

ENSIGN

Directional

Well Name: Larson Farms 3-24

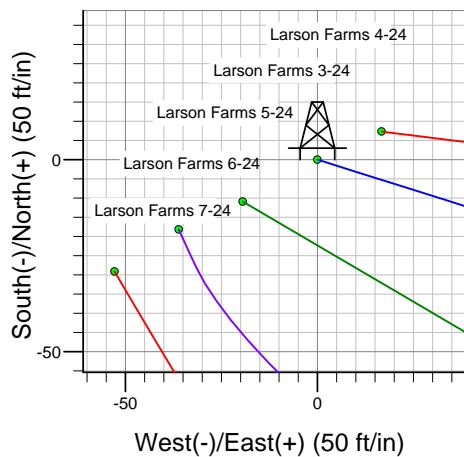
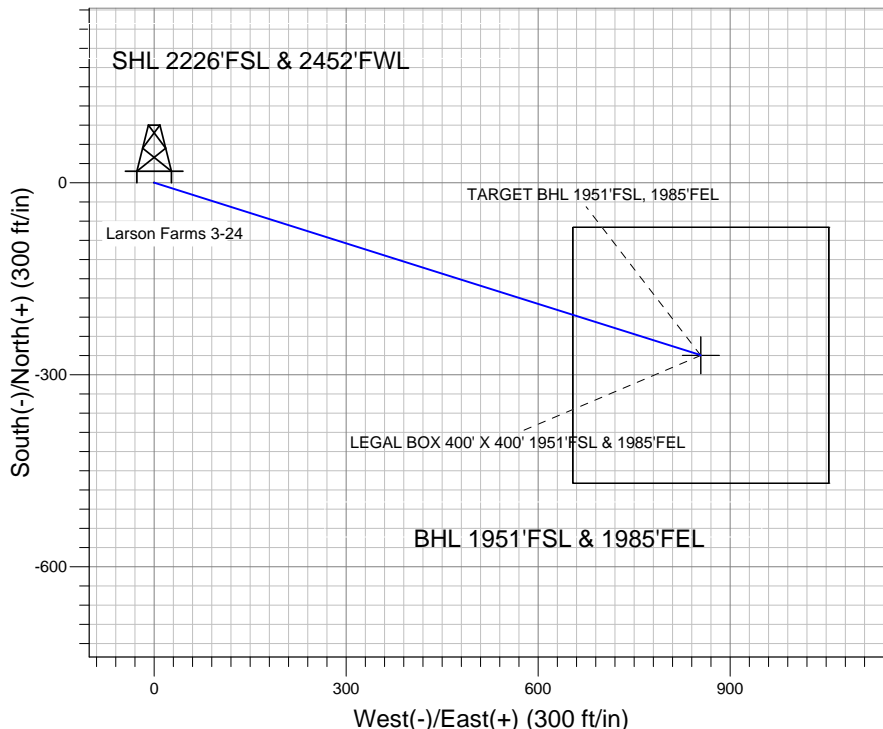
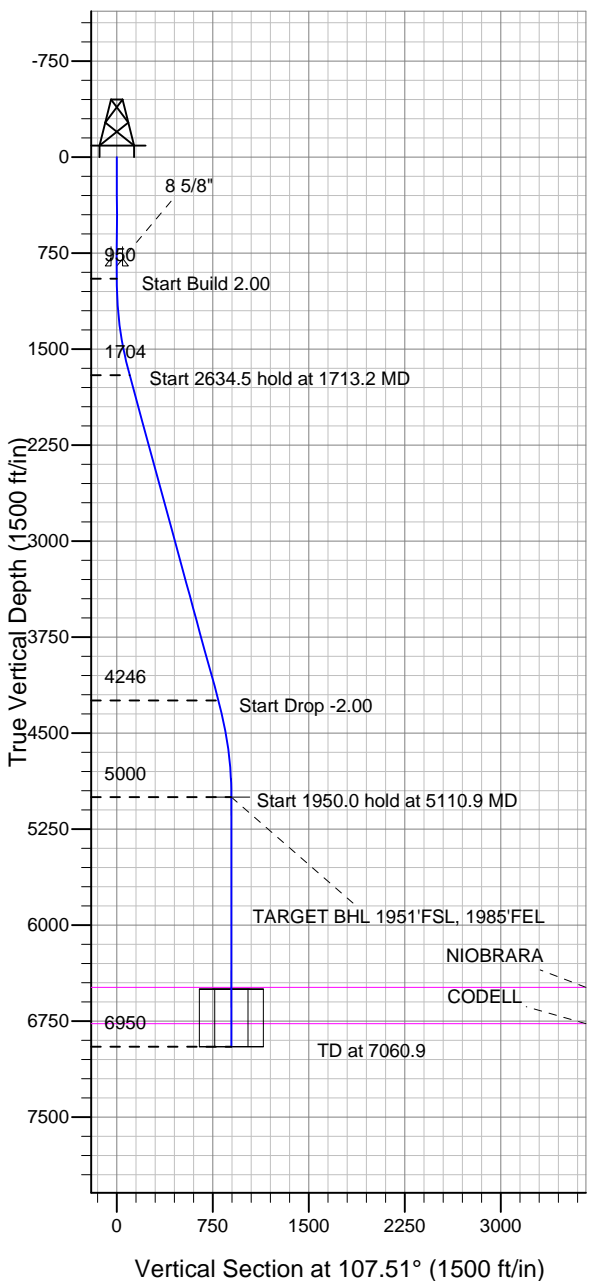
Surface Location: Larson Farms 4-24 Pad Sec.24-T6N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4642.7

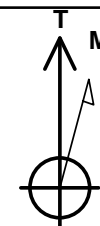
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1415928.39	3278497.32	40.470810	-104.498980	

