

Bison Oil & Gas II, LLC

WELD COUNTY, COLORADO (NAD 83)

BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W

BIG MOUNTAIN VIPER 8-59 16-17-18-5

Wellbore #1

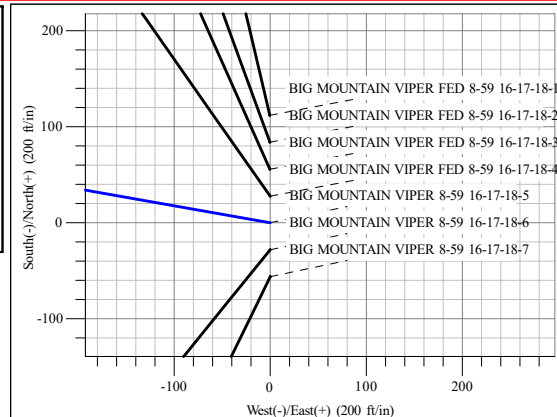
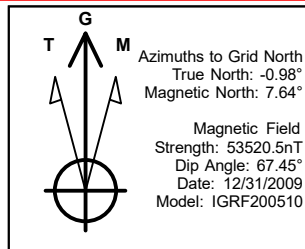
Plan: Design #1

Standard Survey Report

06 October, 2020



Project: WELD COUNTY, COLORADO (NAD 83)
Site: BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W
Well: BIG MOUNTAIN VIPER 8-59 16-17-18-5
Wellbore: Wellbore #1
Design: Design #1



