

# **Bison Oil & Gas II, LLC**

**WELD COUNTY, COLORADO (NAD 83)**

**HUNT 8-60 17B**

**HUNT FED 8-60 17B-20-2**

**Wellbore #1**

**Plan: Design #1**

## **Standard Survey Report**

**05 May, 2020**





Project: WELD COUNTY, COLORADO (NAD 83)  
Site: HUNT 8-60 17B  
Well: HUNT FED 8-60 17B-20-2  
Wellbore: Wellbore #1  
Design: Design #1



Azimuths to True North  
Magnetic North: 8.69°  
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
863.64	0.95	190.13	863.63	-0.52	-0.09	0.52	0.53	Start 4858.40 hold at 863.64 MD
5722.04	0.95	190.13	5721.37	-80.20	-14.33	80.46	81.47	Start Drop -1.50
5785.68	0.00	0.00	5785.00	-80.72	-14.43	80.98	82.00	Start 100.00 hold at 5785.68 MD
5885.68	0.00	0.00	5885.00	-80.72	-14.43	80.98	82.00	Start Build 11.49
6668.65	90.00	180.00	6383.45	-579.17	-14.43	579.34	580.45	Start DLS 0.03 TFO 89.81
14008.18	90.01	182.11	6383.00	-7917.04	-149.86	7918.46	7919.99	Start 100.00 hold at 14008.18 MD
14108.04	90.01	182.11	6382.99	-8016.83	-153.55	8018.30	8019.84	TD at 14108.18

