

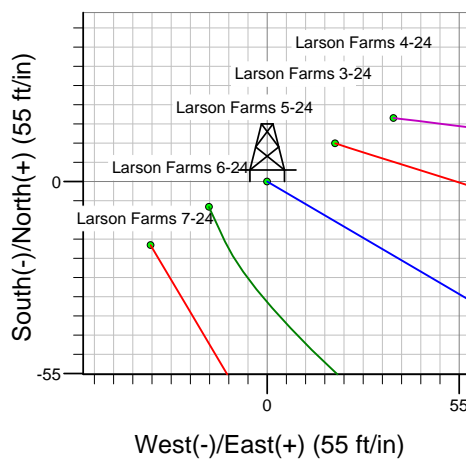
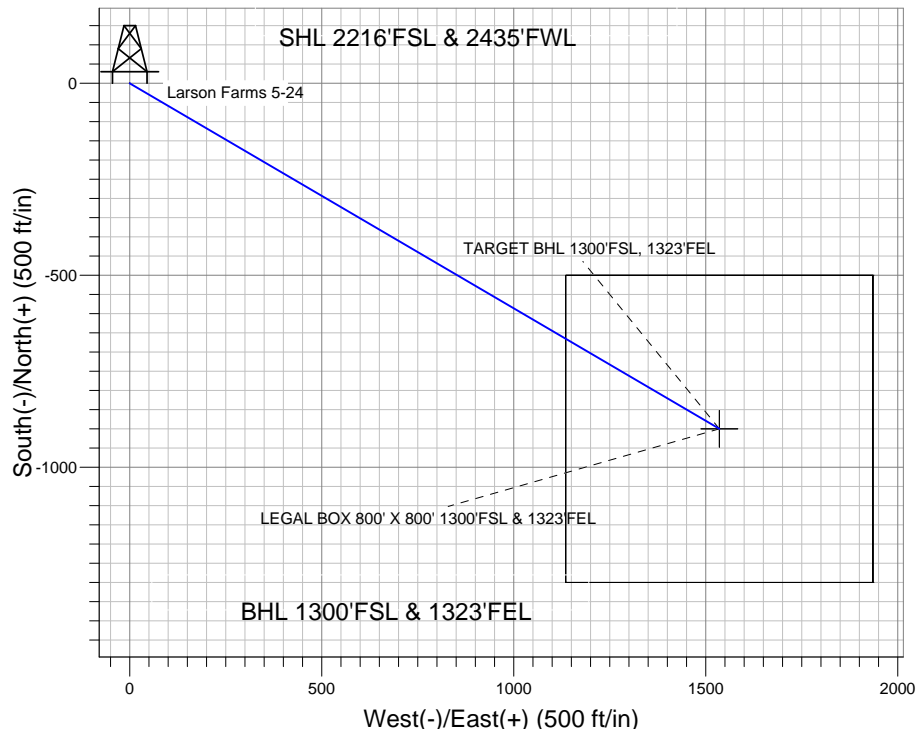
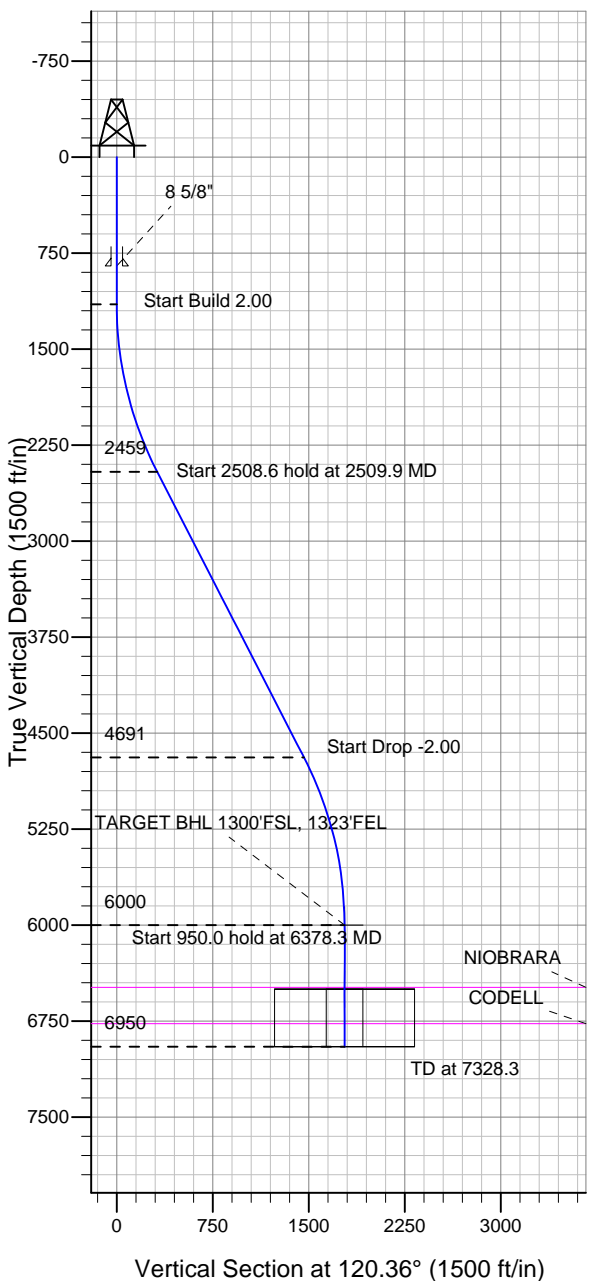
Well Name: Larson Farms 5-24

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

Ground Elevation: 4642.8

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1415917.24	3278477.97	40.470780	-104.499050	
		Original Well Elev WELL @ 4655.8ft (Original Well Elev)				

St. James, Weld County CO



Azimuths to True North
 Magnetic North: 8.71°

Magnetic Field
 Strength: 53186.0nT
 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 1300'FSL, 1323'FEL	6000.0	-899.8	1535.9	40.468310	-104.493530	Point
LEGAL BOX 800' X 800' 1300'FSL & 1323'FEL	6500.0	-899.8	1535.9	40.468310	-104.493530	Rectangle (Sides: L800.0 W800.0)

