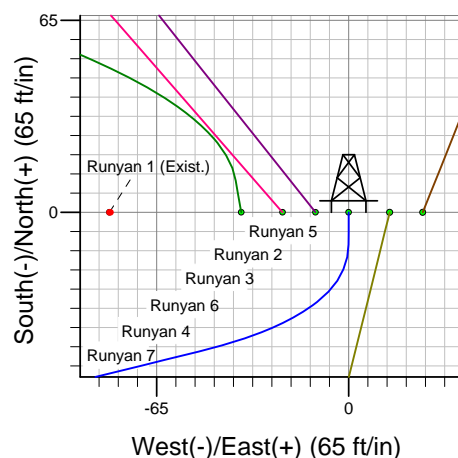
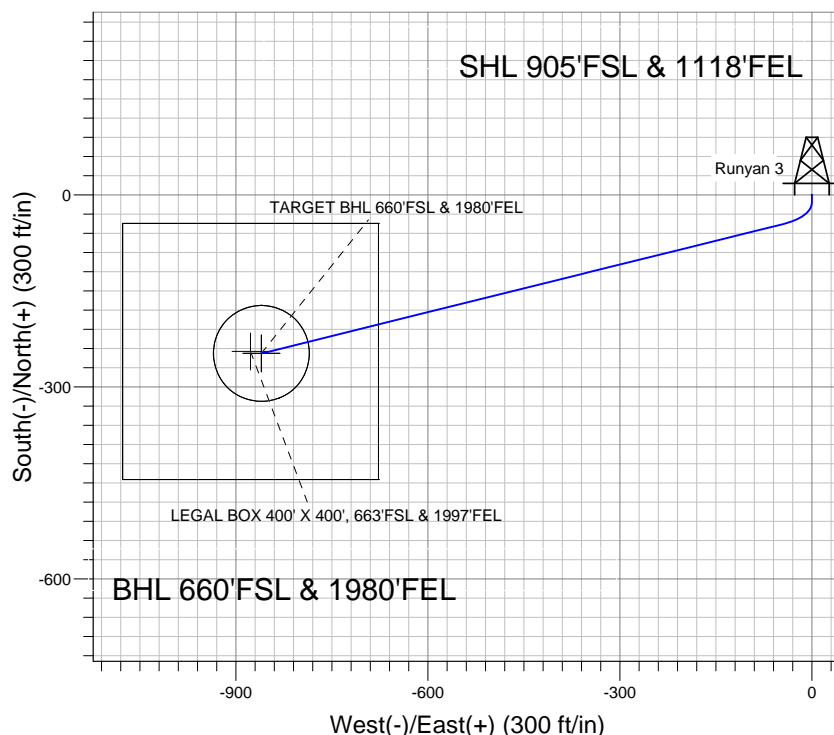
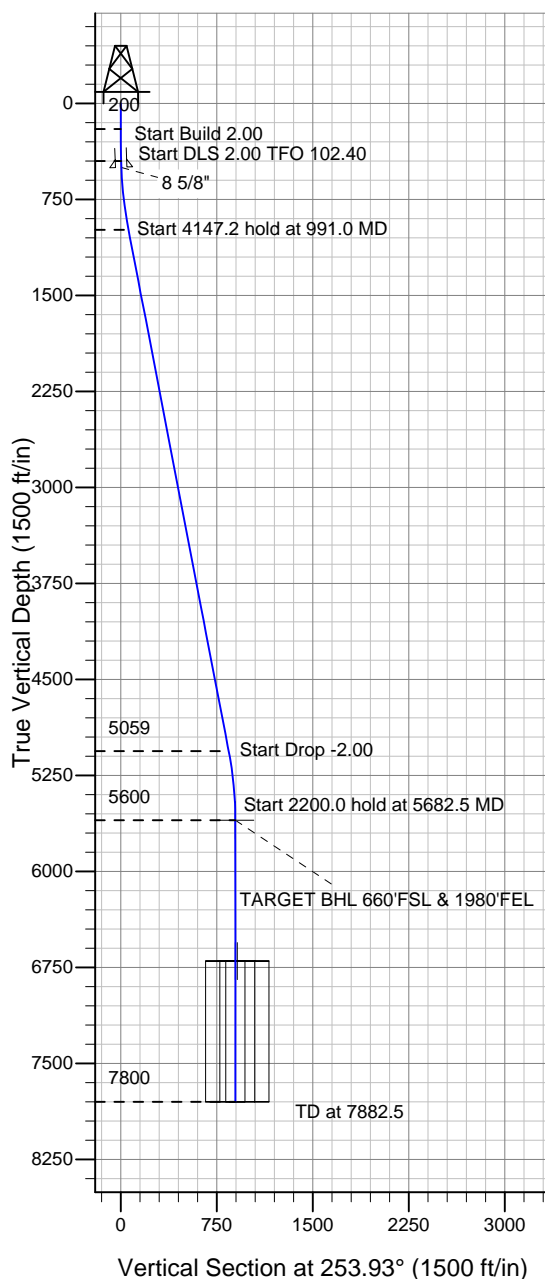


Top Operating Company



Runyan 3
Plan #1 (1-03-12)
12:26, January 04 2013



Azimuths to True North
Magnetic North: 8.78°

Magnetic Field
Strength: 52844.2snT
Dip Angle: 66.81°
Date: 1/3/2013
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 660'FSL & 1980'FEL	5600.0	-247.7	-860.1	40.220300	-105.024400	Point
LEGAL BOX 400' X 400', 663'FSL & 1997'FEL	6700.0	-244.7	-877.1	40.220308	-105.024461	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 660'FSL & 1980'FEL	6700.0	-247.7	-860.1	40.220300	-105.024400	Circle (Radius: 75.0)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	450.0	5.00	180.00	449.7	-10.9	0.0	2.00	180.00	3.0	
4	991.0	10.89	256.08	986.4	-46.9	-49.7	2.00	102.40	60.8	
5	5138.2	10.89	256.08	5058.9	-235.3	-810.1	0.00	0.00	843.5	
6	5682.5	0.00	0.00	5600.0	-247.7	-860.1	2.00	180.00	895.1	TARGET BHL 660'FSL & 1980'FEL
7	7882.5	0.00	0.00	7800.0	-247.7	-860.1	0.00	0.00	895.1	



Top Operating Company

SEC.17-T3N-R68W

Runyan Well Pad Sec.17-T3N-R68W

Runyan 3

Wellbore #1

Plan: Plan #1 (1-03-12)

