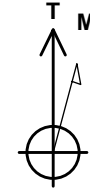




Project: Weld County, CO NAD 83
Site: Johnson Trust
Well: Johnson Trust 4
Wellbore: OH
Design: Plan 3

Plan: Plan 3 (Johnson Trust 4/OH)
Created By: Seth Burstad Date: 1-25-2016



Azimuths to True North
Magnetic North: 8.60°

Magnetic Field
Strength: 52403.2snT
Dip Angle: 66.70°
Date: 12/29/2015
Model: BGGM2015

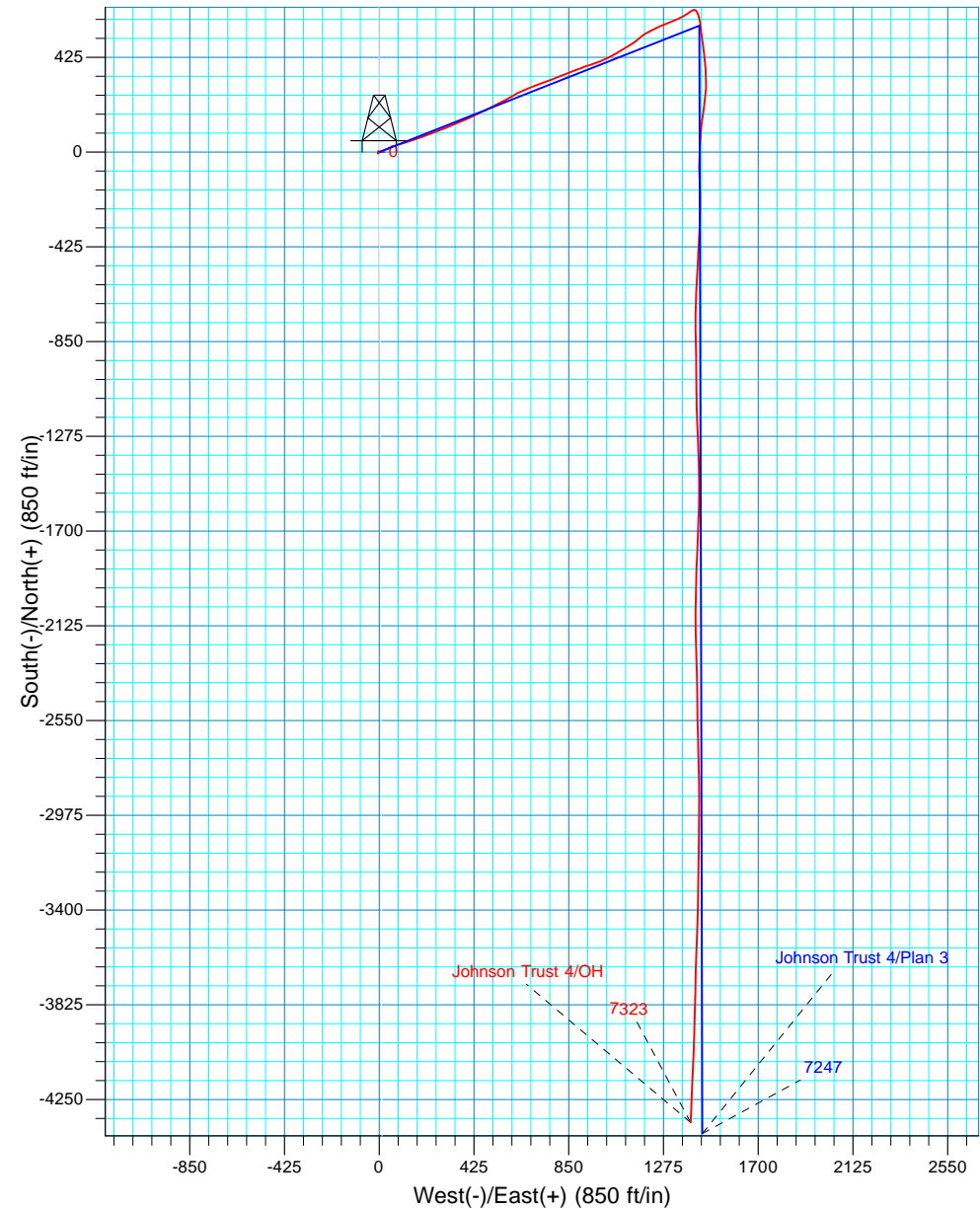
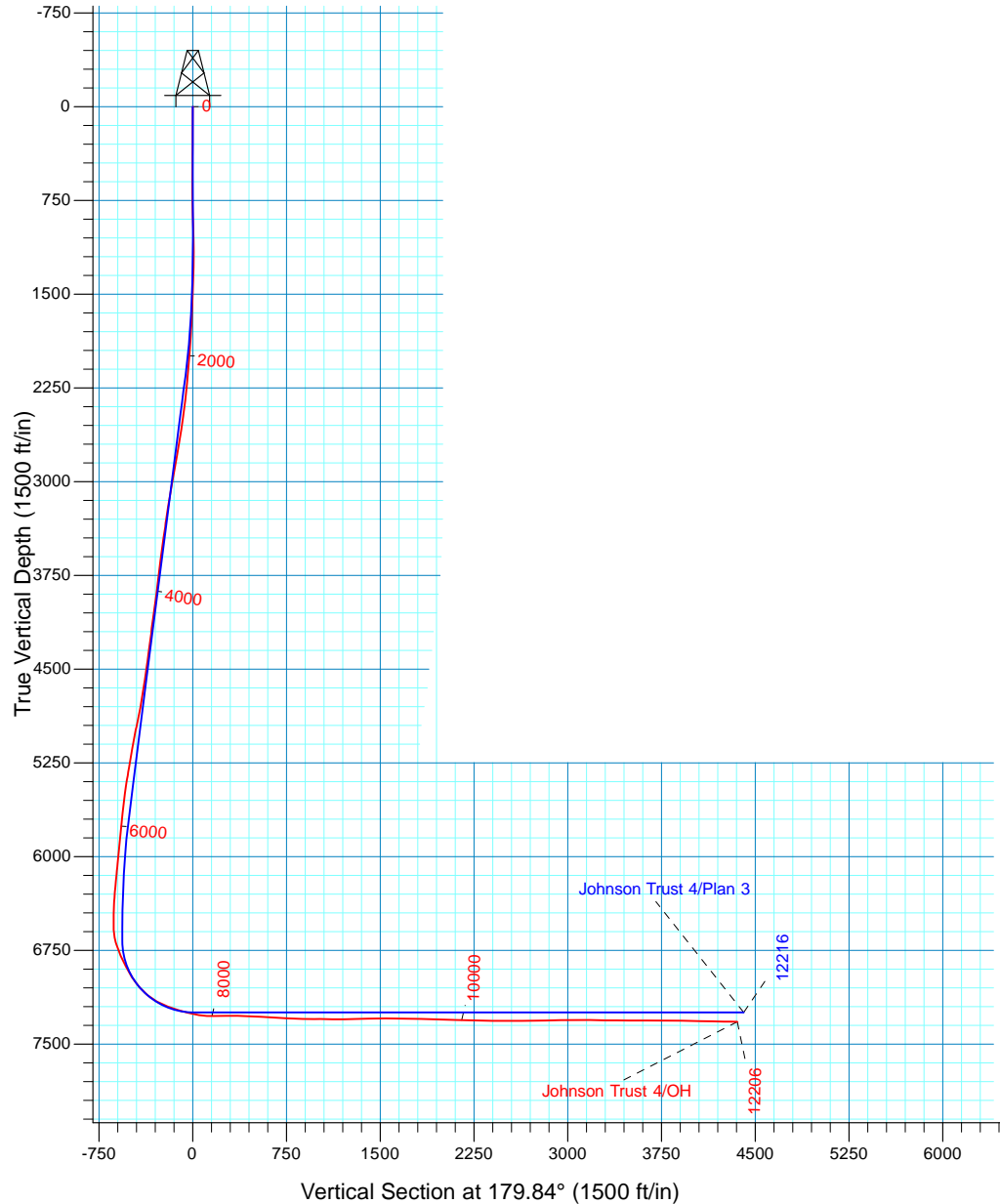
WELL DETAILS: Johnson Trust 4

GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346) 4926.00
Northing Easting Latitude Longitude
1293364.61 3151083.42 40° 8' 14.697 N 104° 57' 34.632 W

PROJECT DETAILS: Weld County, CO NAD 83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level
Local North: True





