



## **Extraction Oil & Gas**

**WELD COUNTY, CO  
WINDER SOUTH PAD  
WINDER SOUTH 9**

**WINDER SOUTH 9**

**Survey: Survey #2**

## **Standard Survey Report**

**12 December, 2016**



<b>Company:</b>	Extraction Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well WINDER SOUTH 9
<b>Project:</b>	WELD COUNTY, CO	<b>TVD Reference:</b>	WELL @ 4880.00ft (Patterson 346)
<b>Site:</b>	WINDER SOUTH PAD	<b>MD Reference:</b>	WELL @ 4880.00ft (Patterson 346)
<b>Well:</b>	WINDER SOUTH 9	<b>North Reference:</b>	True
<b>Wellbore:</b>	WINDER SOUTH 9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	WINDER SOUTH 9	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	WELD COUNTY, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		WINDER SOUTH PAD			
Site Position:		Northing:	1,426,547.14 usft	Latitude:	40° 30' 9.630 N
From:	Lat/Long	Easting:	3,169,438.32 usft	Longitude:	104° 53' 26.516 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16"	Grid Convergence:	0.39 °

Well	WINDER SOUTH 9					
Well Position	+N/-S	0.00 ft	Northing:	1,426,546.99 usft	Latitude:	40° 30' 9.619 N
	+E/-W	0.00 ft	Easting:	3,169,578.17 usft	Longitude:	104° 53' 24.706 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,855.00 ft

<b>Wellbore</b>	WINDER SOUTH 9				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	10/03/16	8.36	66.93	52,512

Design	WINDER SOUTH 9				
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	257.59

<b>Survey Program</b>	<b>Date</b>	12/12/16			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
155.00	1,527.00	Survey #1 (WINDER SOUTH 9)	MWD	MWD - Standard	
1,664.00	17,255.00	Survey #2 (WINDER SOUTH 9)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
1,527.00	5.70	174.20	1,525.31	-31.44	5.79	1.11	0.00	0.00	0.00	
1,664.00	4.66	172.73	1,661.75	-43.73	7.18	2.39	0.77	-0.76	-1.07	
1,759.00	7.23	162.38	1,756.23	-53.26	9.48	2.19	2.92	2.71	-10.89	
1,853.00	9.12	165.19	1,849.27	-66.10	13.17	1.34	2.05	2.01	2.99	
1,948.00	11.43	165.40	1,942.74	-82.49	17.47	0.67	2.43	2.43	0.22	
2,042.00	15.65	172.75	2,034.12	-104.09	21.42	1.45	4.84	4.49	7.82	
2,137.00	17.54	175.46	2,125.16	-131.08	24.17	4.56	2.15	1.99	2.85	
2,231.00	19.58	165.45	2,214.29	-160.45	29.25	5.91	4.02	2.17	-10.65	
2,326.00	20.98	169.47	2,303.40	-192.58	36.36	5.88	2.08	1.47	4.23	
2,420.00	23.62	170.90	2,390.36	-227.73	42.41	7.52	2.87	2.81	1.52	
2,515.00	25.17	166.24	2,476.89	-266.15	50.23	8.14	2.60	1.63	-4.91	
2,609.00	29.43	166.62	2,560.40	-308.05	60.33	7.28	4.54	4.53	0.40	

