

EXTRACTION OIL & GAS

Adams County

Sec 25-T1S-R66W

ALMA 1S-66-2524-5NH

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

29 August, 2017



Project: Adams County
Site: Sec 25-T1S-R66W
Well: ALMA 1S-66-2524-5NH
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL 1

PROJECT DETAILS: Adams 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: 8.13°

Magnetic Field
Strength: 52129.5snT
Dip Angle: 66.48°
Date: 8/17/2017
Model: IGRF2015

WELL DETAILS: ALMA 1S-66-2524-5NH

+N/-S	+E/-W	Northing	Easting	5180.00	Latitude	Longitude	Slot
0.00	0.00	1218273.43	3218334.94		39° 55' 47.676 N	104° 43' 17.220 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
3	1234.07	14.68	127.61	1226.06	-57.08	74.10	2.00	127.61	-44.34	
4	6249.71	14.68	127.61	6077.94	-832.80	1081.15	0.00	0.00	-646.93	
5	6983.77	0.00	0.00	6804.00	-889.88	1155.25	2.00	180.00	-691.27	
6	7083.77	0.00	0.00	6904.00	-889.88	1155.25	0.00	0.00	-691.27	
7	7983.84	90.00	0.02	7477.00	-316.88	1155.43	10.00	0.02	-125.79	ALMA 5NH LP
8	15363.99	90.00	0.02	7477.00	7063.27	1157.89	0.00	0.00	7157.55	ALMA 5NH PBHL

FORMATION TOP DETAILS

TVDPth	MDPath	Formation
1500.00	1517.25	Fox Hills aquifer base
7283.00	7497.89	Sharon Springs
7315.00	7542.11	Top Niobrara
7325.00	7556.65	Nio A Chalk
7346.00	7588.59	Nio A Marl
7467.00	7876.53	Nio B Chalk

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	BUILD 2°/100'
1234.07	14.68	127.61	1226.06	-57.08	74.10	-44.34	93.53	HOLD 14.68° INC
6249.71	14.68	127.61	6077.94	-832.80	1081.15	-646.93	1364.71	DROP 2°/100'
6983.77	0.00	0.00	6804.00	-889.88	1155.25	-691.27	1458.25	HOLD VERTICAL
7083.77	0.00	0.00	6904.00	-889.88	1155.25	-691.27	1458.25	KOP, BUILD 10°/100'
7983.84	90.00	0.02	7477.00	-316.88	1155.43	-125.79	2031.25	LP @ 90° INC, 0.02° AZM HOLD
15363.99	90.00	0.02	7477.00	7063.27	1157.89	7157.55	9411.40	TD at 15363.99' MD

