

# **EXTRACTION OIL & GAS**

**Adams County**

**Sec 29-T1-R66W**

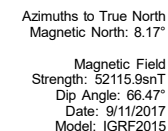
**PC 1S-66-2928-12NH**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**12 September, 2017**



Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PC 12NH LP	7501.00	295.08	-824.44	1219764.23	3194291.53	39° 56' 4.380 N	104° 48' 25.704 W	Point
- plan hits target center								
PC 12NH PBHL	7501.00	282.05	8774.42	1219826.51	3203890.20	39° 56' 4.236 N	104° 46' 22.476 W	Point
- plan hits target center								

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

True Vertical Depth (1700 usft/in)

Vertical Section at 88.16° (1700 usft/in)

KOP, BUILD 12"/100'

DROP 2"/100'

HOLD VERTICAL

LP @ 90° INC, 90.08° AZM HOLD

Section 29

Section 28

TD at 17544.62' MD

PC 12NH PBHL

ABND VERT POLLARD 1/Design #1

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well PC 1S-66-2928-12NH
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5090.00usft
<b>Project:</b>	Adams County	<b>MD Reference:</b>	KB 25' @ 5090.00usft
<b>Site:</b>	Sec 29-T1-R66W	<b>North Reference:</b>	True
<b>Well:</b>	PC 1S-66-2928-12NH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

<b>Project</b>	Adams 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		

Site		Sec 29-T1-R66W			
Site Position:		Northing:	1,217,694.95 usft	Latitude:	39° 55' 43.968 N
From:	Lat/Long	Easting:	3,193,805.68 usft	Longitude:	104° 48' 32.148 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.45 °

Well	PC 1S-66-2928-12NH					
Well Position	+N/-S	1,770.39 usft	Northing:	1,219,475.62 usft	Latitude:	39° 56' 1.464 N
	+E/-W	1,326.41 usft	Easting:	3,195,118.26 usft	Longitude:	104° 48' 15.120 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,065.00 usft

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	9/11/2017	8.17	66.47	52,115.91420925

<b>Design</b>	PROPOSAL 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	88.16

<b>Plan Survey Tool Program</b>	<b>Date</b>	9/12/2017		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	17,544.62	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG
			OWSG MWD - Standard	

<b>Plan Sections</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>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,175.09	15.50	282.80	2,165.67	23.09	-101.63	2.00	2.00	0.00	282.80	
6,390.61	15.50	282.80	6,227.83	272.66	-1,200.31	0.00	0.00	0.00	0.00	
7,165.70	0.00	0.00	6,993.50	295.75	-1,301.94	2.00	-2.00	0.00	180.00	
7,195.70	0.00	0.00	7,023.50	295.75	-1,301.94	0.00	0.00	0.00	0.00	
7,945.75	90.00	90.08	7,501.00	295.08	-824.44	12.00	12.00	12.01	90.08	PC 12NH LP
17,544.62	90.00	90.08	7,501.00	282.05	8,774.42	0.00	0.00	0.00	0.00	PC 12NH PBHL

