

# **BISON OIL & GAS II**

**WELD COUNTY  
SEC 18-T8N-R60W  
ROSS 8-60 18-7-6**

**OWB**

**Design: FINAL SURVEY**

## **Standard Survey Report**

**02 June, 2022**

Project: WELD COUNTY  
Site: SEC 18-T8N-R60W  
Well: ROSS 8-60 18-7-6  
Wellbore: OWB  
Design: FINAL SURVEY

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: 52056.4snT  
Dip Angle: 66.91°  
Date: 5/4/2022  
Model: IGRF2020

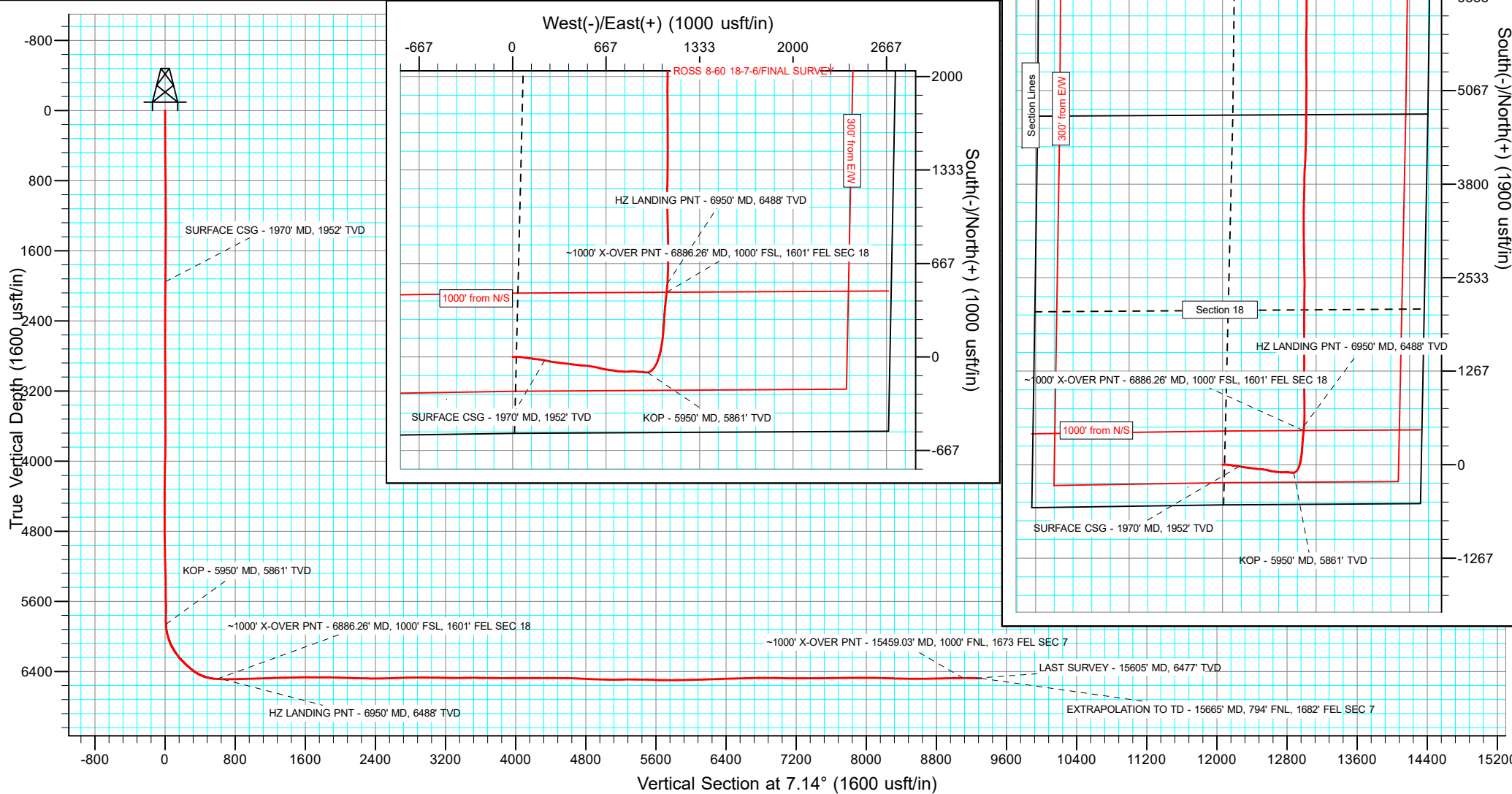
WELL DETAILS: ROSS 8-60 18-7-6

				4952.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot			
0.00	0.00	1484917.87	3378812.07	40.656489°N	104.134644°W				

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
1970.00	9.56	100.86	1951.73	-23.85	228.14	4.68	230.09	SURFACE CSG - 1970' MD, 1952' TVD
5950.00	10.81	83.68	5861.34	-111.16	963.81	9.46	973.62	KOP - 5950' MD, 5861' TVD
6886.26	86.32	5.69	6485.00	461.27	1098.30	594.17	1582.74	~1000' X-OVER PNT - 6886.26' MD, 1000' FSL, 1601' FEL SEC 18
6950.00	88.91	4.02	6487.65	524.72	1103.70	657.80	1646.39	HZ LANDING PNT - 6950' MD, 6488' TVD
15459.03	89.34	358.68	6475.24	9029.20	1164.52	9103.92	10153.41	~1000' X-OVER PNT - 15459.03' MD, 1000' FNL, 1673 FEL SEC 7
15605.00	88.47	357.24	6477.12	9175.06	1159.39	9248.02	10299.37	LAST SURVEY - 15605' MD, 6477' TVD
15665.00	88.47	357.24	6478.72	9234.97	1156.50	9307.10	10359.34	EXTRAPOLATION TO TD - 15665' MD, 794' FNL, 1682' FEL SEC 7

SHL:  
545' FSL, 2576' FWL  
Sec 18-T8N-R60W  
~1000' X-OVER PNT:  
1000' FSL, 1601' FEL  