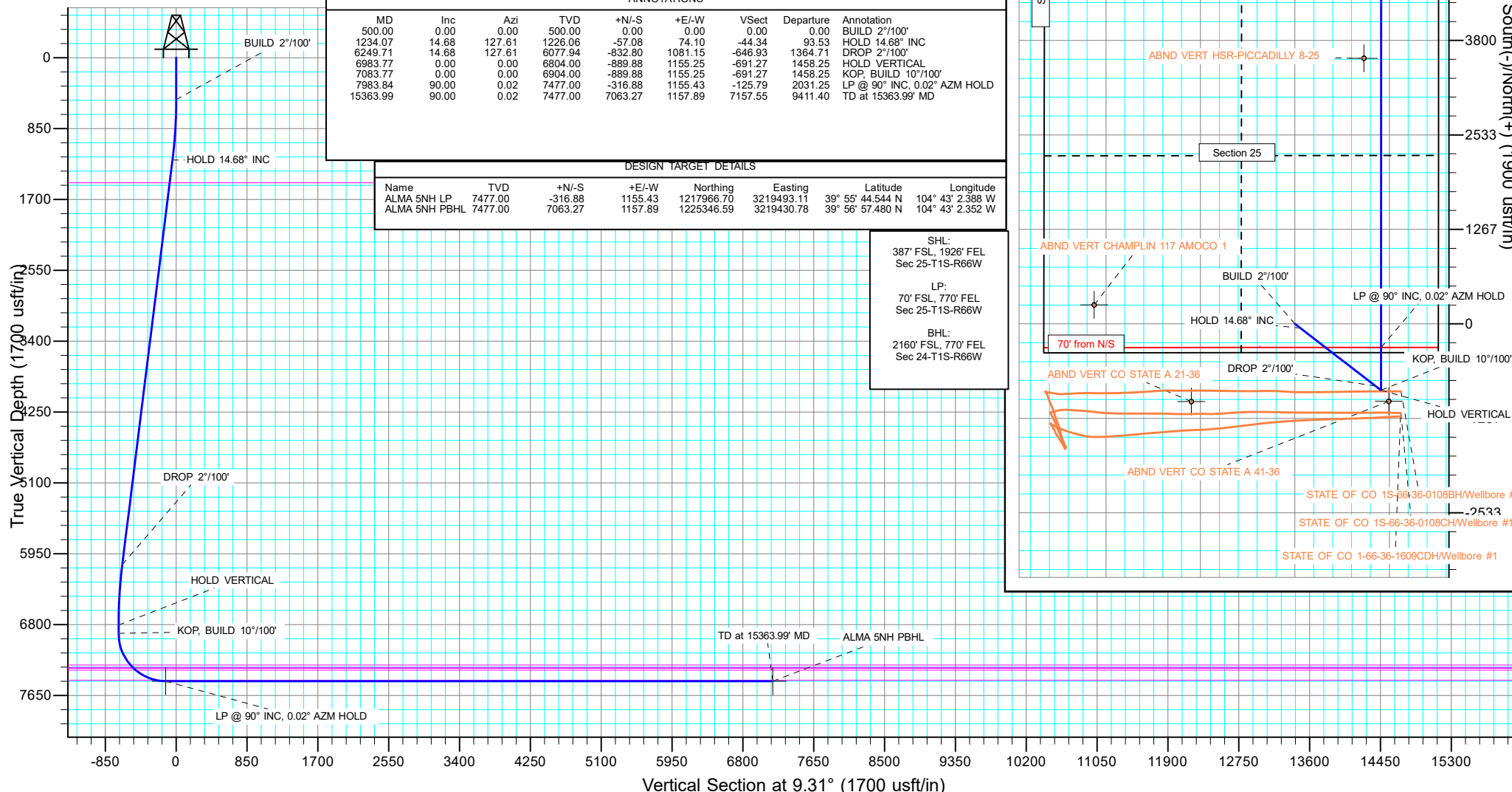
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ALMA 5NH LP	7477.00	-316.88	1155.43	1217966.70	3219493.11	39° 55' 44.544 N	104° 43' 2.388 W
ALMA 5NH PBHL	7477.00	7063.27	1157.89	1225346.59	3219430.78	39° 56' 57.480 N	104° 43' 2.352 W

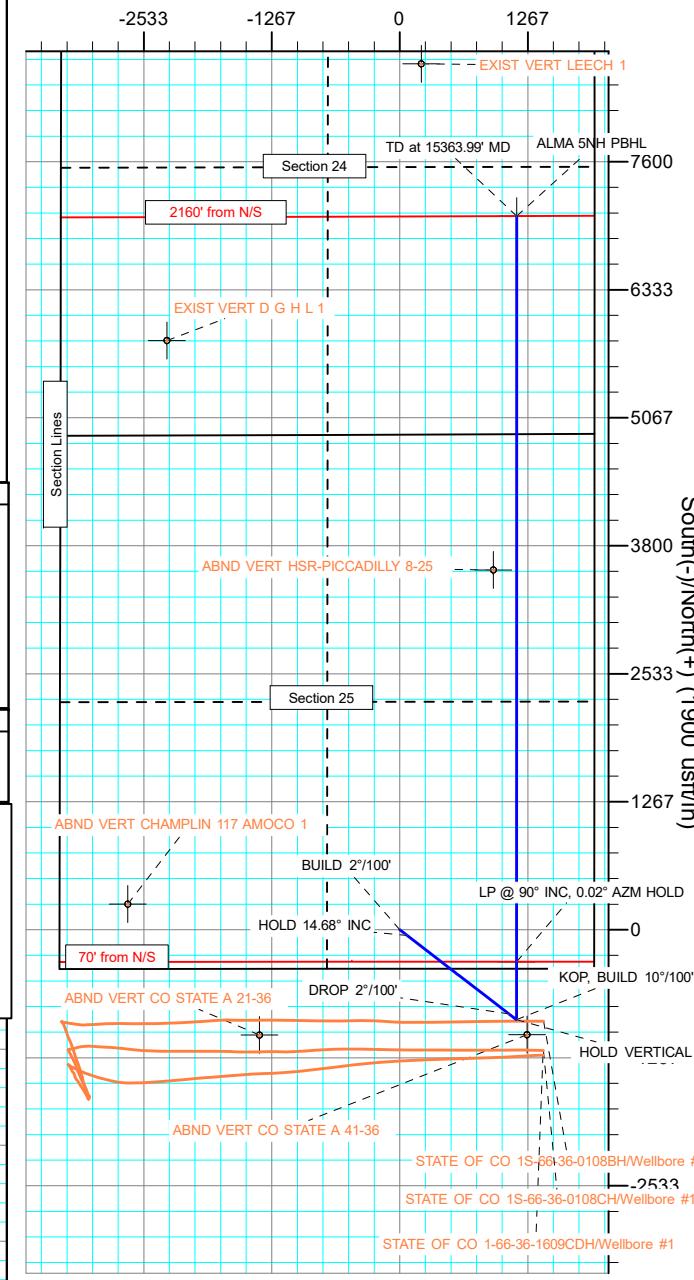
SHL:
387' FSL, 1926' FEL
Sec 25-T1S-R66W