#### PROPOSED LOCAL COORDINATES:

SHL: 2364 ft FNL & 2447 ft FEL Sec 17

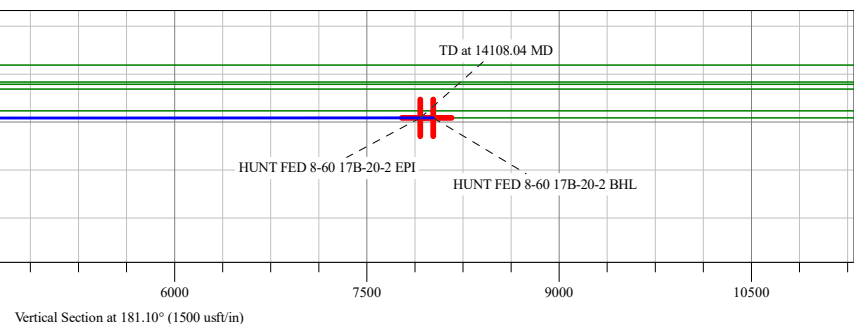
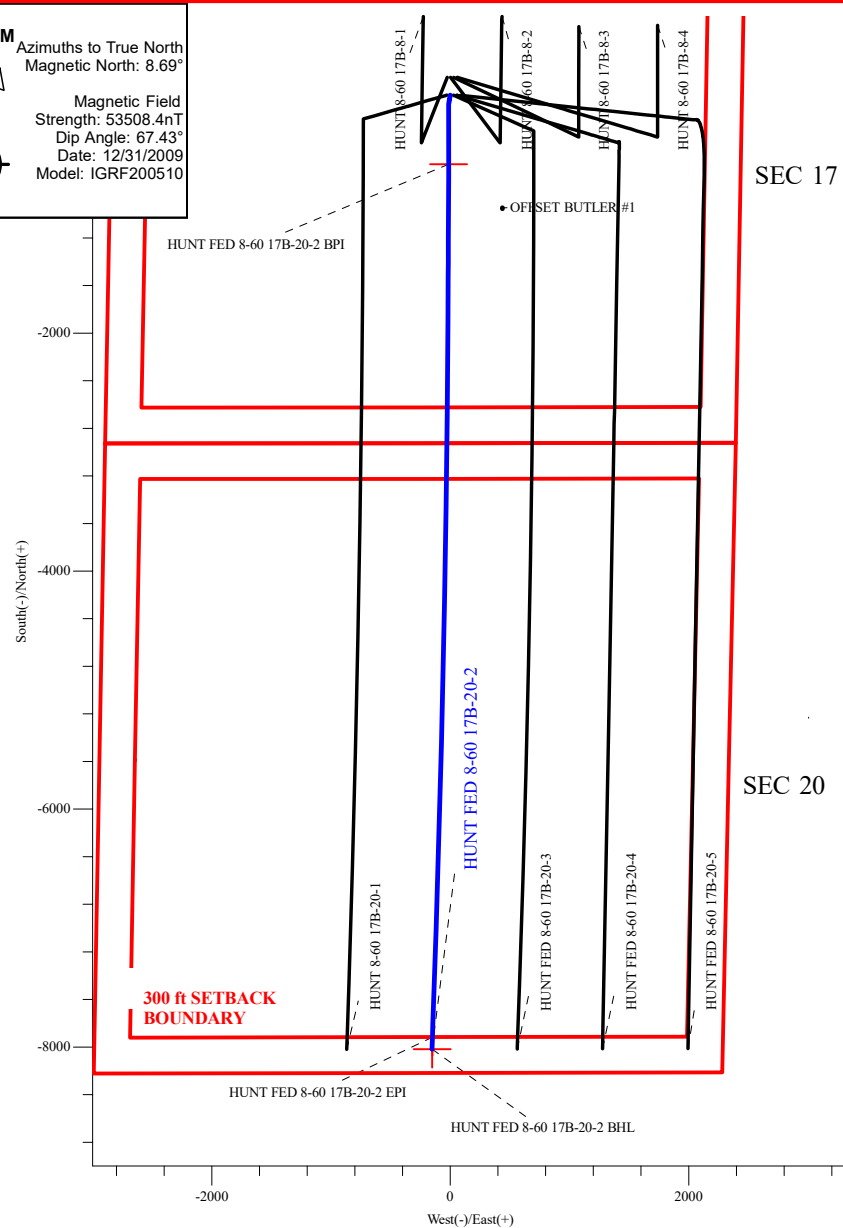
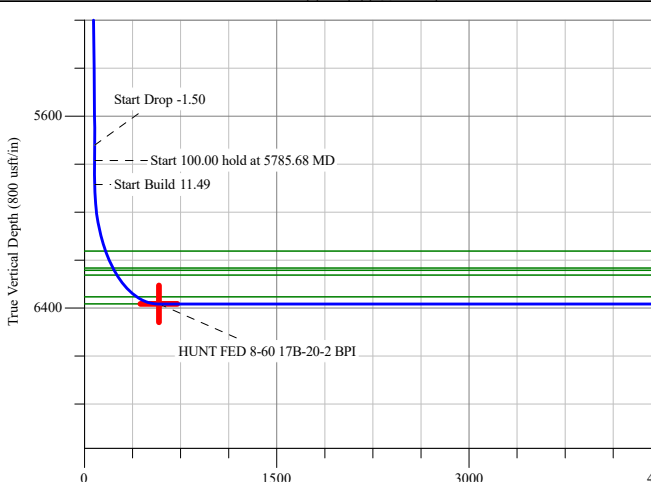
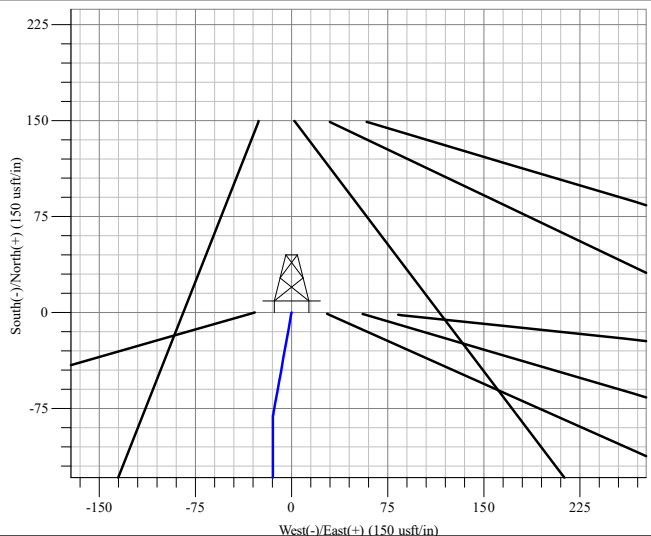
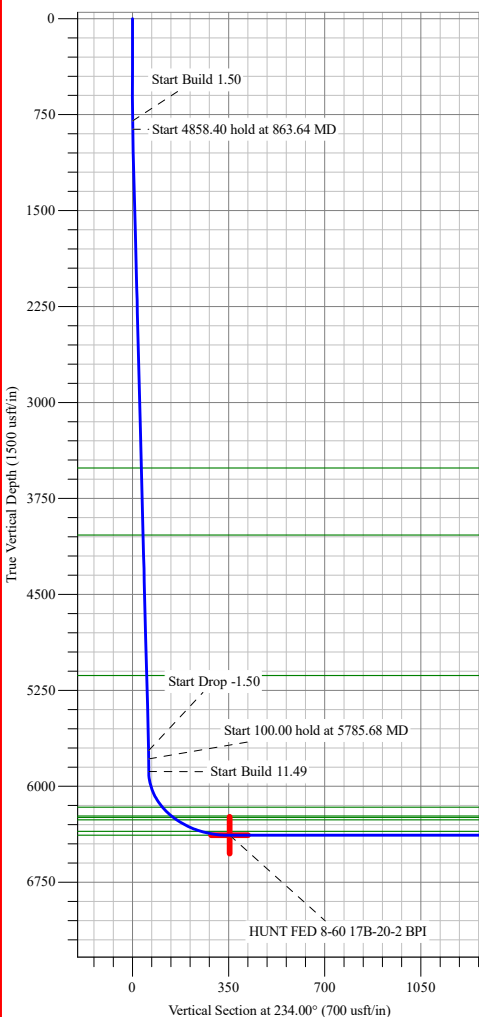
BPI: 2346 ft FSL & 2451 ft FEL Sec 17

