

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

SW SW SEC. 11 T5N R61W 6th P.M.

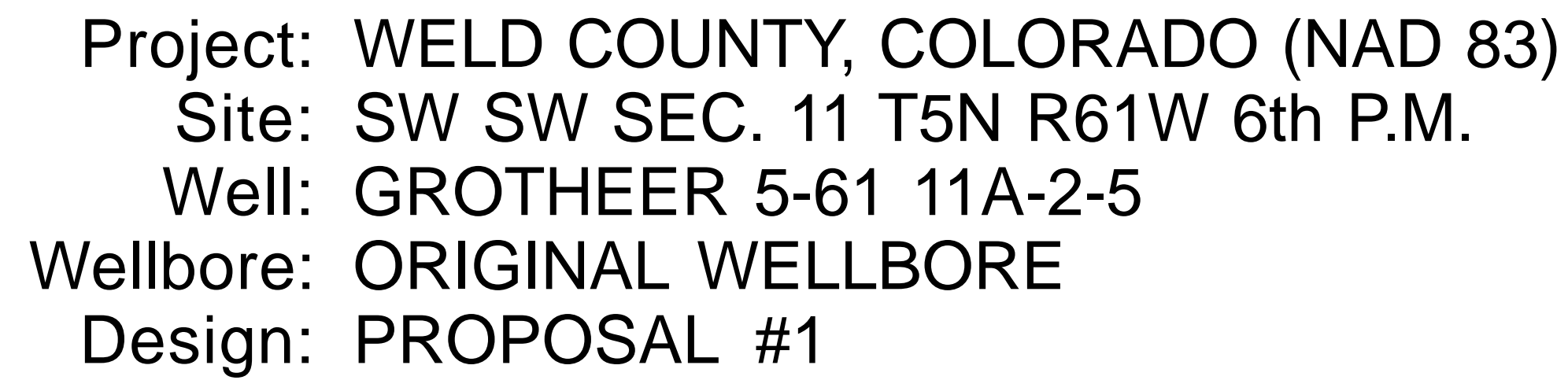
GROTHER 5-61 11A-2-5

ORIGINAL WELLBORE

25 February, 2019

Plan: PROPOSAL #1





The figure consists of three plots related to the well trajectory of Grotheer 5-61 11A-2-5.

Left Plot: True Vertical Depth (500 usft/in) vs. Vertical Section at 119.30° (500 usft/in)

- Y-axis:** True Vertical Depth (500 usft/in), ranging from 0 to 5500.
- X-axis:** Vertical Section at 119.30° (500 usft/in), ranging from 0 to 3000.
- Key Features:**
 - START NUDGE (2°/100ft BUR):** Indicated at the top left.
 - EOB TO 13.34° INC:** Indicated near the top left.
 - END OF TANGENT:** Indicated at approximately 4500 usft depth.
 - EOD TO VERTICAL:** Indicated at approximately 5200 usft depth.
 - KOP (10°/100ft BUR):** Indicated at approximately 5500 usft depth.

Top Right Plot: South(-)/North(+) (100 usft/in) vs. West(-)/East(+) (100 usft/in)

- Y-axis:** South(-)/North(+) (100 usft/in), ranging from -300 to 200.
- X-axis:** West(-)/East(+) (100 usft/in), ranging from -400 to 600.
- Key Features:**
 - GROTHEER 5-61 11A-14-23-1** through **GROTHEER 5-61 11A-2-1**: Multiple lines representing different well paths or segments.

Bottom Right Plot: True Vertical Depth (500 usft/in) vs. Horizontal Distance (500 usft/in)

- Y-axis:** True Vertical Depth (500 usft/in), ranging from 4000 to 6500.
- X-axis:** Horizontal Distance (500 usft/in), ranging from -500 to 4000.
- Key Features:**
 - END OF TANGENT:** Indicated at approximately 4500 usft depth.
 - EOD TO VERTICAL:** Indicated at approximately 5200 usft depth.
 - KOP (10°/100ft BUR):** Indicated at approximately 5500 usft depth.
 - EOT TO 0.3° AZ:** Indicated at approximately 6000 usft depth.
 - BPI *NEW* - GROTHEER 5-61 11A-2-5:** Indicated at the bottom right.

