

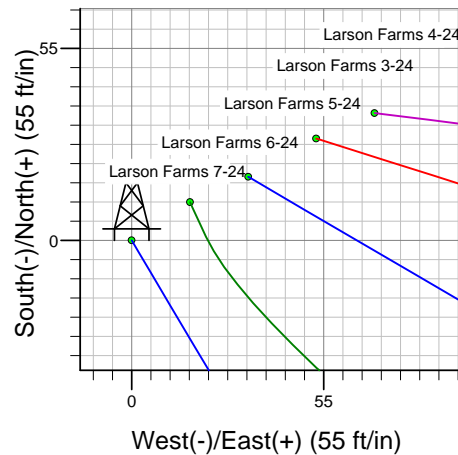
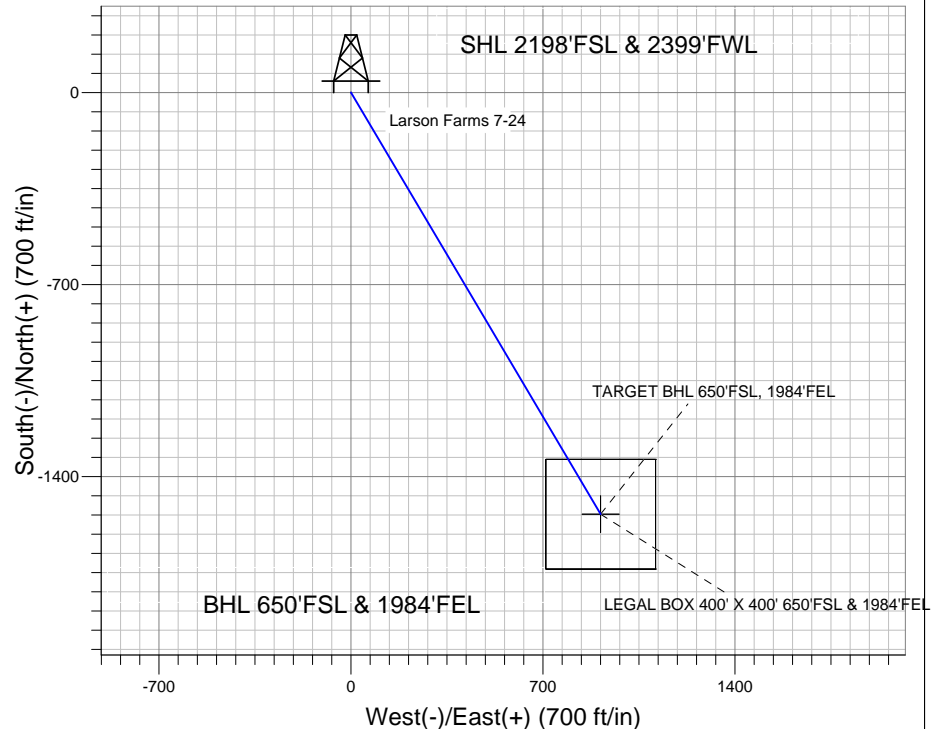
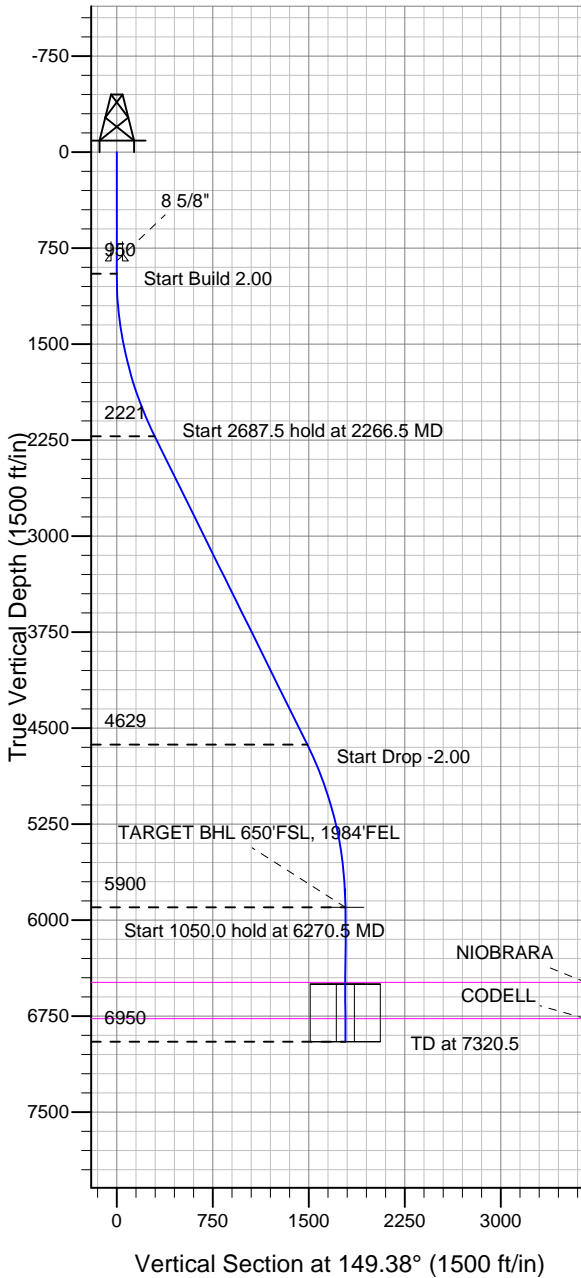
ENSIGN

