



Project: Weld County, CO NAD 83
Site: Johnson Trust
Well: Johnson Trust 3
Wellbore: OH
Design: Plan 5

Plan: Plan 5 (Johnson Trust 3/OH)
Created By: Seth Burstad Date: 1-25-2016



T **M**
Azimuths to True North
Magnetic North: 8.60°

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

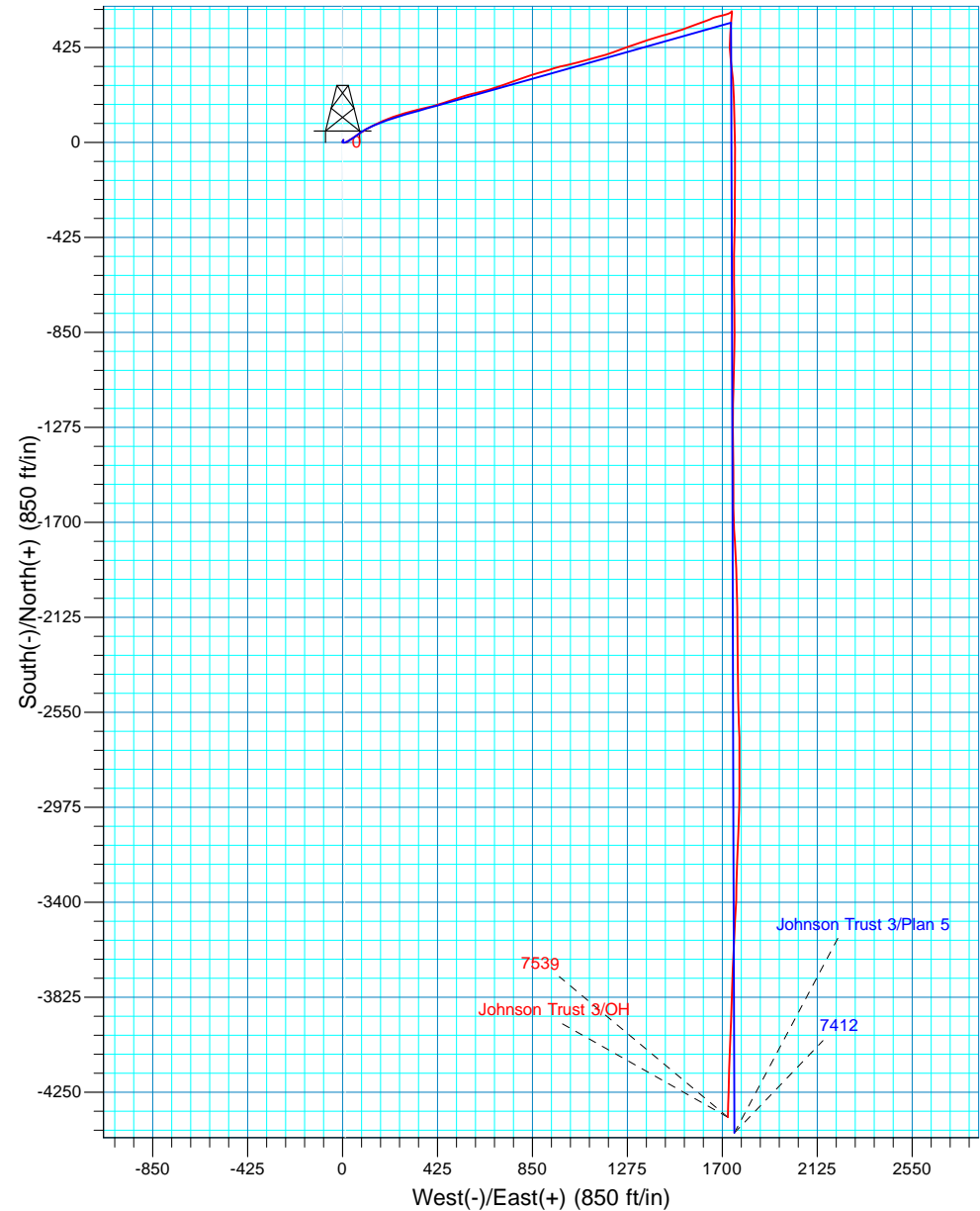
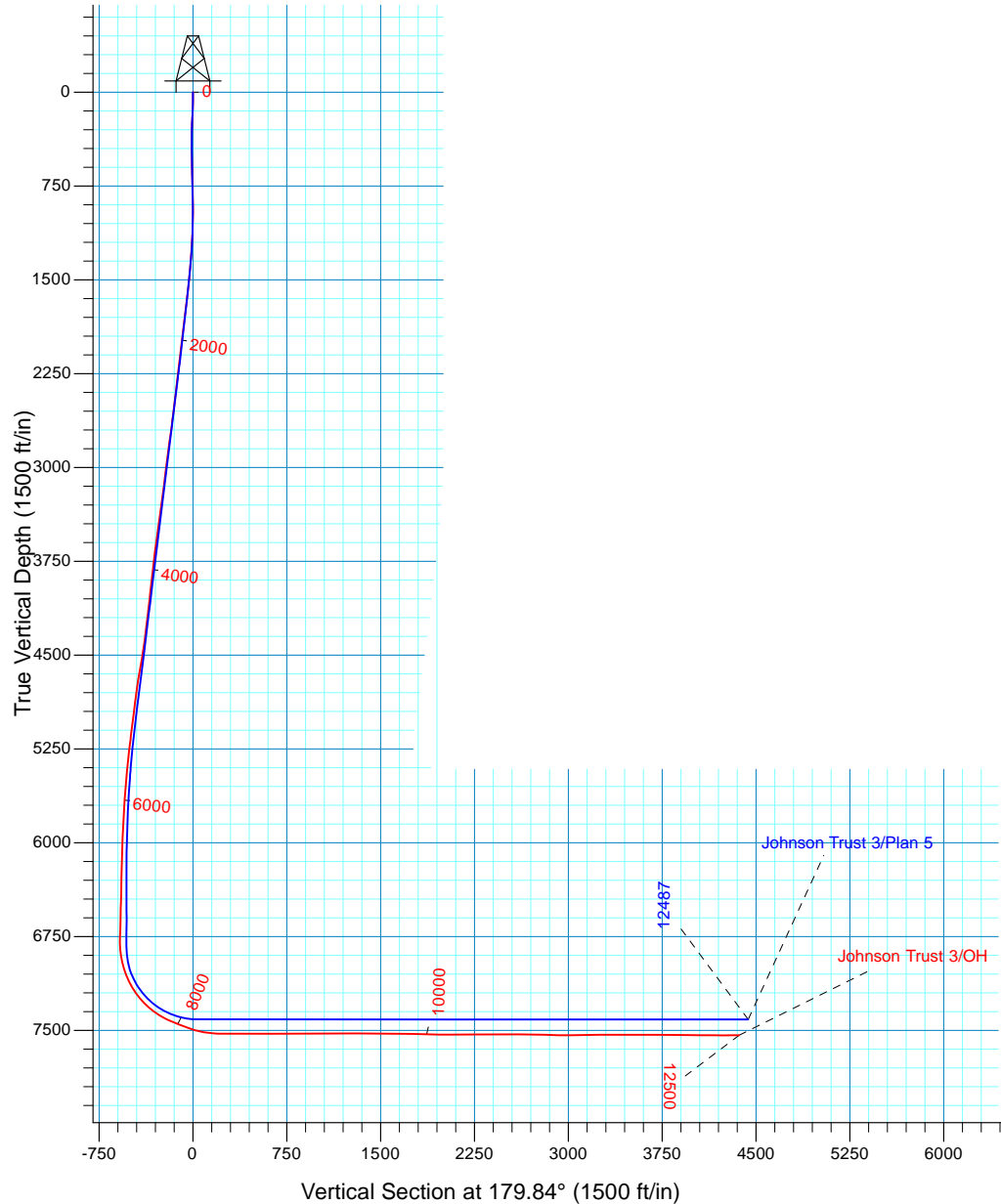
WELL DETAILS: Johnson Trust 3