ANNOTATIONS

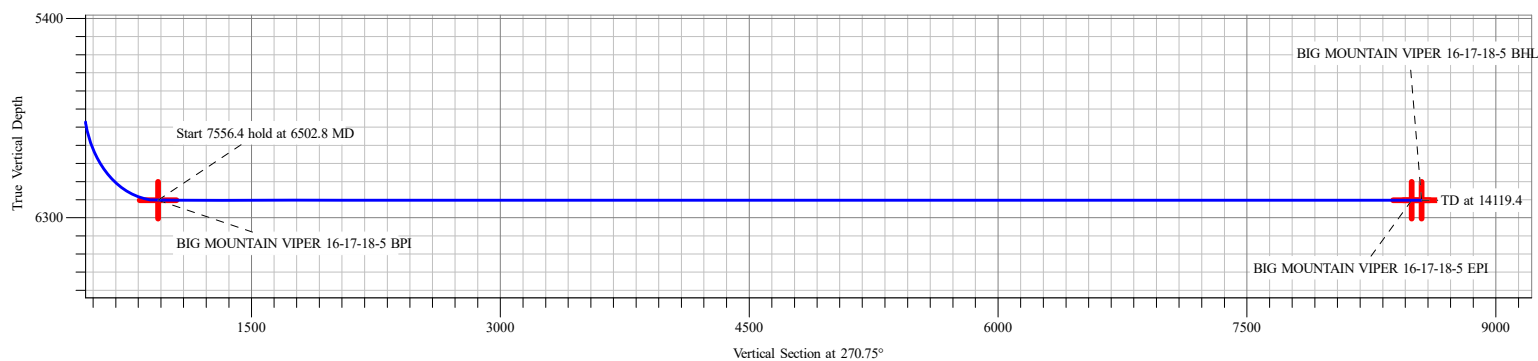
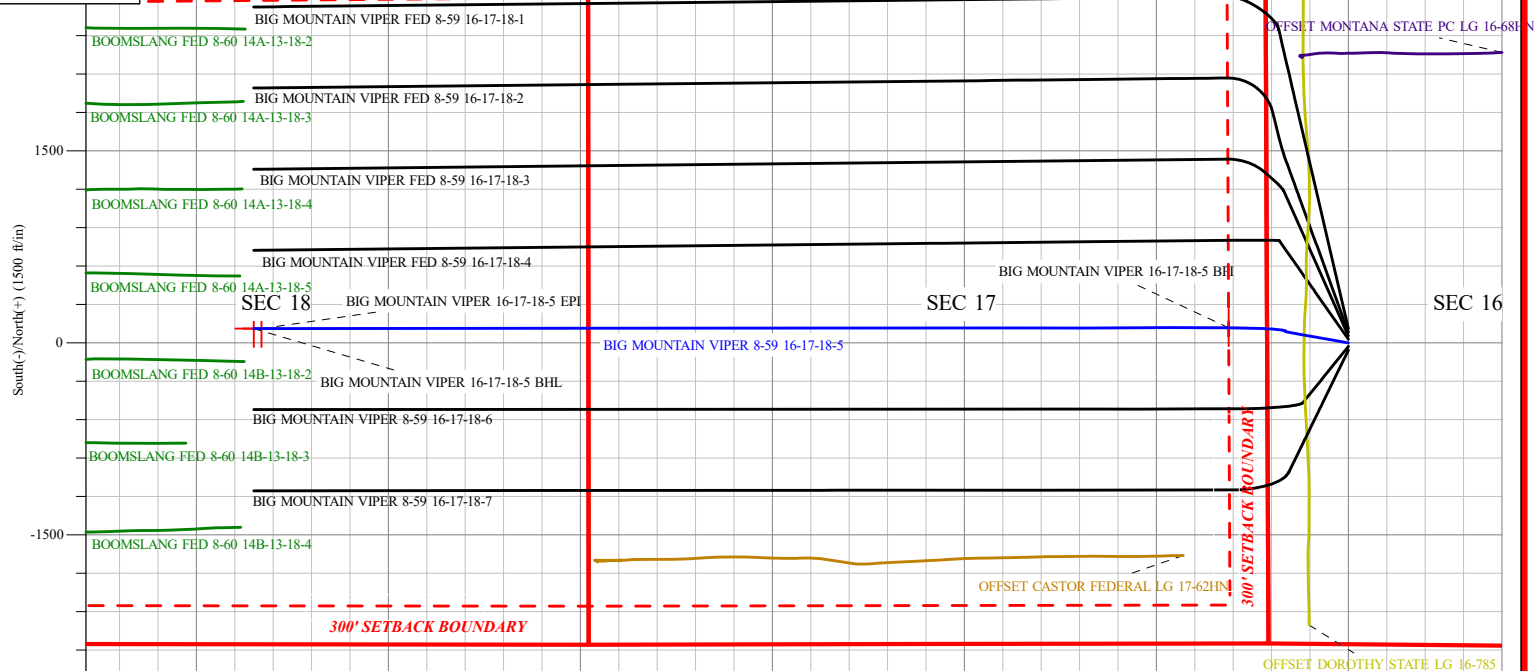
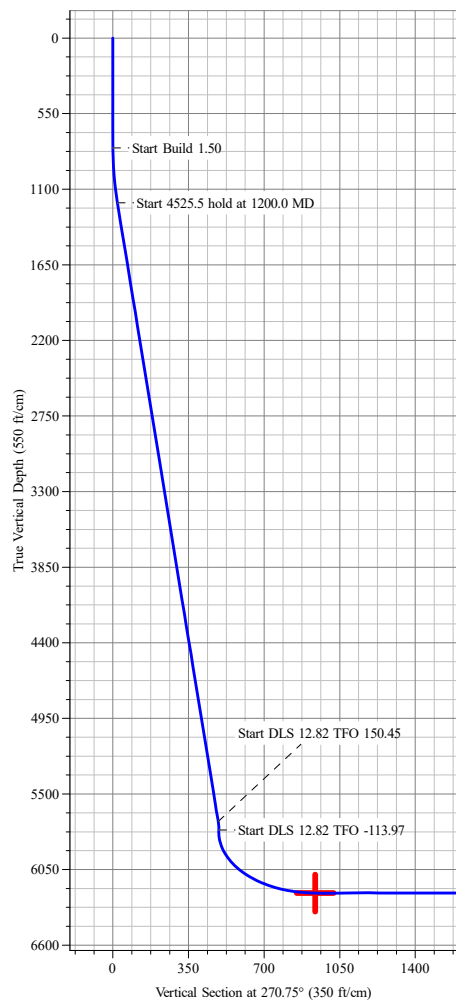
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.0	Start Build 1.50
1200.0	6.00	280.00	1199.3	3.6	-20.6	20.7	20.9	Start 4525.5 hold at 1200.0 MD
5725.5	6.00	280.00	5700.0	85.8	-486.5	487.5	494.0	Start DLS 12.82 TFO 150.45
5788.0	4.06	23.98	5762.4	88.4	-488.8	489.9	498.3	Start DLS 12.82 TFO -113.97
6502.8	90.00	269.96	6221.1	117.8	-935.4	936.9	949.5	Start 7556.4 hold at 6502.8 MD
14059.2	90.00	269.96	6221.1	112.2	-8491.8	8492.6	8505.9	Start 60.2 hold at 14059.2 MD
14119.4	90.00	269.96	6221.1	112.1	-8552.0	8552.8	8566.1	TD at 14119.4

