

# **BISON OIL & GAS II**

**WELD COUNTY  
SEC 18-T8N-R60W  
ROSS 8-60 18-7-2**

**OWB**

**Design: FINAL SURVEY**

## **Standard Survey Report**

**19 July, 2022**

PROJECT DETAILS: WELD COUNTY

---

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone

System Datum: Mean Sea Level



Azimuths to True North  
Magnetic North: 7.44°

Magnetic Field  
Strength: 52056.4nT  
Dip Angle: 66.91°  
Date: 5/4/2022  
Model: IGRF2020

WELL DETAILS: ROSS 8-60 18-7-2

4950.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1484915.42	3378700.28	40.656487°N	104.135047°W	

---

ANNOTATIONS

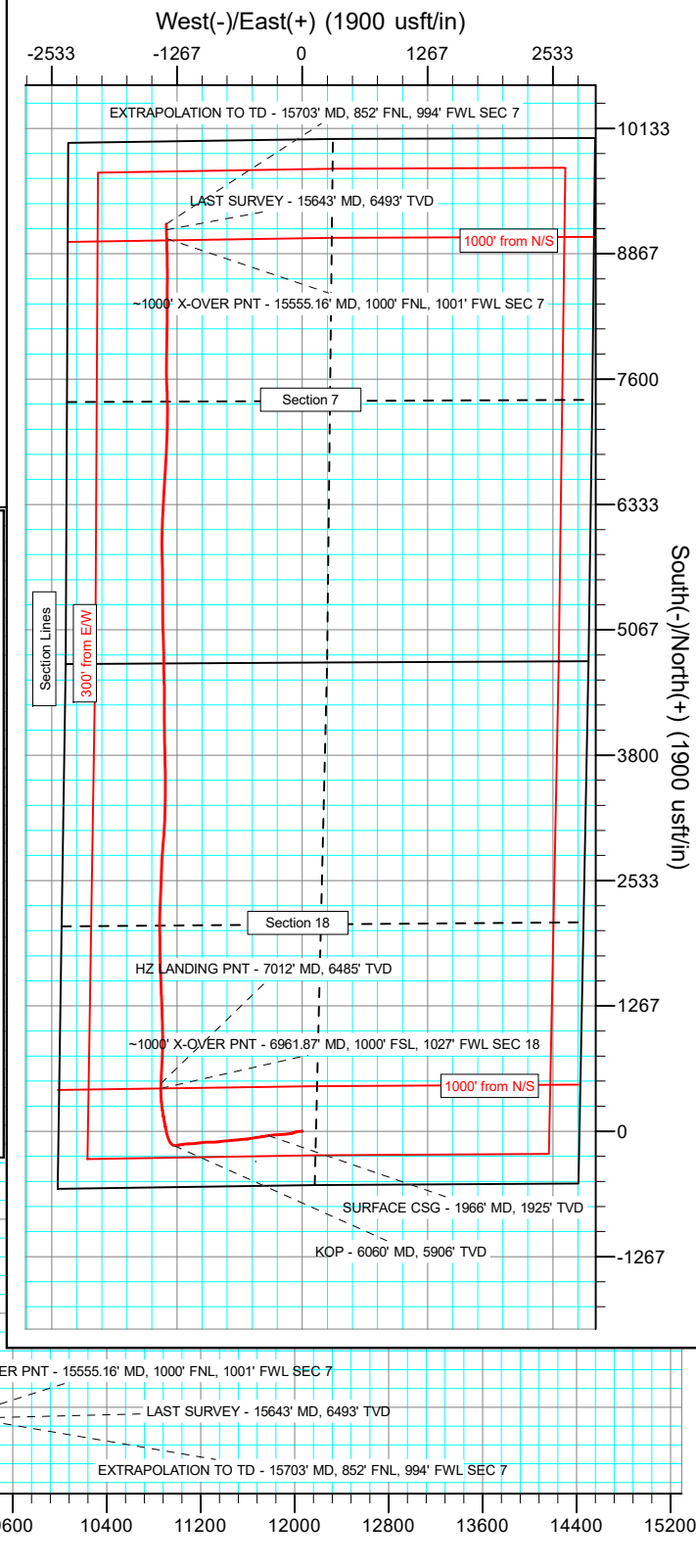
MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
1966.00	13.28	261.47	1925.34	-44.58	-343.62	6.92	349.75	SURFACE CSG - 1966' MD, 1925' TVD
6060.00	12.77	266.37	5905.87	-145.60	-1291.79	47.76	1304.66	KOP - 6060' MD, 5906' TVD
6961.87	82.77	0.77	6480.57	43.87	-1430.06	640.35	1920.80	-1000' X-OVER PNT - 6961.87' MD, 1000' FSL, 1027' FWL SEC 18
7012.00	86.26	1.81	6485.36	48.275	-1428.94	689.51	1970.72	HZ LANDING PNT - 7012' MD, 6485' TVD
15555.16	88.54	358.12	6490.40	9019.74	-1370.55	9123.26	10512.53	-1000' X-OVER PNT - 15555.16' MD, 1000' FNL, 1001' FWL SEC 7
15643.00	87.50	357.85	6493.41	9107.47	-1373.76	9210.49	10600.32	LAST SURVEY - 15643' MD, 6493' TVD
15703.00	87.50	357.85	6496.03	9167.37	-1376.01	9270.06	10660.26	EXTRAPOLATION TO TD - 15703' MD, 852' FNL, 994' FWL SEC 7