<b>Company:</b>	Extraction Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well WINDER SOUTH 9
<b>Project:</b>	WELD COUNTY, CO	<b>TVD Reference:</b>	WELL @ 4880.00ft (Patterson 346)
<b>Site:</b>	WINDER SOUTH PAD	<b>MD Reference:</b>	WELL @ 4880.00ft (Patterson 346)
<b>Well:</b>	WINDER SOUTH 9	<b>North Reference:</b>	True
<b>Wellbore:</b>	WINDER SOUTH 9	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	WINDER SOUTH 9	<b>Database:</b>	EDM 5000.1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,704.00	31.75	170.84	2,642.18	-355.45	69.71	8.30	3.33	2.44	4.44
2,799.00	31.79	166.69	2,722.96	-404.48	79.45	9.32	2.30	0.04	-4.37
2,894.00	31.37	163.94	2,803.89	-452.60	92.06	7.35	1.58	-0.44	-2.89
2,988.00	32.62	158.84	2,883.63	-499.75	107.97	1.94	3.17	1.33	-5.43
3,082.00	31.74	161.86	2,963.19	-546.87	124.82	-4.39	1.95	-0.94	3.21
3,177.00	29.11	162.26	3,045.10	-592.64	139.64	-9.03	2.78	-2.77	0.42
3,271.00	29.76	162.55	3,126.97	-636.67	153.61	-13.20	0.71	0.69	0.31
3,365.00	29.49	160.11	3,208.68	-680.69	168.47	-18.27	1.31	-0.29	-2.60
3,460.00	30.16	164.46	3,291.11	-725.67	182.82	-22.61	2.38	0.71	4.58
3,555.00	30.99	164.91	3,372.90	-772.28	195.59	-25.06	0.91	0.87	0.47
3,650.00	28.59	163.68	3,455.34	-817.71	208.34	-27.76	2.61	-2.53	-1.29
3,744.00	29.92	164.97	3,537.35	-861.94	220.74	-30.36	1.57	1.41	1.37
3,839.00	31.86	167.85	3,618.87	-909.34	232.16	-31.33	2.57	2.04	3.03
3,934.00	32.70	168.98	3,699.19	-959.04	242.35	-30.60	1.09	0.88	1.19
4,029.00	30.19	166.70	3,780.24	-1,007.49	252.75	-30.35	2.92	-2.64	-2.40
4,123.00	30.37	166.67	3,861.41	-1,053.61	263.67	-31.10	0.19	0.19	-0.03
4,218.00	28.50	167.21	3,944.15	-1,099.09	274.22	-31.63	1.99	-1.97	0.57
4,312.00	28.67	168.54	4,026.69	-1,143.06	283.67	-31.41	0.70	0.18	1.41
4,407.00	28.80	172.71	4,110.00	-1,188.09	291.10	-28.99	2.11	0.14	4.39
4,501.00	29.58	178.05	4,192.07	-1,233.75	294.76	-22.75	2.89	0.83	5.68
4,595.00	29.24	182.13	4,273.97	-1,279.88	294.70	-12.78	2.16	-0.36	4.34
4,690.00	29.93	180.81	4,356.58	-1,326.77	293.50	-1.53	1.00	0.73	-1.39
4,785.00	31.90	179.88	4,438.08	-1,375.57	293.22	9.23	2.13	2.07	-0.98
4,879.00	29.51	181.38	4,518.90	-1,423.56	292.71	20.04	2.67	-2.54	1.60