LP:
70' FSL, 770' FEL
Sec 25-T1S-R66W

BHL:
2160' FSL, 770' FEL
Sec 24-T1S-R66W



West(-)/East(+) (1900 usft/in)



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-5NH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5205.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5205.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-5NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Project	Adams County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec 25-T1S-R66W			
Site Position:		Northing:	1,217,904.28 usft	Latitude:	39° 55' 43.860 N
From:	Lat/Long	Easting:	3,220,262.11 usft	Longitude:	104° 42' 52.524 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.51 °

Well	ALMA 1S-66-2524-5NH					
Well Position	+N/-S	386.19 usft	Northing:	1,218,273.42 usft	Latitude:	39° 55' 47.676 N
	+E/-W	-1,923.83 usft	Easting:	3,218,334.94 usft	Longitude:	104° 43' 17.220 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	Ground Level: 5,180.00 usft		

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/17/2017	8.13	66.48	52,129.54017721

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	9.31

Plan Survey Tool Program	Date	8/29/2017			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	15,363.99	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG	
				OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	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	
1,234.07	14.68	127.61	1,226.06	-57.08	74.10	2.00	2.00	0.00	127.61	
6,249.71	14.68	127.61	6,077.94	-832.80	1,081.15	0.00	0.00	0.00	0.00	
6,983.77	0.00	0.00	6,804.00	-889.88	1,155.25	2.00	-2.00	0.00	180.00	
7,083.77	0.00	0.00	6,904.00	-889.88	1,155.25	0.00	0.00	0.00	0.00	
7,983.84	90.00	0.02	7,477.00	-316.88	1,155.43	10.00	10.00	0.00	0.02	ALMA 5NH LP
15,363.99	90.00	0.02	7,477.00	7,063.27	1,157.89	0.00	0.00	0.00	0.00	ALMA 5NH PBHL