Extraction Oil & Gas

Weld County, CO NAD 83

Johnson Trust

Johnson Trust 4

OH

Design: OH

Standard Survey Report

25 January, 2016



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Johnson Trust 4
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Site:	Johnson Trust	MD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Well:	Johnson Trust 4	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Project	Weld County, CO NAD 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Johnson Trust, Site Center : Johnson Trust 1				
Site Position:		Northing:	1,293,448.40 usft	Latitude:	40° 8' 15.526 N
From:	Lat/Long	Easting:	3,151,083.18 usft	Longitude:	104° 57' 34.628 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.35 °

Well	Johnson Trust 4, 2181' FSL 389' FWL Sec 13 T2N R68W					
Well Position	+N/-S	0.00 ft	Northing:	1,293,364.61 usft	Latitude:	40° 8' 14.697 N
	+E/-W	0.00 ft	Easting:	3,151,083.42 usft	Longitude:	104° 57' 34.632 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,926.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	12/29/2015	8.60	66.70	52,403

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	179.84	

Survey Program	Date	1/25/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
216.00	1,444.00	Survey #1 - Surface (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
1,664.00	12,206.00	Survey #2 - Production (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
216.00	0.37	354.48	216.00	0.69	-0.07	-0.69	0.17	0.17	0.00	
First SDI MWD Survey										
308.00	0.68	308.87	307.99	1.33	-0.52	-1.33	0.54	0.34	-49.58	
401.00	0.89	306.74	400.99	2.11	-1.53	-2.12	0.23	0.23	-2.29	
496.00	1.37	318.23	495.97	3.40	-2.88	-3.41	0.56	0.51	12.09	
591.00	0.52	292.25	590.95	4.41	-4.03	-4.42	0.98	-0.89	-27.35	
686.00	0.38	216.44	685.95	4.32	-4.62	-4.33	0.59	-0.15	-79.80	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Johnson Trust 4
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Site:	Johnson Trust	MD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Well:	Johnson Trust 4	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)
781.00	1.56	170.94	780.94	2.79	-4.60	-2.80	1.39	1.24	-47.89
876.00	2.10	177.04	875.89	-0.23	-4.31	0.21	0.60	0.57	6.42
970.00	1.98	184.26	969.83	-3.57	-4.34	3.55	0.30	-0.13	7.68
1,065.00	1.59	225.59	1,064.79	-6.12	-5.40	6.11	1.38	-0.41	43.51
1,160.00	0.79	256.57	1,159.77	-7.20	-6.98	7.18	1.05	-0.84	32.61
