



Company: Extraction Oil & Gas
Field: Weld Co., Co
Location: Sec.36-T06N-R66W
Well: Hiner 36NB-23W
Borehole: Original Hole
Rig: Xtreme 7
Plan: Rev 1

PATHFINDER
A Schlumberger Company

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	Begin Nudge
3	1439.37	16.79	140.27	1427.41	-93.89	78.04	2.00	140.27	-49.19	Hold Tangent
4	5633.84	16.79	140.27	5443.13	-1025.52	852.44	0.00	0.00	-537.27	Begin Drop
5	6473.21	0.00	0.00	6270.54	-1119.41	930.48	2.00	180.00	-586.46	Vertical Point
6	6573.21	0.00	0.00	6370.54	-1119.41	930.48	0.00	0.00	-586.46	KOP, Build 9°/100' DLS
7	7323.21	90.00	270.00	6848.00	-1119.41	453.02	12.00	270.00	-127.43	LP, Hold to TD
8	11686.39	90.00	270.00	6848.00	-1119.41	-3910.16	0.00	0.00	4067.24	PBHL/TD

WELL DETAILS: Hiner 36NB-23W

GL 4661.00 KB @ 4677.00usft (Xtreme 7 - 16')
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 1407447.05 3217331.93 40° 26' 57.181 N 104° 43' 8.710 W

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
KOP 23W	6270.54	-1119.41	930.48	Point
Landing Point 23W	6848.00	-1119.41	453.02	Point
PBHL Hiner 36NB-23W	6848.00	-1119.41	-3910.16	Point

FORMATION TOP DETAILS

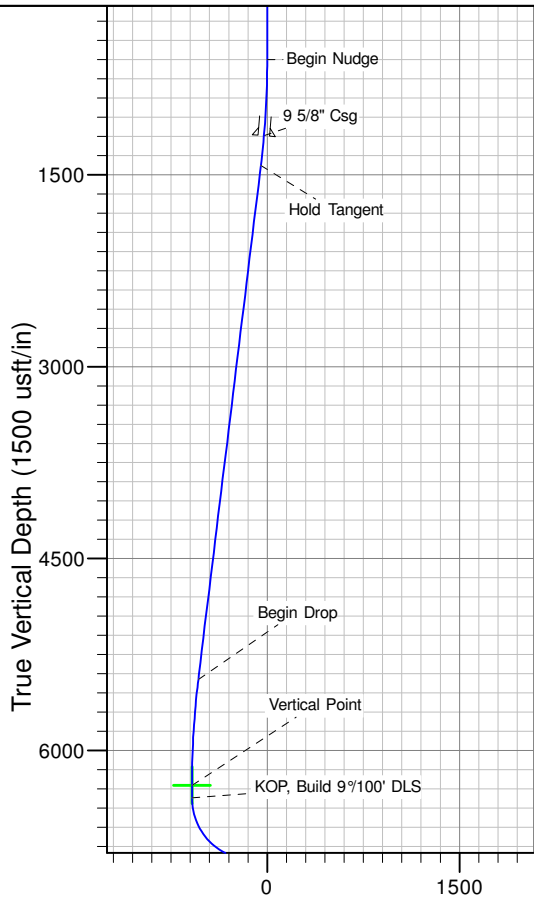
TVDPath	MDPath	Formation
3568.00	3675.24	PARKMAN
4382.00	4525.48	SUSSEX
4802.00	4964.17	SHANNON
6825.00	7174.39	NIOBRARA