EPI: 300 ft FSL & 2437 ft FEL Sec 20

BHL: 200 ft FSL & 2437 ft FEL Sec 20

#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
HUNT FED 8-60 17B-20-2 BPI	6383.00	-580.72	-14.43	1486821.50	3384343.79	40° 39' 41.321 N 104° 6' 52.567 W	
HUNT FED 8-60 17B-20-2 EPI	6383.00	-7917.04	-149.86	1479483.96	3384323.00	40° 38' 28.828 N 104° 6' 54.324 W	
HUNT FED 8-60 17B-20-2 BHL	6383.00	-8016.86	-151.80	1479384.12	3384322.61	40° 38' 27.841 N 104° 6' 54.349 W	Point



## Survey Report



<b>Company:</b>	Bison Oil & Gas II, LLC	<b>Local Co-ordinate Reference:</b>	Well HUNT FED 8-60 17B-20-2
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	GL @ 4938.10usft
<b>Site:</b>	HUNT 8-60 17B	<b>MD Reference:</b>	GL @ 4938.10usft
<b>Well:</b>	HUNT FED 8-60 17B-20-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	EDM

<b>Project</b>	WELD COUNTY, COLORADO (NAD 83),		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

<b>Site</b>	HUNT 8-60 17B		
<b>Site Position:</b>		<b>Northing:</b>	1,488,068.40 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,416,121.97 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40° 39' 48.532 N
		<b>Longitude:</b>	104° 0' 0.000 W
		<b>Grid Convergence:</b>	0.97 °

<b>Well</b>	HUNT FED 8-60 17B-20-2		
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b> 1,487,402.38 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b> 3,384,349.14 usft
<b>Position Uncertainty</b>	0.00 usft	<b>Wellhead Elevation:</b>	usft
		<b>Latitude:</b>	40° 39' 47.059 N
		<b>Longitude:</b>	104° 6' 52.380 W
		<b>Ground Level:</b>	4,938.10 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	8.69	67.43	53,508.39002423

<b>Design</b>	Design #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	181.10	

<b>Survey Tool Program</b>	<b>Date</b>	4/29/2020			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	14,108.04	Design #1 (Wellbore #1)	MWD	Fixed:v2:standard declination	

<b>Planned Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
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	
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	
<b>Start Build 1.50</b>										
863.64	0.95	190.13	863.63	-0.52	-0.09	0.52	1.50	1.50	0.00	