Directional

Well Name: Larson Farms 7-24

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 1415898.64 3278444.79 40.470730 -104.499170
 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 7-24
 Plan #1 (7-22-11)
 12:53, July 28 2011



Azimuths to True North
 Magnetic North: 8.71°

Magnetic Field
 Strength: 53186.0snT
 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 650'FSL, 1984'FEL	5900.0	-1537.4	909.9	40.466510	-104.495900	Point
LEGAL BOX 400' X 400' 650'FSL & 1984'FEL	6500.0	-1537.4	909.9	40.466510	-104.495900	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	2266.5	26.33	149.38	2220.7	-255.8	151.4	2.00	149.38	297.2	
4	4954.0	26.33	149.38	4629.3	-1281.6	758.5	0.00	0.00	1489.2	
5	6270.5	0.00	0.00	5900.0	-1537.4	909.9	2.00	180.00	1786.4	TARGET BHL 650'FSL, 1984'FEL
6	7320.5	0.00	0.00	6950.0	-1537.4	909.9	0.00	0.00	1786.4	



Directional

St. James, Weld County CO

SEC.24-T6N-R64W

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

Larson Farms 7-24

Wellbore #1

Plan: Plan #1 (7-22-11)

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	
2,266.5	26.33	149.38	2,220.7	-255.8	151.4	2.00	2.00	0.00	149.38	
4,954.0	26.33	149.38	4,629.3	-1,281.6	758.5	0.00	0.00	0.00	0.00	
6,270.5	0.00	0.00	5,900.0	-1,537.4	909.9	2.00	-2.00	0.00	180.00	TARGET BHL 650°
7,320.5	0.00	0.00	6,950.0	-1,537.4	909.9	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-11)		

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	149.38	960.0	0.0	0.0	0.0	2.00	2.00	0.00
1,000.0	1.00	149.38	1,000.0	-0.4	0.2	0.4	2.00	2.00	0.00
1,040.0	1.80	149.38	1,040.0	-1.2	0.7	1.4	2.00	2.00	0.00
1,080.0	2.60	149.38	1,080.0	-2.5	1.5	2.9	2.00	2.00	0.00
1,120.0	3.40	149.38	1,119.9	-4.3	2.6	5.0	2.00	2.00	0.00
1,160.0	4.20	149.38	1,159.8	-6.6	3.9	7.7	2.00	2.00	0.00
1,200.0	5.00	149.38	1,199.7	-9.4	5.6	10.9	2.00	2.00	0.00
1,240.0	5.80	149.38	1,239.5	-12.6	7.5	14.7	2.00	2.00	0.00
1,280.0	6.60	149.38	1,279.3	-16.3	9.7	19.0	2.00	2.00	0.00
1,320.0	7.40	149.38	1,319.0	-20.5	12.2	23.9	2.00	2.00	0.00
1,360.0	8.20	149.38	1,358.6	-25.2	14.9	29.3	2.00	2.00	0.00
1,400.0	9.00	149.38	1,398.2	-30.4	18.0	35.3	2.00	2.00	0.00
1,440.0	9.80	149.38	1,437.6	-36.0	21.3	41.8	2.00	2.00	0.00
1,480.0	10.60	149.38	1,477.0	-42.1	24.9	48.9	2.00	2.00	0.00
1,520.0	11.40	149.38	1,516.2	-48.6	28.8	56.5	2.00	2.00	0.00
1,560.0	12.20	149.38	1,555.4	-55.7	33.0	64.7	2.00	2.00	0.00
1,600.0	13.00	149.38	1,594.4	-63.2	37.4	73.4	2.00	2.00	0.00
1,640.0	13.80	149.38	1,633.3	-71.2	42.1	82.7	2.00	2.00	0.00
1,680.0	14.60	149.38	1,672.1	-79.6	47.1	92.5	2.00	2.00	0.00
1,720.0	15.40	149.38	1,710.8	-88.5	52.4	102.9	2.00	2.00	0.00
1,760.0	16.20	149.38	1,749.3	-97.9	57.9	113.7	2.00	2.00	0.00
1,800.0	17.00	149.38	1,787.6	-107.7	63.8	125.2	2.00	2.00	0.00
1,840.0	17.80	149.38	1,825.8	-118.0	69.8	137.1	2.00	2.00	0.00
1,880.0	18.60	149.38	1,863.8	-128.8	76.2	149.6	2.00	2.00	0.00
1,920.0	19.40	149.38	1,901.6	-140.0	82.8	162.7	2.00	2.00	0.00
1,960.0	20.20	149.38	1,939.2	-151.6	89.7	176.2	2.00	2.00	0.00
2,000.0	21.00	149.38	1,976.6	-163.7	96.9	190.3	2.00	2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-11)		