Standard Planning Report

04 January, 2013

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
450.0	5.00	180.00	449.7	-10.9	0.0	2.00	2.00	0.00	180.00	
991.0	10.89	256.08	986.4	-46.9	-49.7	2.00	1.09	14.06	102.40	
5,138.2	10.89	256.08	5,058.9	-235.3	-810.1	0.00	0.00	0.00	0.00	
5,682.5	0.00	0.00	5,600.0	-247.7	-860.1	2.00	-2.00	0.00	180.00	TARGET BHL 660°
7,882.5	0.00	0.00	7,800.0	-247.7	-860.1	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Runyan 3
Company:	Top Operating Company	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site:	Runyan Well Pad Sec.17-T3N-R68W	North Reference:	True
Well:	Runyan 3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-03-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.80	180.00	240.0	-0.3	0.0	0.1	2.00	2.00	0.00
280.0	1.60	180.00	280.0	-1.1	0.0	0.3	2.00	2.00	0.00
320.0	2.40	180.00	320.0	-2.5	0.0	0.7	2.00	2.00	0.00
360.0	3.20	180.00	359.9	-4.5	0.0	1.2	2.00	2.00	0.00
400.0	4.00	180.00	399.8	-7.0	0.0	1.9	2.00	2.00	0.00
440.0	4.80	180.00	439.7	-10.0	0.0	2.8	2.00	2.00	0.00
450.0	5.00	180.00	449.7	-10.9	0.0	3.0	2.00	2.00	0.00
480.0	4.91	186.87	479.6	-13.5	-0.2	3.9	2.00	-0.31	22.89
500.5	4.88	191.67	500.0	-15.2	-0.4	4.6	2.00	-0.11	23.41
8 5/8"									
520.0	4.89	196.24	519.4	-16.8	-0.8	5.5	2.00	0.05	23.47
560.0	5.01	205.42	559.3	-20.0	-2.1	7.5	2.00	0.29	22.95
600.0	5.25	213.98	599.1	-23.1	-3.8	10.1	2.00	0.59	21.39
640.0	5.59	221.65	638.9	-26.1	-6.2	13.1	2.00	0.86	19.17
680.0	6.02	228.33	678.7	-29.0	-9.0	16.7	2.00	1.07	16.71
720.0	6.52	234.06	718.5	-31.7	-12.4	20.7	2.00	1.25	14.33
760.0	7.07	238.94	758.2	-34.3	-16.4	25.2	2.00	1.39	12.19
800.0	7.67	243.08	797.9	-36.8	-20.9	30.2	2.00	1.49	10.37
840.0	8.30	246.62	837.5	-39.1	-25.9	35.7	2.00	1.58	8.84
880.0	8.96	249.65	877.0	-41.3	-31.5	41.7	2.00	1.65	7.57
920.0	9.64	252.26	916.5	-43.4	-37.6	48.1	2.00	1.70	6.53
960.0	10.34	254.52	955.9	-45.4	-44.2	55.1	2.00	1.74	5.67
991.0	10.89	256.08	986.4	-46.9	-49.7	60.8	2.00	1.77	5.02
1,000.0	10.89	256.08	995.2	-47.3	-51.4	62.5	0.00	0.00	0.00
1,040.0	10.89	256.08	1,034.5	-49.1	-58.7	70.0	0.00	0.00	0.00
1,080.0	10.89	256.08	1,073.8	-50.9	-66.1	77.6	0.00	0.00	0.00
1,120.0	10.89	256.08	1,113.1	-52.7	-73.4	85.1	0.00	0.00	0.00
1,160.0	10.89	256.08	1,152.3	-54.6	-80.7	92.7	0.00	0.00	0.00
1,200.0	10.89	256.08	1,191.6	-56.4	-88.1	100.2	0.00	0.00	0.00
1,240.0	10.89	256.08	1,230.9	-58.2	-95.4	107.8	0.00	0.00	0.00
1,280.0	10.89	256.08	1,270.2	-60.0	-102.7	115.3	0.00	0.00	0.00
1,320.0	10.89	256.08	1,309.5	-61.8	-110.1	122.9	0.00	0.00	0.00
1,360.0	10.89	256.08	1,348.7	-63.6	-117.4	130.4	0.00	0.00	0.00
1,400.0	10.89	256.08	1,388.0	-65.5	-124.7	138.0	0.00	0.00	0.00
1,440.0	10.89	256.08	1,427.3	-67.3	-132.1	145.5	0.00	0.00	0.00
1,480.0	10.89	256.08	1,466.6	-69.1	-139.4	153.1	0.00	0.00	0.00
1,520.0	10.89	256.08	1,505.9	-70.9	-146.7	160.6	0.00	0.00	0.00
1,560.0	10.89	256.08	1,545.1	-72.7	-154.1	168.2	0.00	0.00	0.00
1,600.0	10.89	256.08	1,584.4	-74.5	-161.4	175.7	0.00	0.00	0.00
1,640.0	10.89	256.08	1,623.7	-76.4	-168.7	183.3	0.00	0.00	0.00
1,680.0	10.89	256.08	1,663.0	-78.2	-176.1	190.8	0.00	0.00	0.00
1,720.0	10.89	256.08	1,702.3	-80.0	-183.4	198.4	0.00	0.00	0.00
1,760.0	10.89	256.08	1,741.5	-81.8	-190.7	205.9	0.00	0.00	0.00
1,800.0	10.89	256.08	1,780.8	-83.6	-198.1	213.5	0.00	0.00	0.00
1,840.0	10.89	256.08	1,820.1	-85.4	-205.4	221.0	0.00	0.00	0.00
1,880.0	10.89	256.08	1,859.4	-87.3	-212.7	228.6	0.00	0.00	0.00
1,920.0	10.89	256.08	1,898.7	-89.1	-220.1	236.1	0.00	0.00	0.00
1,960.0	10.89	256.08	1,937.9	-90.9	-227.4	243.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Runyan 3
Company:	Top Operating Company	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site:	Runyan Well Pad Sec.17-T3N-R68W	North Reference:	True
Well:	Runyan 3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-03-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,000.0	10.89	256.08	1,977.2	-92.7	-234.7	251.2	0.00	0.00	0.00
2,040.0	10.89	256.08	2,016.5	-94.5	-242.1	258.8	0.00	0.00	0.00
2,080.0	10.89	256.08	2,055.8	-96.4	-249.4	266.3	0.00	0.00	0.00
2,120.0	10.89	256.08	2,095.1	-98.2	-256.7	273.9	0.00	0.00	0.00
2,160.0	10.89	256.08	2,134.3	-100.0	-264.1	281.4	0.00	0.00	0.00
2,200.0	10.89	256.08	2,173.6	-101.8	-271.4	289.0	0.00	0.00	0.00
2,240.0	10.89	256.08	2,212.9	-103.6	-278.7	296.5	0.00	0.00	0.00
2,280.0	10.89	256.08	2,252.2	-105.4	-286.1	304.1	0.00	0.00	0.00
2,320.0	10.89	256.08	2,291.5	-107.3	-293.4	311.6	0.00	0.00	0.00
2,360.0	10.89	256.08	2,330.7	-109.1	-300.7	319.2	0.00	0.00	0.00
2,400.0	10.89	256.08	2,370.0	-110.9	-308.1	326.7	0.00	0.00	0.00
2,440.0	10.89	256.08	2,409.3	-112.7	-315.4	334.3	0.00	0.00	0.00
2,480.0	10.89	256.08	2,448.6	-114.5	-322.7	341.8	0.00	0.00	0.00
2,520.0	10.89	256.08	2,487.9	-116.3	-330.1	349.4	0.00	0.00	0.00
2,560.0	10.89	256.08	2,527.1	-118.2	-337.4	356.9	0.00	0.00	0.00
2,600.0	10.89	256.08	2,566.4	-120.0	-344.7	364.5	0.00	0.00	0.00
2,640.0	10.89	256.08	2,605.7	-121.8	-352.1	372.0	0.00	0.00	0.00
2,680.0	10.89	256.08	2,645.0	-123.6	-359.4	379.6	0.00	0.00	0.00
2,720.0	10.89	256.08	2,684.3	-125.4	-366.7	387.1	0.00	0.00	0.00
2,760.0	10.89	256.08	2,723.5	-127.2	-374.1	394.7	0.00	0.00	0.00
2,800.0	10.89	256.08	2,762.8	-129.1	-381.4	402.2	0.00	0.00	0.00
2,840.0	10.89	256.08	2,802.1	-130.9	-388.7	409.8	0.00	0.00	0.00
2,880.0	10.89	256.08	2,841.4	-132.7	-396.1	417.3	0.00	0.00	0.00
2,920.0	10.89	256.08	2,880.7	-134.5	-403.4	424.9	0.00	0.00	0.00
2,960.0	10.89	256.08	2,919.9	-136.3	-410.7	432.4	0.00	0.00	0.00
3,000.0	10.89	256.08	2,959.2	-138.2	-418.1	440.0	0.00	0.00	0.00
3,040.0	10.89	256.08	2,998.5	-140.0	-425.4	447.5	0.00	0.00	0.00
3,080.0	10.89	256.08	3,037.8	-141.8	-432.7	455.1	0.00	0.00	0.00
3,120.0	10.89	256.08	3,077.1	-143.6	-440.1	462.6	0.00	0.00	0.00
3,160.0	10.89	256.08	3,116.3	-145.4	-447.4	470.2	0.00	0.00	0.00
3,200.0	10.89	256.08	3,155.6	-147.2	-454.7	477.7	0.00	0.00	0.00
3,240.0	10.89	256.08	3,194.9	-149.1	-462.1	485.3	0.00	0.00	0.00
3,280.0	10.89	256.08	3,234.2	-150.9	-469.4	492.8	0.00	0.00	0.00
3,320.0	10.89	256.08	3,273.5	-152.7	-476.7	500.4	0.00	0.00	0.00
3,360.0	10.89	256.08	3,312.7	-154.5	-484.1	507.9	0.00	0.00	0.00
3,400.0	10.89	256.08	3,352.0	-156.3	-491.4	515.5	0.00	0.00	0.00
3,440.0	10.89	256.08	3,391.3	-158.1	-498.7	523.0	0.00	0.00	0.00
3,480.0	10.89	256.08	3,430.6	-160.0	-506.1	530.6	0.00	0.00	0.00
3,520.0	10.89	256.08	3,469.9	-161.8	-513.4	538.1	0.00	0.00	0.00
3,560.0	10.89	256.08	3,509.1	-163.6	-520.7	545.7	0.00	0.00	0.00
3,600.0	10.89	256.08	3,548.4	-165.4	-528.1	553.2	0.00	0.00	0.00
3,640.0	10.89	256.08	3,587.7	-167.2	-535.4	560.8	0.00	0.00	0.00
3,680.0	10.89	256.08	3,627.0	-169.0	-542.7	568.3	0.00	0.00	0.00
3,720.0	10.89	256.08	3,666.3	-170.9	-550.1	575.9	0.00	0.00	0.00
3,760.0	10.89	256.08	3,705.5	-172.7	-557.4	583.4	0.00	0.00	0.00
3,800.0	10.89	256.08	3,744.8	-174.5	-564.7	591.0	0.00	0.00	0.00
3,840.0	10.89	256.08	3,784.1	-176.3	-572.1	598.5	0.00	0.00	0.00
3,880.0	10.89	256.08	3,823.4	-178.1	-579.4	606.1	0.00	0.00	0.00
3,920.0	10.89	256.08	3,862.7	-180.0	-586.7	613.6	0.00	0.00	0.00
3,960.0	10.89	256.08	3,901.9	-181.8	-594.1	621.2	0.00	0.00	0.00
4,000.0	10.89	256.08	3,941.2	-183.6	-601.4	628.7	0.00	0.00	0.00
4,040.0	10.89	256.08	3,980.5	-185.4	-608.7	636.3	0.00	0.00	0.00
4,080.0	10.89	256.08	4,019.8	-187.2	-616.1	643.8	0.00	0.00	0.00
4,120.0	10.89	256.08	4,059.1	-189.0	-623.4	651.4	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Runyan 3
Company:	Top Operating Company	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site:	Runyan Well Pad Sec.17-T3N-R68W	North Reference:	True
Well:	Runyan 3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-03-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,160.0	10.89	256.08	4,098.3	-190.9	-630.7	658.9	0.00	0.00	0.00
4,200.0	10.89	256.08	4,137.6	-192.7	-638.1	666.5	0.00	0.00	0.00
4,240.0	10.89	256.08	4,176.9	-194.5	-645.4	674.0	0.00	0.00	0.00
4,280.0	10.89	256.08	4,216.2	-196.3	-652.7	681.6	0.00	0.00	0.00
4,320.0	10.89	256.08	4,255.5	-198.1	-660.1	689.1	0.00	0.00	0.00
