.92	-17.6	33.7	40.0	35.0	5.00	8.006		
1,300.0	1,299.7	1,294.3	1,292.5	2.7	2.7	-117.85	-28.9	41.0	54.9	49.5	5.41	10.144		
1,400.0	1,399.1	1,390.6	1,387.4	2.9	3.0	-117.53	-42.7	49.9	74.2	68.3	5.85	12.679		
1,500.0	1,498.2	1,485.4	1,480.2	3.2	3.3	-117.89	-58.9	60.4	97.8	91.4	6.32	15.457		
1,600.0	1,596.6	1,580.2	1,572.5	3.5	3.7	-118.62	-77.4	72.3	125.2	118.4	6.85	18.287		
1,700.0	1,694.4	1,675.7	1,665.2	3.8	4.1	-119.97	-96.2	84.5	154.7	147.3	7.42	20.858		
1,806.7	1,797.9	1,776.7	1,763.5	4.2	4.5	-121.77	-116.1	97.3	188.2	180.1	8.08	23.293		
1,900.0	1,888.0	1,864.7	1,849.0	4.6	4.9	-123.67	-133.4	108.6	218.5	209.8	8.71	25.079		
2,000.0	1,984.5	1,959.1	1,940.7	5.1	5.3	-125.19	-152.0	120.6	251.3	241.9	9.42	26.675		
2,100.0	2,081.1	2,053.4	2,032.4	5.5	5.8	-126.37	-170.6	132.6	284.1	274.0	10.15	27.998		
2,200.0	2,177.6	2,147.7	2,124.1	6.0	6.2	-127.30	-189.2	144.6	317.0	306.2	10.89	29.106		
2,300.0	2,274.1	2,242.0	2,215.7	6.5	6.7	-128.05	-207.8	156.6	350.0	338.4	11.65	30.042		
2,400.0	2,370.7	2,336.3	2,307.4	7.1	7.1	-128.68	-226.4	168.6	383.1	370.7	12.42	30.840		
2,500.0	2,467.2	2,430.6	2,399.1	7.6	7.6	-129.20	-244.9	180.6	416.1	402.9	13.20	31.525		
2,600.0	2,563.7	2,524.9	2,490.8	8.1	8.1	-129.65	-263.5	192.7	449.2	435.3	13.99	32.119		
2,700.0	2,660.3	2,619.2	2,582.4	8.6	8.5	-130.04	-282.1	204.7	482.4	467.6	14.78	32.637		
2,800.0	2,756.8	2,713.5	2,674.1	9.2	9.0	-130.38	-300.7	216.7	515.5	499.9	15.58	33.092		
2,900.0	2,853.3	2,807.8	2,765.8	9.7	9.5	-130.68	-319.3	228.7	548.6	532.3	16.38	33.494		
3,000.0	2,949.8	2,902.2	2,857.5	10.2	9.9	-130.94	-337.9	240.7	581.8	564.6	17.19	33.852		
3,100.0	3,046.4	2,996.5	2,949.1	10.8	10.4	-131.17	-356.4	252.7	615.0	597.0	18.00	34.172		
3,200.0	3,142.9	3,090.8	3,040.8	11.3	10.9	-131.38	-375.0	264.7	648.2	629.3	18.81	34.459		
3,300.0	3,239.4	3,185.1	3,132.5	11.9	11.3	-131.57	-393.6	276.8	681.3	661.7	19.62	34.719		
3,400.0	3,336.0	3,279.4	3,224.2	12.4	11.8	-131.75	-412.2	288.8	714.5	694.1	20.44	34.954		
3,500.0	3,432.5	3,373.7	3,315.9	13.0	12.3	-131.90	-430.8	300.8	747.7	726.5	21.26	35.168		
3,600.0	3,529.0	3,468.0	3,407.5	13.5	12.8	-132.05	-449.4	312.8	780.9	758.9	22.08	35.364		
3,700.0	3,625.6	3,562.3	3,499.2	14.1	13.2	-132.18	-468.0	324.8	814.1	791.2	22.91	35.543		
3,800.0	3,722.1	3,656.6	3,590.9	14.6	13.7	-132.30	-486.5	336.8	847.3	823.6	23.73	35.707		
3,900.0	3,818.6	3,750.9	3,682.6	15.2	14.2	-132.41	-505.1	348.8	880.6	856.0	24.56	35.859		
