



Project: Weld County, Colorado (NAD 83)
Site: Sec.12-T10N-R58W
Well: Razor #12F-0101A
Wellbore: ST01 / Job #1524093
Design: Plan 4 10-17-15
Rig: Unit 409

RKB @ 4957.80usft (Unit 409)
Ground Level: 4936.80

WELL DETAILS

+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude
0.00	0.00	1558612.805	4936.80 3465174.791	40.854661	-103.818397

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target	Annotation
1	7631.00	91.12	359.36	6102.86	625.23	-1200.52	0.00	0.00	824.88		Tie-In to OH @ 7631'MD
2	7722.00	90.92	358.62	6101.24	716.21	-1202.12	0.84	-105.12	914.74		Begin 6°/100' Turn
3	7819.99	90.92	4.50	6099.67	814.10	-1199.46	6.00	89.95	1010.67		Hold 90.92° Inc at 4.5° Azm
4	7869.99	90.92	4.50	6098.87	863.94	-1195.53	0.00	0.00	1059.07		Begin 2°/100' Build & Turn
5	8094.99	91.00	0.00	6095.09	1088.68	-1186.70	2.00	-88.94	1278.83		Hold 91° Inc at 0° Azm
6	8934.61	91.00	0.00	6080.44	1928.17	-1186.70	0.00	0.00	2105.47		Begin 2°/100' Drop
7	8984.61	90.00	0.00	6080.00	1978.17	-1186.70	2.00	-180.00	2154.70		Hold 90° Inc
8	12734.61	90.00	0.00	6080.00	5728.17	-1186.70	0.00	0.00	5847.32		Begin 2°/100' Turn
9	12819.43	90.00	358.30	6080.00	5812.97	-1187.96	2.00	-89.99	5931.05		Hold 358.30° Azm
10	13899.29	90.00	358.30	6080.00	6892.37	-1219.93	0.00	0.00	6999.50	BHL_#12F-0101Av2	TD at 13899.29

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHL_#12F-0101Av2	6080.00	6892.37	-1219.93	1565480.802	3463824.387	40.873578	-103.822808	Point

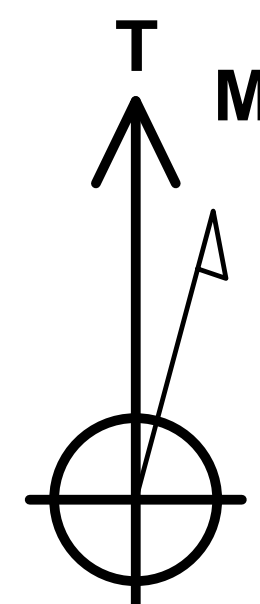
LEGEND

- Razor FED #12F-1305A, OH / Job# 1524099, Plan 2 08-04-15 V0
- Razor FED #12F-1308B, Wellbore #1 / Job #1523835, Surveys (Unit 409) V0
- Razor #12F-0105A, OH / Job# 1524095, Plan 2 08-04-15 V0
- Razor #12F-0106B, OH / Job# 1524096, Plan 2 08-04-15 V0
- Razor FED #12F-1302B, OH / Job# 1524098, Surveys (Unit 409) V0
- Razor #12F-0104B, Wellbore #1 / Job #1523838, Surveys (Unit 409) V0
- Razor #12F-0107A, Wellbore #2 / Job #1523840, Surveys (Unit 409) V0
- Razor #12F-0107A, Wellbore #1 / Job #1523840, Surveys (Unit 409) V0
- Razor #12F-0102B, OH / Job# 1524094, Plan 2 08-04-15 V0
- Razor #12F-0108B, Wellbore #1 / Job #1523841, Surveys (Unit 409) V0
- Razor FED #12F-1307A, Wellbore #1 / Job #1523836, Surveys (Unit 409) V0
- Razor FED #12F-1303A, Wellbore #2 / Job #1523837, Surveys (Unit 409) V0
- Razor FED #12F-1303A, Wellbore #1 / Job #1523837, Surveys (Unit 409) V0
- Razor FED #12F-1303A, Wellbore #3 / Job # 1523837, Surveys (Unit 409) V0
- Razor FED #12F-1301A, OH / Job# 1524097, Surveys (Unit 409) V0
- Razor FED #12F-1304B, Wellbore #1, Surveys V0
- Razor #12F-0101A, OH / Job# 1524093, Surveys (Unit 409) V0
- Razor FED #12F-1306B, OH / Job# 1524100, Plan 3 09-25-15 V0
- Razor #12F-0103A, ST01 / Job #1523839, Surveys (Unit 409) V0
- Razor #12F-0103A, OH / Job #1523839, Surveys (Unit 409) V0
- Plan 4 10-17-15

FORMATION TOP DETAILS

No formation data is available

PHOENIX
TECHNOLOGY SERVICES



Azimuths to True North
Magnetic North: 7.30°

Magnetic Field
Strength: 52925.0snT
Dip Angle: 67.20°
Date: 10/7/2015
Model: USER DEFINED