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well PC 1S-66-2928-12NH
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5090.00usft
<b>Project:</b>	Adams County	<b>MD Reference:</b>	KB 25' @ 5090.00usft
<b>Site:</b>	Sec 29-T1-R66W	<b>North Reference:</b>	True
<b>Well:</b>	PC 1S-66-2928-12NH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned 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)
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
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
BUILD 2°/100'									
1,500.00	2.00	282.80	1,499.98	0.39	-1.70	-1.69	2.00	2.00	0.00
1,600.00	4.00	282.80	1,599.84	1.55	-6.81	-6.75	2.00	2.00	0.00
1,700.00	6.00	282.80	1,699.45	3.48	-15.30	-15.18	2.00	2.00	0.00
1,800.00	8.00	282.80	1,798.70	6.18	-27.19	-26.97	2.00	2.00	0.00
1,900.00	10.00	282.80	1,897.47	9.64	-42.44	-42.11	2.00	2.00	0.00
2,000.00	12.00	282.80	1,995.62	13.87	-61.05	-60.57	2.00	2.00	0.00
2,100.00	14.00	282.80	2,093.06	18.85	-82.98	-82.33	2.00	2.00	0.00
2,175.09	15.50	282.80	2,165.67	23.09	-101.63	-100.83	2.00	2.00	0.00
HOLD 15.50° INC									
2,200.00	15.50	282.80	2,189.67	24.56	-108.12	-107.27	0.00	0.00	0.00
2,300.00	15.50	282.80	2,286.03	30.48	-134.18	-133.13	0.00	0.00	0.00
2,400.00	15.50	282.80	2,382.40	36.40	-160.24	-158.99	0.00	0.00	0.00
2,500.00	15.50	282.80	2,478.76	42.32	-186.31	-184.85	0.00	0.00	0.00
2,600.00	15.50	282.80	2,575.12	48.24	-212.37	-210.71	0.00	0.00	0.00
2,700.00	15.50	282.80	2,671.48	54.16	-238.43	-236.57	0.00	0.00	0.00
2,800.00	15.50	282.80	2,767.85	60.08	-264.50	-262.43	0.00	0.00	0.00
2,900.00	15.50	282.80	2,864.21	66.00	-290.56	-288.29	0.00	0.00	0.00
3,000.00	15.50	282.80	2,960.57	71.92	-316.62	-314.15	0.00	0.00	0.00
3,100.00	15.50	282.80	3,056.93	77.84	-342.69	-340.01	0.00	0.00	0.00
3,200.00	15.50	282.80	3,153.29	83.77	-368.75	-365.87	0.00	0.00	0.00
3,300.00	15.50	282.80	3,249.66	89.69	-394.81	-391.73	0.00	0.00	0.00
3,400.00	15.50	282.80	3,346.02	95.61	-420.87	-417.58	0.00	0.00	0.00
3,500.00	15.50	282.80	3,442.38	101.53	-446.94	-443.44	0.00	0.00	0.00
3,600.00	15.50	282.80	3,538.74	107.45	-473.00	-469.30	0.00	0.00	0.00
3,700.00	15.50	282.80	3,635.10	113.37	-499.06	-495.16	0.00	0.00	0.00
3,800.00	15.50	282.80	3,731.47	119.29	-525.13	-521.02	0.00	0.00	0.00
3,900.00	15.50	282.80	3,827.83	125.21	-551.19	-546.88	0.00	0.00	0.00
4,000.00	15.50	282.80	3,924.19	131.13	-577.25	-572.74	0.00	0.00	0.00
4,100.00	15.50	282.80	4,020.55	137.05	-603.31	-598.60	0.00	0.00	0.00
4,200.00	15.50	282.80	4,116.92	142.97	-629.38	-624.46	0.00	0.00	0.00
4,273.77	15.50	282.80	4,188.00	147.34	-648.60	-643.54	0.00	0.00	0.00
PARKMAN									
4,300.00	15.50	282.80	4,213.28	148.89	-655.44	-650.32	0.00	0.00	0.00
4,400.00	15.50	282.80	4,309.64	154.81	-681.50	-676.18	0.00	0.00	0.00
4,500.00	15.50	282.80	4,406.00	160.73	-707.57	-702.04	0.00	0.00	0.00
4,600.00	15.50	282.80	4,502.36	166.65	-733.63	-727.90	0.00	0.00	0.00
4,700.00	15.50	282.80	4,598.73	172.57	-759.69	-753.76	0.00	0.00	0.00