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	1150.0	0.00	0.00	1150.0	0.0	0.0	0.00	0.00	0.0	
3	2509.9	27.20	120.36	2459.4	-160.1	273.3	2.00	120.36	316.7	
4	5018.5	27.20	120.36	4690.6	-739.7	1262.6	0.00	0.00	1463.3	
5	6378.3	0.00	0.00	6000.0	-899.8	1535.9	2.00	180.00	1780.0	TARGET BHL 1300'FSL, 1323'FEL
6	7328.3	0.00	0.00	6950.0	-899.8	1535.9	0.00	0.00	1780.0	



Directional

St. James, Weld County CO

SEC.24-T6N-R64W

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

Larson Farms 5-24

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	
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,509.9	27.20	120.36	2,459.4	-160.1	273.3	2.00	2.00	0.00	120.36	
5,018.5	27.20	120.36	4,690.6	-739.7	1,262.6	0.00	0.00	0.00	0.00	
6,378.3	0.00	0.00	6,000.0	-899.8	1,535.9	2.00	-2.00	0.00	180.00	TARGET BHL 1300
7,328.3	0.00	0.00	6,950.0	-899.8	1,535.9	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 5-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 5-24	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
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
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.20	120.36	1,160.0	0.0	0.0	0.0	2.00	2.00	0.00
1,200.0	1.00	120.36	1,200.0	-0.2	0.4	0.4	2.00	2.00	0.00
1,240.0	1.80	120.36	1,240.0	-0.7	1.2	1.4	2.00	2.00	0.00
1,280.0	2.60	120.36	1,280.0	-1.5	2.5	2.9	2.00	2.00	0.00
1,320.0	3.40	120.36	1,319.9	-2.5	4.4	5.0	2.00	2.00	0.00
1,360.0	4.20	120.36	1,359.8	-3.9	6.6	7.7	2.00	2.00	0.00
1,400.0	5.00	120.36	1,399.7	-5.5	9.4	10.9	2.00	2.00	0.00
1,440.0	5.80	120.36	1,439.5	-7.4	12.7	14.7	2.00	2.00	0.00
1,480.0	6.60	120.36	1,479.3	-9.6	16.4	19.0	2.00	2.00	0.00
1,520.0	7.40	120.36	1,519.0	-12.1	20.6	23.9	2.00	2.00	0.00
1,560.0	8.20	120.36	1,558.6	-14.8	25.3	29.3	2.00	2.00	0.00
1,600.0	9.00	120.36	1,598.2	-17.8	30.4	35.3	2.00	2.00	0.00
1,640.0	9.80	120.36	1,637.6	-21.1	36.1	41.8	2.00	2.00	0.00
1,680.0	10.60	120.36	1,677.0	-24.7	42.2	48.9	2.00	2.00	0.00
1,720.0	11.40	120.36	1,716.2	-28.6	48.8	56.5	2.00	2.00	0.00
1,760.0	12.20	120.36	1,755.4	-32.7	55.8	64.7	2.00	2.00	0.00
1,800.0	13.00	120.36	1,794.4	-37.1	63.4	73.4	2.00	2.00	0.00
1,840.0	13.80	120.36	1,833.3	-41.8	71.4	82.7	2.00	2.00	0.00
1,880.0	14.60	120.36	1,872.1	-46.8	79.8	92.5	2.00	2.00	0.00
1,920.0	15.40	120.36	1,910.8	-52.0	88.8	102.9	2.00	2.00	0.00
1,960.0	16.20	120.36	1,949.3	-57.5	98.1	113.7	2.00	2.00	0.00
2,000.0	17.00	120.36	1,987.6	-63.3	108.0	125.2	2.00	2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 5-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 5-24	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)
2,040.0	17.80	120.36	2,025.8	-69.3	118.3	137.1	2.00	2.00	0.00
2,080.0	18.60	120.36	2,063.8	-75.6	129.1	149.6	2.00	2.00	0.00
2,120.0	19.40	120.36	2,101.6	-82.2	140.3	162.7	2.00	2.00	0.00
2,160.0	20.20	120.36	2,139.2	-89.1	152.0	176.2	2.00	2.00	0.00
2,200.0	21.00	120.36	2,176.6	-96.2	164.2	190.3	2.00	2.00	0.00
2,240.0	21.80	120.36	2,213.9	-103.6	176.8	204.9	2.00	2.00	0.00
2,280.0	22.60	120.36	2,250.9	-111.2	189.8	220.0	2.00	2.00	0.00
2,320.0	23.40	120.36	2,287.7	-119.1	203.3	235.6	2.00	2.00	0.00
2,360.0	24.20	120.36	2,324.3	-127.3	217.2	251.8	2.00	2.00	0.00
2,400.0	25.00	120.36	2,360.7	-135.7	231.6	268.4	2.00	2.00	0.00
2,440.0	25.80	120.36	2,396.8	-144.3	246.4	285.6	2.00	2.00	0.00
2,480.0	26.60	120.36	2,432.7	-153.3	261.6	303.2	2.00	2.00	0.00
2,509.9	27.20	120.36	2,459.4	-160.1	273.3	316.7	2.00	2.00	0.00
2,520.0	27.20	120.36	2,468.4	-162.4	277.3	321.4	0.00	0.00	0.00
2,560.0	27.20	120.36	2,504.0	-171.7	293.1	339.7	0.00	0.00	0.00
2,600.0	27.20	120.36	2,539.5	-180.9	308.8	357.9	0.00	0.00	0.00
2,640.0	27.20	120.36	2,575.1	-190.2	324.6	376.2	0.00	0.00	0.00
2,680.0	27.20	120.36	2,610.7	-199.4	340.4	394.5	0.00	0.00	0.00
2,720.0	27.20	120.36	2,646.3	-208.7	356.2	412.8	0.00	0.00	0.00
2,760.0	27.20	120.36	2,681.8	-217.9	371.9	431.1	0.00	0.00	0.00
2,800.0	27.20	120.36	2,717.4	-227.1	387.7	449.3	0.00	0.00	0.00
2,840.0	27.20	120.36	2,753.0	-236.4	403.5	467.6	0.00	0.00	0.00
2,880.0	27.20	120.36	2,788.6	-245.6	419.3	485.9	0.00	0.00	0.00
2,920.0	27.20	120.36	2,824.2	-254.9	435.0	504.2	0.00	0.00	0.00
2,960.0	27.20	120.36	2,859.7	-264.1	450.8	522.5	0.00	0.00	0.00
3,000.0	27.20	120.36	2,895.3	-273.3	466.6	540.8	0.00	0.00	0.00
3,040.0	27.20	120.36	2,930.9	-282.6	482.4	559.0	0.00	0.00	0.00