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GROTHEER 5-61 11A-2-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB 25' @ 4737.60usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB 25' @ 4737.60usft (Original Well Elev)
Site:	SW SW SEC. 11 T5N R61W 6th P.M.	North Reference:	True
Well:	GROTHEER 5-61 11A-2-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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		Using geodetic scale factor

Site	SW SW SEC. 11 T5N R61W 6th P.M.				
Site Position:		Northing:	1,395,001.09 usft	Latitude:	40.410183
From:	Lat/Long	Easting:	3,367,246.06 usft	Longitude:	-104.181145
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000ft	Grid Convergence:	0.85 °

Well		GROTHEER 5-61 11A-2-5				
Well Position	+N-S	-149.01 usft	Northing:	1,394,853.79 usft	Latitude:	40.409774
	+E-W	113.06 usft	Easting:	3,367,361.33 usft	Longitude:	-104.180739
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,712.60 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	25/02/2019	7.72	66.91	52,265

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	7.03

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	-4,737.60	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	-4,637.60	0.00	0.00	0.00	0.00	0.00	0.00	
767.11	13.34	119.30	761.10	-3,976.50	-37.84	67.43	2.00	2.00	0.00	119.30	
4,937.11	13.34	119.30	4,818.54	80.94	-508.81	906.60	0.00	0.00	0.00	0.00	
5,604.22	0.00	0.00	5,479.64	742.04	-546.65	974.03	2.00	-2.00	0.00	180.00	
5,704.22	0.00	0.00	5,579.64	842.04	-546.65	974.03	0.00	0.00	0.00	0.00	KOP - GROTHEER
6,604.21	90.00	13.60	6,152.60	1,415.00	10.24	1,108.76	10.00	10.00	1.51	13.60	BPI *NEW* - GROT
7,047.72	90.00	0.30	6,152.60	1,415.00	449.49	1,162.29	3.00	0.00	-3.00	-90.00	
16,316.44	90.00	0.30	6,152.60	1,415.00	9,718.09	1,210.08	0.00	0.00	0.00	0.00	EPI - GROTHEER !
16,321.16	90.00	0.15	6,152.60	1,415.00	9,722.82	1,210.10	3.00	0.00	-3.00	-90.01	
16,416.26	90.00	0.15	6,152.60	1,415.00	9,817.91	1,210.35	0.00	0.00	0.00	0.00	BHL - GROTHEER