4,974.00	30.07	180.32	4,601.35	-1,470.75	292.02	30.86	0.81	0.59	-1.12
5,069.00	29.76	176.10	4,683.70	-1,518.08	293.49	39.59	2.24	-0.33	-4.44
5,164.00	31.20	179.37	4,765.57	-1,566.21	295.36	48.10	2.31	1.52	3.44
5,258.00	29.41	177.78	4,846.73	-1,613.62	296.52	57.16	2.09	-1.90	-1.69
5,353.00	31.20	180.05	4,928.74	-1,661.54	297.40	66.59	2.24	1.88	2.39
5,448.00	27.07	179.15	5,011.71	-1,707.78	297.70	76.24	4.37	-4.35	-0.95
5,541.00	27.44	177.81	5,094.38	-1,750.36	298.84	84.28	0.77	0.40	-1.44
5,636.00	27.00	176.85	5,178.86	-1,793.76	300.86	91.63	0.65	-0.46	-1.01
5,731.00	23.74	175.44	5,264.69	-1,834.37	303.56	97.72	3.49	-3.43	-1.48
5,825.00	22.34	176.23	5,351.19	-1,871.06	306.24	102.98	1.53	-1.49	0.84
5,920.00	21.19	180.19	5,439.42	-1,906.25	307.37	109.44	1.96	-1.21	4.17
6,014.00	20.05	183.44	5,527.40	-1,939.32	306.35	117.55	1.72	-1.21	3.46
6,109.00	17.32	183.79	5,617.38	-1,969.69	304.44	125.94	2.88	-2.87	0.37
6,203.00	17.06	183.35	5,707.19	-1,997.42	302.71	133.59	0.31	-0.28	-0.47
6,298.00	14.25	182.12	5,798.65	-2,023.02	301.46	140.31	2.98	-2.96	-1.29
6,392.00	11.78	180.63	5,890.23	-2,044.18	300.93	145.38	2.65	-2.63	-1.59
6,487.00	12.22	182.73	5,983.15	-2,063.92	300.34	150.19	0.65	0.46	2.21
6,581.00	9.67	181.68	6,075.44	-2,081.75	299.64	154.71	2.72	-2.71	-1.12
6,676.00	7.21	178.78	6,169.40	-2,095.69	299.53	157.81	2.63	-2.59	-3.05
6,771.00	6.33	179.75	6,263.74	-2,106.89	299.68	160.07	0.93	-0.93	1.02
6,865.00	4.57	180.80	6,357.31	-2,115.81	299.65	162.02	1.88	-1.87	1.12
6,960.00	2.73	187.31	6,452.11	-2,121.84	299.31	163.65	1.98	-1.94	6.85
7,054.00	1.67	192.32	6,546.04	-2,125.40	298.73	164.98	1.15	-1.13	5.33
7,149.00	6.60	255.60	6,640.80	-2,128.11	293.14	171.02	6.35	5.19	66.61
7,243.00	18.47	264.65	6,732.40	-2,130.85	273.01	191.27	12.76	12.63	9.63
7,338.00	29.55	266.58	6,819.04	-2,133.66	234.52	229.46	11.69	11.66	2.03
7,432.00	40.54	270.10	6,895.89	-2,135.00	180.67	282.34	11.88	11.69	3.74
7,527.00	54.52	269.83	6,959.88	-2,135.06	110.77	350.63	14.72	14.72	-0.28
7,621.00	62.17	270.80	7,009.17	-2,134.59	30.81	428.61	8.19	8.14	1.03
7,716.00	67.80	268.60	7,049.33	-2,135.08	-55.23	512.75	6.29	5.93	-2.32