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)
2,040.0	21.80	149.38	2,013.9	-176.3	104.3	204.9	2.00	2.00	0.00
2,080.0	22.60	149.38	2,050.9	-189.3	112.0	220.0	2.00	2.00	0.00
2,120.0	23.40	149.38	2,087.7	-202.8	120.0	235.6	2.00	2.00	0.00
2,160.0	24.20	149.38	2,124.3	-216.7	128.2	251.8	2.00	2.00	0.00
2,200.0	25.00	149.38	2,160.7	-231.0	136.7	268.4	2.00	2.00	0.00
2,240.0	25.80	149.38	2,196.8	-245.8	145.4	285.6	2.00	2.00	0.00
2,266.5	26.33	149.38	2,220.7	-255.8	151.4	297.2	2.00	2.00	0.00
2,280.0	26.33	149.38	2,232.7	-260.9	154.4	303.2	0.00	0.00	0.00
2,320.0	26.33	149.38	2,268.6	-276.2	163.5	320.9	0.00	0.00	0.00
2,360.0	26.33	149.38	2,304.4	-291.5	172.5	338.7	0.00	0.00	0.00
2,400.0	26.33	149.38	2,340.3	-306.7	181.5	356.4	0.00	0.00	0.00
2,440.0	26.33	149.38	2,376.2	-322.0	190.6	374.2	0.00	0.00	0.00
2,480.0	26.33	149.38	2,412.0	-337.3	199.6	391.9	0.00	0.00	0.00
2,520.0	26.33	149.38	2,447.9	-352.5	208.6	409.6	0.00	0.00	0.00
2,560.0	26.33	149.38	2,483.7	-367.8	217.7	427.4	0.00	0.00	0.00
2,600.0	26.33	149.38	2,519.6	-383.1	226.7	445.1	0.00	0.00	0.00
2,640.0	26.33	149.38	2,555.4	-398.3	235.7	462.9	0.00	0.00	0.00
2,680.0	26.33	149.38	2,591.3	-413.6	244.8	480.6	0.00	0.00	0.00
2,720.0	26.33	149.38	2,627.1	-428.9	253.8	498.4	0.00	0.00	0.00
2,760.0	26.33	149.38	2,663.0	-444.1	262.9	516.1	0.00	0.00	0.00
2,800.0	26.33	149.38	2,698.8	-459.4	271.9	533.8	0.00	0.00	0.00
2,840.0	26.33	149.38	2,734.7	-474.7	280.9	551.6	0.00	0.00	0.00
2,880.0	26.33	149.38	2,770.5	-489.9	290.0	569.3	0.00	0.00	0.00
2,920.0	26.33	149.38	2,806.4	-505.2	299.0	587.1	0.00	0.00	0.00
2,960.0	26.33	149.38	2,842.2	-520.5	308.0	604.8	0.00	0.00	0.00
3,000.0	26.33	149.38	2,878.1	-535.7	317.1	622.5	0.00	0.00	0.00
3,040.0	26.33	149.38	2,913.9	-551.0	326.1	640.3	0.00	0.00	0.00
3,080.0	26.33	149.38	2,949.8	-566.3	335.1	658.0	0.00	0.00	0.00
3,120.0	26.33	149.38	2,985.6	-581.6	344.2	675.8	0.00	0.00	0.00
3,160.0	26.33	149.38	3,021.5	-596.8	353.2	693.5	0.00	0.00	0.00
3,200.0	26.33	149.38	3,057.3	-612.1	362.3	711.3	0.00	0.00	0.00
3,240.0	26.33	149.38	3,093.2	-627.4	371.3	729.0	0.00	0.00	0.00
3,280.0	26.33	149.38	3,129.0	-642.6	380.3	746.7	0.00	0.00	0.00
3,320.0	26.33	149.38	3,164.9	-657.9	389.4	764.5	0.00	0.00	0.00
3,360.0	26.33	149.38	3,200.7	-673.2	398.4	782.2	0.00	0.00	0.00
3,400.0	26.33	149.38	3,236.6	-688.4	407.4	800.0	0.00	0.00	0.00
3,440.0	26.33	149.38	3,272.4	-703.7	416.5	817.7	0.00	0.00	0.00
3,480.0	26.33	149.38	3,308.3	-719.0	425.5	835.4	0.00	0.00	0.00
3,520.0	26.33	149.38	3,344.1	-734.2	434.5	853.2	0.00	0.00	0.00
3,560.0	26.33	149.38	3,380.0	-749.5	443.6	870.9	0.00	0.00	0.00
3,600.0	26.33	149.38	3,415.8	-764.8	452.6	888.7	0.00	0.00	0.00
3,640.0	26.33	149.38	3,451.7	-780.0	461.7	906.4	0.00	0.00	0.00
3,680.0	26.33	149.38	3,487.5	-795.3	470.7	924.2	0.00	0.00	0.00
3,720.0	26.33	149.38	3,523.4	-810.6	479.7	941.9	0.00	0.00	0.00
3,760.0	26.33	149.38	3,559.2	-825.8	488.8	959.6	0.00	0.00	0.00
3,800.0	26.33	149.38	3,595.1	-841.1	497.8	977.4	0.00	0.00	0.00
3,840.0	26.33	149.38	3,630.9	-856.4	506.8	995.1	0.00	0.00	0.00
3,880.0	26.33	149.38	3,666.8	-871.6	515.9	1,012.9	0.00	0.00	0.00
3,920.0	26.33	149.38	3,702.6	-886.9	524.9	1,030.6	0.00	0.00	0.00
3,960.0	26.33	149.38	3,738.5	-902.2	533.9	1,048.3	0.00	0.00	0.00
4,000.0	26.33	149.38	3,774.3	-917.5	543.0	1,066.1	0.00	0.00	0.00
4,040.0	26.33	149.38	3,810.2	-932.7	552.0	1,083.8	0.00	0.00	0.00
4,080.0	26.33	149.38	3,846.0	-948.0	561.1	1,101.6	0.00	0.00	0.00
4,120.0	26.33	149.38	3,881.9	-963.3	570.1	1,119.3	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-11)		