Sec 18-T8N-R60W  
~1000' X-OVER PNT:  
1000' FNL, 1673' FEL  
Sec 7-T8N-R60W  
BHL:  
794' FNL, 1682' FEL  
Sec 7-T8N-R60W



## Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-6
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4976.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4976.00usft
<b>Well:</b>	ROSS 8-60 18-7-6	<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 18-7-6					
Well Position	+N/-S	0.00 usft	Northing:	1,484,917.87 usft	Latitude:	40.656489°N
	+E/-W	0.00 usft	Easting:	3,378,812.07 usft	Longitude:	104.134644°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,952.00 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	52,056.42442566

<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	7.14	

<b>Survey Program</b>	<b>Date</b>	6/2/2022			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
157.00	1,912.00	SURFACE SURVEY (OWB)	MWD	OWSG MWD - Standard	
2,027.00	15,665.00	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	1.10	85.47	156.99	0.12	1.50	0.30	0.70	0.70	0.00	
246.00	1.02	88.56	245.98	0.21	3.15	0.60	0.11	-0.09	3.47	
335.00	1.37	92.30	334.96	0.18	5.00	0.80	0.40	0.39	4.20	
424.00	1.41	93.76	423.93	0.07	7.16	0.96	0.06	0.04	1.64	
513.00	1.94	86.13	512.89	0.10	9.75	1.31	0.64	0.60	-8.57	
602.00	3.09	94.24	601.80	0.02	13.65	1.72	1.35	1.29	9.11	
691.00	4.73	89.79	690.59	-0.14	19.71	2.31	1.87	1.84	-5.00	
781.00	6.85	83.14	780.13	0.51	28.75	4.08	2.47	2.36	-7.39	
869.00	8.18	89.04	867.37	1.25	40.22	6.23	1.75	1.51	6.70	

## Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-6
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4976.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4976.00usft
<b>Well:</b>	ROSS 8-60 18-7-6	<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	8.44	98.47	955.44	0.39	53.01	6.97	1.56	0.29	10.60
1,047.00	8.71	98.12	1,043.45	-1.52	66.14	6.71	0.31	0.30	-0.39
1,136.00	9.15	97.94	1,131.37	-3.45	79.82	6.49	0.50	0.49	-0.20
1,225.00	9.77	96.58	1,219.16	-5.30	94.33	6.47	0.74	0.70	-1.53
1,315.00	10.16	97.77	1,307.80	-7.24	109.78	6.45	0.49	0.43	1.32
1,404.00	11.05	98.08	1,395.28	-9.50	126.01	6.23	1.00	1.00	0.35
1,493.00	11.84	101.29	1,482.51	-12.49	143.41	5.43	1.14	0.89	3.61
1,582.00	11.22	96.09	1,569.72	-15.20	160.97	4.92	1.36	-0.70	-5.84
1,671.00	10.69	92.92	1,657.10	-16.54	177.82	5.69	0.90	-0.60	-3.56
1,760.00	9.68	98.21	1,744.69	-18.03	193.47	6.16	1.55	-1.13	5.94
1,912.00	9.63	100.15	1,894.54	-22.09	218.64	5.25	0.22	-0.03	1.28
1,970.00	9.56	100.86	1,951.73	-23.85	228.14	4.68	0.23	-0.11	1.22
SURFACE CSG - 1970' MD, 1952' TVD									
2,027.00	9.50	101.56	2,007.94	-25.69	237.40	4.01	0.23	-0.11	1.23
2,205.00	8.57	103.28	2,183.73	-31.68	264.70	1.46	0.54	-0.52	0.97
2,295.00	11.18	97.19	2,272.39	-34.31	279.89	0.73	3.12	2.90	-6.77
2,384.00	11.09	97.46	2,359.72	-36.50	296.94	0.68	0.12	-0.10	0.30
2,473.00	10.65	97.11	2,447.12	-38.63	313.58	0.63	0.50	-0.49	-0.39
2,562.00	10.16	97.42	2,534.66	-40.66	329.53	0.60	0.55	-0.55	0.35
2,651.00	9.68	98.91	2,622.33	-42.84	344.71	0.33	0.61	-0.54	1.67
2,740.00	11.93	96.18	2,709.74	-44.99	361.25	0.25	2.59	2.53	-3.07
2,829.00	11.58	96.36	2,796.88	-46.96	379.27	0.53	0.40	-0.39	0.20
2,918.00	11.36	96.36	2,884.10	-48.93	396.86	0.77	0.25	-0.25	0.00
3,007.00	11.14	97.55	2,971.39	-51.03	414.09	0.82	0.36	-0.25	1.34
3,096.00	10.47	96.45	3,058.81	-53.06	430.65	0.86	0.79	-0.75	-1.24
3,185.00	9.85	97.06	3,146.42	-54.91	446.24	0.97	0.71	-0.70	0.69
3,274.00	10.25	96.71	3,234.05	-56.77	461.66	1.04	0.45	0.45	-0.39
3,363.00	9.10	98.12	3,321.78	-58.69	476.49	0.98	1.32	-1.29	1.58
3,453.00	11.40	93.63	3,410.34	-60.26	492.42	1.40	2.70	2.56	-4.99
3,542.00	11.71	93.41	3,497.54	-61.35	510.21	2.52	0.35	0.35	-0.25
3,631.00	11.67	92.83	3,584.69	-62.33	528.22	3.79	0.14	-0.04	-0.65
3,720.00	11.93	100.50	3,671.82	-64.45	546.25	3.92	1.79	0.29	8.62
3,809.00	11.89	100.02	3,758.90	-67.73	564.33	2.92	0.12	-0.04	-0.54
3,898.00	12.02	99.71	3,845.97	-70.88	582.49	2.05	0.16	0.15	-0.35
3,987.00	11.80	102.09	3,933.05	-74.35	600.52	0.84	0.60	-0.25	2.67
4,076.00	10.83	103.14	4,020.32	-78.16	617.56	-0.82	1.11	-1.09	1.18
4,165.00	9.63	105.74	4,107.91	-82.08	632.87	-2.80	1.44	-1.35	2.92
4,254.00	9.81	103.41	4,195.63	-85.86	647.41	-4.74	0.49	0.20	-2.62
4,343.00	11.22	97.28	4,283.14	-88.71	663.38	-5.59	2.02	1.58	-6.89
4,432.00	10.38	100.02	4,370.56	-91.21	679.86	-6.02	1.11	-0.94	3.08
4,522.00	10.56	95.12	4,459.06	-93.35	696.06	-6.14	1.01	0.20	-5.44
4,611.00	11.49	98.12	4,546.42	-95.33	712.96	-6.00	1.23	1.04	3.37
4,700.00	10.30	101.65	4,633.82	-98.19	729.53	-6.78	1.53	-1.34	3.97