## Survey Report



<b>Company:</b>	Bison Oil & Gas II, LLC	<b>Local Co-ordinate Reference:</b>	Well HUNT FED 8-60 17B-20-2
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	GL @ 4938.10usft
<b>Site:</b>	HUNT 8-60 17B	<b>MD Reference:</b>	GL @ 4938.10usft
<b>Well:</b>	HUNT FED 8-60 17B-20-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
<b>Start 4858.40 hold at 863.64 MD</b>									
900.00	0.95	190.13	899.99	-1.12	-0.20	1.12	0.00	0.00	0.00
1,000.00	0.95	190.13	999.98	-2.76	-0.49	2.77	0.00	0.00	0.00
1,100.00	0.95	190.13	1,099.96	-4.40	-0.79	4.41	0.00	0.00	0.00
1,200.00	0.95	190.13	1,199.95	-6.04	-1.08	6.06	0.00	0.00	0.00
1,300.00	0.95	190.13	1,299.94	-7.68	-1.37	7.70	0.00	0.00	0.00
1,400.00	0.95	190.13	1,399.92	-9.32	-1.67	9.35	0.00	0.00	0.00
1,500.00	0.95	190.13	1,499.91	-10.96	-1.96	10.99	0.00	0.00	0.00
1,600.00	0.95	190.13	1,599.89	-12.60	-2.25	12.64	0.00	0.00	0.00
1,700.00	0.95	190.13	1,699.88	-14.24	-2.54	14.28	0.00	0.00	0.00
1,800.00	0.95	190.13	1,799.87	-15.88	-2.84	15.93	0.00	0.00	0.00
1,900.00	0.95	190.13	1,899.85	-17.52	-3.13	17.57	0.00	0.00	0.00
2,000.00	0.95	190.13	1,999.84	-19.16	-3.42	19.22	0.00	0.00	0.00
2,100.00	0.95	190.13	2,099.83	-20.80	-3.72	20.87	0.00	0.00	0.00
2,200.00	0.95	190.13	2,199.81	-22.44	-4.01	22.51	0.00	0.00	0.00
2,300.00	0.95	190.13	2,299.80	-24.08	-4.30	24.16	0.00	0.00	0.00
2,400.00	0.95	190.13	2,399.78	-25.72	-4.60	25.80	0.00	0.00	0.00
2,500.00	0.95	190.13	2,499.77	-27.36	-4.89	27.45	0.00	0.00	0.00
2,600.00	0.95	190.13	2,599.76	-29.00	-5.18	29.09	0.00	0.00	0.00
2,700.00	0.95	190.13	2,699.74	-30.64	-5.48	30.74	0.00	0.00	0.00
2,800.00	0.95	190.13	2,799.73	-32.28	-5.77	32.38	0.00	0.00	0.00
2,900.00	0.95	190.13	2,899.71	-33.92	-6.06	34.03	0.00	0.00	0.00
3,000.00	0.95	190.13	2,999.70	-35.56	-6.36	35.67	0.00	0.00	0.00
3,100.00	0.95	190.13	3,099.69	-37.20	-6.65	37.32	0.00	0.00	0.00
3,200.00	0.95	190.13	3,199.67	-38.84	-6.94	38.96	0.00	0.00	0.00
3,300.00	0.95	190.13	3,299.66	-40.48	-7.23	40.61	0.00	0.00	0.00
3,400.00	0.95	190.13	3,399.65	-42.12	-7.53	42.25	0.00	0.00	0.00
3,500.00	0.95	190.13	3,499.63	-43.76	-7.82	43.90	0.00	0.00	0.00
3,511.37	0.95	190.13	3,511.00	-43.94	-7.85	44.09	0.00	0.00	0.00
<b>Parkman</b>									
3,600.00	0.95	190.13	3,599.62	-45.40	-8.11	45.54	0.00	0.00	0.00
3,700.00	0.95	190.13	3,699.60	-47.04	-8.41	47.19	0.00	0.00	0.00
3,800.00	0.95	190.13	3,799.59	-48.68	-8.70	48.83	0.00	0.00	0.00
3,900.00	0.95	190.13	3,899.58	-50.32	-8.99	50.48	0.00	0.00	0.00
4,000.00	0.95	190.13	3,999.56	-51.96	-9.29	52.13	0.00	0.00	0.00
4,036.44	0.95	190.13	4,036.00	-52.55	-9.39	52.73	0.00	0.00	0.00
<b>Sussex</b>									
4,100.00	0.95	190.13	4,099.55	-53.60	-9.58	53.77	0.00	0.00	0.00
4,200.00	0.95	190.13	4,199.53	-55.24	-9.87	55.42	0.00	0.00	0.00
4,300.00	0.95	190.13	4,299.52	-56.88	-10.17	57.06	0.00	0.00	0.00
4,400.00	0.95	190.13	4,399.51	-58.52	-10.46	58.71	0.00	0.00	0.00
4,500.00	0.95	190.13	4,499.49	-60.16	-10.75	60.35	0.00	0.00	0.00
4,600.00	0.95	190.13	4,599.48	-61.80	-11.04	62.00	0.00	0.00	0.00