4,000.0	3,915.2	3,845.2	3,774.2	15.7	14.7	-132.52	-523.7	360.9	913.8	888.4	25.38	36.000		
4,100.0	4,011.7	3,939.6	3,865.9	16.3	15.1	-132.62	-542.3	372.9	947.0	920.8	26.21	36.130		
4,200.0	4,108.2	4,033.9	3,957.6	16.8	15.6	-132.71	-560.9	384.9	980.2	953.2	27.04	36.251		
4,300.0	4,204.8	4,128.2	4,049.3	17.4	16.1	-132.79	-579.5	396.9	1,013.4	985.6	27.87	36.364		
4,400.0	4,301.3	4,222.5	4,140.9	17.9	16.6	-132.87	-598.1	408.9	1,046.7	1,018.0	28.70	36.469		
4,500.0	4,397.8	4,316.8	4,232.6	18.5	17.1	-132.94	-616.6	420.9	1,079.9	1,050.4	29.53	36.568		
4,600.0	4,494.4	4,411.1	4,324.3	19.0	17.5	-133.01	-635.2	432.9	1,113.1	1,082.8	30.36	36.660		
4,700.0	4,590.9	4,507.3	4,417.5	19.6	18.0	-133.21	-657.9	447.6	1,145.1	1,113.9	31.21	36.684		
4,800.0	4,687.4	4,606.6	4,515.0	20.1	18.4	-133.61	-676.5	459.6	1,174.3	1,142.3	31.98	36.718		

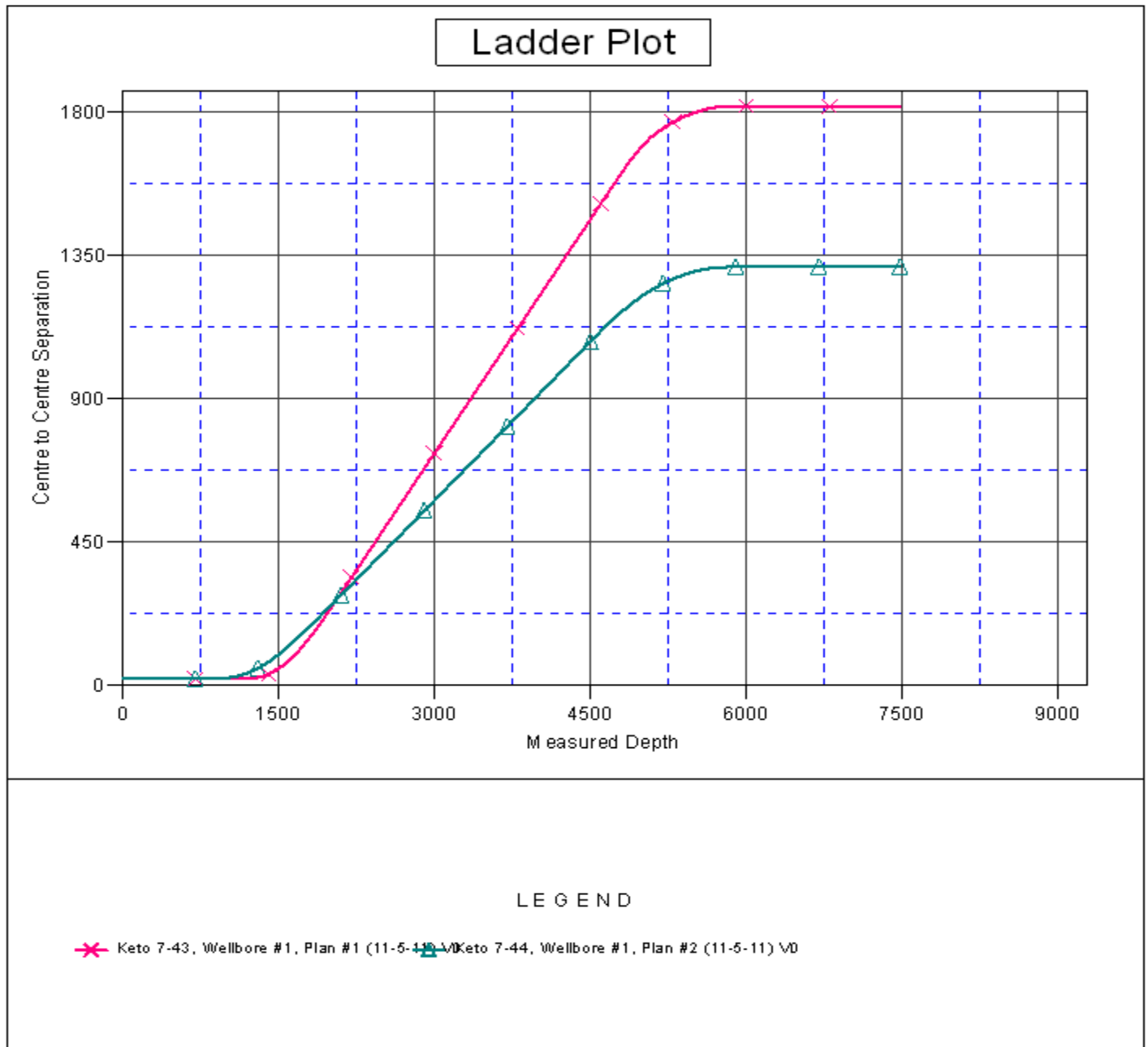
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	Local Co-ordinate Reference:	Well Keto 7-34
Project:	SEC.7-T4N-R67W	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Reference Site:	Keto 7-33 Pad Sec.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (11-5-11)	Offset TVD Reference:	Offset Datum

Offset Design Keto 7-33 Pad Sec.7-T4N-R67W - Keto 7-44 - Wellbore #1 - Plan #2 (11-5-11)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.0	4,784.0	4,797.5	4,704.8	20.7	18.7	-134.22	-690.3	468.5	1,200.8	1,168.1	32.70	36.721		
5,000.0	4,880.5	4,929.4	4,836.3	21.3	19.0	-135.02	-699.2	474.3	1,224.5	1,191.1	33.35	36.713		
5,074.2	4,952.1	5,027.5	4,934.3	21.7	19.1	-135.73	-702.5	476.4	1,240.4	1,206.6	33.80	36.696		
5,100.0	4,977.0	5,061.8	4,968.5	21.8	19.2	-136.07	-703.0	476.7	1,245.5	1,211.5	33.97	36.668		
5,200.0	5,074.2	5,167.5	5,074.2	22.2	19.3	-137.11	-703.1	476.8	1,262.9	1,228.4	34.48	36.629		
5,300.0	5,172.2	5,265.4	5,172.2	22.5	19.4	-137.92	-703.1	476.8	1,277.9	1,243.0	34.94	36.577		
5,400.0	5,270.8	5,364.0	5,270.8	22.8	19.5	-138.58	-703.1	476.8	1,290.4	1,255.1	35.36	36.499		
5,500.0	5,369.9	5,463.1	5,369.9	23.1	19.6	-139.10	-703.1	476.8	1,300.5	1,264.7	35.73	36.392		
5,600.0	5,469.4	5,562.6	5,469.4	23.3	19.7	-139.48	-703.1	476.8	1,307.9	1,271.8	36.07	36.256		
5,700.0	5,569.2	5,662.4	5,569.2	23.4	19.9	-139.72	-703.1	476.8	1,312.7	1,276.3	36.37	36.089		
5,800.0	5,669.1	5,762.4	5,669.1	23.6	20.0	-139.82	-703.1	476.8	1,314.9	1,278.2	36.63	35.891		