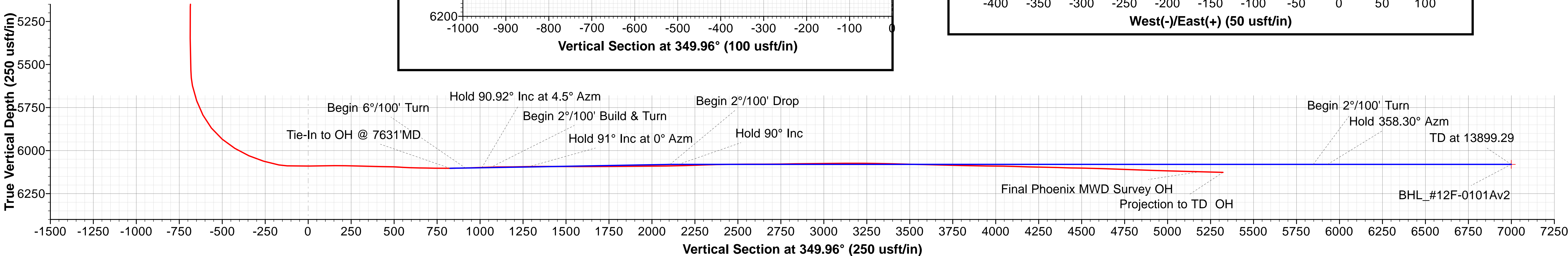
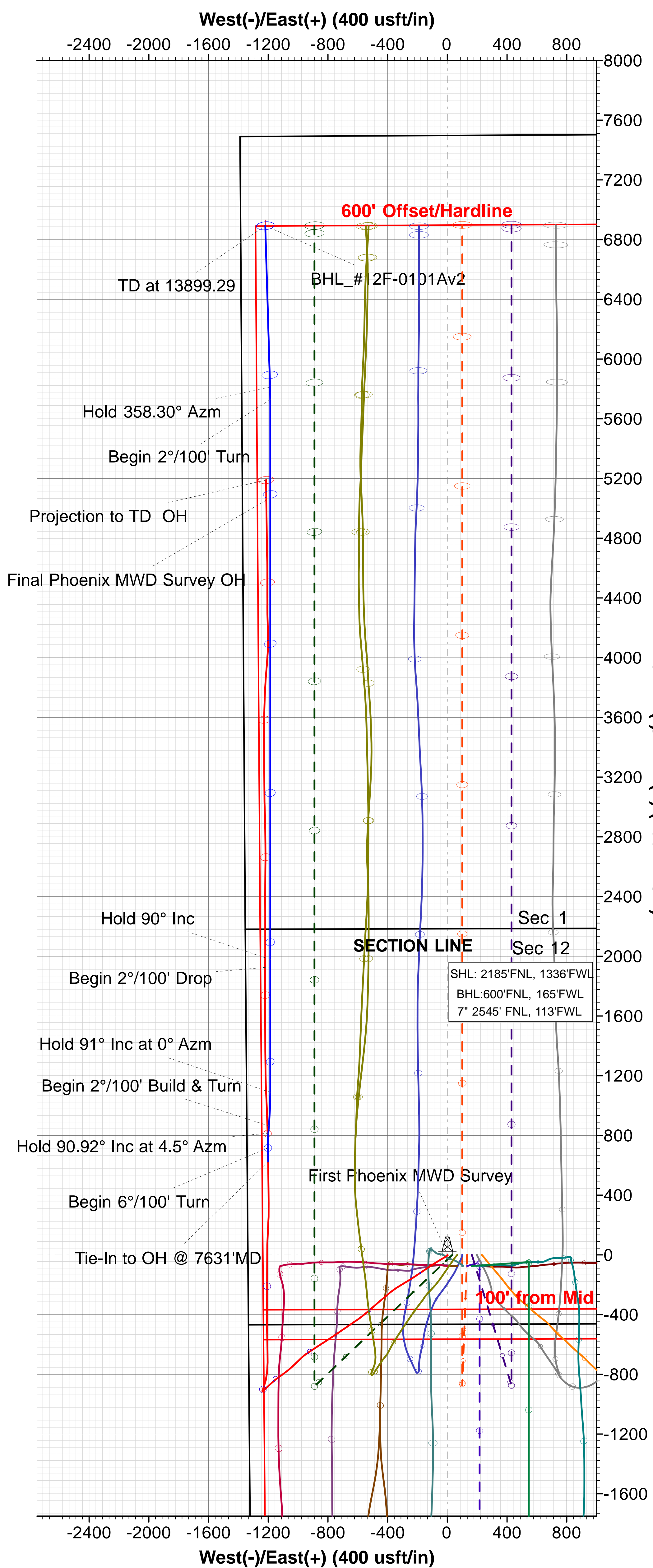
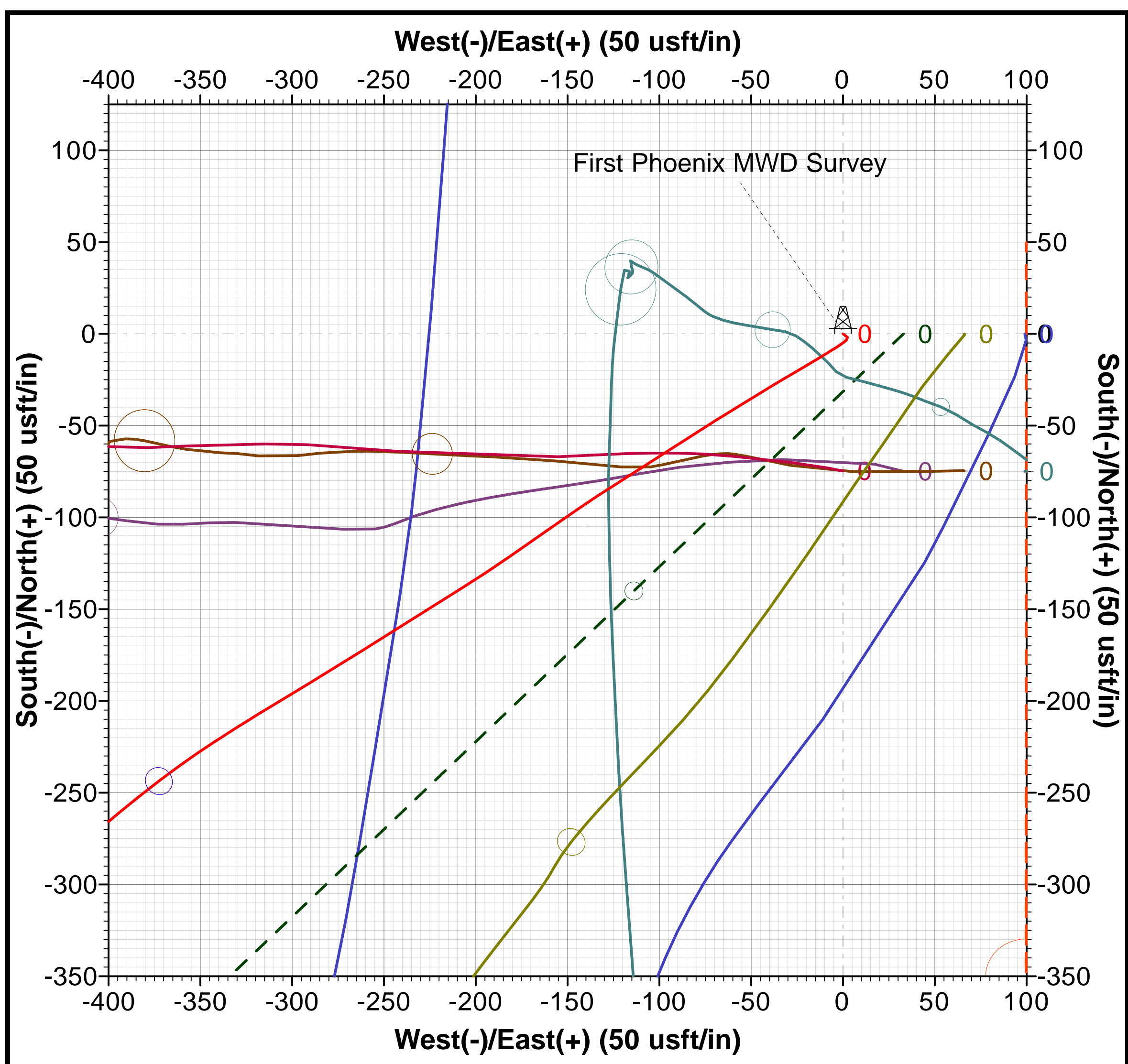