4,360.0	10.89	256.08	4,294.7	-199.9	-667.4	696.7	0.00	0.00	0.00
4,400.0	10.89	256.08	4,334.0	-201.8	-674.7	704.2	0.00	0.00	0.00
4,440.0	10.89	256.08	4,373.3	-203.6	-682.1	711.8	0.00	0.00	0.00
4,480.0	10.89	256.08	4,412.6	-205.4	-689.4	719.3	0.00	0.00	0.00
4,520.0	10.89	256.08	4,451.9	-207.2	-696.7	726.9	0.00	0.00	0.00
4,560.0	10.89	256.08	4,491.1	-209.0	-704.1	734.4	0.00	0.00	0.00
4,600.0	10.89	256.08	4,530.4	-210.8	-711.4	742.0	0.00	0.00	0.00
4,640.0	10.89	256.08	4,569.7	-212.7	-718.7	749.5	0.00	0.00	0.00
4,680.0	10.89	256.08	4,609.0	-214.5	-726.1	757.1	0.00	0.00	0.00
4,720.0	10.89	256.08	4,648.3	-216.3	-733.4	764.6	0.00	0.00	0.00
4,760.0	10.89	256.08	4,687.5	-218.1	-740.7	772.2	0.00	0.00	0.00
4,800.0	10.89	256.08	4,726.8	-219.9	-748.1	779.7	0.00	0.00	0.00
4,840.0	10.89	256.08	4,766.1	-221.8	-755.4	787.3	0.00	0.00	0.00
4,880.0	10.89	256.08	4,805.4	-223.6	-762.7	794.8	0.00	0.00	0.00
4,920.0	10.89	256.08	4,844.7	-225.4	-770.1	802.4	0.00	0.00	0.00
4,960.0	10.89	256.08	4,883.9	-227.2	-777.4	809.9	0.00	0.00	0.00
5,000.0	10.89	256.08	4,923.2	-229.0	-784.7	817.5	0.00	0.00	0.00
5,040.0	10.89	256.08	4,962.5	-230.8	-792.1	825.0	0.00	0.00	0.00
5,080.0	10.89	256.08	5,001.8	-232.7	-799.4	832.6	0.00	0.00	0.00
5,120.0	10.89	256.08	5,041.1	-234.5	-806.7	840.1	0.00	0.00	0.00
5,138.2	10.89	256.08	5,058.9	-235.3	-810.1	843.5	0.00	0.00	0.00
5,160.0	10.45	256.08	5,080.4	-236.3	-814.0	847.6	2.00	-2.00	0.00
5,200.0	9.65	256.08	5,119.7	-237.9	-820.8	854.6	2.00	-2.00	0.00
5,240.0	8.85	256.08	5,159.2	-239.5	-827.0	861.0	2.00	-2.00	0.00
5,280.0	8.05	256.08	5,198.8	-240.9	-832.7	866.9	2.00	-2.00	0.00
5,320.0	7.25	256.08	5,238.4	-242.2	-837.9	872.2	2.00	-2.00	0.00
5,360.0	6.45	256.08	5,278.1	-243.3	-842.5	877.0	2.00	-2.00	0.00
5,400.0	5.65	256.08	5,317.9	-244.4	-846.6	881.2	2.00	-2.00	0.00
5,440.0	4.85	256.08	5,357.7	-245.2	-850.2	884.8	2.00	-2.00	0.00
5,480.0	4.05	256.08	5,397.6	-246.0	-853.2	887.9	2.00	-2.00	0.00
5,520.0	3.25	256.08	5,437.5	-246.6	-855.6	890.5	2.00	-2.00	0.00
5,560.0	2.45	256.08	5,477.5	-247.1	-857.6	892.5	2.00	-2.00	0.00
5,600.0	1.65	256.08	5,517.5	-247.4	-859.0	893.9	2.00	-2.00	0.00
5,640.0	0.85	256.08	5,557.5	-247.6	-859.8	894.8	2.00	-2.00	0.00
5,680.0	0.05	256.08	5,597.5	-247.7	-860.1	895.1	2.00	-2.00	0.00
5,682.5	0.00	0.00	5,600.0	-247.7	-860.1	895.1	2.00	-2.00	0.00
TARGET BHL 660'FSL & 1980'FEL									
5,720.0	0.00	0.00	5,637.5	-247.7	-860.1	895.1	0.00	0.00	0.00
5,760.0	0.00	0.00	5,677.5	-247.7	-860.1	895.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,717.5	-247.7	-860.1	895.1	0.00	0.00	0.00
5,840.0	0.00	0.00	5,757.5	-247.7	-860.1	895.1	0.00	0.00	0.00
5,880.0	0.00	0.00	5,797.5	-247.7	-860.1	895.1	0.00	0.00	0.00
5,920.0	0.00	0.00	5,837.5	-247.7	-860.1	895.1	0.00	0.00	0.00
5,960.0	0.00	0.00	5,877.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,917.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,040.0	0.00	0.00	5,957.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,080.0	0.00	0.00	5,997.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,120.0	0.00	0.00	6,037.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,160.0	0.00	0.00	6,077.5	-247.7	-860.1	895.1	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Runyan 3
Company:	Top Operating Company	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site:	Runyan Well Pad Sec.17-T3N-R68W	North Reference:	True
Well:	Runyan 3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-03-12)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,200.0	0.00	0.00	6,117.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,240.0	0.00	0.00	6,157.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,280.0	0.00	0.00	6,197.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,320.0	0.00	0.00	6,237.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,360.0	0.00	0.00	6,277.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,317.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,440.0	0.00	0.00	6,357.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,480.0	0.00	0.00	6,397.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,520.0	0.00	0.00	6,437.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,560.0	0.00	0.00	6,477.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,517.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,640.0	0.00	0.00	6,557.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,680.0	0.00	0.00	6,597.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,720.0	0.00	0.00	6,637.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,760.0	0.00	0.00	6,677.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,782.5	0.00	0.00	6,700.0	-247.7	-860.1	895.1	0.00	0.00	0.00
LEGAL BOX 400' X 400', 663'FSL & 1997'FEL - TARGET CIRCLE 660'FSL & 1980'FEL									
6,800.0	0.00	0.00	6,717.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,840.0	0.00	0.00	6,757.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,880.0	0.00	0.00	6,797.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,920.0	0.00	0.00	6,837.5	-247.7	-860.1	895.1	0.00	0.00	0.00
6,960.0	0.00	0.00	6,877.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,917.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,040.0	0.00	0.00	6,957.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,080.0	0.00	0.00	6,997.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,120.0	0.00	0.00	7,037.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,160.0	0.00	0.00	7,077.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,117.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,240.0	0.00	0.00	7,157.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,280.0	0.00	0.00	7,197.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,320.0	0.00	0.00	7,237.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,360.0	0.00	0.00	7,277.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,400.0	0.00	0.00	7,317.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,440.0	0.00	0.00	7,357.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,480.0	0.00	0.00	7,397.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,520.0	0.00	0.00	7,437.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,560.0	0.00	0.00	7,477.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,600.0	0.00	0.00	7,517.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,640.0	0.00	0.00	7,557.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,680.0	0.00	0.00	7,597.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,720.0	0.00	0.00	7,637.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,760.0	0.00	0.00	7,677.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,800.0	0.00	0.00	7,717.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,840.0	0.00	0.00	7,757.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,880.0	0.00	0.00	7,797.5	-247.7	-860.1	895.1	0.00	0.00	0.00
7,882.5	0.00	0.00	7,800.0	-247.7	-860.1	895.1	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Runyan 3
Company:	Top Operating Company	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Project:	SEC.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site:	Runyan Well Pad Sec.17-T3N-R68W	North Reference:	True
Well:	Runyan 3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (1-03-12)		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
TARGET BHL 660'FS	0.00	0.00	5,600.0	-247.7	-860.1	1,323,453.58	3,132,809.99	40.220300	-105.024400
- plan hits target center									
- Point									
LEGAL BOX 400' X 400'	0.00	0.00	6,700.0	-244.7	-877.1	1,323,456.49	3,132,793.00	40.220308	-105.024461
- plan misses target center by 17.2ft at 6782.5ft MD (6700.0 TVD, -247.7 N, -860.1 E)									
- Rectangle (sides W400.0 H400.0 D1,100.0)									
TARGET CIRCLE 660'	0.00	0.00	6,700.0	-247.7	-860.1	1,323,453.58	3,132,809.99	40.220300	-105.024400
- plan hits target center									
- Circle (radius 75.0)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(")	(")
	500.5	500.0	8 5/8"	8-5/8	12-1/4