## Survey Report



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<b>Site:</b>	HUNT 8-60 17B	<b>MD Reference:</b>	GL @ 4938.10usft
<b>Well:</b>	HUNT FED 8-60 17B-20-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
4,700.00	0.95	190.13	4,699.46	-63.44	-11.34	63.64	0.00	0.00	0.00
4,800.00	0.95	190.13	4,799.45	-65.08	-11.63	65.29	0.00	0.00	0.00
4,900.00	0.95	190.13	4,899.44	-66.72	-11.92	66.93	0.00	0.00	0.00
5,000.00	0.95	190.13	4,999.42	-68.36	-12.22	68.58	0.00	0.00	0.00
5,100.00	0.95	190.13	5,099.41	-70.00	-12.51	70.22	0.00	0.00	0.00
5,134.60	0.95	190.13	5,134.00	-70.56	-12.61	70.79	0.00	0.00	0.00
<b>Shannon</b>									
5,200.00	0.95	190.13	5,199.40	-71.64	-12.80	71.87	0.00	0.00	0.00
5,300.00	0.95	190.13	5,299.38	-73.28	-13.10	73.51	0.00	0.00	0.00
5,400.00	0.95	190.13	5,399.37	-74.92	-13.39	75.16	0.00	0.00	0.00
5,500.00	0.95	190.13	5,499.35	-76.56	-13.68	76.80	0.00	0.00	0.00
5,600.00	0.95	190.13	5,599.34	-78.20	-13.98	78.45	0.00	0.00	0.00
5,700.00	0.95	190.13	5,699.33	-79.84	-14.27	80.10	0.00	0.00	0.00
5,722.04	0.95	190.13	5,721.37	-80.20	-14.33	80.46	0.00	0.00	0.00
<b>Start Drop -1.50</b>									
5,785.68	0.00	0.00	5,785.00	-80.72	-14.43	80.98	1.50	-1.50	0.00
<b>Start 100.00 hold at 5785.68 MD</b>									
5,800.00	0.00	0.00	5,799.32	-80.72	-14.43	80.98	0.00	0.00	0.00
5,885.68	0.00	0.00	5,885.00	-80.72	-14.43	80.98	0.00	0.00	0.00
<b>Start Build 11.49</b>									
5,900.00	1.65	180.00	5,899.32	-80.93	-14.43	81.19	11.49	11.49	0.00
5,925.00	4.52	180.00	5,924.28	-82.27	-14.43	82.53	11.49	11.49	0.00
5,950.00	7.39	180.00	5,949.14	-84.86	-14.43	85.12	11.49	11.49	0.00
5,975.00	10.27	180.00	5,973.84	-88.70	-14.43	88.96	11.49	11.49	0.00
6,000.00	13.14	180.00	5,998.32	-93.77	-14.43	94.03	11.49	11.49	0.00
6,025.00	16.01	180.00	6,022.51	-100.06	-14.43	100.32	11.49	11.49	0.00
6,050.00	18.89	180.00	6,046.36	-107.56	-14.43	107.82	11.49	11.49	0.00
6,075.00	21.76	180.00	6,069.80	-116.24	-14.43	116.50	11.49	11.49	0.00
6,100.00	24.64	180.00	6,092.78	-126.09	-14.43	126.34	11.49	11.49	0.00
6,125.00	27.51	180.00	6,115.23	-137.08	-14.43	137.33	11.49	11.49	0.00
6,150.00	30.38	180.00	6,137.11	-149.18	-14.43	149.42	11.49	11.49	0.00
6,175.00	33.26	180.00	6,158.35	-162.35	-14.43	162.60	11.49	11.49	0.00
6,180.59	33.90	180.00	6,163.00	-165.44	-14.43	165.69	11.49	11.49	0.00
<b>Sharon Springs Shale</b>									
6,200.00	36.13	180.00	6,178.90	-176.58	-14.43	176.83	11.49	11.49	0.00
6,225.00	39.00	180.00	6,198.71	-191.82	-14.43	192.06	11.49	11.49	0.00
6,250.00	41.88	180.00	6,217.74	-208.04	-14.43	208.28	11.49	11.49	0.00
6,270.90	44.28	180.00	6,233.00	-222.31	-14.43	222.55	11.49	11.49	0.00
<b>Niobrara Formation</b>									
6,275.00	44.75	180.00	6,235.93	-225.19	-14.43	225.42	11.49	11.49	0.00
6,285.06	45.91	180.00	6,243.00	-232.34	-14.43	232.58	11.49	11.49	0.00
<b>Niobrara A Chalk</b>									
6,300.00	47.63	180.00	6,253.23	-243.23	-14.43	243.46	11.49	11.49	0.00
6,314.74	49.32	180.00	6,263.00	-254.26	-14.43	254.49	11.49	11.49	0.00
<b>Niobrara A Landing Point</b>									