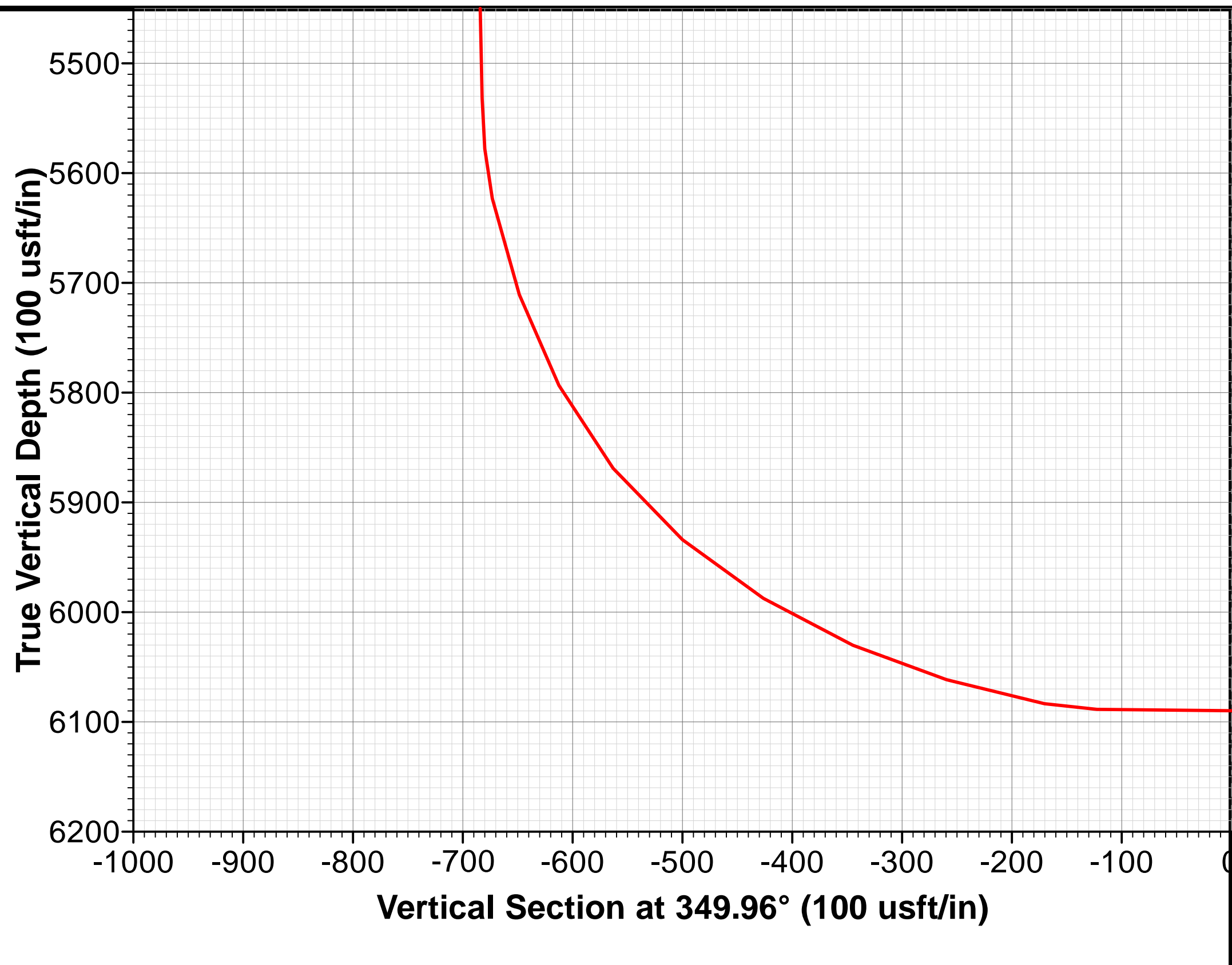
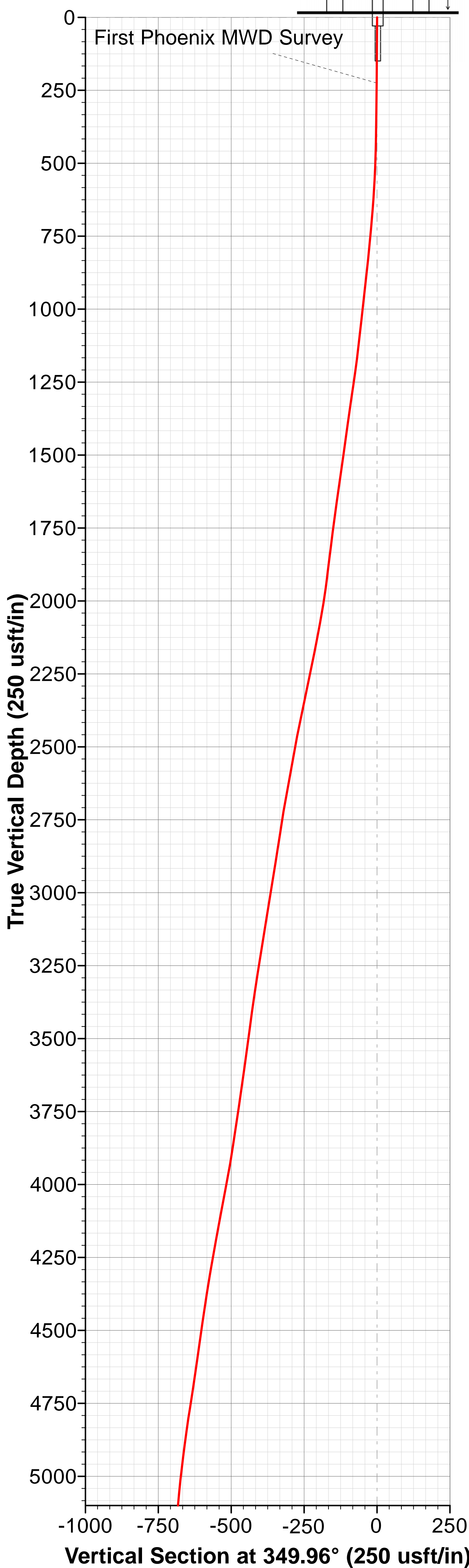
Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: Colorado Northern Zone
Local Origin: Well Razor #12F-0101A, True North