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

GL 4927' & KB 24.5' @ 4951.50ft (Patterson 346) 4927.00
Northing Easting Latitude Longitude
1293392.64 3151083.24 40° 8' 14.975 N 104° 57' 34.632 W





Extraction Oil & Gas

Weld County, CO NAD 83

Johnson Trust

Johnson Trust 3

OH

Design: OH

Standard Survey Report

26 January, 2016



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Johnson Trust 3
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4927' & KB 24.5' @ 4951.50ft (Patterson 346)
Site:	Johnson Trust	MD Reference:	GL 4927' & KB 24.5' @ 4951.50ft (Patterson 346)
Well:	Johnson Trust 3	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 3, 2209' FSL 389' FWL Sec 13 T2N R68W					
Well Position	+N/-S	0.00 ft	Northing:	1,293,392.65 usft	Latitude:	40° 8' 14.975 N
	+E/-W	0.00 ft	Easting:	3,151,083.24 usft	Longitude:	104° 57' 34.632 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,927.00 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	1/26/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
186.00	1,519.00	Survey #1 - Surface (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
1,664.00	12,500.00	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	
186.00	2.51	17.57	185.94	3.88	1.23	-3.88	1.35	1.35	0.00	
First SDI MWD Survey										
247.00	2.90	15.92	246.87	6.64	2.06	-6.63	0.65	0.64	-2.70	
338.00	1.58	25.04	337.80	9.99	3.22	-9.98	1.50	-1.45	10.02	
432.00	0.40	270.59	431.79	11.17	3.44	-11.16	1.90	-1.26	-121.76	
496.00	0.85	203.88	495.79	10.74	3.02	-10.73	1.22	0.70	-104.23	
560.00	1.74	194.17	559.77	9.36	2.59	-9.35	1.43	1.39	-15.17	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Johnson Trust 3
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4927' & KB 24.5' @ 4951.50ft (Patterson 346)
Site:	Johnson Trust	MD Reference:	GL 4927' & KB 24.5' @ 4951.50ft (Patterson 346)
Well:	Johnson Trust 3	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)
623.00	1.54	180.94	622.74	7.59	2.35	-7.58	0.68	-0.32	-21.00
686.00	2.11	179.32	685.71	5.58	2.35	-5.57	0.91	0.90	-2.57
718.00	2.15	185.20	717.69	4.39	2.30	-4.39	0.69	0.13	18.38
781.00	1.80	167.55	780.65	2.25	2.40	-2.24	1.11	-0.56	-28.02
844.00	2.10	129.62	843.62	0.55	3.51	-0.54	2.06	0.48	-60.21
907.00	2.83	95.85	906.56	-0.35	5.94	0.36	2.53	1.16	-53.60
970.00	3.74	81.45	969.46	-0.20	9.52	0.23	1.94	1.44	-22.86
1,033.00	4.59	68.18	1,032.29	1.04	13.89	-1.00	2.03	1.35	-21.06
1,096.00	4.78	66.21	1,095.08	3.04	18.64	-2.99	0.40	0.30	-3.13
1,160.00	5.40	61.58	1,158.83	5.55	23.73	-5.48	1.16	0.97	-7.23
1,223.00	6.78	59.27	1,221.47	8.86	29.53	-8.78	2.22	2.19	-3.67
1,349.00	8.36	55.32	1,346.37	17.87	43.46	-17.75	1.32	1.25	-3.13
1,412.00	8.27	54.71	1,408.71	23.10	50.92	-22.95	0.20	-0.14	-0.97
1,476.00	9.17	56.05	1,471.97	28.60	58.91	-28.44	1.44	1.41	2.09
1,519.00	10.58	54.31	1,514.33	32.82	64.96	-32.64	3.35	3.28	-4.05
Last SDI MWD Surface Survey									
1,664.00	12.56	58.63	1,656.38	48.80	89.23	-48.55	1.49	1.37	2.98
1,758.00	13.51	59.83	1,747.96	59.63	107.45	-59.33	1.05	1.01	1.28
1,853.00	14.28	61.85	1,840.18	70.74	127.38	-70.38	0.96	0.81	2.13
1,947.00	16.13	64.63	1,930.89	81.80	149.40	-81.39	2.11	1.97	2.96
2,042.00	17.76	64.61	2,021.76	93.67	174.41	-93.18	1.72	1.72	-0.02
2,136.00	18.47	70.10	2,111.11	104.89	201.37	-104.32	1.97	0.76	5.84
2,231.00	19.81	70.03	2,200.85	115.51	230.65	-114.86	1.41	1.41	-0.07
2,326.00	20.28	73.70	2,290.10	125.63	261.58	-124.90	1.41	0.49	3.86
2,421.00	22.51	73.83	2,378.55	135.31	294.85	-134.49	2.35	2.35	0.14
2,516.00	25.77	75.58	2,465.23	145.52	332.33	-144.60	3.51	3.43	1.84
2,611.00	28.67	76.07	2,549.70	156.15	374.46	-155.11	3.06	3.05	0.52
2,706.00	25.48	75.33	2,634.28	166.82	416.36	-165.66	3.38	-3.36	-0.78
2,800.00	23.96	72.03	2,719.67	177.83	454.08	-176.56	2.18	-1.62	-3.51
2,895.00	24.23	69.70	2,806.39	190.54	490.71	-189.17	1.04	0.28	-2.45
2,990.00	23.35	73.18	2,893.32	202.76	527.02	-201.28	1.74	-0.93	3.66
3,084.00	25.70	74.91	2,978.84	213.45	564.53	-211.88	2.61	2.50	1.84
3,179.00	26.90	76.17	3,064.00	223.95	605.29	-222.26	1.39	1.26	1.33
3,275.00	25.60	75.17	3,150.10	234.45	646.43	-232.65	1.43	-1.35	-1.04
3,369.00	23.42	73.26	3,235.63	245.03	683.96	-243.12	2.47	-2.32	-2.03
3,464.00	24.28	69.39	3,322.52	257.35	720.32	-255.34	1.88	0.91	-4.07
3,559.00	23.21	69.05	3,409.47	270.92	756.08	-268.80	1.14	-1.13	-0.36
3,653.00	22.46	71.81	3,496.11	283.15	790.44	-280.94	1.39	-0.80	2.94
3,748.00	21.74	71.66	3,584.13	294.35	824.38	-292.04	0.76	-0.76	-0.16
3,843.00	21.90	72.57	3,672.32	305.19	857.99	-302.79	0.39	0.17	0.96
3,938.00	22.88	74.79	3,760.16	315.34	892.71	-312.85	1.36	1.03	2.34
4,033.00	22.72	71.54	3,847.74	326.00	927.94	-323.40	1.34	-0.17	-3.42