PROPOSED LOCAL COORDINATES:

SHL: 2355 ft FNL & 635 ft FWL Sec 16
BPI: 2468 ft FSL & 300 ft FEL Sec 17
EPI: 2468 ft FSL & 2555 ft FEL Sec 18
BHL: 2468 ft FSL & 2615 ft FEL Sec 18

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BMV 16-17-18-5 BPI	6221.1	117.8	-935.4	453370.51	1041899.95	40° 39' 41.890 N 103° 59' 31.880 W	
BMV 16-17-18-5 EPI	6221.1	112.2	-8491.8	453368.79	1039596.77	40° 39' 43.092 N 104° 1' 9.919 W	
BMV 16-17-18-5 BHL	6221.1	112.3	-8552.0	453368.81	1039578.41	40° 39' 43.103 N 104° 1' 10.700 W	



Survey Report

Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well BIG MOUNTAIN VIPER 8-59 16-17-18-5
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4900.9ft
Site:	BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W	MD Reference:	KB 25 @ 4900.9ft
Well:	BIG MOUNTAIN VIPER 8-59 16-17-18-5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.16 Single User Db

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	BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W				
Site Position:		Northing:	453,343.04 m	Latitude:	40° 39' 40.842 N
From:	Lat/Long	Easting:	1,042,185.01 m	Longitude:	103° 59' 19.766 W
Position Uncertainty:	0.0 ft	Slot Radius:	0.000 in		

Well		BIG MOUNTAIN VIPER 8-59 16-17-18-5				
Well Position	+N/-S	0.0 ft	Northing:	453,334.60 m	Latitude:	40° 39' 40.568 N
	+E/-W	0.0 ft	Easting:	1,042,185.07 m	Longitude:	103° 59' 19.770 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,875.9 ft
Grid Convergence:		0.98 °				

Wellbore	Wellbore #1				
-----------------	-------------	--	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.62	67.45	53,520.50419821

Design	Design #1				
---------------	-----------	--	--	--	--

Audit Notes:					
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	270.75

Survey Tool Program		Date	9/9/2020		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,119.4	Design #1 (Wellbore #1)	MWD	Fixed:v2:standard declination	

