



Extraction Oil & Gas

**WELD COUNTY, CO
WINDER SOUTH PAD
WINDER SOUTH 8**

WINDER SOUTH 8

Survey: Survey #2

Standard Survey Report

12 December, 2016



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Project:	WELD COUNTY, CO	TVD Reference:	WELL @ 4880.00ft (Original Well Elev)
Site:	WINDER SOUTH PAD	MD Reference:	WELL @ 4880.00ft (Original Well Elev)
Well:	WINDER SOUTH 8	North Reference:	True
Wellbore:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Design:	WINDER SOUTH 8	Database:	EDM 5000.1 Single User Db

Project	WELD COUNTY, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 8					
Well Position	+N/-S	0.00 ft	Northing:	1,426,546.86 usft	Latitude:	40° 30' 9.619 N
	+E/-W	0.00 ft	Easting:	3,169,558.15 usft	Longitude:	104° 53' 24.965 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,855.00 ft

Wellbore	WINDER SOUTH 8				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	09/20/16	8.37	66.94	52,516

Design	WINDER SOUTH 8				
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	258.51	

Survey Program	Date	10/07/16			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
134.00	1,565.00	Survey #1 (WINDER SOUTH 8)	MWD	MWD - Standard	
1,665.00	17,247.00	Survey #2 (WINDER SOUTH 8)	MWD	MWD - Standard	