CASING DETAILS

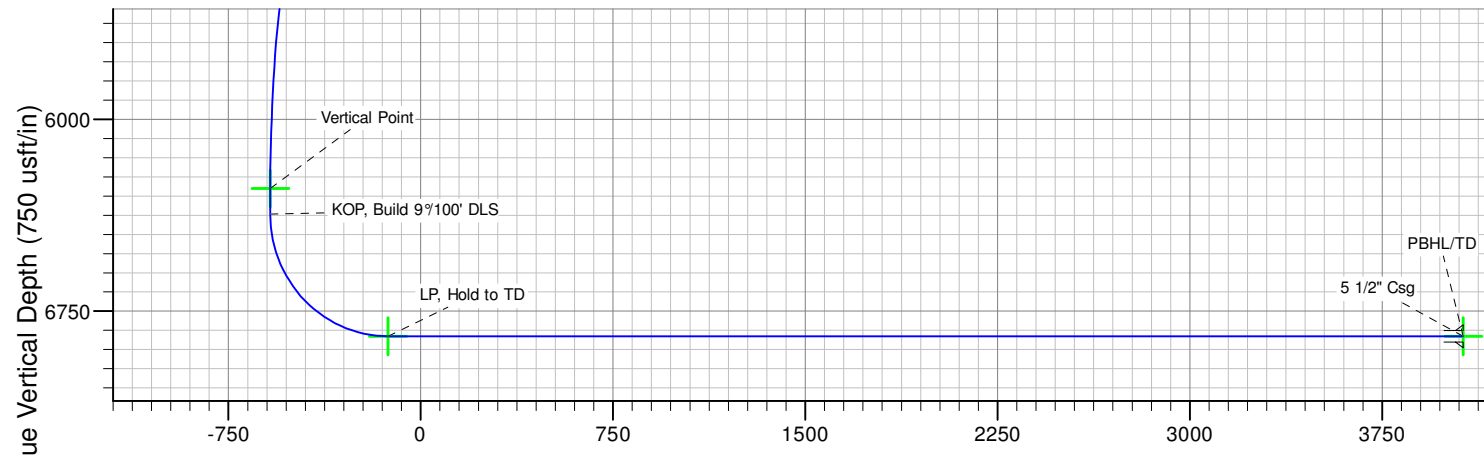
TVD	MD	Name	Size
1195.62	1200.00	9 5/8" Csg	9-5/8
6848.00	11686.39	5 1/2" Csg	5-1/2



Azimuths to Grid North
True North: -0.50°
Magnetic North: 7.95°
Magnetic Field
Strength: 52855.7nT
Dip Angle: 67.00°
Date: 5/16/2014
Model: IGRF2010



Vertical Section at 254.02° (1500 usft/in)



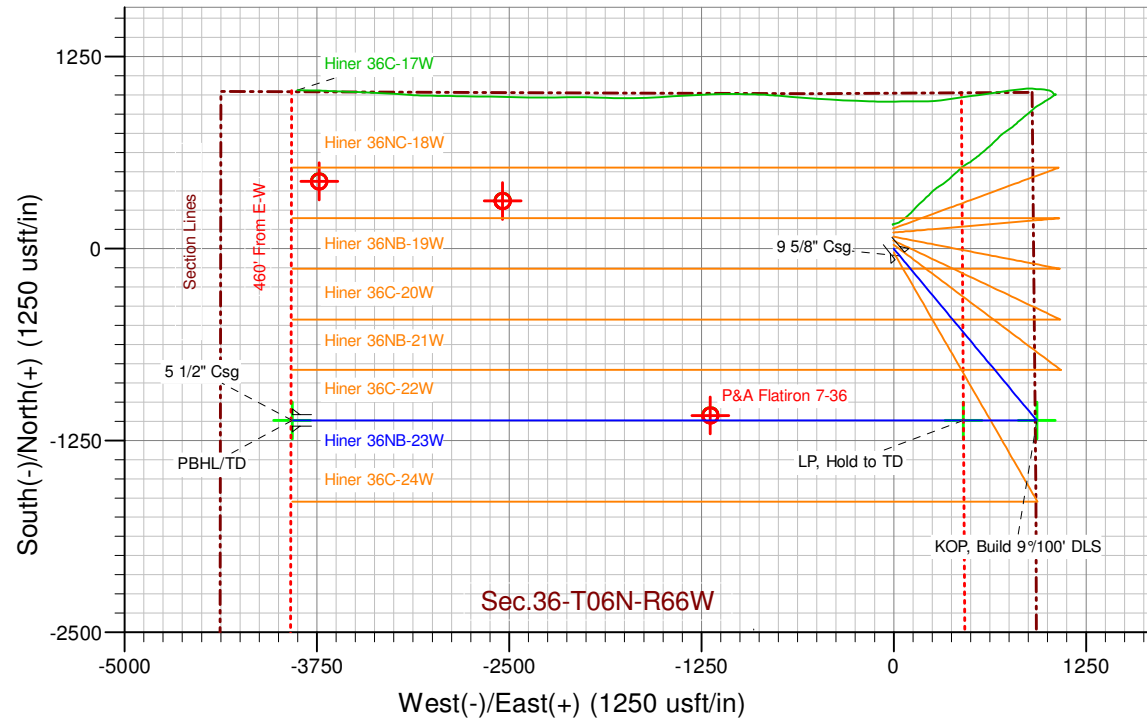
Vertical Section at 254.02° (750 usft/in)