Top Operating Company

SEC.17-T3N-R68W

Runyan Well Pad Sec.17-T3N-R68W

Runyan 3

Wellbore #1

Plan #1 (1-03-12)

Anticollision Report

04 January, 2013

Company:	Top Operating Company	Local Co-ordinate Reference:	Well Runyan 3
Project:	SEC.17-T3N-R68W	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Reference Site:	Runyan Well Pad Sec.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Runyan 3	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 (1-03-12)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (1-03-12)		
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 1/4/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	7,882.5	Plan #1 (1-03-12) (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
Offet Well - Wellbore - Design						
Runyan Well Pad Sec.17-T3N-R68W						
Runyan 1 (Exist.) - Wellbore #1 - Wellbore #1	1,091.9	1,085.4	53.0	28.6	2.172	CC
Runyan 1 (Exist.) - Wellbore #1 - Wellbore #1	1,100.0	1,093.4	53.0	28.4	2.157	ES
Runyan 1 (Exist.) - Wellbore #1 - Wellbore #1	1,200.0	1,191.6	56.8	30.1	2.125	SF
Runyan 2 - Wellbore #1 - Plan #1 (1-03-13)	200.0	200.0	14.0	13.3	20.707	CC
Runyan 2 - Wellbore #1 - Plan #1 (1-03-13)	300.0	300.0	14.1	13.0	12.793	ES
Runyan 2 - Wellbore #1 - Plan #1 (1-03-13)	450.0	449.7	17.7	16.0	10.055	SF
Runyan 6 - Wellbore #1 - Plan #1 (1-03-13)	200.0	200.0	11.2	10.5	16.566	CC
Runyan 6 - Wellbore #1 - Plan #1 (1-03-13)	300.0	300.0	11.3	10.2	10.278	ES
Runyan 6 - Wellbore #1 - Plan #1 (1-03-13)	400.0	399.8	13.2	11.6	8.585	SF

Runyan Well Pad Sec.17-T3N-R68W - Runyan 1 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7800-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-81.0	81.0					
100.0	100.0	100.0	100.0	0.1	2.0	-90.00	0.0	-81.0	81.0	78.9	2.11	38.335		
200.0	200.0	200.0	200.0	0.3	4.0	-90.00	0.0	-81.0	81.0	76.6	4.34	18.672		
227.8	227.8	227.8	227.8	0.4	4.6	90.10	0.0	-81.0	81.0	76.0	4.95	16.366		
300.0	300.0	300.0	300.0	0.5	6.0	91.23	0.0	-81.0	81.0	74.5	6.54	12.390		
400.0	399.8	399.8	399.8	0.8	8.0	94.91	0.0	-81.0	81.3	72.5	8.74	9.299		
450.0	449.7	449.7	449.7	0.9	9.0	97.64	0.0	-81.0	81.7	71.9	9.86	8.292		
500.0	499.5	499.5	499.5	1.0	10.0	89.12	0.0	-81.0	82.0	71.0	10.97	7.470		
600.0	599.1	599.1	599.1	1.2	12.0	72.78	0.0	-81.0	80.5	67.3	13.21	6.097		
700.0	698.6	698.6	698.6	1.5	14.0	62.16	0.0	-81.0	76.6	61.1	15.45	4.958		
800.0	797.9	797.9	797.9	1.8	16.0	58.59	0.0	-81.0	70.5	52.8	17.69	3.983		
900.0	896.8	896.8	896.8	2.1	17.9	61.66	0.0	-81.0	63.0	43.0	19.96	3.154		
991.0	986.4	986.4	986.4	2.4	19.7	70.56	0.0	-81.0	56.3	34.3	22.07	2.553		
1,000.0	995.2	995.2	995.2	2.4	19.9	72.18	0.0	-81.0	55.8	33.5	22.28	2.503		
1,091.9	1,085.4	1,085.4	1,085.4	2.8	21.7	90.00	0.0	-81.0	53.0	28.6	24.41	2.172 CC		
1,100.0	1,093.4	1,093.4	1,093.4	2.8	21.9	91.63	0.0	-81.0	53.0	28.4	24.59	2.157 ES		
1,200.0	1,191.6	1,191.6	1,191.6	3.2	23.8	110.72	0.0	-81.0	56.8	30.1	26.73	2.125 SF		
1,300.0	1,289.8	1,289.8	1,289.8	3.6	25.8	126.06	0.0	-81.0	66.0	37.2	28.77	2.294		

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

Company:	Top Operating Company	Local Co-ordinate Reference:	Well Runyan 3
Project:	SEC.17-T3N-R68W	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Reference Site:	Runyan Well Pad Sec.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Runyan 3	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 (1-03-12)	Offset TVD Reference:	Offset Datum