Latitude: 40.854661
Longitude: -103.818397

Grid East: 3465174.791
Grid North: 1558612.805
Scale Factor: 1.000

Geomagnetic Model: USER DEFINED
Sample Date: 07-Oct-15
Magnetic Declination: 7.30°
Dip Angle from Horizontal: 67.20°
Magnetic Field Strength: 52925

To convert a Magnetic Direction to a Grid Direction, Add 6.21°
To convert a Magnetic Direction to a True Direction, Add 7.30° East
To convert a True Direction to a Grid Direction, Subtract 1.08°





Whiting Oil & Gas Corporation

Weld County, Colorado (NAD 83)

Sec.12-T10N-R58W

Razor #12F-0101A

ST01 / Job #1524093

Plan: Plan 4 10-17-15

Standard Planning Report

17 October, 2015





Phoenix Technology Services LP

Planning Report



Database:	Compass 5000 RMR	Local Co-ordinate Reference:	Well Razor #12F-0101A
Company:	Whiting Oil & Gas Corporation	TVD Reference:	RKB @ 4957.80usft (Unit 409)
Project:	Weld County, Colorado (NAD 83)	MD Reference:	RKB @ 4957.80usft (Unit 409)
Site:	Sec.12-T10N-R58W	North Reference:	True
Well:	Razor #12F-0101A	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01 / Job #1524093		
Design:	Plan 4 10-17-15		

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		

Site	Sec.12-T10N-R58W			
Site Position:		Northing:	1,558,542.326 usft	Latitude: 40.854456
From:	Lat/Long	Easting:	3,465,406.640 usft	Longitude: -103.817564
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 1.09 °

Well	Razor #12F-0101A					
Well Position	+N/-S	74.87 usft	Northing:	1,558,612.805 usft	Latitude:	40.854661
	+E/-W	-230.47 usft	Easting:	3,465,174.792 usft	Longitude:	-103.818397
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,936.80 usft

Wellbore	ST01 / Job #1524093				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	10/7/2015	7.30	67.20	52,925

Design	Plan 4 10-17-15			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	7,631.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	349.96

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
7,631.00	91.12	359.36	6,102.86	625.23	-1,200.52	0.00	0.00	0.00	0.00	
7,722.00	90.92	358.62	6,101.24	716.21	-1,202.12	0.84	-0.22	-0.81	-105.12	
7,819.99	90.92	4.50	6,099.67	814.10	-1,199.46	6.00	0.00	6.00	89.95	
7,869.99	90.92	4.50	6,098.87	863.94	-1,195.53	0.00	0.00	0.00	0.00	
8,094.99	91.00	0.00	6,095.09	1,088.68	-1,186.70	2.00	0.04	-2.00	-88.94	
8,934.61	91.00	0.00	6,080.44	1,928.17	-1,186.70	0.00	0.00	0.00	0.00	
8,984.61	90.00	0.00	6,080.00	1,978.17	-1,186.70	2.00	-2.00	0.00	-180.00	
12,734.61	90.00	0.00	6,080.00	5,728.17	-1,186.70	0.00	0.00	0.00	0.00	
12,819.43	90.00	358.30	6,080.00	5,812.97	-1,187.96	2.00	0.00	-2.00	-89.99	
13,899.30	90.00	358.30	6,080.00	6,892.37	-1,219.93	0.00	0.00	0.00	0.00	BHL_#12F-0101Av2