Original Well Elev WELL @ 4655.7ft (Original Well Elev)

St. James, Weld County CO



Larson Farms 4-24 Pad Sec.24-T6N-R64W
Larson Farms 3-24
Plan #1 (7-21-11)
13:14, July 28 2011



Azimuths to True North
Magnetic North: 8.71°

Magnetic Field
Strength: 53186.1snT
Dip Angle: 67.15°
Date: 7/28/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1951'FSL, 1985'FEL	5000.0	-269.6	854.2	40.470070	-104.495910	Point
LEGAL BOX 400' X 400' 1951'FSL & 1985'FEL	6500.0	-269.6	854.2	40.470070	-104.495910	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	950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.0	
3	1713.2	15.26	107.51	1704.2	-30.4	96.4	2.00	107.51	101.1	
4	4347.7	15.26	107.51	4245.8	-239.1	757.8	0.00	0.00	794.6	
5	5110.9	0.00	0.00	5000.0	-269.6	854.2	2.00	180.00	895.7	TARGET BHL 1951'FSL, 1985'FEL
6	7060.9	0.00	0.00	6950.0	-269.6	854.2	0.00	0.00	895.7	



Directional

St. James, Weld County CO

SEC.24-T6N-R64W

Larson Farms 4-24 Pad Sec.24-T6N-R64W

Larson Farms 3-24

Wellbore #1

Plan: Plan #1 (7-21-11)

Standard Planning Report

28 July, 2011

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	
950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,713.2	15.26	107.51	1,704.2	-30.4	96.4	2.00	2.00	0.00	107.51	
4,347.7	15.26	107.51	4,245.8	-239.1	757.8	0.00	0.00	0.00	0.00	
5,110.9	0.00	0.00	5,000.0	-269.6	854.2	2.00	-2.00	0.00	180.00	TARGET BHL 1951
7,060.9	0.00	0.00	6,950.0	-269.6	854.2	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 3-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 3-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-21-11)		

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
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
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.20	107.51	960.0	0.0	0.0	0.0	2.00	2.00	0.00
1,000.0	1.00	107.51	1,000.0	-0.1	0.4	0.4	2.00	2.00	0.00
1,040.0	1.80	107.51	1,040.0	-0.4	1.3	1.4	2.00	2.00	0.00
1,080.0	2.60	107.51	1,080.0	-0.9	2.8	2.9	2.00	2.00	0.00
1,120.0	3.40	107.51	1,119.9	-1.5	4.8	5.0	2.00	2.00	0.00
1,160.0	4.20	107.51	1,159.8	-2.3	7.3	7.7	2.00	2.00	0.00
1,200.0	5.00	107.51	1,199.7	-3.3	10.4	10.9	2.00	2.00	0.00
1,240.0	5.80	107.51	1,239.5	-4.4	14.0	14.7	2.00	2.00	0.00
1,280.0	6.60	107.51	1,279.3	-5.7	18.1	19.0	2.00	2.00	0.00
1,320.0	7.40	107.51	1,319.0	-7.2	22.8	23.9	2.00	2.00	0.00
1,360.0	8.20	107.51	1,358.6	-8.8	27.9	29.3	2.00	2.00	0.00
1,400.0	9.00	107.51	1,398.2	-10.6	33.6	35.3	2.00	2.00	0.00
1,440.0	9.80	107.51	1,437.6	-12.6	39.9	41.8	2.00	2.00	0.00
1,480.0	10.60	107.51	1,477.0	-14.7	46.6	48.9	2.00	2.00	0.00
1,520.0	11.40	107.51	1,516.2	-17.0	53.9	56.5	2.00	2.00	0.00
1,560.0	12.20	107.51	1,555.4	-19.5	61.7	64.7	2.00	2.00	0.00
1,600.0	13.00	107.51	1,594.4	-22.1	70.0	73.4	2.00	2.00	0.00
1,640.0	13.80	107.51	1,633.3	-24.9	78.9	82.7	2.00	2.00	0.00
1,680.0	14.60	107.51	1,672.1	-27.8	88.2	92.5	2.00	2.00	0.00
1,713.2	15.26	107.51	1,704.2	-30.4	96.4	101.1	2.00	2.00	0.00
1,720.0	15.26	107.51	1,710.8	-31.0	98.1	102.9	0.00	0.00	0.00
1,760.0	15.26	107.51	1,749.4	-34.1	108.1	113.4	0.00	0.00	0.00
1,800.0	15.26	107.51	1,787.9	-37.3	118.2	123.9	0.00	0.00	0.00
1,840.0	15.26	107.51	1,826.5	-40.5	128.2	134.4	0.00	0.00	0.00
1,880.0	15.26	107.51	1,865.1	-43.6	138.3	145.0	0.00	0.00	0.00
1,920.0	15.26	107.51	1,903.7	-46.8	148.3	155.5	0.00	0.00	0.00
1,960.0	15.26	107.51	1,942.3	-50.0	158.3	166.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 3-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 3-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-21-11)		

