

EXTRACTION OIL & GAS

Adams County

Sec 25-T1S-R66W

ALMA 1S-66-2524-3NH

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

29 August, 2017



Project: Adams County
Site: Sec 25-T1S-R66W
Well: ALMA 1S-66-2524-3NH
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: 52129.9snT
Dip Angle: 66.48°
Date: 8/16/2017
Model: IGRF2015

WELL DETAILS: ALMA 1S-66-2524-3NH

+N/-S	+E/-W	Northing	Easting	5179.00	Latitude	Longitude	Slot
0.00	0.00	1218273.92	3218391.03		39° 55' 47.676 N	104° 43' 16.500 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	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
3	887.75	15.76	122.25	877.86	-57.43	91.02	2.00	122.25	-38.48	
4	6236.99	15.76	122.25	6026.14	-832.44	1319.43	0.00	0.00	-557.44	
5	7024.74	0.00	0.00	6804.00	-889.87	1410.45	2.00	180.00	-595.90	
6	7124.74	0.00	0.00	6904.00	-889.87	1410.45	0.00	0.00	-595.90	
7	8024.81	90.00	0.02	7477.00	-316.87	1410.64	10.00	0.02	-33.99	ALMA 3NH LP
8	15404.96	90.00	0.02	7477.00	7063.28	1413.02	0.00	0.00	7203.23	ALMA 3NH PBHL

FORMATION TOP DETAILS

TVDPATH	MDPATH	Formation
1500.00	1534.18	Fox Hills aquifer base
7283.00	7538.86	Sharon Springs
7315.00	7583.08	Top Niobrara
7325.00	7597.62	Nio A Chalk
7346.00	7629.56	Nio A Marl
7467.00	7917.60	Nio B Chalk

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	BUILD 2°/100'
887.75	15.76	122.25	877.86	-57.43	91.02	-38.48	107.63	HOLD 15.76° INC
6236.99	15.76	122.25	6026.14	-832.44	1319.43	-557.44	1560.08	DROP 2°/100'
7024.74	0.00	0.00	6804.00	-889.87	1410.45	-595.90	1667.70	HOLD VERTICAL
7124.74	0.00	0.00	6904.00	-889.87	1410.45	-595.90	1667.70	KOP, BUILD 10°/100'
8024.81	90.00	0.02	7477.00	-316.87	1410.64	-33.99	2240.71	LP @ 90° INC, 0.02° AZM HOLD
15404.96	90.00	0.02	7477.00	7063.28	1413.02	7203.23	9620.86	TD at 15404.96' MD