3,080.0	27.20	120.36	2,966.5	-291.8	498.1	577.3	0.00	0.00	0.00
3,120.0	27.20	120.36	3,002.0	-301.1	513.9	595.6	0.00	0.00	0.00
3,160.0	27.20	120.36	3,037.6	-310.3	529.7	613.9	0.00	0.00	0.00
3,200.0	27.20	120.36	3,073.2	-319.6	545.5	632.2	0.00	0.00	0.00
3,240.0	27.20	120.36	3,108.8	-328.8	561.2	650.4	0.00	0.00	0.00
3,280.0	27.20	120.36	3,144.4	-338.0	577.0	668.7	0.00	0.00	0.00
3,320.0	27.20	120.36	3,179.9	-347.3	592.8	687.0	0.00	0.00	0.00
3,360.0	27.20	120.36	3,215.5	-356.5	608.6	705.3	0.00	0.00	0.00
3,400.0	27.20	120.36	3,251.1	-365.8	624.3	723.6	0.00	0.00	0.00
3,440.0	27.20	120.36	3,286.7	-375.0	640.1	741.9	0.00	0.00	0.00
3,480.0	27.20	120.36	3,322.2	-384.2	655.9	760.1	0.00	0.00	0.00
3,520.0	27.20	120.36	3,357.8	-393.5	671.7	778.4	0.00	0.00	0.00
3,560.0	27.20	120.36	3,393.4	-402.7	687.4	796.7	0.00	0.00	0.00
3,600.0	27.20	120.36	3,429.0	-412.0	703.2	815.0	0.00	0.00	0.00
3,640.0	27.20	120.36	3,464.6	-421.2	719.0	833.3	0.00	0.00	0.00
3,680.0	27.20	120.36	3,500.1	-430.4	734.7	851.6	0.00	0.00	0.00
3,720.0	27.20	120.36	3,535.7	-439.7	750.5	869.8	0.00	0.00	0.00
3,760.0	27.20	120.36	3,571.3	-448.9	766.3	888.1	0.00	0.00	0.00
3,800.0	27.20	120.36	3,606.9	-458.2	782.1	906.4	0.00	0.00	0.00
3,840.0	27.20	120.36	3,642.4	-467.4	797.8	924.7	0.00	0.00	0.00
3,880.0	27.20	120.36	3,678.0	-476.7	813.6	943.0	0.00	0.00	0.00
3,920.0	27.20	120.36	3,713.6	-485.9	829.4	961.2	0.00	0.00	0.00
3,960.0	27.20	120.36	3,749.2	-495.1	845.2	979.5	0.00	0.00	0.00
4,000.0	27.20	120.36	3,784.8	-504.4	860.9	997.8	0.00	0.00	0.00
4,040.0	27.20	120.36	3,820.3	-513.6	876.7	1,016.1	0.00	0.00	0.00
4,080.0	27.20	120.36	3,855.9	-522.9	892.5	1,034.4	0.00	0.00	0.00
4,120.0	27.20	120.36	3,891.5	-532.1	908.3	1,052.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 5-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 5-24	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	27.20	120.36	3,927.1	-541.3	924.0	1,070.9	0.00	0.00	0.00
4,200.0	27.20	120.36	3,962.6	-550.6	939.8	1,089.2	0.00	0.00	0.00
4,240.0	27.20	120.36	3,998.2	-559.8	955.6	1,107.5	0.00	0.00	0.00
4,280.0	27.20	120.36	4,033.8	-569.1	971.4	1,125.8	0.00	0.00	0.00
4,320.0	27.20	120.36	4,069.4	-578.3	987.1	1,144.1	0.00	0.00	0.00
4,360.0	27.20	120.36	4,105.0	-587.6	1,002.9	1,162.3	0.00	0.00	0.00
4,400.0	27.20	120.36	4,140.5	-596.8	1,018.7	1,180.6	0.00	0.00	0.00
4,440.0	27.20	120.36	4,176.1	-606.0	1,034.5	1,198.9	0.00	0.00	0.00
4,480.0	27.20	120.36	4,211.7	-615.3	1,050.2	1,217.2	0.00	0.00	0.00
4,520.0	27.20	120.36	4,247.3	-624.5	1,066.0	1,235.5	0.00	0.00	0.00
4,560.0	27.20	120.36	4,282.8	-633.8	1,081.8	1,253.8	0.00	0.00	0.00
4,600.0	27.20	120.36	4,318.4	-643.0	1,097.6	1,272.0	0.00	0.00	0.00
4,640.0	27.20	120.36	4,354.0	-652.2	1,113.3	1,290.3	0.00	0.00	0.00
4,680.0	27.20	120.36	4,389.6	-661.5	1,129.1	1,308.6	0.00	0.00	0.00
4,720.0	27.20	120.36	4,425.1	-670.7	1,144.9	1,326.9	0.00	0.00	0.00
4,760.0	27.20	120.36	4,460.7	-680.0	1,160.7	1,345.2	0.00	0.00	0.00
4,800.0	27.20	120.36	4,496.3	-689.2	1,176.4	1,363.5	0.00	0.00	0.00
4,840.0	27.20	120.36	4,531.9	-698.5	1,192.2	1,381.7	0.00	0.00	0.00
4,880.0	27.20	120.36	4,567.5	-707.7	1,208.0	1,400.0	0.00	0.00	0.00
4,920.0	27.20	120.36	4,603.0	-716.9	1,223.8	1,418.3	0.00	0.00	0.00
4,960.0	27.20	120.36	4,638.6	-726.2	1,239.5	1,436.6	0.00	0.00	0.00
5,000.0	27.20	120.36	4,674.2	-735.4	1,255.3	1,454.9	0.00	0.00	0.00
5,018.5	27.20	120.36	4,690.6	-739.7	1,262.6	1,463.3	0.00	0.00	0.00
5,040.0	26.77	120.36	4,709.8	-744.6	1,271.0	1,473.1	2.00	-2.00	0.00
5,080.0	25.97	120.36	4,745.6	-753.6	1,286.3	1,490.8	2.00	-2.00	0.00
5,120.0	25.17	120.36	4,781.7	-762.3	1,301.2	1,508.1	2.00	-2.00	0.00
5,160.0	24.37	120.36	4,818.0	-770.8	1,315.7	1,524.9	2.00	-2.00	0.00
5,200.0	23.57	120.36	4,854.6	-779.0	1,329.7	1,541.1	2.00	-2.00	0.00
5,240.0	22.77	120.36	4,891.4	-787.0	1,343.3	1,556.8	2.00	-2.00	0.00
5,280.0	21.97	120.36	4,928.4	-794.7	1,356.4	1,572.1	2.00	-2.00	0.00
5,320.0	21.17	120.36	4,965.6	-802.1	1,369.1	1,586.8	2.00	-2.00	0.00
5,360.0	20.37	120.36	5,003.0	-809.3	1,381.4	1,601.0	2.00	-2.00	0.00
5,400.0	19.57	120.36	5,040.6	-816.2	1,393.1	1,614.6	2.00	-2.00	0.00
5,440.0	18.77	120.36	5,078.3	-822.8	1,404.5	1,627.7	2.00	-2.00	0.00
5,480.0	17.97	120.36	5,116.3	-829.2	1,415.3	1,640.3	2.00	-2.00	0.00