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	26.33	149.38	3,917.7	-978.5	579.1	1,137.1	0.00	0.00	0.00
4,200.0	26.33	149.38	3,953.6	-993.8	588.2	1,154.8	0.00	0.00	0.00
4,240.0	26.33	149.38	3,989.4	-1,009.1	597.2	1,172.5	0.00	0.00	0.00
4,280.0	26.33	149.38	4,025.3	-1,024.3	606.2	1,190.3	0.00	0.00	0.00
4,320.0	26.33	149.38	4,061.1	-1,039.6	615.3	1,208.0	0.00	0.00	0.00
4,360.0	26.33	149.38	4,097.0	-1,054.9	624.3	1,225.8	0.00	0.00	0.00
4,400.0	26.33	149.38	4,132.8	-1,070.1	633.3	1,243.5	0.00	0.00	0.00
4,440.0	26.33	149.38	4,168.7	-1,085.4	642.4	1,261.2	0.00	0.00	0.00
4,480.0	26.33	149.38	4,204.5	-1,100.7	651.4	1,279.0	0.00	0.00	0.00
4,520.0	26.33	149.38	4,240.4	-1,115.9	660.4	1,296.7	0.00	0.00	0.00
4,560.0	26.33	149.38	4,276.2	-1,131.2	669.5	1,314.5	0.00	0.00	0.00
4,600.0	26.33	149.38	4,312.1	-1,146.5	678.5	1,332.2	0.00	0.00	0.00
4,640.0	26.33	149.38	4,347.9	-1,161.7	687.6	1,350.0	0.00	0.00	0.00
4,680.0	26.33	149.38	4,383.8	-1,177.0	696.6	1,367.7	0.00	0.00	0.00
4,720.0	26.33	149.38	4,419.6	-1,192.3	705.6	1,385.4	0.00	0.00	0.00
4,760.0	26.33	149.38	4,455.5	-1,207.5	714.7	1,403.2	0.00	0.00	0.00
4,800.0	26.33	149.38	4,491.3	-1,222.8	723.7	1,420.9	0.00	0.00	0.00
4,840.0	26.33	149.38	4,527.2	-1,238.1	732.7	1,438.7	0.00	0.00	0.00
4,880.0	26.33	149.38	4,563.0	-1,253.3	741.8	1,456.4	0.00	0.00	0.00
4,920.0	26.33	149.38	4,598.9	-1,268.6	750.8	1,474.1	0.00	0.00	0.00
4,954.0	26.33	149.38	4,629.3	-1,281.6	758.5	1,489.2	0.00	0.00	0.00
4,960.0	26.21	149.38	4,634.7	-1,283.9	759.8	1,491.9	2.00	-2.00	0.00
5,000.0	25.41	149.38	4,670.7	-1,298.9	768.7	1,509.3	2.00	-2.00	0.00
5,040.0	24.61	149.38	4,707.0	-1,313.4	777.3	1,526.2	2.00	-2.00	0.00
5,080.0	23.81	149.38	4,743.5	-1,327.5	785.7	1,542.6	2.00	-2.00	0.00
5,120.0	23.01	149.38	4,780.2	-1,341.2	793.8	1,558.5	2.00	-2.00	0.00
5,160.0	22.21	149.38	4,817.1	-1,354.4	801.6	1,573.9	2.00	-2.00	0.00
5,200.0	21.41	149.38	4,854.2	-1,367.2	809.2	1,588.7	2.00	-2.00	0.00
5,240.0	20.61	149.38	4,891.6	-1,379.6	816.5	1,603.1	2.00	-2.00	0.00
5,280.0	19.81	149.38	4,929.1	-1,391.5	823.5	1,616.9	2.00	-2.00	0.00
5,320.0	19.01	149.38	4,966.8	-1,402.9	830.3	1,630.2	2.00	-2.00	0.00
5,360.0	18.21	149.38	5,004.7	-1,413.9	836.8	1,643.0	2.00	-2.00	0.00
5,400.0	17.41	149.38	5,042.8	-1,424.4	843.0	1,655.2	2.00	-2.00	0.00
5,440.0	16.61	149.38	5,081.1	-1,434.5	849.0	1,666.9	2.00	-2.00	0.00
5,480.0	15.81	149.38	5,119.5	-1,444.1	854.7	1,678.1	2.00	-2.00	0.00
5,520.0	15.01	149.38	5,158.0	-1,453.3	860.1	1,688.7	2.00	-2.00	0.00
5,560.0	14.21	149.38	5,196.7	-1,461.9	865.2	1,698.8	2.00	-2.00	0.00
5,600.0	13.41	149.38	5,235.6	-1,470.2	870.1	1,708.3	2.00	-2.00	0.00
5,640.0	12.61	149.38	5,274.6	-1,477.9	874.7	1,717.3	2.00	-2.00	0.00
5,680.0	11.81	149.38	5,313.7	-1,485.2	879.0	1,725.8	2.00	-2.00	0.00
5,720.0	11.01	149.38	5,352.9	-1,492.0	883.0	1,733.7	2.00	-2.00	0.00
5,760.0	10.21	149.38	5,392.2	-1,498.3	886.8	1,741.1	2.00	-2.00	0.00
5,800.0	9.41	149.38	5,431.6	-1,504.2	890.2	1,747.9	2.00	-2.00	0.00
5,840.0	8.61	149.38	5,471.1	-1,509.6	893.4	1,754.2	2.00	-2.00	0.00
5,880.0	7.81	149.38	5,510.7	-1,514.5	896.3	1,759.9	2.00	-2.00	0.00
5,920.0	7.01	149.38	5,550.4	-1,518.9	899.0	1,765.0	2.00	-2.00	0.00
5,960.0	6.21	149.38	5,590.1	-1,522.9	901.3	1,769.6	2.00	-2.00	0.00
6,000.0	5.41	149.38	5,629.9	-1,526.4	903.4	1,773.7	2.00	-2.00	0.00
6,040.0	4.61	149.38	5,669.7	-1,529.4	905.1	1,777.2	2.00	-2.00	0.00
6,080.0	3.81	149.38	5,709.6	-1,531.9	906.6	1,780.1	2.00	-2.00	0.00
6,120.0	3.01	149.38	5,749.5	-1,534.0	907.9	1,782.5	2.00	-2.00	0.00
6,160.0	2.21	149.38	5,789.5	-1,535.5	908.8	1,784.3	2.00	-2.00	0.00
6,200.0	1.41	149.38	5,829.5	-1,536.6	909.4	1,785.6	2.00	-2.00	0.00
6,240.0	0.61	149.38	5,869.5	-1,537.2	909.8	1,786.3	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-11)		