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)
2,000.0	15.26	107.51	1,980.9	-53.1	168.4	176.6	0.00	0.00	0.00
2,040.0	15.26	107.51	2,019.5	-56.3	178.4	187.1	0.00	0.00	0.00
2,080.0	15.26	107.51	2,058.1	-59.5	188.5	197.6	0.00	0.00	0.00
2,120.0	15.26	107.51	2,096.7	-62.6	198.5	208.2	0.00	0.00	0.00
2,160.0	15.26	107.51	2,135.2	-65.8	208.5	218.7	0.00	0.00	0.00
2,200.0	15.26	107.51	2,173.8	-69.0	218.6	229.2	0.00	0.00	0.00
2,240.0	15.26	107.51	2,212.4	-72.2	228.6	239.7	0.00	0.00	0.00
2,280.0	15.26	107.51	2,251.0	-75.3	238.7	250.3	0.00	0.00	0.00
2,320.0	15.26	107.51	2,289.6	-78.5	248.7	260.8	0.00	0.00	0.00
2,360.0	15.26	107.51	2,328.2	-81.7	258.8	271.3	0.00	0.00	0.00
2,400.0	15.26	107.51	2,366.8	-84.8	268.8	281.9	0.00	0.00	0.00
2,440.0	15.26	107.51	2,405.4	-88.0	278.8	292.4	0.00	0.00	0.00
2,480.0	15.26	107.51	2,444.0	-91.2	288.9	302.9	0.00	0.00	0.00
2,520.0	15.26	107.51	2,482.5	-94.3	298.9	313.5	0.00	0.00	0.00
2,560.0	15.26	107.51	2,521.1	-97.5	309.0	324.0	0.00	0.00	0.00
2,600.0	15.26	107.51	2,559.7	-100.7	319.0	334.5	0.00	0.00	0.00
2,640.0	15.26	107.51	2,598.3	-103.8	329.1	345.1	0.00	0.00	0.00
2,680.0	15.26	107.51	2,636.9	-107.0	339.1	355.6	0.00	0.00	0.00
2,720.0	15.26	107.51	2,675.5	-110.2	349.1	366.1	0.00	0.00	0.00
2,760.0	15.26	107.51	2,714.1	-113.4	359.2	376.6	0.00	0.00	0.00
2,800.0	15.26	107.51	2,752.7	-116.5	369.2	387.2	0.00	0.00	0.00
2,840.0	15.26	107.51	2,791.3	-119.7	379.3	397.7	0.00	0.00	0.00
2,880.0	15.26	107.51	2,829.8	-122.9	389.3	408.2	0.00	0.00	0.00
2,920.0	15.26	107.51	2,868.4	-126.0	399.4	418.8	0.00	0.00	0.00
2,960.0	15.26	107.51	2,907.0	-129.2	409.4	429.3	0.00	0.00	0.00
3,000.0	15.26	107.51	2,945.6	-132.4	419.4	439.8	0.00	0.00	0.00
3,040.0	15.26	107.51	2,984.2	-135.5	429.5	450.4	0.00	0.00	0.00
3,080.0	15.26	107.51	3,022.8	-138.7	439.5	460.9	0.00	0.00	0.00
3,120.0	15.26	107.51	3,061.4	-141.9	449.6	471.4	0.00	0.00	0.00
3,160.0	15.26	107.51	3,100.0	-145.0	459.6	482.0	0.00	0.00	0.00
3,200.0	15.26	107.51	3,138.6	-148.2	469.7	492.5	0.00	0.00	0.00
3,240.0	15.26	107.51	3,177.1	-151.4	479.7	503.0	0.00	0.00	0.00
3,280.0	15.26	107.51	3,215.7	-154.6	489.7	513.5	0.00	0.00	0.00
3,320.0	15.26	107.51	3,254.3	-157.7	499.8	524.1	0.00	0.00	0.00
3,360.0	15.26	107.51	3,292.9	-160.9	509.8	534.6	0.00	0.00	0.00
3,400.0	15.26	107.51	3,331.5	-164.1	519.9	545.1	0.00	0.00	0.00
3,440.0	15.26	107.51	3,370.1	-167.2	529.9	555.7	0.00	0.00	0.00
3,480.0	15.26	107.51	3,408.7	-170.4	539.9	566.2	0.00	0.00	0.00
3,520.0	15.26	107.51	3,447.3	-173.6	550.0	576.7	0.00	0.00	0.00
3,560.0	15.26	107.51	3,485.9	-176.7	560.0	587.3	0.00	0.00	0.00
3,600.0	15.26	107.51	3,524.4	-179.9	570.1	597.8	0.00	0.00	0.00
3,640.0	15.26	107.51	3,563.0	-183.1	580.1	608.3	0.00	0.00	0.00
3,680.0	15.26	107.51	3,601.6	-186.2	590.2	618.9	0.00	0.00	0.00
3,720.0	15.26	107.51	3,640.2	-189.4	600.2	629.4	0.00	0.00	0.00
3,760.0	15.26	107.51	3,678.8	-192.6	610.2	639.9	0.00	0.00	0.00
3,800.0	15.26	107.51	3,717.4	-195.8	620.3	650.4	0.00	0.00	0.00
3,840.0	15.26	107.51	3,756.0	-198.9	630.3	661.0	0.00	0.00	0.00
3,880.0	15.26	107.51	3,794.6	-202.1	640.4	671.5	0.00	0.00	0.00
3,920.0	15.26	107.51	3,833.2	-205.3	650.4	682.0	0.00	0.00	0.00
3,960.0	15.26	107.51	3,871.7	-208.4	660.5	692.6	0.00	0.00	0.00
4,000.0	15.26	107.51	3,910.3	-211.6	670.5	703.1	0.00	0.00	0.00
4,040.0	15.26	107.51	3,948.9	-214.8	680.5	713.6	0.00	0.00	0.00
4,080.0	15.26	107.51	3,987.5	-217.9	690.6	724.2	0.00	0.00	0.00
4,120.0	15.26	107.51	4,026.1	-221.1	700.6	734.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 3-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 3-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-21-11)		