Offset Design Runyan Well Pad Sec.17-T3N-R68W - Runyan 1 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7800-UNKNOWN												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	
1,400.0	1,388.0	1,388.0	1,388.0	4.0	27.8	137.15	0.0	-81.0	78.7	47.9	30.80	2.556	
1,500.0	1,486.2	1,486.2	1,486.2	4.4	29.7	145.00	0.0	-81.0	93.6	60.7	32.87	2.847	
1,600.0	1,584.4	1,584.4	1,584.4	4.8	31.7	150.64	0.0	-81.0	109.6	74.7	34.97	3.136	
1,700.0	1,682.6	1,682.6	1,682.6	5.2	33.7	154.83	0.0	-81.0	126.5	89.4	37.09	3.411	
1,800.0	1,780.8	1,780.8	1,780.8	5.6	35.6	158.02	0.0	-81.0	143.9	104.6	39.23	3.667	
1,900.0	1,879.0	1,879.0	1,879.0	6.1	37.6	160.52	0.0	-81.0	161.6	120.2	41.39	3.904	
2,000.0	1,977.2	1,977.2	1,977.2	6.5	39.5	162.53	0.0	-81.0	179.5	136.0	43.55	4.122	
2,100.0	2,075.4	2,075.4	2,075.4	6.9	41.5	164.17	0.0	-81.0	197.7	151.9	45.72	4.323	
2,200.0	2,173.6	2,173.6	2,173.6	7.3	43.5	165.54	0.0	-81.0	215.9	168.0	47.89	4.509	
2,300.0	2,271.8	2,271.8	2,271.8	7.7	45.4	166.69	0.0	-81.0	234.3	184.2	50.07	4.679	
2,400.0	2,370.0	2,370.0	2,370.0	8.2	47.4	167.68	0.0	-81.0	252.7	200.5	52.24	4.837	
2,500.0	2,468.2	2,468.2	2,468.2	8.6	49.4	168.53	0.0	-81.0	271.2	216.8	54.42	4.983	
2,600.0	2,566.4	2,566.4	2,566.4	9.0	51.3	169.27	0.0	-81.0	289.8	233.1	56.60	5.119	
2,700.0	2,664.6	2,664.6	2,664.6	9.5	53.3	169.92	0.0	-81.0	308.3	249.6	58.79	5.245	
2,800.0	2,762.8	2,762.8	2,762.8	9.9	55.3	170.50	0.0	-81.0	327.0	266.0	60.97	5.363	
2,900.0	2,861.0	2,861.0	2,861.0	10.3	57.2	171.02	0.0	-81.0	345.6	282.5	63.15	5.473	
3,000.0	2,959.2	2,959.2	2,959.2	10.7	59.2	171.48	0.0	-81.0	364.3	299.0	65.34	5.575	
3,100.0	3,057.4	3,057.4	3,057.4	11.2	61.1	171.90	0.0	-81.0	383.0	315.5	67.53	5.672	
3,200.0	3,155.6	3,155.6	3,155.6	11.6	63.1	172.28	0.0	-81.0	401.7	332.0	69.71	5.762	
3,300.0	3,253.8	3,253.8	3,253.8	12.0	65.1	172.62	0.0	-81.0	420.4	348.5	71.90	5.848	
3,400.0	3,352.0	3,352.0	3,352.0	12.5	67.0	172.94	0.0	-81.0	439.2	365.1	74.08	5.928	
3,500.0	3,450.2	3,450.2	3,450.2	12.9	69.0	173.23	0.0	-81.0	457.9	381.7	76.27	6.004	
3,600.0	3,548.4	3,548.4	3,548.4	13.3	71.0	173.50	0.0	-81.0	476.7	398.2	78.46	6.076	
3,700.0	3,646.6	3,646.6	3,646.6	13.7	72.9	173.75	0.0	-81.0	495.5	414.8	80.65	6.144	
3,800.0	3,744.8	3,744.8	3,744.8	14.2	74.9	173.98	0.0	-81.0	514.3	431.4	82.83	6.208	
3,900.0	3,843.0	3,843.0	3,843.0	14.6	76.9	174.19	0.0	-81.0	533.1	448.0	85.02	6.270	
4,000.0	3,941.2	3,941.2	3,941.2	15.0	78.8	174.39	0.0	-81.0	551.9	464.6	87.21	6.328	
4,100.0	4,039.4	4,039.4	4,039.4	15.5	80.8	174.57	0.0	-81.0	570.7	481.3	89.40	6.383	
4,200.0	4,137.6	4,137.6	4,137.6	15.9	82.8	174.75	0.0	-81.0	589.5	497.9	91.59	6.436	
4,300.0	4,235.8	4,235.8	4,235.8	16.3	84.7	174.91	0.0	-81.0	608.3	514.5	93.78	6.487	
4,400.0	4,334.0	4,334.0	4,334.0	16.8	86.7	175.06	0.0	-81.0	627.1	531.1	95.96	6.535	
4,500.0	4,432.2	4,432.2	4,432.2	17.2	88.6	175.21	0.0	-81.0	645.9	547.8	98.15	6.581	
4,600.0	4,530.4	4,530.4	4,530.4	17.6	90.6	175.34	0.0	-81.0	664.7	564.4	100.34	6.625	
4,700.0	4,628.6	4,628.6	4,628.6	18.0	92.6	175.47	0.0	-81.0	683.6	581.0	102.53	6.667	
4,800.0	4,726.8	4,726.8	4,726.8	18.5	94.5	175.59	0.0	-81.0	702.4	597.7	104.72	6.707	
4,900.0	4,825.0	4,825.0	4,825.0	18.9	96.5	175.71	0.0	-81.0	721.2	614.3	106.91	6.746	
5,000.0	4,923.2	4,923.2	4,923.2	19.3	98.5	175.82	0.0	-81.0	740.1	631.0	109.10	6.784	
5,100.0	5,021.4	5,021.4	5,021.4	19.8	100.4	175.92	0.0	-81.0	758.9	647.6	111.29	6.819	
5,138.2	5,058.9	5,058.9	5,058.9	19.9	101.2	175.96	0.0	-81.0	766.1	654.0	112.12	6.833	
5,200.0	5,119.7	5,119.7	5,119.7	20.2	102.4	176.03	0.0	-81.0	777.1	663.3	113.86	6.825	
5,300.0	5,218.6	5,218.6	5,218.6	20.4	104.4	176.13	0.0	-81.0	792.1	675.6	116.55	6.797	
5,400.0	5,317.9	5,317.9	5,317.9	20.7	106.4	176.20	0.0	-81.0	803.7	684.6	119.12	6.747	
5,500.0	5,417.6	5,417.6	5,417.6	20.8	108.4	176.25	0.0	-81.0	811.8	690.2	121.55	6.678	
5,600.0	5,517.5	5,517.5	5,517.5	21.0	110.3	176.28	0.0	-81.0	816.4	692.5	123.84	6.592	
5,682.5	5,600.0	5,600.0	5,600.0	21.1	112.0	72.36	0.0	-81.0	817.6	691.9	125.63	6.508	
5,700.0	5,617.5	5,617.5	5,617.5	21.1	112.3	72.36	0.0	-81.0	817.6	691.6	126.01	6.488	
5,800.0	5,717.5	5,717.5	5,717.5	21.2	114.3	72.36	0.0	-81.0	817.6	689.4	128.18	6.378	
5,900.0	5,817.5	5,817.5	5,817.5	21.4	116.3	72.36	0.0	-81.0	817.6	687.2	130.36	6.272	
6,000.0	5,917.5	5,917.5	5,917.5	21.5	118.3	72.36	0.0	-81.0	817.6	685.0	132.53	6.169	
6,100.0	6,017.5	6,017.5	6,017.5	21.6	120.3	72.36	0.0	-81.0	817.6	682.9	134.71	6.069	
6,200.0	6,117.5	6,117.5	6,117.5	21.7	122.3	72.36	0.0	-81.0	817.6	680.7	136.89	5.972	
6,300.0	6,217.5	6,217.5	6,217.5	21.9	124.3	72.36	0.0	-81.0	817.6	678.5	139.07	5.879	

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

Company:	Top Operating Company	Local Co-ordinate Reference:	Well Runyan 3
Project:	SEC.17-T3N-R68W	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Reference Site:	Runyan Well Pad Sec.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Runyan 3	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 (1-03-12)	Offset TVD Reference:	Offset Datum

Offset Design		Runyan Well Pad Sec.17-T3N-R68W - Runyan 1 (Exist.) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft			
Survey Program: 7800-UNKNOWN														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis		Distance								Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S	+E/-W	(ft)	(ft)	(ft)						
							(ft)	(ft)									
6,400.0	6,317.5	6,317.5	6,317.5	22.0	126.3	72.36	0.0	-81.0	817.6	676.3	141.25	5.788					
6,500.0	6,417.5	6,417.5	6,417.5	22.1	128.3	72.36	0.0	-81.0	817.6	674.1	143.43	5.700					
6,600.0	6,517.5	6,517.5	6,517.5	22.2	130.3	72.36	0.0	-81.0	817.6	671.9	145.62	5.615					
6,700.0	6,617.5	6,617.5	6,617.5	22.4	132.3	72.36	0.0	-81.0	817.6	669.8	147.80	5.532					
6,800.0	6,717.5	6,717.5	6,717.5	22.5	134.3	72.36	0.0	-81.0	817.6	667.6	149.99	5.451					
6,900.0	6,817.5	6,817.5	6,817.5	22.6	136.3	72.36	0.0	-81.0	817.6	665.4	152.17	5.373					
7,000.0	6,917.5	6,917.5	6,917.5	22.8	138.3	72.36	0.0	-81.0	817.6	663.2	154.36	5.296					
7,100.0	7,017.5	7,017.5	7,017.5	22.9	140.3	72.36	0.0	-81.0	817.6	661.0	156.55	5.222					
7,200.0	7,117.5	7,117.5	7,117.5	23.1	142.3	72.36	0.0	-81.0	817.6	658.8	158.74	5.150					
7,300.0	7,217.5	7,217.5	7,217.5	23.2	144.3	72.36	0.0	-81.0	817.6	656.6	160.93	5.080					
7,400.0	7,317.5	7,317.5	7,317.5	23.3	146.3	72.36	0.0	-81.0	817.6	654.4	163.12	5.012					
7,500.0	7,417.5	7,417.5	7,417.5	23.5	148.3	72.36	0.0	-81.0	817.6	652.3	165.31	4.946					
7,600.0	7,517.5	7,517.5	7,517.5	23.6	150.3	72.36	0.0	-81.0	817.6	650.1	167.51	4.881					
7,700.0	7,617.5	7,617.5	7,617.5	23.8	152.3	72.36	0.0	-81.0	817.6	647.9	169.70	4.818					
7,800.0	7,717.5	7,717.5	7,717.5	23.9	154.3	72.36	0.0	-81.0	817.6	645.7	171.89	4.756					
7,882.5	7,800.0	7,800.0	7,800.0	24.0	156.0	72.36	0.0	-81.0	817.6	643.9	173.71	4.707					

