

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

SE NE SEC. 9 T6N R67W 6th P.M.

WINDER SOUTH 8

ORIGINAL WELLBORE

15 June, 2016

Plan: PROPOSAL #1

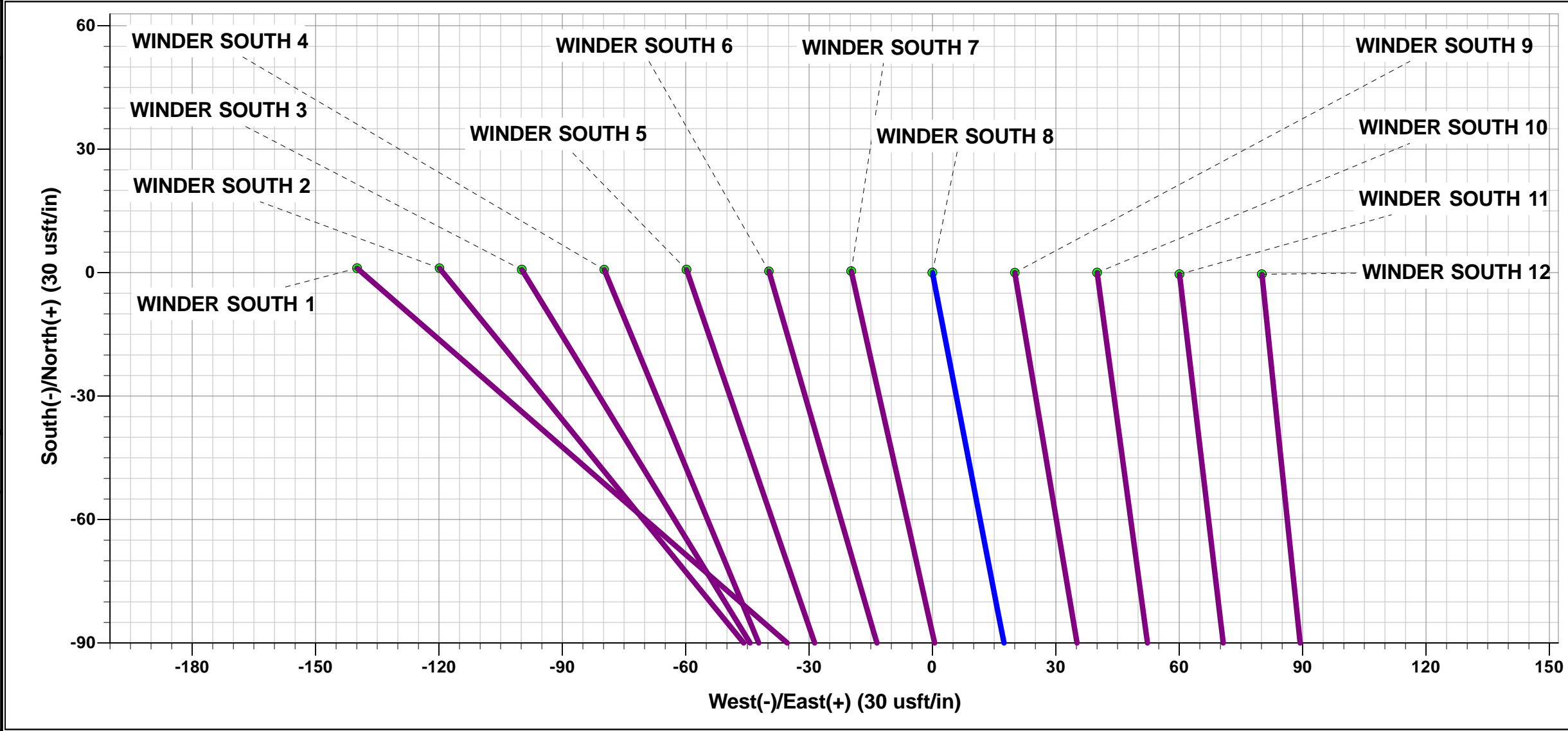




Project: WELD COUNTY, COLORADO (NAD 83)
Site: SE NE SEC. 9 T6N R67W 6th P.M.
Well: WINDER SOUTH 8
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation	
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 2306ft FNL & 388ft FEL of Sec 9	
500.0	500.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
1370.4	1384.4	17.69	169.06	-133.0	25.7	1.3	135.4	EOB TO 17.69° INC	
6706.3	6985.0	17.69	169.06	-1803.7	348.6	17.9	1837.1	KOP (10°/100ft DGLG)	
7285.0	7918.5	90.00	270.15	-1983.3	-223.9	614.7	2475.3	HZ LANDING PNT *NEW*: 1140ft FSL & 603ft FEL of Sec 9	
7285.0	17325.4	90.00	270.15	-1958.5	-9630.7	9827.9	11882.2	BHL: 1211ft FSL & 460ft FWL of Sec 8	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
HZ LP *NEW* - WINDER SOUTH 8	7285.0	-1983.3	-223.9	40.497228	-104.891073
BHL - WINDER SOUTH 8	7285.0	-1958.5	-9630.7	40.497291	-104.924896



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3580.0	3703.6	PARKMAN
4140.0	4291.4	SUSSEX
4700.0	4879.2	SHANNON
6905.0	7196.1	SHARON SPRINGS
6951.0	7247.5	NIOBRARA
7240.0	7684.4	FORT HAYS
7275.0	7808.7	CODELL
7285.0	7918.5	CODELL TGT

PROPOSED LOCAL COORDINATES	
SHL: 2306ft FNL & 388ft FEL of Sec 9	
LP *NEW*: 1140ft FSL & 603ft FEL of Sec 9	
BHL: 1211ft FSL & 460ft FWL of Sec 8	