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00

Survey Report

Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well BIG MOUNTAIN VIPER 8-59 16-17-18-5
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4900.9ft
Site:	BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W	MD Reference:	KB 25 @ 4900.9ft
Well:	BIG MOUNTAIN VIPER 8-59 16-17-18-5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.16 Single User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 1.50									
900.0	1.50	280.00	900.0	0.2	-1.3	1.3	1.50	1.50	0.00
1,000.0	3.00	280.00	999.9	0.9	-5.2	5.2	1.50	1.50	0.00
1,100.0	4.50	280.00	1,099.7	2.0	-11.6	11.6	1.50	1.50	0.00
1,200.0	6.00	280.00	1,199.3	3.6	-20.6	20.7	1.50	1.50	0.00
Start 4525.5 hold at 1200.0 MD									
1,300.0	6.00	280.00	1,298.7	5.4	-30.9	31.0	0.00	0.00	0.00
1,400.0	6.00	280.00	1,398.2	7.3	-41.2	41.3	0.00	0.00	0.00
1,500.0	6.00	280.00	1,497.6	9.1	-51.5	51.6	0.00	0.00	0.00
1,600.0	6.00	280.00	1,597.1	10.9	-61.8	61.9	0.00	0.00	0.00
1,700.0	6.00	280.00	1,696.5	12.7	-72.1	72.2	0.00	0.00	0.00
1,800.0	6.00	280.00	1,796.0	14.5	-82.4	82.6	0.00	0.00	0.00
1,900.0	6.00	280.00	1,895.4	16.3	-92.7	92.9	0.00	0.00	0.00
2,000.0	6.00	280.00	1,994.9	18.2	-103.0	103.2	0.00	0.00	0.00
2,100.0	6.00	280.00	2,094.3	20.0	-113.3	113.5	0.00	0.00	0.00
2,200.0	6.00	280.00	2,193.8	21.8	-123.5	123.8	0.00	0.00	0.00
2,300.0	6.00	280.00	2,293.2	23.6	-133.8	134.1	0.00	0.00	0.00
2,400.0	6.00	280.00	2,392.7	25.4	-144.1	144.5	0.00	0.00	0.00
2,500.0	6.00	280.00	2,492.1	27.2	-154.4	154.8	0.00	0.00	0.00
2,600.0	6.00	280.00	2,591.6	29.0	-164.7	165.1	0.00	0.00	0.00
2,700.0	6.00	280.00	2,691.1	30.9	-175.0	175.4	0.00	0.00	0.00
2,800.0	6.00	280.00	2,790.5	32.7	-185.3	185.7	0.00	0.00	0.00
2,900.0	6.00	280.00	2,890.0	34.5	-195.6	196.0	0.00	0.00	0.00
3,000.0	6.00	280.00	2,989.4	36.3	-205.9	206.4	0.00	0.00	0.00
3,100.0	6.00	280.00	3,088.9	38.1	-216.2	216.7	0.00	0.00	0.00
3,200.0	6.00	280.00	3,188.3	39.9	-226.5	227.0	0.00	0.00	0.00
3,300.0	6.00	280.00	3,287.8	41.8	-236.8	237.3	0.00	0.00	0.00
3,400.0	6.00	280.00	3,387.2	43.6	-247.1	247.6	0.00	0.00	0.00
3,500.0	6.00	280.00	3,486.7	45.4	-257.4	257.9	0.00	0.00	0.00
3,600.0	6.00	280.00	3,586.1	47.2	-267.7	268.3	0.00	0.00	0.00
3,700.0	6.00	280.00	3,685.6	49.0	-278.0	278.6	0.00	0.00	0.00
3,800.0	6.00	280.00	3,785.0	50.8	-288.3	288.9	0.00	0.00	0.00
3,900.0	6.00	280.00	3,884.5	52.6	-298.5	299.2	0.00	0.00	0.00
4,000.0	6.00	280.00	3,983.9	54.5	-308.8	309.5	0.00	0.00	0.00
4,100.0	6.00	280.00	4,083.4	56.3	-319.1	319.8	0.00	0.00	0.00
4,200.0	6.00	280.00	4,182.8	58.1	-329.4	330.2	0.00	0.00	0.00
4,300.0	6.00	280.00	4,282.3	59.9	-339.7	340.5	0.00	0.00	0.00
4,400.0	6.00	280.00	4,381.7	61.7	-350.0	350.8	0.00	0.00	0.00
4,500.0	6.00	280.00	4,481.2	63.5	-360.3	361.1	0.00	0.00	0.00
4,600.0	6.00	280.00	4,580.6	65.3	-370.6	371.4	0.00	0.00	0.00
4,700.0	6.00	280.00	4,680.1	67.2	-380.9	381.7	0.00	0.00	0.00
4,800.0	6.00	280.00	4,779.5	69.0	-391.2	392.1	0.00	0.00	0.00
4,900.0	6.00	280.00	4,879.0	70.8	-401.5	402.4	0.00	0.00	0.00