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Well:	Johnson Trust 3	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)	
4,127.00	24.25	73.99	3,933.96	337.07	963.71	-334.38	1.93	1.63	2.61	
4,222.00	24.85	78.73	4,020.38	346.35	1,002.05	-343.55	2.17	0.63	4.99	
4,317.00	26.39	75.51	4,106.04	355.54	1,042.07	-352.63	2.18	1.62	-3.39	
4,411.00	24.81	74.09	4,190.81	366.17	1,081.27	-363.15	1.80	-1.68	-1.51	
4,507.00	24.12	75.91	4,278.19	376.47	1,119.66	-373.34	1.06	-0.72	1.90	
4,601.00	24.73	74.44	4,363.78	386.42	1,157.23	-383.19	0.92	0.65	-1.56	
4,697.00	25.49	70.92	4,450.71	398.56	1,196.10	-395.22	1.75	0.79	-3.67	
4,791.00	28.01	69.69	4,534.64	412.83	1,235.92	-409.38	2.74	2.68	-1.31	
4,885.00	28.47	70.36	4,617.45	428.03	1,277.73	-424.46	0.59	0.49	0.71	
4,980.00	25.61	71.68	4,702.06	442.09	1,318.55	-438.41	3.08	-3.01	1.39	
5,074.00	24.17	70.84	4,787.33	454.80	1,356.02	-451.01	1.58	-1.53	-0.89	
5,169.00	22.54	73.54	4,874.54	466.34	1,391.85	-462.45	2.05	-1.72	2.84	
5,263.00	24.85	74.06	4,960.61	476.87	1,428.13	-472.88	2.47	2.46	0.55	
5,358.00	24.13	73.11	5,047.07	487.99	1,465.90	-483.90	0.86	-0.76	-1.00	
5,452.00	22.12	72.63	5,133.51	498.86	1,501.18	-494.67	2.15	-2.14	-0.51	
5,547.00	18.89	70.73	5,222.48	509.28	1,532.78	-505.00	3.47	-3.40	-2.00	
5,642.00	18.23	67.98	5,312.54	519.93	1,561.07	-515.56	1.15	-0.69	-2.89	
5,737.00	15.17	71.33	5,403.52	529.48	1,586.63	-525.05	3.38	-3.22	3.53	
5,831.00	13.40	70.29	5,494.61	537.09	1,608.54	-532.60	1.90	-1.88	-1.11	
5,926.00	12.39	68.64	5,587.22	544.51	1,628.39	-539.97	1.13	-1.06	-1.74	
6,021.00	11.74	65.64	5,680.12	552.21	1,646.69	-547.61	0.95	-0.68	-3.16	
6,116.00	10.83	72.85	5,773.29	558.83	1,664.02	-554.18	1.77	-0.96	7.59	
6,211.00	9.51	72.90	5,866.79	563.77	1,680.05	-559.08	1.39	-1.39	0.05	
6,306.00	8.56	78.39	5,960.61	567.50	1,694.48	-562.77	1.35	-1.00	5.78	
6,401.00	7.08	77.38	6,054.73	570.20	1,707.12	-565.43	1.56	-1.56	-1.06	
6,495.00	5.46	72.37	6,148.16	572.82	1,717.04	-568.03	1.82	-1.72	-5.33	
6,589.00	3.98	69.65	6,241.84	575.31	1,724.36	-570.50	1.59	-1.57	-2.89	
6,684.00	3.24	63.21	6,336.65	577.67	1,729.85	-572.84	0.89	-0.78	-6.78	
6,779.00	2.42	62.75	6,431.54	579.80	1,734.02	-574.95	0.86	-0.86	-0.48	
6,874.00	2.24	56.09	6,526.46	581.75	1,737.35	-576.90	0.34	-0.19	-7.01	
6,968.00	1.72	37.12	6,620.40	583.90	1,739.72	-579.04	0.88	-0.55	-20.18	
7,064.00	1.42	33.06	6,716.37	586.05	1,741.24	-581.18	0.33	-0.31	-4.23	
7,159.00	1.04	48.22	6,811.34	587.61	1,742.53	-582.74	0.52	-0.40	15.96	
7,255.00	10.16	178.70	6,906.87	579.70	1,743.37	-574.83	11.32	9.50	135.92	
7,351.00	16.28	188.53	7,000.29	557.91	1,741.57	-553.04	6.77	6.38	10.24	
7,446.00	23.49	183.43	7,089.58	525.79	1,738.45	-520.94	7.80	7.59	-5.37	
7,540.00	33.21	183.77	7,172.20	481.30	1,735.63	-476.45	10.34	10.34	0.36	
7,636.00	40.95	180.97	7,248.74	423.52	1,733.37	-418.68	8.25	8.06	-2.92	
7,731.00	47.92	169.36	7,316.65	357.55	1,739.37	-352.69	11.25	7.34	-12.22	
7,826.00	58.33	176.93	7,373.63	282.26	1,748.08	-277.38	12.66	10.96	7.97	
7,921.00	65.87	177.93	7,418.05	198.45	1,751.81	-193.55	7.99	7.94	1.05	
8,015.00	69.25	178.96	7,453.93	111.61	1,754.16	-106.71	3.74	3.60	1.10	