T M

Azimuths to True North

Magnetic North: 8.39°

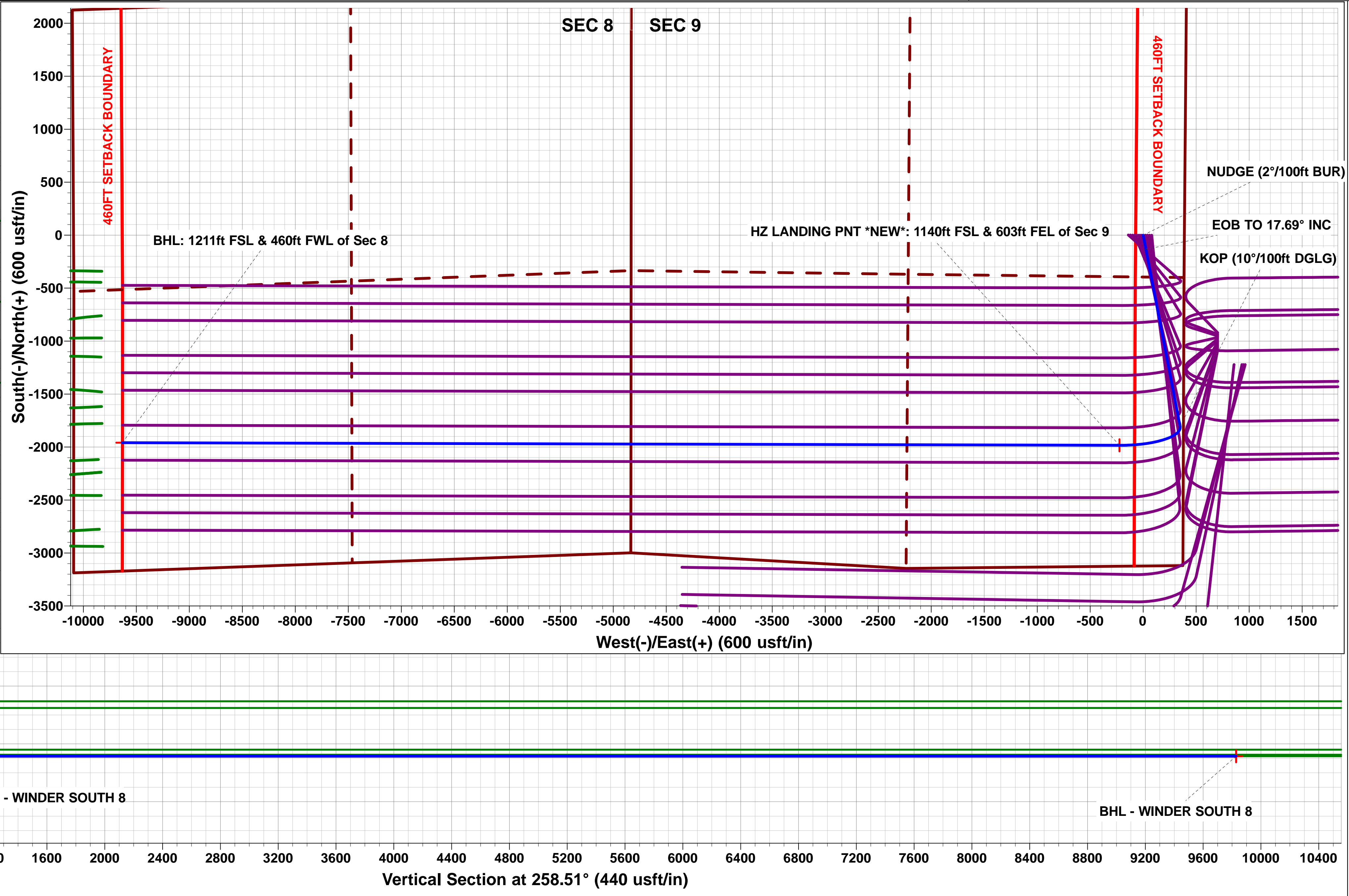