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)
4,160.0	15.26	107.51	4,064.7	-224.3	710.7	745.2	0.00	0.00	0.00
4,200.0	15.26	107.51	4,103.3	-227.4	720.7	755.7	0.00	0.00	0.00
4,240.0	15.26	107.51	4,141.9	-230.6	730.8	766.3	0.00	0.00	0.00
4,280.0	15.26	107.51	4,180.5	-233.8	740.8	776.8	0.00	0.00	0.00
4,320.0	15.26	107.51	4,219.0	-237.0	750.8	787.3	0.00	0.00	0.00
4,347.7	15.26	107.51	4,245.8	-239.1	757.8	794.6	0.00	0.00	0.00
4,360.0	15.02	107.51	4,257.6	-240.1	760.9	797.8	2.00	-2.00	0.00
4,400.0	14.22	107.51	4,296.3	-243.2	770.5	807.9	2.00	-2.00	0.00
4,440.0	13.42	107.51	4,335.2	-246.0	779.6	817.5	2.00	-2.00	0.00
4,480.0	12.62	107.51	4,374.2	-248.7	788.2	826.5	2.00	-2.00	0.00
4,520.0	11.82	107.51	4,413.3	-251.3	796.3	835.0	2.00	-2.00	0.00
4,560.0	11.02	107.51	4,452.5	-253.7	803.8	842.9	2.00	-2.00	0.00
4,600.0	10.22	107.51	4,491.8	-255.9	810.8	850.3	2.00	-2.00	0.00
4,640.0	9.42	107.51	4,531.2	-257.9	817.3	857.1	2.00	-2.00	0.00
4,680.0	8.62	107.51	4,570.7	-259.8	823.3	863.4	2.00	-2.00	0.00
4,720.0	7.82	107.51	4,610.3	-261.5	828.8	869.1	2.00	-2.00	0.00
4,760.0	7.02	107.51	4,649.9	-263.1	833.7	874.2	2.00	-2.00	0.00
4,800.0	6.22	107.51	4,689.7	-264.5	838.1	878.8	2.00	-2.00	0.00
4,840.0	5.42	107.51	4,729.5	-265.7	842.0	882.9	2.00	-2.00	0.00
4,880.0	4.62	107.51	4,769.3	-266.8	845.3	886.4	2.00	-2.00	0.00
4,920.0	3.82	107.51	4,809.2	-267.6	848.1	889.3	2.00	-2.00	0.00
4,960.0	3.02	107.51	4,849.1	-268.4	850.4	891.7	2.00	-2.00	0.00
5,000.0	2.22	107.51	4,889.1	-268.9	852.1	893.6	2.00	-2.00	0.00
5,040.0	1.42	107.51	4,929.1	-269.3	853.3	894.8	2.00	-2.00	0.00
5,080.0	0.62	107.51	4,969.1	-269.5	854.0	895.5	2.00	-2.00	0.00
5,110.9	0.00	0.00	5,000.0	-269.6	854.2	895.7	2.00	-2.00	0.00
TARGET BHL 1951'FSL, 1985'FEL									
5,120.0	0.00	0.00	5,009.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,160.0	0.00	0.00	5,049.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,200.0	0.00	0.00	5,089.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,240.0	0.00	0.00	5,129.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,280.0	0.00	0.00	5,169.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,320.0	0.00	0.00	5,209.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,360.0	0.00	0.00	5,249.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,289.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,440.0	0.00	0.00	5,329.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,480.0	0.00	0.00	5,369.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,520.0	0.00	0.00	5,409.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,560.0	0.00	0.00	5,449.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,600.0	0.00	0.00	5,489.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,640.0	0.00	0.00	5,529.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,680.0	0.00	0.00	5,569.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,720.0	0.00	0.00	5,609.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,760.0	0.00	0.00	5,649.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,689.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,840.0	0.00	0.00	5,729.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,880.0	0.00	0.00	5,769.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,920.0	0.00	0.00	5,809.1	-269.6	854.2	895.7	0.00	0.00	0.00
5,960.0	0.00	0.00	5,849.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,889.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,040.0	0.00	0.00	5,929.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,080.0	0.00	0.00	5,969.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,120.0	0.00	0.00	6,009.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,160.0	0.00	0.00	6,049.1	-269.6	854.2	895.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 3-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 3-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-21-11)		

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)
6,200.0	0.00	0.00	6,089.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,240.0	0.00	0.00	6,129.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,280.0	0.00	0.00	6,169.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,320.0	0.00	0.00	6,209.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,360.0	0.00	0.00	6,249.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,289.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,440.0	0.00	0.00	6,329.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,480.0	0.00	0.00	6,369.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,520.0	0.00	0.00	6,409.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,560.0	0.00	0.00	6,449.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,596.9	0.00	0.00	6,486.0	-269.6	854.2	895.7	0.00	0.00	0.00
NIOBRARA									
6,600.0	0.00	0.00	6,489.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,610.9	0.00	0.00	6,500.0	-269.6	854.2	895.7	0.00	0.00	0.00
LEGAL BOX 400' X 400' 1951'FSL & 1985'FEL									
6,640.0	0.00	0.00	6,529.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,680.0	0.00	0.00	6,569.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,720.0	0.00	0.00	6,609.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,760.0	0.00	0.00	6,649.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,689.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,840.0	0.00	0.00	6,729.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,880.0	0.00	0.00	6,769.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,880.9	0.00	0.00	6,770.0	-269.6	854.2	895.7	0.00	0.00	0.00
CODELL									
6,920.0	0.00	0.00	6,809.1	-269.6	854.2	895.7	0.00	0.00	0.00
6,960.0	0.00	0.00	6,849.1	-269.6	854.2	895.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,889.1	-269.6	854.2	895.7	0.00	0.00	0.00
7,040.0	0.00	0.00	6,929.1	-269.6	854.2	895.7	0.00	0.00	0.00
7,060.9	0.00	0.00	6,950.0	-269.6	854.2	895.7	0.00	0.00	0.00