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)	
Tie on to Surface SVY										
1,565.00	4.60	172.90	1,552.82	-106.46	25.85	-4.11	0.00	0.00	0.00	
1,665.00	6.12	170.94	1,652.38	-115.70	27.18	-3.58	1.53	1.52	-1.96	
1,760.00	7.05	176.93	1,746.75	-126.53	28.29	-2.51	1.22	0.98	6.31	
1,854.00	6.15	179.61	1,840.13	-137.32	28.64	-0.70	1.01	-0.96	2.85	
1,949.00	6.92	173.59	1,934.51	-148.10	29.31	0.79	1.08	0.81	-6.34	
2,043.00	7.88	173.08	2,027.73	-160.12	30.72	1.81	1.02	1.02	-0.54	
2,138.00	9.41	173.97	2,121.65	-174.31	32.32	3.07	1.62	1.61	0.94	
2,232.00	13.01	168.82	2,213.84	-192.34	35.18	3.86	3.97	3.83	-5.48	
2,327.00	16.43	168.47	2,305.71	-216.00	39.94	3.91	3.60	3.60	-0.37	
2,421.00	19.70	170.66	2,395.06	-244.67	45.17	4.49	3.55	3.48	2.33	
2,516.00	21.57	171.05	2,483.97	-277.72	50.48	5.87	1.97	1.97	0.41	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Project:	WELD COUNTY, CO	TVD Reference:	WELL @ 4880.00ft (Original Well Elev)
Site:	WINDER SOUTH PAD	MD Reference:	WELL @ 4880.00ft (Original Well Elev)
Well:	WINDER SOUTH 8	North Reference:	True
Wellbore:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Design:	WINDER SOUTH 8	Database:	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)
2,705.00	22.91	172.44	2,658.90	-348.51	60.73	9.94	0.76	0.71	0.74
2,800.00	19.81	172.08	2,747.37	-382.79	65.38	12.21	3.27	-3.26	-0.38
2,894.00	18.40	177.77	2,836.19	-413.40	68.15	15.59	2.48	-1.50	6.05
2,988.00	19.46	181.58	2,925.11	-443.88	68.30	21.52	1.73	1.13	4.05
3,083.00	17.60	175.02	3,015.19	-474.01	69.11	26.73	2.94	-1.96	-6.91
3,177.00	17.37	172.81	3,104.85	-502.09	72.10	29.40	0.75	-0.24	-2.35
3,271.00	16.52	170.59	3,194.77	-529.20	76.04	30.94	1.14	-0.90	-2.36
3,366.00	19.08	172.44	3,285.22	-557.92	80.29	32.50	2.76	2.69	1.95
3,460.00	19.51	169.41	3,373.94	-588.58	85.20	33.80	1.16	0.46	-3.22
3,555.00	20.79	171.72	3,463.12	-620.86	90.54	34.99	1.59	1.35	2.43
3,650.00	20.10	174.04	3,552.14	-653.78	94.67	37.51	1.12	-0.73	2.44
3,745.00	21.94	172.42	3,640.82	-687.61	98.70	40.30	2.03	1.94	-1.71
3,840.00	25.79	168.01	3,727.68	-725.44	105.34	41.33	4.46	4.05	-4.64
3,935.00	24.00	171.12	3,813.86	-764.74	112.62	42.04	2.33	-1.88	3.27
4,029.00	20.99	168.80	3,900.70	-800.16	118.84	43.00	3.34	-3.20	-2.47
4,124.00	17.79	169.93	3,990.30	-831.14	124.68	43.44	3.39	-3.37	1.19
4,219.00	17.13	169.31	4,080.92	-859.18	129.82	44.00	0.72	-0.69	-0.65
4,313.00	18.38	173.06	4,170.44	-887.50	134.18	45.37	1.80	1.33	3.99
4,407.00	19.88	174.06	4,259.25	-918.11	137.62	48.10	1.63	1.60	1.06