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Well:	GROTHEER 5-61 11A-2-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
SHL: 460ft FSL & 1237ft FWL of Sec 11										
0.00	0.00	0.00	0.00	4,737.60	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
100.00	0.00	0.00	100.00	4,637.60	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2.00	119.30	199.98	4,537.62	-0.85	1.52	-0.66	2.00	2.00	0.00
300.00	4.00	119.30	299.84	4,437.76	-3.42	6.09	-2.65	2.00	2.00	0.00
400.00	6.00	119.30	399.45	4,338.15	-7.68	13.69	-5.95	2.00	2.00	0.00
500.00	8.00	119.30	498.70	4,238.90	-13.64	24.31	-10.57	2.00	2.00	0.00
600.00	10.00	119.30	597.47	4,140.13	-21.30	37.95	-16.50	2.00	2.00	0.00
700.00	12.00	119.30	695.62	4,041.98	-30.64	54.59	-23.73	2.00	2.00	0.00
PIERRE SHALE (BASE FOX HILLS)										
727.61	12.55	119.30	722.60	4,015.00	-33.51	59.71	-25.95	2.00	2.00	0.00
EOB TO 13.34° INC										
767.11	13.34	119.30	761.10	3,976.50	-37.84	67.43	-29.31	2.00	2.00	0.00
800.00	13.34	119.30	793.10	3,944.50	-41.56	74.05	-32.19	0.00	0.00	0.00
900.00	13.34	119.30	890.40	3,847.20	-52.85	94.17	-40.93	0.00	0.00	0.00
1,000.00	13.34	119.30	987.70	3,749.90	-64.15	114.30	-49.68	0.00	0.00	0.00
1,100.00	13.34	119.30	1,085.00	3,652.60	-75.44	134.42	-58.43	0.00	0.00	0.00
1,200.00	13.34	119.30	1,182.30	3,555.30	-86.73	154.54	-67.17	0.00	0.00	0.00
1,300.00	13.34	119.30	1,279.60	3,458.00	-98.03	174.67	-75.92	0.00	0.00	0.00
1,400.00	13.34	119.30	1,376.90	3,360.70	-109.32	194.79	-84.67	0.00	0.00	0.00
1,500.00	13.34	119.30	1,474.21	3,263.39	-120.62	214.92	-93.41	0.00	0.00	0.00
1,600.00	13.34	119.30	1,571.51	3,166.09	-131.91	235.04	-102.16	0.00	0.00	0.00
1,700.00	13.34	119.30	1,668.81	3,068.79	-143.20	255.16	-110.91	0.00	0.00	0.00
1,800.00	13.34	119.30	1,766.11	2,971.49	-154.50	275.29	-119.66	0.00	0.00	0.00
1,900.00	13.34	119.30	1,863.41	2,874.19	-165.79	295.41	-128.40	0.00	0.00	0.00
2,000.00	13.34	119.30	1,960.71	2,776.89	-177.09	315.54	-137.15	0.00	0.00	0.00
2,100.00	13.34	119.30	2,058.01	2,679.59	-188.38	335.66	-145.90	0.00	0.00	0.00
2,200.00	13.34	119.30	2,155.31	2,582.29	-199.68	355.78	-154.64	0.00	0.00	0.00
2,300.00	13.34	119.30	2,252.61	2,484.99	-210.97	375.91	-163.39	0.00	0.00	0.00
2,400.00	13.34	119.30	2,349.91	2,387.69	-222.26	396.03	-172.14	0.00	0.00	0.00
2,500.00	13.34	119.30	2,447.21	2,290.39	-233.56	416.16	-180.88	0.00	0.00	0.00
2,600.00	13.34	119.30	2,544.52	2,193.08	-244.85	436.28	-189.63	0.00	0.00	0.00
2,700.00	13.34	119.30	2,641.82	2,095.78	-256.15	456.40	-198.38	0.00	0.00	0.00
2,800.00	13.34	119.30	2,739.12	1,998.48	-267.44	476.53	-207.13	0.00	0.00	0.00
2,900.00	13.34	119.30	2,836.42	1,901.18	-278.73	496.65	-215.87	0.00	0.00	0.00
3,000.00	13.34	119.30	2,933.72	1,803.88	-290.03	516.78	-224.62	0.00	0.00	0.00
3,100.00	13.34	119.30	3,031.02	1,706.58	-301.32	536.90	-233.37	0.00	0.00	0.00
3,200.00	13.34	119.30	3,128.32	1,609.28	-312.62	557.02	-242.11	0.00	0.00	0.00
3,300.00	13.34	119.30	3,225.62	1,511.98	-323.91	577.15	-250.86	0.00	0.00	0.00
3,400.00	13.34	119.30	3,322.92	1,414.68	-335.20	597.27	-259.61	0.00	0.00	0.00
PARKMAN										
3,404.81	13.34	119.30	3,327.60	1,410.00	-335.75	598.24	-260.03	0.00	0.00	0.00
3,500.00	13.34	119.30	3,420.22	1,317.38	-346.50	617.40	-268.35	0.00	0.00	0.00
3,600.00	13.34	119.30	3,517.52	1,220.08	-357.79	637.52	-277.10	0.00	0.00	0.00
3,700.00	13.34	119.30	3,614.83	1,122.77	-369.09	657.64	-285.85	0.00	0.00	0.00
3,800.00	13.34	119.30	3,712.13	1,025.47	-380.38	677.77	-294.60	0.00	0.00	0.00
3,900.00	13.34	119.30	3,809.43	928.17	-391.67	697.89	-303.34	0.00	0.00	0.00
4,000.00	13.34	119.30	3,906.73	830.87	-402.97	718.02	-312.09	0.00	0.00	0.00
4,100.00	13.34	119.30	4,004.03	733.57	-414.26	738.14	-320.84	0.00	0.00	0.00
4,200.00	13.34	119.30	4,101.33	636.27	-425.56	758.26	-329.58	0.00	0.00	0.00
4,300.00	13.34	119.30	4,198.63	538.97	-436.85	778.39	-338.33	0.00	0.00	0.00
4,400.00	13.34	119.30	4,295.93	441.67	-448.15	798.51	-347.08	0.00	0.00	0.00
4,500.00	13.34	119.30	4,393.23	344.37	-459.44	818.64	-355.82	0.00	0.00	0.00

