

Bison Oil & Gas II, LLC

WELD COUNTY, COLORADO (NAD 83)

WADE 8-59 20A

WADE 8-59 20A-29-32-3

Wellbore #1

Plan: Design #1

Standard Survey Report

06 May, 2020





Project: WELD COUNTY, COLORADO (NAD 83)
Site: WADE 8-59 20A
Well: WADE 8-59 20A-29-32-3
Wellbore: Wellbore #1
Design: Design #1



M Azimuths to Grid North
True North: -0.96°
Magnetic North: 7.66°
Magnetic Field
Strength: 53508.4nT
Dip Angle: 67.43°
Date: 12/31/2009
Model: IGRF200510

ANNOTATIONS

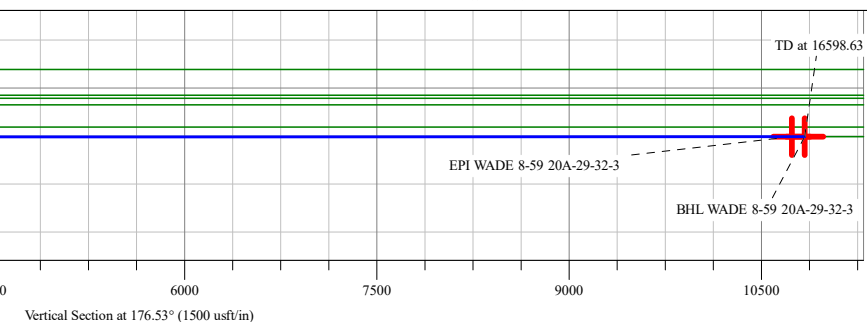
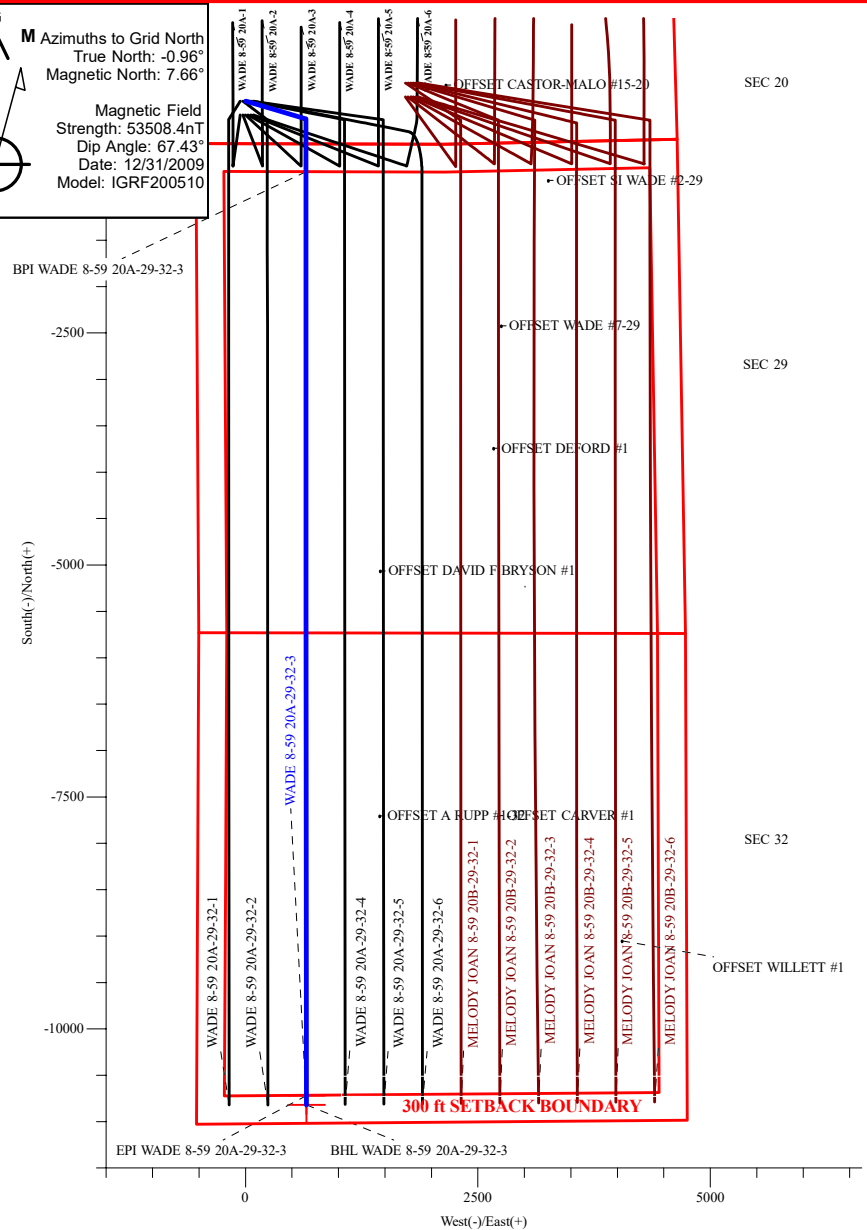
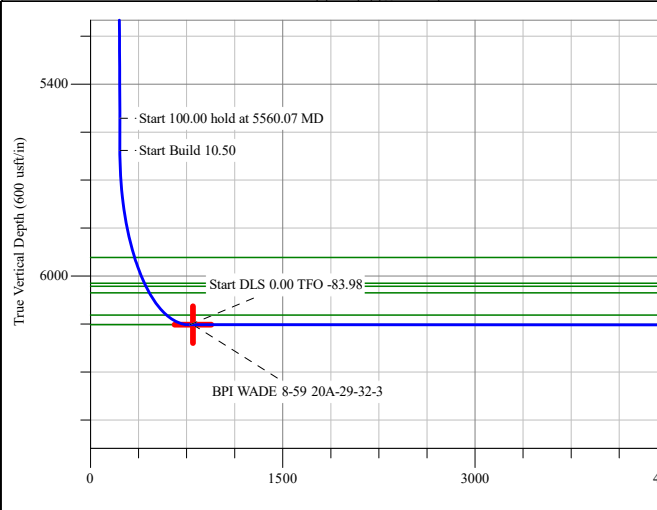
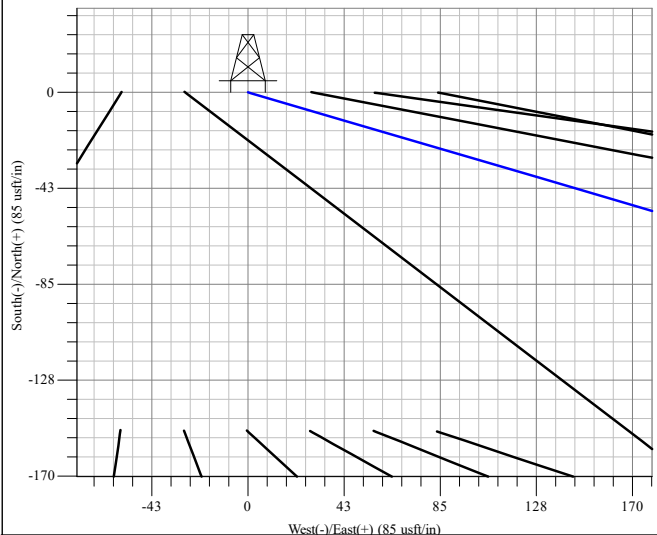
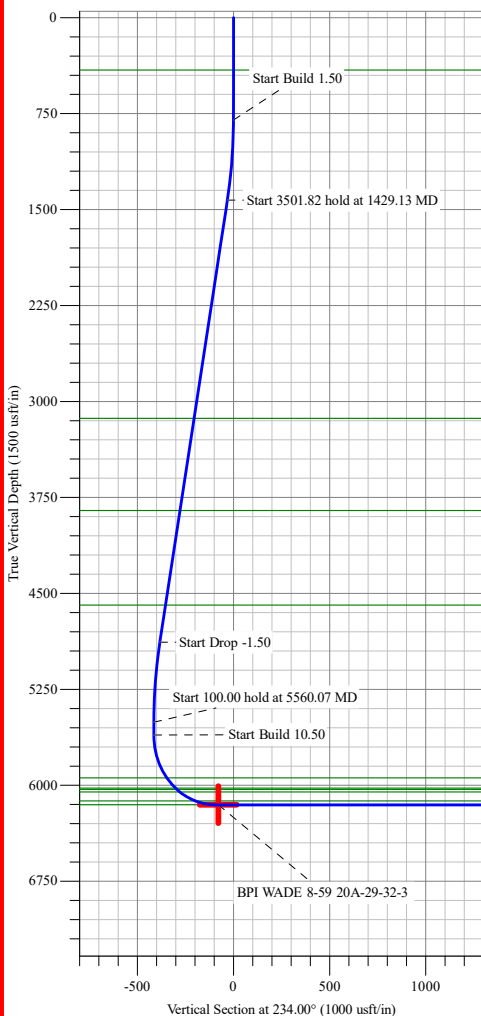
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Dep	Annotation
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	Start Build 1.50
1429.13	9.44	106.36	1426.28	-14.56	49.60	17.54	51.69	Start 3501.82 hold at 1429.13 MD
4930.95	9.44	106.36	4880.72	-176.32	600.51	212.38	625.85	Start Drop -1.50
5560.07	0.00	0.00	5507.00	-190.88	650.10	229.92	677.55	Start 100.00 hold at 5560.07 MD
5660.07	0.00	0.00	5607.00	-190.88	650.10	229.92	677.55	Start Build 10.50
6517.21	90.00	180.00	6152.67	-736.55	650.10	774.59	1223.22	Start DLS 0.00 TFO -83.98
16498.83	90.01	179.93	6152.00	-10718.17	656.50	10738.25	11204.84	Start 99.81 hold at 16498.83 MD
16598.63	90.01	179.93	6151.99	-10817.97	656.62	10837.88	11304.64	TD at 16598.63