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Project:	Adams County	MD Reference:	KB 25' @ 5205.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-5NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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
BUILD 2°/100'									
600.00	2.00	127.61	599.98	-1.06	1.38	-0.83	2.00	2.00	0.00
700.00	4.00	127.61	699.84	-4.26	5.53	-3.31	2.00	2.00	0.00
800.00	6.00	127.61	799.45	-9.58	12.43	-7.44	2.00	2.00	0.00
900.00	8.00	127.61	898.70	-17.01	22.09	-13.22	2.00	2.00	0.00
1,000.00	10.00	127.61	997.47	-26.56	34.48	-20.63	2.00	2.00	0.00
1,100.00	12.00	127.61	1,095.62	-38.20	49.59	-29.68	2.00	2.00	0.00
1,200.00	14.00	127.61	1,193.06	-51.93	67.42	-40.34	2.00	2.00	0.00
1,234.07	14.68	127.61	1,226.06	-57.08	74.10	-44.34	2.00	2.00	0.00
HOLD 14.68° INC									
1,300.00	14.68	127.61	1,289.84	-67.28	87.34	-52.26	0.00	0.00	0.00
1,400.00	14.68	127.61	1,386.58	-82.74	107.42	-64.27	0.00	0.00	0.00
1,500.00	14.68	127.61	1,483.31	-98.21	127.49	-76.29	0.00	0.00	0.00
1,517.25	14.68	127.61	1,500.00	-100.88	130.96	-78.36	0.00	0.00	0.00
Fox Hills aquifer base									
1,600.00	14.68	127.61	1,580.05	-113.67	147.57	-88.30	0.00	0.00	0.00
1,700.00	14.68	127.61	1,676.78	-129.14	167.65	-100.32	0.00	0.00	0.00
1,800.00	14.68	127.61	1,773.52	-144.61	187.73	-112.33	0.00	0.00	0.00
1,900.00	14.68	127.61	1,870.25	-160.07	207.81	-124.35	0.00	0.00	0.00
2,000.00	14.68	127.61	1,966.99	-175.54	227.89	-136.36	0.00	0.00	0.00
2,100.00	14.68	127.61	2,063.72	-191.00	247.96	-148.37	0.00	0.00	0.00
2,200.00	14.68	127.61	2,160.46	-206.47	268.04	-160.39	0.00	0.00	0.00
2,300.00	14.68	127.61	2,257.19	-221.94	288.12	-172.40	0.00	0.00	0.00
2,400.00	14.68	127.61	2,353.93	-237.40	308.20	-184.42	0.00	0.00	0.00
2,500.00	14.68	127.61	2,450.66	-252.87	328.28	-196.43	0.00	0.00	0.00
2,600.00	14.68	127.61	2,547.40	-268.33	348.35	-208.45	0.00	0.00	0.00
2,700.00	14.68	127.61	2,644.13	-283.80	368.43	-220.46	0.00	0.00	0.00
2,800.00	14.68	127.61	2,740.87	-299.27	388.51	-232.47	0.00	0.00	0.00
2,900.00	14.68	127.61	2,837.60	-314.73	408.59	-244.49	0.00	0.00	0.00
3,000.00	14.68	127.61	2,934.34	-330.20	428.67	-256.50	0.00	0.00	0.00
3,100.00	14.68	127.61	3,031.07	-345.67	448.75	-268.52	0.00	0.00	0.00
3,200.00	14.68	127.61	3,127.81	-361.13	468.82	-280.53	0.00	0.00	0.00
3,300.00	14.68	127.61	3,224.54	-376.60	488.90	-292.55	0.00	0.00	0.00
3,400.00	14.68	127.61	3,321.28	-392.06	508.98	-304.56	0.00	0.00	0.00
3,500.00	14.68	127.61	3,418.01	-407.53	529.06	-316.57	0.00	0.00	0.00
3,600.00	14.68	127.61	3,514.75	-423.00	549.14	-328.59	0.00	0.00	0.00
3,700.00	14.68	127.61	3,611.48	-438.46	569.22	-340.60	0.00	0.00	0.00
3,800.00	14.68	127.61	3,708.22	-453.93	589.29	-352.62	0.00	0.00	0.00
3,900.00	14.68	127.61	3,804.95	-469.39	609.37	-364.63	0.00	0.00	0.00
4,000.00	14.68	127.61	3,901.69	-484.86	629.45	-376.65	0.00	0.00	0.00
4,100.00	14.68	127.61	3,998.42	-500.33	649.53	-388.66	0.00	0.00	0.00
4,200.00	14.68	127.61	4,095.16	-515.79	669.61	-400.67	0.00	0.00	0.00
4,300.00	14.68	127.61	4,191.89	-531.26	689.68	-412.69	0.00	0.00	0.00
4,400.00	14.68	127.61	4,288.63	-546.72	709.76	-424.70	0.00	0.00	0.00
4,500.00	14.68	127.61	4,385.36	-562.19	729.84	-436.72	0.00	0.00	0.00
4,600.00	14.68	127.61	4,482.10	-577.66	749.92	-448.73	0.00	0.00	0.00
4,700.00	14.68	127.61	4,578.83	-593.12	770.00	-460.75	0.00	0.00	0.00

