

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
2600.00	8.00	238.00	2595.01	-76.36	-52.42	-92.61	0.00	Tie-in, Begin 1.50°/100' Drop - 2600.00' MD
3012.00	1.82	238.00	3005.30	-95.03	-82.31	-125.06	35.25	Hold 1.82° Inc, Begin 1.50°/100' Turn
3249.86	1.82	35.02	3243.11	-93.94	-83.34	-124.76	39.84	Hold 35.02° Azi
5407.83	1.82	35.02	5400.00	-37.79	-43.99	-56.19	108.40	Top of Morrow @ 5400' TVD
5858.06	1.82	35.02	5850.00	-26.08	-35.78	-41.89	122.71	PBHL @ 5850' TVD

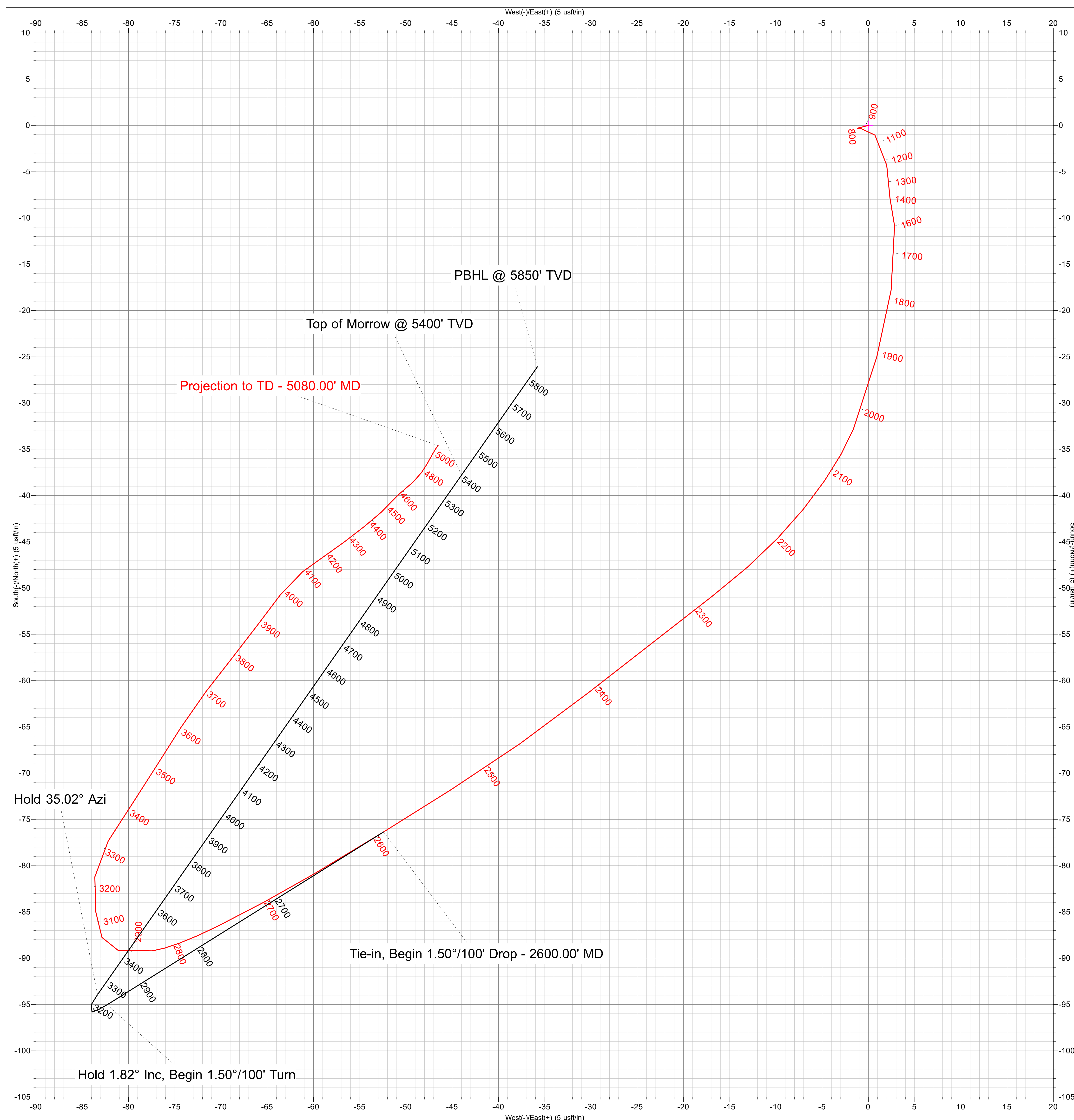
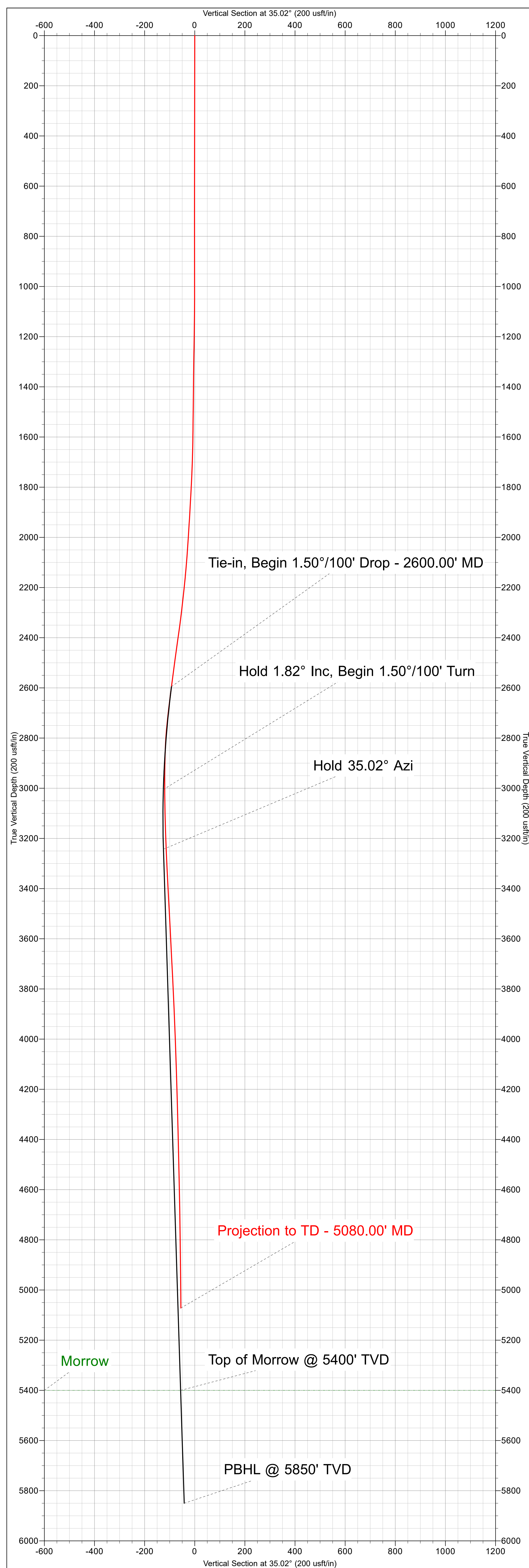
Azimuths to Grid North
 True North: -1.88°
 Magnetic North: 4.43°