SHL: 1018' FNL & 902' FEL
(Sec.36-T06N-R66W)
PBHL: 2147' FNL & 460' FWL
(Sec.36-T06N-R66W)

Notice:
Section Lines and Hardlines
are estimates only and are
subject to customer approval

Hiner 36NB-23W Rev 1

Created By: J Rieke Date: 15:29, June 09 2014





Extraction Oil & Gas

**Weld Co., Co
Sec.36-T06N-R66W
Hiner 36NB-23W**

Original Hole

Plan: Rev 1

Standard Planning Report

09 June, 2014



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Hiner 36NB-23W
Company:	Extraction Oil & Gas	TVD Reference:	KB @ 4677.00usft (Xtreme 7 - 16')
Project:	Weld Co., Co	MD Reference:	KB @ 4677.00usft (Xtreme 7 - 16')
Site:	Sec.36-T06N-R66W	North Reference:	Grid
Well:	Hiner 36NB-23W	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Rev 1		

Project	Weld Co., Co		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec.36-T06N-R66W			
Site Position:		Northing:	1,407,602.95 usft	Latitude: 40° 26' 58.722 N
From:	Lat/Long	Easting:	3,217,326.94 usft	Longitude: 104° 43' 8.756 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.50 °

Well	Hiner 36NB-23W			
Well Position	+N/-S	-155.90 usft	Northing:	1,407,447.05 usft
	+E/-W	4.99 usft	Easting:	3,217,331.93 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	4,677.00 usft
			Ground Level:	4,661.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/16/2014	8.45	67.00	52,856

Design	Rev 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	254.02

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,439.37	16.79	140.27	1,427.41	-93.89	78.04	2.00	2.00	0.00	140.27	
5,633.84	16.79	140.27	5,443.13	-1,025.52	852.44	0.00	0.00	0.00	0.00	
6,473.21	0.00	0.00	6,270.54	-1,119.41	930.48	2.00	-2.00	0.00	180.00	KOP 23W
6,573.21	0.00	0.00	6,370.54	-1,119.41	930.48	0.00	0.00	0.00	0.00	
7,323.21	90.00	270.00	6,848.00	-1,119.41	453.02	12.00	12.00	0.00	270.00	
11,686.39	90.00	270.00	6,848.00	-1,119.41	-3,910.16	0.00	0.00	0.00	0.00	PBHL Hiner 36NB-23'