Survey Report

Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well BIG MOUNTAIN VIPER 8-59 16-17-18-5
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4900.9ft
Site:	BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W	MD Reference:	KB 25 @ 4900.9ft
Well:	BIG MOUNTAIN VIPER 8-59 16-17-18-5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.16 Single User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,000.0	6.00	280.00	4,978.5	72.6	-411.8	412.7	0.00	0.00	0.00
5,100.0	6.00	280.00	5,077.9	74.4	-422.1	423.0	0.00	0.00	0.00
5,200.0	6.00	280.00	5,177.4	76.2	-432.4	433.3	0.00	0.00	0.00
5,300.0	6.00	280.00	5,276.8	78.1	-442.7	443.6	0.00	0.00	0.00
5,400.0	6.00	280.00	5,376.3	79.9	-453.0	454.0	0.00	0.00	0.00
5,500.0	6.00	280.00	5,475.7	81.7	-463.3	464.3	0.00	0.00	0.00
5,600.0	6.00	280.00	5,575.2	83.5	-473.5	474.6	0.00	0.00	0.00
5,700.0	6.00	280.00	5,674.6	85.3	-483.8	484.9	0.00	0.00	0.00
5,725.5	6.00	280.00	5,700.0	85.8	-486.5	487.5	0.00	0.00	0.00
Start DLS 12.82 TFO 150.45									
5,788.0	4.06	23.98	5,762.4	88.4	-488.8	489.9	12.82	-3.10	166.36
Start DLS 12.82 TFO -113.97									
5,800.0	3.71	1.78	5,774.3	89.1	-488.6	489.7	12.82	-2.92	-185.43
5,900.0	13.23	285.98	5,873.3	95.6	-499.5	500.8	12.82	9.51	-75.80
6,000.0	25.78	277.68	5,967.4	101.6	-532.2	533.5	12.82	12.55	-8.30
6,100.0	38.50	274.64	6,051.9	107.1	-585.0	586.4	12.82	12.72	-3.04
6,200.0	51.27	272.94	6,122.6	111.6	-655.3	656.7	12.82	12.77	-1.70
6,300.0	64.06	271.77	6,176.0	115.0	-739.5	741.0	12.82	12.79	-1.17
6,400.0	76.85	270.83	6,209.4	117.1	-833.6	835.0	12.82	12.79	-0.94
6,500.0	89.64	269.98	6,221.1	117.8	-932.7	934.1	12.82	12.80	-0.85
6,502.8	90.00	269.96	6,221.1	117.8	-935.4	936.9	12.82	12.80	-0.83
Start 7556.4 hold at 6502.8 MD - BMV 16-17-18-5 BPI									
6,600.0	90.00	269.96	6,221.1	117.7	-1,032.7	1,034.1	0.00	0.00	0.00
6,700.0	90.00	269.96	6,221.1	117.7	-1,132.7	1,134.1	0.00	0.00	0.00
6,800.0	90.00	269.96	6,221.1	117.6	-1,232.7	1,234.1	0.00	0.00	0.00
6,900.0	90.00	269.96	6,221.1	117.5	-1,332.7	1,334.1	0.00	0.00	0.00
7,000.0	90.00	269.96	6,221.1	117.4	-1,432.7	1,434.1	0.00	0.00	0.00
7,100.0	90.00	269.96	6,221.1	117.4	-1,532.7	1,534.1	0.00	0.00	0.00
7,200.0	90.00	269.96	6,221.1	117.3	-1,632.7	1,634.1	0.00	0.00	0.00
7,300.0	90.00	269.96	6,221.1	117.2	-1,732.7	1,734.0	0.00	0.00	0.00
7,400.0	90.00	269.96	6,221.1	117.1	-1,832.7	1,834.0	0.00	0.00	0.00
7,500.0	90.00	269.96	6,221.1	117.1	-1,932.7	1,934.0	0.00	0.00	0.00
7,600.0	90.00	269.96	6,221.1	117.0	-2,032.7	2,034.0	0.00	0.00	0.00
7,700.0	90.00	269.96	6,221.1	116.9	-2,132.7	2,134.0	0.00	0.00	0.00
7,800.0	90.00	269.96	6,221.1	116.8	-2,232.7	2,234.0	0.00	0.00	0.00
7,900.0	90.00	269.96	6,221.1	116.8	-2,332.7	2,334.0	0.00	0.00	0.00
8,000.0	90.00	269.96	6,221.1	116.7	-2,432.7	2,434.0	0.00	0.00	0.00
8,100.0	90.00	269.96	6,221.1	116.6	-2,532.7	2,534.0	0.00	0.00	0.00
8,200.0	90.00	269.96	6,221.1	116.5	-2,632.7	2,634.0	0.00	0.00	0.00
8,300.0	90.00	269.96	6,221.1	116.5	-2,732.7	2,734.0	0.00	0.00	0.00
8,400.0	90.00	269.96	6,221.1	116.4	-2,832.7	2,833.9	0.00	0.00	0.00
8,500.0	90.00	269.96	6,221.1	116.3	-2,932.7	2,933.9	0.00	0.00	0.00
8,600.0	90.00	269.96	6,221.1	116.2	-3,032.7	3,033.9	0.00	0.00	0.00