## Survey Report



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<b>Site:</b>	HUNT 8-60 17B	<b>MD Reference:</b>	GL @ 4938.10usft
<b>Well:</b>	HUNT FED 8-60 17B-20-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
6,325.00	50.50	180.00	6,269.61	-262.11	-14.43	262.34	11.49	11.49	0.00
6,350.00	53.37	180.00	6,285.02	-281.79	-14.43	282.01	11.49	11.49	0.00
6,375.00	56.25	180.00	6,299.43	-302.22	-14.43	302.44	11.49	11.49	0.00
6,400.00	59.12	180.00	6,312.79	-323.34	-14.43	323.56	11.49	11.49	0.00
6,425.00	61.99	180.00	6,325.08	-345.11	-14.43	345.33	11.49	11.49	0.00
6,450.00	64.87	180.00	6,336.26	-367.47	-14.43	367.68	11.49	11.49	0.00
6,475.00	67.74	180.00	6,346.31	-390.36	-14.43	390.56	11.49	11.49	0.00
6,493.51	69.87	180.00	6,353.00	-407.62	-14.43	407.82	11.49	11.49	0.00
<b>Niobrara B Chalk</b>									
6,500.00	70.61	180.00	6,355.19	-413.72	-14.43	413.92	11.49	11.49	0.00
6,525.00	73.49	180.00	6,362.90	-437.51	-14.43	437.70	11.49	11.49	0.00
6,550.00	76.36	180.00	6,369.40	-461.64	-14.43	461.83	11.49	11.49	0.00
6,575.00	79.24	180.00	6,374.68	-486.08	-14.43	486.26	11.49	11.49	0.00
6,600.00	82.11	180.00	6,378.73	-510.74	-14.43	510.92	11.49	11.49	0.00
6,625.00	84.98	180.00	6,381.54	-535.58	-14.43	535.76	11.49	11.49	0.00
6,647.42	87.56	180.00	6,383.00	-557.95	-14.43	558.12	11.49	11.49	0.00
<b>Niobrara B Landing Point</b>									
6,650.00	87.86	180.00	6,383.10	-560.53	-14.43	560.70	11.49	11.49	0.00
6,668.65	90.00	180.00	6,383.45	-579.17	-14.43	579.34	11.49	11.49	0.00
<b>Start DLS 0.03 TFO 89.81</b>									
6,670.20	90.00	180.00	6,383.45	-580.72	-14.43	580.89	0.00	0.00	0.00
<b>HUNT FED 8-60 17B-20-2 BPI</b>									
6,700.00	90.00	180.01	6,383.45	-610.53	-14.43	610.69	0.03	0.00	0.03
6,800.00	90.00	180.04	6,383.45	-710.53	-14.47	710.67	0.03	0.00	0.03
6,900.00	90.00	180.07	6,383.45	-810.53	-14.56	810.66	0.03	0.00	0.03
7,000.00	90.00	180.10	6,383.45	-910.53	-14.70	910.64	0.03	0.00	0.03
7,100.00	90.00	180.12	6,383.45	-1,010.52	-14.89	1,010.62	0.03	0.00	0.03
7,200.00	90.00	180.15	6,383.45	-1,110.52	-15.14	1,110.61	0.03	0.00	0.03
7,300.00	90.00	180.18	6,383.45	-1,210.52	-15.43	1,210.60	0.03	0.00	0.03
7,400.00	90.00	180.21	6,383.45	-1,310.52	-15.77	1,310.59	0.03	0.00	0.03
7,500.00	90.00	180.24	6,383.45	-1,410.52	-16.16	1,410.57	0.03	0.00	0.03
7,600.00	90.00	180.27	6,383.44	-1,510.52	-16.61	1,510.56	0.03	0.00	0.03
7,700.00	90.00	180.30	6,383.44	-1,610.52	-17.10	1,610.55	0.03	0.00	0.03
7,800.00	90.00	180.33	6,383.44	-1,710.52	-17.65	1,710.54	0.03	0.00	0.03
7,900.00	90.00	180.35	6,383.44	-1,810.52	-18.24	1,810.53	0.03	0.00	0.03
8,000.00	90.00	180.38	6,383.44	-1,910.52	-18.88	1,910.53	0.03	0.00	0.03
8,100.00	90.00	180.41	6,383.43	-2,010.51	-19.58	2,010.52	0.03	0.00	0.03
8,200.00	90.00	180.44	6,383.43	-2,110.51	-20.32	2,110.51	0.03	0.00	0.03
8,300.00	90.00	180.47	6,383.43	-2,210.51	-21.12	2,210.51	0.03	0.00	0.03
8,400.00	90.00	180.50	6,383.43	-2,310.50	-21.96	2,310.50	0.03	0.00	0.03
8,500.00	90.00	180.53	6,383.42	-2,410.50	-22.86	2,410.50	0.03	0.00	0.03
8,600.00	90.00	180.56	6,383.42	-2,510.49	-23.81	2,510.49	0.03	0.00	0.03
8,700.00	90.00	180.59	6,383.42	-2,610.49	-24.80	2,610.49	0.03	0.00	0.03
8,800.00	90.00	180.61	6,383.41	-2,710.48	-25.85	2,710.48	0.03	0.00	0.03