Planning Report



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Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
SUSSEX										
4,596.98	13.34	119.30	4,487.60	250.00	-470.39	838.15	-364.31	0.00	0.00	0.00
4,600.00	13.34	119.30	4,490.53	247.07	-470.73	838.76	-364.57	0.00	0.00	0.00
4,700.00	13.34	119.30	4,587.84	149.76	-482.03	858.88	-373.32	0.00	0.00	0.00
4,800.00	13.34	119.30	4,685.14	52.46	-493.32	879.01	-382.06	0.00	0.00	0.00
4,900.00	13.34	119.30	4,782.44	-44.84	-504.62	899.13	-390.81	0.00	0.00	0.00
END OF TANGENT										
4,937.11	13.34	119.30	4,818.54	-80.94	-508.81	906.60	-394.06	0.00	0.00	0.00
5,000.00	12.08	119.30	4,879.89	-142.29	-515.58	918.67	-399.30	2.00	-2.00	0.00
5,100.00	10.08	119.30	4,978.02	-240.42	-524.99	935.43	-406.59	2.00	-2.00	0.00
5,200.00	8.08	119.30	5,076.76	-339.16	-532.72	949.20	-412.58	2.00	-2.00	0.00
SHANNON										
5,283.51	6.41	119.30	5,159.60	-422.00	-537.87	958.39	-416.57	2.00	-2.00	0.00
5,300.00	6.08	119.30	5,175.99	-438.39	-538.75	959.96	-417.25	2.00	-2.00	0.00
5,400.00	4.08	119.30	5,275.60	-538.00	-543.09	967.69	-420.61	2.00	-2.00	0.00
5,500.00	2.08	119.30	5,375.45	-637.85	-545.72	972.38	-422.65	2.00	-2.00	0.00
5,600.00	0.08	119.30	5,475.42	-737.82	-546.65	974.03	-423.37	2.00	-2.00	0.00
EOD TO VERTICAL										
5,604.22	0.00	0.00	5,479.64	-742.04	-546.65	974.03	-423.37	2.00	-2.00	0.00
5,700.00	0.00	0.00	5,575.42	-837.82	-546.65	974.03	-423.37	0.00	0.00	0.00
KOP (10°/100ft BUR)										
5,704.22	0.00	0.00	5,579.64	-842.04	-546.65	974.03	-423.37	0.00	0.00	0.00
5,800.00	9.58	13.60	5,674.98	-937.38	-538.89	975.91	-415.43	10.00	10.00	0.00
5,900.00	19.58	13.60	5,771.63	-1,034.03	-514.45	981.82	-390.46	10.00	10.00	0.00
6,000.00	29.58	13.60	5,862.46	-1,124.86	-474.08	991.59	-349.19	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,096.00	39.18	13.60	5,941.60	-1,204.00	-421.45	1,004.32	-295.40	10.00	10.00	0.00
6,100.00	39.58	13.60	5,944.69	-1,207.09	-418.99	1,004.92	-292.88	10.00	10.00	0.00
6,200.00	49.58	13.60	6,015.83	-1,278.23	-350.85	1,021.40	-223.24	10.00	10.00	0.00
NIOBRARA FORMATION										
6,229.88	52.57	13.60	6,034.60	-1,297.00	-328.26	1,026.87	-200.16	10.00	10.00	0.00
NIOBRARA A CHALK										
6,257.05	55.28	13.60	6,050.60	-1,313.00	-306.92	1,032.03	-178.34	10.00	10.00	0.00
6,300.00	59.58	13.60	6,073.71	-1,336.11	-271.75	1,040.54	-142.39	10.00	10.00	0.00
6,400.00	69.58	13.60	6,116.59	-1,378.99	-184.07	1,061.75	-52.78	10.00	10.00	0.00
NIOBRARA B CHALK										
6,427.63	72.34	13.60	6,125.60	-1,388.00	-158.70	1,067.89	-26.84	10.00	10.00	0.00
6,500.00	79.58	13.60	6,143.15	-1,405.55	-90.50	1,084.39	42.86	10.00	10.00	0.00
6,600.00	89.58	13.60	6,152.58	-1,414.98	6.14	1,107.77	141.63	10.00	10.00	0.00
BPI *NEW*: 460ft FSL & 2346ft FWL of Sec 11 - NIOBRARA B LP										
6,604.21	90.00	13.60	6,152.60	-1,415.00	10.24	1,108.76	145.82	10.00	10.00	0.00
6,700.00	90.00	10.73	6,152.60	-1,415.00	103.86	1,128.94	241.21	3.00	0.00	-3.00
6,800.00	90.00	7.73	6,152.60	-1,415.00	202.56	1,144.97	341.13	3.00	0.00	-3.00
6,900.00	90.00	4.73	6,152.60	-1,415.00	301.96	1,155.82	441.11	3.00	0.00	-3.00
7,000.00	90.00	1.73	6,152.60	-1,415.00	401.79	1,161.45	540.87	3.00	0.00	-3.00
EOT TO 0.3° AZ										
7,047.72	90.00	0.30	6,152.60	-1,415.00	449.49	1,162.29	588.33	3.00	0.00	-3.00
7,100.00	90.00	0.30	6,152.60	-1,415.00	501.78	1,162.56	640.25	0.00	0.00	0.00
7,200.00	90.00	0.30	6,152.60	-1,415.00	601.78	1,163.07	739.56	0.00	0.00	0.00
7,300.00	90.00	0.30	6,152.60	-1,415.00	701.77	1,163.59	838.87	0.00	0.00	0.00
7,400.00	90.00	0.30	6,152.60	-1,415.00	801.77	1,164.11	938.18	0.00	0.00	0.00
7,500.00	90.00	0.30	6,152.60	-1,415.00	901.77	1,164.62	1,037.49	0.00	0.00	0.00