# Survey Report

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<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4976.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4976.00usft
<b>Well:</b>	ROSS 8-60 18-7-6	<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)
4,789.00	11.18	99.05	4,721.26	-101.16	745.84	-7.69	1.13	0.99	-2.92
4,878.00	11.45	89.13	4,808.53	-102.38	763.20	-6.75	2.21	0.30	-11.15
4,967.00	9.54	96.27	4,896.05	-103.05	779.37	-5.41	2.59	-2.15	8.02
5,056.00	10.96	94.77	4,983.62	-104.56	795.13	-4.95	1.62	1.60	-1.69
5,146.00	10.91	84.90	5,072.00	-104.51	812.14	-2.79	2.08	-0.06	-10.97
5,235.00	11.80	86.71	5,159.25	-103.24	829.61	0.65	1.08	1.00	2.03
5,324.00	12.06	89.53	5,246.33	-102.64	848.00	3.52	0.72	0.29	3.17
5,413.00	9.85	89.44	5,333.71	-102.49	864.91	5.77	2.48	-2.48	-0.10
5,502.00	11.14	99.53	5,421.22	-103.84	881.00	6.44	2.52	1.45	11.34
5,614.00	12.51	93.80	5,530.85	-106.44	903.78	6.69	1.61	1.22	-5.12
5,703.00	9.77	87.41	5,618.16	-106.74	920.94	8.53	3.37	-3.08	-7.18
5,792.00	9.54	101.29	5,705.92	-107.84	935.72	9.27	2.62	-0.26	15.60
5,881.00	10.69	100.19	5,793.53	-110.74	951.08	8.30	1.31	1.29	-1.24
5,950.00	10.81	83.68	5,861.34	-111.16	963.81	9.46	4.45	0.17	-23.93
<b>KOP - 5950' MD, 5861' TVD</b>									
5,970.00	11.00	79.08	5,880.98	-110.59	967.55	10.49	4.45	0.97	-22.98
6,059.00	18.25	50.48	5,967.14	-100.09	986.68	23.29	11.27	8.15	-32.13
6,148.00	23.29	39.78	6,050.36	-77.68	1,008.71	48.27	7.07	5.66	-12.02
6,237.00	30.45	22.32	6,129.82	-43.20	1,028.59	84.95	11.90	8.04	-19.62
6,326.00	36.41	16.60	6,204.08	3.03	1,044.72	132.82	7.57	6.70	-6.43
6,415.00	43.22	11.04	6,272.43	58.34	1,058.12	189.37	8.63	7.65	-6.25
6,505.00	47.95	7.50	6,335.41	121.76	1,068.39	253.57	5.96	5.26	-3.93
6,594.00	52.76	4.24	6,392.18	189.90	1,075.33	322.05	6.09	5.40	-3.66
6,683.00	64.65	3.54	6,438.33	265.64	1,080.45	397.84	13.38	13.36	-0.79
6,772.00	75.70	5.17	6,468.47	348.99	1,086.84	481.33	12.53	12.42	1.83
6,861.00	85.29	6.36	6,483.15	436.22	1,095.66	568.98	10.86	10.78	1.34
6,886.26	86.32	5.69	6,485.00	461.27	1,098.30	594.17	4.84	4.07	-2.64
<b>~1000' X-OVER PNT - 6886.26' MD, 1000' FSL, 1601' FEL SEC 18</b>									
6,950.00	88.91	4.02	6,487.65	524.72	1,103.70	657.80	4.84	4.07	-2.63
<b>HZ LANDING PNT - 6950' MD, 6488' TVD</b>									
7,039.00	90.32	1.47	6,488.25	613.60	1,107.96	746.52	3.27	1.58	-2.87
7,128.00	91.78	0.06	6,486.62	702.58	1,109.14	834.95	2.28	1.64	-1.58
7,217.00	91.74	359.48	6,483.89	791.53	1,108.79	923.18	0.65	-0.04	-0.65
7,306.00	91.74	358.96	6,481.18	880.48	1,107.58	1,011.29	0.58	0.00	-0.58
7,395.00	91.38	358.12	6,478.76	969.42	1,105.31	1,099.25	1.03	-0.40	-0.94
7,484.00	91.69	359.79	6,476.38	1,058.37	1,103.69	1,187.31	1.91	0.35	1.88
7,573.00	92.09	359.26	6,473.44	1,147.32	1,102.95	1,275.48	0.75	0.45	-0.60
7,662.00	91.16	1.29	6,470.92	1,236.28	1,103.38	1,363.80	2.51	-1.04	2.28
7,751.00	91.47	0.63	6,468.87	1,325.24	1,104.87	1,452.26	0.82	0.35	-0.74
7,840.00	90.15	0.37	6,467.62	1,414.23	1,105.64	1,540.65	1.51	-1.48	-0.29
7,929.00	90.23	0.23	6,467.32	1,503.22	1,106.11	1,629.02	0.18	0.09	-0.16
8,018.00	89.75	0.14	6,467.34	1,592.22	1,106.40	1,717.36	0.55	-0.54	-0.10
8,107.00	89.88	359.44	6,467.62	1,681.22	1,106.07	1,805.63	0.80	0.15	-0.79
8,196.00	89.48	358.47	6,468.12	1,770.20	1,104.45	1,893.72	1.18	-0.45	-1.09