SHL:  
546' FSL, 2464' FWL  
Sec 18-T8N-R60W

~1000' X-OVER PNT:  
1000' FSL, 1027' FWL  
Sec 18-T8N-R60W

~1000' X-OVER PNT:  
1000' FNL, 1001' FWL  
Sec 7-T8N-R60W

BHL:  
852' FNL, 994' FWI  
Sec 7-T8N-R60W



## Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-2
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4974.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4974.00usft
<b>Well:</b>	ROSS 8-60 18-7-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

<b>Project</b>	WELD COUNTY		
<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		Using geodetic scale factor

Site		SEC 18-T8N-R60W					
Site Position:		Northing:	1,484,295.38	usft	Latitude:	40.654889°N	
From:	Lat/Long	Easting:	3,376,236.78	usft	Longitude:	104.143959°W	
Position Uncertainty:	0.00	usft	Slot Radius:	13.200	in	Grid Convergence:	0.88 °

Well	ROSS 8-60 18-7-2					
Well Position	+N/-S	0.00 usft	Northing:	1,484,915.42 usft	Latitude:	40.656487°N
	+E/-W	0.00 usft	Easting:	3,378,700.28 usft	Longitude:	104.135047°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,950.00 usft

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	5/4/2022	7.44	66.91	52,056.39959491

<b>Design</b>	FINAL SURVEY				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<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		351.46

<b>Survey Program</b>	<b>Date</b>	7/19/2022			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
157.00	1,900.00	SURFACE SURVEY (OWB)	MWD	OWSG MWD - Standard	
2,028.00	15,703.00	FINAL SURVEY (OWB)	MWD	OWSG MWD - Standard	

<b>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 (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
157.00	0.27	41.10	157.00	0.28	0.24	0.24	0.17	0.17	0.00	
246.00	0.40	26.64	246.00	0.71	0.52	0.63	0.17	0.15	-16.25	
335.00	2.03	269.67	334.98	0.98	-0.92	1.11	2.52	1.83	-131.43	
424.00	3.27	270.07	423.88	0.98	-5.03	1.71	1.39	1.39	0.45	
513.00	6.23	266.02	512.57	0.64	-12.39	2.48	3.35	3.33	-4.55	
602.00	9.59	264.47	600.71	-0.40	-24.59	3.25	3.78	3.78	-1.74	
691.00	12.24	260.11	688.09	-2.74	-41.27	3.42	3.12	2.98	-4.90	
780.00	12.51	257.07	775.03	-6.52	-59.95	2.45	0.79	0.30	-3.42	
869.00	12.15	253.68	861.97	-11.31	-78.34	0.45	0.91	-0.40	-3.81	

## Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-2
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4974.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4974.00usft
<b>Well:</b>	ROSS 8-60 18-7-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
958.00	11.84	251.43	949.03	-16.85	-95.98	-2.41	0.63	-0.35	-2.53
1,047.00	14.58	256.32	1,035.67	-22.40	-115.53	-5.01	3.32	3.08	5.49
1,136.00	16.39	263.37	1,121.44	-26.50	-138.89	-5.59	2.93	2.03	7.92
1,225.00	17.41	265.75	1,206.60	-28.94	-164.64	-4.18	1.38	1.15	2.67
1,314.00	15.47	263.77	1,291.96	-31.22	-189.72	-2.71	2.27	-2.18	-2.22
1,403.00	13.70	264.74	1,378.09	-33.47	-212.02	-1.63	2.01	-1.99	1.09
1,492.00	13.61	266.59	1,464.57	-35.06	-232.96	-0.09	0.50	-0.10	2.08
1,581.00	14.45	268.44	1,550.92	-35.98	-254.52	2.19	1.07	0.94	2.08
1,670.00	13.30	267.03	1,637.32	-36.82	-275.84	4.54	1.35	-1.29	-1.58
1,760.00	13.48	264.83	1,724.87	-38.30	-296.63	6.16	0.60	0.20	-2.44
1,900.00	13.21	260.99	1,861.09	-42.27	-328.68	6.98	0.66	-0.19	-2.74
1,966.00	13.28	261.47	1,925.34	-44.58	-343.62	6.92	0.20	0.11	0.73
SURFACE CSG - 1966' MD, 1925' TVD									
2,028.00	13.35	261.92	1,985.67	-46.64	-357.75	6.98	0.20	0.11	0.72
2,117.00	13.08	259.94	2,072.32	-49.85	-377.84	6.79	0.59	-0.30	-2.22
2,206.00	12.77	257.95	2,159.06	-53.66	-397.38	5.92	0.61	-0.35	-2.24
2,296.00	14.98	262.76	2,246.43	-57.20	-418.65	5.58	2.77	2.46	5.34
2,385.00	14.67	262.23	2,332.47	-60.17	-441.22	5.99	0.38	-0.35	-0.60
2,474.00	14.36	262.05	2,418.63	-63.22	-463.32	6.25	0.35	-0.35	-0.20
2,563.00	13.88	261.04	2,504.94	-66.41	-484.80	6.28	0.61	-0.54	-1.13
2,652.00	13.57	260.95	2,591.40	-69.72	-505.65	6.11	0.35	-0.35	-0.10
2,741.00	13.21	259.94	2,677.98	-73.14	-525.98	5.75	0.48	-0.40	-1.13
2,830.00	12.95	258.79	2,764.67	-76.85	-545.77	5.01	0.41	-0.29	-1.29
2,919.00	15.16	266.77	2,851.01	-79.45	-567.18	5.62	3.30	2.48	8.97
3,008.00	14.76	265.31	2,936.99	-81.03	-590.10	7.46	0.62	-0.45	-1.64
3,097.00	14.63	265.49	3,023.08	-82.84	-612.60	9.01	0.15	-0.15	0.20
3,186.00	13.48	264.17	3,109.41	-84.78	-634.13	10.29	1.34	-1.29	-1.48
3,275.00	12.90	263.55	3,196.07	-86.95	-654.32	11.14	0.67	-0.65	-0.70
3,364.00	11.93	263.86	3,282.98	-89.05	-673.34	11.89	1.09	-1.09	0.35
3,453.00	13.26	264.47	3,369.84	-91.02	-692.64	12.81	1.50	1.49	0.69
3,542.00	12.95	264.83	3,456.52	-92.90	-712.73	13.93	0.36	-0.35	0.40
3,632.00	13.04	265.93	3,544.22	-94.53	-732.91	15.31	0.29	0.10	1.22
3,721.00	13.17	265.84	3,630.90	-95.98	-753.03	16.87	0.15	0.15	-0.10
3,810.00	13.57	264.56	3,717.49	-97.70	-773.54	18.20	0.56	0.45	-1.44
3,899.00	14.01	263.37	3,803.92	-99.93	-794.63	19.13	0.59	0.49	-1.34
3,988.00	13.79	263.06	3,890.32	-102.46	-815.87	19.78	0.26	-0.25	-0.35
4,077.00	13.43	262.93	3,976.82	-105.01	-836.65	20.34	0.41	-0.40	-0.15
4,166.00	12.59	263.99	4,063.53	-107.30	-856.56	21.03	0.98	-0.94	1.19
4,255.00	11.27	265.40	4,150.61	-109.01	-874.87	22.06	1.52	-1.48	1.58
4,344.00	12.37	267.78	4,237.72	-110.08	-893.07	23.70	1.35	1.24	2.67
4,433.00	13.17	270.60	4,324.52	-110.34	-912.73	26.36	1.14	0.90	3.17
4,523.00	14.23	270.29	4,411.96	-110.18	-934.05	29.69	1.18	1.18	-0.34
4,612.00	15.07	268.44	4,498.06	-110.44	-956.55	32.77	1.08	0.94	-2.08

# Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-2
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4974.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4974.00usft
<b>Well:</b>	ROSS 8-60 18-7-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,701.00	13.17	267.47	4,584.37	-111.20	-978.25	35.24	2.15	-2.13	-1.09	
4,790.00	13.96	264.78	4,670.89	-112.63	-999.07	36.92	1.14	0.89	-3.02	
4,879.00	15.86	263.20	4,756.89	-115.04	-1,021.84	37.91	2.18	2.13	-1.78	
4,968.00	13.57	262.05	4,842.96	-117.93	-1,044.26	38.38	2.59	-2.57	-1.29	
5,057.00	13.12	262.40	4,929.56	-120.71	-1,064.61	38.66	0.51	-0.51	0.39	
5,146.00	13.83	262.49	5,016.11	-123.43	-1,085.17	39.01	0.80	0.80	0.10	
5,236.00	13.79	266.99	5,103.51	-125.40	-1,106.54	40.24	1.19	-0.04	5.00	
5,325.00	15.38	268.71	5,189.64	-126.23	-1,128.94	42.75	1.85	1.79	1.93	
5,414.00	13.26	269.32	5,275.87	-126.61	-1,150.95	45.63	2.39	-2.38	0.69	
5,503.00	13.79	262.67	5,362.41	-128.09	-1,171.67	47.25	1.84	0.60	-7.47	
5,592.00	14.14	263.68	5,448.78	-130.64	-1,193.00	47.89	0.48	0.39	1.13	
5,704.00	10.34	264.70	5,558.21	-133.07	-1,216.61	48.99	3.40	-3.39	0.91	
5,793.00	11.40	256.76	5,645.62	-135.83	-1,233.13	48.72	2.06	1.19	-8.92	
5,882.00	12.68	257.16	5,732.66	-140.01	-1,251.22	47.27	1.44	1.44	0.45	
5,971.00	13.92	262.49	5,819.27	-143.58	-1,271.36	46.72	1.96	1.39	5.99	
6,060.00	12.77	266.37	5,905.87	-145.60	-1,291.79	47.76	1.64	-1.29	4.36	
KOP - 6060' MD, 5906' TVD										
6,149.00	18.96	305.37	5,991.67	-137.83	-1,313.47	58.67	13.48	6.96	43.82	
6,238.00	24.39	326.26	6,074.47	-114.13	-1,335.52	85.38	10.51	6.10	23.47	
6,327.00	30.23	339.65	6,153.59	-77.77	-1,353.55	124.00	9.49	6.56	15.04	
6,416.00	39.15	345.91	6,226.71	-29.40	-1,368.21	174.01	10.78	10.02	7.03	
6,506.00	44.98	349.30	6,293.51	29.47	-1,381.05	234.14	6.95	6.48	3.77	
6,595.00	53.78	348.56	6,351.40	95.69	-1,394.04	301.56	9.91	9.89	-0.83	
6,684.00	62.93	350.45	6,398.04	170.12	-1,407.76	377.20	10.44	10.28	2.12	
6,773.00	70.00	353.31	6,433.57	250.84	-1,419.22	458.73	8.47	7.94	3.21	
6,862.00	74.28	355.65	6,460.86	335.14	-1,427.35	543.29	5.42	4.81	2.63	
6,951.00	82.02	0.54	6,479.13	422.10	-1,430.19	629.71	10.22	8.70	5.49	
6,961.87	82.77	0.77	6,480.57	432.87	-1,430.06	640.35	7.25	6.94	2.10	
~1000' X-OVER PNT - 6961.87' MD, 1000' FSL, 1027' FWL SEC 18										
7,012.00	86.26	1.81	6,485.36	482.75	-1,428.94	689.51	7.25	6.94	2.08	
HZ LANDING PNT - 7012' MD, 6485' TVD										
7,040.00	88.20	2.39	6,486.71	510.70	-1,427.91	717.00	7.25	6.95	2.07	
7,129.00	88.91	3.10	6,488.96	599.57	-1,423.65	804.25	1.13	0.80	0.80	
7,218.00	89.97	3.93	6,489.83	688.39	-1,418.20	891.28	1.51	1.19	0.93	
7,307.00	89.00	0.63	6,490.63	777.31	-1,414.66	978.68	3.86	-1.09	-3.71	
7,396.00	90.81	1.38	6,490.78	866.29	-1,413.10	1,066.45	2.20	2.03	0.84	
7,484.00	90.10	359.40	6,490.08	954.28	-1,412.50	1,153.37	2.39	-0.81	-2.25	
7,573.00	90.59	359.13	6,489.54	1,043.27	-1,413.64	1,241.55	0.63	0.55	-0.30	
7,663.00	90.85	358.21	6,488.41	1,133.24	-1,415.73	1,330.83	1.06	0.29	-1.02	
7,752.00	91.47	358.34	6,486.61	1,222.18	-1,418.41	1,419.18	0.71	0.70	0.15	
7,841.00	88.38	357.41	6,486.73	1,311.10	-1,421.71	1,507.61	3.63	-3.47	-1.04	
7,930.00	89.31	358.07	6,488.52	1,400.02	-1,425.21	1,596.06	1.28	1.04	0.74	
8,019.00	88.95	357.99	6,489.87	1,488.95	-1,428.27	1,684.47	0.41	-0.40	-0.09	
8,108.00	88.91	357.19	6,491.53	1,577.86	-1,432.02	1,772.94	0.90	-0.04	-0.90	

## Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-2
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4974.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4974.00usft
<b>Well:</b>	ROSS 8-60 18-7-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,197.00	89.93	359.13	6,492.43	1,666.80	-1,434.87	1,861.32	2.46	1.15	2.18
8,286.00	89.57	357.90	6,492.82	1,755.77	-1,437.18	1,949.65	1.44	-0.40	-1.38
8,375.00	90.01	0.06	6,493.15	1,844.75	-1,438.76	2,037.88	2.48	0.49	2.43
8,464.00	90.28	359.75	6,492.92	1,933.75	-1,438.91	2,125.91	0.46	0.30	-0.35
8,553.00	88.78	356.66	6,493.65	2,022.69	-1,441.70	2,214.28	3.86	-1.69	-3.47
8,642.00	90.77	1.51	6,494.00	2,111.65	-1,443.12	2,302.46	5.89	2.24	5.45
8,731.00	91.87	2.13	6,491.95	2,200.58	-1,440.29	2,389.99	1.42	1.24	0.70
8,820.00	91.91	1.82	6,489.02	2,289.47	-1,437.23	2,477.45	0.35	0.04	-0.35
8,910.00	91.30	2.74	6,486.50	2,379.37	-1,433.65	2,565.81	1.23	-0.68	1.02
8,999.00	92.31	2.26	6,483.69	2,468.24	-1,429.77	2,653.12	1.26	1.13	-0.54
9,088.00	90.32	2.30	6,481.65	2,557.14	-1,426.23	2,740.51	2.24	-2.24	0.04
9,177.00	90.90	1.86	6,480.70	2,646.07	-1,423.00	2,827.98	0.82	0.65	-0.49
9,266.00	89.53	2.48	6,480.37	2,735.01	-1,419.63	2,915.43	1.69	-1.54	0.70
9,355.00	90.50	4.42	6,480.35	2,823.84	-1,414.27	3,002.49	2.44	1.09	2.18
9,444.00	88.16	5.30	6,481.39	2,912.51	-1,406.73	3,089.05	2.81	-2.63	0.99
9,533.00	88.33	4.86	6,484.11	3,001.12	-1,398.86	3,175.51	0.53	0.19	-0.49
9,622.00	87.76	2.35	6,487.15	3,089.88	-1,393.26	3,262.46	2.89	-0.64	-2.82
9,711.00	87.10	2.52	6,491.14	3,178.71	-1,389.49	3,349.75	0.77	-0.74	0.19
9,800.00	87.41	0.98	6,495.40	3,267.56	-1,386.77	3,437.21	1.76	0.35	-1.73
9,890.00	88.91	0.41	6,498.29	3,357.51	-1,385.68	3,526.00	1.78	1.67	-0.63
9,979.00	88.82	0.54	6,500.06	3,446.49	-1,384.94	3,613.88	0.18	-0.10	0.15
10,068.00	91.74	359.53	6,499.62	3,535.47	-1,384.89	3,701.88	3.47	3.28	-1.13
10,157.00	92.00	359.53	6,496.72	3,624.42	-1,385.62	3,789.95	0.29	0.29	0.00
10,246.00	91.30	358.73	6,494.15	3,713.38	-1,386.97	3,878.12	1.19	-0.79	-0.90
10,335.00	89.17	358.73	6,493.79	3,802.35	-1,388.94	3,966.40	2.39	-2.39	0.00
10,424.00	89.04	358.60	6,495.18	3,891.31	-1,391.02	4,054.68	0.21	-0.15	-0.15
10,513.00	88.64	357.77	6,496.98	3,980.25	-1,393.83	4,143.05	1.04	-0.45	-0.93
10,602.00	89.44	0.01	6,498.47	4,069.21	-1,395.56	4,231.29	2.67	0.90	2.52
10,691.00	90.10	0.50	6,498.83	4,158.21	-1,395.16	4,319.24	0.92	0.74	0.55
10,780.00	90.77	0.10	6,498.15	4,247.21	-1,394.70	4,407.18	0.88	0.75	-0.45
10,869.00	89.04	0.23	6,498.30	4,336.20	-1,394.44	4,495.15	1.95	-1.94	0.15
10,958.00	89.57	359.57	6,499.38	4,425.20	-1,394.59	4,583.18	0.95	0.60	-0.74
11,047.00	89.79	358.87	6,499.88	4,514.19	-1,395.81	4,671.37	0.82	0.25	-0.79
11,136.00	88.78	357.68	6,500.99	4,603.14	-1,398.48	4,759.73	1.75	-1.13	-1.34
11,226.00	90.50	359.75	6,501.55	4,693.10	-1,400.50	4,849.00	2.99	1.91	2.30
11,314.00	90.68	359.22	6,500.65	4,781.09	-1,401.29	4,936.13	0.64	0.20	-0.60
11,404.00	90.94	359.18	6,499.38	4,871.08	-1,402.55	5,025.30	0.29	0.29	-0.04
11,493.00	90.68	358.12	6,498.12	4,960.04	-1,404.65	5,113.59	1.23	-0.29	-1.19
11,582.00	90.41	357.24	6,497.27	5,048.96	-1,408.25	5,202.07	1.03	-0.30	-0.99
11,671.00	91.07	359.57	6,496.12	5,137.91	-1,410.73	5,290.40	2.72	0.74	2.62
11,760.00	91.69	358.82	6,493.98	5,226.88	-1,411.98	5,378.56	1.09	0.70	-0.84
11,849.00	90.63	0.37	6,492.18	5,315.85	-1,412.60	5,466.65	2.11	-1.19	1.74
11,938.00	89.09	0.01	6,492.39	5,404.85	-1,412.31	5,554.61	1.78	-1.73	-0.40

## Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-2
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4974.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4974.00usft
<b>Well:</b>	ROSS 8-60 18-7-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,027.00	89.93	0.01	6,493.15	5,493.85	-1,412.29	5,642.62	0.94	0.94	0.00	
12,116.00	90.63	359.40	6,492.72	5,582.84	-1,412.75	5,730.70	1.04	0.79	-0.69	
12,205.00	91.03	358.56	6,491.43	5,671.82	-1,414.34	5,818.93	1.05	0.45	-0.94	
12,294.00	90.72	358.69	6,490.07	5,760.78	-1,416.47	5,907.22	0.38	-0.35	0.15	
12,383.00	89.13	359.18	6,490.19	5,849.76	-1,418.13	5,995.46	1.87	-1.79	0.55	
12,472.00	90.23	359.40	6,490.68	5,938.76	-1,419.23	6,083.63	1.26	1.24	0.25	
12,561.00	90.54	359.62	6,490.09	6,027.75	-1,419.99	6,171.75	0.43	0.35	0.25	
12,651.00	89.79	2.79	6,489.83	6,117.72	-1,418.10	6,260.44	3.62	-0.83	3.52	
12,740.00	90.32	4.24	6,489.74	6,206.55	-1,412.64	6,347.48	1.73	0.60	1.63	
12,829.00	89.44	3.45	6,489.93	6,295.35	-1,406.67	6,434.41	1.33	-0.99	-0.89	
12,918.00	89.00	3.32	6,491.14	6,384.18	-1,401.42	6,521.48	0.52	-0.49	-0.15	
13,007.00	89.00	3.36	6,492.69	6,473.02	-1,396.23	6,608.56	0.04	0.00	0.04	
13,096.00	88.38	3.19	6,494.73	6,561.85	-1,391.15	6,695.65	0.72	-0.70	-0.19	
13,185.00	90.01	2.04	6,495.98	6,650.74	-1,387.09	6,782.96	2.24	1.83	-1.29	
13,274.00	90.54	4.11	6,495.55	6,739.61	-1,382.32	6,870.13	2.40	0.60	2.33	
13,363.00	91.47	4.99	6,493.99	6,828.31	-1,375.26	6,956.81	1.44	1.04	0.99	
13,452.00	90.59	2.70	6,492.39	6,917.09	-1,369.29	7,043.71	2.76	-0.99	-2.57	
13,541.00	89.70	1.11	6,492.16	7,006.04	-1,366.33	7,131.24	2.05	-1.00	-1.79	
13,630.00	89.53	0.37	6,492.76	7,095.03	-1,365.18	7,219.07	0.85	-0.19	-0.83	
13,719.00	89.17	0.01	6,493.77	7,184.02	-1,364.89	7,307.03	0.57	-0.40	-0.40	
