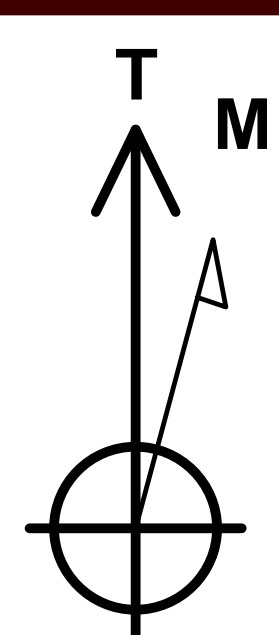




Project: Weld County, CO (NAD83)  
Site: RBF  
Well: 2  
Wellbore: ST01 / Job #61102  
Design: Plan 3 06-03-17  
Rig: Patterson 346



Azimuths to True North  
Magnetic North: 8.42°

Magnetic Field  
Strength: 52461.1snT  
Dip Angle: 66.93°  
Date: 5/15/2017  
Model: HDGM

LEGEND

- 1, OH / Job #60885, Surveys (Patterson 346) V0
- 8, OH / Job #60882, Surveys (Patterson 346) V0
- 3, OH / Job #60887, Surveys (Patterson 346) V0
- 7, OH / Job #60891, Surveys (Patterson 346) V0
- 4, OH / Job #60888, Surveys (Patterson 346) V0
- 5, OH / Job #60889, Surveys (Patterson 346) V0
- 2, OH / Job #60886, Surveys (Patterson 346) V0
- 2, ST01 / Job #60886, ST01 / Job #60886 V0
- 6, OH / Job #60890, Surveys (Patterson 346) V0
- #22CD, OH, Surveys V0
- #22AD, OH, Surveys V0
- #22ND, OH, Surveys V0
- #21-22D, OH, Surveys V0
- #31-22D, OH, OH V0
- #41-22D, OH, Surveys V0
- #22JD, OH, Surveys V0
- 9, ST01 / Job #61109, ST01 / Job #61109 V0
- 9, OH / Job #61109, Surveys (Patterson 346) V0
- 2, OH / Job #61102, Surveys (Patterson 346) V0
- 2, ST01 / Job #61102, Surveys (Patterson 346) V0
- 8, OH / Job #61108, Surveys (Patterson 346) V0
- 11-22D, OH, Surveys V0
- 6, OH / Job #61106, Surveys (Patterson 346) V0
- 5, OH / Job #61105, Surveys (Patterson 346) V0
- 3, OH / Job #61103, Surveys (Patterson 346) V0
- 11, OH / Job #61092, Surveys (Patterson 346) V0
- 1, OH / Job #61101, Surveys (Patterson 346) V0
- 1, OH / Job #61101, Plan 1 04-10-19 V0
- 4, OH / Job #61104, Surveys (Patterson 346) V0
- 7, OH / Job #61107, Surveys (Patterson 346) V0
- 10, OH / Job #61110, Surveys (Patterson 346) V0
- Plan 3 06-03-17

Map System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone Name: Colorado Northern Zone

Local Origin: Well 2, True North

Latitude: 40° 28' 27.570 N  
Longitude: 104° 52' 17.036 W

Grid East: 3174878.48  
Grid North: 1416256.82  
Scale Factor: 1.000

Geomagnetic Model: HDGM  
Sample Date: 15-May-17  
Magnetic Declination: 8.42°  
Dip Angle from Horizontal: 66.93°  
Magnetic Field Strength: 52461

To convert a Magnetic Direction to a Grid Direction, Add 8.01°  
To convert a Magnetic Direction to a True Direction, Add 8.42° East  
To convert a True Direction to a Grid Direction, Subtract 0.41°