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<b>Wellbore:</b>	WINDER SOUTH 9	<b>Survey Calculation Method:</b>	Minimum Curvature
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Survey									
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<b>WS 9 Hard Line Intersect Point</b>									
7,766.07	69.70	267.76	7,067.48	-2,136.56	-101.87	558.62	4.10	3.79	-1.68
7,811.00	71.40	267.02	7,082.44	-2,138.50	-144.19	600.36	4.10	3.79	-1.64
<b>LP WINDER SOUTH 9 P3</b>									
7,844.89	76.92	267.18	7,091.69	-2,140.14	-176.74	632.51	16.28	16.28	0.48
7,905.00	86.70	267.46	7,100.25	-2,142.92	-236.10	691.08	16.28	16.28	0.46
<b>LP WINDER SOUTH 9</b>									
7,911.75	86.83	267.60	7,100.63	-2,143.21	-242.83	697.71	2.82	1.95	2.04
8,000.00	88.55	269.40	7,104.18	-2,145.52	-330.97	784.29	2.82	1.95	2.04
8,095.00	88.11	269.57	7,106.95	-2,146.37	-425.93	877.21	0.50	-0.46	0.18
8,189.00	89.78	268.16	7,108.68	-2,148.23	-519.89	969.38	2.32	1.78	-1.50
8,284.00	91.45	268.78	7,107.66	-2,150.77	-614.85	1,062.66	1.88	1.76	0.65
8,378.00	88.81	268.96	7,107.45	-2,152.62	-708.82	1,154.84	2.82	-2.81	0.19
8,496.00	89.87	269.22	7,108.81	-2,154.50	-826.79	1,270.46	0.92	0.90	0.22
8,591.00	90.48	268.25	7,108.52	-2,156.59	-921.77	1,363.67	1.21	0.64	-1.02
8,685.00	88.81	268.25	7,109.10	-2,159.46	-1,015.72	1,456.04	1.78	-1.78	0.00
8,780.00	89.16	268.78	7,110.78	-2,161.92	-1,110.67	1,549.30	0.67	0.37	0.56
8,874.00	89.16	269.40	7,112.16	-2,163.42	-1,204.65	1,641.41	0.66	0.00	0.66
8,969.00	89.52	270.27	7,113.26	-2,163.69	-1,299.64	1,734.24	0.99	0.38	0.92
9,063.00	91.10	271.50	7,112.75	-2,162.24	-1,393.63	1,825.71	2.13	1.68	1.31
9,158.00	90.57	272.21	7,111.36	-2,159.16	-1,488.56	1,917.77	0.93	-0.56	0.75
9,252.00	89.78	271.68	7,111.08	-2,155.97	-1,582.51	2,008.84	1.01	-0.84	-0.56
9,347.00	90.84	272.12	7,110.56	-2,152.82	-1,677.45	2,100.89	1.21	1.12	0.46
9,441.00	89.78	271.50	7,110.05	-2,149.86	-1,771.40	2,192.00	1.31	-1.13	-0.66
9,536.00	88.90	270.71	7,111.15	-2,148.02	-1,866.38	2,284.37	1.24	-0.93	-0.83
9,630.00	89.34	271.33	7,112.59	-2,146.35	-1,960.35	2,375.78	0.81	0.47	0.66
9,725.00	89.69	272.56	7,113.40	-2,143.13	-2,055.29	2,467.81	1.35	0.37	1.29
9,819.00	88.46	271.94	7,114.91	-2,139.44	-2,149.20	2,558.74	1.47	-1.31	-0.66
9,914.00	87.85	272.47	7,117.97	-2,135.78	-2,244.08	2,650.62	0.85	-0.64	0.56
10,008.00	88.29	270.19	7,121.14	-2,133.60	-2,338.00	2,741.87	2.47	0.47	-2.43
10,103.00	88.81	268.78	7,123.54	-2,134.46	-2,432.96	2,834.80	1.58	0.55	-1.48
10,197.00	88.29	269.04	7,125.92	-2,136.24	-2,526.91	2,926.94	0.62	-0.55	0.28
10,292.00	90.13	268.78	7,127.23	-2,138.05	-2,621.88	3,020.08	1.96	1.94	-0.27
10,386.00	90.40	268.87	7,126.80	-2,139.98	-2,715.86	3,112.28	0.30	0.29	0.10
10,481.00	89.60	269.22	7,126.80	-2,141.56	-2,810.85	3,205.38	0.92	-0.84	0.37
10,575.00	92.33	269.40	7,125.21	-2,142.69	-2,904.82	3,297.40	2.91	2.90	0.19
10,669.00	91.89	269.31	7,121.75	-2,143.75	-2,998.75	3,389.37	0.48	-0.47	-0.10
10,764.00	92.42	268.87	7,118.18	-2,145.26	-3,093.67	3,482.39	0.72	0.56	-0.46
10,859.00	92.68	269.04	7,113.95	-2,146.99	-3,188.56	3,575.44	0.33	0.27	0.18
10,953.00	93.03	269.22	7,109.27	-2,148.42	-3,282.43	3,667.42	0.42	0.37	0.19
11,047.00	93.47	269.75	7,103.94	-2,149.26	-3,376.28	3,759.26	0.73	0.47	0.56
11,142.00	92.07	269.92	7,099.35	-2,149.53	-3,471.16	3,851.98	1.48	-1.47	0.18
11,236.00	92.15	269.75	7,095.89	-2,149.80	-3,565.10	3,943.78	0.20	0.09	-0.18
11,331.00	92.42	269.22	7,092.10	-2,150.66	-3,660.02	4,036.67	0.63	0.28	-0.56
11,425.00	92.07	270.63	7,088.42	-2,150.78	-3,753.94	4,128.43	1.54	-0.37	1.50
11,520.00	89.34	272.03	7,087.25	-2,148.57	-3,848.90	4,220.69	3.23	-2.87	1.47
11,614.00	89.08	271.59	7,088.55	-2,145.61	-3,942.84	4,311.80	0.54	-0.28	-0.47
11,709.00	89.96	271.94	7,089.34	-2,142.68	-4,037.79	4,403.91	1.00	0.93	0.37
11,803.00	90.84	273.35	7,088.69	-2,138.34	-4,131.69	4,494.67	1.77	0.94	1.50
11,897.00	89.96	272.65	7,088.03	-2,133.42	-4,225.56	4,585.29	1.20	-0.94	-0.74
11,992.00	89.69	271.24	7,088.32	-2,130.20	-4,320.50	4,677.32	1.51	-0.28	-1.48
12,087.00	89.87	270.01	7,088.68	-2,129.16	-4,415.49	4,769.87	1.31	0.19	-1.29
12,181.00	90.57	270.63	7,088.32	-2,128.64	-4,509.49	4,861.56	0.99	0.74	0.66
12,275.00	90.31	269.48	7,087.60	-2,128.55	-4,603.48	4,953.34	1.25	-0.28	-1.22