Company:	Top Operating Company	Local Co-ordinate Reference:	Well Runyan 3
Project:	SEC.17-T3N-R68W	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Reference Site:	Runyan Well Pad Sec.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Runyan 3	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 (1-03-12)	Offset TVD Reference:	Offset Datum

Offset Design Runyan Well Pad Sec.17-T3N-R68W - Runyan 2 - Wellbore #1 - Plan #1 (1-03-13)													Offset Site Error:	0.0ft
Survey Program: 0-MWD													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		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	14.0	14.0	14.0	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	14.0	14.0	13.7	0.22	62.122		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	14.0	14.0	13.3	0.67	20.707 CC		
227.5	227.5	227.5	227.5	0.4	0.4	-90.54	0.0	14.0	14.0	13.2	0.79	17.644		
300.0	300.0	300.0	300.0	0.5	0.6	-97.12	0.0	14.0	14.1	13.0	1.10	12.793 ES		
400.0	399.8	399.8	399.8	0.8	0.8	-116.50	0.0	14.0	15.6	14.1	1.53	10.180		
450.0	449.7	449.7	449.7	0.9	0.9	-127.87	0.0	14.0	17.7	16.0	1.76	10.055 SF		
500.0	499.5	499.5	499.5	1.0	1.0	-147.96	0.0	14.0	20.9	18.9	1.99	10.517		
600.0	599.1	599.1	599.1	1.2	1.2	-176.39	0.0	14.0	29.2	26.8	2.43	12.011		
700.0	698.6	698.6	698.6	1.5	1.5	167.68	0.0	14.0	39.1	36.2	2.87	13.600		
800.0	797.9	797.9	797.9	1.8	1.7	160.20	0.0	14.0	50.6	47.3	3.32	15.266		
900.0	896.8	896.8	896.8	2.1	1.9	157.51	0.0	14.0	64.4	60.6	3.76	17.098		
991.0	986.4	988.2	988.2	2.4	2.1	157.95	-1.3	13.6	78.1	73.9	4.15	18.814		
1,000.0	995.2	997.3	997.3	2.4	2.1	158.55	-1.6	13.6	79.4	75.2	4.19	18.969		
1,100.0	1,093.4	1,098.0	1,097.8	2.8	2.3	164.95	-6.6	12.3	93.8	89.2	4.60	20.392		
1,200.0	1,191.6	1,198.8	1,198.3	3.2	2.5	171.09	-15.1	10.2	106.8	101.8	5.04	21.202		
1,300.0	1,289.8	1,299.6	1,298.3	3.6	2.7	177.29	-27.0	7.3	118.9	113.4	5.52	21.547		
1,400.0	1,388.0	1,400.0	1,397.4	4.0	3.0	-176.33	-42.2	3.5	130.6	124.6	6.06	21.542		
1,500.0	1,486.2	1,499.8	1,495.4	4.4	3.3	-169.77	-60.7	-1.1	142.6	135.9	6.70	21.289		
1,600.0	1,584.4	1,598.2	1,591.4	4.8	3.6	-163.30	-81.7	-6.3	155.4	148.0	7.42	20.946		
1,700.0	1,682.6	1,695.8	1,686.6	5.2	4.0	-157.77	-102.9	-11.5	169.9	161.7	8.20	20.732		
1,800.0	1,780.8	1,793.5	1,781.8	5.6	4.4	-153.13	-124.0	-16.8	185.7	176.7	9.00	20.639		
1,900.0	1,879.0	1,891.2	1,877.1	6.1	4.8	-149.23	-145.2	-22.0	202.6	192.7	9.82	20.633		
2,000.0	1,977.2	1,988.9	1,972.3	6.5	5.2	-145.92	-166.3	-27.3	220.2	209.5	10.64	20.687		
2,100.0	2,075.4	2,086.6	2,067.5	6.9	5.6	-143.11	-187.5	-32.5	238.4	226.9	11.47	20.781		
2,200.0	2,173.6	2,184.3	2,162.7	7.3	6.0	-140.70	-208.7	-37.8	257.1	244.8	12.30	20.900		
2,300.0	2,271.8	2,282.0	2,258.0	7.7	6.5	-138.62	-229.8	-43.0	276.2	263.1	13.13	21.034		
2,400.0	2,370.0	2,379.7	2,353.2	8.2	6.9	-136.80	-251.0	-48.3	295.6	281.7	13.96	21.176		
2,500.0	2,468.2	2,477.4	2,448.4	8.6	7.4	-135.21	-272.1	-53.5	315.3	300.5	14.79	21.322		
2,600.0	2,566.4	2,575.1	2,543.7	9.0	7.8	-133.80	-293.3	-58.8	335.2	319.6	15.61	21.467		
2,700.0	2,664.6	2,672.8	2,638.9	9.5	8.3	-132.56	-314.5	-64.0	355.2	338.8	16.44	21.611		
2,800.0	2,762.8	2,770.5	2,734.1	9.9	8.7	-131.44	-335.6	-69.2	375.4	358.2	17.26	21.750		
2,900.0	2,861.0	2,868.1	2,829.3	10.3	9.2	-130.44	-356.8	-74.5	395.7	377.6	18.08	21.886		
3,000.0	2,959.2	2,965.8	2,924.6	10.7	9.6	-129.54	-378.0	-79.7	416.1	397.2	18.90	22.016		
3,100.0	3,057.4	3,063.5	3,019.8	11.2	10.1	-128.72	-399.1	-85.0	436.6	416.9	19.72	22.141		
3,200.0	3,155.6	3,161.2	3,115.0	11.6	10.5	-127.97	-420.3	-90.2	457.2	436.7	20.54	22.261		
3,300.0	3,253.8	3,258.9	3,210.3	12.0	11.0	-127.29	-441.4	-95.5	477.9	456.5	21.36	22.376		
3,400.0	3,352.0	3,356.6	3,305.5	12.5	11.5	-126.66	-462.6	-100.7	498.6	476.4	22.17	22.485		
3,500.0	3,450.2	3,454.3	3,400.7	12.9	11.9	-126.09	-483.8	-106.0	519.4	496.4	22.99	22.590		
3,600.0	3,548.4	3,552.0	3,495.9	13.3	12.4	-125.56	-504.9	-111.2	540.2	516.4	23.81	22.690		
3,700.0	3,646.6	3,649.7	3,591.2	13.7	12.9	-125.06	-526.1	-116.5	561.0	536.4	24.62	22.786		
3,800.0	3,744.8	3,747.4	3,686.4	14.2	13.3	-124.61	-547.2	-121.7	581.9	556.5	25.44	22.877		
3,900.0	3,843.0	3,845.1	3,781.6	14.6	13.8	-124.18	-568.4	-127.0	602.8	576.6	26.25	22.964		
4,000.0	3,941.2	3,942.8	3,876.8	15.0	14.3	-123.79	-589.6	-132.2	623.8	596.7	27.07	23.047		
4,100.0	4,039.4	4,040.5	3,972.1	15.5	14.7	-123.41	-610.7	-137.4	644.8	616.9	27.88	23.127		
4,200.0	4,137.6	4,138.1	4,067.3	15.9	15.2	-123.07	-631.9	-142.7	665.8	637.1	28.69	23.203		
4,300.0	4,235.8	4,235.8	4,162.5	16.3	15.6	-122.74	-653.1	-147.9	686.8	657.3	29.51	23.276		
4,400.0	4,334.0	4,333.5	4,257.8	16.8	16.1	-122.43	-674.2	-153.2	707.8	677.5	30.32	23.346		
4,500.0	4,432.2	4,431.2	4,353.0	17.2	16.6	-122.14	-695.4	-158.4	728.9	697.8	31.13	23.413		
4,600.0	4,530.4	4,528.9	4,448.2	17.6	17.0	-121.87	-716.5	-163.7	750.0	718.0	31.95	23.477		
4,700.0	4,628.6	4,626.6	4,543.4	18.0	17.5	-121.61	-737.7	-168.9	771.1	738.3	32.76	23.538		
4,800.0	4,726.8	4,724.3	4,638.7	18.5	18.0	-121.37	-758.9	-174.2	792.2	758.6	33.57	23.598		

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

Company:	Top Operating Company	Local Co-ordinate Reference:	Well Runyan 3
Project:	SEC.17-T3N-R68W	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Reference Site:	Runyan Well Pad Sec.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Runyan 3	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 (1-03-12)	Offset TVD Reference:	Offset Datum