4,502.00	17.87	177.63	4,349.14	-948.74	139.89	51.97	2.44	-2.12	3.76
4,596.00	19.90	173.23	4,438.08	-979.04	142.38	55.58	2.64	2.16	-4.68
4,691.00	18.99	175.13	4,527.66	-1,010.50	145.60	58.69	1.17	-0.96	2.00
4,785.00	20.47	175.84	4,616.14	-1,042.13	148.09	62.55	1.59	1.57	0.76
4,880.00	19.08	178.98	4,705.54	-1,074.23	149.57	67.50	1.84	-1.46	3.31
4,975.00	19.18	172.63	4,795.30	-1,105.23	151.85	71.44	2.19	0.11	-6.68
5,069.00	17.62	169.02	4,884.50	-1,134.51	156.54	72.68	2.05	-1.66	-3.84
5,164.00	18.21	170.79	4,974.89	-1,163.28	161.65	73.40	0.85	0.62	1.86
5,259.00	17.86	166.32	5,065.23	-1,192.09	167.47	73.44	1.50	-0.37	-4.71
5,354.00	17.11	171.75	5,155.84	-1,220.08	172.92	73.68	1.89	-0.79	5.72
5,448.00	19.46	173.08	5,245.09	-1,249.31	176.80	75.71	2.54	2.50	1.41
5,543.00	18.76	170.13	5,334.86	-1,280.07	181.32	77.40	1.26	-0.74	-3.11
5,638.00	19.33	170.44	5,424.66	-1,310.63	186.55	78.37	0.61	0.60	0.33
5,733.00	21.46	176.01	5,513.70	-1,343.47	190.37	81.17	3.03	2.24	5.86
5,828.00	21.48	170.44	5,602.12	-1,377.97	194.47	84.02	2.15	0.02	-5.86
5,922.00	18.90	171.85	5,690.34	-1,410.01	199.49	85.49	2.79	-2.74	1.50
6,017.00	20.39	170.15	5,779.81	-1,441.55	204.50	86.87	1.68	1.57	-1.79
6,111.00	20.28	171.52	5,867.95	-1,473.80	209.70	88.19	0.52	-0.12	1.46
6,206.00	20.70	168.09	5,956.94	-1,506.51	215.60	88.94	1.34	0.44	-3.61
6,301.00	21.55	170.39	6,045.56	-1,540.14	221.98	89.39	1.25	0.89	2.42
6,411.00	19.67	173.87	6,148.52	-1,578.47	227.33	91.78	2.04	-1.71	3.16
6,505.00	19.50	172.63	6,237.08	-1,609.76	231.03	94.39	0.48	-0.18	-1.32
6,599.00	19.68	170.07	6,325.64	-1,640.91	235.77	95.95	0.93	0.19	-2.72
6,694.00	19.93	175.45	6,415.03	-1,672.81	239.81	98.35	1.94	0.26	5.66
6,789.00	19.72	172.03	6,504.40	-1,704.83	243.32	101.29	1.24	-0.22	-3.60
6,883.00	20.90	170.68	6,592.56	-1,737.08	248.23	102.90	1.35	1.26	-1.44
6,978.00	22.61	174.67	6,680.79	-1,771.99	252.67	105.51	2.38	1.80	4.20
7,073.00	17.51	173.81	6,770.00	-1,804.40	255.91	108.79	5.38	-5.37	-0.91
7,167.00	17.21	217.48	6,860.09	-1,829.60	248.95	120.64	13.56	-0.32	46.46
7,262.00	22.12	245.90	6,949.72	-1,848.11	224.00	148.78	11.17	5.17	29.92
7,356.00	26.59	236.37	7,035.37	-1,867.00	190.30	185.57	6.32	4.76	-10.14
7,450.00	34.00	246.56	7,116.53	-1,889.15	148.58	230.86	9.57	7.88	10.84
7,545.00	44.53	255.24	7,190.03	-1,908.28	91.80	290.32	12.48	11.08	9.14
7,640.00	61.87	259.80	7,246.74	-1,924.31	17.77	366.06	18.64	18.25	4.80
7,734.00	79.75	262.49	7,277.52	-1,937.80	-69.60	454.36	19.21	19.02	2.86