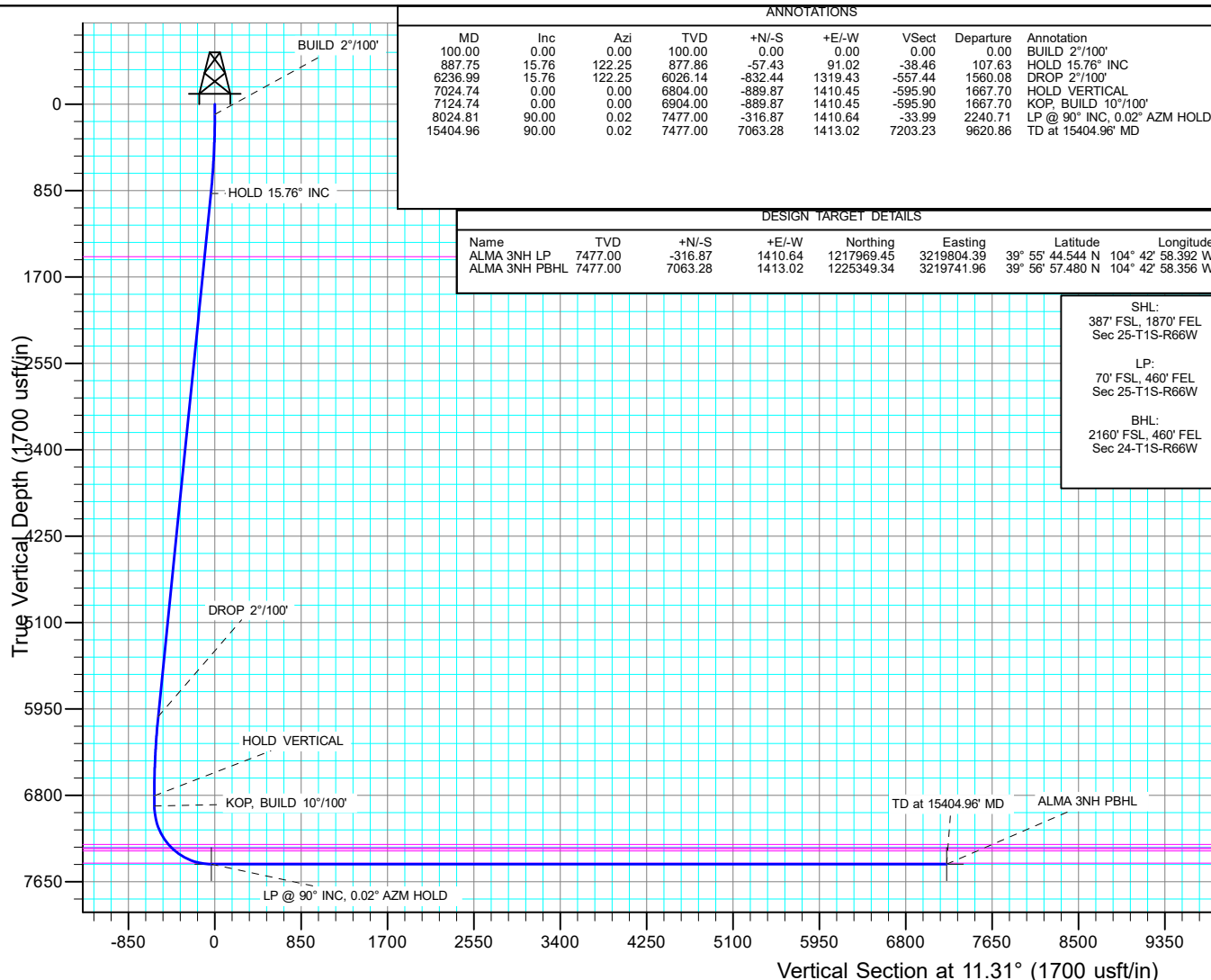
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ALMA 3NH LP	7477.00	-316.87	1410.64	1217969.45	3219804.39	39° 55' 44.544 N	104° 42' 58.392 W
ALMA 3NH PBHL	7477.00	7063.28	1413.02	1225349.34	3219741.96	39° 56' 57.480 N	104° 42' 58.356 W

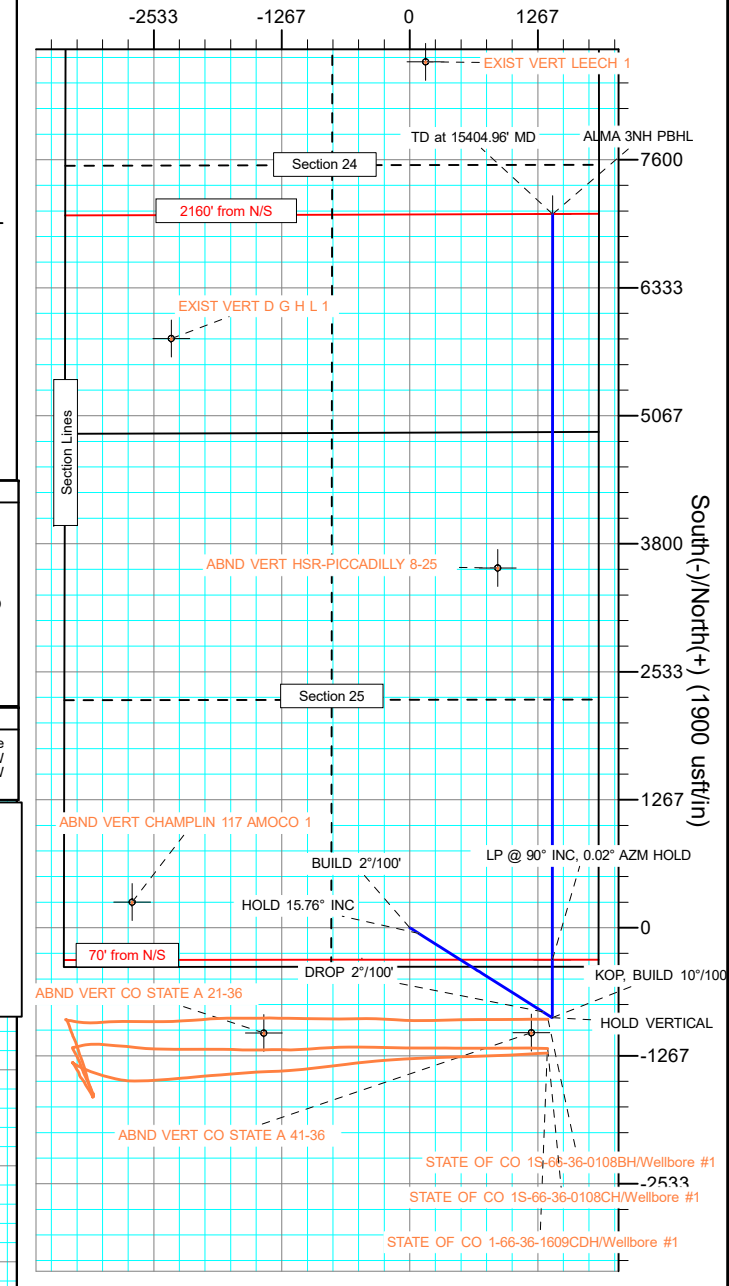
SHL:
387' FSL, 1870' FEL
Sec 25-T1S-R66W