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
TARGET BHL 1951'F:	0.00	0.00	5,000.0	-269.6	854.2	1,415,668.50	3,279,354.45	40.470070	-104.495910
- plan hits target center									
- Point									
LEGAL BOX 400' X 400'	0.00	0.00	6,500.0	-269.6	854.2	1,415,668.47	3,279,354.48	40.470070	-104.495910
- plan hits target center									
- Rectangle (sides W400.0 H400.0 D450.0)									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
850.0	850.0	8 5/8"	8-5/8	12-1/4

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 3-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 3-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-21-11)		

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	6,596.9	6,486.0	NIOBRARA		0.00	
	6,880.9	6,770.0	CODELL		0.00	



Directional

St. James, Weld County CO

SEC.24-T6N-R64W

Larson Farms 4-24 Pad Sec.24-T6N-R64W

Larson Farms 3-24

Wellbore #1

Plan #1 (7-21-11)

Anticollision Report

28 July, 2011

Offset Design		Larson Farms 4-24 Pad Sec.24-T6N-R64W - Larson Farms 4-24 - Wellbore #1 - Plan #1 (7-21-11)											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)				
2,100.0	2,077.4	2,012.4	1,916.7	6.0	11.4	-16.92	-55.4	526.8	370.0	359.5	10.44	35.433			
2,200.0	2,173.8	2,110.5	2,004.9	6.5	12.4	-17.28	-60.7	569.3	389.3	378.2	11.13	34.980			
2,300.0	2,270.3	2,208.6	2,093.1	7.0	13.3	-17.61	-65.9	611.9	408.7	396.8	11.83	34.552			
2,400.0	2,366.8	2,306.7	2,181.3	7.5	14.2	-17.91	-71.1	654.5	428.0	415.5	12.53	34.150			
2,500.0	2,463.2	2,404.7	2,269.6	8.1	15.1	-18.13	-76.4	697.0	447.4	434.2	13.25	33.774			
2,600.0	2,559.7	2,502.8	2,357.8	8.6	16.1	-18.43	-81.6	739.6	466.8	452.9	13.97	33.421			
2,700.0	2,656.2	2,600.9	2,446.0	9.2	17.0	-18.65	-86.8	782.1	486.2	471.5	14.69	33.090			
2,800.0	2,752.7	2,699.0	2,534.2	9.7	18.0	-18.86	-92.1	824.7	505.6	490.2	15.43	32.780			
2,900.0	2,849.1	2,797.1	2,622.4	10.3	18.9	-19.06	-97.3	867.2	525.1	508.9	16.16	32.490			
3,000.0	2,945.6	2,895.2	2,710.6	10.8	19.8	-19.24	-102.5	909.8	544.5	527.6	16.90	32.218			
3,100.0	3,042.1	2,993.2	2,798.8	11.4	20.8	-19.41	-107.8	952.3	563.9	546.3	17.64	31.963			
3,200.0	3,138.6	3,091.3	2,887.1	11.9	21.7	-19.57	-113.0	994.9	583.3	564.9	18.39	31.723			
3,300.0	3,235.0	3,189.4	2,975.3	12.5	22.6	-19.72	-118.2	1,037.5	602.8	583.6	19.14	31.497			
3,400.0	3,331.5	3,287.5	3,063.5	13.0	23.6	-19.85	-123.5	1,080.0	622.2	602.3	19.89	31.284			
3,500.0	3,428.0	3,385.6	3,151.7	13.6	24.5	-19.98	-128.7	1,122.6	641.6	621.0	20.64	31.084			
3,600.0	3,524.4	3,483.6	3,239.9	14.2	25.5	-20.11	-133.9	1,165.1	661.1	639.7	21.40	30.894			
3,700.0	3,620.9	3,581.7	3,328.1	14.7	26.4	-20.22	-139.2	1,207.7	680.5	658.4	22.16	30.715			
3,800.0	3,717.4	3,679.8	3,416.3	15.3	27.3	-20.33	-144.4	1,250.2	700.0	677.1	22.92	30.546			
3,900.0	3,813.9	3,777.9	3,504.6	15.8	28.3	-20.43	-149.6	1,292.8	719.4	695.8	23.68	30.385			
4,000.0	3,910.3	3,876.0	3,592.8	16.4	29.2	-20.53	-154.9	1,335.3	738.9	714.5	24.44	30.233			