 Magnetic Field
 Strength: 51288.0nT
 Dip Angle: 65.84°
 Date: 5/15/2023
 Model: IGRF2020

US State Plane 1983
 Colorado Central Zone

Created By: HLH
 Date: 8:02, May 22 2023
 Plan: Design #1

Grid North is 1.88° East of True North (Grid Convergence)
 To convert a Magnetic Direction to a Grid Direction, Add 4.43°
 To convert a Magnetic Direction to a True Direction, Add 6.31° East





Navex Resources

Kit Carson County, CO (NAD 83)

Pfaffly

Pfaffly #1-12

Wellbore #1

Design: Surveys

Standard Survey Report

22 May, 2023



Company:	Navex Resources	Local Co-ordinate Reference:	Well Pfaffly #1-12
Project:	Kit Carson County, CO (NAD 83)	TVD Reference:	RKB @ 4479.90usft (Duke 9)
Site:	Pfaffly	MD Reference:	RKB @ 4479.90usft (Duke 9)
Well:	Pfaffly #1-12	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Project	Kit Carson County, CO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	Pfaffly				
Site Position:		Northing:	1,476,584.31 usft	Latitude:	39.103763
From:	Lat/Long	Easting:	3,846,410.66 usft	Longitude:	-102.516761
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.88 °

Well	Pfaffly #1-12					
Well Position	+N/-S	0.00 usft	Northing:	1,476,584.31 usft	Latitude:	39.103763
	+E/-W	0.00 usft	Easting:	3,846,410.66 usft	Longitude:	-102.516761
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,466.90 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	5/15/2023	6.31	65.84	51,287.99045750

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	35.02	

Survey Program	Date 5/22/2023			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
721.00	5,080.00	Stryker MWD (Wellbore #1)	MWD	OWSG MWD - Standard

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	
721.00	0.20	255.70	721.00	-0.31	-1.22	-0.95	0.03	0.03	0.00	
845.00	0.50	82.40	845.00	-0.29	-0.89	-0.75	0.56	0.24	-139.76	
1,035.00	0.70	137.90	1,034.99	-1.04	0.71	-0.45	0.31	0.11	29.21	
1,223.00	1.50	168.20	1,222.95	-4.31	1.98	-2.39	0.51	0.43	16.12	
1,412.00	0.70	187.30	1,411.92	-7.87	2.34	-5.10	0.46	-0.42	10.11	
1,599.00	1.20	161.10	1,598.89	-10.86	2.83	-7.27	0.35	0.27	-14.01	
1,785.00	3.20	191.10	1,784.75	-17.80	2.46	-13.16	1.21	1.08	16.13	
1,909.00	3.60	193.00	1,908.53	-24.98	0.92	-19.93	0.34	0.32	1.53	
2,035.00	3.90	202.50	2,034.26	-32.80	-1.61	-27.78	0.55	0.24	7.54	