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Project:	WELD COUNTY, CO	TVD Reference:	WELL @ 4880.00ft (Original Well Elev)
Site:	WINDER SOUTH PAD	MD Reference:	WELL @ 4880.00ft (Original Well Elev)
Well:	WINDER SOUTH 8	North Reference:	True
Wellbore:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Design:	WINDER SOUTH 8	Database:	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)
WS 8 Hard Line Intersect Point									
7,745.30	80.54	262.69	7,279.45	-1,939.24	-80.64	465.47	7.18	6.95	1.79
7,829.00	86.36	264.17	7,289.00	-1,948.74	-163.21	548.28	7.18	6.96	1.77
LP WINDER SOUTH 8									
7,892.05	87.32	265.56	7,292.48	-1,954.38	-225.92	610.84	2.67	1.52	2.20
7,924.00	87.80	266.26	7,293.84	-1,956.65	-257.75	642.49	2.67	1.52	2.20
8,018.00	88.82	266.91	7,296.61	-1,962.25	-351.54	735.52	1.29	1.09	0.69
8,113.00	89.06	265.95	7,298.37	-1,968.17	-446.34	829.59	1.04	0.25	-1.01
8,207.00	88.92	267.26	7,300.03	-1,973.73	-540.16	922.64	1.40	-0.15	1.39
8,302.00	88.94	268.02	7,301.80	-1,977.64	-635.06	1,016.42	0.80	0.02	0.80
8,396.00	91.19	269.81	7,301.70	-1,979.42	-729.03	1,108.86	3.06	2.39	1.90
8,491.00	90.17	269.83	7,300.57	-1,979.72	-824.03	1,202.01	1.07	-1.07	0.02
8,585.00	89.76	269.70	7,300.63	-1,980.11	-918.02	1,294.20	0.46	-0.44	-0.14
8,680.00	90.73	269.87	7,300.22	-1,980.46	-1,013.02	1,387.36	1.04	1.02	0.18
8,774.00	90.18	269.67	7,299.47	-1,980.84	-1,107.02	1,479.55	0.62	-0.59	-0.21
8,868.00	92.34	270.80	7,297.41	-1,980.46	-1,200.99	1,571.56	2.59	2.30	1.20
8,963.00	91.84	269.10	7,293.94	-1,980.54	-1,295.92	1,664.60	1.86	-0.53	-1.79
9,057.00	88.29	267.93	7,293.83	-1,982.97	-1,389.87	1,757.15	3.98	-3.78	-1.24
9,152.00	90.25	269.61	7,295.04	-1,985.01	-1,484.83	1,850.62	2.72	2.06	1.77
9,247.00	90.80	268.81	7,294.17	-1,986.32	-1,579.82	1,943.96	1.02	0.58	-0.84
9,341.00	89.51	269.77	7,293.92	-1,987.49	-1,673.81	2,036.30	1.71	-1.37	1.02
9,435.00	89.10	269.04	7,295.06	-1,988.46	-1,767.80	2,128.59	0.89	-0.44	-0.78
9,530.00	90.50	270.22	7,295.39	-1,989.08	-1,862.79	2,221.80	1.93	1.47	1.24
9,625.00	91.02	271.14	7,294.13	-1,987.95	-1,957.77	2,314.66	1.11	0.55	0.97
9,719.00	90.58	269.88	7,292.82	-1,987.11	-2,051.76	2,406.59	1.42	-0.47	-1.34
9,814.00	89.33	268.29	7,292.89	-1,988.63	-2,146.74	2,499.97	2.13	-1.32	-1.67
9,908.00	90.01	270.16	7,293.44	-1,989.90	-2,240.73	2,592.32	2.12	0.72	1.99
10,002.00	92.38	269.97	7,291.48	-1,989.79	-2,334.70	2,684.39	2.53	2.52	-0.20
10,097.00	92.66	270.14	7,287.30	-1,989.70	-2,429.61	2,777.38	0.34	0.29	0.18
10,192.00	91.64	269.12	7,283.73	-1,990.32	-2,524.54	2,870.52	1.52	-1.07	-1.07
10,286.00	91.35	269.83	7,281.28	-1,991.18	-2,618.50	2,962.77	0.82	-0.31	0.76
10,381.00	90.33	270.42	7,279.89	-1,990.97	-2,713.49	3,055.82	1.24	-1.07	0.62
10,475.00	90.51	270.61	7,279.20	-1,990.13	-2,807.48	3,147.76	0.28	0.19	0.20
10,569.00	89.42	270.40	7,279.26	-1,989.30	-2,901.48	3,239.70	1.18	-1.16	-0.22
10,664.00	89.42	269.95	7,280.22	-1,989.01	-2,996.47	3,332.73	0.47	0.00	-0.47
10,759.00	88.00	269.34	7,282.36	-1,989.59	-3,091.44	3,425.91	1.63	-1.49	-0.64
10,853.00	92.35	271.49	7,282.07	-1,988.91	-3,185.41	3,517.86	5.16	4.63	2.29
10,948.00	91.33	269.69	7,279.02	-1,987.94	-3,280.35	3,610.71	2.18	-1.07	-1.89
11,042.00	88.91	268.23	7,278.82	-1,989.64	-3,374.33	3,703.14	3.01	-2.57	-1.55
11,136.00	89.55	269.77	7,280.09	-1,991.28	-3,468.30	3,795.55	1.77	0.68	1.64
11,231.00	88.95	270.94	7,281.33	-1,990.69	-3,563.29	3,888.52	1.38	-0.63	1.23
11,325.00	90.49	270.55	7,281.79	-1,989.47	-3,657.28	3,980.38	1.69	1.64	-0.41
11,420.00	91.61	268.67	7,280.05	-1,990.12	-3,752.25	4,073.58	2.30	1.18	-1.98
11,513.00	91.03	266.96	7,277.91	-1,993.66	-3,845.16	4,165.32	1.94	-0.62	-1.84
11,607.00	90.88	269.52	7,276.34	-1,996.55	-3,939.09	4,257.95	2.73	-0.16	2.72
11,701.00	90.62	270.65	7,275.11	-1,996.41	-4,033.08	4,350.03	1.23	-0.28	1.20
11,795.00	90.57	269.30	7,274.13	-1,996.45	-4,127.07	4,442.14	1.44	-0.05	-1.44
11,890.00	90.77	270.85	7,273.02	-1,996.33	-4,222.06	4,535.20	1.64	0.21	1.63
11,985.00	89.82	268.12	7,272.53	-1,997.18	-4,317.05	4,628.45	3.04	-1.00	-2.87
12,079.00	89.62	269.47	7,272.99	-1,999.16	-4,411.02	4,720.94	1.45	-0.21	1.44
12,174.00	91.10	270.80	7,272.39	-1,998.93	-4,506.02	4,813.98	2.09	1.56	1.40
12,268.00	90.33	272.18	7,271.22	-1,996.49	-4,599.98	4,905.57	1.68	-0.82	1.47
12,362.00	90.02	272.12	7,270.93	-1,992.96	-4,693.91	4,996.91	0.34	-0.33	-0.06
12,457.00	89.51	271.18	7,271.32	-1,990.23	-4,788.87	5,089.42	1.13	-0.54	-0.99