5,830.9	5,700.0	5,793.2	5,700.0	23.6	20.0	92.86	-703.1	476.8	1,315.0	1,278.3	36.71	35.820		
5,900.0	5,769.1	5,862.4	5,769.1	23.7	20.1	92.86	-703.1	476.8	1,315.0	1,278.1	36.89	35.645		
6,000.0	5,869.1	5,962.4	5,869.1	23.8	20.2	92.86	-703.1	476.8	1,315.0	1,277.8	37.15	35.397		
6,100.0	5,969.1	6,062.4	5,969.1	23.9	20.3	92.86	-703.1	476.8	1,315.0	1,277.6	37.41	35.150		
6,200.0	6,069.1	6,162.4	6,069.1	24.0	20.5	92.86	-703.1	476.8	1,315.0	1,277.3	37.68	34.902		
6,300.0	6,169.1	6,262.4	6,169.1	24.1	20.6	92.86	-703.1	476.8	1,315.0	1,277.0	37.94	34.655		
6,400.0	6,269.1	6,362.4	6,269.1	24.2	20.7	92.86	-703.1	476.8	1,315.0	1,276.8	38.22	34.409		
6,500.0	6,369.1	6,462.4	6,369.1	24.3	20.9	92.86	-703.1	476.8	1,315.0	1,276.5	38.49	34.163		
6,600.0	6,469.1	6,562.4	6,469.1	24.4	21.0	92.86	-703.1	476.8	1,315.0	1,276.2	38.77	33.917		
6,700.0	6,569.1	6,662.4	6,569.1	24.5	21.1	92.86	-703.1	476.8	1,315.0	1,275.9	39.05	33.673		
6,800.0	6,669.1	6,762.4	6,669.1	24.7	21.3	92.86	-703.1	476.8	1,315.0	1,275.6	39.34	33.429		
6,900.0	6,769.1	6,862.4	6,769.1	24.8	21.4	92.86	-703.1	476.8	1,315.0	1,275.4	39.62	33.186		
7,000.0	6,869.1	6,962.4	6,869.1	24.9	21.5	92.86	-703.1	476.8	1,315.0	1,275.1	39.92	32.944		
7,100.0	6,969.1	7,062.4	6,969.1	25.0	21.7	92.86	-703.1	476.8	1,315.0	1,274.8	40.21	32.703		
7,200.0	7,069.1	7,162.4	7,069.1	25.2	21.8	92.86	-703.1	476.8	1,315.0	1,274.5	40.51	32.464		
7,300.0	7,169.1	7,262.4	7,169.1	25.3	21.9	92.86	-703.1	476.8	1,315.0	1,274.2	40.81	32.226		
7,400.0	7,269.1	7,362.4	7,269.1	25.4	22.1	92.86	-703.1	476.8	1,315.0	1,273.9	41.11	31.989		
7,480.9	7,350.0	7,443.2	7,350.0	25.5	22.2	92.86	-703.1	476.8	1,315.0	1,273.6	41.35	31.798		

Company:	TRILLOGY RESOURCES, LLC. Weld County, CO	Local Co-ordinate Reference:	Well Keto 7-34
Project:	SEC.7-T4N-R67W	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Reference Site:	Keto 7-33 Pad Sec.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (11-5-11)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4851.0ft (Original Well Elev) Coordinates are relative to: Keto 7-34
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.37°



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Site Error:	0.0ft	North Reference:	True
Reference Well:	Keto 7-34	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
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