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Hiner 36NB-23W
Company:	Extraction Oil & Gas	TVD Reference:	KB @ 4677.00usft (Xtreme 7 - 16')
Project:	Weld Co., Co	MD Reference:	KB @ 4677.00usft (Xtreme 7 - 16')
Site:	Sec.36-T06N-R66W	North Reference:	Grid
Well:	Hiner 36NB-23W	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Rev 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge									
700.00	2.00	140.27	699.98	-1.34	1.12	-0.70	2.00	2.00	0.00
800.00	4.00	140.27	799.84	-5.37	4.46	-2.81	2.00	2.00	0.00
900.00	6.00	140.27	899.45	-12.07	10.03	-6.32	2.00	2.00	0.00
1,000.00	8.00	140.27	998.70	-21.44	17.82	-11.23	2.00	2.00	0.00
1,100.00	10.00	140.27	1,097.47	-33.47	27.82	-17.53	2.00	2.00	0.00
1,200.00	12.00	140.27	1,195.62	-48.14	40.02	-25.22	2.00	2.00	0.00
9 5/8" Csg									
1,300.00	14.00	140.27	1,293.06	-65.44	54.40	-34.28	2.00	2.00	0.00
1,400.00	16.00	140.27	1,389.64	-85.34	70.94	-44.71	2.00	2.00	0.00
1,439.37	16.79	140.27	1,427.41	-93.89	78.04	-49.19	2.00	2.00	0.00
Hold Tangent									
1,500.00	16.79	140.27	1,485.46	-107.35	89.24	-56.24	0.00	0.00	0.00
1,600.00	16.79	140.27	1,581.20	-129.57	107.70	-67.88	0.00	0.00	0.00
1,700.00	16.79	140.27	1,676.93	-151.78	126.16	-79.52	0.00	0.00	0.00
1,800.00	16.79	140.27	1,772.67	-173.99	144.62	-91.15	0.00	0.00	0.00
1,900.00	16.79	140.27	1,868.41	-196.20	163.09	-102.79	0.00	0.00	0.00
2,000.00	16.79	140.27	1,964.15	-218.41	181.55	-114.42	0.00	0.00	0.00
2,100.00	16.79	140.27	2,059.89	-240.62	200.01	-126.06	0.00	0.00	0.00
2,200.00	16.79	140.27	2,155.63	-262.83	218.47	-137.70	0.00	0.00	0.00
2,300.00	16.79	140.27	2,251.36	-285.04	236.93	-149.33	0.00	0.00	0.00
2,400.00	16.79	140.27	2,347.10	-307.25	255.40	-160.97	0.00	0.00	0.00
2,500.00	16.79	140.27	2,442.84	-329.46	273.86	-172.61	0.00	0.00	0.00
2,600.00	16.79	140.27	2,538.58	-351.67	292.32	-184.24	0.00	0.00	0.00
2,700.00	16.79	140.27	2,634.32	-373.89	310.78	-195.88	0.00	0.00	0.00
2,800.00	16.79	140.27	2,730.06	-396.10	329.25	-207.51	0.00	0.00	0.00
2,900.00	16.79	140.27	2,825.79	-418.31	347.71	-219.15	0.00	0.00	0.00
3,000.00	16.79	140.27	2,921.53	-440.52	366.17	-230.79	0.00	0.00	0.00
3,100.00	16.79	140.27	3,017.27	-462.73	384.63	-242.42	0.00	0.00	0.00
3,200.00	16.79	140.27	3,113.01	-484.94	403.09	-254.06	0.00	0.00	0.00
3,300.00	16.79	140.27	3,208.75	-507.15	421.56	-265.70	0.00	0.00	0.00
3,400.00	16.79	140.27	3,304.49	-529.36	440.02	-277.33	0.00	0.00	0.00
3,500.00	16.79	140.27	3,400.22	-551.57	458.48	-288.97	0.00	0.00	0.00
3,600.00	16.79	140.27	3,495.96	-573.78	476.94	-300.60	0.00	0.00	0.00
3,675.24	16.79	140.27	3,568.00	-590.50	490.84	-309.36	0.00	0.00	0.00
PARKMAN									
3,700.00	16.79	140.27	3,591.70	-595.99	495.41	-312.24	0.00	0.00	0.00
3,800.00	16.79	140.27	3,687.44	-618.21	513.87	-323.88	0.00	0.00	0.00
3,900.00	16.79	140.27	3,783.18	-640.42	532.33	-335.51	0.00	0.00	0.00
4,000.00	16.79	140.27	3,878.92	-662.63	550.79	-347.15	0.00	0.00	0.00
4,100.00	16.79	140.27	3,974.65	-684.84	569.26	-358.79	0.00	0.00	0.00
4,200.00	16.79	140.27	4,070.39	-707.05	587.72	-370.42	0.00	0.00	0.00
4,300.00	16.79	140.27	4,166.13	-729.26	606.18	-382.06	0.00	0.00	0.00
4,400.00	16.79	140.27	4,261.87	-751.47	624.64	-393.69	0.00	0.00	0.00
4,500.00	16.79	140.27	4,357.61	-773.68	643.10	-405.33	0.00	0.00	0.00
4,525.48	16.79	140.27	4,382.00	-779.34	647.81	-408.30	0.00	0.00	0.00
SUSSEX									