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Design:	PROPOSAL #1		

Planned Survey										
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7,600.00	90.00	0.30	6,152.60	-1,415.00	1,001.77	1,165.14	1,136.80	0.00	0.00	0.00
7,700.00	90.00	0.30	6,152.60	-1,415.00	1,101.77	1,165.65	1,236.11	0.00	0.00	0.00
7,800.00	90.00	0.30	6,152.60	-1,415.00	1,201.77	1,166.17	1,335.42	0.00	0.00	0.00
7,900.00	90.00	0.30	6,152.60	-1,415.00	1,301.77	1,166.68	1,434.73	0.00	0.00	0.00
8,000.00	90.00	0.30	6,152.60	-1,415.00	1,401.76	1,167.20	1,534.04	0.00	0.00	0.00
8,100.00	90.00	0.30	6,152.60	-1,415.00	1,501.76	1,167.71	1,633.35	0.00	0.00	0.00
8,200.00	90.00	0.30	6,152.60	-1,415.00	1,601.76	1,168.23	1,732.66	0.00	0.00	0.00
8,300.00	90.00	0.30	6,152.60	-1,415.00	1,701.76	1,168.75	1,831.98	0.00	0.00	0.00
8,400.00	90.00	0.30	6,152.60	-1,415.00	1,801.76	1,169.26	1,931.29	0.00	0.00	0.00
8,500.00	90.00	0.30	6,152.60	-1,415.00	1,901.76	1,169.78	2,030.60	0.00	0.00	0.00
8,600.00	90.00	0.30	6,152.60	-1,415.00	2,001.76	1,170.29	2,129.91	0.00	0.00	0.00
8,700.00	90.00	0.30	6,152.60	-1,415.00	2,101.76	1,170.81	2,229.22	0.00	0.00	0.00
8,800.00	90.00	0.30	6,152.60	-1,415.00	2,201.75	1,171.32	2,328.53	0.00	0.00	0.00
8,900.00	90.00	0.30	6,152.60	-1,415.00	2,301.75	1,171.84	2,427.84	0.00	0.00	0.00
9,000.00	90.00	0.30	6,152.60	-1,415.00	2,401.75	1,172.36	2,527.15	0.00	0.00	0.00
9,100.00	90.00	0.30	6,152.60	-1,415.00	2,501.75	1,172.87	2,626.46	0.00	0.00	0.00
9,200.00	90.00	0.30	6,152.60	-1,415.00	2,601.75	1,173.39	2,725.77	0.00	0.00	0.00
9,300.00	90.00	0.30	6,152.60	-1,415.00	2,701.75	1,173.90	2,825.08	0.00	0.00	0.00
9,400.00	90.00	0.30	6,152.60	-1,415.00	2,801.75	1,174.42	2,924.39	0.00	0.00	0.00
9,500.00	90.00	0.30	6,152.60	-1,415.00	2,901.74	1,174.93	3,023.70	0.00	0.00	0.00
9,600.00	90.00	0.30	6,152.60	-1,415.00	3,001.74	1,175.45	3,123.01	0.00	0.00	0.00
9,700.00	90.00	0.30	6,152.60	-1,415.00	3,101.74	1,175.96	3,222.32	0.00	0.00	0.00
9,800.00	90.00	0.30	6,152.60	-1,415.00	3,201.74	1,176.48	3,321.63	0.00	0.00	0.00
9,900.00	90.00	0.30	6,152.60	-1,415.00	3,301.74	1,177.00	3,420.94	0.00	0.00	0.00
10,000.00	90.00	0.30	6,152.60	-1,415.00	3,401.74	1,177.51	3,520.25	0.00	0.00	0.00
10,100.00	90.00	0.30	6,152.60	-1,415.00	3,501.74	1,178.03	3,619.56	0.00	0.00	0.00
10,200.00	90.00	0.30	6,152.60	-1,415.00	3,601.74	1,178.54	3,718.87	0.00	0.00	0.00