# Planning Report

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<b>Project:</b>	Adams County	<b>MD Reference:</b>	KB 25' @ 5090.00usft
<b>Site:</b>	Sec 29-T1-R66W	<b>North Reference:</b>	True
<b>Well:</b>	PC 1S-66-2928-12NH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned 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)
4,800.00	15.50	282.80	4,695.09	178.49	-785.76	-779.61	0.00	0.00	0.00
4,900.00	15.50	282.80	4,791.45	184.41	-811.82	-805.47	0.00	0.00	0.00
5,000.00	15.50	282.80	4,887.81	190.33	-837.88	-831.33	0.00	0.00	0.00
5,004.34	15.50	282.80	4,892.00	190.59	-839.01	-832.46	0.00	0.00	0.00
<b>SUSSEX</b>									
5,100.00	15.50	282.80	4,984.18	196.25	-863.94	-857.19	0.00	0.00	0.00
5,200.00	15.50	282.80	5,080.54	202.17	-890.01	-883.05	0.00	0.00	0.00
5,300.00	15.50	282.80	5,176.90	208.10	-916.07	-908.91	0.00	0.00	0.00
5,400.00	15.50	282.80	5,273.26	214.02	-942.13	-934.77	0.00	0.00	0.00
5,500.00	15.50	282.80	5,369.62	219.94	-968.20	-960.63	0.00	0.00	0.00
5,569.92	15.50	282.80	5,437.00	224.08	-986.42	-978.71	0.00	0.00	0.00
<b>SHANNON</b>									
5,600.00	15.50	282.80	5,465.99	225.86	-994.26	-986.49	0.00	0.00	0.00
5,700.00	15.50	282.80	5,562.35	231.78	-1,020.32	-1,012.35	0.00	0.00	0.00
5,800.00	15.50	282.80	5,658.71	237.70	-1,046.38	-1,038.21	0.00	0.00	0.00
5,900.00	15.50	282.80	5,755.07	243.62	-1,072.45	-1,064.07	0.00	0.00	0.00
6,000.00	15.50	282.80	5,851.44	249.54	-1,098.51	-1,089.93	0.00	0.00	0.00
6,100.00	15.50	282.80	5,947.80	255.46	-1,124.57	-1,115.79	0.00	0.00	0.00
6,200.00	15.50	282.80	6,044.16	261.38	-1,150.64	-1,141.64	0.00	0.00	0.00
6,300.00	15.50	282.80	6,140.52	267.30	-1,176.70	-1,167.50	0.00	0.00	0.00
6,390.61	15.50	282.80	6,227.83	272.66	-1,200.31	-1,190.93	0.00	0.00	0.00
<b>DROP 2°/100'</b>									
6,400.00	15.31	282.80	6,236.89	273.22	-1,202.75	-1,193.35	2.00	-2.00	0.00
6,500.00	13.31	282.80	6,333.78	278.69	-1,226.86	-1,217.27	2.00	-2.00	0.00
6,600.00	11.31	282.80	6,431.47	283.42	-1,247.65	-1,237.90	2.00	-2.00	0.00
6,700.00	9.31	282.80	6,529.85	287.38	-1,265.11	-1,255.22	2.00	-2.00	0.00
6,800.00	7.31	282.80	6,628.80	290.59	-1,279.21	-1,269.21	2.00	-2.00	0.00
6,900.00	5.31	282.80	6,728.18	293.02	-1,289.93	-1,279.85	2.00	-2.00	0.00
7,000.00	3.31	282.80	6,827.90	294.69	-1,297.27	-1,287.13	2.00	-2.00	0.00
7,100.00	1.31	282.80	6,927.81	295.58	-1,301.21	-1,291.04	2.00	-2.00	0.00
7,165.70	0.00	0.00	6,993.50	295.75	-1,301.94	-1,291.77	2.00	-2.00	0.00
<b>HOLD VERTICAL</b>									
7,195.70	0.00	0.00	7,023.50	295.75	-1,301.94	-1,291.77	0.00	0.00	0.00
<b>KOP, BUILD 12°/100'</b>									
7,200.00	0.52	90.08	7,027.80	295.75	-1,301.92	-1,291.75	12.00	12.00	0.00
7,225.00	3.52	90.08	7,052.79	295.75	-1,301.04	-1,290.87	12.00	12.00	0.00
7,250.00	6.52	90.08	7,077.69	295.75	-1,298.86	-1,288.68	12.00	12.00	0.00
7,275.00	9.52	90.08	7,102.44	295.74	-1,295.37	-1,285.20	12.00	12.00	0.00
7,300.00	12.52	90.08	7,126.98	295.73	-1,290.59	-1,280.43	12.00	12.00	0.00
7,325.00	15.52	90.08	7,151.23	295.73	-1,284.54	-1,274.38	12.00	12.00	0.00
7,350.00	18.52	90.08	7,175.13	295.72	-1,277.22	-1,267.06	12.00	12.00	0.00
7,375.00	21.51	90.08	7,198.62	295.70	-1,268.67	-1,258.51	12.00	12.00	0.00
7,400.00	24.51	90.08	7,221.63	295.69	-1,258.90	-1,248.75	12.00	12.00	0.00
7,425.00	27.51	90.08	7,244.09	295.67	-1,247.93	-1,237.79	12.00	12.00	0.00
7,450.00	30.51	90.08	7,265.95	295.66	-1,235.81	-1,225.67	12.00	12.00	0.00
7,475.00	33.51	90.08	7,287.15	295.64	-1,222.56	-1,212.43	12.00	12.00	0.00
7,500.00	36.51	90.08	7,307.62	295.62	-1,208.21	-1,198.09	12.00	12.00	0.00
7,525.00	39.51	90.08	7,327.31	295.60	-1,192.82	-1,182.71	12.00	12.00	0.00
7,544.36	41.84	90.08	7,342.00	295.58	-1,180.20	-1,170.09	12.00	12.00	0.00
<b>NIOBRARA</b>									
7,550.00	42.51	90.08	7,346.18	295.57	-1,176.42	-1,166.31	12.00	12.00	0.00
7,575.00	45.51	90.08	7,364.15	295.55	-1,159.05	-1,148.95	12.00	12.00	0.00
7,600.00	48.51	90.08	7,381.20	295.52	-1,140.76	-1,130.68	12.00	12.00	0.00