4,100.0	4,006.8	3,974.1	3,681.0	17.0	30.2	-20.62	-160.1	1,377.9	758.4	733.1	25.20	30.088			
4,200.0	4,103.3	4,072.1	3,769.2	17.5	31.1	-20.71	-165.3	1,420.5	777.8	751.8	25.97	29.950			
4,300.0	4,199.8	4,170.2	3,857.4	18.1	32.1	-20.79	-170.6	1,463.0	797.3	770.5	26.74	29.819			
4,347.7	4,245.8	4,217.0	3,899.5	18.4	32.5	-20.83	-173.1	1,483.3	806.6	779.5	27.10	29.759			
4,400.0	4,296.3	4,268.2	3,945.5	18.6	33.0	-20.94	-175.8	1,505.5	817.2	789.7	27.47	29.747			
4,500.0	4,393.7	4,365.6	4,033.1	19.0	33.9	-21.09	-181.0	1,547.8	839.9	811.8	28.09	29.895			
4,600.0	4,491.8	4,462.2	4,120.0	19.3	34.9	-21.19	-186.1	1,589.7	865.8	837.1	28.65	30.214			
4,700.0	4,590.5	4,557.8	4,206.0	19.6	35.8	-21.23	-191.2	1,631.2	894.8	865.6	29.15	30.694			
4,800.0	4,689.7	4,652.4	4,291.1	19.9	36.7	-21.23	-196.3	1,672.2	926.9	897.3	29.59	31.330			
4,900.0	4,789.3	4,745.9	4,375.2	20.1	37.6	-21.20	-201.3	1,712.8	962.1	932.1	29.96	32.118			
5,000.0	4,889.1	4,838.1	4,458.1	20.3	38.5	-21.13	-206.2	1,752.8	1,000.4	970.1	30.27	33.053			
5,100.0	4,989.1	4,929.0	4,539.8	20.4	39.3	-21.05	-211.0	1,792.2	1,041.7	1,011.1	30.52	34.135			
5,110.9	5,000.0	4,938.8	4,548.7	20.4	39.4	86.48	-211.6	1,796.5	1,046.3	1,015.8	30.54	34.261			
5,200.0	5,089.1	5,018.9	4,620.7	20.5	40.2	86.85	-215.8	1,831.2	1,084.8	1,053.9	30.85	35.165			
5,300.0	5,189.1	5,108.8	4,701.6	20.6	41.1	87.24	-220.6	1,870.3	1,128.0	1,096.7	31.21	36.144			
5,400.0	5,289.1	5,225.1	4,806.4	20.7	42.1	87.70	-226.8	1,920.0	1,170.7	1,139.1	31.62	37.028			
5,500.0	5,389.1	5,381.3	4,950.2	20.8	43.2	88.20	-234.2	1,980.8	1,209.5	1,177.4	32.09	37.691			
5,600.0	5,489.1	5,544.5	5,103.7	21.0	44.1	88.62	-241.0	2,035.8	1,243.2	1,210.6	32.58	38.155			
5,700.0	5,589.1	5,714.2	5,266.3	21.1	45.0	88.94	-246.9	2,083.7	1,271.4	1,238.3	33.08	38.429			
5,800.0	5,689.1	5,889.3	5,436.8	21.2	45.7	89.19	-251.7	2,123.1	1,293.8	1,260.2	33.58	38.532			
5,900.0	5,789.1	6,068.7	5,613.8	21.3	46.2	89.37	-255.4	2,152.6	1,310.3	1,276.2	34.05	38.479			
6,000.0	5,889.1	6,251.3	5,795.3	21.4	46.5	89.48	-257.7	2,171.3	1,320.5	1,286.0	34.49	38.281			
6,100.0	5,989.1	6,435.6	5,979.5	21.6	46.7	89.52	-258.5	2,178.5	1,324.4	1,289.5	34.90	37.944			
6,200.0	6,089.1	6,545.0	6,088.9	21.7	46.8	89.52	-258.6	2,178.6	1,324.4	1,289.2	35.21	37.611			
6,300.0	6,189.1	6,645.0	6,188.9	21.8	46.9	89.52	-258.6	2,178.6	1,324.4	1,288.9	35.51	37.292			
6,400.0	6,289.1	6,745.0	6,288.9	22.0	46.9	89.52	-258.6	2,178.6	1,324.4	1,288.6	35.82	36.976			
6,500.0	6,389.1	6,845.0	6,388.9	22.1	47.0	89.52	-258.6	2,178.6	1,324.4	1,288.3	36.13	36.662			
6,600.0	6,489.1	6,945.0	6,488.9	22.2	47.1	89.52	-258.6	2,178.6	1,324.4	1,288.0	36.44	36.351			
6,700.0	6,589.1	7,045.0	6,588.9	22.4	47.1	89.52	-258.6	2,178.6	1,324.4	1,287.7	36.75	36.042			
6,800.0	6,689.1	7,145.0	6,688.9	22.5	47.2	89.52	-258.6	2,178.6	1,324.4	1,287.4	37.06	35.735			
6,900.0	6,789.1	7,245.0	6,788.9	22.7	47.3	89.52	-258.6	2,178.6	1,324.4	1,287.1	37.38	35.432			
7,000.0	6,889.1	7,345.0	6,888.9	22.8	47.3	89.52	-258.6	2,178.6	1,324.4	1,286.7	37.70	35.131			