5,520.0	17.17	120.36	5,154.4	-835.3	1,425.8	1,652.4	2.00	-2.00	0.00
5,560.0	16.37	120.36	5,192.7	-841.1	1,435.7	1,664.0	2.00	-2.00	0.00
5,600.0	15.57	120.36	5,231.2	-846.7	1,445.2	1,675.0	2.00	-2.00	0.00
5,640.0	14.77	120.36	5,269.8	-852.0	1,454.2	1,685.4	2.00	-2.00	0.00
5,680.0	13.97	120.36	5,308.5	-857.0	1,462.8	1,695.4	2.00	-2.00	0.00
5,720.0	13.17	120.36	5,347.4	-861.7	1,470.9	1,704.7	2.00	-2.00	0.00
5,760.0	12.37	120.36	5,386.4	-866.2	1,478.5	1,713.6	2.00	-2.00	0.00
5,800.0	11.57	120.36	5,425.6	-870.4	1,485.7	1,721.9	2.00	-2.00	0.00
5,840.0	10.77	120.36	5,464.8	-874.3	1,492.4	1,729.6	2.00	-2.00	0.00
5,880.0	9.97	120.36	5,504.2	-877.9	1,498.6	1,736.8	2.00	-2.00	0.00
5,920.0	9.17	120.36	5,543.6	-881.3	1,504.3	1,743.5	2.00	-2.00	0.00
5,960.0	8.37	120.36	5,583.1	-884.4	1,509.6	1,749.6	2.00	-2.00	0.00
6,000.0	7.57	120.36	5,622.8	-887.2	1,514.4	1,755.1	2.00	-2.00	0.00
6,040.0	6.77	120.36	5,662.4	-889.7	1,518.7	1,760.1	2.00	-2.00	0.00
6,080.0	5.97	120.36	5,702.2	-891.9	1,522.5	1,764.5	2.00	-2.00	0.00
6,120.0	5.17	120.36	5,742.0	-893.9	1,525.8	1,768.4	2.00	-2.00	0.00
6,160.0	4.37	120.36	5,781.9	-895.6	1,528.7	1,771.7	2.00	-2.00	0.00
6,200.0	3.57	120.36	5,821.8	-897.0	1,531.1	1,774.5	2.00	-2.00	0.00
6,240.0	2.77	120.36	5,861.7	-898.1	1,533.0	1,776.7	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 5-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 5-24	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)
6,280.0	1.97	120.36	5,901.7	-898.9	1,534.4	1,778.4	2.00	-2.00	0.00
6,320.0	1.17	120.36	5,941.7	-899.5	1,535.4	1,779.5	2.00	-2.00	0.00
6,360.0	0.37	120.36	5,981.7	-899.8	1,535.8	1,780.0	2.00	-2.00	0.00
6,378.3	0.00	0.00	6,000.0	-899.8	1,535.9	1,780.0	2.00	-2.00	0.00
TARGET BHL 1300'FSL, 1323'FEL									
6,400.0	0.00	0.00	6,021.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,440.0	0.00	0.00	6,061.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,480.0	0.00	0.00	6,101.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,520.0	0.00	0.00	6,141.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,560.0	0.00	0.00	6,181.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,221.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,640.0	0.00	0.00	6,261.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,680.0	0.00	0.00	6,301.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,720.0	0.00	0.00	6,341.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,760.0	0.00	0.00	6,381.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,421.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,840.0	0.00	0.00	6,461.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,864.3	0.00	0.00	6,486.0	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
NIOBRARA									
6,878.3	0.00	0.00	6,500.0	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
LEGAL BOX 800' X 800' 1300'FSL & 1323'FEL									
6,880.0	0.00	0.00	6,501.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,920.0	0.00	0.00	6,541.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
6,960.0	0.00	0.00	6,581.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,621.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,040.0	0.00	0.00	6,661.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,080.0	0.00	0.00	6,701.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,120.0	0.00	0.00	6,741.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,148.3	0.00	0.00	6,770.0	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
CODELL									
7,160.0	0.00	0.00	6,781.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,200.0	0.00	0.00	6,821.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,240.0	0.00	0.00	6,861.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,280.0	0.00	0.00	6,901.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,320.0	0.00	0.00	6,941.7	-899.8	1,535.9	1,780.0	0.00	0.00	0.00
7,328.3	0.00	0.00	6,950.0	-899.8	1,535.9	1,780.0	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									
LEGAL BOX 800' X 800'	0.00	0.00	6,500.0	-899.8	1,535.9	1,415,034.88	3,280,023.87	40.468310	-104.493530
- plan hits target center									
- Rectangle (sides W800.0 H800.0 D450.0)									
TARGET BHL 1300'FEL	0.00	0.00	6,000.0	-899.8	1,535.9	1,415,034.87	3,280,023.85	40.468310	-104.493530
- plan hits target center									
- Point									