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5205.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5205.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-5NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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	14.68	127.61	4,675.57	-608.59	790.08	-472.76	0.00	0.00	0.00
4,900.00	14.68	127.61	4,772.30	-624.05	810.15	-484.77	0.00	0.00	0.00
5,000.00	14.68	127.61	4,869.04	-639.52	830.23	-496.79	0.00	0.00	0.00
5,100.00	14.68	127.61	4,965.77	-654.99	850.31	-508.80	0.00	0.00	0.00
5,200.00	14.68	127.61	5,062.51	-670.45	870.39	-520.82	0.00	0.00	0.00
5,300.00	14.68	127.61	5,159.24	-685.92	890.47	-532.83	0.00	0.00	0.00
5,400.00	14.68	127.61	5,255.98	-701.39	910.54	-544.85	0.00	0.00	0.00
5,500.00	14.68	127.61	5,352.71	-716.85	930.62	-556.86	0.00	0.00	0.00
5,600.00	14.68	127.61	5,449.45	-732.32	950.70	-568.87	0.00	0.00	0.00
5,700.00	14.68	127.61	5,546.18	-747.78	970.78	-580.89	0.00	0.00	0.00
5,800.00	14.68	127.61	5,642.92	-763.25	990.86	-592.90	0.00	0.00	0.00
5,900.00	14.68	127.61	5,739.65	-778.72	1,010.94	-604.92	0.00	0.00	0.00
6,000.00	14.68	127.61	5,836.39	-794.18	1,031.01	-616.93	0.00	0.00	0.00
6,100.00	14.68	127.61	5,933.12	-809.65	1,051.09	-628.95	0.00	0.00	0.00
6,200.00	14.68	127.61	6,029.86	-825.11	1,071.17	-640.96	0.00	0.00	0.00
6,249.71	14.68	127.61	6,077.94	-832.80	1,081.15	-646.93	0.00	0.00	0.00
DROP 2°/100'									
6,300.00	13.68	127.61	6,126.70	-840.32	1,090.91	-652.77	2.00	-2.00	0.00
6,400.00	11.68	127.61	6,224.26	-853.71	1,108.29	-663.17	2.00	-2.00	0.00
6,500.00	9.68	127.61	6,322.52	-865.01	1,122.97	-671.95	2.00	-2.00	0.00
6,600.00	7.68	127.61	6,421.37	-874.22	1,134.92	-679.10	2.00	-2.00	0.00
6,700.00	5.68	127.61	6,520.69	-881.31	1,144.12	-684.61	2.00	-2.00	0.00
6,800.00	3.68	127.61	6,620.35	-886.28	1,150.58	-688.48	2.00	-2.00	0.00
6,900.00	1.68	127.61	6,720.24	-889.13	1,154.28	-690.69	2.00	-2.00	0.00
6,983.77	0.00	0.00	6,804.00	-889.88	1,155.25	-691.27	2.00	-2.00	0.00
HOLD VERTICAL									
7,000.00	0.00	0.00	6,820.23	-889.88	1,155.25	-691.27	0.00	0.00	0.00
7,083.77	0.00	0.00	6,904.00	-889.88	1,155.25	-691.27	0.00	0.00	0.00
KOP, BUILD 10°/100'									
7,100.00	1.62	0.02	6,920.23	-889.65	1,155.25	-691.04	10.00	10.00	0.00
7,150.00	6.62	0.02	6,970.08	-886.06	1,155.25	-687.50	10.00	10.00	0.00
7,200.00	11.62	0.02	7,019.43	-878.13	1,155.25	-679.68	10.00	10.00	0.00
7,250.00	16.62	0.02	7,067.91	-865.94	1,155.26	-667.64	10.00	10.00	0.00
7,300.00	21.62	0.02	7,115.13	-849.56	1,155.26	-651.48	10.00	10.00	0.00
7,350.00	26.62	0.02	7,160.75	-829.14	1,155.27	-631.33	10.00	10.00	0.00
7,400.00	31.62	0.02	7,204.42	-804.81	1,155.28	-607.32	10.00	10.00	0.00
7,450.00	36.62	0.02	7,245.80	-776.77	1,155.29	-579.65	10.00	10.00	0.00
7,497.89	41.41	0.02	7,283.00	-746.63	1,155.30	-549.90	10.00	10.00	0.00
Sharon Springs									
7,500.00	41.62	0.02	7,284.58	-745.24	1,155.30	-548.53	10.00	10.00	0.00
7,542.11	45.83	0.02	7,315.00	-716.14	1,155.31	-519.81	10.00	10.00	0.00
Top Niobrara									
7,550.00	46.62	0.02	7,320.46	-710.44	1,155.31	-514.19	10.00	10.00	0.00
7,556.65	47.28	0.02	7,325.00	-705.58	1,155.31	-509.39	10.00	10.00	0.00
Nio A Chalk									
7,588.59	50.48	0.02	7,346.00	-681.52	1,155.32	-485.65	10.00	10.00	0.00
Nio A Marl									
7,600.00	51.62	0.02	7,353.17	-672.65	1,155.32	-476.89	10.00	10.00	0.00
7,650.00	56.62	0.02	7,382.47	-632.15	1,155.33	-436.92	10.00	10.00	0.00
7,700.00	61.62	0.02	7,408.13	-589.25	1,155.35	-394.59	10.00	10.00	0.00
7,750.00	66.62	0.02	7,429.94	-544.28	1,155.36	-350.21	10.00	10.00	0.00
7,800.00	71.62	0.02	7,447.76	-497.58	1,155.38	-304.12	10.00	10.00	0.00
7,850.00	76.62	0.02	7,461.44	-449.51	1,155.39	-256.67	10.00	10.00	0.00