# Planning Report

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<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5090.00usft
<b>Project:</b>	Adams County	<b>MD Reference:</b>	KB 25' @ 5090.00usft
<b>Site:</b>	Sec 29-T1-R66W	<b>North Reference:</b>	True
<b>Well:</b>	PC 1S-66-2928-12NH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned 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)	
7,625.00	51.51	90.08	7,397.26	295.50	-1,121.61	-1,111.54	12.00	12.00	0.00	
7,650.00	54.51	90.08	7,412.30	295.47	-1,101.64	-1,091.58	12.00	12.00	0.00	
7,675.00	57.51	90.08	7,426.27	295.44	-1,080.91	-1,070.87	12.00	12.00	0.00	
7,700.00	60.51	90.08	7,439.14	295.41	-1,059.49	-1,049.45	12.00	12.00	0.00	
7,725.00	63.51	90.08	7,450.88	295.38	-1,037.41	-1,027.39	12.00	12.00	0.00	
7,750.00	66.51	90.08	7,461.43	295.35	-1,014.75	-1,004.74	12.00	12.00	0.00	
7,775.00	69.51	90.08	7,470.79	295.32	-991.58	-981.58	12.00	12.00	0.00	
7,800.00	72.51	90.08	7,478.93	295.28	-967.94	-957.95	12.00	12.00	0.00	
7,825.00	75.51	90.08	7,485.81	295.25	-943.91	-933.94	12.00	12.00	0.00	
7,847.86	78.25	90.08	7,491.00	295.22	-921.65	-911.69	12.00	12.00	0.00	
NIO B TARGET										
7,850.00	78.51	90.08	7,491.43	295.22	-919.55	-909.59	12.00	12.00	0.00	
7,875.00	81.51	90.08	7,495.77	295.18	-894.93	-884.99	12.00	12.00	0.00	
7,900.00	84.51	90.08	7,498.81	295.15	-870.12	-860.19	12.00	12.00	0.00	
7,925.00	87.51	90.08	7,500.55	295.11	-845.19	-835.27	12.00	12.00	0.00	
7,945.75	90.00	90.08	7,501.00	295.08	-824.44	-814.54	12.00	12.00	0.00	
LP @ 90° INC, 90.08° AZM HOLD										
8,000.00	90.00	90.08	7,501.00	295.01	-770.19	-760.32	0.00	0.00	0.00	
8,100.00	90.00	90.08	7,501.00	294.87	-670.19	-660.37	0.00	0.00	0.00	
8,200.00	90.00	90.08	7,501.00	294.73	-570.19	-560.43	0.00	0.00	0.00	
8,300.00	90.00	90.08	7,501.00	294.59	-470.19	-460.49	0.00	0.00	0.00	
8,400.00	90.00	90.08	7,501.00	294.45	-370.19	-360.54	0.00	0.00	0.00	
8,500.00	90.00	90.08	7,501.00	294.31	-270.19	-260.60	0.00	0.00	0.00	
8,600.00	90.00	90.08	7,501.00	294.17	-170.19	-160.65	0.00	0.00	0.00	
8,700.00	90.00	90.08	7,501.00	294.03	-70.19	-60.71	0.00	0.00	0.00	
8,800.00	90.00	90.08	7,501.00	293.89	29.81	39.23	0.00	0.00	0.00	
8,900.00	90.00	90.08	7,501.00	293.75	129.81	139.18	0.00	0.00	0.00	
9,000.00	90.00	90.08	7,501.00	293.61	229.81	239.12	0.00	0.00	0.00	
9,100.00	90.00	90.08	7,501.00	293.47	329.81	339.07	0.00	0.00	0.00	
9,200.00	90.00	90.08	7,501.00	293.33	429.81	439.01	0.00	0.00	0.00	
9,300.00	90.00	90.08	7,501.00	293.19	529.81	538.95	0.00	0.00	0.00	
9,400.00	90.00	90.08	7,501.00	293.05	629.81	638.90	0.00	0.00	0.00	
9,500.00	90.00	90.08	7,501.01	292.91	729.81	738.84	0.00	0.00	0.00	
9,600.00	90.00	90.08	7,501.01	292.77	829.81	838.78	0.00	0.00	0.00	
9,700.00	90.00	90.08	7,501.01	292.63	929.81	938.73	0.00	0.00	0.00	