Phoenix Technology Services LP

Planning Report



Database:	Compass 5000 RMR	Local Co-ordinate Reference:	Well Razor #12F-0101A
Company:	Whiting Oil & Gas Corporation	TVD Reference:	RKB @ 4957.80usft (Unit 409)
Project:	Weld County, Colorado (NAD 83)	MD Reference:	RKB @ 4957.80usft (Unit 409)
Site:	Sec.12-T10N-R58W	North Reference:	True
Well:	Razor #12F-0101A	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01 / Job #1524093		
Design:	Plan 4 10-17-15		

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)
100.00	0.41	126.71	100.00	-0.21	0.29	-0.26	0.00	0.00	0.00
200.00	0.82	126.71	199.99	-0.85	1.14	-1.04	0.41	0.41	0.00
300.00	0.70	132.59	299.98	-1.75	2.27	-2.12	0.14	-0.12	5.88
400.00	1.46	216.45	399.97	-3.06	2.13	-3.39	1.55	0.76	83.86
500.00	5.41	236.94	499.78	-6.58	-2.40	-6.07	4.07	3.95	20.49
600.00	9.72	238.99	598.89	-13.48	-13.61	-10.90	4.32	4.31	2.05
700.00	13.73	239.35	696.73	-23.96	-31.28	-18.15	4.00	4.00	0.36
800.00	15.38	238.34	793.48	-37.11	-52.88	-27.32	1.68	1.66	-1.01
900.00	15.99	238.34	889.72	-51.31	-76.02	-37.28	0.60	0.60	0.00
1,000.00	16.12	237.52	985.82	-65.99	-99.46	-47.65	0.26	0.14	-0.82
1,100.00	16.26	236.72	1,081.85	-81.13	-122.88	-58.48	0.26	0.14	-0.80
1,200.00	17.39	235.54	1,177.69	-97.02	-146.61	-69.98	1.18	1.13	-1.19
1,300.00	19.48	235.16	1,272.56	-115.08	-172.54	-83.25	2.09	2.08	-0.38
1,400.00	19.59	237.17	1,366.61	-134.14	-200.67	-97.12	0.68	0.12	2.02
1,500.00	20.20	237.93	1,460.75	-152.09	-229.22	-109.82	0.66	0.61	0.76
1,600.00	21.33	237.90	1,554.25	-170.92	-259.25	-123.13	1.13	1.13	-0.03
1,700.00	20.98	238.67	1,647.47	-189.98	-290.04	-136.53	0.44	-0.35	0.77
1,800.00	19.50	238.71	1,741.27	-207.94	-319.65	-149.06	1.48	-1.48	0.04
1,900.00	17.43	236.20	1,836.12	-224.95	-346.36	-161.15	2.21	-2.06	-2.51
2,000.00	15.41	233.04	1,932.04	-241.27	-369.42	-173.20	2.21	-2.02	-3.15
2,100.00	19.67	230.87	2,027.61	-259.44	-392.47	-187.08	4.31	4.26	-2.17
2,200.00	19.86	228.60	2,121.62	-281.46	-418.48	-204.23	0.79	0.19	-2.27
2,300.00	22.63	230.44	2,214.72	-305.04	-446.29	-222.60	2.84	2.77	1.83
2,400.00	22.14	229.38	2,307.18	-329.57	-475.43	-241.67	0.63	-0.48	-1.06
2,500.00	21.62	228.30	2,399.97	-354.12	-503.50	-260.95	0.66	-0.52	-1.07
2,600.00	21.09	228.53	2,493.13	-378.44	-530.51	-280.20	0.54	-0.54	0.23
2,700.00	20.83	231.44	2,586.51	-401.44	-557.89	-298.07	1.07	-0.26	2.92
2,800.00	20.62	234.42	2,680.05	-422.76	-586.12	-314.15	1.07	-0.21	2.98
2,900.00	20.35	235.23	2,773.71	-442.69	-614.92	-328.76	0.39	-0.27	0.81
3,000.00	21.56	235.85	2,867.27	-462.81	-643.94	-343.51	1.23	1.21	0.62
3,100.00	21.58	235.88	2,960.08	-483.60	-674.83	-358.60	0.02	0.02	0.02
3,200.00	20.79	235.34	3,053.31	-504.02	-704.66	-373.50	0.81	-0.79	-0.54
3,300.00	22.67	236.56	3,146.30	-524.64	-735.09	-388.51	1.93	1.88	1.22
3,400.00	21.48	236.37	3,238.93	-545.45	-766.52	-403.53	1.19	-1.19	-0.19
3,500.00	20.15	236.08	3,332.39	-565.21	-796.06	-417.83	1.33	-1.33	-0.28
3,600.00	19.00	236.23	3,426.65	-583.89	-823.73	-431.41	1.15	-1.15	0.15
3,700.00	19.12	237.53	3,521.28	-601.43	-850.89	-443.94	0.44	0.12	1.29
3,800.00	20.23	237.12	3,615.36	-619.76	-879.40	-457.03	1.12	1.11	-0.40
3,900.00	20.16	236.80	3,709.14	-638.65	-908.53	-470.54	0.13	-0.07	-0.32
4,000.00	19.24	235.43	3,803.24	-657.43	-936.68	-484.14	1.03	-0.93	-1.37
4,100.00	18.89	230.80	3,897.86	-676.62	-962.73	-498.49	1.55	-0.35	-4.63
4,200.00	18.35	226.06	3,992.54	-698.05	-986.71	-515.41	1.61	-0.54	-4.74
4,300.00	18.43	224.88	4,087.50	-720.17	-1,008.91	-533.33	0.38	0.08	-1.19
4,400.00	18.95	229.56	4,182.24	-742.06	-1,032.26	-550.81	1.59	0.52	4.69
4,500.00	19.09	227.42	4,276.77	-763.54	-1,056.80	-567.69	0.71	0.14	-2.14
4,600.00	18.53	233.32	4,371.43	-783.98	-1,081.71	-583.48	1.98	-0.56	5.90
4,700.00	17.84	232.57	4,466.49	-802.86	-1,106.34	-597.77	0.73	-0.69	-0.75
4,800.00	18.08	234.89	4,561.55	-820.89	-1,131.61	-611.12	0.75	0.24	2.32
4,900.00	17.14	230.97	4,656.84	-839.13	-1,155.83	-624.87	1.51	-0.94	-3.91
5,000.00	15.91	227.44	4,752.71	-857.82	-1,177.28	-639.53	1.59	-1.23	-3.53
5,100.00	14.68	227.97	4,849.17	-875.79	-1,196.56	-653.87	1.24	-1.23	0.53
5,200.00	12.13	225.01	4,946.31	-891.62	-1,214.15	-666.39	2.64	-2.55	-2.96
5,300.00	7.97	215.44	5,044.72	-904.99	-1,225.63	-677.55	4.46	-4.15	-9.58
5,400.00	3.72	220.34	5,144.18	-913.38	-1,231.32	-684.82	4.28	-4.25	4.90