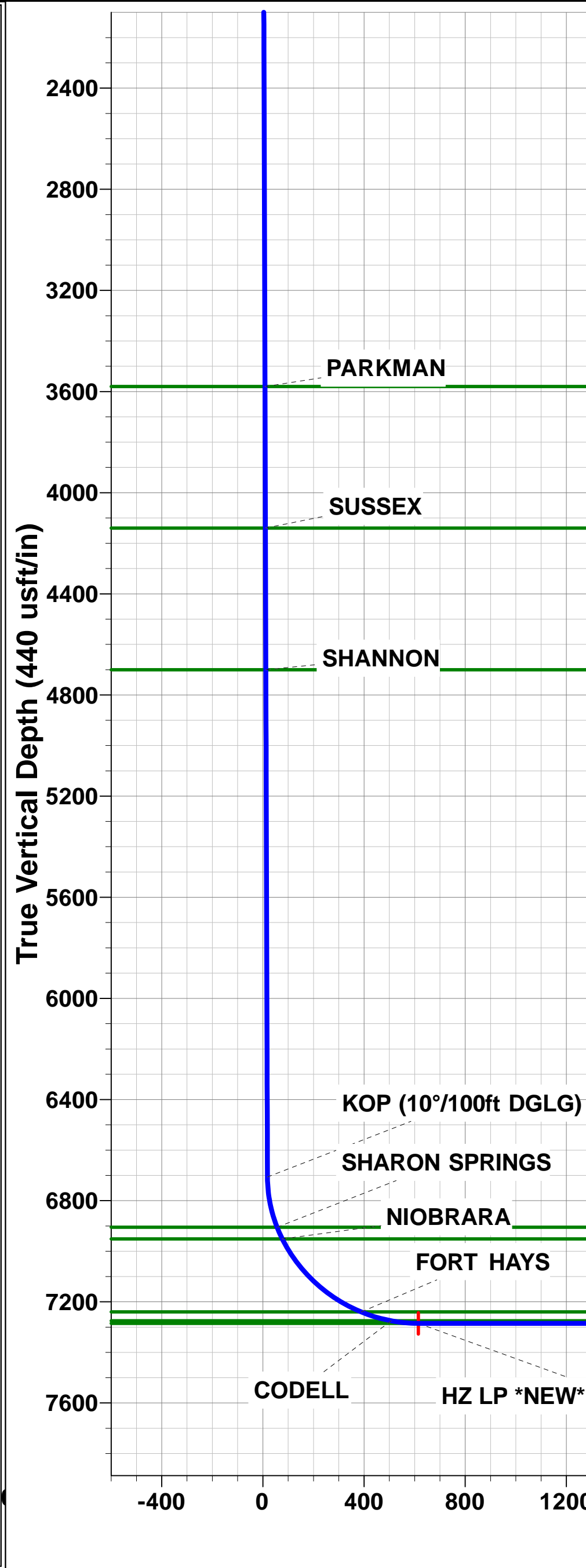
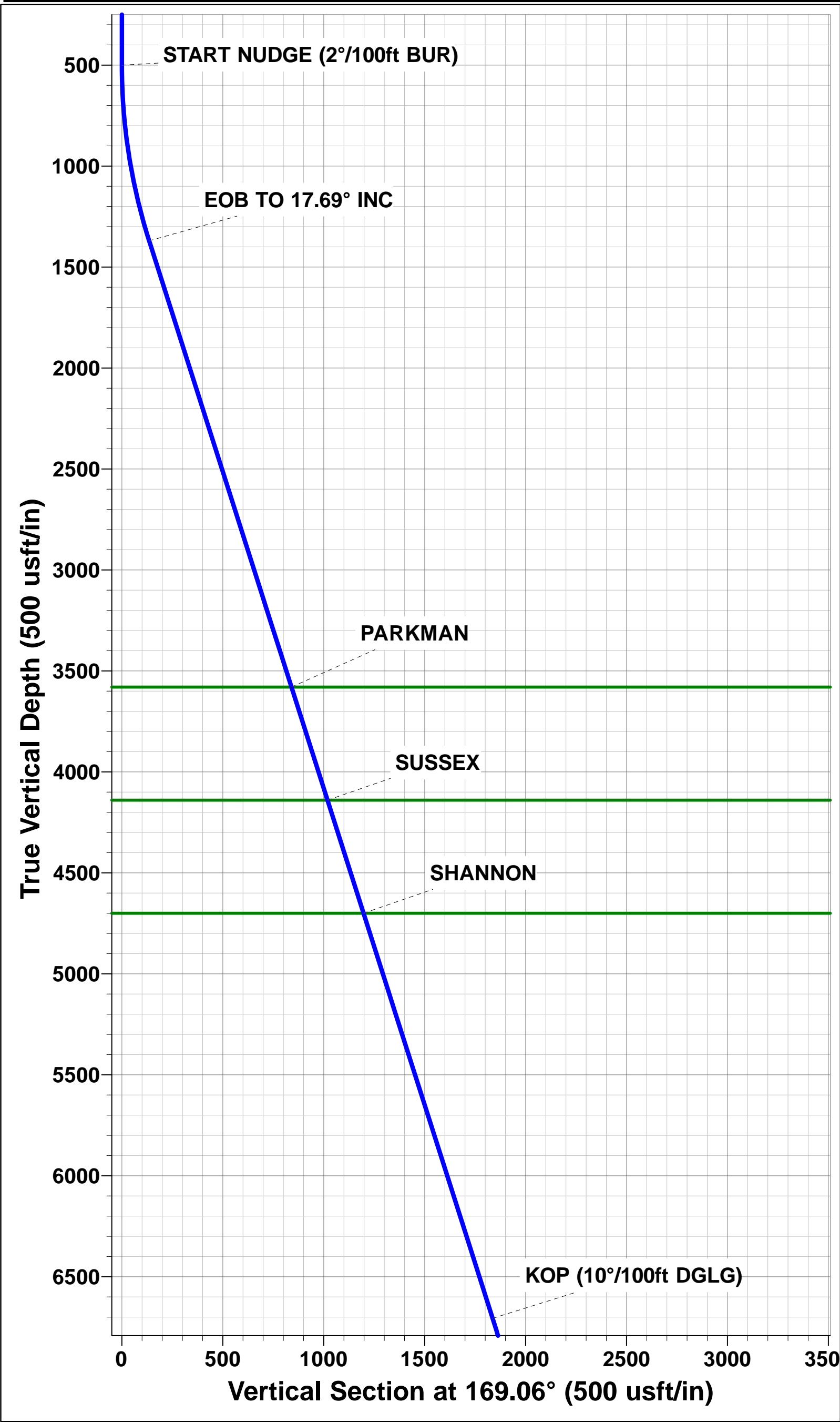
Magnetic Field