Database:	Landmark	Local Co-ordinate Reference:	Well Larson Farms 5-24
Company:	St. James, Weld County CO	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Project:	SEC.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	North Reference:	True
Well:	Larson Farms 5-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-21-11)		

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 (°)
6,864.3	6,486.0	NIOBRARA		0.00	
7,148.3	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 5-24

Wellbore #1

Plan #1 (7-21-11)

Anticollision Report

28 July, 2011

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 5-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 5-24	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:	0.0ft
Survey Program: 0-MWD												Offset Well Error:	0.0ft
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
2,000.0	1,987.6	1,988.0	1,969.3	4.8	5.4	-44.89	-41.3	184.8	82.0	72.8	9.14	8.968	
2,100.0	2,082.7	2,087.7	2,065.5	5.4	5.9	-50.39	-49.1	209.9	82.7	72.6	10.09	8.193	
2,200.0	2,176.6	2,187.1	2,161.4	6.0	6.4	-57.74	-57.0	234.8	82.2	70.9	11.30	7.275	
2,300.0	2,269.4	2,286.1	2,256.9	6.6	6.9	-67.21	-64.9	259.7	81.7	68.9	12.79	6.383	
2,303.4	2,272.5	2,289.5	2,260.2	6.6	7.0	-67.57	-65.1	260.5	81.7	68.8	12.85	6.355	
2,400.0	2,360.7	2,384.7	2,352.0	7.4	7.5	-78.77	-72.7	284.4	82.7	68.2	14.49	5.706	
2,509.9	2,459.4	2,492.3	2,455.8	8.3	8.0	-93.02	-81.2	311.5	87.7	71.5	16.26	5.396	
2,600.0	2,539.5	2,580.2	2,540.6	9.1	8.5	-104.14	-88.2	333.5	96.0	78.6	17.37	5.527	
2,700.0	2,628.5	2,677.8	2,634.7	10.0	9.0	-114.15	-95.9	358.0	108.8	90.5	18.25	5.958	
2,800.0	2,717.4	2,775.3	2,728.8	10.9	9.6	-121.94	-103.6	382.5	124.2	105.2	18.93	6.557	
2,900.0	2,806.4	2,872.8	2,822.9	11.9	10.1	-127.95	-111.4	407.0	141.3	121.8	19.53	7.238	
3,000.0	2,895.3	2,970.4	2,917.0	12.8	10.6	-132.65	-119.1	431.5	159.7	139.6	20.09	7.948	
3,100.0	2,984.3	3,067.9	3,011.1	13.8	11.2	-136.37	-126.8	456.0	178.9	158.2	20.67	8.657	
3,200.0	3,073.2	3,165.4	3,105.2	14.8	11.7	-139.37	-134.5	480.5	198.7	177.5	21.26	9.348	
3,300.0	3,162.1	3,263.0	3,199.3	15.7	12.3	-141.82	-142.3	504.9	218.9	197.1	21.87	10.012	
3,400.0	3,251.1	3,360.5	3,293.4	16.7	12.8	-143.86	-150.0	529.4	239.5	217.0	22.50	10.645	
3,500.0	3,340.0	3,458.1	3,387.5	17.7	13.4	-145.57	-157.7	553.9	260.3	237.1	23.15	11.245	
3,600.0	3,429.0	3,555.6	3,481.6	18.7	13.9	-147.04	-165.5	578.4	281.3	257.5	23.81	11.812	
3,700.0	3,517.9	3,653.1	3,575.7	19.6	14.5	-148.29	-173.2	602.9	302.4	277.9	24.49	12.347	
3,800.0	3,606.9	3,750.7	3,669.8	20.6	15.0	-149.39	-180.9	627.4	323.7	298.5	25.19	12.851	
3,900.0	3,695.8	3,848.2	3,763.9	21.6	15.5	-150.35	-188.6	651.9	345.1	319.2	25.89	13.327	
4,000.0	3,784.8	3,945.7	3,858.0	22.6	16.1	-151.20	-196.4	676.4	366.5	339.9	26.61	13.776	
4,100.0	3,873.7	4,043.3	3,952.1	23.6	16.6	-151.95	-204.1	700.8	388.0	360.7	27.33	14.199	
4,200.0	3,962.6	4,140.8	4,046.2	24.6	17.2	-152.63	-211.8	725.3	409.6	381.5	28.06	14.599	
4,300.0	4,051.6	4,238.4	4,140.3	25.6	17.7	-153.23	-219.5	749.8	431.2	402.4	28.79	14.977	
4,400.0	4,140.5	4,335.9	4,234.4	26.6	18.3	-153.78	-227.3	774.3	452.9	423.3	29.53	15.334	
4,500.0	4,229.5	4,423.5	4,319.1	27.6	18.7	-154.31	-233.9	795.4	475.5	445.3	30.19	15.751	
4,600.0	4,318.4	4,508.5	4,402.0	28.6	19.0	-154.96	-239.6	813.5	500.4	469.7	30.73	16.284	
4,700.0	4,407.4	4,592.3	4,484.2	29.6	19.3	-155.71	-244.5	829.0	527.7	496.5	31.20	16.917	
4,800.0	4,496.3	4,674.7	4,565.5	30.6	19.6	-156.54	-248.7	842.0	557.4	525.8	31.59	17.644	
4,900.0	4,585.2	4,755.6	4,645.6	31.6	19.8	-157.41	-252.0	852.7	589.5	557.5	31.93	18.458	
5,000.0	4,674.2	4,834.9	4,724.4	32.6	20.0	-158.31	-254.6	861.0	623.8	591.6	32.23	19.354	
5,018.5	4,690.6	4,849.4	4,738.8	32.7	20.0	-158.48	-255.0	862.3	630.5	598.2	32.28	19.528	
5,100.0	4,763.7	4,912.9	4,802.2	33.5	20.1	-159.41	-256.6	867.1	659.6	627.1	32.50	20.297	
5,200.0	4,854.6	4,990.4	4,879.5	34.2	20.2	-160.46	-257.9	871.2	694.6	661.9	32.71	21.234	
5,300.0	4,946.9	5,067.3	4,956.4	34.9	20.3	-161.43	-258.5	873.3	728.8	695.9	32.90	22.153	
5,400.0	5,040.6	5,151.4	5,040.5	35.5	20.4	-162.38	-258.6	873.7	762.0	729.0	33.06	23.052	
5,500.0	5,135.3	5,246.2	5,135.2	36.0	20.5	-163.26	-258.6	873.7	792.6	759.4	33.22	23.863	
5,600.0	5,231.2	5,342.0	5,231.1	36.5	20.6	-163.99	-258.6	873.7	820.0	786.7	33.39	24.558	
5,700.0	5,328.0	5,438.8	5,327.9	37.0	20.8	-164.59	-258.6	873.7	844.3	810.7	33.58	25.146	
5,800.0	5,425.6	5,536.4	5,425.5	37.4	20.9	-165.09	-258.6	873.7	865.3	831.6	33.76	25.632	
5,900.0	5,523.9	5,634.7	5,523.8	37.7	21.0	-165.48	-258.6	873.7	883.1	849.2	33.94	26.023	
6,000.0	5,622.8	5,733.6	5,622.7	38.0	21.1	-165.79	-258.6	873.7	897.5	863.4	34.10	26.323	
6,100.0	5,722.1	5,832.9	5,722.0	38.2	21.2	-166.02	-258.6	873.7	908.6	874.4	34.24	26.536	
6,200.0	5,821.8	5,932.6	5,821.7	38.3	21.4	-166.18	-258.6	873.7	916.4	882.0	34.37	26.663	
6,300.0	5,921.7	6,032.5	5,921.6	38.5	21.5	-166.27	-258.6	873.7	920.7	886.2	34.47	26.708	
6,378.3	6,000.0	6,110.8	5,999.9	38.5	21.6	-45.93	-258.6	873.7	921.8	887.2	34.54	26.684	
6,400.0	6,021.7	6,132.5	6,021.6	38.5	21.6	-45.93	-258.6	873.7	921.8	887.2	34.61	26.634	
6,500.0	6,121.7	6,232.5	6,121.6	38.6	21.7	-45.93	-258.6	873.7	921.8	886.8	34.91	26.400	
6,600.0	6,221.7	6,332.5	6,221.6	38.7	21.9	-45.93	-258.6	873.7	921.8	886.5	35.22	26.168	
6,700.0	6,321.7	6,432.5	6,321.6	38.8	22.0	-45.93	-258.6	873.7	921.8	886.2	35.54	25.939	
6,800.0	6,421.7	6,532.5	6,421.6	38.8	22.1	-45.93	-258.6	873.7	921.8	885.9	35.85	25.711	