Offset Design		Runyan Well Pad Sec.17-T3N-R68W - Runyan 2 - Wellbore #1 - Plan #1 (1-03-13)										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		
4,900.0	4,825.0	4,822.0	4,733.9	18.9	18.5	-121.14	-780.0	-179.4	813.3	778.9	34.38	23.654		
5,000.0	4,923.2	4,931.8	4,841.2	19.3	18.9	-120.96	-802.7	-185.0	833.9	798.8	35.17	23.713		
5,100.0	5,021.4	5,047.1	4,954.7	19.8	19.2	-121.05	-822.3	-189.9	852.7	816.8	35.88	23.766		
5,138.2	5,058.9	5,091.3	4,998.4	19.9	19.3	-121.15	-828.6	-191.5	859.3	823.1	36.14	23.776		
5,200.0	5,119.7	5,163.2	5,069.7	20.2	19.5	-121.52	-837.6	-193.7	869.1	832.5	36.54	23.781		
5,300.0	5,218.6	5,280.0	5,186.0	20.4	19.8	-122.09	-848.3	-196.4	881.8	844.7	37.08	23.782		
5,400.0	5,317.9	5,397.4	5,303.2	20.7	19.9	-122.63	-854.5	-197.9	890.7	853.2	37.52	23.736		
5,500.0	5,417.6	5,511.8	5,417.6	20.8	20.1	-123.13	-856.1	-198.3	895.8	857.9	37.89	23.644		
5,600.0	5,517.5	5,611.7	5,517.5	21.0	20.2	-123.42	-856.1	-198.3	898.3	860.2	38.16	23.540		
5,682.5	5,600.0	5,694.2	5,600.0	21.1	20.3	132.59	-856.1	-198.3	899.0	860.6	38.37	23.431		
5,700.0	5,617.5	5,711.7	5,617.5	21.1	20.3	132.59	-856.1	-198.3	899.0	860.6	38.41	23.405		
5,800.0	5,717.5	5,811.7	5,717.5	21.2	20.4	132.59	-856.1	-198.3	899.0	860.3	38.65	23.258		
5,900.0	5,817.5	5,911.7	5,817.5	21.4	20.5	132.59	-856.1	-198.3	899.0	860.1	38.90	23.111		
6,000.0	5,917.5	6,011.7	5,917.5	21.5	20.6	132.59	-856.1	-198.3	899.0	859.8	39.15	22.963		
6,100.0	6,017.5	6,111.7	6,017.5	21.6	20.8	132.59	-856.1	-198.3	899.0	859.6	39.40	22.815		
6,200.0	6,117.5	6,211.7	6,117.5	21.7	20.9	132.59	-856.1	-198.3	899.0	859.3	39.66	22.666		
6,300.0	6,217.5	6,311.7	6,217.5	21.9	21.0	132.59	-856.1	-198.3	899.0	859.1	39.92	22.518		
6,400.0	6,317.5	6,411.7	6,317.5	22.0	21.1	132.59	-856.1	-198.3	899.0	858.8	40.19	22.370		
6,500.0	6,417.5	6,511.7	6,417.5	22.1	21.2	132.59	-856.1	-198.3	899.0	858.5	40.45	22.222		
6,600.0	6,517.5	6,611.7	6,517.5	22.2	21.4	132.59	-856.1	-198.3	899.0	858.3	40.73	22.075		
6,700.0	6,617.5	6,711.7	6,617.5	22.4	21.5	132.59	-856.1	-198.3	899.0	858.0	41.00	21.927		
6,800.0	6,717.5	6,811.7	6,717.5	22.5	21.6	132.59	-856.1	-198.3	899.0	857.7	41.28	21.780		
6,900.0	6,817.5	6,911.7	6,817.5	22.6	21.7	132.59	-856.1	-198.3	899.0	857.4	41.56	21.633		
7,000.0	6,917.5	7,011.7	6,917.5	22.8	21.9	132.59	-856.1	-198.3	899.0	857.2	41.84	21.487		
7,100.0	7,017.5	7,111.7	7,017.5	22.9	22.0	132.59	-856.1	-198.3	899.0	856.9	42.12	21.341		
7,200.0	7,117.5	7,211.7	7,117.5	23.1	22.1	132.59	-856.1	-198.3	899.0	856.6	42.41	21.196		
7,300.0	7,217.5	7,311.7	7,217.5	23.2	22.3	132.59	-856.1	-198.3	899.0	856.3	42.70	21.051		
7,400.0	7,317.5	7,411.7	7,317.5	23.3	22.4	132.59	-856.1	-198.3	899.0	856.0	43.00	20.907		
7,500.0	7,417.5	7,511.7	7,417.5	23.5	22.5	132.59	-856.1	-198.3	899.0	855.7	43.30	20.764		
7,600.0	7,517.5	7,611.7	7,517.5	23.6	22.7	132.59	-856.1	-198.3	899.0	855.4	43.60	20.621		
7,700.0	7,617.5	7,711.7	7,617.5	23.8	22.8	132.59	-856.1	-198.3	899.0	855.1	43.90	20.479		
7,800.0	7,717.5	7,811.7	7,717.5	23.9	23.0	132.59	-856.1	-198.3	899.0	854.8	44.20	20.338		
7,882.5	7,800.0	7,894.2	7,800.0	24.0	23.1	132.59	-856.1	-198.3	899.0	854.5	44.46	20.222		

Company:	Top Operating Company	Local Co-ordinate Reference:	Well Runyan 3
Project:	SEC.17-T3N-R68W	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Reference Site:	Runyan Well Pad Sec.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Runyan 3	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 (1-03-12)	Offset TVD Reference:	Offset Datum