## Survey Report

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<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4976.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4976.00usft
<b>Well:</b>	ROSS 8-60 18-7-6	<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)	
8,285.00	88.07	0.19	6,470.02	1,859.17	1,103.41	1,981.87	2.50	-1.58	1.93	
8,374.00	88.51	0.76	6,472.68	1,948.13	1,104.15	2,070.23	0.81	0.49	0.64	
8,463.00	87.54	0.67	6,475.75	2,037.07	1,105.26	2,158.62	1.09	-1.09	-0.10	
8,552.00	89.40	0.45	6,478.12	2,126.03	1,106.12	2,247.00	2.10	2.09	-0.25	
8,641.00	89.09	0.14	6,479.30	2,215.02	1,106.58	2,335.36	0.49	-0.35	-0.35	
8,730.00	90.77	0.72	6,479.41	2,304.01	1,107.25	2,423.74	2.00	1.89	0.65	
8,819.00	90.99	2.66	6,478.04	2,392.96	1,109.88	2,512.33	2.19	0.25	2.18	
8,909.00	92.09	359.66	6,475.62	2,482.90	1,111.70	2,601.79	3.55	1.22	-3.33	
8,998.00	92.22	359.18	6,472.27	2,571.83	1,110.80	2,689.92	0.56	0.15	-0.54	
9,087.00	90.77	358.29	6,469.95	2,660.77	1,108.83	2,777.94	1.91	-1.63	-1.00	
9,176.00	91.07	357.81	6,468.52	2,749.71	1,105.80	2,865.81	0.64	0.34	-0.54	
9,265.00	87.98	358.03	6,469.26	2,838.64	1,102.57	2,953.64	3.48	-3.47	0.25	
9,354.00	90.06	359.70	6,470.78	2,927.60	1,100.81	3,041.70	3.00	2.34	1.88	
9,443.00	89.44	358.78	6,471.17	3,016.59	1,099.63	3,129.85	1.25	-0.70	-1.03	
9,532.00	89.04	359.53	6,472.35	3,105.57	1,098.32	3,217.98	0.95	-0.45	0.84	
9,621.00	89.26	359.92	6,473.67	3,194.56	1,097.89	3,306.23	0.50	0.25	0.44	
9,710.00	90.37	0.19	6,473.96	3,283.56	1,097.98	3,394.54	1.28	1.25	0.30	
9,800.00	91.21	1.33	6,472.72	3,373.54	1,099.17	3,483.98	1.57	0.93	1.27	
9,889.00	88.60	0.06	6,472.86	3,462.52	1,100.25	3,572.41	3.26	-2.93	-1.43	
9,978.00	89.26	1.78	6,474.53	3,551.49	1,101.68	3,660.86	2.07	0.74	1.93	
10,067.00	89.09	1.03	6,475.81	3,640.46	1,103.86	3,749.41	0.86	-0.19	-0.84	
10,156.00	90.63	1.73	6,476.03	3,729.43	1,106.01	3,837.95	1.90	1.73	0.79	
10,245.00	89.13	0.14	6,476.21	3,818.41	1,107.46	3,926.43	2.46	-1.69	-1.79	
10,334.00	91.65	1.60	6,475.61	3,907.39	1,108.81	4,014.88	3.27	2.83	1.64	
10,423.00	89.44	2.08	6,474.76	3,996.33	1,111.67	4,103.49	2.54	-2.48	0.54	
10,512.00	90.15	3.36	6,475.08	4,085.23	1,115.89	4,192.23	1.64	0.80	1.44	
10,601.00	90.01	2.83	6,474.95	4,174.10	1,120.69	4,281.01	0.62	-0.16	-0.60	
10,690.00	89.75	3.23	6,475.14	4,262.97	1,125.40	4,369.78	0.54	-0.29	0.45	
10,779.00	90.50	1.11	6,474.95	4,351.90	1,128.77	4,458.44	2.53	0.84	-2.38	
10,868.00	89.09	0.54	6,475.26	4,440.89	1,130.05	4,546.89	1.71	-1.58	-0.64	
10,957.00	88.38	0.45	6,477.23	4,529.87	1,130.82	4,635.27	0.80	-0.80	-0.10	
11,047.00	87.85	0.28	6,480.19	4,619.81	1,131.39	4,724.60	0.62	-0.59	-0.19	
11,136.00	87.05	0.32	6,484.15	4,708.72	1,131.86	4,812.88	0.90	-0.90	0.04	
11,225.00	87.23	0.23	6,488.59	4,797.61	1,132.28	4,901.13	0.23	0.20	-0.10	
11,314.00	88.11	1.03	6,492.21	4,886.53	1,133.26	4,989.48	1.34	0.99	0.90	
11,403.00	90.94	0.72	6,492.95	4,975.51	1,134.62	5,077.94	3.20	3.18	-0.35	
11,492.00	92.14	0.37	6,490.55	5,064.47	1,135.47	5,166.31	1.40	1.35	-0.39	
11,581.00	89.22	0.01	6,489.50	5,153.46	1,135.76	5,254.64	3.31	-3.28	-0.40	
11,670.00	88.69	359.48	6,491.12	5,242.44	1,135.37	5,342.89	0.84	-0.60	-0.60	
11,759.00	89.57	359.57	6,492.47	5,331.42	1,134.63	5,431.09	0.99	0.99	0.10	
11,848.00	88.86	359.31	6,493.69	5,420.41	1,133.76	5,519.28	0.85	-0.80	-0.29	
11,937.00	87.85	358.73	6,496.25	5,509.36	1,132.24	5,607.35	1.31	-1.13	-0.65	
12,026.00	89.62	0.37	6,498.21	5,598.33	1,131.54	5,695.55	2.71	1.99	1.84	

# Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-6
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4976.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4976.00usft
<b>Well:</b>	ROSS 8-60 18-7-6	<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)	
12,115.00	90.23	0.41	6,498.33	5,687.33	1,132.14	5,783.93	0.69	0.69	0.04	
12,204.00	91.03	1.42	6,497.35	5,776.31	1,133.57	5,872.40	1.45	0.90	1.13	
12,293.00	90.85	0.89	6,495.89	5,865.28	1,135.36	5,960.90	0.63	-0.20	-0.60	
12,382.00	91.34	1.56	6,494.19	5,954.24	1,137.26	6,049.41	0.93	0.55	0.75	
12,471.00	91.21	359.75	6,492.21	6,043.21	1,138.28	6,137.81	2.04	-0.15	-2.03	
12,560.00	92.36	0.54	6,489.44	6,132.16	1,138.50	6,226.11	1.57	1.29	0.89	
12,650.00	92.18	0.06	6,485.87	6,222.09	1,138.97	6,315.40	0.57	-0.20	-0.53	
12,739.00	91.83	359.31	6,482.76	6,311.03	1,138.49	6,403.59	0.93	-0.39	-0.84	
12,828.00	92.14	358.82	6,479.67	6,399.97	1,137.03	6,491.65	0.65	0.35	-0.55	
12,917.00	91.25	359.79	6,477.04	6,488.92	1,135.96	6,579.78	1.48	-1.00	1.09	
13,006.00	91.16	359.40	6,475.17	6,577.90	1,135.33	6,667.99	0.45	-0.10	-0.44	
13,095.00	91.25	358.60	6,473.30	6,666.87	1,133.77	6,756.08	0.90	0.10	-0.90	
13,184.00	89.84	1.11	6,472.45	6,755.85	1,133.55	6,844.35	3.23	-1.58	2.82	
13,273.00	89.31	1.11	6,473.11	6,844.83	1,135.27	6,932.85	0.60	-0.60	0.00	
13,362.00	88.25	0.94	6,475.01	6,933.80	1,136.86	7,021.32	1.21	-1.19	-0.19	
13,451.00	88.38	1.78	6,477.62	7,022.73	1,138.98	7,109.83	0.95	0.15	0.94	
13,540.00	89.84	2.66	6,479.01	7,111.65	1,142.42	7,198.49	1.92	1.64	0.99	
13,629.00	90.63	2.26	6,478.64	7,200.57	1,146.24	7,287.19	0.99	0.89	-0.45	
13,718.00	90.90	2.83	6,477.45	7,289.47	1,150.19	7,375.90	0.71	0.30	0.64	
13,807.00	91.03	2.35	6,475.95	7,378.37	1,154.22	7,464.61	0.56	0.15	-0.54	