9,800.00	90.00	90.08	7,501.01	292.49	1,029.81	1,038.67	0.00	0.00	0.00	
9,900.00	90.00	90.08	7,501.01	292.35	1,129.81	1,138.62	0.00	0.00	0.00	
10,000.00	90.00	90.08	7,501.01	292.21	1,229.81	1,238.56	0.00	0.00	0.00	
10,100.00	90.00	90.08	7,501.01	292.07	1,329.81	1,338.50	0.00	0.00	0.00	
10,200.00	90.00	90.08	7,501.01	291.93	1,429.81	1,438.45	0.00	0.00	0.00	
10,300.00	90.00	90.08	7,501.01	291.79	1,529.81	1,538.39	0.00	0.00	0.00	
10,400.00	90.00	90.08	7,501.01	291.65	1,629.81	1,638.33	0.00	0.00	0.00	
10,500.00	90.00	90.08	7,501.01	291.51	1,729.81	1,738.28	0.00	0.00	0.00	
10,600.00	90.00	90.08	7,501.01	291.37	1,829.81	1,838.22	0.00	0.00	0.00	
10,700.00	90.00	90.08	7,501.01	291.23	1,929.81	1,938.17	0.00	0.00	0.00	
10,800.00	90.00	90.08	7,501.01	291.09	2,029.81	2,038.11	0.00	0.00	0.00	
10,900.00	90.00	90.08	7,501.01	290.95	2,129.81	2,138.05	0.00	0.00	0.00	
11,000.00	90.00	90.08	7,501.01	290.81	2,229.81	2,238.00	0.00	0.00	0.00	
11,100.00	90.00	90.08	7,501.01	290.67	2,329.81	2,337.94	0.00	0.00	0.00	
11,200.00	90.00	90.08	7,501.01	290.53	2,429.81	2,437.88	0.00	0.00	0.00	
11,300.00	90.00	90.08	7,501.01	290.39	2,529.80	2,537.83	0.00	0.00	0.00	
11,400.00	90.00	90.08	7,501.01	290.25	2,629.80	2,637.77	0.00	0.00	0.00	
11,500.00	90.00	90.08	7,501.01	290.11	2,729.80	2,737.72	0.00	0.00	0.00	
11,600.00	90.00	90.08	7,501.01	289.97	2,829.80	2,837.66	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well PC 1S-66-2928-12NH
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5090.00usft
<b>Project:</b>	Adams County	<b>MD Reference:</b>	KB 25' @ 5090.00usft
<b>Site:</b>	Sec 29-T1-R66W	<b>North Reference:</b>	True
<b>Well:</b>	PC 1S-66-2928-12NH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned 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)	
11,700.00	90.00	90.08	7,501.01	289.83	2,929.80	2,937.60	0.00	0.00	0.00	
11,800.00	90.00	90.08	7,501.01	289.69	3,029.80	3,037.55	0.00	0.00	0.00	
11,900.00	90.00	90.08	7,501.01	289.55	3,129.80	3,137.49	0.00	0.00	0.00	
12,000.00	90.00	90.08	7,501.01	289.41	3,229.80	3,237.44	0.00	0.00	0.00	
12,100.00	90.00	90.08	7,501.01	289.27	3,329.80	3,337.38	0.00	0.00	0.00	
12,200.00	90.00	90.08	7,501.01	289.13	3,429.80	3,437.32	0.00	0.00	0.00	
12,300.00	90.00	90.08	7,501.01	288.99	3,529.80	3,537.27	0.00	0.00	0.00	
12,400.00	90.00	90.08	7,501.01	288.85	3,629.80	3,637.21	0.00	0.00	0.00	
12,500.00	90.00	90.08	7,501.02	288.71	3,729.80	3,737.15	0.00	0.00	0.00	
12,600.00	90.00	90.08	7,501.02	288.57	3,829.80	3,837.10	0.00	0.00	0.00	
12,700.00	90.00	90.08	7,501.02	288.43	3,929.80	3,937.04	0.00	0.00	0.00	
12,800.00	90.00	90.08	7,501.02	288.29	4,029.80	4,036.99	0.00	0.00	0.00	
12,900.00	90.00	90.08	7,501.02	288.15	4,129.80	4,136.93	0.00	0.00	0.00	
13,000.00	90.00	90.08	7,501.02	288.01	4,229.80	4,236.87	0.00	0.00	0.00	
13,100.00	90.00	90.08	7,501.02	287.87	4,329.80	4,336.82	0.00	0.00	0.00	