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 3-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 3-24	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 #1 (7-21-11)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Larson Farms 4-24 Pad Sec.24-T6N-R64W - Larson Farms 4-24 - Wellbore #1 - Plan #1 (7-21-11)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
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	Warning
7,060.9	6,950.0	7,406.0	6,949.8	22.9	47.4	89.52	-258.6	2,178.6	1,324.4	1,286.5	37.90	34.949	

Offset Design		Larson Farms 4-24 Pad Sec.24-T6N-R64W - Larson Farms 5-24 - Wellbore #1 - Plan #1 (7-21-11)											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	0.1	0.1	0.0	0.0	-119.31	-10.9	-19.5	22.3	22.3	0.00	N/A			
100.0	100.0	100.1	100.1	0.1	0.1	-119.31	-10.9	-19.5	22.3	22.1	0.22	99.272			
200.0	200.0	200.1	200.1	0.3	0.3	-119.31	-10.9	-19.5	22.3	21.7	0.67	33.113			
300.0	300.0	300.1	300.1	0.6	0.6	-119.31	-10.9	-19.5	22.3	21.2	1.12	19.870			
400.0	400.0	400.1	400.1	0.8	0.8	-119.31	-10.9	-19.5	22.3	20.8	1.57	14.194			
500.0	500.0	500.1	500.1	1.0	1.0	-119.31	-10.9	-19.5	22.3	20.3	2.02	11.040			
600.0	600.0	600.1	600.1	1.2	1.2	-119.31	-10.9	-19.5	22.3	19.9	2.47	9.033			
700.0	700.0	700.1	700.1	1.5	1.5	-119.31	-10.9	-19.5	22.3	19.4	2.92	7.643			
800.0	800.0	800.1	800.1	1.7	1.7	-119.31	-10.9	-19.5	22.3	19.0	3.37	6.624			
900.0	900.0	900.1	900.1	1.9	1.9	-119.31	-10.9	-19.5	22.3	18.5	3.82	5.845			
950.0	950.0	950.1	950.1	2.0	2.0	-119.31	-10.9	-19.5	22.3	18.3	4.05	5.520 CC, ES			
1,000.0	1,000.0	1,000.1	1,000.1	2.1	2.1	133.98	-10.9	-19.5	22.6	18.4	4.26	5.312 SF			
1,100.0	1,099.9	1,100.0	1,100.0	2.3	2.4	139.67	-10.9	-19.5	25.2	20.5	4.68	5.384			
1,200.0	1,199.7	1,200.2	1,200.2	2.5	2.6	147.47	-11.2	-19.1	30.5	25.4	5.09	6.002			
1,300.0	1,299.1	1,300.8	1,300.7	2.8	2.8	152.30	-12.9	-16.1	37.0	31.6	5.47	6.770			
1,400.0	1,398.2	1,401.6	1,401.3	3.0	3.0	154.77	-16.5	-9.9	44.1	38.2	5.86	7.520			
1,500.0	1,496.6	1,502.7	1,501.8	3.3	3.2	155.76	-21.9	-0.8	51.6	45.3	6.27	8.220			
1,600.0	1,594.4	1,603.9	1,602.0	3.6	3.4	155.81	-29.1	11.5	59.4	52.7	6.71	8.853			
1,700.0	1,691.5	1,705.4	1,701.9	4.0	3.7	155.24	-38.1	26.8	67.6	60.4	7.19	9.407			
1,713.2	1,704.2	1,718.8	1,715.1	4.1	3.8	155.13	-39.4	29.1	68.7	61.5	7.26	9.472			
1,800.0	1,787.9	1,807.1	1,801.4	4.5	4.1	153.87	-48.9	45.3	75.0	67.3	7.76	9.671			
1,900.0	1,884.4	1,909.0	1,900.2	5.0	4.4	151.10	-61.5	66.8	79.8	71.3	8.42	9.469			
2,000.0	1,980.9	2,010.9	1,998.0	5.5	4.9	146.91	-75.8	91.3	82.1	72.9	9.23	8.901			
2,100.0	2,077.4	2,112.5	2,094.5	6.0	5.4	141.09	-91.9	118.7	82.6	72.4	10.23	8.081			
2,200.0	2,173.8	2,213.6	2,189.3	6.5	6.0	133.35	-109.6	148.9	82.1	70.6	11.49	7.145			
2,289.5	2,260.2	2,303.4	2,272.5	7.0	6.6	124.60	-126.7	178.2	81.7	68.8	12.85	6.355			
2,300.0	2,270.3	2,313.9	2,282.1	7.0	6.7	123.46	-128.8	181.7	81.7	68.7	13.03	6.271			
2,400.0	2,366.8	2,413.1	2,372.6	7.5	7.5	111.54	-149.4	216.9	83.0	68.3	14.73	5.639			
2,500.0	2,463.2	2,511.1	2,460.5	8.1	8.3	98.42	-171.3	254.3	88.0	71.7	16.32	5.395			
2,600.0	2,559.7	2,608.7	2,547.2	8.6	9.2	86.32	-193.9	292.8	97.6	80.1	17.55	5.564			
2,700.0	2,656.2	2,706.2	2,634.0	9.2	10.1	76.65	-216.4	331.2	110.8	92.4	18.43	6.013			
2,800.0	2,752.7	2,803.7	2,720.8	9.7	11.0	69.15	-238.9	369.7	126.5	107.4	19.13	6.614			
2,900.0	2,849.1	2,901.3	2,807.5	10.3	11.9	63.34	-261.5	408.2	143.9	124.2	19.74	7.289			
3,000.0	2,945.6	2,998.8	2,894.3	10.8	12.8	58.81	-284.0	446.6	162.4	142.1	20.33	7.988			
3,100.0	3,042.1	3,096.4	2,981.0	11.4	13.8	55.21	-306.5	485.1	181.7	160.8	20.93	8.684			
3,200.0	3,138.6	3,193.9	3,067.8	11.9	14.7	52.30	-329.1	523.6	201.6	180.1	21.53	9.363			
3,300.0	3,235.0	3,291.4	3,154.5	12.5	15.6	49.91	-351.6	562.0	221.9	199.7	22.16	10.015			
3,400.0	3,331.5	3,389.0	3,241.3	13.0	16.6	47.92	-374.1	600.5	242.5	219.7	22.80	10.637			
3,500.0	3,428.0	3,486.5	3,328.0	13.6	17.5	46.25	-396.7	639.0	263.3	239.9	23.45	11.228			
3,600.0	3,524.4	3,584.0	3,414.8	14.2	18.5	44.82	-419.2	677.4	284.3	260.2	24.12	11.787			
3,700.0	3,620.9	3,681.6	3,501.5	14.7	19.5	43.59	-441.7	715.9	305.5	280.7	24.81	12.315			
3,800.0	3,717.4	3,779.1	3,588.3	15.3	20.4	42.51	-464.3	754.4	326.8	301.3	25.50	12.814			
3,900.0	3,813.9	3,876.7	3,675.0	15.8	21.4	41.57	-486.8	792.8	348.1	321.9	26.21	13.285			
4,000.0	3,910.3	3,974.2	3,761.8	16.4	22.4	40.74	-509.4	831.3	369.6	342.7	26.92	13.730			
4,100.0	4,006.8	4,071.7	3,848.6	17.0	23.3	39.99	-531.9	869.8	391.1	363.5	27.64	14.150			
4,200.0	4,103.3	4,169.3	3,935.3	17.5	24.3	39.33	-554.4	908.2	412.7	384.3	28.37	14.548			
4,300.0	4,199.8	4,266.8	4,022.1	18.1	25.3	38.73	-577.0	946.7	434.3	405.2	29.10	14.924			
4,347.7	4,245.8	4,313.4	4,063.5	18.4	25.7	38.47	-587.7	965.0	444.7	415.2	29.45	15.097			
4,400.0	4,296.3	4,364.2	4,108.7	18.6	26.2	38.30	-599.5	985.1	456.4	426.5	29.84	15.294			
4,500.0	4,393.7	4,461.0	4,194.8	19.0	27.2	37.85	-621.8	1,023.3	480.8	450.4	30.45	15.790			
4,600.0	4,491.8	4,556.9	4,280.1	19.3	28.1	37.27	-644.0	1,061.1	508.0	477.1	30.95	16.413			
4,700.0	4,590.5	4,651.9	4,364.5	19.6	29.1	36.59	-665.9	1,098.5	538.1	506.7	31.36	17.160			