10,300.00	90.00	0.30	6,152.60	-1,415.00	3,701.73	1,179.06	3,818.18	0.00	0.00	0.00
10,400.00	90.00	0.30	6,152.60	-1,415.00	3,801.73	1,179.57	3,917.49	0.00	0.00	0.00
10,500.00	90.00	0.30	6,152.60	-1,415.00	3,901.73	1,180.09	4,016.80	0.00	0.00	0.00
10,600.00	90.00	0.30	6,152.60	-1,415.00	4,001.73	1,180.61	4,116.12	0.00	0.00	0.00
10,700.00	90.00	0.30	6,152.60	-1,415.00	4,101.73	1,181.12	4,215.43	0.00	0.00	0.00
10,800.00	90.00	0.30	6,152.60	-1,415.00	4,201.73	1,181.64	4,314.74	0.00	0.00	0.00
10,900.00	90.00	0.30	6,152.60	-1,415.00	4,301.73	1,182.15	4,414.05	0.00	0.00	0.00
11,000.00	90.00	0.30	6,152.60	-1,415.00	4,401.72	1,182.67	4,513.36	0.00	0.00	0.00
11,100.00	90.00	0.30	6,152.60	-1,415.00	4,501.72	1,183.18	4,612.67	0.00	0.00	0.00
11,200.00	90.00	0.30	6,152.60	-1,415.00	4,601.72	1,183.70	4,711.98	0.00	0.00	0.00
11,300.00	90.00	0.30	6,152.60	-1,415.00	4,701.72	1,184.21	4,811.29	0.00	0.00	0.00
11,400.00	90.00	0.30	6,152.60	-1,415.00	4,801.72	1,184.73	4,910.60	0.00	0.00	0.00
11,500.00	90.00	0.30	6,152.60	-1,415.00	4,901.72	1,185.25	5,009.91	0.00	0.00	0.00
11,600.00	90.00	0.30	6,152.60	-1,415.00	5,001.72	1,185.76	5,109.22	0.00	0.00	0.00
11,700.00	90.00	0.30	6,152.60	-1,415.00	5,101.72	1,186.28	5,208.53	0.00	0.00	0.00
11,800.00	90.00	0.30	6,152.60	-1,415.00	5,201.71	1,186.79	5,307.84	0.00	0.00	0.00
11,900.00	90.00	0.30	6,152.60	-1,415.00	5,301.71	1,187.31	5,407.15	0.00	0.00	0.00
12,000.00	90.00	0.30	6,152.60	-1,415.00	5,401.71	1,187.82	5,506.46	0.00	0.00	0.00
12,100.00	90.00	0.30	6,152.60	-1,415.00	5,501.71	1,188.34	5,605.77	0.00	0.00	0.00
12,200.00	90.00	0.30	6,152.60	-1,415.00	5,601.71	1,188.86	5,705.08	0.00	0.00	0.00
12,300.00	90.00	0.30	6,152.60	-1,415.00	5,701.71	1,189.37	5,804.39	0.00	0.00	0.00
12,400.00	90.00	0.30	6,152.60	-1,415.00	5,801.71	1,189.89	5,903.70	0.00	0.00	0.00
12,500.00	90.00	0.30	6,152.60	-1,415.00	5,901.70	1,190.40	6,003.01	0.00	0.00	0.00
12,600.00	90.00	0.30	6,152.60	-1,415.00	6,001.70	1,190.92	6,102.32	0.00	0.00	0.00
12,700.00	90.00	0.30	6,152.60	-1,415.00	6,101.70	1,191.43	6,201.63	0.00	0.00	0.00
12,800.00	90.00	0.30	6,152.60	-1,415.00	6,201.70	1,191.95	6,300.94	0.00	0.00	0.00
12,900.00	90.00	0.30	6,152.60	-1,415.00	6,301.70	1,192.47	6,400.25	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GROTHEER 5-61 11A-2-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB 25' @ 4737.60usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB 25' @ 4737.60usft (Original Well Elev)