13,200.00	90.00	90.08	7,501.02	287.74	4,429.80	4,436.76	0.00	0.00	0.00	
13,300.00	90.00	90.08	7,501.02	287.60	4,529.80	4,536.70	0.00	0.00	0.00	
13,400.00	90.00	90.08	7,501.02	287.46	4,629.80	4,636.65	0.00	0.00	0.00	
13,500.00	90.00	90.08	7,501.02	287.32	4,729.80	4,736.59	0.00	0.00	0.00	
13,600.00	90.00	90.08	7,501.02	287.18	4,829.80	4,836.54	0.00	0.00	0.00	
13,700.00	90.00	90.08	7,501.02	287.04	4,929.80	4,936.48	0.00	0.00	0.00	
13,800.00	90.00	90.08	7,501.02	286.90	5,029.80	5,036.42	0.00	0.00	0.00	
13,900.00	90.00	90.08	7,501.02	286.76	5,129.80	5,136.37	0.00	0.00	0.00	
14,000.00	90.00	90.08	7,501.02	286.62	5,229.80	5,236.31	0.00	0.00	0.00	
14,100.00	90.00	90.08	7,501.02	286.48	5,329.80	5,336.25	0.00	0.00	0.00	
14,200.00	90.00	90.08	7,501.02	286.34	5,429.80	5,436.20	0.00	0.00	0.00	
14,300.00	90.00	90.08	7,501.02	286.20	5,529.80	5,536.14	0.00	0.00	0.00	
14,400.00	90.00	90.08	7,501.02	286.06	5,629.80	5,636.09	0.00	0.00	0.00	
14,500.00	90.00	90.08	7,501.02	285.92	5,729.80	5,736.03	0.00	0.00	0.00	
14,600.00	90.00	90.08	7,501.02	285.78	5,829.80	5,835.97	0.00	0.00	0.00	
14,700.00	90.00	90.08	7,501.02	285.64	5,929.80	5,935.92	0.00	0.00	0.00	
14,800.00	90.00	90.08	7,501.02	285.50	6,029.80	6,035.86	0.00	0.00	0.00	
14,900.00	90.00	90.08	7,501.02	285.36	6,129.80	6,135.80	0.00	0.00	0.00	
15,000.00	90.00	90.08	7,501.02	285.22	6,229.80	6,235.75	0.00	0.00	0.00	
15,100.00	90.00	90.08	7,501.02	285.08	6,329.80	6,335.69	0.00	0.00	0.00	
15,200.00	90.00	90.08	7,501.02	284.94	6,429.80	6,435.64	0.00	0.00	0.00	
15,300.00	90.00	90.08	7,501.02	284.80	6,529.80	6,535.58	0.00	0.00	0.00	
15,400.00	90.00	90.08	7,501.02	284.66	6,629.80	6,635.52	0.00	0.00	0.00	
15,500.00	90.00	90.08	7,501.02	284.52	6,729.80	6,735.47	0.00	0.00	0.00	
15,600.00	90.00	90.08	7,501.03	284.38	6,829.80	6,835.41	0.00	0.00	0.00	
15,700.00	90.00	90.08	7,501.03	284.24	6,929.80	6,935.36	0.00	0.00	0.00	
15,800.00	90.00	90.08	7,501.03	284.10	7,029.80	7,035.30	0.00	0.00	0.00	
15,900.00	90.00	90.08	7,501.03	283.96	7,129.80	7,135.24	0.00	0.00	0.00	
16,000.00	90.00	90.08	7,501.03	283.82	7,229.80	7,235.19	0.00	0.00	0.00	
16,100.00	90.00	90.08	7,501.03	283.68	7,329.80	7,335.13	0.00	0.00	0.00	
16,200.00	90.00	90.08	7,501.03	283.54	7,429.80	7,435.07	0.00	0.00	0.00	
16,300.00	90.00	90.08	7,501.03	283.40	7,529.80	7,535.02	0.00	0.00	0.00	
16,400.00	90.00	90.08	7,501.03	283.26	7,629.80	7,634.96	0.00	0.00	0.00	
16,500.00	90.00	90.08	7,501.03	283.12	7,729.80	7,734.91	0.00	0.00	0.00	
16,600.00	90.00	90.08	7,501.03	282.98	7,829.80	7,834.85	0.00	0.00	0.00	
16,700.00	90.00	90.08	7,501.03	282.84	7,929.80	7,934.79	0.00	0.00	0.00	
16,800.00	90.00	90.08	7,501.03	282.70	8,029.80	8,034.74	0.00	0.00	0.00	
16,900.00	90.00	90.08	7,501.03	282.56	8,129.80	8,134.68	0.00	0.00	0.00	
17,000.00	90.00	90.08	7,501.03	282.42	8,229.80	8,234.62	0.00	0.00	0.00	