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5205.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5205.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-5NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
7,876.63	79.28	0.02	7,467.00	-423.46	1,155.40	-230.97	10.00	10.00	0.00
Nio B Chalk									
7,900.00	81.62	0.02	7,470.88	-400.42	1,155.41	-208.23	10.00	10.00	0.00
7,950.00	86.62	0.02	7,476.00	-350.70	1,155.42	-159.16	10.00	10.00	0.00
7,983.84	90.00	0.02	7,477.00	-316.88	1,155.43	-125.79	10.00	10.00	0.00
LP @ 90° INC, 0.02° AZM HOLD									
8,000.00	90.00	0.02	7,477.00	-300.72	1,155.44	-109.84	0.00	0.00	0.00
8,100.00	90.00	0.02	7,477.00	-200.72	1,155.47	-11.15	0.00	0.00	0.00
8,200.00	90.00	0.02	7,477.00	-100.72	1,155.50	87.54	0.00	0.00	0.00
8,300.00	90.00	0.02	7,477.00	-0.72	1,155.54	186.22	0.00	0.00	0.00
8,400.00	90.00	0.02	7,477.00	99.28	1,155.57	284.91	0.00	0.00	0.00
8,500.00	90.00	0.02	7,477.00	199.28	1,155.60	383.60	0.00	0.00	0.00
8,600.00	90.00	0.02	7,477.00	299.28	1,155.63	482.29	0.00	0.00	0.00
8,700.00	90.00	0.02	7,477.00	399.28	1,155.66	580.98	0.00	0.00	0.00
8,800.00	90.00	0.02	7,477.00	499.28	1,155.70	679.66	0.00	0.00	0.00
8,900.00	90.00	0.02	7,477.00	599.28	1,155.73	778.35	0.00	0.00	0.00
9,000.00	90.00	0.02	7,477.00	699.28	1,155.76	877.04	0.00	0.00	0.00
9,100.00	90.00	0.02	7,477.00	799.28	1,155.79	975.73	0.00	0.00	0.00
9,200.00	90.00	0.02	7,477.00	899.28	1,155.82	1,074.42	0.00	0.00	0.00
9,300.00	90.00	0.02	7,477.00	999.28	1,155.86	1,173.10	0.00	0.00	0.00
9,400.00	90.00	0.02	7,477.00	1,099.28	1,155.89	1,271.79	0.00	0.00	0.00
9,500.00	90.00	0.02	7,477.00	1,199.28	1,155.92	1,370.48	0.00	0.00	0.00
9,600.00	90.00	0.02	7,477.00	1,299.28	1,155.95	1,469.17	0.00	0.00	0.00
9,700.00	90.00	0.02	7,477.00	1,399.28	1,155.98	1,567.86	0.00	0.00	0.00
9,800.00	90.00	0.02	7,477.00	1,499.28	1,156.02	1,666.54	0.00	0.00	0.00
9,900.00	90.00	0.02	7,477.00	1,599.28	1,156.05	1,765.23	0.00	0.00	0.00
10,000.00	90.00	0.02	7,477.00	1,699.28	1,156.08	1,863.92	0.00	0.00	0.00
10,100.00	90.00	0.02	7,477.00	1,799.28	1,156.11	1,962.61	0.00	0.00	0.00
10,200.00	90.00	0.02	7,477.00	1,899.28	1,156.14	2,061.30	0.00	0.00	0.00
10,300.00	90.00	0.02	7,477.00	1,999.28	1,156.18	2,159.98	0.00	0.00	0.00
10,400.00	90.00	0.02	7,477.00	2,099.28	1,156.21	2,258.67	0.00	0.00	0.00
10,500.00	90.00	0.02	7,477.00	2,199.28	1,156.24	2,357.36	0.00	0.00	0.00
10,600.00	90.00	0.02	7,477.00	2,299.28	1,156.27	2,456.05	0.00	0.00	0.00
10,700.00	90.00	0.02	7,477.00	2,399.28	1,156.30	2,554.74	0.00	0.00	0.00
10,800.00	90.00	0.02	7,477.00	2,499.28	1,156.34	2,653.42	0.00	0.00	0.00
10,900.00	90.00	0.02	7,477.01	2,599.28	1,156.37	2,752.11	0.00	0.00	0.00
11,000.00	90.00	0.02	7,477.01	2,699.28	1,156.40	2,850.80	0.00	0.00	0.00
11,100.00	90.00	0.02	7,477.01	2,799.28	1,156.43	2,949.49	0.00	0.00	0.00
11,200.00	90.00	0.02	7,477.01	2,899.28	1,156.47	3,048.18	0.00	0.00	0.00
11,300.00	90.00	0.02	7,477.01	2,999.28	1,156.50	3,146.86	0.00	0.00	0.00
11,400.00	90.00	0.02	7,477.01	3,099.28	1,156.53	3,245.55	0.00	0.00	0.00
11,500.00	90.00	0.02	7,477.01	3,199.28	1,156.56	3,344.24	0.00	0.00	0.00