13,896.00	91.34	2.04	6,474.11	7,467.28	1,157.62	7,553.26	0.49	0.35	-0.35	
13,985.00	89.75	3.27	6,473.27	7,556.18	1,161.75	7,641.97	2.26	-1.79	1.38	
14,075.00	89.35	3.71	6,473.97	7,646.01	1,167.22	7,731.79	0.66	-0.44	0.49	
14,163.00	90.10	3.01	6,474.40	7,733.86	1,172.38	7,819.60	1.17	0.85	-0.80	
14,252.00	90.63	2.61	6,473.83	7,822.75	1,176.75	7,908.34	0.75	0.60	-0.45	
14,342.00	90.94	2.13	6,472.60	7,912.66	1,180.47	7,998.02	0.63	0.34	-0.53	
14,431.00	89.22	0.37	6,472.47	8,001.63	1,182.41	8,086.54	2.76	-1.93	-1.98	
14,520.00	88.33	359.84	6,474.37	8,090.61	1,182.57	8,174.85	1.16	-1.00	-0.60	
14,608.00	87.67	359.26	6,477.45	8,178.55	1,181.88	8,262.03	1.00	-0.75	-0.66	
14,698.00	89.22	359.22	6,479.89	8,268.51	1,180.69	8,351.14	1.72	1.72	-0.04	
14,787.00	88.33	359.31	6,481.79	8,357.48	1,179.55	8,439.28	1.01	-1.00	0.10	
14,876.00	89.93	358.96	6,483.14	8,446.46	1,178.20	8,527.40	1.84	1.80	-0.39	
14,965.00	89.75	358.47	6,483.39	8,535.43	1,176.21	8,615.44	0.59	-0.20	-0.55	
15,054.00	91.30	359.04	6,482.57	8,624.41	1,174.27	8,703.48	1.86	1.74	0.64	
15,143.00	91.12	358.60	6,480.70	8,713.37	1,172.44	8,791.52	0.53	-0.20	-0.49	
15,232.00	91.60	357.94	6,478.58	8,802.30	1,169.75	8,879.43	0.92	0.54	-0.74	
15,321.00	92.18	358.73	6,475.65	8,891.21	1,167.17	8,967.34	1.10	0.65	0.89	
15,410.00	89.17	359.09	6,474.60	8,980.18	1,165.48	9,055.40	3.41	-3.38	0.40	
15,459.03	89.34	358.68	6,475.24	9,029.20	1,164.52	9,103.92	0.91	0.35	-0.84	
~1000' X-OVER PNT - 15459.03' MD, 1000' FNL, 1673 FEL SEC 7										
15,499.00	89.48	358.34	6,475.65	9,069.15	1,163.48	9,143.44	0.91	0.35	-0.84	
15,588.00	89.09	357.41	6,476.76	9,158.08	1,160.18	9,231.27	1.13	-0.44	-1.04	
15,605.00	88.47	357.24	6,477.12	9,175.06	1,159.39	9,248.02	3.78	-3.65	-1.00	
LAST SURVEY - 15605' MD, 6477' TVD										