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Project:	WELD COUNTY, CO	TVD Reference:	WELL @ 4880.00ft (Original Well Elev)
Site:	WINDER SOUTH PAD	MD Reference:	WELL @ 4880.00ft (Original Well Elev)
Well:	WINDER SOUTH 8	North Reference:	True
Wellbore:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Design:	WINDER SOUTH 8	Database:	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)
12,551.00	90.70	273.43	7,271.15	-1,986.45	-4,882.78	5,180.70	2.71	1.27	2.39
12,646.00	91.27	273.32	7,269.52	-1,980.86	-4,977.60	5,272.51	0.61	0.60	-0.12
12,740.00	92.10	273.77	7,266.75	-1,975.05	-5,071.38	5,363.25	1.00	0.88	0.48
12,835.00	90.83	271.66	7,264.33	-1,970.55	-5,166.24	5,455.30	2.59	-1.34	-2.22
12,929.00	91.30	270.86	7,262.58	-1,968.48	-5,260.20	5,546.97	0.99	0.50	-0.85
13,024.00	92.51	271.42	7,259.42	-1,966.59	-5,355.12	5,639.61	1.40	1.27	0.59
13,118.00	91.79	271.15	7,255.89	-1,964.49	-5,449.03	5,731.22	0.82	-0.77	-0.29
13,213.00	92.75	271.85	7,252.13	-1,962.00	-5,543.92	5,823.71	1.25	1.01	0.74
13,307.00	93.31	271.00	7,247.16	-1,959.67	-5,637.76	5,915.20	1.08	0.60	-0.90
13,401.00	93.79	270.87	7,241.34	-1,958.14	-5,731.57	6,006.82	0.53	0.51	-0.14
13,495.00	92.15	269.67	7,236.47	-1,957.70	-5,825.44	6,098.72	2.16	-1.74	-1.28
13,590.00	91.33	268.35	7,233.59	-1,959.34	-5,920.38	6,192.08	1.64	-0.86	-1.39
13,684.00	93.08	267.65	7,229.97	-1,962.61	-6,014.25	6,284.72	2.00	1.86	-0.74
13,778.00	92.79	267.44	7,225.16	-1,966.64	-6,108.04	6,377.43	0.38	-0.31	-0.22
13,873.00	91.77	266.70	7,221.38	-1,971.49	-6,202.84	6,471.30	1.33	-1.07	-0.78
13,967.00	92.02	268.35	7,218.27	-1,975.54	-6,296.69	6,564.08	1.77	0.27	1.76
14,062.00	93.15	269.96	7,213.98	-1,976.94	-6,391.58	6,657.34	2.07	1.19	1.69
14,156.00	94.58	271.72	7,207.65	-1,975.57	-6,485.35	6,748.96	2.41	1.52	1.87
14,250.00	93.00	270.78	7,201.43	-1,973.53	-6,579.12	6,840.44	1.95	-1.68	-1.00
14,345.00	90.90	271.05	7,198.20	-1,972.01	-6,674.05	6,933.16	2.23	-2.21	0.28
14,439.00	90.72	270.41	7,196.87	-1,970.81	-6,768.03	7,025.02	0.71	-0.19	-0.68
14,534.00	91.37	270.06	7,195.14	-1,970.42	-6,863.01	7,118.02	0.78	0.68	-0.37
14,628.00	90.74	269.98	7,193.41	-1,970.39	-6,957.00	7,210.11	0.68	-0.67	-0.09
14,723.00	90.78	271.61	7,192.15	-1,969.07	-7,051.97	7,302.92	1.72	0.04	1.72
14,817.00	91.67	272.16	7,190.14	-1,965.98	-7,145.90	7,394.35	1.11	0.95	0.59
14,912.00	92.96	272.63	7,186.30	-1,962.01	-7,240.74	7,486.50	1.45	1.36	0.49
15,006.00	92.32	272.51	7,181.97	-1,957.80	-7,334.54	7,577.58	0.69	-0.68	-0.13
15,101.00	93.82	273.14	7,176.89	-1,953.13	-7,429.29	7,669.49	1.71	1.58	0.66