1,255.00	0.67	355.27	1,254.76	-6.80	-7.67	6.78	1.17	-0.13	103.89
1,349.00	2.42	52.41	1,348.73	-5.04	-6.14	5.02	2.27	1.86	60.79
1,444.00	4.16	59.28	1,443.57	-2.06	-1.59	2.05	1.87	1.83	7.23
Last SDI MWD Surface Survey									
1,664.00	6.94	68.92	1,662.52	6.80	17.68	-6.75	1.33	1.26	4.38
1,758.00	7.91	67.71	1,755.73	11.30	28.96	-11.22	1.05	1.03	-1.29
1,853.00	9.96	66.59	1,849.57	17.04	42.55	-16.92	2.17	2.16	-1.18
1,947.00	12.49	70.07	1,941.77	23.74	59.57	-23.57	2.79	2.69	3.70
2,042.00	14.57	72.01	2,034.13	30.93	80.60	-30.71	2.24	2.19	2.04
2,136.00	16.43	72.42	2,124.70	38.60	104.52	-38.31	1.98	1.98	0.44
2,231.00	18.07	72.48	2,215.43	47.09	131.38	-46.73	1.73	1.73	0.06
2,326.00	17.92	71.99	2,305.78	56.05	159.33	-55.60	0.22	-0.16	-0.52
2,421.00	19.57	68.72	2,395.74	66.34	188.05	-65.82	2.06	1.74	-3.44
2,516.00	22.23	70.18	2,484.48	78.21	219.79	-77.60	2.85	2.80	1.54
2,611.00	22.99	68.87	2,572.18	90.99	254.00	-90.28	0.96	0.80	-1.38
2,706.00	23.22	68.11	2,659.56	104.66	288.68	-103.86	0.40	0.24	-0.80
2,800.00	24.04	67.05	2,745.68	119.04	323.51	-118.13	0.98	0.87	-1.13
2,895.00	24.34	66.51	2,832.34	134.39	359.28	-133.38	0.39	0.32	-0.57
2,990.00	23.59	66.47	2,919.15	149.78	394.67	-148.68	0.79	-0.79	-0.04
3,084.00	22.56	65.96	3,005.63	164.63	428.38	-163.44	1.12	-1.10	-0.54
3,179.00	22.02	63.78	3,093.53	179.93	461.00	-178.64	1.04	-0.57	-2.29
3,275.00	20.31	62.15	3,183.05	195.66	491.88	-194.29	1.88	-1.78	-1.70
3,369.00	18.34	63.03	3,271.75	209.99	519.49	-208.54	2.12	-2.10	0.94
3,464.00	16.09	64.71	3,362.49	222.40	544.71	-220.87	2.43	-2.37	1.77
3,559.00	16.47	60.76	3,453.68	234.60	568.37	-233.01	1.23	0.40	-4.16
3,653.00	17.08	59.37	3,543.68	248.14	591.87	-246.49	0.78	0.65	-1.48
3,748.00	15.87	62.03	3,634.78	261.34	615.35	-259.62	1.50	-1.27	2.80
3,843.00	15.50	65.89	3,726.25	272.62	638.41	-270.83	1.17	-0.39	4.06
3,938.00	17.17	67.55	3,817.41	283.16	662.96	-281.31	1.83	1.76	1.75
4,033.00	18.55	68.41	3,907.83	294.07	689.97	-292.15	1.48	1.45	0.91
4,127.00	21.34	69.59	3,996.18	305.54	719.91	-303.53	3.00	2.97	1.26
4,222.00	21.87	69.12	4,084.51	317.88	752.64	-315.78	0.59	0.56	-0.49
4,317.00	20.91	70.75	4,172.96	329.77	785.18	-327.58	1.19	-1.01	1.72
4,411.00	19.81	68.03	4,261.09	341.26	815.79	-338.98	1.54	-1.17	-2.89
4,507.00	19.60	66.77	4,351.47	353.70	845.67	-351.34	0.49	-0.22	-1.31
4,601.00	19.28	69.86	4,440.11	365.26	874.73	-362.82	1.15	-0.34	3.29
4,697.00	23.24	69.20	4,529.56	377.45	907.33	-374.92	4.13	4.13	-0.69