13,808.00	88.64	359.97	6,495.47	7,273.00	-1,364.90	7,395.03	0.60	-0.60	-0.04	
13,898.00	88.38	359.57	6,497.81	7,362.97	-1,365.27	7,484.06	0.53	-0.29	-0.44	
13,986.00	90.37	358.82	6,498.77	7,450.95	-1,366.50	7,571.25	2.42	2.26	-0.85	
14,076.00	90.81	356.84	6,497.85	7,540.88	-1,369.91	7,660.69	2.25	0.49	-2.20	
14,165.00	90.41	358.60	6,496.90	7,629.80	-1,373.45	7,749.15	2.03	-0.45	1.98	
14,254.00	90.15	0.63	6,496.46	7,718.79	-1,374.05	7,837.24	2.30	-0.29	2.28	
14,343.00	90.10	1.64	6,496.27	7,807.77	-1,372.28	7,924.98	1.14	-0.06	1.13	
14,521.00	90.37	0.59	6,495.54	7,985.74	-1,368.82	8,100.45	0.61	0.15	-0.59	
14,610.00	90.15	0.98	6,495.14	8,074.73	-1,367.60	8,188.28	0.50	-0.25	0.44	
14,699.00	90.01	0.14	6,495.01	8,163.72	-1,366.73	8,276.16	0.96	-0.16	-0.94	
14,788.00	90.19	0.37	6,494.86	8,252.72	-1,366.34	8,364.11	0.33	0.20	0.26	
14,877.00	90.19	359.44	6,494.56	8,341.72	-1,366.48	8,452.14	1.04	0.00	-1.04	
14,966.00	89.88	359.57	6,494.51	8,430.71	-1,367.25	8,540.27	0.38	-0.35	0.15	
15,055.00	91.34	1.20	6,493.56	8,519.70	-1,366.65	8,628.18	2.46	1.64	1.83	
15,144.00	91.34	0.72	6,491.48	8,608.67	-1,365.16	8,715.94	0.54	0.00	-0.54	
15,233.00	90.68	359.18	6,489.91	8,697.65	-1,365.24	8,803.95	1.88	-0.74	-1.73	
15,322.00	90.37	359.48	6,489.09	8,786.64	-1,366.28	8,892.11	0.48	-0.35	0.34	
15,411.00	90.10	359.26	6,488.73	8,875.63	-1,367.26	8,980.26	0.39	-0.30	-0.25	
15,500.00	89.17	358.56	6,489.30	8,964.61	-1,368.95	9,068.50	1.31	-1.04	-0.79	
15,555.16	88.54	358.12	6,490.40	9,019.74	-1,370.55	9,123.26	1.39	-1.13	-0.80	
~1000' X-OVER PNT - 15555.16' MD, 1000' FNL, 1001' FWL SEC 7										
15,589.00	88.16	357.85	6,491.37	9,053.54	-1,371.74	9,156.86	1.39	-1.13	-0.80	
15,643.00	87.50	357.85	6,493.41	9,107.47	-1,373.76	9,210.49	1.22	-1.22	0.00	
LAST SURVEY - 15643' MD, 6493' TVD										

## Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-2
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4974.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4974.00usft
<b>Well:</b>	ROSS 8-60 18-7-2	<b>North Reference:</b>	True
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEY	<b>Database:</b>	EDT_32Bit_ODBC

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,703.00	87.50	357.85	6,496.03	9,167.37	-1,376.01	9,270.06	0.00	0.00	0.00
EXTRAPOLATION TO TD - 15703' MD, 852' FNL, 994' FWL SEC 7									

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									
PBHL-ROSS 8-60 2	0.00	0.00	6,490.00	9,169.84	-1,360.44	1,494,063.07	3,377,198.88	40.681656°N	104.139952°W
- actual wellpath misses target center by 16.88usft at 15703.00usft MD (6496.03 TVD, 9167.37 N, -1376.01 E)									
- Point									
EPI-ROSS 8-60 2	0.00	0.00	6,490.00	9,019.74	-1,361.28	1,493,912.97	3,377,200.35	40.681244°N	104.139955°W
- actual wellpath misses target center by 9.27usft at 15554.88usft MD (6490.39 TVD, 9019.46 N, -1370.54 E)									
- Point									
LP-ROSS 8-60 2	0.00	0.00	6,490.00	432.87	-1,447.49	1,485,325.95	3,377,246.32	40.657675°N	104.140264°W
- actual wellpath misses target center by 19.80usft at 6962.38usft MD (6480.63 TVD, 433.38 N, -1430.06 E)									
- Point									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,966.00	1,925.34	-44.58	-343.62	SURFACE CSG - 1966' MD, 1925' TVD	
6,060.00	5,905.87	-145.60	-1,291.79	KOP - 6060' MD, 5906' TVD	
6,961.87	6,480.57	432.87	-1,430.06	~1000' X-OVER PNT - 6961.87' MD, 1000' FSL, 1027' FWL SEC 18	
7,012.00	6,485.36	482.75	-1,428.94	HZ LANDING PNT - 7012' MD, 6485' TVD	
15,555.16	6,490.40	9,019.74	-1,370.55	~1000' X-OVER PNT - 15555.16' MD, 1000' FNL, 1001' FWL SEC 7	
15,643.00	6,493.41	9,107.47	-1,373.76	LAST SURVEY - 15643' MD, 6493' TVD	
15,703.00	6,496.03	9,167.37	-1,376.01	EXTRAPOLATION TO TD - 15703' MD, 852' FNL, 994' FWL SEC 7	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------