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Hiner 36NB-23W
Company:	Extraction Oil & Gas	TVD Reference:	KB @ 4677.00usft (Xtreme 7 - 16')
Project:	Weld Co., Co	MD Reference:	KB @ 4677.00usft (Xtreme 7 - 16')
Site:	Sec.36-T06N-R66W	North Reference:	Grid
Well:	Hiner 36NB-23W	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Rev 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.00	16.79	140.27	4,453.35	-795.89	661.57	-416.97	0.00	0.00	0.00
4,700.00	16.79	140.27	4,549.08	-818.10	680.03	-428.60	0.00	0.00	0.00
4,800.00	16.79	140.27	4,644.82	-840.31	698.49	-440.24	0.00	0.00	0.00
4,900.00	16.79	140.27	4,740.56	-862.52	716.95	-451.88	0.00	0.00	0.00
4,964.17	16.79	140.27	4,802.00	-876.78	728.80	-459.34	0.00	0.00	0.00
SHANNON									
5,000.00	16.79	140.27	4,836.30	-884.74	735.42	-463.51	0.00	0.00	0.00
5,100.00	16.79	140.27	4,932.04	-906.95	753.88	-475.15	0.00	0.00	0.00
5,200.00	16.79	140.27	5,027.78	-929.16	772.34	-486.78	0.00	0.00	0.00
5,300.00	16.79	140.27	5,123.51	-951.37	790.80	-498.42	0.00	0.00	0.00
5,400.00	16.79	140.27	5,219.25	-973.58	809.27	-510.06	0.00	0.00	0.00
5,500.00	16.79	140.27	5,314.99	-995.79	827.73	-521.69	0.00	0.00	0.00
5,600.00	16.79	140.27	5,410.73	-1,018.00	846.19	-533.33	0.00	0.00	0.00
5,633.84	16.79	140.27	5,443.13	-1,025.52	852.44	-537.27	0.00	0.00	0.00
Begin Drop									
5,700.00	15.46	140.27	5,506.68	-1,039.65	864.18	-544.67	2.00	-2.00	0.00
5,800.00	13.46	140.27	5,603.51	-1,058.86	880.15	-554.73	2.00	-2.00	0.00
5,900.00	11.46	140.27	5,701.15	-1,075.45	893.94	-563.43	2.00	-2.00	0.00
6,000.00	9.46	140.27	5,799.48	-1,089.42	905.55	-570.75	2.00	-2.00	0.00
6,100.00	7.46	140.27	5,898.38	-1,100.74	914.96	-576.68	2.00	-2.00	0.00
6,200.00	5.46	140.27	5,997.74	-1,109.39	922.16	-581.21	2.00	-2.00	0.00
6,300.00	3.46	140.27	6,097.43	-1,115.38	927.13	-584.35	2.00	-2.00	0.00
6,400.00	1.46	140.27	6,197.34	-1,118.69	929.88	-586.08	2.00	-2.00	0.00
6,473.21	0.00	0.00	6,270.54	-1,119.41	930.48	-586.46	2.00	-2.00	-191.59
Vertical Point									
6,500.00	0.00	0.00	6,297.33	-1,119.41	930.48	-586.46	0.00	0.00	0.00
6,573.21	0.00	0.00	6,370.54	-1,119.41	930.48	-586.46	0.00	0.00	0.00
KOP, Build 9°/100' DLS									
6,600.00	3.21	270.00	6,397.31	-1,119.41	929.73	-585.73	12.00	12.00	0.00
6,700.00	15.21	270.00	6,495.84	-1,119.41	913.74	-570.37	12.00	12.00	0.00
6,800.00	27.21	270.00	6,588.90	-1,119.41	877.62	-535.64	12.00	12.00	0.00
6,900.00	39.21	270.00	6,672.41	-1,119.41	822.95	-483.08	12.00	12.00	0.00
7,000.00	51.21	270.00	6,742.72	-1,119.41	752.10	-414.97	12.00	12.00	0.00
7,100.00	63.21	270.00	6,796.77	-1,119.41	668.19	-334.29	12.00	12.00	0.00
7,174.39	72.14	270.00	6,825.00	-1,119.41	599.44	-268.20	12.00	12.00	0.00
NIOBRARA									
7,200.00	75.21	270.00	6,832.20	-1,119.41	574.86	-244.57	12.00	12.00	0.00
7,300.00	87.21	270.00	6,847.44	-1,119.41	476.22	-149.74	12.00	12.00	0.00
7,323.21	90.00	270.00	6,848.00	-1,119.41	453.02	-127.43	12.00	12.00	0.00
LP, Hold to TD									
7,400.00	90.00	270.00	6,848.00	-1,119.41	376.23	-53.61	0.00	0.00	0.00
7,500.00	90.00	270.00	6,848.00	-1,119.41	276.23	42.53	0.00	0.00	0.00
7,600.00	90.00	270.00	6,848.00	-1,119.41	176.23	138.67	0.00	0.00	0.00
7,700.00	90.00	270.00	6,848.00	-1,119.41	76.23	234.81	0.00	0.00	0.00
7,800.00	90.00	270.00	6,848.00	-1,119.41	-23.77	330.94	0.00	0.00	0.00
7,900.00	90.00	270.00	6,848.00	-1,119.41	-123.77	427.08	0.00	0.00	0.00
8,000.00	90.00	270.00	6,848.00	-1,119.41	-223.77	523.22	0.00	0.00	0.00
8,100.00	90.00	270.00	6,848.00	-1,119.41	-323.77	619.36	0.00	0.00	0.00
8,200.00	90.00	270.00	6,848.00	-1,119.41	-423.77	715.50	0.00	0.00	0.00
8,300.00	90.00	270.00	6,848.00	-1,119.41	-523.77	811.63	0.00	0.00	0.00
8,400.00	90.00	270.00	6,848.00	-1,119.41	-623.77	907.77	0.00	0.00	0.00
8,500.00	90.00	270.00	6,848.00	-1,119.41	-723.77	1,003.91	0.00	0.00	0.00
8,600.00	90.00	270.00	6,848.00	-1,119.41	-823.77	1,100.05	0.00	0.00	0.00