## Survey Report



<b>Company:</b>	Bison Oil & Gas II, LLC	<b>Local Co-ordinate Reference:</b>	Well HUNT FED 8-60 17B-20-2
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	GL @ 4938.10usft
<b>Site:</b>	HUNT 8-60 17B	<b>MD Reference:</b>	GL @ 4938.10usft
<b>Well:</b>	HUNT FED 8-60 17B-20-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
8,900.00	90.00	180.64	6,383.41	-2,810.48	-26.95	2,810.48	0.03	0.00	0.03
9,000.00	90.00	180.67	6,383.41	-2,910.47	-28.09	2,910.48	0.03	0.00	0.03
9,100.00	90.00	180.70	6,383.40	-3,010.46	-29.29	3,010.47	0.03	0.00	0.03
9,200.00	90.00	180.73	6,383.40	-3,110.46	-30.54	3,110.47	0.03	0.00	0.03
9,300.00	90.00	180.76	6,383.39	-3,210.45	-31.84	3,210.47	0.03	0.00	0.03
9,400.00	90.00	180.79	6,383.39	-3,310.44	-33.18	3,310.47	0.03	0.00	0.03
9,500.00	90.00	180.82	6,383.38	-3,410.43	-34.58	3,410.47	0.03	0.00	0.03
9,600.00	90.00	180.84	6,383.38	-3,510.42	-36.03	3,510.47	0.03	0.00	0.03
9,700.00	90.00	180.87	6,383.38	-3,610.41	-37.53	3,610.46	0.03	0.00	0.03
9,800.00	90.00	180.90	6,383.37	-3,710.40	-39.08	3,710.46	0.03	0.00	0.03
9,900.00	90.00	180.93	6,383.36	-3,810.38	-40.68	3,810.46	0.03	0.00	0.03
10,000.00	90.00	180.96	6,383.36	-3,910.37	-42.33	3,910.46	0.03	0.00	0.03
10,100.00	90.00	180.99	6,383.35	-4,010.36	-44.03	4,010.46	0.03	0.00	0.03
10,200.00	90.00	181.02	6,383.35	-4,110.34	-45.78	4,110.46	0.03	0.00	0.03
10,300.00	90.00	181.05	6,383.34	-4,210.32	-47.58	4,210.46	0.03	0.00	0.03
10,400.00	90.00	181.08	6,383.34	-4,310.31	-49.43	4,310.46	0.03	0.00	0.03
10,500.00	90.00	181.10	6,383.33	-4,410.29	-51.34	4,410.46	0.03	0.00	0.03
10,600.00	90.00	181.13	6,383.32	-4,510.27	-53.29	4,510.46	0.03	0.00	0.03
10,700.00	90.00	181.16	6,383.32	-4,610.25	-55.29	4,610.46	0.03	0.00	0.03
10,800.00	90.00	181.19	6,383.31	-4,710.23	-57.34	4,710.46	0.03	0.00	0.03
10,900.00	90.00	181.22	6,383.30	-4,810.21	-59.44	4,810.46	0.03	0.00	0.03
11,000.00	90.00	181.25	6,383.29	-4,910.18	-61.60	4,910.46	0.03	0.00	0.03
11,100.00	90.00	181.28	6,383.29	-5,010.16	-63.80	5,010.46	0.03	0.00	0.03
11,200.00	90.00	181.31	6,383.28	-5,110.13	-66.05	5,110.46	0.03	0.00	0.03
11,300.00	90.00	181.33	6,383.27	-5,210.11	-68.36	5,210.46	0.03	0.00	0.03
11,400.00	90.00	181.36	6,383.26	-5,310.08	-70.71	5,310.46	0.03	0.00	0.03
11,500.00	90.00	181.39	6,383.26	-5,410.05	-73.12	5,410.46	0.03	0.00	0.03
11,600.00	90.00	181.42	6,383.25	-5,510.02	-75.57	5,510.46	0.03	0.00	0.03
11,700.00	90.00	181.45	6,383.24	-5,609.99	-78.07	5,610.45	0.03	0.00	0.03
11,800.00	90.00	181.48	6,383.23	-5,709.96	-80.63	5,710.45	0.03	0.00	0.03
11,900.00	90.01	181.51	6,383.22	-5,809.92	-83.24	5,810.45	0.03	0.00	0.03
12,000.00	90.01	181.54	6,383.21	-5,909.89	-85.89	5,910.45	0.03	0.00	0.03
12,100.00	90.01	181.56	6,383.20	-6,009.85	-88.60	6,010.44	0.03	0.00	0.03
12,200.00	90.01	181.59	6,383.20	-6,109.81	-91.35	6,110.44	0.03	0.00	0.03
12,300.00	90.01	181.62	6,383.19	-6,209.77	-94.16	6,210.44	0.03	0.00	0.03
12,400.00	90.01	181.65	6,383.18	-6,309.73	-97.02	6,310.43	0.03	0.00	0.03
12,500.00	90.01	181.68	6,383.17	-6,409.69	-99.92	6,410.43	0.03	0.00	0.03
12,600.00	90.01	181.71	6,383.16	-6,509.65	-102.88	6,510.42	0.03	0.00	0.03
12,700.00	90.01	181.74	6,383.15	-6,609.60	-105.89	6,610.42	0.03	0.00	0.03
12,800.00	90.01	181.77	6,383.14	-6,709.55	-108.95	6,710.41	0.03	0.00	0.03
12,900.00	90.01	181.80	6,383.13	-6,809.51	-112.05	6,810.40	0.03	0.00	0.03
13,000.00	90.01	181.82	6,383.12	-6,909.46	-115.21	6,910.39	0.03	0.00	0.03
13,100.00	90.01	181.85	6,383.11	-7,009.40	-118.42	7,010.39	0.03	0.00	0.03