Survey Report

Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well BIG MOUNTAIN VIPER 8-59 16-17-18-5
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4900.9ft
Site:	BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W	MD Reference:	KB 25 @ 4900.9ft
Well:	BIG MOUNTAIN VIPER 8-59 16-17-18-5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.16 Single User Db

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,700.0	90.00	269.96	6,221.1	116.2	-3,132.7	3,133.9	0.00	0.00	0.00
8,800.0	90.00	269.96	6,221.1	116.1	-3,232.7	3,233.9	0.00	0.00	0.00
8,900.0	90.00	269.96	6,221.1	116.0	-3,332.7	3,333.9	0.00	0.00	0.00
9,000.0	90.00	269.96	6,221.1	115.9	-3,432.7	3,433.9	0.00	0.00	0.00
9,100.0	90.00	269.96	6,221.1	115.9	-3,532.7	3,533.9	0.00	0.00	0.00
9,200.0	90.00	269.96	6,221.1	115.8	-3,632.7	3,633.9	0.00	0.00	0.00
9,300.0	90.00	269.96	6,221.1	115.7	-3,732.7	3,733.9	0.00	0.00	0.00
9,400.0	90.00	269.96	6,221.1	115.6	-3,832.7	3,833.8	0.00	0.00	0.00
9,500.0	90.00	269.96	6,221.1	115.6	-3,932.7	3,933.8	0.00	0.00	0.00
9,600.0	90.00	269.96	6,221.1	115.5	-4,032.7	4,033.8	0.00	0.00	0.00
9,700.0	90.00	269.96	6,221.1	115.4	-4,132.7	4,133.8	0.00	0.00	0.00
9,800.0	90.00	269.96	6,221.1	115.3	-4,232.7	4,233.8	0.00	0.00	0.00
9,900.0	90.00	269.96	6,221.1	115.3	-4,332.7	4,333.8	0.00	0.00	0.00
10,000.0	90.00	269.96	6,221.1	115.2	-4,432.7	4,433.8	0.00	0.00	0.00
10,100.0	90.00	269.96	6,221.1	115.1	-4,532.7	4,533.8	0.00	0.00	0.00
10,200.0	90.00	269.96	6,221.1	115.0	-4,632.7	4,633.8	0.00	0.00	0.00
10,300.0	90.00	269.96	6,221.1	115.0	-4,732.7	4,733.8	0.00	0.00	0.00
10,400.0	90.00	269.96	6,221.1	114.9	-4,832.7	4,833.8	0.00	0.00	0.00
10,500.0	90.00	269.96	6,221.1	114.8	-4,932.7	4,933.7	0.00	0.00	0.00
10,600.0	90.00	269.96	6,221.1	114.8	-5,032.7	5,033.7	0.00	0.00	0.00
10,700.0	90.00	269.96	6,221.1	114.7	-5,132.7	5,133.7	0.00	0.00	0.00
10,800.0	90.00	269.96	6,221.1	114.6	-5,232.7	5,233.7	0.00	0.00	0.00
10,900.0	90.00	269.96	6,221.1	114.5	-5,332.7	5,333.7	0.00	0.00	0.00
11,000.0	90.00	269.96	6,221.1	114.5	-5,432.7	5,433.7	0.00	0.00	0.00
11,100.0	90.00	269.96	6,221.1	114.4	-5,532.7	5,533.7	0.00	0.00	0.00
11,200.0	90.00	269.96	6,221.1	114.3	-5,632.7	5,633.7	0.00	0.00	0.00
11,300.0	90.00	269.96	6,221.1	114.2	-5,732.7	5,733.7	0.00	0.00	0.00
11,400.0	90.00	269.96	6,221.1	114.2	-5,832.7	5,833.7	0.00	0.00	0.00
11,500.0	90.00	269.96	6,221.1	114.1	-5,932.7	5,933.6	0.00	0.00	0.00
11,600.0	90.00	269.96	6,221.1	114.0	-6,032.7	6,033.6	0.00	0.00	0.00
11,700.0	90.00	269.96	6,221.1	113.9	-6,132.7	6,133.6	0.00	0.00	0.00
11,800.0	90.00	269.96	6,221.1	113.9	-6,232.7	6,233.6	0.00	0.00	0.00
11,900.0	90.00	269.96	6,221.1	113.8	-6,332.7	6,333.6	0.00	0.00	0.00
12,000.0	90.00	269.96	6,221.1	113.7	-6,432.7	6,433.6	0.00	0.00	0.00
12,100.0	90.00	269.96	6,221.1	113.6	-6,532.7	6,533.6	0.00	0.00	0.00
12,200.0	90.00	269.96	6,221.1	113.6	-6,632.7	6,633.6	0.00	0.00	0.00
12,300.0	90.00	269.96	6,221.1	113.5	-6,732.7	6,733.6	0.00	0.00	0.00
12,400.0	90.00	269.96	6,221.1	113.4	-6,832.7	6,833.6	0.00	0.00	0.00
12,500.0	90.00	269.96	6,221.1	113.3	-6,932.7	6,933.5	0.00	0.00	0.00
12,600.0	90.00	269.96	6,221.1	113.3	-7,032.7	7,033.5	0.00	0.00	0.00
12,700.0	90.00	269.96	6,221.1	113.2	-7,132.7	7,133.5	0.00	0.00	0.00
12,800.0	90.00	269.96	6,221.1	113.1	-7,232.7	7,233.5	0.00	0.00	0.00

Survey Report

Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well BIG MOUNTAIN VIPER 8-59 16-17-18-5
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4900.9ft
Site:	BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W	MD Reference:	KB 25 @ 4900.9ft
Well:	BIG MOUNTAIN VIPER 8-59 16-17-18-5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.16 Single User Db