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Johnson Trust 4
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Site:	Johnson Trust	MD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Well:	Johnson Trust 4	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)
4,791.00	26.17	71.16	4,614.95	390.73	944.29	-388.09	3.24	3.12	2.09
4,885.00	23.88	70.40	4,700.12	403.81	981.84	-401.07	2.46	-2.44	-0.81
4,980.00	22.99	65.27	4,787.29	418.02	1,016.81	-415.18	2.34	-0.94	-5.40
5,074.00	22.05	59.84	4,874.13	434.57	1,048.74	-431.64	2.43	-1.00	-5.78
5,169.00	23.72	59.13	4,961.65	453.34	1,080.57	-450.32	1.78	1.76	-0.75
5,263.00	20.58	58.26	5,048.70	471.73	1,110.85	-468.63	3.36	-3.34	-0.93
5,358.00	16.84	58.35	5,138.67	487.74	1,136.77	-484.57	3.94	-3.94	0.09
5,452.00	14.16	47.98	5,229.26	502.59	1,156.91	-499.36	4.09	-2.85	-11.03
5,547.00	16.59	51.95	5,320.85	518.73	1,176.23	-515.44	2.79	2.56	4.18
5,642.00	17.77	60.58	5,411.63	534.21	1,199.54	-530.86	2.95	1.24	9.08
5,737.00	16.35	65.40	5,502.45	546.90	1,224.33	-543.48	2.11	-1.49	5.07
5,831.00	15.78	63.05	5,592.78	558.20	1,247.75	-554.72	0.92	-0.61	-2.50
5,926.00	14.43	66.26	5,684.50	568.82	1,270.11	-565.27	1.67	-1.42	3.38
6,021.00	14.71	69.39	5,776.44	577.83	1,292.23	-574.22	0.88	0.29	3.29
6,116.00	13.88	68.94	5,868.50	586.17	1,314.15	-582.50	0.88	-0.87	-0.47
6,211.00	14.92	65.03	5,960.52	595.43	1,335.88	-591.70	1.50	1.09	-4.12
6,306.00	12.21	63.54	6,052.86	605.07	1,355.96	-601.28	2.88	-2.85	-1.57
6,401.00	10.51	57.56	6,146.00	614.20	1,372.27	-610.36	2.17	-1.79	-6.29
6,495.00	9.21	55.48	6,238.61	623.06	1,385.70	-619.19	1.43	-1.38	-2.21
6,589.00	7.73	56.11	6,331.58	630.85	1,397.15	-626.94	1.58	-1.57	0.67
6,684.00	4.29	72.14	6,426.05	635.50	1,405.84	-631.57	4.00	-3.62	16.87
6,779.00	4.67	64.42	6,520.76	638.26	1,412.71	-634.31	0.75	0.40	-8.13
6,874.00	9.30	142.65	6,615.20	633.82	1,420.87	-629.85	10.01	4.87	82.35
6,968.00	18.32	156.75	6,706.41	614.16	1,431.33	-610.16	10.17	9.60	15.00
7,064.00	24.70	175.96	6,795.79	580.22	1,438.72	-576.20	9.82	6.65	20.01
7,159.00	27.74	172.72	6,881.00	538.47	1,442.92	-534.44	3.54	3.20	-3.41
7,255.00	32.59	170.39	6,963.98	490.79	1,450.07	-486.74	5.20	5.05	-2.43
7,351.00	39.27	173.77	7,041.68	435.03	1,457.70	-430.95	7.26	6.96	3.52
7,446.00	51.35	175.86	7,108.37	367.89	1,463.66	-363.80	12.81	12.72	2.20
7,540.00	61.38	181.16	7,160.40	289.79	1,465.48	-285.69	11.65	10.67	5.64
7,636.00	68.48	190.53	7,201.12	203.49	1,456.44	-199.42	11.52	7.40	9.76
7,731.00	75.80	185.19	7,230.26	114.01	1,444.17	-109.97	9.38	7.71	-5.62
7,826.00	75.17	184.18	7,254.07	22.35	1,436.66	-18.34	1.22	-0.66	-1.06
7,921.00	83.64	178.22	7,271.54	-70.88	1,434.77	74.89	10.84	8.92	-6.27
8,015.00	90.67	178.14	7,276.20	-164.66	1,437.75	168.68	7.48	7.48	-0.09
8,110.00	90.91	180.55	7,274.89	-259.64	1,438.84	263.66	2.55	0.25	2.54
8,204.00	89.26	182.92	7,274.75	-353.59	1,435.99	357.59	3.07	-1.76	2.52
8,298.00	87.24	183.19	7,277.62	-447.40	1,430.99	451.40	2.17	-2.15	0.29
8,393.00	87.49	183.39	7,281.99	-542.15	1,425.54	546.12	0.34	0.26	0.21
8,488.00	86.23	182.31	7,287.19	-636.88	1,420.82	640.85	1.75	-1.33	-1.14
8,583.00	86.71	180.60	7,293.04	-731.67	1,418.42	735.63	1.87	0.51	-1.80
8,678.00	89.12	178.71	7,296.50	-826.59	1,418.99	830.55	3.22	2.54	-1.99