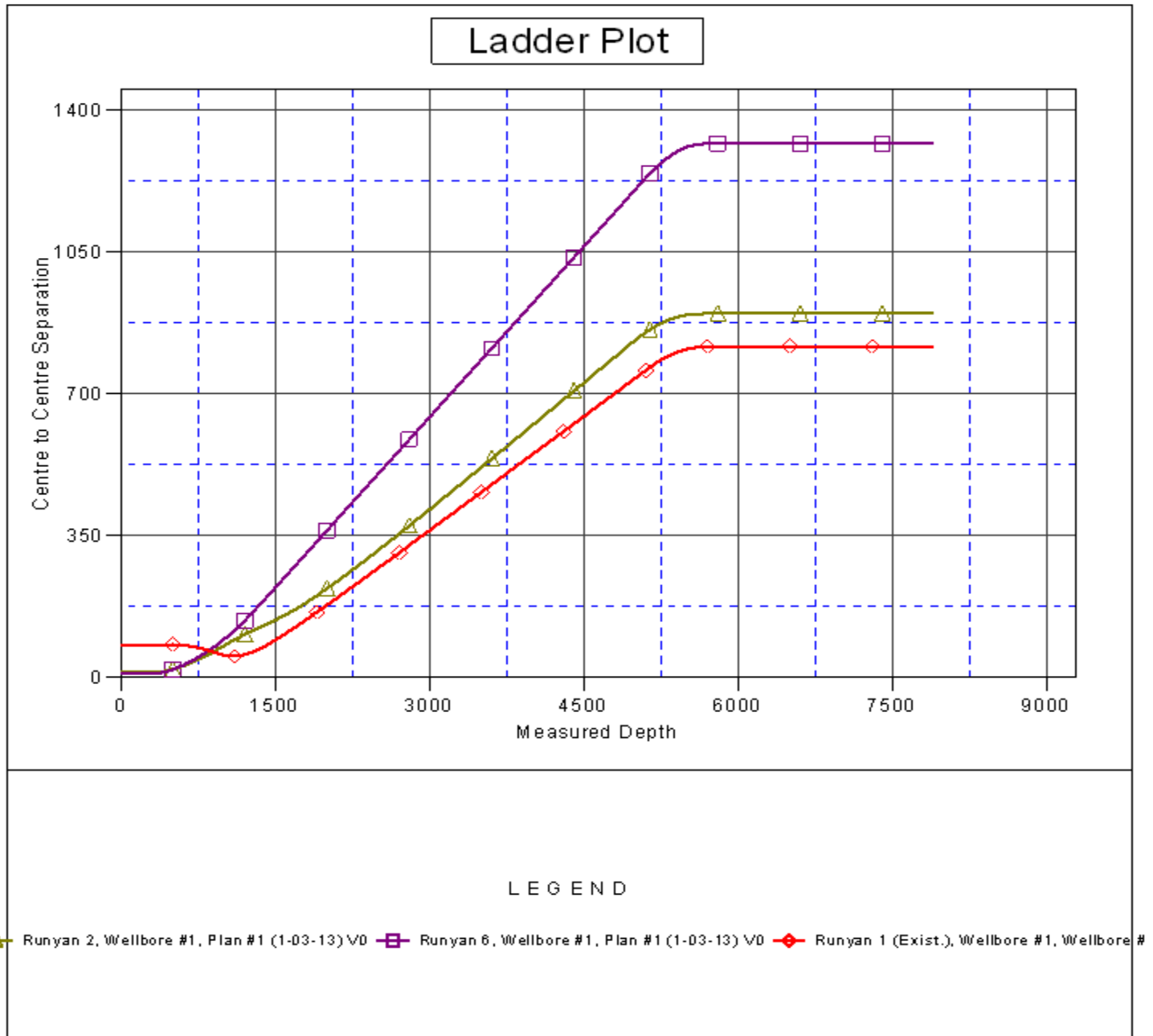
Offset Design Runyan Well Pad Sec.17-T3N-R68W - Runyan 6 - Wellbore #1 - Plan #1 (1-03-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-11.2	11.2	11.2	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-11.2	11.2	10.9	0.22	49.698		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-11.2	11.2	10.5	0.67	16.566 CC		
227.4	227.4	227.4	227.4	0.4	0.4	90.67	0.0	-11.2	11.2	10.4	0.79	14.127		
300.0	300.0	300.0	300.0	0.5	0.6	98.87	0.0	-11.2	11.3	10.2	1.10	10.278 ES		
400.0	399.8	399.8	399.8	0.8	0.8	121.93	0.0	-11.2	13.2	11.6	1.53	8.585 SF		
450.0	449.7	449.4	449.4	0.9	0.9	134.32	0.3	-11.4	16.0	14.3	1.76	9.099		
500.0	499.5	498.8	498.8	1.0	1.0	132.64	1.3	-12.2	20.3	18.3	1.98	10.229		
600.0	599.1	597.2	597.1	1.2	1.2	123.50	5.3	-15.4	30.8	28.3	2.44	12.622		
700.0	698.6	695.1	694.6	1.5	1.5	114.73	11.9	-20.6	43.6	40.7	2.91	14.989		
800.0	797.9	792.3	791.1	1.8	1.7	108.98	21.0	-27.9	58.6	55.2	3.40	17.208		
900.0	896.8	888.8	886.4	2.1	2.0	105.56	32.6	-37.1	75.7	71.8	3.95	19.196		
991.0	986.4	975.9	972.0	2.4	2.3	103.67	45.2	-47.1	93.2	88.7	4.49	20.749		
1,000.0	995.2	984.5	980.4	2.4	2.4	103.97	46.5	-48.2	95.0	90.5	4.55	20.894		
1,100.0	1,093.4	1,079.4	1,073.0	2.8	2.7	106.08	62.8	-61.1	116.7	111.5	5.21	22.417		
1,200.0	1,191.6	1,173.3	1,163.9	3.2	3.2	106.64	81.2	-75.7	140.9	135.0	5.91	23.831		
1,300.0	1,289.8	1,266.0	1,252.9	3.6	3.6	106.30	101.7	-92.0	167.3	160.7	6.65	25.155		
1,400.0	1,388.0	1,361.4	1,343.8	4.0	4.2	105.64	124.2	-110.0	195.3	187.9	7.43	26.284		
1,500.0	1,486.2	1,457.4	1,435.3	4.4	4.7	105.13	147.0	-128.0	223.3	215.1	8.22	27.163		
1,600.0	1,584.4	1,553.4	1,526.8	4.8	5.3	104.74	169.7	-146.1	251.4	242.4	9.02	27.862		
1,700.0	1,682.6	1,649.3	1,618.3	5.2	5.9	104.42	192.4	-164.2	279.4	269.6	9.83	28.422		
1,800.0	1,780.8	1,745.3	1,709.8	5.6	6.4	104.17	215.1	-182.2	307.5	296.8	10.65	28.881		
1,900.0	1,879.0	1,841.3	1,801.2	6.1	7.0	103.95	237.8	-200.3	335.5	324.1	11.47	29.262		
2,000.0	1,977.2	1,937.3	1,892.7	6.5	7.6	103.77	260.5	-218.4	363.6	351.3	12.29	29.583		
2,100.0	2,075.4	2,033.3	1,984.2	6.9	8.2	103.62	283.3	-236.4	391.7	378.5	13.12	29.856		
2,200.0	2,173.6	2,129.2	2,075.7	7.3	8.8	103.49	306.0	-254.5	419.7	405.8	13.95	30.091		
2,300.0	2,271.8	2,225.2	2,167.2	7.7	9.4	103.37	328.7	-272.6	447.8	433.0	14.78	30.296		
2,400.0	2,370.0	2,321.2	2,258.6	8.2	10.0	103.26	351.4	-290.6	475.9	460.2	15.61	30.475		
2,500.0	2,468.2	2,417.2	2,350.1	8.6	10.6	103.17	374.1	-308.7	503.9	487.5	16.45	30.634		
2,600.0	2,566.4	2,513.1	2,441.6	9.0	11.2	103.09	396.9	-326.8	532.0	514.7	17.29	30.774		
2,700.0	2,664.6	2,609.1	2,533.1	9.5	11.8	103.02	419.6	-344.8	560.1	541.9	18.13	30.900		
2,800.0	2,762.8	2,705.1	2,624.6	9.9	12.3	102.95	442.3	-362.9	588.1	569.2	18.96	31.013		
2,900.0	2,861.0	2,801.1	2,716.1	10.3	12.9	102.89	465.0	-380.9	616.2	596.4	19.80	31.115		
3,000.0	2,959.2	2,897.0	2,807.5	10.7	13.5	102.83	487.7	-399.0	644.3	623.6	20.65	31.208		
3,100.0	3,057.4	2,993.0	2,899.0	11.2	14.1	102.78	510.5	-417.1	672.4	650.9	21.49	31.292		
3,200.0	3,155.6	3,089.0	2,990.5	11.6	14.7	102.74	533.2	-435.1	700.4	678.1	22.33	31.369		
3,300.0	3,253.8	3,185.0	3,082.0	12.0	15.3	102.69	555.9	-453.2	728.5	705.3	23.17	31.440		
3,400.0	3,352.0	3,280.9	3,173.5	12.5	15.9	102.65	578.6	-471.3	756.6	732.6	24.01	31.506		
3,500.0	3,450.2	3,376.9	3,265.0	12.9	16.5	102.62	601.3	-489.3	784.7	759.8	24.86	31.566		
3,600.0	3,548.4	3,472.9	3,356.4	13.3	17.1	102.58	624.1	-507.4	812.7	787.0	25.70	31.622		
3,700.0	3,646.6	3,568.9	3,447.9	13.7	17.7	102.55	646.8	-525.5	840.8	814.3	26.55	31.674		
3,800.0	3,744.8	3,664.9	3,539.4	14.2	18.3	102.52	669.5	-543.5	868.9	841.5	27.39	31.722		
3,900.0	3,843.0	3,760.8	3,630.9	14.6	18.9	102.49	692.2	-561.6	897.0	868.7	28.24	31.767		
4,000.0	3,941.2	3,856.8	3,722.4	15.0	19.5	102.46	714.9	-579.7	925.0	896.0	29.08	31.809		
4,100.0	4,039.4	3,952.8	3,813.8	15.5	20.1	102.44	737.6	-597.7	953.1	923.2	29.93	31.849		
4,200.0	4,137.6	4,048.8	3,905.3	15.9	20.7	102.42	760.4	-615.8	981.2	950.4	30.77	31.886		
4,300.0	4,235.8	4,144.7	3,996.8	16.3	21.3	102.39	783.1	-633.9	1,009.3	977.7	31.62	31.920		
4,400.0	4,334.0	4,240.7	4,088.3	16.8	21.9	102.37	805.8	-651.9	1,037.3	1,004.9	32.46	31.953		
4,500.0	4,432.2	4,336.7	4,179.8	17.2	22.5	102.35	828.5	-670.0	1,065.4	1,032.1	33.31	31.984		
4,600.0	4,530.4	4,432.7	4,271.3	17.6	23.1	102.33	851.2	-688.1	1,093.5	1,059.3	34.16	32.013		
4,700.0	4,628.6	4,528.6	4,362.7	18.0	23.7	102.32	874.0	-706.1	1,121.6	1,086.6	35.00	32.041		
4,800.0	4,726.8	4,624.6	4,454.2	18.5	24.3	102.30	896.7	-724.2	1,149.7	1,113.8	35.85	32.067		

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

Company:	Top Operating Company	Local Co-ordinate Reference:	Well Runyan 3
Project:	SEC.17-T3N-R68W	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Reference Site:	Runyan Well Pad Sec.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Runyan 3	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 (1-03-12)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5059.0ft (RKB - 13')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Runyan 3
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.31°



Company:	Top Operating Company	Local Co-ordinate Reference:	Well Runyan 3
Project:	SEC.17-T3N-R68W	TVD Reference:	WELL @ 5059.0ft (RKB - 13')
Reference Site:	Runyan Well Pad Sec.17-T3N-R68W	MD Reference:	WELL @ 5059.0ft (RKB - 13')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Runyan 3	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 (1-03-12)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5059.0ft (RKB - 13')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Runyan 3
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.31°