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)
6,270.5	0.00	0.00	5,900.0	-1,537.4	909.9	1,786.4	2.00	-2.00	-489.47
TARGET BHL 650'FSL, 1984'FEL									
6,280.0	0.00	0.00	5,909.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,320.0	0.00	0.00	5,949.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,360.0	0.00	0.00	5,989.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,029.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,440.0	0.00	0.00	6,069.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,480.0	0.00	0.00	6,109.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,520.0	0.00	0.00	6,149.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,189.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,229.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,269.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,309.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,349.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,389.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,429.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,469.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,856.5	0.00	0.00	6,486.0	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
NIOBRARA									
6,870.5	0.00	0.00	6,500.0	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
LEGAL BOX 400' X 400' 650'FSL & 1984'FEL									
6,880.0	0.00	0.00	6,509.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,920.0	0.00	0.00	6,549.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
6,960.0	0.00	0.00	6,589.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,629.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,040.0	0.00	0.00	6,669.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,080.0	0.00	0.00	6,709.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,120.0	0.00	0.00	6,749.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,140.5	0.00	0.00	6,770.0	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
CODELL									
7,160.0	0.00	0.00	6,789.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,200.0	0.00	0.00	6,829.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,240.0	0.00	0.00	6,869.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,280.0	0.00	0.00	6,909.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,320.0	0.00	0.00	6,949.5	-1,537.4	909.9	1,786.4	0.00	0.00	0.00
7,320.5	0.00	0.00	6,950.0	-1,537.4	909.9	1,786.4	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 650'FS	0.00	0.00	5,900.0	-1,537.4	909.9	1,414,371.70	3,279,371.92	40.466510	-104.495900
- plan hits target center									
- Point									
LEGAL BOX 400' X 400'	0.00	0.00	6,500.0	-1,537.4	909.9	1,414,371.69	3,279,371.95	40.466510	-104.495900
- plan hits target center									
- Rectangle (sides W400.0 H400.0 D450.0)									

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-22-11)		

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

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
6,856.5	6,486.0	NIOBRARA		0.00		
7,140.5	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 7-24

Wellbore #1

Plan #1 (7-22-11)

Anticollision Report

28 July, 2011

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	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 (7-22-11)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (7-22-11)		
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 7/28/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	7,320.5	Plan #1 (7-22-11) (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						
Larson Farms 4-24 Pad Sec.24-T6N-R64W						
Larson Farms 6-24 - Wellbore #1 - Plan #1 (7-21-11)	327.8	327.9	19.8	18.5	16.153	CC, ES
Larson Farms 6-24 - Wellbore #1 - Plan #1 (7-21-11)	500.0	499.0	23.7	21.7	11.888	SF