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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)
8,110.00	69.93	178.24	7,487.06	22.60	1,756.34	-17.70	1.01	0.72	-0.76
8,204.00	79.71	180.06	7,511.64	-67.99	1,757.65	72.90	10.57	10.40	1.94
8,298.00	85.36	180.39	7,523.85	-161.16	1,757.28	166.07	6.02	6.01	0.35
8,393.00	91.34	180.11	7,526.58	-256.08	1,756.87	260.98	6.30	6.29	-0.29
8,488.00	89.50	180.64	7,525.89	-351.07	1,756.24	355.97	2.02	-1.94	0.56
8,583.00	90.77	181.69	7,525.66	-446.04	1,754.31	450.94	1.73	1.34	1.11
8,678.00	89.36	179.95	7,525.56	-541.03	1,752.95	545.92	2.36	-1.48	-1.83
8,773.00	89.53	179.76	7,526.48	-636.02	1,753.19	640.92	0.27	0.18	-0.20
8,867.00	89.53	179.45	7,527.25	-730.02	1,753.84	734.91	0.33	0.00	-0.33
8,962.00	91.17	179.88	7,526.67	-825.01	1,754.40	829.91	1.78	1.73	0.45
9,058.00	90.44	180.59	7,525.32	-921.00	1,754.00	925.89	1.06	-0.76	0.74
9,152.00	89.97	181.43	7,524.98	-1,014.98	1,752.35	1,019.87	1.02	-0.50	0.89
9,248.00	91.07	181.46	7,524.11	-1,110.95	1,749.93	1,115.83	1.15	1.15	0.03
9,344.00	90.00	180.80	7,523.21	-1,206.92	1,748.03	1,211.80	1.31	-1.11	-0.69
9,439.00	89.19	179.39	7,523.89	-1,301.92	1,747.87	1,306.79	1.71	-0.85	-1.48
9,535.00	89.26	179.48	7,525.18	-1,397.90	1,748.82	1,402.78	0.12	0.07	0.09
9,630.00	89.83	179.63	7,525.94	-1,492.90	1,749.56	1,497.78	0.62	0.60	0.16
9,725.00	90.47	180.38	7,525.69	-1,587.90	1,749.55	1,592.77	1.04	0.67	0.79
9,820.00	88.79	177.89	7,526.30	-1,682.87	1,750.98	1,687.75	3.16	-1.77	-2.62
9,915.00	88.02	176.85	7,528.95	-1,777.73	1,755.34	1,782.63	1.36	-0.81	-1.09
10,009.00	88.69	177.59	7,531.65	-1,871.58	1,759.90	1,876.49	1.06	0.71	0.79
10,104.00	89.06	177.04	7,533.51	-1,966.46	1,764.35	1,971.38	0.70	0.39	-0.58
10,199.00	90.10	179.46	7,534.21	-2,061.40	1,767.25	2,066.33	2.77	1.09	2.55
10,293.00	90.64	179.66	7,533.60	-2,155.40	1,767.97	2,160.33	0.61	0.57	0.21
10,388.00	90.80	179.44	7,532.41	-2,250.39	1,768.72	2,255.32	0.29	0.17	-0.23
10,483.00	90.03	179.64	7,531.72	-2,345.38	1,769.48	2,350.31	0.84	-0.81	0.21
10,578.00	90.30	179.22	7,531.45	-2,440.38	1,770.42	2,445.31	0.53	0.28	-0.44
10,672.00	89.66	177.83	7,531.48	-2,534.34	1,772.84	2,539.28	1.63	-0.68	-1.48
10,768.00	89.26	178.29	7,532.38	-2,630.28	1,776.09	2,635.23	0.63	-0.42	0.48
10,863.00	88.79	180.37	7,534.00	-2,725.26	1,777.20	2,730.21	2.24	-0.49	2.19
10,957.00	89.06	179.78	7,535.76	-2,819.24	1,777.08	2,824.19	0.69	0.29	-0.63
11,053.00	88.69	180.17	7,537.65	-2,915.22	1,777.12	2,920.17	0.56	-0.39	0.41
11,147.00	90.50	182.18	7,538.31	-3,009.19	1,775.20	3,014.14	2.88	1.93	2.14
11,242.00	91.01	182.88	7,537.06	-3,104.09	1,771.00	3,109.02	0.91	0.54	0.74
11,337.00	90.91	182.14	7,535.47	-3,198.98	1,766.84	3,203.90	0.79	-0.11	-0.78
11,433.00	89.66	179.99	7,534.99	-3,294.96	1,765.06	3,299.87	2.59	-1.30	-2.24
11,528.00	89.80	182.79	7,535.44	-3,389.92	1,762.76	3,394.83	2.95	0.15	2.95
11,623.00	90.77	183.50	7,534.97	-3,484.77	1,757.54	3,489.67	1.27	1.02	0.75
11,718.00	89.50	182.22	7,534.74	-3,579.65	1,752.80	3,584.53	1.90	-1.34	-1.35
11,812.00	90.13	182.65	7,535.05	-3,673.57	1,748.81	3,678.43	0.81	0.67	0.46
11,908.00	89.53	181.99	7,535.33	-3,769.49	1,744.92	3,774.34	0.93	-0.63	-0.69
12,003.00	89.33	182.03	7,536.28	-3,864.42	1,741.59	3,869.27	0.21	-0.21	0.04