WELL DETAILS

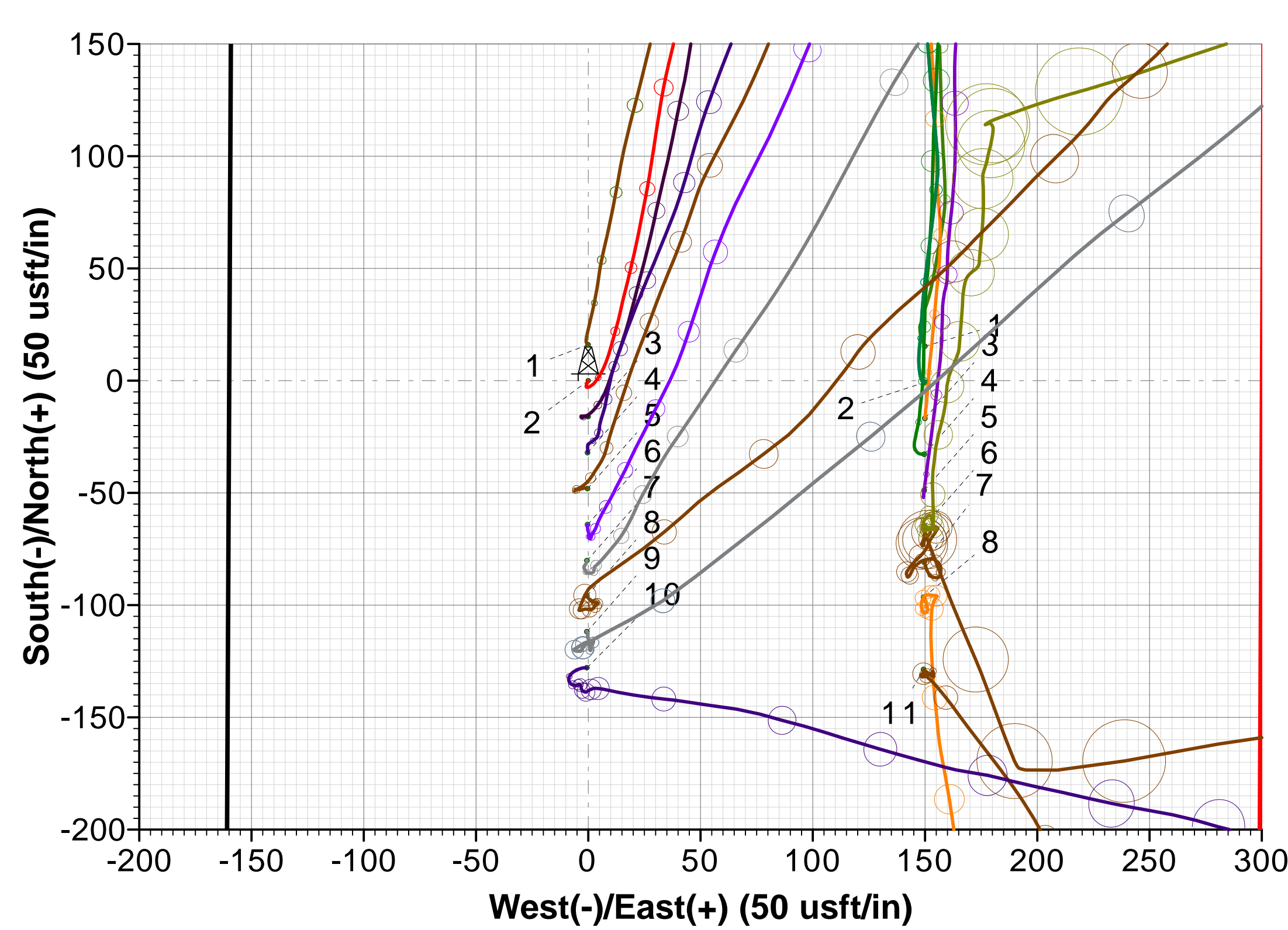
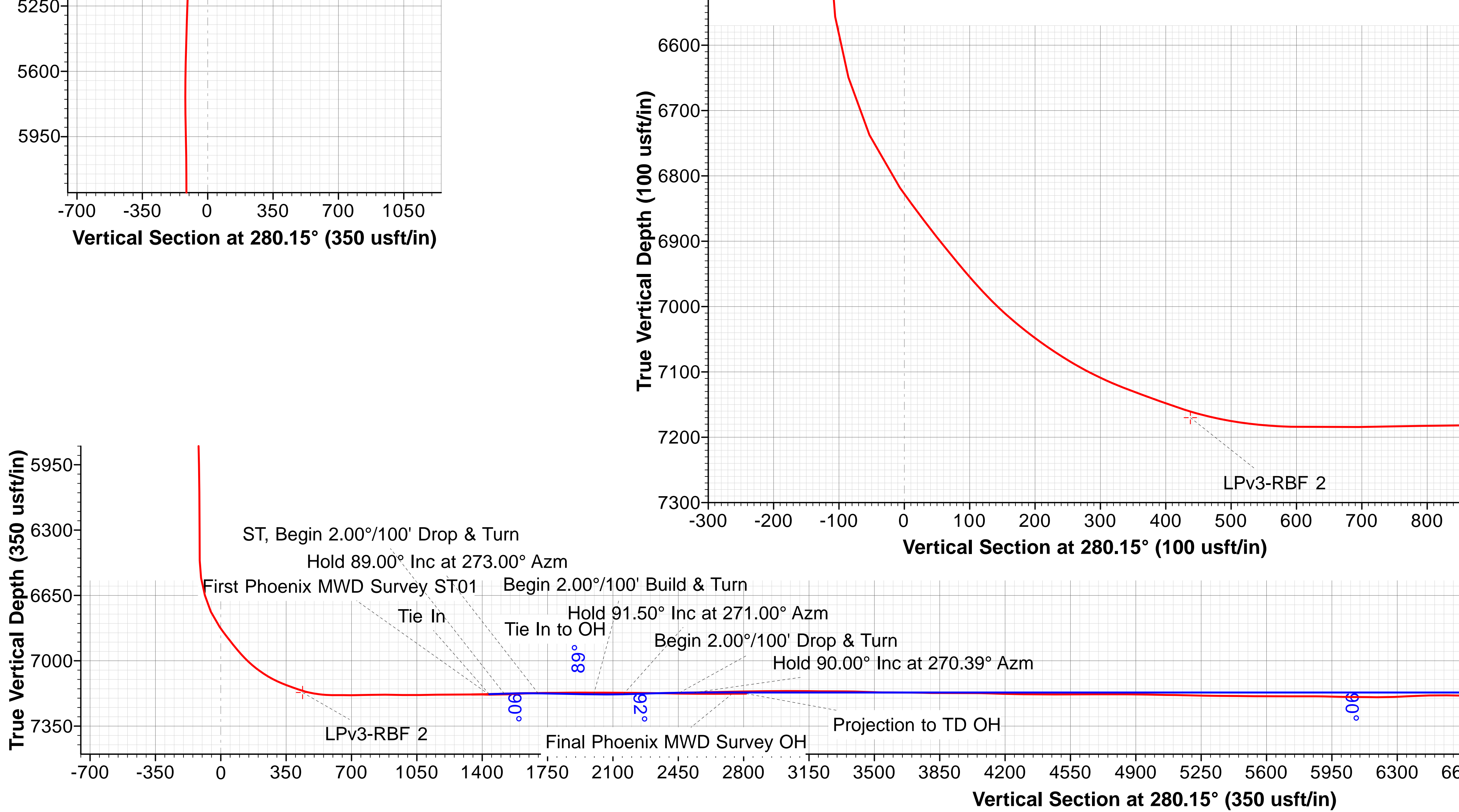
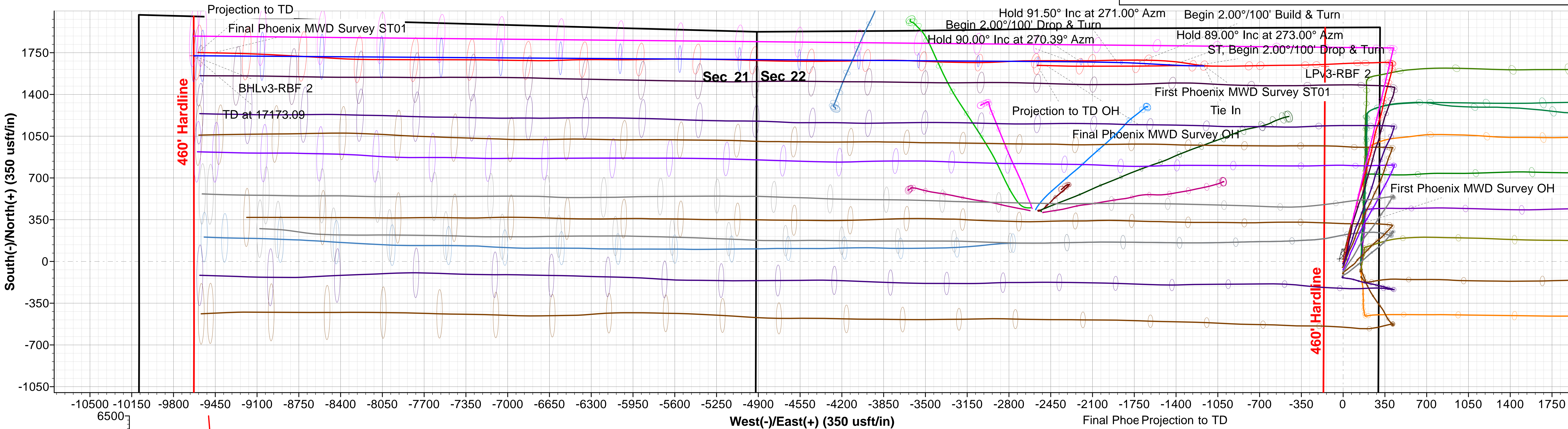
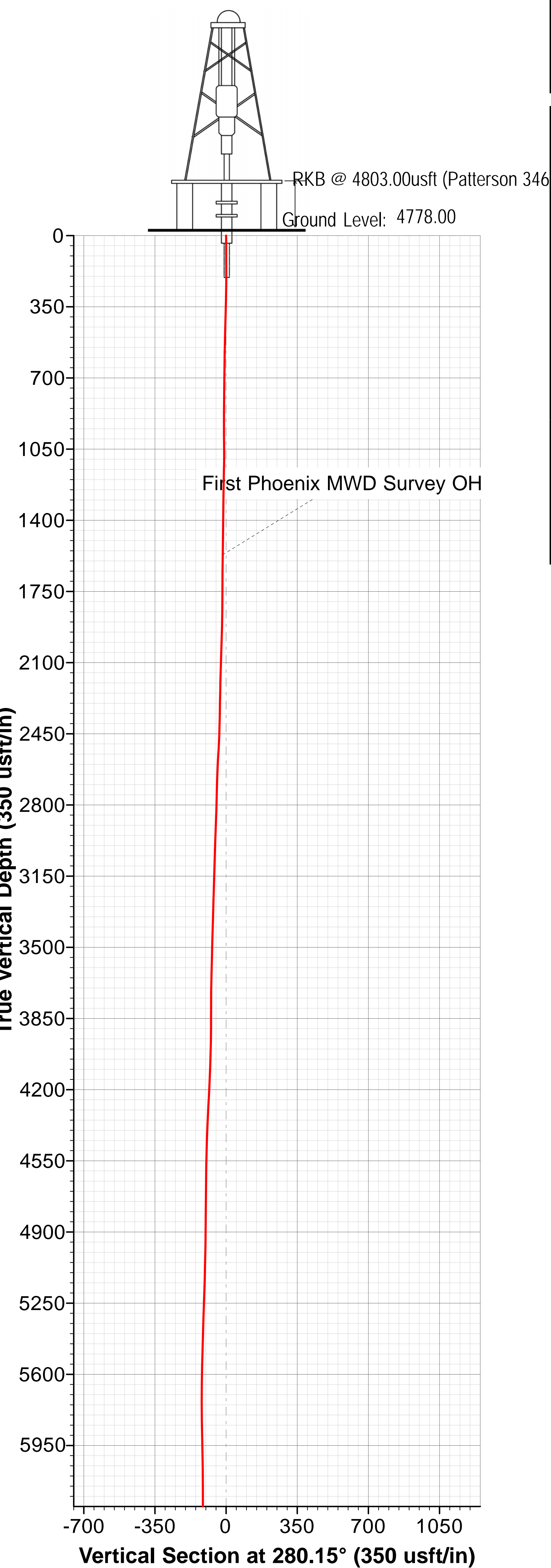
+N/-S	+E/-W	Northing	Ground Level: 4778.00	Easting	Latitude	Longitude
0.00	0.00	1416256.82	3174878.48	40° 28' 27.570 N	104° 52' 17.036 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	8708.00	91.62	270.81	7178.78	1638.86	-1166.26	0.00	0.00	1436.85		Tie In