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Johnson Trust 4
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Site:	Johnson Trust	MD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Well:	Johnson Trust 4	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)	
8,773.00	89.23	179.26	7,297.86	-921.57	1,420.67	925.53	0.59	0.12	0.58	
8,867.00	89.19	179.17	7,299.16	-1,015.55	1,421.96	1,019.52	0.10	-0.04	-0.10	
8,962.00	88.96	179.59	7,300.69	-1,110.53	1,422.99	1,114.50	0.50	-0.24	0.44	
9,058.00	90.57	177.93	7,301.09	-1,206.50	1,425.07	1,210.48	2.41	1.68	-1.73	
9,152.00	91.48	177.29	7,299.41	-1,300.40	1,428.98	1,304.39	1.18	0.97	-0.68	
9,248.00	90.90	178.65	7,297.41	-1,396.32	1,432.38	1,400.31	1.54	-0.60	1.42	
9,344.00	90.03	179.43	7,296.63	-1,492.30	1,433.99	1,496.30	1.22	-0.91	0.81	
9,439.00	90.70	181.30	7,296.03	-1,587.29	1,433.39	1,591.29	2.09	0.71	1.97	
9,535.00	89.83	182.28	7,295.58	-1,683.24	1,430.39	1,687.23	1.37	-0.91	1.02	
9,630.00	88.49	182.45	7,296.98	-1,778.15	1,426.47	1,782.13	1.42	-1.41	0.18	
9,725.00	88.52	182.07	7,299.46	-1,873.04	1,422.72	1,877.01	0.40	0.03	-0.40	
9,820.00	87.82	181.77	7,302.49	-1,967.94	1,419.54	1,971.90	0.80	-0.74	-0.32	
9,915.00	87.45	179.69	7,306.41	-2,062.85	1,418.33	2,066.80	2.22	-0.39	-2.19	
10,009.00	88.72	178.93	7,309.55	-2,156.78	1,419.46	2,160.74	1.57	1.35	-0.81	
10,104.00	89.26	178.14	7,311.23	-2,251.74	1,421.89	2,255.70	1.01	0.57	-0.83	
10,199.00	89.26	178.86	7,312.45	-2,346.70	1,424.38	2,350.66	0.76	0.00	0.76	
10,293.00	89.43	179.49	7,313.53	-2,440.68	1,425.73	2,444.65	0.69	0.18	0.67	
10,388.00	89.73	178.98	7,314.22	-2,535.67	1,427.00	2,539.64	0.62	0.32	-0.54	
10,483.00	89.93	178.47	7,314.51	-2,630.64	1,429.12	2,634.62	0.58	0.21	-0.54	
10,578.00	90.84	178.47	7,313.87	-2,725.61	1,431.65	2,729.59	0.96	0.96	0.00	
10,672.00	91.38	179.09	7,312.05	-2,819.57	1,433.65	2,823.56	0.87	0.57	0.66	
10,768.00	91.61	179.80	7,309.54	-2,915.53	1,434.58	2,919.52	0.78	0.24	0.74	
10,863.00	90.47	180.95	7,307.82	-3,010.51	1,433.96	3,014.50	1.70	-1.20	1.21	
10,957.00	90.03	180.31	7,307.41	-3,104.50	1,432.93	3,108.49	0.83	-0.47	-0.68	
11,053.00	89.13	181.06	7,308.11	-3,200.49	1,431.78	3,204.48	1.22	-0.94	0.78	
11,147.00	89.20	180.84	7,309.48	-3,294.47	1,430.22	3,298.45	0.25	0.07	-0.23	
11,242.00	89.53	181.51	7,310.53	-3,389.44	1,428.27	3,393.42	0.79	0.35	0.71	
11,337.00	89.66	181.83	7,311.20	-3,484.40	1,425.50	3,488.37	0.36	0.14	0.34	
11,433.00	89.77	182.08	7,311.68	-3,580.34	1,422.23	3,584.30	0.28	0.11	0.26	
11,528.00	89.63	181.52	7,312.18	-3,675.29	1,419.25	3,679.24	0.61	-0.15	-0.59	
11,623.00	90.07	181.03	7,312.43	-3,770.27	1,417.13	3,774.21	0.69	0.46	-0.52	
11,718.00	89.10	181.30	7,313.12	-3,865.24	1,415.20	3,869.18	1.06	-1.02	0.28	
11,812.00	89.19	181.99	7,314.52	-3,959.19	1,412.50	3,963.12	0.74	0.10	0.73	
11,908.00	89.13	182.59	7,315.93	-4,055.11	1,408.67	4,059.03	0.63	-0.06	0.63	
12,003.00	88.52	182.41	7,317.87	-4,150.00	1,404.52	4,153.90	0.67	-0.64	-0.19	
12,098.00	88.66	182.42	7,320.21	-4,244.88	1,400.52	4,248.78	0.15	0.15	0.01	
12,147.00	88.52	182.19	7,321.42	-4,293.83	1,398.55	4,297.72	0.55	-0.29	-0.47	
Last SDI MWD Survey										
12,206.00	88.52	182.19	7,322.94	-4,352.77	1,396.30	4,356.65	0.00	0.00	0.00	
Projection to TD										

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Johnson Trust 4
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Site:	Johnson Trust	MD Reference:	GL 4926' & KB 24.5' @ 4950.50ft (Patterson 346)
Well:	Johnson Trust 4	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
216.00	216.00	0.69	-0.07	First SDI MWD Survey
1,444.00	1,443.57	-2.06	-1.59	Last SDI MWD Surface Survey
12,147.00	7,321.42	-4,293.83	1,398.55	Last SDI MWD Survey
12,206.00	7,322.94	-4,352.77	1,396.30	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------