Strength: 52547.0snT

Dip Angle: 66.94°

Date: 14/06/2016

Model: IGRF2015



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4872.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4872.0usft
Site:	SE NE SEC. 9 T6N R67W 6th P.M.	North Reference:	True
Well:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	WELD COUNTY, COLORADO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	SE NE SEC. 9 T6N R67W 6th P.M.		
Site Position:		Northing:	1,426,547.00 usft
From:	Lat/Long	Easting:	3,169,418.27 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.502675
		Longitude:	-104.890771
		Grid Convergence:	0.39 °

Well	WINDER SOUTH 8		
Well Position	+N/-S	-1.1 usft	Northing:
	+E/-W	139.9 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	40.502672
		Longitude:	-104.890268
		Ground Level:	4,856.0 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	14/06/2016	8.39	66.94	52,547

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	258.51

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	-4,872.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	-4,372.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,384.4	17.69	169.06	1,370.4	-3,501.6	-133.0	25.7	2.00	2.00	0.00	169.06	
6,985.0	17.69	169.06	6,706.2	1,834.2	-1,803.7	348.6	0.00	0.00	0.00	0.00	
7,918.5	90.00	270.15	7,285.0	2,413.0	-1,983.3	-223.9	10.00	7.75	10.83	100.58	HZ LP *NEW* - WIND
17,325.4	90.00	270.15	7,285.0	2,413.0	-1,958.5	-9,630.7	0.00	0.00	0.00	0.00	BHL - WINDER SO

Planning Report



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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4872.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4872.0usft
Site:	SE NE SEC. 9 T6N R67W 6th P.M.	North Reference:	True
Well:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
SHL: 2306ft FNL & 388ft FEL of Sec 9										
0.0	0.00	0.00	0.0	4,872.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,772.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,672.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,572.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,472.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
500.0	0.00	0.00	500.0	4,372.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	2.00	169.06	600.0	4,272.02	-1.7	0.3	0.0	2.00	2.00	0.00
700.0	4.00	169.06	699.8	4,172.16	-6.9	1.3	0.1	2.00	2.00	0.00
800.0	6.00	169.06	799.5	4,072.55	-15.4	3.0	0.2	2.00	2.00	0.00
900.0	8.00	169.06	898.7	3,973.30	-27.4	5.3	0.3	2.00	2.00	0.00
1,000.0	10.00	169.06	997.5	3,874.53	-42.7	8.3	0.4	2.00	2.00	0.00
1,100.0	12.00	169.06	1,095.6	3,776.38	-61.5	11.9	0.6	2.00	2.00	0.00
1,200.0	14.00	169.06	1,193.1	3,678.94	-83.6	16.1	0.8	2.00	2.00	0.00
1,300.0	16.00	169.06	1,289.6	3,582.36	-109.0	21.1	1.1	2.00	2.00	0.00
EOB TO 17.69° INC										
1,384.4	17.69	169.06	1,370.4	3,501.58	-133.0	25.7	1.3	2.00	2.00	0.00
1,400.0	17.69	169.06	1,385.3	3,486.72	-137.6	26.6	1.4	0.00	0.00	0.00
1,500.0	17.69	169.06	1,480.6	3,391.45	-167.5	32.4	1.7	0.00	0.00	0.00
1,600.0	17.69	169.06	1,575.8	3,296.17	-197.3	38.1	2.0	0.00	0.00	0.00
1,700.0	17.69	169.06	1,671.1	3,200.90	-227.1	43.9	2.3	0.00	0.00	0.00
1,800.0	17.69	169.06	1,766.4	3,105.63	-257.0	49.7	2.5	0.00	0.00	0.00
1,900.0	17.69	169.06	1,861.6	3,010.36	-286.8	55.4	2.8	0.00	0.00	0.00
2,000.0	17.69	169.06	1,956.9	2,915.08	-316.6	61.2	3.1	0.00	0.00	0.00
2,100.0	17.69	169.06	2,052.2	2,819.81	-346.4	66.9	3.4	0.00	0.00	0.00
2,200.0	17.69	169.06	2,147.5	2,724.54	-376.3	72.7	3.7	0.00	0.00	0.00
2,300.0	17.69	169.06	2,242.7	2,629.26	-406.1	78.5	4.0	0.00	0.00	0.00
2,400.0	17.69	169.06	2,338.0	2,533.99	-435.9	84.2	4.3	0.00	0.00	0.00
2,500.0	17.69	169.06	2,433.3	2,438.72	-465.8	90.0	4.6	0.00	0.00	0.00
2,600.0	17.69	169.06	2,528.6	2,343.45	-495.6	95.8	4.9	0.00	0.00	0.00
2,700.0	17.69	169.06	2,623.8	2,248.17	-525.4	101.5	5.2	0.00	0.00	0.00
2,800.0	17.69	169.06	2,719.1	2,152.90	-555.3	107.3	5.5	0.00	0.00	0.00
2,900.0	17.69	169.06	2,814.4	2,057.63	-585.1	113.1	5.8	0.00	0.00	0.00
3,000.0	17.69	169.06	2,909.6	1,962.36	-614.9	118.8	6.1	0.00	0.00	0.00
3,100.0	17.69	169.06	3,004.9	1,867.08	-644.8	124.6	6.4	0.00	0.00	0.00
3,200.0	17.69	169.06	3,100.2	1,771.81	-674.6	130.4	6.7	0.00	0.00	0.00
3,300.0	17.69	169.06	3,195.5	1,676.54	-704.4	136.1	7.0	0.00	0.00	0.00
3,400.0	17.69	169.06	3,290.7	1,581.27	-734.2	141.9	7.3	0.00	0.00	0.00
3,500.0	17.69	169.06	3,386.0	1,485.99	-764.1	147.7	7.6	0.00	0.00	0.00
3,600.0	17.69	169.06	3,481.3	1,390.72	-793.9	153.4	7.9	0.00	0.00	0.00
3,700.0	17.69	169.06	3,576.6	1,295.45	-823.7	159.2	8.2	0.00	0.00	0.00
PARKMAN										
3,703.6	17.69	169.06	3,580.0	1,292.00	-824.8	159.4	8.2	0.00	0.00	0.00
3,800.0	17.69	169.06	3,671.8	1,200.18	-853.6	164.9	8.5	0.00	0.00	0.00
3,900.0	17.69	169.06	3,767.1	1,104.90	-883.4	170.7	8.8	0.00	0.00	0.00
4,000.0	17.69	169.06	3,862.4	1,009.63	-913.2	176.5	9.1	0.00	0.00	0.00
4,100.0	17.69	169.06	3,957.6	914.36	-943.1	182.2	9.3	0.00	0.00	0.00
4,200.0	17.69	169.06	4,052.9	819.08	-972.9	188.0	9.6	0.00	0.00	0.00
SUSSEX										
4,291.4	17.69	169.06	4,140.0	732.00	-1,000.2	193.3	9.9	0.00	0.00	0.00
4,300.0	17.69	169.06	4,148.2	723.81	-1,002.7	193.8	9.9	0.00	0.00	0.00
4,400.0	17.69	169.06	4,243.5	628.54	-1,032.6	199.5	10.2	0.00	0.00	0.00
4,500.0	17.69	169.06	4,338.7	533.27	-1,062.4	205.3	10.5	0.00	0.00	0.00