LP:
70' FSL, 460' FEL
Sec 25-T1S-R66W

BHL:
2160' FSL, 460' FEL
Sec 24-T1S-R66W



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



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-3NH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5204.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5204.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-3NH	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-66-2524-3NH					
Well Position	+N/-S	386.19 usft	Northing:	1,218,273.91 usft	Latitude:	39° 55' 47.676 N
	+E/-W	-1,867.74 usft	Easting:	3,218,391.03 usft	Longitude:	104° 43' 16.500 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,179.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/16/2017	8.13	66.48	52,129.88227452

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	11.31

Plan Survey Tool Program	Date	8/29/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,404.96	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	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
887.75	15.76	122.25	877.86	-57.43	91.02	2.00	2.00	0.00	122.25	
6,236.99	15.76	122.25	6,026.14	-832.44	1,319.43	0.00	0.00	0.00	0.00	
7,024.74	0.00	0.00	6,804.00	-889.87	1,410.45	2.00	-2.00	0.00	180.00	
7,124.74	0.00	0.00	6,904.00	-889.87	1,410.45	0.00	0.00	0.00	0.00	
8,024.81	90.00	0.02	7,477.00	-316.87	1,410.64	10.00	10.00	0.00	0.02	ALMA 3NH LP
15,404.96	90.00	0.02	7,477.00	7,063.28	1,413.02	0.00	0.00	0.00	0.00	ALMA 3NH PBHL