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 5-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 5-24	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 3-24 - 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
6,900.0	6,521.7	6,632.5	6,521.6	38.9	22.3	-45.93	-258.6	873.7	921.8	885.6	36.17	25.485	
7,000.0	6,621.7	6,732.5	6,621.6	39.0	22.4	-45.93	-258.6	873.7	921.8	885.3	36.49	25.261	
7,100.0	6,721.7	6,832.5	6,721.6	39.1	22.6	-45.93	-258.6	873.7	921.8	884.9	36.81	25.039	
7,200.0	6,821.7	6,932.5	6,821.6	39.1	22.7	-45.93	-258.6	873.7	921.8	884.6	37.14	24.820	
7,300.0	6,921.7	7,032.5	6,921.6	39.2	22.8	-45.93	-258.6	873.7	921.8	884.3	37.47	24.602	
7,328.3	6,950.0	7,060.8	6,949.9	39.3	22.9	-45.93	-258.6	873.7	921.8	884.2	37.56	24.541	

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:	
Survey Program: 0-MWD													Offset Well Error:	
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	-113.58	-7.3	-16.7	18.2	18.2	0.00	N/A		
100.0	100.0	99.9	99.9	0.1	0.1	-113.58	-7.3	-16.7	18.2	18.0	0.22	81.079		
200.0	200.0	199.9	199.9	0.3	0.3	-113.58	-7.3	-16.7	18.2	17.5	0.67	27.022		
251.0	251.0	250.9	250.9	0.5	0.4	-115.00	-7.7	-16.5	18.2	17.3	0.89	20.405 CC		
300.0	300.0	299.9	299.9	0.6	0.5	-119.05	-8.9	-16.0	18.3	17.2	1.10	16.558 ES		
400.0	400.0	399.6	399.4	0.8	0.8	-134.64	-13.6	-13.8	19.3	17.8	1.54	12.594		
500.0	500.0	499.1	498.6	1.0	1.0	-154.99	-21.2	-9.9	23.5	21.5	2.00	11.722		
600.0	600.0	598.2	597.0	1.2	1.3	-173.94	-30.7	-3.3	31.0	28.5	2.51	12.336		
700.0	700.0	696.5	694.2	1.5	1.6	171.36	-41.6	6.3	42.4	39.4	3.05	13.897		
800.0	800.0	793.7	789.8	1.7	2.0	160.88	-53.9	18.7	57.9	54.3	3.63	15.965		
900.0	900.0	889.7	883.6	1.9	2.4	153.47	-67.5	33.7	77.2	73.0	4.24	18.224		
1,000.0	1,000.0	984.2	975.3	2.1	2.8	148.12	-82.4	51.2	100.1	95.2	4.88	20.502		
1,100.0	1,100.0	1,077.1	1,064.7	2.4	3.3	144.14	-98.3	71.1	126.3	120.7	5.56	22.709		
1,150.0	1,150.0	1,122.9	1,108.4	2.5	3.6	142.52	-106.7	81.8	140.7	134.7	5.92	23.775		
1,200.0	1,200.0	1,168.4	1,151.6	2.6	3.9	20.67	-115.3	93.0	155.4	150.1	5.29	29.384		
1,300.0	1,299.9	1,258.8	1,236.8	2.8	4.5	18.39	-133.3	117.2	184.8	179.1	5.73	32.235		
1,400.0	1,399.7	1,348.4	1,320.3	3.0	5.1	16.71	-152.4	143.6	214.1	207.9	6.19	34.577		
1,500.0	1,499.1	1,437.3	1,402.1	3.2	5.8	15.41	-172.4	172.0	243.1	236.4	6.67	36.473		
1,600.0	1,598.2	1,525.4	1,482.1	3.4	6.6	14.37	-193.5	202.4	271.8	264.6	7.15	37.994		
1,700.0	1,696.6	1,615.1	1,562.3	3.7	7.4	13.50	-216.0	235.4	300.0	292.3	7.66	39.134		
1,800.0	1,794.4	1,711.6	1,648.4	4.0	8.3	12.83	-240.6	271.7	325.7	317.5	8.21	39.699		
1,900.0	1,891.5	1,809.0	1,735.2	4.4	9.3	12.39	-265.3	308.3	348.2	339.4	8.77	39.726		