11,600.00	90.00	0.02	7,477.01	3,299.28	1,156.59	3,442.93	0.00	0.00	0.00
11,700.00	90.00	0.02	7,477.01	3,399.28	1,156.63	3,541.62	0.00	0.00	0.00
11,800.00	90.00	0.02	7,477.01	3,499.28	1,156.66	3,640.30	0.00	0.00	0.00
11,900.00	90.00	0.02	7,477.01	3,599.28	1,156.69	3,738.99	0.00	0.00	0.00
12,000.00	90.00	0.02	7,477.01	3,699.28	1,156.72	3,837.68	0.00	0.00	0.00
12,100.00	90.00	0.02	7,477.01	3,799.28	1,156.75	3,936.37	0.00	0.00	0.00
12,200.00	90.00	0.02	7,477.01	3,899.28	1,156.79	4,035.06	0.00	0.00	0.00
12,300.00	90.00	0.02	7,477.01	3,999.28	1,156.82	4,133.74	0.00	0.00	0.00
12,400.00	90.00	0.02	7,477.01	4,099.28	1,156.85	4,232.43	0.00	0.00	0.00
12,500.00	90.00	0.02	7,477.01	4,199.28	1,156.88	4,331.12	0.00	0.00	0.00
12,600.00	90.00	0.02	7,477.01	4,299.28	1,156.91	4,429.81	0.00	0.00	0.00
12,700.00	90.00	0.02	7,477.01	4,399.28	1,156.95	4,528.50	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-5NH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5205.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5205.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-5NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)	
12,800.00	90.00	0.02	7,477.01	4,499.28	1,156.98	4,627.18	0.00	0.00	0.00	
12,900.00	90.00	0.02	7,477.01	4,599.28	1,157.01	4,725.87	0.00	0.00	0.00	
13,000.00	90.00	0.02	7,477.01	4,699.28	1,157.04	4,824.56	0.00	0.00	0.00	
13,100.00	90.00	0.02	7,477.01	4,799.28	1,157.07	4,923.25	0.00	0.00	0.00	
13,200.00	90.00	0.02	7,477.01	4,899.28	1,157.11	5,021.94	0.00	0.00	0.00	
13,300.00	90.00	0.02	7,477.01	4,999.28	1,157.14	5,120.62	0.00	0.00	0.00	
13,400.00	90.00	0.02	7,477.01	5,099.28	1,157.17	5,219.31	0.00	0.00	0.00	
13,500.00	90.00	0.02	7,477.01	5,199.28	1,157.20	5,318.00	0.00	0.00	0.00	
13,600.00	90.00	0.02	7,477.01	5,299.28	1,157.24	5,416.69	0.00	0.00	0.00	
13,700.00	90.00	0.02	7,477.01	5,399.28	1,157.27	5,515.38	0.00	0.00	0.00	
13,800.00	90.00	0.02	7,477.01	5,499.28	1,157.30	5,614.06	0.00	0.00	0.00	
13,900.00	90.00	0.02	7,477.01	5,599.28	1,157.33	5,712.75	0.00	0.00	0.00	
14,000.00	90.00	0.02	7,477.01	5,699.28	1,157.36	5,811.44	0.00	0.00	0.00	
14,100.00	90.00	0.02	7,477.01	5,799.28	1,157.40	5,910.13	0.00	0.00	0.00	
14,200.00	90.00	0.02	7,477.01	5,899.28	1,157.43	6,008.82	0.00	0.00	0.00	
14,300.00	90.00	0.02	7,477.01	5,999.28	1,157.46	6,107.50	0.00	0.00	0.00	
14,400.00	90.00	0.02	7,477.01	6,099.28	1,157.49	6,206.19	0.00	0.00	0.00	
14,500.00	90.00	0.02	7,477.01	6,199.28	1,157.52	6,304.88	0.00	0.00	0.00	
14,600.00	90.00	0.02	7,477.01	6,299.28	1,157.56	6,403.57	0.00	0.00	0.00	
14,700.00	90.00	0.02	7,477.01	6,399.28	1,157.59	6,502.26	0.00	0.00	0.00	
14,800.00	90.00	0.02	7,477.01	6,499.28	1,157.62	6,600.94	0.00	0.00	0.00	
14,900.00	90.00	0.02	7,477.01	6,599.28	1,157.65	6,699.63	0.00	0.00	0.00	
15,000.00	90.00	0.02	7,477.01	6,699.28	1,157.68	6,798.32	0.00	0.00	0.00	
15,100.00	90.00	0.02	7,477.01	6,799.28	1,157.72	6,897.01	0.00	0.00	0.00	
15,200.00	90.00	0.02	7,477.01	6,899.28	1,157.75	6,995.70	0.00	0.00	0.00	
15,300.00	90.00	0.02	7,477.01	6,999.28	1,157.78	7,094.38	0.00	0.00	0.00	
15,363.99	90.00	0.02	7,477.00	7,063.27	1,157.89	7,157.55	0.00	0.00	0.00	
TD at 15363.99' MD										