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,900.0	90.00	269.96	6,221.1	113.0	-7,332.7	7,333.5	0.00	0.00	0.00	
13,000.0	90.00	269.96	6,221.1	113.0	-7,432.7	7,433.5	0.00	0.00	0.00	
13,100.0	90.00	269.96	6,221.1	112.9	-7,532.7	7,533.5	0.00	0.00	0.00	
13,200.0	90.00	269.96	6,221.1	112.8	-7,632.7	7,633.5	0.00	0.00	0.00	
13,300.0	90.00	269.96	6,221.1	112.7	-7,732.7	7,733.5	0.00	0.00	0.00	
13,400.0	90.00	269.96	6,221.1	112.7	-7,832.7	7,833.5	0.00	0.00	0.00	
13,500.0	90.00	269.96	6,221.1	112.6	-7,932.7	7,933.5	0.00	0.00	0.00	
13,600.0	90.00	269.96	6,221.1	112.5	-8,032.7	8,033.4	0.00	0.00	0.00	
13,700.0	90.00	269.96	6,221.1	112.4	-8,132.7	8,133.4	0.00	0.00	0.00	
13,800.0	90.00	269.96	6,221.1	112.4	-8,232.7	8,233.4	0.00	0.00	0.00	
13,900.0	90.00	269.96	6,221.1	112.3	-8,332.7	8,333.4	0.00	0.00	0.00	
14,000.0	90.00	269.96	6,221.1	112.2	-8,432.7	8,433.4	0.00	0.00	0.00	
14,059.2	90.00	269.96	6,221.1	112.2	-8,491.8	8,492.6	0.00	0.00	0.00	
Start 60.2 hold at 14059.2 MD - BMV 16-17-18-5 EPI										
14,100.0	90.00	269.96	6,221.1	112.1	-8,532.7	8,533.4	0.00	0.00	0.00	
14,119.4	90.00	269.96	6,221.1	112.1	-8,552.0	8,552.8	0.00	0.00	0.00	
TD at 14119.4 - BMV 16-17-18-5 BHL										

Design Targets										
Target Name										
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting			
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(m)	(m)		Latitude	Longitude
BMV 16-17-18-5 BHL	0.00	0.00	6,221.1	112.3	-8,552.0	453,368.81	1,039,578.42		40° 39' 43.103 N	104° 1' 10.700 W
- plan misses target center by 0.1ft at 14119.4ft MD (6221.1 TVD, 112.1 N, -8552.0 E)										
- Point										
BMV 16-17-18-5 BPI	0.00	0.00	6,221.1	117.8	-935.4	453,370.51	1,041,899.95		40° 39' 41.890 N	103° 59' 31.880 W
- plan hits target center										
- Point										
BMV 16-17-18-5 EPI	0.00	0.00	6,221.1	112.2	-8,491.8	453,368.79	1,039,596.77		40° 39' 43.092 N	104° 1' 9.919 W
- plan hits target center										
- Point										

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
800	800	0	0	Start Build 1.50	
1200	1199	4	-21	Start 4525.5 hold at 1200.0 MD	
5726	5700	86	-486	Start DLS 12.82 TFO 150.45	
5788	5762	88	-489	Start DLS 12.82 TFO -113.97	
6503	6221	118	-935	Start 7556.4 hold at 6502.8 MD	
14,059	6221	112	-8492	Start 60.2 hold at 14059.2 MD	
14,119	6221	112	-8552	TD at 14119.4	

Survey Report

Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well BIG MOUNTAIN VIPER 8-59 16-17-18-5
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4900.9ft
Site:	BIG MOUNTAIN VIPER 8-59 16 NWSW SEC. 16 T8N R59W	MD Reference:	KB 25 @ 4900.9ft
Well:	BIG MOUNTAIN VIPER 8-59 16-17-18-5	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.16 Single User Db

Checked By: _____ Approved By: _____ Date: _____