## Survey Report



<b>Company:</b>	Bison Oil & Gas II, LLC	<b>Local Co-ordinate Reference:</b>	Well HUNT FED 8-60 17B-20-2
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	GL @ 4938.10usft
<b>Site:</b>	HUNT 8-60 17B	<b>MD Reference:</b>	GL @ 4938.10usft
<b>Well:</b>	HUNT FED 8-60 17B-20-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	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)
13,200.00	90.01	181.88	6,383.09	-7,109.35	-121.68	7,110.38	0.03	0.00	0.03
13,300.00	90.01	181.91	6,383.08	-7,209.30	-124.99	7,210.37	0.03	0.00	0.03
13,400.00	90.01	181.94	6,383.07	-7,309.24	-128.35	7,310.36	0.03	0.00	0.03
13,500.00	90.01	181.97	6,383.06	-7,409.18	-131.76	7,410.35	0.03	0.00	0.03
13,600.00	90.01	182.00	6,383.05	-7,509.12	-135.22	7,510.33	0.03	0.00	0.03
13,700.00	90.01	182.03	6,383.04	-7,609.06	-138.73	7,610.32	0.03	0.00	0.03
13,800.00	90.01	182.05	6,383.03	-7,709.00	-142.29	7,710.31	0.03	0.00	0.03
13,900.00	90.01	182.08	6,383.01	-7,808.93	-145.90	7,810.29	0.03	0.00	0.03
14,008.18	90.01	182.11	6,383.00	-7,917.04	-149.86	7,918.46	0.03	0.00	0.03
<b>Start 100.00 hold at 14008.18 MD - HUNT FED 8-60 17B-20-2 EPI</b>									
14,108.01	90.01	182.11	6,382.99	-8,016.80	-153.54	8,018.27	0.00	0.00	0.00
<b>HUNT FED 8-60 17B-20-2 zBHL</b>									
14,108.04	90.01	182.11	6,382.99	-8,016.83	-153.55	8,018.30	0.00	0.00	0.00
<b>TD at 14108.18</b>									

## 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									
HUNT FED 8-60 17B-	0.00	0.00	6,383.00	-8,016.86	-151.80	1,479,384.12	3,384,322.61	40° 38' 27.841 N	104° 6' 54.349 W
- plan misses target center by 1.74usft at 14108.01usft MD (6382.99 TVD, -8016.80 N, -153.54 E)									
- Point									
HUNT FED 8-60 17B-	0.00	0.00	6,383.00	-7,917.04	-149.86	1,479,483.96	3,384,322.99	40° 38' 28.828 N	104° 6' 54.324 W
- plan hits target center									
- Point									
HUNT FED 8-60 17B-	0.00	0.00	6,383.00	-580.72	-14.43	1,486,821.50	3,384,343.79	40° 39' 41.321 N	104° 6' 52.567 W
- plan misses target center by 0.45usft at 6670.20usft MD (6383.45 TVD, -580.72 N, -14.43 E)									
- Point									

## Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,511.37	3,511.00	Parkman			
4,036.44	4,036.00	Sussex			
5,134.60	5,134.00	Shannon			
6,180.59	6,163.00	Sharon Springs Shale			
6,270.90	6,233.00	Niobrara Formation			
6,285.06	6,243.00	Niobrara A Chalk			
6,314.74	6,263.00	Niobrara A Landing Point			
6,493.51	6,353.00	Niobrara B Chalk			
6,647.42	6,383.00	Niobrara B Landing Point			



## Survey Report



<b>Company:</b>	Bison Oil & Gas II, LLC	<b>Local Co-ordinate Reference:</b>	Well HUNT FED 8-60 17B-20-2
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>TVD Reference:</b>	GL @ 4938.10usft
<b>Site:</b>	HUNT 8-60 17B	<b>MD Reference:</b>	GL @ 4938.10usft
<b>Well:</b>	HUNT FED 8-60 17B-20-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #1	<b>Database:</b>	EDM

## 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
864	864	-1	0	Start 4858.40 hold at 863.64 MD
5722	5721	-80	-14	Start Drop -1.50
5786	5785	-81	-14	Start 100.00 hold at 5785.68 MD
5886	5885	-81	-14	Start Build 11.49
6669	6383	-579	-14	Start DLS 0.03 TFO 89.81
14,008	6383	-7917	-150	Start 100.00 hold at 14008.18 MD
14,108	6383	-8017	-154	TD at 14108.18

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_