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Well:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.0	17.69	169.06	4,434.0	437.99	-1,092.2	211.1	10.8	0.00	0.00	0.00
4,700.0	17.69	169.06	4,529.3	342.72	-1,122.1	216.8	11.1	0.00	0.00	0.00
4,800.0	17.69	169.06	4,624.6	247.45	-1,151.9	222.6	11.4	0.00	0.00	0.00
SHANNON										
4,879.2	17.69	169.06	4,700.0	172.00	-1,175.5	227.2	11.7	0.00	0.00	0.00
4,900.0	17.69	169.06	4,719.8	152.18	-1,181.7	228.4	11.7	0.00	0.00	0.00
5,000.0	17.69	169.06	4,815.1	56.90	-1,211.5	234.1	12.0	0.00	0.00	0.00
5,100.0	17.69	169.06	4,910.4	-38.37	-1,241.4	239.9	12.3	0.00	0.00	0.00
5,200.0	17.69	169.06	5,005.6	-133.64	-1,271.2	245.7	12.6	0.00	0.00	0.00
5,300.0	17.69	169.06	5,100.9	-228.91	-1,301.0	251.4	12.9	0.00	0.00	0.00
5,400.0	17.69	169.06	5,196.2	-324.19	-1,330.9	257.2	13.2	0.00	0.00	0.00
5,500.0	17.69	169.06	5,291.5	-419.46	-1,360.7	262.9	13.5	0.00	0.00	0.00
5,600.0	17.69	169.06	5,386.7	-514.73	-1,390.5	268.7	13.8	0.00	0.00	0.00
5,700.0	17.69	169.06	5,482.0	-610.01	-1,420.4	274.5	14.1	0.00	0.00	0.00
5,800.0	17.69	169.06	5,577.3	-705.28	-1,450.2	280.2	14.4	0.00	0.00	0.00
5,900.0	17.69	169.06	5,672.6	-800.55	-1,480.0	286.0	14.7	0.00	0.00	0.00
6,000.0	17.69	169.06	5,767.8	-895.82	-1,509.9	291.8	15.0	0.00	0.00	0.00
6,100.0	17.69	169.06	5,863.1	-991.10	-1,539.7	297.5	15.3	0.00	0.00	0.00
6,200.0	17.69	169.06	5,958.4	-1,086.37	-1,569.5	303.3	15.6	0.00	0.00	0.00
6,300.0	17.69	169.06	6,053.6	-1,181.64	-1,599.3	309.1	15.9	0.00	0.00	0.00
6,400.0	17.69	169.06	6,148.9	-1,276.91	-1,629.2	314.8	16.1	0.00	0.00	0.00
6,500.0	17.69	169.06	6,244.2	-1,372.19	-1,659.0	320.6	16.4	0.00	0.00	0.00
6,600.0	17.69	169.06	6,339.5	-1,467.46	-1,688.8	326.4	16.7	0.00	0.00	0.00
6,700.0	17.69	169.06	6,434.7	-1,562.73	-1,718.7	332.1	17.0	0.00	0.00	0.00
6,800.0	17.69	169.06	6,530.0	-1,658.00	-1,748.5	337.9	17.3	0.00	0.00	0.00
6,900.0	17.69	169.06	6,625.3	-1,753.28	-1,778.3	343.7	17.6	0.00	0.00	0.00
KOP (10°/100ft DGLG)										
6,985.0	17.69	169.06	6,706.3	-1,834.26	-1,803.7	348.6	17.9	0.00	0.00	0.00
7,000.0	17.47	173.98	6,720.6	-1,848.56	-1,808.2	349.2	18.1	10.01	-1.43	32.81
7,100.0	19.14	205.77	6,815.7	-1,943.73	-1,837.9	343.7	29.5	10.00	1.67	31.79
SHARON SPRINGS										
7,196.1	24.65	227.15	6,905.0	-2,033.00	-1,865.8	322.1	56.2	10.00	5.73	22.25
7,200.0	24.92	227.82	6,908.5	-2,036.54	-1,866.9	320.9	57.6	10.00	7.02	16.99
NIOBRARA										
7,247.5	28.46	234.89	6,951.0	-2,079.00	-1,880.2	304.2	76.6	10.00	7.45	14.89
7,300.0	32.71	240.98	6,996.2	-2,124.18	-1,894.2	281.5	101.6	10.00	8.08	11.60
7,400.0	41.37	249.33	7,076.0	-2,203.98	-1,919.1	226.8	160.2	10.00	8.66	8.35
7,500.0	50.45	255.18	7,145.5	-2,273.52	-1,940.7	158.5	231.4	10.00	9.09	5.84
7,600.0	59.76	259.64	7,202.7	-2,330.68	-1,958.3	78.5	313.3	10.00	9.31	4.46
FORT HAYS										
7,684.4	67.72	262.78	7,240.0	-2,368.00	-1,969.8	3.8	388.9	10.00	9.43	3.72
7,700.0	69.20	263.32	7,245.7	-2,373.72	-1,971.6	-10.6	403.3	10.00	9.47	3.45
7,800.0	78.70	266.57	7,273.4	-2,401.35	-1,980.0	-106.3	498.7	10.00	9.50	3.24
CODELL										
7,808.7	79.53	266.84	7,275.0	-2,403.00	-1,980.5	-114.8	507.2	10.00	9.53	3.10