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Well:	Hiner 36NB-23W	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Rev 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,700.00	90.00	270.00	6,848.00	-1,119.41	-923.77	1,196.19	0.00	0.00	0.00	
8,800.00	90.00	270.00	6,848.00	-1,119.41	-1,023.77	1,292.32	0.00	0.00	0.00	
8,900.00	90.00	270.00	6,848.00	-1,119.41	-1,123.77	1,388.46	0.00	0.00	0.00	
9,000.00	90.00	270.00	6,848.00	-1,119.41	-1,223.77	1,484.60	0.00	0.00	0.00	
9,100.00	90.00	270.00	6,848.00	-1,119.41	-1,323.77	1,580.74	0.00	0.00	0.00	
9,200.00	90.00	270.00	6,848.00	-1,119.41	-1,423.77	1,676.88	0.00	0.00	0.00	
9,300.00	90.00	270.00	6,848.00	-1,119.41	-1,523.77	1,773.01	0.00	0.00	0.00	
9,400.00	90.00	270.00	6,848.00	-1,119.41	-1,623.77	1,869.15	0.00	0.00	0.00	
9,500.00	90.00	270.00	6,848.00	-1,119.41	-1,723.77	1,965.29	0.00	0.00	0.00	
9,600.00	90.00	270.00	6,848.00	-1,119.41	-1,823.77	2,061.43	0.00	0.00	0.00	
9,700.00	90.00	270.00	6,848.00	-1,119.41	-1,923.77	2,157.56	0.00	0.00	0.00	
9,800.00	90.00	270.00	6,848.00	-1,119.41	-2,023.77	2,253.70	0.00	0.00	0.00	
9,900.00	90.00	270.00	6,848.00	-1,119.41	-2,123.77	2,349.84	0.00	0.00	0.00	
10,000.00	90.00	270.00	6,848.00	-1,119.41	-2,223.77	2,445.98	0.00	0.00	0.00	
10,100.00	90.00	270.00	6,848.00	-1,119.41	-2,323.77	2,542.12	0.00	0.00	0.00	
10,200.00	90.00	270.00	6,848.00	-1,119.41	-2,423.77	2,638.25	0.00	0.00	0.00	
10,300.00	90.00	270.00	6,848.00	-1,119.41	-2,523.77	2,734.39	0.00	0.00	0.00	
10,400.00	90.00	270.00	6,848.00	-1,119.41	-2,623.77	2,830.53	0.00	0.00	0.00	
10,500.00	90.00	270.00	6,848.00	-1,119.41	-2,723.77	2,926.67	0.00	0.00	0.00	
10,600.00	90.00	270.00	6,848.00	-1,119.41	-2,823.77	3,022.81	0.00	0.00	0.00	
10,700.00	90.00	270.00	6,848.00	-1,119.41	-2,923.77	3,118.94	0.00	0.00	0.00	
10,800.00	90.00	270.00	6,848.00	-1,119.41	-3,023.77	3,215.08	0.00	0.00	0.00	
10,900.00	90.00	270.00	6,848.00	-1,119.41	-3,123.77	3,311.22	0.00	0.00	0.00	
11,000.00	90.00	270.00	6,848.00	-1,119.41	-3,223.77	3,407.36	0.00	0.00	0.00	
11,100.00	90.00	270.00	6,848.00	-1,119.41	-3,323.77	3,503.50	0.00	0.00	0.00	
11,200.00	90.00	270.00	6,848.00	-1,119.41	-3,423.77	3,599.63	0.00	0.00	0.00	
11,300.00	90.00	270.00	6,848.00	-1,119.41	-3,523.77	3,695.77	0.00	0.00	0.00	
11,400.00	90.00	270.00	6,848.00	-1,119.41	-3,623.77	3,791.91	0.00	0.00	0.00	
11,500.00	90.00	270.00	6,848.00	-1,119.41	-3,723.77	3,888.05	0.00	0.00	0.00	
11,600.00	90.00	270.00	6,848.00	-1,119.41	-3,823.77	3,984.19	0.00	0.00	0.00	
11,686.39	90.00	270.00	6,848.00	-1,119.41	-3,910.16	4,067.24	0.00	0.00	0.00	
PBHL/TD										