2,000.0	1,987.6	1,907.2	1,822.7	4.8	10.2	12.13	-290.3	345.2	367.4	358.0	9.35	39.309		
2,100.0	2,082.7	2,005.9	1,910.6	5.4	11.2	12.00	-315.4	382.3	383.2	373.2	9.95	38.526		
2,200.0	2,176.6	2,105.1	1,999.1	6.0	12.1	12.01	-340.6	419.6	395.6	385.0	10.57	37.437		
2,300.0	2,269.4	2,204.7	2,087.8	6.6	13.1	12.13	-366.0	457.0	404.6	393.4	11.21	36.093		
2,400.0	2,360.7	2,304.5	2,176.8	7.4	14.1	12.36	-391.4	494.5	410.3	398.4	11.88	34.536		
2,509.9	2,459.4	2,414.3	2,274.6	8.3	15.2	12.74	-419.3	535.8	412.5	399.9	12.65	32.617		
2,600.0	2,539.5	2,504.4	2,354.9	9.1	16.1	13.11	-442.2	569.6	412.7	399.4	13.37	30.872		
2,700.0	2,628.5	2,604.4	2,444.0	10.0	17.0	13.52	-467.6	607.2	413.0	398.8	14.19	29.101		
2,800.0	2,717.4	2,704.3	2,533.0	10.9	18.0	13.94	-493.1	644.7	413.2	398.2	15.03	27.486		
2,900.0	2,806.4	2,804.3	2,622.1	11.9	19.0	14.35	-518.5	682.3	413.5	397.6	15.90	26.011		
3,000.0	2,895.3	2,904.3	2,711.2	12.8	20.0	14.76	-543.9	719.9	413.8	397.0	16.78	24.660		
3,100.0	2,984.3	3,004.2	2,800.2	13.8	21.0	15.17	-569.3	757.4	414.1	396.5	17.68	23.419		
3,200.0	3,073.2	3,104.2	2,889.3	14.8	22.0	15.58	-594.8	795.0	414.5	395.9	18.60	22.278		
3,300.0	3,162.1	3,204.1	2,978.4	15.7	23.0	15.99	-620.2	832.6	414.8	395.3	19.54	21.226		
3,400.0	3,251.1	3,304.1	3,067.5	16.7	23.9	16.40	-645.6	870.1	415.2	394.7	20.50	20.253		
3,500.0	3,340.0	3,404.0	3,156.5	17.7	24.9	16.81	-671.1	907.7	415.6	394.2	21.48	19.352		
3,600.0	3,429.0	3,504.0	3,245.6	18.7	25.9	17.22	-696.5	945.2	416.1	393.6	22.47	18.515		
3,700.0	3,517.9	3,603.9	3,334.7	19.6	26.9	17.62	-721.9	982.8	416.5	393.0	23.48	17.737		
3,800.0	3,606.9	3,703.9	3,423.7	20.6	27.9	18.03	-747.3	1,020.4	417.0	392.5	24.51	17.011		
3,900.0	3,695.8	3,803.9	3,512.8	21.6	28.9	18.43	-772.8	1,057.9	417.5	391.9	25.56	16.334		
4,000.0	3,784.8	3,903.8	3,601.9	22.6	29.9	18.84	-798.2	1,095.5	418.0	391.4	26.62	15.700		
4,100.0	3,873.7	4,003.8	3,691.0	23.6	30.9	19.24	-823.6	1,133.0	418.5	390.8	27.71	15.106		
4,200.0	3,962.6	4,103.7	3,780.0	24.6	31.9	19.64	-849.0	1,170.6	419.1	390.3	28.81	14.548		
4,300.0	4,051.6	4,203.7	3,869.1	25.6	32.8	20.04	-874.5	1,208.2	419.7	389.7	29.92	14.024		
4,400.0	4,140.5	4,303.6	3,958.2	26.6	33.8	20.44	-899.9	1,245.7	420.3	389.2	31.06	13.531		
4,500.0	4,229.5	4,403.6	4,047.2	27.6	34.8	20.84	-925.3	1,283.3	420.9	388.7	32.21	13.066		
4,600.0	4,318.4	4,503.5	4,136.3	28.6	35.8	21.23	-950.7	1,320.8	421.5	388.1	33.38	12.628		
4,700.0	4,407.4	4,603.5	4,225.4	29.6	36.8	21.63	-976.2	1,358.4	422.2	387.6	34.57	12.213		
4,800.0	4,496.3	4,703.5	4,314.5	30.6	37.8	22.02	-1,001.6	1,396.0	422.8	387.1	35.77	11.821		
4,900.0	4,585.2	4,803.4	4,403.5	31.6	38.8	22.42	-1,027.0	1,433.5	423.5	386.6	36.99	11.449		