Offset Design Larson Farms 4-24 Pad Sec.24-T6N-R64W - Larson Farms 6-24 - 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									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	56.78	10.9	16.7	20.0	20.0	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	56.78	10.9	16.7	20.0	19.7	0.22	88.784	
200.0	200.0	200.0	200.0	0.3	0.3	56.78	10.9	16.7	20.0	19.3	0.67	29.595	
300.0	300.0	300.1	300.0	0.6	0.5	61.79	9.4	17.4	19.8	18.7	1.10	17.954	
327.8	327.8	327.9	327.8	0.6	0.6	65.00	8.3	17.9	19.8	18.5	1.22	16.153	CC, ES
400.0	400.0	399.9	399.7	0.8	0.8	76.77	4.6	19.6	20.2	18.6	1.54	13.133	
500.0	500.0	499.0	498.5	1.0	1.0	97.32	-3.0	23.5	23.7	21.7	2.00	11.888	SF
600.0	600.0	597.4	596.2	1.2	1.3	112.35	-12.4	30.1	32.7	30.3	2.45	13.383	
700.0	700.0	695.0	692.7	1.5	1.6	120.38	-23.2	39.5	46.4	43.5	2.90	15.975	
800.0	800.0	791.5	787.7	1.7	2.0	124.35	-35.4	51.8	63.9	60.5	3.38	18.910	
900.0	900.0	886.9	880.9	1.9	2.4	126.27	-48.9	66.6	84.8	80.9	3.87	21.904	
950.0	950.0	934.0	926.7	2.0	2.6	126.80	-56.1	75.0	96.5	92.4	4.13	23.377	
1,000.0	1,000.0	980.9	972.1	2.1	2.8	-22.23	-63.6	83.9	108.6	104.2	4.33	25.060	
1,100.0	1,099.9	1,074.0	1,061.7	2.3	3.3	-22.25	-79.5	103.7	132.7	128.0	4.76	27.904	
1,200.0	1,199.7	1,166.4	1,149.8	2.5	3.9	-22.87	-96.7	125.9	156.8	151.6	5.20	30.165	
1,300.0	1,299.1	1,258.1	1,236.1	2.7	4.5	-23.81	-114.9	150.4	181.0	175.3	5.67	31.945	
1,400.0	1,398.2	1,348.9	1,320.8	2.9	5.1	-24.97	-134.2	177.1	205.2	199.0	6.15	33.348	
1,500.0	1,496.6	1,438.9	1,403.6	3.2	5.9	-26.25	-154.6	205.9	229.5	222.8	6.67	34.393	
1,600.0	1,594.4	1,528.1	1,484.5	3.6	6.6	-27.61	-175.9	236.7	254.0	246.8	7.23	35.110	
1,700.0	1,691.5	1,618.9	1,565.7	3.9	7.5	-29.06	-198.7	270.2	278.6	270.7	7.86	35.461	
1,800.0	1,787.6	1,715.8	1,652.1	4.4	8.4	-30.68	-223.4	306.7	301.2	292.7	8.56	35.197	
1,900.0	1,882.7	1,813.2	1,738.9	4.9	9.3	-32.39	-248.2	343.3	321.3	311.9	9.35	34.373	
2,000.0	1,976.6	1,911.0	1,826.1	5.5	10.3	-34.22	-273.0	380.0	338.8	328.5	10.24	33.090	
2,100.0	2,069.4	2,009.0	1,913.4	6.2	11.2	-36.20	-298.0	416.8	353.9	342.6	11.25	31.445	
2,200.0	2,160.7	2,107.1	2,000.8	6.9	12.2	-38.35	-322.9	453.7	366.8	354.3	12.42	29.532	

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

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	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 (7-22-11)	Offset TVD Reference:	Offset Datum