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Hiner 36NB-23W
Company:	Extraction Oil & Gas	TVD Reference:	KB @ 4677.00usft (Xtreme 7 - 16')
Project:	Weld Co., Co	MD Reference:	KB @ 4677.00usft (Xtreme 7 - 16')
Site:	Sec.36-T06N-R66W	North Reference:	Grid
Well:	Hiner 36NB-23W	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Rev 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
KOP 23W - plan hits target center - Point	0.00	0.00	6,270.54	-1,119.41	930.48	1,406,327.65	3,218,262.41	40° 26' 46.038 N	104° 42' 56.802 W
Landing Point 23W - plan hits target center - Point	0.00	0.00	6,848.00	-1,119.41	453.02	1,406,327.65	3,217,784.95	40° 26' 46.080 N	104° 43' 2.978 W
PBHL Hiner 36NB-23W - plan hits target center - Point	0.00	0.00	6,848.00	-1,119.41	-3,910.16	1,406,327.64	3,213,421.77	40° 26' 46.457 N	104° 43' 59.412 W
Flatirons 1-36 - plan misses target center by 1483.10usft at 10318.00usft MD (6848.00 TVD, -1119.41 N, -2541.77 E) - Circle (radius 50.00)	0.00	0.00	7,241.00	310.68	-2,541.77	1,407,757.73	3,214,790.16	40° 27' 0.471 N	104° 43' 41.552 W
P&A Flatiron 7-36 - plan misses target center by 435.25usft at 8967.69usft MD (6848.00 TVD, -1119.41 N, -1191.46 E) - Circle (radius 50.00)	0.00	0.00	7,282.00	-1,086.31	-1,191.46	1,406,360.74	3,216,140.47	40° 26' 46.550 N	104° 43' 24.244 W
Flatirons 1 36-4 - plan misses target center by 1617.86usft at 11511.14usft MD (6848.00 TVD, -1119.41 N, -3734.91 E) - Circle (radius 50.00)	0.00	0.00	7,287.00	437.75	-3,734.91	1,407,884.80	3,213,597.02	40° 27' 1.829 N	104° 43' 56.971 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,200.00	1,195.62	9 5/8" Csg	9-5/8	12-1/4	
11,686.39	6,848.00	5 1/2" Csg	5-1/2	6	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,675.24	3,568.00	PARKMAN		0.00	
4,525.48	4,382.00	SUSSEX		0.00	
4,964.17	4,802.00	SHANNON		0.00	
7,174.39	6,825.00	NIOBRARA		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
600.00	600.00	0.00	0.00	Begin Nudge	
1,439.37	1,427.41	-93.89	78.04	Hold Tangent	
5,633.84	5,443.13	-1,025.52	852.44	Begin Drop	
6,473.21	6,270.54	-1,119.41	930.48	Vertical Point	
6,573.21	6,370.54	-1,119.41	930.48	KOP, Build 9"/100' DLS	
7,323.21	6,848.00	-1,119.41	453.02	LP, Hold to TD	
11,686.39	6,848.00	-1,119.41	-3,910.16	PBHL/TD	