Phoenix Technology Services LP

Planning Report



Database:	Compass 5000 RMR	Local Co-ordinate Reference:	Well Razor #12F-0101A
Company:	Whiting Oil & Gas Corporation	TVD Reference:	RKB @ 4957.80usft (Unit 409)
Project:	Weld County, Colorado (NAD 83)	MD Reference:	RKB @ 4957.80usft (Unit 409)
Site:	Sec.12-T10N-R58W	North Reference:	True
Well:	Razor #12F-0101A	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01 / Job #1524093		
Design:	Plan 4 10-17-15		

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)
5,500.00	1.68	245.69	5,244.09	-916.12	-1,234.65	-686.94	2.32	-2.05	25.35
5,600.00	1.27	320.51	5,344.06	-915.87	-1,236.68	-686.34	1.82	-0.41	74.82
5,700.00	1.38	320.99	5,444.03	-914.03	-1,238.11	-684.28	0.12	0.12	0.48
5,800.00	2.21	355.86	5,544.00	-912.01	-1,239.63	-682.02	1.34	0.83	34.88
5,900.00	15.63	19.86	5,642.53	-897.65	-1,234.44	-668.79	13.64	13.42	24.00
6,000.00	24.18	16.22	5,736.53	-865.41	-1,224.11	-638.85	8.63	8.55	-3.64
6,100.00	33.72	10.63	5,824.03	-818.73	-1,212.25	-594.94	9.91	9.55	-5.59
6,200.00	44.66	2.76	5,901.57	-756.24	-1,205.46	-534.60	12.00	10.94	-7.87
6,300.00	54.99	359.66	5,965.57	-679.59	-1,204.71	-459.25	10.60	10.33	-3.11
6,400.00	63.76	358.63	6,016.36	-593.58	-1,205.93	-374.34	8.82	8.77	-1.03
6,500.00	71.53	359.11	6,054.15	-501.10	-1,208.17	-282.89	7.78	7.76	0.49
6,600.00	78.39	0.25	6,079.98	-404.56	-1,208.68	-187.73	6.95	6.86	1.14
6,700.00	88.82	0.57	6,089.54	-305.24	-1,207.63	-90.11	10.44	10.44	0.32
6,800.00	90.83	359.87	6,089.76	-205.24	-1,207.28	8.29	2.13	2.01	-0.70
6,900.00	90.85	0.06	6,088.12	-105.26	-1,207.36	106.76	0.19	0.02	0.19
7,000.00	89.38	0.35	6,087.93	-5.26	-1,207.00	205.16	1.50	-1.47	0.29
7,100.00	88.37	1.56	6,090.19	94.71	-1,205.93	303.41	1.57	-1.00	1.21
7,200.00	88.86	3.24	6,092.72	194.52	-1,200.58	400.77	1.75	0.48	1.68
7,300.00	87.98	0.62	6,094.57	294.43	-1,197.02	498.53	2.76	-0.88	-2.62
7,400.00	87.89	359.17	6,099.68	394.29	-1,197.99	597.03	1.45	-0.09	-1.44
7,500.00	88.84	359.41	6,101.53	494.26	-1,199.15	695.67	0.97	0.95	0.23
7,600.00	90.20	359.38	6,103.22	594.24	-1,200.18	794.30	1.36	1.36	-0.02
7,631.00	91.12	359.36	6,102.86	625.23	-1,200.52	824.88	2.97	2.97	-0.08
Tie-In to OH @ 7631'MD									
7,700.00	90.97	358.80	6,101.61	694.21	-1,201.63	893.00	0.84	-0.22	-0.81
7,722.00	90.92	358.62	6,101.24	716.21	-1,202.12	914.74	0.84	-0.22	-0.81
Begin 6°/100' Turn									
7,800.00	90.92	3.30	6,099.99	794.16	-1,200.82	991.28	6.00	0.00	6.00
7,819.99	90.92	4.50	6,099.67	814.10	-1,199.46	1,010.67	6.00	0.00	6.00
Hold 90.92° Inc at 4.5° Azm									
7,869.99	90.92	4.50	6,098.87	863.94	-1,195.53	1,059.07	0.00	0.00	0.00
Begin 2°/100' Build & Turn									
7,900.00	90.93	3.90	6,098.38	893.87	-1,193.34	1,088.15	2.00	0.04	-2.00
8,000.00	90.97	1.90	6,096.72	993.72	-1,188.28	1,185.60	2.00	0.04	-2.00
8,094.99	91.00	0.00	6,095.09	1,088.68	-1,186.70	1,278.83	2.00	0.03	-2.00
Hold 91° Inc at 0° Azm									
8,100.00	91.00	0.00	6,095.01	1,093.69	-1,186.70	1,283.76	0.00	0.00	0.00
8,200.00	91.00	0.00	6,093.26	1,193.67	-1,186.70	1,382.21	0.00	0.00	0.00
8,300.00	91.00	0.00	6,091.52	1,293.66	-1,186.70	1,480.67	0.00	0.00	0.00
8,400.00	91.00	0.00	6,089.77	1,393.64	-1,186.70	1,579.12	0.00	0.00	0.00
8,500.00	91.00	0.00	6,088.03	1,493.63	-1,186.70	1,677.58	0.00	0.00	0.00
8,600.00	91.00	0.00	6,086.28	1,593.61	-1,186.70	1,776.03	0.00	0.00	0.00
8,700.00	91.00	0.00	6,084.53	1,693.60	-1,186.70	1,874.49	0.00	0.00	0.00
8,800.00	91.00	0.00	6,082.79	1,793.58	-1,186.70	1,972.94	0.00	0.00	0.00
8,900.00	91.00	0.00	6,081.04	1,893.57	-1,186.70	2,071.40	0.00	0.00	0.00
8,934.61	91.00	0.00	6,080.44	1,928.17	-1,186.70	2,105.47	0.00	0.00	0.00
Begin 2°/100' Drop									
8,984.61	90.00	0.00	6,080.00	1,978.17	-1,186.70	2,154.70	2.00	-2.00	0.00
Hold 90° Inc									
9,000.00	90.00	0.00	6,080.00	1,993.56	-1,186.70	2,169.86	0.00	0.00	0.00
9,100.00	90.00	0.00	6,080.00	2,093.56	-1,186.70	2,268.33	0.00	0.00	0.00
9,200.00	90.00	0.00	6,080.00	2,193.56	-1,186.70	2,366.80	0.00	0.00	0.00
9,300.00	90.00	0.00	6,080.00	2,293.56	-1,186.70	2,465.27	0.00	0.00	0.00