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 5-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 5-24	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:	0.0ft
Larson Farms 4-24 Pad Sec.24-T6N-R64W - Larson Farms 6-24 - Wellbore #1 - Plan #1 (7-21-11)												Offset Well Error:	0.0ft
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
5,000.0	4,674.2	4,903.4	4,492.6	32.6	39.8	22.81	-1,052.4	1,471.1	424.3	386.0	38.23	11.097	
5,018.5	4,690.6	4,921.8	4,509.1	32.7	40.0	22.88	-1,057.1	1,478.0	424.4	385.9	38.46	11.034	
5,100.0	4,763.7	5,003.3	4,581.7	33.5	40.8	23.15	-1,077.9	1,508.6	426.1	386.6	39.43	10.804	
5,200.0	4,854.6	5,103.2	4,670.7	34.2	41.8	23.34	-1,103.3	1,546.2	431.0	390.6	40.47	10.652	
5,300.0	4,946.9	5,202.8	4,759.5	34.9	42.8	23.36	-1,128.6	1,583.6	439.2	397.8	41.34	10.623 SF	
5,400.0	5,040.6	5,302.2	4,848.0	35.5	43.7	23.24	-1,153.9	1,620.9	450.5	408.5	42.07	10.710	
5,500.0	5,135.3	5,401.1	4,936.1	36.0	44.7	22.98	-1,179.0	1,658.1	465.1	422.5	42.64	10.908	
5,600.0	5,231.2	5,499.4	5,023.7	36.5	45.7	22.60	-1,204.1	1,695.0	482.8	439.8	43.06	11.212	
5,700.0	5,328.0	5,597.0	5,110.7	37.0	46.7	22.14	-1,228.9	1,731.7	503.8	460.4	43.36	11.620	
5,800.0	5,425.6	5,693.8	5,197.0	37.4	47.6	21.60	-1,253.5	1,768.1	528.0	484.4	43.53	12.128	
5,900.0	5,523.9	5,789.7	5,282.5	37.7	48.6	21.02	-1,277.9	1,804.2	555.4	511.8	43.60	12.736	
6,000.0	5,622.8	5,884.6	5,367.0	38.0	49.5	20.41	-1,302.0	1,839.8	586.0	542.4	43.58	13.445	
6,100.0	5,722.1	5,979.2	5,451.3	38.2	50.4	19.78	-1,326.1	1,875.3	619.8	576.3	43.48	14.254	
6,200.0	5,821.8	6,098.0	5,558.3	38.3	51.4	18.97	-1,355.0	1,918.0	654.8	611.6	43.24	15.146	
6,300.0	5,921.7	6,219.1	5,669.5	38.5	52.2	18.23	-1,381.9	1,957.7	689.3	646.4	42.96	16.047	
6,378.3	6,000.0	6,315.6	5,759.5	38.5	52.8	138.06	-1,401.4	1,986.5	715.8	673.1	42.71	16.760	
6,400.0	6,021.7	6,342.5	5,784.8	38.5	52.9	137.88	-1,406.5	1,994.1	723.0	680.3	42.69	16.935	
6,500.0	6,121.7	6,469.3	5,905.2	38.6	53.6	137.12	-1,428.9	2,027.2	753.8	711.1	42.69	17.656	
6,600.0	6,221.7	6,599.6	6,030.6	38.7	54.2	136.52	-1,448.8	2,056.6	780.4	737.6	42.78	18.240	
6,700.0	6,321.7	6,733.1	6,160.5	38.8	54.8	136.04	-1,465.8	2,081.7	802.7	759.7	42.94	18.692	
6,800.0	6,421.7	6,856.6	6,281.9	38.8	55.2	135.70	-1,478.6	2,100.7	820.7	777.5	43.15	19.021	
6,900.0	6,521.7	6,955.1	6,378.9	38.9	55.5	135.47	-1,488.2	2,114.8	837.7	794.4	43.37	19.317	
7,000.0	6,621.7	7,053.6	6,475.8	39.0	55.9	135.24	-1,497.8	2,129.0	854.8	811.2	43.60	19.603	
7,100.0	6,721.7	7,152.0	6,572.8	39.1	56.2	135.02	-1,507.4	2,143.1	871.8	828.0	43.85	19.882	
7,200.0	6,821.7	7,250.5	6,669.8	39.1	56.6	134.80	-1,517.0	2,157.3	888.9	844.8	44.10	20.154	
7,300.0	6,921.7	7,349.0	6,766.8	39.2	57.0	134.60	-1,526.6	2,171.5	906.0	861.6	44.37	20.419	
7,328.3	6,950.0	7,376.9	6,794.3	39.3	57.1	134.54	-1,529.3	2,175.5	910.8	866.4	44.44	20.493	

Company:	St. James, Weld County CO	Local Co-ordinate Reference:	Well Larson Farms 5-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 5-24	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 @ 4655.8ft (Original Well Elev) Coordinates are relative to: Larson Farms 5-24
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 5-24
Project:	SEC.24-T6N-R64W	TVD Reference:	WELL @ 4655.8ft (Original Well Elev)
Reference Site:	Larson Farms 4-24 Pad Sec.24-T6N-R64W	MD Reference:	WELL @ 4655.8ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Larson Farms 5-24	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 @ 4655.8ft (Original Well Elev) Coordinates are relative to: Larson Farms 5-24
 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°