Site:	SW SW SEC. 11 T5N R61W 6th P.M.	North Reference:	True
Well:	GROTHEER 5-61 11A-2-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,000.00	90.00	0.30	6,152.60	-1,415.00	6,401.70	1,192.98	6,499.57	0.00	0.00	0.00
13,100.00	90.00	0.30	6,152.60	-1,415.00	6,501.70	1,193.50	6,598.88	0.00	0.00	0.00
13,200.00	90.00	0.30	6,152.60	-1,415.00	6,601.70	1,194.01	6,698.19	0.00	0.00	0.00
13,300.00	90.00	0.30	6,152.60	-1,415.00	6,701.69	1,194.53	6,797.50	0.00	0.00	0.00
13,400.00	90.00	0.30	6,152.60	-1,415.00	6,801.69	1,195.04	6,896.81	0.00	0.00	0.00
13,500.00	90.00	0.30	6,152.60	-1,415.00	6,901.69	1,195.56	6,996.12	0.00	0.00	0.00
13,600.00	90.00	0.30	6,152.60	-1,415.00	7,001.69	1,196.07	7,095.43	0.00	0.00	0.00
13,700.00	90.00	0.30	6,152.60	-1,415.00	7,101.69	1,196.59	7,194.74	0.00	0.00	0.00
13,800.00	90.00	0.30	6,152.60	-1,415.00	7,201.69	1,197.11	7,294.05	0.00	0.00	0.00
13,900.00	90.00	0.30	6,152.60	-1,415.00	7,301.69	1,197.62	7,393.36	0.00	0.00	0.00
14,000.00	90.00	0.30	6,152.60	-1,415.00	7,401.68	1,198.14	7,492.67	0.00	0.00	0.00
14,100.00	90.00	0.30	6,152.60	-1,415.00	7,501.68	1,198.65	7,591.98	0.00	0.00	0.00
14,200.00	90.00	0.30	6,152.60	-1,415.00	7,601.68	1,199.17	7,691.29	0.00	0.00	0.00
14,300.00	90.00	0.30	6,152.60	-1,415.00	7,701.68	1,199.68	7,790.60	0.00	0.00	0.00
14,400.00	90.00	0.30	6,152.60	-1,415.00	7,801.68	1,200.20	7,889.91	0.00	0.00	0.00
14,500.00	90.00	0.30	6,152.60	-1,415.00	7,901.68	1,200.72	7,989.22	0.00	0.00	0.00
14,600.00	90.00	0.30	6,152.60	-1,415.00	8,001.68	1,201.23	8,088.53	0.00	0.00	0.00
14,700.00	90.00	0.30	6,152.60	-1,415.00	8,101.68	1,201.75	8,187.84	0.00	0.00	0.00
14,800.00	90.00	0.30	6,152.60	-1,415.00	8,201.67	1,202.26	8,287.15	0.00	0.00	0.00
14,900.00	90.00	0.30	6,152.60	-1,415.00	8,301.67	1,202.78	8,386.46	0.00	0.00	0.00
15,000.00	90.00	0.30	6,152.60	-1,415.00	8,401.67	1,203.29	8,485.77	0.00	0.00	0.00
15,100.00	90.00	0.30	6,152.60	-1,415.00	8,501.67	1,203.81	8,585.08	0.00	0.00	0.00
15,200.00	90.00	0.30	6,152.60	-1,415.00	8,601.67	1,204.32	8,684.39	0.00	0.00	0.00
15,300.00	90.00	0.30	6,152.60	-1,415.00	8,701.67	1,204.84	8,783.70	0.00	0.00	0.00
15,400.00	90.00	0.30	6,152.60	-1,415.00	8,801.67	1,205.36	8,883.02	0.00	0.00	0.00
15,500.00	90.00	0.30	6,152.60	-1,415.00	8,901.67	1,205.87	8,982.33	0.00	0.00	0.00
15,600.00	90.00	0.30	6,152.60	-1,415.00	9,001.66	1,206.39	9,081.64	0.00	0.00	0.00