Phoenix Technology Services LP

Planning Report



Database:	Compass 5000 RMR	Local Co-ordinate Reference:	Well Razor #12F-0101A
Company:	Whiting Oil & Gas Corporation	TVD Reference:	RKB @ 4957.80usft (Unit 409)
Project:	Weld County, Colorado (NAD 83)	MD Reference:	RKB @ 4957.80usft (Unit 409)
Site:	Sec.12-T10N-R58W	North Reference:	True
Well:	Razor #12F-0101A	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01 / Job #1524093		
Design:	Plan 4 10-17-15		

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)
9,400.00	90.00	0.00	6,080.00	2,393.56	-1,186.70	2,563.74	0.00	0.00	0.00
9,500.00	90.00	0.00	6,080.00	2,493.56	-1,186.70	2,662.21	0.00	0.00	0.00
9,600.00	90.00	0.00	6,080.00	2,593.56	-1,186.70	2,760.68	0.00	0.00	0.00
9,700.00	90.00	0.00	6,080.00	2,693.56	-1,186.70	2,859.15	0.00	0.00	0.00
9,800.00	90.00	0.00	6,080.00	2,793.56	-1,186.70	2,957.62	0.00	0.00	0.00
9,900.00	90.00	0.00	6,080.00	2,893.56	-1,186.70	3,056.09	0.00	0.00	0.00
10,000.00	90.00	0.00	6,080.00	2,993.56	-1,186.70	3,154.56	0.00	0.00	0.00
10,100.00	90.00	0.00	6,080.00	3,093.56	-1,186.70	3,253.03	0.00	0.00	0.00
10,200.00	90.00	0.00	6,080.00	3,193.56	-1,186.70	3,351.50	0.00	0.00	0.00
10,300.00	90.00	0.00	6,080.00	3,293.56	-1,186.70	3,449.97	0.00	0.00	0.00
10,400.00	90.00	0.00	6,080.00	3,393.56	-1,186.70	3,548.44	0.00	0.00	0.00
10,500.00	90.00	0.00	6,080.00	3,493.56	-1,186.70	3,646.91	0.00	0.00	0.00
10,600.00	90.00	0.00	6,080.00	3,593.56	-1,186.70	3,745.38	0.00	0.00	0.00
10,700.00	90.00	0.00	6,080.00	3,693.56	-1,186.70	3,843.85	0.00	0.00	0.00
10,800.00	90.00	0.00	6,080.00	3,793.56	-1,186.70	3,942.32	0.00	0.00	0.00
10,900.00	90.00	0.00	6,080.00	3,893.56	-1,186.70	4,040.79	0.00	0.00	0.00
11,000.00	90.00	0.00	6,080.00	3,993.56	-1,186.70	4,139.26	0.00	0.00	0.00
11,100.00	90.00	0.00	6,080.00	4,093.56	-1,186.70	4,237.73	0.00	0.00	0.00
11,200.00	90.00	0.00	6,080.00	4,193.56	-1,186.70	4,336.20	0.00	0.00	0.00
11,300.00	90.00	0.00	6,080.00	4,293.56	-1,186.70	4,434.67	0.00	0.00	0.00
11,400.00	90.00	0.00	6,080.00	4,393.56	-1,186.70	4,533.14	0.00	0.00	0.00
11,500.00	90.00	0.00	6,080.00	4,493.56	-1,186.70	4,631.61	0.00	0.00	0.00
11,600.00	90.00	0.00	6,080.00	4,593.56	-1,186.70	4,730.08	0.00	0.00	0.00
11,700.00	90.00	0.00	6,080.00	4,693.56	-1,186.70	4,828.55	0.00	0.00	0.00
11,800.00	90.00	0.00	6,080.00	4,793.56	-1,186.70	4,927.01	0.00	0.00	0.00
11,900.00	90.00	0.00	6,080.00	4,893.56	-1,186.70	5,025.48	0.00	0.00	0.00
12,000.00	90.00	0.00	6,080.00	4,993.56	-1,186.70	5,123.95	0.00	0.00	0.00
12,100.00	90.00	0.00	6,080.00	5,093.56	-1,186.70	5,222.42	0.00	0.00	0.00
12,200.00	90.00	0.00	6,080.00	5,193.56	-1,186.70	5,320.89	0.00	0.00	0.00
12,300.00	90.00	0.00	6,080.00	5,293.56	-1,186.70	5,419.36	0.00	0.00	0.00
12,400.00	90.00	0.00	6,080.00	5,393.56	-1,186.70	5,517.83	0.00	0.00	0.00
12,500.00	90.00	0.00	6,080.00	5,493.56	-1,186.70	5,616.30	0.00	0.00	0.00
12,600.00	90.00	0.00	6,080.00	5,593.56	-1,186.70	5,714.77	0.00	0.00	0.00
12,700.00	90.00	0.00	6,080.00	5,693.56	-1,186.70	5,813.24	0.00	0.00	0.00
12,734.61	90.00	0.00	6,080.00	5,728.17	-1,186.70	5,847.32	0.00	0.00	0.00
Begin 2°/100' Turn									
12,800.00	90.00	358.69	6,080.00	5,793.55	-1,187.45	5,911.84	2.00	0.00	-2.00
12,819.43	90.00	358.30	6,080.00	5,812.97	-1,187.96	5,931.05	2.00	0.00	-2.00
Hold 358.30° Azm									
12,900.00	90.00	358.30	6,080.00	5,893.51	-1,190.35	6,010.77	0.00	0.00	0.00
13,000.00	90.00	358.30	6,080.00	5,993.47	-1,193.31	6,109.71	0.00	0.00	0.00
13,100.00	90.00	358.30	6,080.00	6,093.42	-1,196.27	6,208.66	0.00	0.00	0.00
13,200.00	90.00	358.30	6,080.00	6,193.38	-1,199.23	6,307.60	0.00	0.00	0.00
13,300.00	90.00	358.30	6,080.00	6,293.34	-1,202.19	6,406.54	0.00	0.00	0.00
13,400.00	90.00	358.30	6,080.00	6,393.29	-1,205.15	6,505.48	0.00	0.00	0.00
13,500.00	90.00	358.30	6,080.00	6,493.25	-1,208.11	6,604.43	0.00	0.00	0.00
13,600.00	90.00	358.30	6,080.00	6,593.21	-1,211.07	6,703.37	0.00	0.00	0.00
13,700.00	90.00	358.30	6,080.00	6,693.16	-1,214.03	6,802.31	0.00	0.00	0.00
13,800.00	90.00	358.30	6,080.00	6,793.12	-1,216.99	6,901.25	0.00	0.00	0.00
13,899.30	90.00	358.30	6,080.00	6,892.37	-1,219.93	6,999.50	0.00	0.00	0.00
TD at 13899.29									



Phoenix Technology Services LP

Planning Report



Database:	Compass 5000 RMR	Local Co-ordinate Reference:	Well Razor #12F-0101A
Company:	Whiting Oil & Gas Corporation	TVD Reference:	RKB @ 4957.80usft (Unit 409)
Project:	Weld County, Colorado (NAD 83)	MD Reference:	RKB @ 4957.80usft (Unit 409)
Site:	Sec.12-T10N-R58W	North Reference:	True
Well:	Razor #12F-0101A	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01 / Job #1524093		
Design:	Plan 4 10-17-15		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
BHL_#12F-0101Av2	0.00	0.00	6,080.00	6,892.37	-1,219.93	1,565,480.801	3,463,824.388	40.873578	-103.822808
- plan hits target center									
- Point									

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)	Comment	
7,631.00	6,102.86	625.23	-1,200.52	Tie-In to OH @ 7631'MD	
7,722.00	6,101.24	716.21	-1,202.12	Begin 6°/100' Turn	
7,819.99	6,099.67	814.10	-1,199.46	Hold 90.92° Inc at 4.5° Azm	
7,869.99	6,098.87	863.94	-1,195.53	Begin 2°/100' Build & Turn	
8,094.99	6,095.09	1,088.68	-1,186.70	Hold 91° Inc at 0° Azm	
8,934.61	6,080.44	1,928.17	-1,186.70	Begin 2°/100' Drop	
8,984.61	6,080.00	1,978.17	-1,186.70	Hold 90° Inc	
12,734.61	6,080.00	5,728.17	-1,186.70	Begin 2°/100' Turn	
12,819.43	6,080.00	5,812.97	-1,187.96	Hold 358.30° Azm	
13,899.30	6,080.00	6,892.37	-1,219.93	TD at 13899.29	