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Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 3-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 3-24	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 #1 (7-21-11)	Offset TVD Reference:	Offset Datum

Offset Design													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			
4,800.0	4,689.7	4,745.7	4,448.0	19.9	30.0	35.84	-687.6	1,135.5	570.9	539.3	31.67	18.029			
4,900.0	4,789.3	4,838.3	4,530.4	20.1	30.9	35.05	-709.0	1,172.1	606.7	574.8	31.90	19.019			
5,000.0	4,889.1	4,929.6	4,611.6	20.3	31.9	34.25	-730.1	1,208.1	645.3	613.3	32.06	20.128			
5,100.0	4,989.1	5,019.8	4,691.8	20.4	32.7	33.45	-750.9	1,243.6	686.9	654.7	32.16	21.358			
5,110.9	5,000.0	5,032.4	4,703.0	20.4	32.9	140.84	-753.8	1,248.6	691.6	659.4	32.16	21.504			
5,200.0	5,089.1	5,137.3	4,797.4	20.5	33.7	139.46	-777.0	1,288.1	728.6	696.5	32.13	22.675			
5,300.0	5,189.1	5,259.4	4,909.3	20.6	34.6	138.18	-801.7	1,330.3	766.9	734.7	32.19	23.824			
5,400.0	5,289.1	5,386.0	5,027.4	20.7	35.4	137.13	-824.7	1,369.6	801.5	769.1	32.34	24.786			
5,500.0	5,389.1	5,516.7	5,151.3	20.8	36.1	136.26	-845.7	1,405.4	832.1	799.6	32.55	25.564			
5,600.0	5,489.1	5,651.3	5,280.7	21.0	36.8	135.57	-864.3	1,437.2	858.6	825.8	32.82	26.163			
5,700.0	5,589.1	5,789.2	5,415.0	21.1	37.3	135.02	-880.2	1,464.3	880.6	847.5	33.12	26.588			
5,800.0	5,689.1	5,929.9	5,553.4	21.2	37.8	134.61	-893.0	1,486.2	898.1	864.6	33.45	26.849			
5,900.0	5,789.1	6,072.8	5,695.0	21.3	38.1	134.32	-902.5	1,502.4	910.8	877.0	33.79	26.953			
6,000.0	5,889.1	6,217.3	5,839.0	21.4	38.4	134.14	-908.4	1,512.5	918.7	884.6	34.15	26.905			
6,100.0	5,989.1	6,362.6	5,984.2	21.6	38.5	134.07	-910.7	1,516.4	921.7	887.2	34.50	26.714			
6,200.0	6,089.1	6,467.5	6,089.2	21.7	38.6	134.07	-910.7	1,516.4	921.8	886.9	34.82	26.476			
6,300.0	6,189.1	6,567.5	6,189.2	21.8	38.7	134.07	-910.7	1,516.4	921.8	886.6	35.12	26.243			
6,400.0	6,289.1	6,667.5	6,289.2	22.0	38.7	134.07	-910.7	1,516.4	921.8	886.3	35.43	26.013			
6,500.0	6,389.1	6,767.5	6,389.2	22.1	38.8	134.07	-910.7	1,516.4	921.8	886.0	35.75	25.785			
6,600.0	6,489.1	6,867.5	6,489.2	22.2	38.9	134.07	-910.7	1,516.4	921.8	885.7	36.07	25.558			
6,700.0	6,589.1	6,967.5	6,589.2	22.4	39.0	134.07	-910.7	1,516.4	921.8	885.4	36.39	25.333			
6,800.0	6,689.1	7,067.5	6,689.2	22.5	39.0	134.07	-910.7	1,516.4	921.8	885.1	36.71	25.111			
6,900.0	6,789.1	7,167.5	6,789.2	22.7	39.1	134.07	-910.7	1,516.4	921.8	884.7	37.03	24.891			
7,000.0	6,889.1	7,267.5	6,889.2	22.8	39.2	134.07	-910.7	1,516.4	921.8	884.4	37.36	24.673			
7,040.6	6,929.7	7,308.1	6,929.8	22.8	39.2	134.07	-910.7	1,516.4	921.8	884.3	37.49	24.585			
7,060.9	6,950.0	7,328.3	6,950.0	22.9	39.3	134.07	-910.7	1,516.4	921.8	884.2	37.56	24.541			

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 3-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 3-24	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 #1 (7-21-11)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4655.7ft (Original Well Elev) Coordinates are relative to: Larson Farms 3-24
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.65°



Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 3-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.7ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.7ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 3-24	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 #1 (7-21-11)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4655.7ft (Original Well Elev) Coordinates are relative to: Larson Farms 3-24
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.65°