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well PC 1S-66-2928-12NH
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5090.00usft
<b>Project:</b>	Adams County	<b>MD Reference:</b>	KB 25' @ 5090.00usft
<b>Site:</b>	Sec 29-T1-R66W	<b>North Reference:</b>	True
<b>Well:</b>	PC 1S-66-2928-12NH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned 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)	
17,100.00	90.00	90.08	7,501.03	282.28	8,329.80	8,334.57	0.00	0.00	0.00	
17,200.00	90.00	90.08	7,501.03	282.14	8,429.80	8,434.51	0.00	0.00	0.00	
17,300.00	90.00	90.08	7,501.03	282.00	8,529.80	8,534.46	0.00	0.00	0.00	
17,400.00	90.00	90.08	7,501.03	281.86	8,629.80	8,634.40	0.00	0.00	0.00	
17,500.00	90.00	90.08	7,501.03	281.72	8,729.80	8,734.34	0.00	0.00	0.00	
17,544.62	90.00	90.08	7,501.00	282.05	8,774.42	8,778.96	0.00	0.00	0.00	
TD at 17544.62' MD										

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PC 12NH LP - plan hits target center - Point	0.00	0.00	7,501.00	295.08	-824.44	1,219,764.23	3,194,291.53	39° 56' 4.380 N	104° 48' 25.704 W	
PC 12NH PBHL - plan hits target center - Point	0.00	0.00	7,501.00	282.05	8,774.42	1,219,826.51	3,203,890.20	39° 56' 4.236 N	104° 46' 22.476 W	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,273.77	4,188.00	PARKMAN				
5,004.34	4,892.00	SUSSEX				
5,569.92	5,437.00	SHANNON				
7,544.36	7,342.00	NIOBRARA				
7,847.86	7,491.00	NIO B TARGET				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,400.00	1,400.00	0.00	0.00	BUILD 2°/100'	
2,175.09	2,165.67	23.09	-101.63	HOLD 15.50° INC	
6,390.61	6,227.83	272.66	-1,200.31	DROP 2°/100'	
7,165.70	6,993.50	295.75	-1,301.94	HOLD VERTICAL	
7,195.70	7,023.50	295.75	-1,301.94	KOP, BUILD 12°/100'	
7,945.75	7,501.00	295.08	-824.44	LP @ 90° INC, 90.08° AZM HOLD	
17,544.62	7,501.00	282.05	8,774.42	TD at 17544.62' MD	