PROPOSED LOCAL COORDINATES:

SHL: 460 ft FSL & 535 ft FWL Sec 20
BPI :300 ft FNL & 1182 ft FWL Sec 29
EPI: 300 ft FSL & 1182 ft FWL Sec 32
BHL: 200 ft FSL & 1182 ft FWL Sec 32

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BPI WADE 8-59 20A-29-32-3	6152.00	-761.88	650.10	1479338.51	3414509.62	40° 38' 22.549 N	104° 0' 22.828 W
EPI WADE 8-59 20A-29-32-3	6152.00	-10718.17	656.50	1469382.22	3414516.01	40° 36' 44.179 N	104° 0' 24.919 W
BHL WADE 8-59 20A-29-32-3	6152.00	-10818.01	655.96	1469282.37	3414515.47	40° 36' 43.193 N	104° 0' 24.948 W



Survey Report



Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well WADE 8-59 20A-29-32-3
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4894.70usft
Site:	WADE 8-59 20A	MD Reference:	KB 25 @ 4894.70usft
Well:	WADE 8-59 20A-29-32-3	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM

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	WADE 8-59 20A		
Site Position:		Northing:	1,480,100.55 usft
From:	Lat/Long	Easting:	3,413,803.72 usft
Position Uncertainty:	1.10 usft	Slot Radius:	13-3/16 "
		Latitude:	40° 38' 30.196 N
		Longitude:	104° 0' 31.817 W
		Grid Convergence:	0.96 °

Well	WADE 8-59 20A-29-32-3		
Well Position	+N/-S	0.00 usft	Northing: 1,480,100.39 usft
	+E/-W	0.00 usft	Easting: 3,413,859.51 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	40° 38' 30.185 N
		Longitude:	104° 0' 31.093 W
		Ground Level:	4,869.70 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF200510	12/31/2009	8.63
			Dip Angle (°)
			67.43
			Field Strength (nT)
			53,508.42424421

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			176.53

Survey Tool Program	Date 5/6/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
0.00	16,598.64	Design #1 (Wellbore #1)	MWD
			Description
			Fixed:v2:standard declination

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
410.00	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Shale (Base of Fox Hills)									
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
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00

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Site:	WADE 8-59 20A	MD Reference:	KB 25 @ 4894.70usft
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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM

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)
Start Build 1.50									
900.00	1.50	106.36	899.99	-0.37	1.26	0.44	1.50	1.50	0.00
1,000.00	3.00	106.36	999.91	-1.47	5.02	1.78	1.50	1.50	0.00
1,100.00	4.50	106.36	1,099.69	-3.32	11.30	4.00	1.50	1.50	0.00
1,200.00	6.00	106.36	1,199.27	-5.89	20.08	7.10	1.50	1.50	0.00
1,300.00	7.50	106.36	1,298.57	-9.21	31.35	11.09	1.50	1.50	0.00
1,400.00	9.00	106.36	1,397.54	-13.25	45.12	15.96	1.50	1.50	0.00
1,429.13	9.44	106.36	1,426.28	-14.56	49.60	17.54	1.50	1.50	0.00
Start 3501.82 hold at 1429.13 MD									
1,500.00	9.44	106.36	1,496.20	-17.84	60.75	21.48	0.00	0.00	0.00
1,600.00	9.44	106.36	1,594.85	-22.46	76.48	27.05	0.00	0.00	0.00
1,700.00	9.44	106.36	1,693.49	-27.08	92.21	32.61	0.00	0.00	0.00
1,800.00	9.44	106.36	1,792.14	-31.69	107.95	38.18	0.00	0.00	0.00
1,900.00	9.44	106.36	1,890.79	-36.31	123.68	43.74	0.00	0.00	0.00
2,000.00	9.44	106.36	1,989.43	-40.93	139.41	49.30	0.00	0.00	0.00
2,100.00	9.44	106.36	2,088.08	-45.55	155.14	54.87	0.00	0.00	0.00
2,200.00	9.44	106.36	2,186.73	-50.17	170.87	60.43	0.00	0.00	0.00
2,300.00	9.44	106.36	2,285.37	-54.79	186.61	65.99	0.00	0.00	0.00
2,400.00	9.44	106.36	2,384.02	-59.41	202.34	71.56	0.00	0.00	0.00
2,500.00	9.44	106.36	2,482.67	-64.03	218.07	77.12	0.00	0.00	0.00
2,600.00	9.44	106.36	2,581.31	-68.65	233.80	82.69	0.00	0.00	0.00
2,700.00	9.44	106.36	2,679.96	-73.27	249.53	88.25	0.00	0.00	0.00
2,800.00	9.44	106.36	2,778.61	-77.89	265.27	93.81	0.00	0.00	0.00
2,900.00	9.44	106.36	2,877.25	-82.50	281.00	99.38	0.00	0.00	0.00
3,000.00	9.44	106.36	2,975.90	-87.12	296.73	104.94	0.00	0.00	0.00
3,100.00	9.44	106.36	3,074.55	-91.74	312.46	110.51	0.00	0.00	0.00
3,158.24	9.44	106.36	3,132.00	-94.43	321.62	113.75	0.00	0.00	0.00
Parkman									
3,200.00	9.44	106.36	3,173.19	-96.36	328.19	116.07	0.00	0.00	0.00
3,300.00	9.44	106.36	3,271.84	-100.98	343.93	121.63	0.00	0.00	0.00
3,400.00	9.44	106.36	3,370.49	-105.60	359.66	127.20	0.00	0.00	0.00
3,500.00	9.44	106.36	3,469.13	-110.22	375.39	132.76	0.00	0.00	0.00
3,600.00	9.44	106.36	3,567.78	-114.84	391.12	138.32	0.00	0.00	0.00
3,700.00	9.44	106.36	3,666.43	-119.46	406.85	143.89	0.00	0.00	0.00
3,800.00	9.44	106.36	3,765.07	-124.08	422.59	149.45	0.00	0.00	0.00
3,888.12	9.44	106.36	3,852.00	-128.15	436.45	154.35	0.00	0.00	0.00
Sussex									
3,900.00	9.44	106.36	3,863.72	-128.70	438.32	155.02	0.00	0.00	0.00
4,000.00	9.44	106.36	3,962.37	-133.32	454.05	160.58	0.00	0.00	0.00
4,100.00	9.44	106.36	4,061.01	-137.93	469.78	166.14	0.00	0.00	0.00
4,200.00	9.44	106.36	4,159.66	-142.55	485.51	171.71	0.00	0.00	0.00
4,300.00	9.44	106.36	4,258.31	-147.17	501.24	177.27	0.00	0.00	0.00
4,400.00	9.44	106.36	4,356.95	-151.79	516.98	182.83	0.00	0.00	0.00
4,500.00	9.44	106.36	4,455.60	-156.41	532.71	188.40	0.00	0.00	0.00