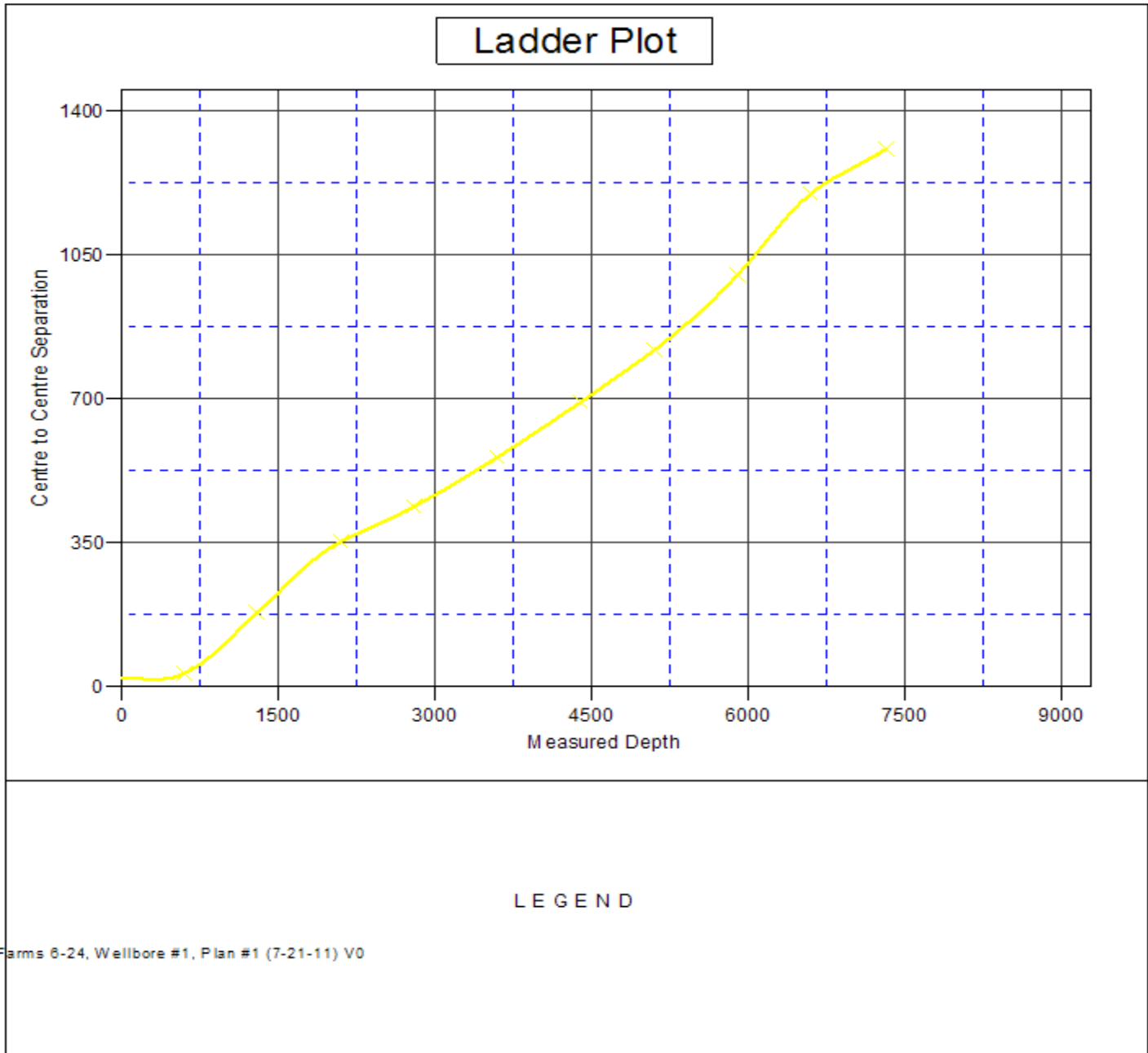
Offset Design												Offset Site Error:	0.0ft
Survey Program: 0-MWMD												Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
2,266.5	2,220.7	2,172.3	2,058.9	7.5	12.8	-39.89	-339.5	478.2	374.2	360.9	13.29	28.158	
2,300.0	2,250.7	2,205.2	2,088.2	7.7	13.1	-40.72	-347.9	490.6	377.7	363.9	13.76	27.454	
2,400.0	2,340.3	2,303.2	2,175.6	8.6	14.1	-43.12	-372.8	527.4	388.8	373.5	15.23	25.534	
2,500.0	2,429.9	2,401.3	2,263.0	9.4	15.0	-45.39	-397.8	564.3	400.5	383.7	16.78	23.869	
2,600.0	2,519.6	2,499.4	2,350.4	10.3	16.0	-47.52	-422.7	601.1	412.8	394.4	18.40	22.432	
2,700.0	2,609.2	2,597.4	2,437.7	11.2	17.0	-49.54	-447.7	638.0	425.6	405.5	20.08	21.192	
2,800.0	2,698.8	2,695.5	2,525.1	12.1	17.9	-51.43	-472.6	674.8	438.9	417.1	21.82	20.120	
2,900.0	2,788.4	2,793.6	2,612.5	13.0	18.9	-53.22	-497.5	711.7	452.7	429.2	23.59	19.191	
3,000.0	2,878.1	2,891.6	2,699.9	13.9	19.9	-54.90	-522.5	748.5	467.0	441.6	25.40	18.384	
3,100.0	2,967.7	2,989.7	2,787.3	14.8	20.8	-56.48	-547.4	785.4	481.5	454.3	27.24	17.681	
3,200.0	3,057.3	3,087.8	2,874.7	15.7	21.8	-57.97	-572.4	822.2	496.5	467.4	29.09	17.065	
3,300.0	3,146.9	3,185.8	2,962.1	16.6	22.8	-59.37	-597.3	859.1	511.7	480.7	30.97	16.523	
3,400.0	3,236.6	3,283.9	3,049.5	17.5	23.7	-60.69	-622.3	895.9	527.2	494.4	32.86	16.045	
3,500.0	3,326.2	3,381.9	3,136.8	18.4	24.7	-61.93	-647.2	932.8	543.0	508.3	34.76	15.621	
3,600.0	3,415.8	3,480.0	3,224.2	19.3	25.7	-63.11	-672.2	969.6	559.1	522.4	36.67	15.245	
3,700.0	3,505.4	3,578.1	3,311.6	20.2	26.7	-64.22	-697.1	1,006.5	575.3	536.7	38.59	14.908	
3,800.0	3,595.1	3,676.1	3,399.0	21.1	27.6	-65.27	-722.0	1,043.3	591.8	551.3	40.51	14.607	
3,900.0	3,684.7	3,774.2	3,486.4	22.1	28.6	-66.27	-747.0	1,080.2	608.4	566.0	42.44	14.336	
4,000.0	3,774.3	3,872.3	3,573.8	23.0	29.6	-67.21	-771.9	1,117.0	625.2	580.8	44.37	14.091	
4,100.0	3,863.9	3,970.3	3,661.2	23.9	30.5	-68.10	-796.9	1,153.9	642.2	595.9	46.30	13.870	
4,200.0	3,953.6	4,068.4	3,748.6	24.8	31.5	-68.94	-821.8	1,190.7	659.3	611.1	48.23	13.669	
4,300.0	4,043.2	4,166.5	3,835.9	25.7	32.5	-69.75	-846.8	1,227.6	676.5	626.4	50.16	13.486	
4,400.0	4,132.8	4,264.5	3,923.3	26.6	33.5	-70.51	-871.7	1,264.4	693.9	641.8	52.10	13.320	
4,500.0	4,222.4	4,362.6	4,010.7	27.6	34.4	-71.24	-896.7	1,301.3	711.4	657.4	54.03	13.167	
4,600.0	4,312.1	4,460.7	4,098.1	28.5	35.4	-71.93	-921.6	1,338.1	729.0	673.0	55.96	13.027	
4,700.0	4,401.7	4,558.7	4,185.5	29.4	36.4	-72.59	-946.6	1,375.0	746.7	688.8	57.89	12.898	
4,800.0	4,491.3	4,656.8	4,272.9	30.3	37.3	-73.22	-971.5	1,411.8	764.4	704.6	59.82	12.780	
4,900.0	4,580.9	4,754.9	4,360.3	31.2	38.3	-73.82	-996.4	1,448.7	782.3	720.6	61.74	12.670	
4,954.0	4,629.3	4,807.8	4,407.5	31.7	38.8	-74.13	-1,009.9	1,468.6	792.0	729.2	62.78	12.614	
5,000.0	4,670.7	4,852.9	4,447.7	32.1	39.3	-74.53	-1,021.4	1,485.5	800.3	736.7	63.65	12.575	
5,100.0	4,761.8	4,951.0	4,535.1	32.8	40.3	-75.23	-1,046.3	1,522.4	819.2	753.9	65.31	12.543	
5,200.0	4,854.2	5,049.0	4,622.4	33.4	41.2	-75.69	-1,071.3	1,559.2	839.0	772.1	66.85	12.550	
5,300.0	4,947.9	5,146.9	4,709.6	33.9	42.2	-75.93	-1,096.2	1,596.0	859.6	791.3	68.25	12.594	