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										
ALMA 5NH LP	0.00	0.00	7,477.00	-316.88	1,155.43	1,217,966.70	3,219,493.11	39° 55' 44.544 N	104° 43' 2.388 W	
- plan hits target center										
- Point										
ALMA 5NH PBHL	0.00	0.00	7,477.00	7,063.27	1,157.89	1,225,346.58	3,219,430.78	39° 56' 57.480 N	104° 43' 2.352 W	
- plan hits target center										
- Point										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-5NH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5205.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5205.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-5NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,517.25	1,500.00	Fox Hills aquifer base				
7,497.89	7,283.00	Sharon Springs				
7,542.11	7,315.00	Top Niobrara				
7,556.65	7,325.00	Nio A Chalk				
7,588.59	7,346.00	Nio A Marl				
7,876.63	7,467.00	Nio B Chalk				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
500.00	500.00	0.00	0.00	BUILD 2°/100'	
1,234.07	1,226.06	-57.08	74.10	HOLD 14.68° INC	
6,249.71	6,077.94	-832.80	1,081.15	DROP 2°/100'	
6,983.77	6,804.00	-889.88	1,155.25	HOLD VERTICAL	
7,083.77	6,904.00	-889.88	1,155.25	KOP, BUILD 10°/100'	
7,983.84	7,477.00	-316.88	1,155.43	LP @ 90° INC, 0.02° AZM HOLD	
15,363.99	7,477.00	7,063.27	1,157.89	TD at 15363.99' MD	