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<b>Well:</b>	WINDER SOUTH 9	<b>North Reference:</b>	True
<b>Wellbore:</b>	WINDER SOUTH 9	<b>Survey Calculation Method:</b>	Minimum Curvature
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Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,370.00	91.10	269.48	7,086.43	-2,129.41	-4,698.47	5,046.30	0.83	0.83	0.00
12,464.00	90.40	268.69	7,085.20	-2,130.91	-4,792.45	5,138.40	1.12	-0.74	-0.84
12,559.00	90.84	268.60	7,084.17	-2,133.16	-4,887.42	5,231.63	0.47	0.46	-0.09
12,653.00	90.92	268.60	7,082.73	-2,135.45	-4,981.38	5,323.89	0.09	0.09	0.00
12,747.00	89.25	268.78	7,082.59	-2,137.60	-5,075.35	5,416.13	1.79	-1.78	0.19
12,842.00	89.08	268.78	7,083.98	-2,139.62	-5,170.32	5,509.32	0.18	-0.18	0.00
12,936.00	89.52	268.69	7,085.12	-2,141.70	-5,264.29	5,601.54	0.48	0.47	-0.10
13,031.00	90.57	268.87	7,085.05	-2,143.72	-5,359.27	5,694.73	1.12	1.11	0.19
13,125.00	90.66	269.40	7,084.04	-2,145.14	-5,453.25	5,786.82	0.57	0.10	0.56
13,220.00	91.63	269.31	7,082.14	-2,146.21	-5,548.22	5,879.81	1.03	1.02	-0.09
13,314.00	92.86	269.31	7,078.46	-2,147.34	-5,642.14	5,971.77	1.31	1.31	0.00
13,409.00	92.95	270.63	7,073.65	-2,147.39	-5,737.02	6,064.44	1.39	0.09	1.39
13,503.00	92.86	271.24	7,068.88	-2,145.86	-5,830.88	6,155.79	0.66	-0.10	0.65
13,597.00	90.92	270.19	7,065.78	-2,144.69	-5,924.82	6,247.28	2.35	-2.06	-1.12
13,692.00	91.28	271.07	7,063.96	-2,143.64	-6,019.80	6,339.81	1.00	0.38	0.93
13,786.00	91.54	271.94	7,061.64	-2,141.17	-6,113.73	6,431.02	0.97	0.28	0.93
13,880.00	93.65	274.32	7,057.39	-2,136.05	-6,207.49	6,521.48	3.38	2.24	2.53
13,975.00	91.36	273.35	7,053.24	-2,129.70	-6,302.17	6,612.60	2.62	-2.41	-1.02
14,069.00	90.66	271.42	7,051.58	-2,125.79	-6,396.07	6,703.46	2.18	-0.74	-2.05
14,163.00	90.48	269.57	7,050.64	-2,124.98	-6,490.06	6,795.08	1.98	-0.19	-1.97
14,258.00	90.92	269.83	7,049.48	-2,125.48	-6,585.05	6,887.96	0.54	0.46	0.27
14,352.00	90.66	267.46	7,048.19	-2,127.70	-6,679.01	6,980.20	2.54	-0.28	-2.52
14,446.00	91.98	270.98	7,046.02	-2,128.98	-6,772.96	7,072.23	4.00	1.40	3.74
14,541.00	93.21	269.92	7,041.72	-2,128.23	-6,867.86	7,164.75	1.71	1.29	-1.12
14,636.00	92.59	269.13	7,036.91	-2,129.02	-6,962.73	7,257.57	1.06	-0.65	-0.83
14,730.00	93.03	269.40	7,032.31	-2,130.23	-7,056.61	7,349.52	0.55	0.47	0.29
14,825.00	93.47	269.31	7,026.92	-2,131.29	-7,151.45	7,442.37	0.47	0.46	-0.09
14,919.00	93.12	268.87	7,021.52	-2,132.78	-7,245.28	7,534.33	0.60	-0.37	-0.47
15,013.00	93.65	268.78	7,015.97	-2,134.71	-7,339.10	7,626.37	0.57	0.56	-0.10
15,108.00	94.53	268.69	7,009.19	-2,136.80	-7,433.83	7,719.34	0.93	0.93	-0.09
15,203.00	92.07	268.69	7,003.72	-2,138.97	-7,528.64	7,812.40	2.59	-2.59	0.00