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Johnson Trust 3
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4927' & KB 24.5' @ 4951.50ft (Patterson 346)
Site:	Johnson Trust	MD Reference:	GL 4927' & KB 24.5' @ 4951.50ft (Patterson 346)
Well:	Johnson Trust 3	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)	
12,098.00	89.70	182.55	7,537.08	-3,959.34	1,737.80	3,964.18	0.67	0.39	0.55	
12,192.00	89.50	182.03	7,537.74	-4,053.26	1,734.04	4,058.09	0.59	-0.21	-0.55	
12,287.00	89.30	181.59	7,538.73	-4,148.21	1,731.04	4,153.03	0.51	-0.21	-0.46	
12,381.00	90.34	181.99	7,539.03	-4,242.16	1,728.10	4,246.97	1.19	1.11	0.43	
12,441.00	90.03	181.19	7,538.83	-4,302.14	1,726.44	4,306.94	1.43	-0.52	-1.33	
Last SDI MWD Survey										
12,500.00	90.03	181.19	7,538.80	-4,361.13	1,725.21	4,365.93	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
186.00	185.94	3.88	1.23	First SDI MWD Survey	
1,519.00	1,514.33	32.82	64.96	Last SDI MWD Surface Survey	
12,441.00	7,538.83	-4,302.14	1,726.44	Last SDI MWD Survey	
12,500.00	7,538.80	-4,361.13	1,725.21	Projection to TD	

Checked By: _____	Approved By: _____	Date: _____
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