## Survey Report

<b>Company:</b>	BISON OIL & GAS II	<b>Local Co-ordinate Reference:</b>	Well ROSS 8-60 18-7-6
<b>Project:</b>	WELD COUNTY	<b>TVD Reference:</b>	KB 24' @ 4976.00usft
<b>Site:</b>	SEC 18-T8N-R60W	<b>MD Reference:</b>	KB 24' @ 4976.00usft
<b>Well:</b>	ROSS 8-60 18-7-6	<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)
15,665.00	88.47	357.24	6,478.72	9,234.97	1,156.50	9,307.10	0.00	0.00	0.00
EXTRAPOLATION TO TD - 15665' MD, 794' FNL, 1682' FEL 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									
LP-ROSS 8-60 6	0.00	0.00	6,485.00	461.27	1,080.42	1,485,395.71	3,379,885.24	40.657755°N	104.130750°W
- actual wellpath misses target center by 17.80usft at 6884.39usft MD (6484.88 TVD, 459.41 N, 1098.12 E)									
- Point									
EPI-ROSS 8-60 6	0.00	0.00	6,525.00	9,029.20	1,166.30	1,493,963.79	3,379,839.19	40.681272°N	104.130439°W
- actual wellpath misses target center by 49.79usft at 15459.50usft MD (6475.24 TVD, 9029.67 N, 1164.51 E)									
- Point									
PBHL-ROSS 8-60 6	0.00	0.00	6,525.00	9,178.94	1,166.85	1,494,113.52	3,379,837.43	40.681683°N	104.130437°W
- actual wellpath misses target center by 48.61usft at 15605.00usft MD (6477.12 TVD, 9175.06 N, 1159.39 E)									
- Point									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,970.00	1,951.73	-23.85	228.14	SURFACE CSG - 1970' MD, 1952' TVD	
5,950.00	5,861.34	-111.16	963.81	KOP - 5950' MD, 5861' TVD	
6,886.26	6,485.00	461.27	1,098.30	~1000' X-OVER PNT - 6886.26' MD, 1000' FSL, 1601' FEL SEC 18	
6,950.00	6,487.65	524.72	1,103.70	HZ LANDING PNT - 6950' MD, 6488' TVD	
15,459.03	6,475.24	9,029.20	1,164.52	~1000' X-OVER PNT - 15459.03' MD, 1000' FNL, 1673 FEL SEC 7	
15,605.00	6,477.12	9,175.06	1,159.39	LAST SURVEY - 15605' MD, 6477' TVD	
15,665.00	6,478.72	9,234.97	1,156.50	EXTRAPOLATION TO TD - 15665' MD, 794' FNL, 1682' FEL SEC 7	

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