Survey Report



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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	9.44	106.36	4,554.25	-161.03	548.44	193.96	0.00	0.00	0.00
4,638.27	9.44	106.36	4,592.00	-162.80	554.46	196.09	0.00	0.00	0.00
Shannon									
4,700.00	9.44	106.36	4,652.89	-165.65	564.17	199.53	0.00	0.00	0.00
4,800.00	9.44	106.36	4,751.54	-170.27	579.90	205.09	0.00	0.00	0.00
4,900.00	9.44	106.36	4,850.19	-174.89	595.64	210.65	0.00	0.00	0.00
4,930.95	9.44	106.36	4,880.72	-176.32	600.51	212.38	0.00	0.00	0.00
Start Drop -1.50									
5,000.00	8.40	106.36	4,948.93	-179.33	610.78	216.01	1.50	-1.50	0.00
5,100.00	6.90	106.36	5,048.04	-183.08	623.55	220.53	1.50	-1.50	0.00
5,200.00	5.40	106.36	5,147.46	-186.10	633.83	224.16	1.50	-1.50	0.00
5,300.00	3.90	106.36	5,247.13	-188.39	641.61	226.91	1.50	-1.50	0.00
5,400.00	2.40	106.36	5,346.98	-189.94	646.89	228.78	1.50	-1.50	0.00
5,500.00	0.90	106.36	5,446.93	-190.75	649.65	229.76	1.50	-1.50	0.00
5,560.07	0.00	0.00	5,507.00	-190.88	650.10	229.92	1.50	-1.50	0.00
Start 100.00 hold at 5560.07 MD									
5,600.00	0.00	0.00	5,546.93	-190.88	650.10	229.92	0.00	0.00	0.00
5,660.07	0.00	0.00	5,607.00	-190.88	650.10	229.92	0.00	0.00	0.00
Start Build 10.50									
5,700.00	4.19	180.00	5,646.89	-192.34	650.10	231.37	10.50	10.50	0.00
5,750.00	9.44	180.00	5,696.52	-198.27	650.10	237.30	10.50	10.50	0.00
5,800.00	14.69	180.00	5,745.40	-208.72	650.10	247.73	10.50	10.50	0.00
5,850.00	19.94	180.00	5,793.12	-223.60	650.10	262.58	10.50	10.50	0.00
5,900.00	25.19	180.00	5,839.27	-242.78	650.10	281.72	10.50	10.50	0.00
5,950.00	30.44	180.00	5,883.48	-266.11	650.10	305.01	10.50	10.50	0.00
6,000.00	35.69	180.00	5,925.37	-293.38	650.10	332.23	10.50	10.50	0.00
6,020.77	37.87	180.00	5,942.00	-305.82	650.10	344.64	10.50	10.50	0.00
Sharon Springs Shale									
6,050.00	40.94	180.00	5,964.58	-324.37	650.10	363.16	10.50	10.50	0.00
6,100.00	46.19	180.00	6,000.80	-358.82	650.10	397.55	10.50	10.50	0.00
6,131.60	49.51	180.00	6,022.00	-382.24	650.10	420.93	10.50	10.50	0.00
Niobrara Formation									
6,147.27	51.16	180.00	6,032.00	-394.30	650.10	432.97	10.50	10.50	0.00
Niobrara A Chalk									
6,150.00	51.44	180.00	6,033.71	-396.44	650.10	435.09	10.50	10.50	0.00
6,180.43	54.64	180.00	6,052.00	-420.75	650.10	459.36	10.50	10.50	0.00
Niobrara A Landing Point									
6,200.00	56.69	180.00	6,063.04	-436.91	650.10	475.49	10.50	10.50	0.00
6,250.00	61.94	180.00	6,088.54	-479.89	650.10	518.40	10.50	10.50	0.00
6,300.00	67.19	180.00	6,110.01	-525.03	650.10	563.45	10.50	10.50	0.00
6,333.38	70.70	180.00	6,122.00	-556.18	650.10	594.54	10.50	10.50	0.00
Niobrara B Chalk									
6,350.00	72.44	180.00	6,127.25	-571.94	650.10	610.28	10.50	10.50	0.00
6,400.00	77.69	180.00	6,140.13	-620.24	650.10	658.49	10.50	10.50	0.00