7,900.0	88.24	269.60	7,284.7	-2,412.72	-1,983.3	-205.4	596.5	10.00	9.54	3.03
HZ LANDING PNT *NEW*: 1140ft FSL & 603ft FEL of Sec 9 - CODELL TGT										
7,918.5	90.00	270.15	7,285.0	-2,413.00	-1,983.3	-223.9	614.6	10.00	9.54	2.99
8,000.0	90.00	270.15	7,285.0	-2,413.00	-1,983.1	-305.4	694.5	0.00	0.00	0.00
8,100.0	90.00	270.15	7,285.0	-2,413.00	-1,982.8	-405.4	792.4	0.00	0.00	0.00
8,200.0	90.00	270.15	7,285.0	-2,413.00	-1,982.6	-505.4	890.4	0.00	0.00	0.00
8,300.0	90.00	270.15	7,285.0	-2,413.00	-1,982.3	-605.4	988.3	0.00	0.00	0.00
8,400.0	90.00	270.15	7,285.0	-2,413.00	-1,982.0	-705.4	1,086.2	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4872.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4872.0usft
Site:	SE NE SEC. 9 T6N R67W 6th P.M.	North Reference:	True
Well:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,500.0	90.00	270.15	7,285.0	-2,413.00	-1,981.8	-805.4	1,184.2	0.00	0.00	0.00
8,600.0	90.00	270.15	7,285.0	-2,413.00	-1,981.5	-905.4	1,282.1	0.00	0.00	0.00
8,700.0	90.00	270.15	7,285.0	-2,413.00	-1,981.2	-1,005.4	1,380.1	0.00	0.00	0.00
8,800.0	90.00	270.15	7,285.0	-2,413.00	-1,981.0	-1,105.4	1,478.0	0.00	0.00	0.00
8,900.0	90.00	270.15	7,285.0	-2,413.00	-1,980.7	-1,205.4	1,576.0	0.00	0.00	0.00
9,000.0	90.00	270.15	7,285.0	-2,413.00	-1,980.4	-1,305.4	1,673.9	0.00	0.00	0.00
9,100.0	90.00	270.15	7,285.0	-2,413.00	-1,980.2	-1,405.4	1,771.8	0.00	0.00	0.00
9,200.0	90.00	270.15	7,285.0	-2,413.00	-1,979.9	-1,505.4	1,869.8	0.00	0.00	0.00
9,300.0	90.00	270.15	7,285.0	-2,413.00	-1,979.7	-1,605.4	1,967.7	0.00	0.00	0.00
9,400.0	90.00	270.15	7,285.0	-2,413.00	-1,979.4	-1,705.4	2,065.7	0.00	0.00	0.00
9,500.0	90.00	270.15	7,285.0	-2,413.00	-1,979.1	-1,805.4	2,163.6	0.00	0.00	0.00
9,600.0	90.00	270.15	7,285.0	-2,413.00	-1,978.9	-1,905.4	2,261.5	0.00	0.00	0.00
9,700.0	90.00	270.15	7,285.0	-2,413.00	-1,978.6	-2,005.4	2,359.5	0.00	0.00	0.00
9,800.0	90.00	270.15	7,285.0	-2,413.00	-1,978.3	-2,105.4	2,457.4	0.00	0.00	0.00
9,900.0	90.00	270.15	7,285.0	-2,413.00	-1,978.1	-2,205.4	2,555.4	0.00	0.00	0.00
10,000.0	90.00	270.15	7,285.0	-2,413.00	-1,977.8	-2,305.4	2,653.3	0.00	0.00	0.00
10,100.0	90.00	270.15	7,285.0	-2,413.00	-1,977.5	-2,405.4	2,751.3	0.00	0.00	0.00
10,200.0	90.00	270.15	7,285.0	-2,413.00	-1,977.3	-2,505.4	2,849.2	0.00	0.00	0.00
10,300.0	90.00	270.15	7,285.0	-2,413.00	-1,977.0	-2,605.4	2,947.1	0.00	0.00	0.00
10,400.0	90.00	270.15	7,285.0	-2,413.00	-1,976.8	-2,705.4	3,045.1	0.00	0.00	0.00
10,500.0	90.00	270.15	7,285.0	-2,413.00	-1,976.5	-2,805.4	3,143.0	0.00	0.00	0.00
10,600.0	90.00	270.15	7,285.0	-2,413.00	-1,976.2	-2,905.4	3,241.0	0.00	0.00	0.00
10,700.0	90.00	270.15	7,285.0	-2,413.00	-1,976.0	-3,005.4	3,338.9	0.00	0.00	0.00
10,800.0	90.00	270.15	7,285.0	-2,413.00	-1,975.7	-3,105.4	3,436.8	0.00	0.00	0.00
10,900.0	90.00	270.15	7,285.0	-2,413.00	-1,975.4	-3,205.4	3,534.8	0.00	0.00	0.00
11,000.0	90.00	270.15	7,285.0	-2,413.00	-1,975.2	-3,305.4	3,632.7	0.00	0.00	0.00
11,100.0	90.00	270.15	7,285.0	-2,413.00	-1,974.9	-3,405.4	3,730.7	0.00	0.00	0.00
11,200.0	90.00	270.15	7,285.0	-2,413.00	-1,974.7	-3,505.4	3,828.6	0.00	0.00	0.00