2	8790.00	92.04	270.94	7176.16	1640.12	-1248.20	0.54	17.19	1517.73		ST, Begin 2.00°/100' Drop & Turn
3	8973.60	89.00	273.00	7174.50	1646.43	-1431.66	2.00	145.86	1699.43		Hold 89.00° Inc at 273.00° Azm
4	9273.60	89.00	273.00	7179.73	1662.12	-1731.20	0.00	0.00	1997.05		Begin 2.00°/100' Build & Turn
5	9433.67	91.50	271.00	7179.03	1667.71	-1891.15	2.00	-38.66	2155.48		Hold 91.50° Inc at 271.00° Azm
6	9738.17	91.50	271.00	7171.06	1673.02	-2195.50	0.00	0.00	2456.00		Begin 2.00°/100' Drop & Turn
7	9819.10	90.00	270.39	7170.00	1674.01	-2276.41	2.00	-157.93	2535.82		Hold 90.00° Inc at 270.39° Azm
8	17173.09	90.00	270.39	7170.00	1724.31	-9630.23	0.00	0.00	9783.38	BHLv3-RBF 2	TD at 17173.09

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHLv3-RBF 2	7170.00	1724.31	-9630.23	1417912.83	3165236.27	40° 28' 44.591 N	104° 54' 21.661 W	Point
LPv3-RBF 2	7170.00	1635.37	-151.89	1417891.07	3174715.00	40° 28' 43.730 N	104° 52' 19.002 W	Point



FORMATION TOP DETAILS

No formation data is available