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6,450.00	82.94	180.00	6,148.54	-669.51	650.10	707.67	10.50	10.50	0.00
6,490.09	87.15	180.00	6,152.00	-709.44	650.10	747.52	10.50	10.50	0.00
Niobrara B Landing Point									
6,500.00	88.19	180.00	6,152.40	-719.34	650.10	757.41	10.50	10.50	0.00
6,517.21	90.00	180.00	6,152.67	-736.55	650.10	774.59	10.50	10.50	0.00
Start DLS 0.00 TFO -83.98									
6,542.54	90.00	180.00	6,152.67	-761.88	650.10	799.87	0.00	0.00	0.00
BPI WADE 8-59 20A-29-32-3									
6,600.00	90.00	180.00	6,152.67	-819.34	650.11	857.22	0.00	0.00	0.00
6,700.00	90.00	180.00	6,152.67	-919.34	650.11	957.04	0.00	0.00	0.00
6,800.00	90.00	180.00	6,152.67	-1,019.34	650.11	1,056.85	0.00	0.00	0.00
6,900.00	90.00	180.00	6,152.67	-1,119.34	650.11	1,156.67	0.00	0.00	0.00
7,000.00	90.00	180.00	6,152.67	-1,219.34	650.12	1,256.49	0.00	0.00	0.00
7,100.00	90.00	180.00	6,152.67	-1,319.34	650.13	1,356.30	0.00	0.00	0.00
7,200.00	90.00	179.99	6,152.67	-1,419.34	650.13	1,456.12	0.00	0.00	0.00
7,300.00	90.00	179.99	6,152.67	-1,519.34	650.14	1,555.94	0.00	0.00	0.00
7,400.00	90.00	179.99	6,152.67	-1,619.34	650.15	1,655.75	0.00	0.00	0.00
7,500.00	90.00	179.99	6,152.67	-1,719.34	650.17	1,755.57	0.00	0.00	0.00
7,600.00	90.00	179.99	6,152.67	-1,819.34	650.18	1,855.39	0.00	0.00	0.00
7,700.00	90.00	179.99	6,152.66	-1,919.34	650.19	1,955.21	0.00	0.00	0.00
7,800.00	90.00	179.99	6,152.66	-2,019.34	650.21	2,055.02	0.00	0.00	0.00
7,900.00	90.00	179.99	6,152.66	-2,119.34	650.23	2,154.84	0.00	0.00	0.00
8,000.00	90.00	179.99	6,152.66	-2,219.34	650.25	2,254.66	0.00	0.00	0.00
8,100.00	90.00	179.99	6,152.66	-2,319.34	650.27	2,354.48	0.00	0.00	0.00
8,200.00	90.00	179.99	6,152.66	-2,419.34	650.29	2,454.29	0.00	0.00	0.00
8,300.00	90.00	179.99	6,152.65	-2,519.34	650.31	2,554.11	0.00	0.00	0.00
8,400.00	90.00	179.99	6,152.65	-2,619.34	650.33	2,653.93	0.00	0.00	0.00
8,500.00	90.00	179.99	6,152.65	-2,719.34	650.36	2,753.75	0.00	0.00	0.00
8,600.00	90.00	179.98	6,152.64	-2,819.34	650.38	2,853.56	0.00	0.00	0.00
8,700.00	90.00	179.98	6,152.64	-2,919.34	650.41	2,953.38	0.00	0.00	0.00
8,800.00	90.00	179.98	6,152.64	-3,019.34	650.44	3,053.20	0.00	0.00	0.00
8,900.00	90.00	179.98	6,152.64	-3,119.34	650.47	3,153.02	0.00	0.00	0.00
9,000.00	90.00	179.98	6,152.63	-3,219.34	650.50	3,252.84	0.00	0.00	0.00
9,100.00	90.00	179.98	6,152.63	-3,319.34	650.53	3,352.65	0.00	0.00	0.00
9,200.00	90.00	179.98	6,152.63	-3,419.34	650.57	3,452.47	0.00	0.00	0.00
9,300.00	90.00	179.98	6,152.62	-3,519.34	650.60	3,552.29	0.00	0.00	0.00
9,400.00	90.00	179.98	6,152.62	-3,619.34	650.64	3,652.11	0.00	0.00	0.00
9,500.00	90.00	179.98	6,152.61	-3,719.34	650.68	3,751.93	0.00	0.00	0.00
9,600.00	90.00	179.98	6,152.61	-3,819.34	650.71	3,851.75	0.00	0.00	0.00
9,700.00	90.00	179.98	6,152.61	-3,919.34	650.75	3,951.57	0.00	0.00	0.00
9,800.00	90.00	179.98	6,152.60	-4,019.34	650.80	4,051.38	0.00	0.00	0.00
9,900.00	90.00	179.98	6,152.60	-4,119.34	650.84	4,151.20	0.00	0.00	0.00
10,000.00	90.00	179.97	6,152.59	-4,219.34	650.88	4,251.02	0.00	0.00	0.00
10,100.00	90.00	179.97	6,152.59	-4,319.34	650.93	4,350.84	0.00	0.00	0.00

Survey Report



Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well WADE 8-59 20A-29-32-3
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4894.70usft
Site:	WADE 8-59 20A	MD Reference:	KB 25 @ 4894.70usft
Well:	WADE 8-59 20A-29-32-3	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM

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)
10,200.00	90.00	179.97	6,152.58	-4,419.34	650.97	4,450.66	0.00	0.00	0.00
10,300.00	90.00	179.97	6,152.58	-4,519.34	651.02	4,550.48	0.00	0.00	0.00
10,400.00	90.00	179.97	6,152.57	-4,619.34	651.07	4,650.30	0.00	0.00	0.00
10,500.00	90.00	179.97	6,152.57	-4,719.34	651.12	4,750.12	0.00	0.00	0.00
10,600.00	90.00	179.97	6,152.56	-4,819.34	651.17	4,849.94	0.00	0.00	0.00
10,700.00	90.00	179.97	6,152.56	-4,919.34	651.23	4,949.76	0.00	0.00	0.00
10,800.00	90.00	179.97	6,152.55	-5,019.34	651.28	5,049.58	0.00	0.00	0.00
10,900.00	90.00	179.97	6,152.54	-5,119.34	651.34	5,149.40	0.00	0.00	0.00
11,000.00	90.00	179.97	6,152.54	-5,219.34	651.39	5,249.22	0.00	0.00	0.00
11,100.00	90.00	179.97	6,152.53	-5,319.34	651.45	5,349.04	0.00	0.00	0.00
11,200.00	90.00	179.97	6,152.53	-5,419.34	651.51	5,448.86	0.00	0.00	0.00
11,300.00	90.00	179.96	6,152.52	-5,519.34	651.57	5,548.68	0.00	0.00	0.00
11,400.00	90.00	179.96	6,152.51	-5,619.34	651.63	5,648.50	0.00	0.00	0.00
11,500.00	90.00	179.96	6,152.51	-5,719.34	651.70	5,748.32	0.00	0.00	0.00
11,600.00	90.00	179.96	6,152.50	-5,819.34	651.76	5,848.14	0.00	0.00	0.00
11,700.00	90.00	179.96	6,152.49	-5,919.34	651.83	5,947.96	0.00	0.00	0.00
11,800.00	90.00	179.96	6,152.49	-6,019.34	651.89	6,047.78	0.00	0.00	0.00
11,900.00	90.00	179.96	6,152.48	-6,119.34	651.96	6,147.60	0.00	0.00	0.00
12,000.00	90.00	179.96	6,152.47	-6,219.34	652.03	6,247.42	0.00	0.00	0.00
12,100.00	90.00	179.96	6,152.46	-6,319.34	652.10	6,347.24	0.00	0.00	0.00
12,200.00	90.00	179.96	6,152.46	-6,419.34	652.18	6,447.06	0.00	0.00	0.00
12,300.00	90.00	179.96	6,152.45	-6,519.34	652.25	6,546.88	0.00	0.00	0.00
12,400.00	90.00	179.96	6,152.44	-6,619.34	652.32	6,646.70	0.00	0.00	0.00
12,500.00	90.00	179.96	6,152.43	-6,719.34	652.40	6,746.52	0.00	0.00	0.00
12,600.00	90.00	179.96	6,152.42	-6,819.34	652.48	6,846.34	0.00	0.00	0.00
12,700.00	90.00	179.95	6,152.42	-6,919.34	652.56	6,946.16	0.00	0.00	0.00
12,800.00	90.00	179.95	6,152.41	-7,019.34	652.64	7,045.98	0.00	0.00	0.00
12,900.00	90.00	179.95	6,152.40	-7,119.34	652.72	7,145.81	0.00	0.00	0.00
13,000.00	90.01	179.95	6,152.39	-7,219.34	652.80	7,245.63	0.00	0.00	0.00
13,100.00	90.01	179.95	6,152.38	-7,319.34	652.88	7,345.45	0.00	0.00	0.00
13,200.00	90.01	179.95	6,152.37	-7,419.34	652.97	7,445.27	0.00	0.00	0.00
13,300.00	90.01	179.95	6,152.36	-7,519.34	653.06	7,545.09	0.00	0.00	0.00
13,400.00	90.01	179.95	6,152.35	-7,619.34	653.14	7,644.91	0.00	0.00	0.00
13,500.00	90.01	179.95	6,152.34	-7,719.34	653.23	7,744.73	0.00	0.00	0.00
13,600.00	90.01	179.95	6,152.33	-7,819.34	653.32	7,844.56	0.00	0.00	0.00
13,700.00	90.01	179.95	6,152.33	-7,919.34	653.41	7,944.38	0.00	0.00	0.00
13,800.00	90.01	179.95	6,152.32	-8,019.34	653.51	8,044.20	0.00	0.00	0.00
13,900.00	90.01	179.95	6,152.31	-8,119.34	653.60	8,144.02	0.00	0.00	0.00
14,000.00	90.01	179.95	6,152.30	-8,219.34	653.70	8,243.84	0.00	0.00	0.00
14,100.00	90.01	179.94	6,152.29	-8,319.34	653.79	8,343.67	0.00	0.00	0.00
14,200.00	90.01	179.94	6,152.27	-8,419.34	653.89	8,443.49	0.00	0.00	0.00
14,300.00	90.01	179.94	6,152.26	-8,519.34	653.99	8,543.31	0.00	0.00	0.00
14,400.00	90.01	179.94	6,152.25	-8,619.34	654.09	8,643.13	0.00	0.00	0.00
14,500.00	90.01	179.94	6,152.24	-8,719.34	654.19	8,742.96	0.00	0.00	0.00

Survey Report



Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well WADE 8-59 20A-29-32-3
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4894.70usft
Site:	WADE 8-59 20A	MD Reference:	KB 25 @ 4894.70usft
Well:	WADE 8-59 20A-29-32-3	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM

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)
14,600.00	90.01	179.94	6,152.23	-8,819.34	654.30	8,842.78	0.00	0.00	0.00
14,700.00	90.01	179.94	6,152.22	-8,919.34	654.40	8,942.60	0.00	0.00	0.00
14,800.00	90.01	179.94	6,152.21	-9,019.34	654.51	9,042.42	0.00	0.00	0.00
14,900.00	90.01	179.94	6,152.20	-9,119.34	654.61	9,142.25	0.00	0.00	0.00
15,000.00	90.01	179.94	6,152.19	-9,219.34	654.72	9,242.07	0.00	0.00	0.00
15,100.00	90.01	179.94	6,152.18	-9,319.34	654.83	9,341.89	0.00	0.00	0.00
15,200.00	90.01	179.94	6,152.16	-9,419.34	654.94	9,441.71	0.00	0.00	0.00
15,300.00	90.01	179.94	6,152.15	-9,519.34	655.05	9,541.54	0.00	0.00	0.00
15,400.00	90.01	179.93	6,152.14	-9,619.34	655.17	9,641.36	0.00	0.00	0.00
15,500.00	90.01	179.93	6,152.13	-9,719.34	655.28	9,741.18	0.00	0.00	0.00
15,600.00	90.01	179.93	6,152.12	-9,819.34	655.40	9,841.01	0.00	0.00	0.00
15,700.00	90.01	179.93	6,152.10	-9,919.34	655.51	9,940.83	0.00	0.00	0.00
15,800.00	90.01	179.93	6,152.09	-10,019.34	655.63	10,040.65	0.00	0.00	0.00
15,900.00	90.01	179.93	6,152.08	-10,119.34	655.75	10,140.48	0.00	0.00	0.00
16,000.00	90.01	179.93	6,152.07	-10,219.34	655.87	10,240.30	0.00	0.00	0.00
16,100.00	90.01	179.93	6,152.05	-10,319.34	656.00	10,340.12	0.00	0.00	0.00
16,200.00	90.01	179.93	6,152.04	-10,419.34	656.12	10,439.95	0.00	0.00	0.00
16,300.00	90.01	179.93	6,152.03	-10,519.34	656.24	10,539.77	0.00	0.00	0.00
16,400.00	90.01	179.93	6,152.01	-10,619.34	656.37	10,639.60	0.00	0.00	0.00
16,498.83	90.01	179.93	6,152.00	-10,718.17	656.50	10,738.25	0.00	0.00	0.00
Start 99.81 hold at 16498.83 MD - EPI WADE 8-59 20A-29-32-3									
16,500.00	90.01	179.93	6,152.00	-10,719.34	656.50	10,739.42	0.06	0.01	-0.06
16,598.64	90.01	179.93	6,151.99	-10,817.97	656.62	10,837.88	0.00	0.00	0.00
TD at 16598.63 - BHL WADE 8-59 20A-29-32-3									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
EPI WADE 8-59 20A-:	0.00	0.00	6,152.00	-10,718.17	656.50	1,469,382.22	3,414,516.00	40° 36' 44.179 N	104° 0' 24.919 W
- plan hits target center									
- Point									
BPI WADE 8-59 20A-:	0.00	0.00	6,152.00	-761.88	650.10	1,479,338.51	3,414,509.61	40° 38' 22.549 N	104° 0' 22.828 W
- plan misses target center by 0.67usft at 6542.54usft MD (6152.67 TVD, -761.88 N, 650.10 E)									
- Point									
BHL WADE 8-59 20A-:	0.00	0.00	6,152.00	-10,818.01	655.96	1,469,282.38	3,414,515.46	40° 36' 43.193 N	104° 0' 24.948 W
- plan misses target center by 0.67usft at 16598.63usft MD (6151.99 TVD, -10817.97 N, 656.62 E)									
- Point									

Survey Report



Company:	Bison Oil & Gas II, LLC	Local Co-ordinate Reference:	Well WADE 8-59 20A-29-32-3
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB 25 @ 4894.70usft
Site:	WADE 8-59 20A	MD Reference:	KB 25 @ 4894.70usft
Well:	WADE 8-59 20A-29-32-3	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
410.00	410.00	Pierre Shale (Base of Fox Hills)			
3,158.24	3,132.00	Parkman			
3,888.12	3,852.00	Sussex			
4,638.27	4,592.00	Shannon			
6,020.77	5,942.00	Sharon Springs Shale			
6,131.60	6,022.00	Niobrara Formation			
6,147.27	6,032.00	Niobrara A Chalk			
6,180.43	6,052.00	Niobrara A Landing Point			
6,333.38	6,122.00	Niobrara B Chalk			
6,490.09	6,152.00	Niobrara B Landing Point			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
800	800	0	0	Start Build 1.50
1429	1426	-15	50	Start 3501.82 hold at 1429.13 MD
4931	4881	-176	601	Start Drop -1.50
5560	5507	-191	650	Start 100.00 hold at 5560.07 MD
5660	5607	-191	650	Start Build 10.50
6517	6153	-737	650	Start DLS 0.00 TFO -83.98
16,499	6152	-10,718	656	Start 99.81 hold at 16498.83 MD
16,599	6152	-10,818	657	TD at 16598.63

Checked By: _____ Approved By: _____ Date: _____