11,300.0	90.00	270.15	7,285.0	-2,413.00	-1,974.4	-3,605.4	3,926.5	0.00	0.00	0.00
11,400.0	90.00	270.15	7,285.0	-2,413.00	-1,974.1	-3,705.4	4,024.5	0.00	0.00	0.00
11,500.0	90.00	270.15	7,285.0	-2,413.00	-1,973.9	-3,805.4	4,122.4	0.00	0.00	0.00
11,600.0	90.00	270.15	7,285.0	-2,413.00	-1,973.6	-3,905.4	4,220.4	0.00	0.00	0.00
11,700.0	90.00	270.15	7,285.0	-2,413.00	-1,973.3	-4,005.4	4,318.3	0.00	0.00	0.00
11,800.0	90.00	270.15	7,285.0	-2,413.00	-1,973.1	-4,105.4	4,416.3	0.00	0.00	0.00
11,900.0	90.00	270.15	7,285.0	-2,413.00	-1,972.8	-4,205.4	4,514.2	0.00	0.00	0.00
12,000.0	90.00	270.15	7,285.0	-2,413.00	-1,972.5	-4,305.4	4,612.1	0.00	0.00	0.00
12,100.0	90.00	270.15	7,285.0	-2,413.00	-1,972.3	-4,405.4	4,710.1	0.00	0.00	0.00
12,200.0	90.00	270.15	7,285.0	-2,413.00	-1,972.0	-4,505.4	4,808.0	0.00	0.00	0.00
12,300.0	90.00	270.15	7,285.0	-2,413.00	-1,971.8	-4,605.4	4,906.0	0.00	0.00	0.00
12,400.0	90.00	270.15	7,285.0	-2,413.00	-1,971.5	-4,705.4	5,003.9	0.00	0.00	0.00
12,500.0	90.00	270.15	7,285.0	-2,413.00	-1,971.2	-4,805.4	5,101.8	0.00	0.00	0.00
12,600.0	90.00	270.15	7,285.0	-2,413.00	-1,971.0	-4,905.4	5,199.8	0.00	0.00	0.00
12,700.0	90.00	270.15	7,285.0	-2,413.00	-1,970.7	-5,005.4	5,297.7	0.00	0.00	0.00
12,800.0	90.00	270.15	7,285.0	-2,413.00	-1,970.4	-5,105.4	5,395.7	0.00	0.00	0.00
12,900.0	90.00	270.15	7,285.0	-2,413.00	-1,970.2	-5,205.4	5,493.6	0.00	0.00	0.00
13,000.0	90.00	270.15	7,285.0	-2,413.00	-1,969.9	-5,305.4	5,591.6	0.00	0.00	0.00
13,100.0	90.00	270.15	7,285.0	-2,413.00	-1,969.6	-5,405.4	5,689.5	0.00	0.00	0.00
13,200.0	90.00	270.15	7,285.0	-2,413.00	-1,969.4	-5,505.4	5,787.4	0.00	0.00	0.00
13,300.0	90.00	270.15	7,285.0	-2,413.00	-1,969.1	-5,605.4	5,885.4	0.00	0.00	0.00
13,400.0	90.00	270.15	7,285.0	-2,413.00	-1,968.9	-5,705.4	5,983.3	0.00	0.00	0.00
13,500.0	90.00	270.15	7,285.0	-2,413.00	-1,968.6	-5,805.4	6,081.3	0.00	0.00	0.00
13,600.0	90.00	270.15	7,285.0	-2,413.00	-1,968.3	-5,905.4	6,179.2	0.00	0.00	0.00
13,700.0	90.00	270.15	7,285.0	-2,413.00	-1,968.1	-6,005.4	6,277.1	0.00	0.00	0.00
13,800.0	90.00	270.15	7,285.0	-2,413.00	-1,967.8	-6,105.4	6,375.1	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4872.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4872.0usft
Site:	SE NE SEC. 9 T6N R67W 6th P.M.	North Reference:	True
Well:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,900.0	90.00	270.15	7,285.0	-2,413.00	-1,967.5	-6,205.4	6,473.0	0.00	0.00	0.00
14,000.0	90.00	270.15	7,285.0	-2,413.00	-1,967.3	-6,305.4	6,571.0	0.00	0.00	0.00
14,100.0	90.00	270.15	7,285.0	-2,413.00	-1,967.0	-6,405.4	6,668.9	0.00	0.00	0.00
14,200.0	90.00	270.15	7,285.0	-2,413.00	-1,966.7	-6,505.4	6,766.8	0.00	0.00	0.00
14,300.0	90.00	270.15	7,285.0	-2,413.00	-1,966.5	-6,605.4	6,864.8	0.00	0.00	0.00
14,400.0	90.00	270.15	7,285.0	-2,413.00	-1,966.2	-6,705.4	6,962.7	0.00	0.00	0.00
14,500.0	90.00	270.15	7,285.0	-2,413.00	-1,966.0	-6,805.4	7,060.7	0.00	0.00	0.00
14,600.0	90.00	270.15	7,285.0	-2,413.00	-1,965.7	-6,905.4	7,158.6	0.00	0.00	0.00
14,700.0	90.00	270.15	7,285.0	-2,413.00	-1,965.4	-7,005.4	7,256.6	0.00	0.00	0.00
14,800.0	90.00	270.15	7,285.0	-2,413.00	-1,965.2	-7,105.4	7,354.5	0.00	0.00	0.00