15,297.00	91.89	269.22	7,000.47	-2,140.68	-7,622.57	7,904.51	0.60	-0.19	0.56
15,392.00	91.80	269.31	6,997.42	-2,141.90	-7,717.51	7,997.49	0.13	-0.09	0.09
15,487.00	91.36	269.48	6,994.80	-2,142.90	-7,812.47	8,090.45	0.50	-0.46	0.18
15,581.00	90.48	269.48	6,993.29	-2,143.75	-7,906.46	8,182.42	0.94	-0.94	0.00
15,675.00	91.54	269.40	6,991.63	-2,144.67	-8,000.43	8,274.40	1.13	1.13	-0.09
15,770.00	91.01	268.96	6,989.52	-2,146.03	-8,095.40	8,367.44	0.73	-0.56	-0.46
15,865.00	91.19	270.54	6,987.69	-2,146.45	-8,190.38	8,460.29	1.67	0.19	1.66
15,959.00	92.86	270.19	6,984.37	-2,145.85	-8,284.32	8,551.90	1.82	1.78	-0.37
16,054.00	92.24	269.92	6,980.14	-2,145.76	-8,379.22	8,644.57	0.71	-0.65	-0.28
16,243.00	92.77	272.56	6,971.88	-2,141.67	-8,567.98	8,828.04	1.42	0.28	1.40
16,338.00	93.65	273.09	6,966.56	-2,137.00	-8,662.71	8,919.56	1.08	0.93	0.56
16,432.00	93.56	273.79	6,960.65	-2,131.37	-8,756.36	9,009.80	0.75	-0.10	0.74
16,527.00	94.09	272.50	6,954.31	-2,126.17	-8,851.00	9,101.12	1.47	0.56	-1.36
16,621.00	94.18	273.00	6,947.54	-2,121.67	-8,944.65	9,191.61	0.54	0.10	0.53
16,716.00	93.56	272.30	6,941.13	-2,117.29	-9,039.33	9,283.14	0.98	-0.65	-0.74
16,810.00	91.89	270.80	6,936.66	-2,114.75	-9,133.18	9,374.25	2.39	-1.78	-1.60
16,905.00	93.56	271.24	6,932.14	-2,113.06	-9,228.06	9,466.55	1.82	1.76	0.46
17,000.00	94.70	271.86	6,925.30	-2,110.50	-9,322.77	9,558.50	1.37	1.20	0.65
17,094.00	93.56	272.82	6,918.53	-2,106.67	-9,416.45	9,649.16	1.58	-1.21	1.02
LAST SVY									
17,189.00	94.70	273.35	6,911.69	-2,101.57	-9,511.06	9,740.47	1.32	1.20	0.56
PROJ SVY - PBHL WINDER SOUTH 9									
17,255.00	94.70	273.35	6,906.28	-2,097.73	-9,576.73	9,803.78	0.00	0.00	0.00



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well WINDER SOUTH 9
Project:	WELD COUNTY, CO	TVD Reference:	WELL @ 4880.00ft (Patterson 346)
Site:	WINDER SOUTH PAD	MD Reference:	WELL @ 4880.00ft (Patterson 346)
Well:	WINDER SOUTH 9	North Reference:	True
Wellbore:	WINDER SOUTH 9	Survey Calculation Method:	Minimum Curvature
Design:	WINDER SOUTH 9	Database:	EDM 5000.1 Single User Db

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
WS 9 Hard Line Intersec	0.00	0.00	7,067.48	-2,136.56	-101.87	1,424,409.78	3,169,491.00	40° 29' 48.506 N	104° 53' 26.024 W
- survey hits target center									
- Point									

Survey Annotations					
	Measured	Vertical	Local Coordinates		Comment
	Depth	Depth	+N/-S	+E/-W	
	(ft)	(ft)	(ft)	(ft)	
	17,189.00	6,911.69	-2,101.57	-9,511.06	LAST SVY
	17,255.00	6,906.28	-2,097.73	-9,576.73	PROJ SVY

Checked By:	_____	Approved By:	_____	Date:	_____
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