5,400.0	5,042.8	5,244.4	4,796.5	34.4	43.2	-75.98	-1,121.0	1,632.6	881.0	811.5	69.52	12.673	
5,500.0	5,138.7	5,341.4	4,883.0	34.9	44.1	-75.85	-1,145.7	1,669.1	903.4	832.7	70.65	12.786	
5,600.0	5,235.6	5,438.0	4,969.0	35.3	45.1	-75.55	-1,170.2	1,705.3	926.7	855.0	71.65	12.933	
5,700.0	5,333.2	5,533.8	5,054.4	35.7	46.0	-75.11	-1,194.6	1,741.4	951.0	878.5	72.51	13.116	
5,800.0	5,431.6	5,628.8	5,139.1	36.0	47.0	-74.55	-1,218.8	1,777.1	976.5	903.3	73.23	13.334	
5,900.0	5,530.5	5,723.0	5,223.0	36.3	47.9	-73.88	-1,242.7	1,812.5	1,003.2	929.4	73.82	13.590	
6,000.0	5,629.9	5,816.1	5,306.0	36.5	48.8	-73.13	-1,266.4	1,847.5	1,031.4	957.1	74.29	13.884	
6,100.0	5,729.6	5,908.1	5,388.0	36.7	49.7	-72.31	-1,289.8	1,882.0	1,061.1	986.5	74.63	14.219	
6,200.0	5,829.5	6,008.1	5,477.1	36.8	50.7	-71.30	-1,315.1	1,919.4	1,092.4	1,017.6	74.80	14.605	
6,270.5	5,900.0	6,097.3	5,557.7	36.9	51.4	79.09	-1,336.6	1,951.2	1,114.4	1,039.7	74.68	14.922	
6,300.0	5,929.5	6,135.2	5,592.3	36.9	51.6	79.67	-1,345.3	1,964.0	1,123.3	1,048.8	74.51	15.077	
6,400.0	6,029.5	6,266.9	5,714.0	36.9	52.5	81.50	-1,373.5	2,005.7	1,152.0	1,078.1	73.96	15.576	
6,500.0	6,129.5	6,403.6	5,842.6	37.0	53.3	83.07	-1,399.4	2,044.0	1,177.9	1,104.5	73.49	16.028	
6,600.0	6,229.5	6,544.7	5,977.5	37.1	54.0	84.39	-1,422.6	2,078.1	1,200.6	1,127.6	73.09	16.427	
6,700.0	6,329.5	6,689.8	6,118.2	37.1	54.6	85.47	-1,442.4	2,107.5	1,219.8	1,147.0	72.79	16.759	
6,800.0	6,429.5	6,833.4	6,259.1	37.2	55.1	86.29	-1,458.2	2,130.7	1,235.2	1,162.6	72.59	17.017	
6,900.0	6,529.5	6,931.9	6,356.0	37.3	55.4	86.77	-1,467.7	2,144.9	1,249.1	1,176.5	72.54	17.218	
7,000.0	6,629.5	7,030.4	6,453.0	37.4	55.8	87.25	-1,477.3	2,159.0	1,263.0	1,190.5	72.52	17.415	
7,100.0	6,729.5	7,128.9	6,550.0	37.4	56.2	87.71	-1,486.9	2,173.2	1,277.0	1,204.5	72.51	17.611	

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	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 (7-22-11)	Offset TVD Reference:	Offset Datum

Offset Design Larson Farms 4-24 Pad Sec.24-T6N-R64W - Larson Farms 6-24 - 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 (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
7,200.0	6,829.5	7,227.4	6,647.0	37.5	56.5	88.17	-1,496.5	2,187.4	1,291.1	1,218.6	72.50	17.807	
7,300.0	6,929.5	7,325.8	6,744.0	37.6	56.9	88.61	-1,506.1	2,201.5	1,305.3	1,232.8	72.50	18.003	
7,320.5	6,950.0	7,346.0	6,763.9	37.6	57.0	88.70	-1,508.1	2,204.4	1,308.2	1,235.7	72.50	18.043	

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 7-24
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 7-24	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 (7-22-11)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4655.7ft (Original Well Elev) Coordinates are relative to: Larson Farms 7-24
 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 7-24
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 7-24	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 (7-22-11)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4655.7ft (Original Well Elev) Coordinates are relative to: Larson Farms 7-24
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°