14,900.0	90.00	270.15	7,285.0	-2,413.00	-1,964.9	-7,205.4	7,452.4	0.00	0.00	0.00
15,000.0	90.00	270.15	7,285.0	-2,413.00	-1,964.6	-7,305.4	7,550.4	0.00	0.00	0.00
15,100.0	90.00	270.15	7,285.0	-2,413.00	-1,964.4	-7,405.4	7,648.3	0.00	0.00	0.00
15,200.0	90.00	270.15	7,285.0	-2,413.00	-1,964.1	-7,505.4	7,746.3	0.00	0.00	0.00
15,300.0	90.00	270.15	7,285.0	-2,413.00	-1,963.8	-7,605.4	7,844.2	0.00	0.00	0.00
15,400.0	90.00	270.15	7,285.0	-2,413.00	-1,963.6	-7,705.4	7,942.1	0.00	0.00	0.00
15,500.0	90.00	270.15	7,285.0	-2,413.00	-1,963.3	-7,805.4	8,040.1	0.00	0.00	0.00
15,600.0	90.00	270.15	7,285.0	-2,413.00	-1,963.1	-7,905.4	8,138.0	0.00	0.00	0.00
15,700.0	90.00	270.15	7,285.0	-2,413.00	-1,962.8	-8,005.4	8,236.0	0.00	0.00	0.00
15,800.0	90.00	270.15	7,285.0	-2,413.00	-1,962.5	-8,105.4	8,333.9	0.00	0.00	0.00
15,900.0	90.00	270.15	7,285.0	-2,413.00	-1,962.3	-8,205.4	8,431.9	0.00	0.00	0.00
16,000.0	90.00	270.15	7,285.0	-2,413.00	-1,962.0	-8,305.4	8,529.8	0.00	0.00	0.00
16,100.0	90.00	270.15	7,285.0	-2,413.00	-1,961.7	-8,405.4	8,627.7	0.00	0.00	0.00
16,200.0	90.00	270.15	7,285.0	-2,413.00	-1,961.5	-8,505.4	8,725.7	0.00	0.00	0.00
16,300.0	90.00	270.15	7,285.0	-2,413.00	-1,961.2	-8,605.4	8,823.6	0.00	0.00	0.00
16,400.0	90.00	270.15	7,285.0	-2,413.00	-1,960.9	-8,705.4	8,921.6	0.00	0.00	0.00
16,500.0	90.00	270.15	7,285.0	-2,413.00	-1,960.7	-8,805.4	9,019.5	0.00	0.00	0.00
16,600.0	90.00	270.15	7,285.0	-2,413.00	-1,960.4	-8,905.4	9,117.4	0.00	0.00	0.00
16,700.0	90.00	270.15	7,285.0	-2,413.00	-1,960.2	-9,005.4	9,215.4	0.00	0.00	0.00
16,800.0	90.00	270.15	7,285.0	-2,413.00	-1,959.9	-9,105.4	9,313.3	0.00	0.00	0.00
16,900.0	90.00	270.15	7,285.0	-2,413.00	-1,959.6	-9,205.4	9,411.3	0.00	0.00	0.00
17,000.0	90.00	270.15	7,285.0	-2,413.00	-1,959.4	-9,305.4	9,509.2	0.00	0.00	0.00
17,100.0	90.00	270.15	7,285.0	-2,413.00	-1,959.1	-9,405.4	9,607.1	0.00	0.00	0.00
17,200.0	90.00	270.15	7,285.0	-2,413.00	-1,958.8	-9,505.4	9,705.1	0.00	0.00	0.00
17,300.0	90.00	270.15	7,285.0	-2,413.00	-1,958.6	-9,605.4	9,803.0	0.00	0.00	0.00
BHL: 1211ft FSL & 460ft FWL of Sec 8										
17,325.4	90.00	270.15	7,285.0	-2,413.00	-1,958.5	-9,630.7	9,827.9	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,703.6	3,580.0	PARKMAN			
4,291.4	4,140.0	SUSSEX			
4,879.2	4,700.0	SHANNON			
7,196.1	6,905.0	SHARON SPRINGS			
7,247.5	6,951.0	NIOBRARA			
7,684.4	7,240.0	FORT HAYS			
7,808.7	7,275.0	CODELL			
7,918.5	7,285.0	CODELL TGT			

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well WINDER SOUTH 8
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4872.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4872.0usft
Site:	SE NE SEC. 9 T6N R67W 6th P.M.	North Reference:	True
Well:	WINDER SOUTH 8	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 2306ft FNL & 388ft FEL of Sec 9
500.0	500.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,384.4	1,370.4	-133.0	25.7	EOB TO 17.69° INC
6,985.0	6,706.3	-1,803.7	348.6	KOP (10°/100ft DGLG)
7,918.5	7,285.0	-1,983.3	-223.9	HZ LANDING PNT *NEW*: 1140ft FSL & 603ft FEL of Sec 9
17,325.4	7,285.0	-1,958.5	-9,630.7	BHL: 1211ft FSL & 460ft FWL of Sec 8