Company:	Navex Resources	Local Co-ordinate Reference:	Well Pfaffly #1-12
Project:	Kit Carson County, CO (NAD 83)	TVD Reference:	RKB @ 4479.90usft (Duke 9)
Site:	Pfaffly	MD Reference:	RKB @ 4479.90usft (Duke 9)
Well:	Pfaffly #1-12	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

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)
2,161.00	5.50	218.70	2,159.84	-41.47	-7.03	-37.99	1.64	1.27	12.86
2,287.00	7.00	232.30	2,285.10	-50.88	-16.88	-51.35	1.66	1.19	10.79
2,412.00	8.60	231.90	2,408.93	-61.30	-30.26	-67.57	1.28	1.28	-0.32
2,538.00	8.00	237.90	2,533.62	-71.78	-45.10	-84.66	0.84	-0.48	4.76
2,600.00	8.00	238.00	2,595.01	-76.36	-52.42	-92.61	0.02	0.00	0.16
2,664.00	7.90	239.80	2,658.40	-80.93	-59.99	-100.70	0.42	-0.16	2.81
2,759.00	6.30	243.70	2,752.67	-86.52	-70.31	-111.21	1.76	-1.68	4.11
2,855.00	2.90	261.60	2,848.35	-89.21	-77.44	-117.50	3.80	-3.54	18.65
2,949.00	1.70	287.00	2,942.27	-89.15	-81.12	-119.56	1.65	-1.28	27.02
3,043.00	1.30	337.70	3,036.24	-87.76	-82.86	-119.42	1.42	-0.43	53.94
3,138.00	2.20	351.40	3,131.20	-84.96	-83.54	-117.52	1.04	0.95	14.42
3,232.00	2.40	5.30	3,225.12	-81.21	-83.63	-114.50	0.63	0.21	14.79
3,326.00	2.80	33.40	3,319.03	-77.34	-82.19	-110.50	1.40	0.43	29.89
3,422.00	3.10	32.40	3,414.90	-73.19	-79.50	-105.56	0.32	0.31	-1.04
3,514.00	2.90	32.90	3,506.78	-69.13	-76.91	-100.75	0.22	-0.22	0.54
3,609.00	2.90	31.90	3,601.66	-65.07	-74.33	-95.95	0.05	0.00	-1.05
3,703.00	2.90	38.00	3,695.54	-61.18	-71.61	-91.20	0.33	0.00	6.49
3,798.00	2.80	37.90	3,790.42	-57.46	-68.71	-86.48	0.11	-0.11	-0.11
3,893.00	2.50	37.20	3,885.32	-53.98	-66.03	-82.09	0.32	-0.32	-0.74
3,988.00	2.40	37.10	3,980.23	-50.74	-63.58	-78.04	0.11	-0.11	-0.11
4,084.00	1.80	52.90	4,076.17	-48.23	-61.16	-74.59	0.86	-0.63	16.46
4,178.00	1.60	56.20	4,170.12	-46.61	-58.89	-71.96	0.24	-0.21	3.51
4,272.00	1.80	53.00	4,264.08	-44.99	-56.62	-69.34	0.24	0.21	-3.40
4,366.00	1.50	51.60	4,358.04	-43.33	-54.48	-66.75	0.32	-0.32	-1.49
4,460.00	1.40	47.80	4,452.01	-41.80	-52.66	-64.45	0.15	-0.11	-4.04
4,556.00	1.20	40.40	4,547.99	-40.25	-51.14	-62.31	0.27	-0.21	-7.71
4,588.00	1.30	51.20	4,579.98	-39.76	-50.64	-61.63	0.80	0.31	33.75
4,681.00	1.00	46.90	4,672.96	-38.55	-49.23	-59.82	0.34	-0.32	-4.62
4,774.00	0.70	33.60	4,765.95	-37.52	-48.32	-58.46	0.38	-0.32	-14.30
4,868.00	0.70	32.10	4,859.95	-36.56	-47.70	-57.31	0.02	0.00	-1.60
4,963.00	0.70	26.10	4,954.94	-35.54	-47.14	-56.16	0.08	0.00	-6.32
5,027.00	0.50	36.50	5,018.94	-34.97	-46.80	-55.49	0.35	-0.31	16.25
5,080.00	0.50	36.50	5,071.93	-34.60	-46.52	-55.03	0.00	0.00	0.00

Projection to TD - 5080.00' MD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,080.00	5,071.93	-34.60	-46.52	Projection to TD - 5080.00' MD

Checked By: _____ Approved By: _____ Date: _____