15,700.00	90.00	0.30	6,152.60	-1,415.00	9,101.66	1,206.90	9,180.95	0.00	0.00	0.00
15,800.00	90.00	0.30	6,152.60	-1,415.00	9,201.66	1,207.42	9,280.26	0.00	0.00	0.00
15,900.00	90.00	0.30	6,152.60	-1,415.00	9,301.66	1,207.93	9,379.57	0.00	0.00	0.00
16,000.00	90.00	0.30	6,152.60	-1,415.00	9,401.66	1,208.45	9,478.88	0.00	0.00	0.00
16,100.00	90.00	0.30	6,152.60	-1,415.00	9,501.66	1,208.97	9,578.19	0.00	0.00	0.00
16,200.00	90.00	0.30	6,152.60	-1,415.00	9,601.66	1,209.48	9,677.50	0.00	0.00	0.00
16,300.00	90.00	0.30	6,152.60	-1,415.00	9,701.65	1,210.00	9,776.81	0.00	0.00	0.00
EPI: 460ft FNL & 2396ft FWL of Sec 2										
16,316.44	90.00	0.30	6,152.60	-1,415.00	9,718.09	1,210.08	9,793.13	0.00	0.00	0.00
EOT TO 0.15° AZ										
16,321.16	90.00	0.15	6,152.60	-1,415.00	9,722.82	1,210.10	9,797.83	3.00	0.00	-3.00
16,400.00	90.00	0.15	6,152.60	-1,415.00	9,801.65	1,210.31	9,876.10	0.00	0.00	0.00
BHL: 360ft FNL & 2396ft FWL of Sec 2										
16,416.26	90.00	0.15	6,152.60	-1,415.00	9,817.91	1,210.35	9,892.24	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GROTHEER 5-61 11A-2-5
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB 25' @ 4737.60usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB 25' @ 4737.60usft (Original Well Elev)
Site:	SW SW SEC. 11 T5N R61W 6th P.M.	North Reference:	True
Well:	GROTHEER 5-61 11A-2-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
727.61	722.60	PIERRE SHALE (BASE FOX HILLS			
3,404.81	3,327.60	PARKMAN			
4,596.98	4,487.60	SUSSEX			
5,283.51	5,159.60	SHANNON			
6,096.00	5,941.60	SHARON SPRINGS SHALE			
6,229.88	6,034.60	NIOBRARA FORMATION			
6,257.05	6,050.60	NIOBRARA A CHALK			
6,427.63	6,125.60	NIOBRARA B CHALK			
6,604.21	6,152.60	NIOBRARA B LP			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 460ft FSL & 1237ft FWL of Sec 11
100.00	100.00	0.00	0.00	START NUDGE (2°/100ft BUR)
767.11	761.10	-37.84	67.43	EOB TO 13.34° INC
4,937.11	4,818.54	-508.81	906.60	END OF TANGENT
5,604.22	5,479.64	-546.65	974.03	EOD TO VERTICAL
5,704.22	5,579.64	-546.65	974.03	KOP (10°/100ft BUR)
6,604.21	6,152.60	10.24	1,108.76	BPI *NEW*: 460ft FSL & 2346ft FWL of Sec 11
7,047.72	6,152.60	449.49	1,162.29	EOT TO 0.3° AZ
16,316.44	6,152.60	9,718.09	1,210.08	EPI: 460ft FNL & 2396ft FWL of Sec 2
16,321.16	6,152.60	9,722.82	1,210.10	EOT TO 0.15° AZ
16,416.26	6,152.60	9,817.91	1,210.35	BHL: 360ft FNL & 2396ft FWL of Sec 2