15,196.00	92.98	273.17	7,171.25	-1,947.91	-7,523.98	7,761.24	0.88	-0.88	0.03
15,290.00	92.02	271.20	7,167.15	-1,944.33	-7,617.81	7,852.48	2.33	-1.02	-2.10
15,385.00	93.05	271.67	7,162.95	-1,941.95	-7,712.69	7,944.98	1.19	1.08	0.49
15,479.00	92.26	270.14	7,158.59	-1,940.47	-7,806.57	8,036.69	1.83	-0.84	-1.63
15,574.00	93.29	270.39	7,154.00	-1,940.03	-7,901.46	8,129.58	1.12	1.08	0.26
15,668.00	92.67	269.65	7,149.11	-1,940.00	-7,995.33	8,221.57	1.03	-0.66	-0.79
15,763.00	93.77	270.04	7,143.77	-1,940.26	-8,090.18	8,314.56	1.23	1.16	0.41
15,858.00	92.75	270.23	7,138.37	-1,940.03	-8,185.02	8,407.46	1.09	-1.07	0.20
15,952.00	92.86	269.02	7,133.77	-1,940.65	-8,278.91	8,499.58	1.29	0.12	-1.29
16,046.00	92.60	268.81	7,129.29	-1,942.42	-8,372.78	8,591.93	0.36	-0.28	-0.22
16,141.00	91.97	269.94	7,125.50	-1,943.46	-8,467.70	8,685.15	1.36	-0.66	1.19
16,236.00	93.20	270.54	7,121.22	-1,943.06	-8,562.60	8,778.07	1.44	1.29	0.63
16,330.00	92.52	270.16	7,116.53	-1,942.49	-8,656.48	8,869.95	0.83	-0.72	-0.40
16,425.00	89.72	269.46	7,114.67	-1,942.80	-8,751.45	8,963.08	3.04	-2.95	-0.74
16,519.00	90.11	270.08	7,114.81	-1,943.18	-8,845.45	9,055.27	0.78	0.41	0.66
16,614.00	91.16	269.60	7,113.76	-1,943.45	-8,940.44	9,148.41	1.22	1.11	-0.51
16,708.00	89.81	269.00	7,112.96	-1,944.60	-9,034.43	9,240.74	1.57	-1.44	-0.64
16,804.00	90.45	268.71	7,112.75	-1,946.51	-9,130.41	9,335.18	0.73	0.67	-0.30
16,898.00	91.20	267.25	7,111.39	-1,949.83	-9,224.34	9,427.88	1.75	0.80	-1.55
16,992.00	92.50	267.71	7,108.36	-1,953.96	-9,318.20	9,520.68	1.47	1.38	0.49
17,087.00	93.18	266.87	7,103.65	-1,958.44	-9,412.97	9,614.45	1.14	0.72	-0.88
LAST SVY									
17,181.00	94.17	266.35	7,097.63	-1,963.99	-9,506.61	9,707.32	1.19	1.05	-0.55
PROJ SVY - PBHL WINDER SOUTH 8									
17,247.00	94.17	266.35	7,092.83	-1,968.18	-9,572.31	9,772.53	0.00	0.00	0.00



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Project:	WELD COUNTY, CO	TVD Reference:	WELL @ 4880.00ft (Original Well Elev)
Site:	WINDER SOUTH PAD	MD Reference:	WELL @ 4880.00ft (Original Well Elev)
Well:	WINDER SOUTH 8	North Reference:	True
Wellbore:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Design:	WINDER SOUTH 8	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 8 Hard Line Intersec	0.00	0.00	7,279.46	-1,939.24	-80.65	1,424,607.11	3,169,490.84	40° 29' 50.456 N	104° 53' 26.009 W
- survey hits target center									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,565.00	1,552.82	-106.46	25.85	Tie on to Surface SVY
17,181.00	7,097.63	-1,963.99	-9,506.61	LAST SVY
17,247.00	7,092.83	-1,968.18	-9,572.31	PROJ SVY

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