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5204.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5204.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-3NH	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
BUILD 2°/100'									
200.00	2.00	122.25	199.98	-0.93	1.48	-0.62	2.00	2.00	0.00
300.00	4.00	122.25	299.84	-3.72	5.90	-2.49	2.00	2.00	0.00
400.00	6.00	122.25	399.45	-8.37	13.27	-5.61	2.00	2.00	0.00
500.00	8.00	122.25	498.70	-14.88	23.58	-9.96	2.00	2.00	0.00
600.00	10.00	122.25	597.47	-23.22	36.81	-15.55	2.00	2.00	0.00
700.00	12.00	122.25	695.62	-33.40	52.95	-22.37	2.00	2.00	0.00
800.00	14.00	122.25	793.06	-45.41	71.97	-30.41	2.00	2.00	0.00
887.75	15.76	122.25	877.86	-57.43	91.02	-38.46	2.00	2.00	0.00
HOLD 15.76° INC									
900.00	15.76	122.25	889.65	-59.20	93.84	-39.65	0.00	0.00	0.00
1,000.00	15.76	122.25	985.89	-73.69	116.80	-49.35	0.00	0.00	0.00
1,100.00	15.76	122.25	1,082.14	-88.18	139.77	-59.05	0.00	0.00	0.00
1,200.00	15.76	122.25	1,178.38	-102.67	162.73	-68.75	0.00	0.00	0.00
1,300.00	15.76	122.25	1,274.62	-117.16	185.69	-78.45	0.00	0.00	0.00
1,400.00	15.76	122.25	1,370.87	-131.64	208.66	-88.16	0.00	0.00	0.00
1,500.00	15.76	122.25	1,467.11	-146.13	231.62	-97.86	0.00	0.00	0.00
1,534.18	15.76	122.25	1,500.00	-151.08	239.47	-101.17	0.00	0.00	0.00
Fox Hills aquifer base									
1,600.00	15.76	122.25	1,563.35	-160.62	254.59	-107.56	0.00	0.00	0.00
1,700.00	15.76	122.25	1,659.60	-175.11	277.55	-117.26	0.00	0.00	0.00
1,800.00	15.76	122.25	1,755.84	-189.60	300.51	-126.96	0.00	0.00	0.00
1,900.00	15.76	122.25	1,852.08	-204.09	323.48	-136.67	0.00	0.00	0.00
2,000.00	15.76	122.25	1,948.32	-218.57	346.44	-146.37	0.00	0.00	0.00
2,100.00	15.76	122.25	2,044.57	-233.06	369.41	-156.07	0.00	0.00	0.00
2,200.00	15.76	122.25	2,140.81	-247.55	392.37	-165.77	0.00	0.00	0.00
2,300.00	15.76	122.25	2,237.05	-262.04	415.33	-175.47	0.00	0.00	0.00
2,400.00	15.76	122.25	2,333.30	-276.53	438.30	-185.18	0.00	0.00	0.00
2,500.00	15.76	122.25	2,429.54	-291.02	461.26	-194.88	0.00	0.00	0.00
2,600.00	15.76	122.25	2,525.78	-305.50	484.23	-204.58	0.00	0.00	0.00
2,700.00	15.76	122.25	2,622.03	-319.99	507.19	-214.28	0.00	0.00	0.00
2,800.00	15.76	122.25	2,718.27	-334.48	530.15	-223.98	0.00	0.00	0.00
2,900.00	15.76	122.25	2,814.51	-348.97	553.12	-233.69	0.00	0.00	0.00
3,000.00	15.76	122.25	2,910.76	-363.46	576.08	-243.39	0.00	0.00	0.00
3,100.00	15.76	122.25	3,007.00	-377.95	599.05	-253.09	0.00	0.00	0.00
3,200.00	15.76	122.25	3,103.24	-392.43	622.01	-262.79	0.00	0.00	0.00
3,300.00	15.76	122.25	3,199.49	-406.92	644.97	-272.49	0.00	0.00	0.00
3,400.00	15.76	122.25	3,295.73	-421.41	667.94	-282.20	0.00	0.00	0.00
3,500.00	15.76	122.25	3,391.97	-435.90	690.90	-291.90	0.00	0.00	0.00
3,600.00	15.76	122.25	3,488.21	-450.39	713.87	-301.60	0.00	0.00	0.00
3,700.00	15.76	122.25	3,584.46	-464.88	736.83	-311.30	0.00	0.00	0.00
3,800.00	15.76	122.25	3,680.70	-479.36	759.79	-321.00	0.00	0.00	0.00
3,900.00	15.76	122.25	3,776.94	-493.85	782.76	-330.71	0.00	0.00	0.00
4,000.00	15.76	122.25	3,873.19	-508.34	805.72	-340.41	0.00	0.00	0.00
4,100.00	15.76	122.25	3,969.43	-522.83	828.69	-350.11	0.00	0.00	0.00
4,200.00	15.76	122.25	4,065.67	-537.32	851.65	-359.81	0.00	0.00	0.00
4,300.00	15.76	122.25	4,161.92	-551.80	874.61	-369.51	0.00	0.00	0.00
4,400.00	15.76	122.25	4,258.16	-566.29	897.58	-379.22	0.00	0.00	0.00
4,500.00	15.76	122.25	4,354.40	-580.78	920.54	-388.92	0.00	0.00	0.00
4,600.00	15.76	122.25	4,450.65	-595.27	943.51	-398.62	0.00	0.00	0.00
4,700.00	15.76	122.25	4,546.89	-609.76	966.47	-408.32	0.00	0.00	0.00

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5204.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5204.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-3NH	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	15.76	122.25	4,643.13	-624.25	989.43	-418.03	0.00	0.00	0.00
4,900.00	15.76	122.25	4,739.38	-638.73	1,012.40	-427.73	0.00	0.00	0.00
5,000.00	15.76	122.25	4,835.62	-653.22	1,035.36	-437.43	0.00	0.00	0.00
5,100.00	15.76	122.25	4,931.86	-667.71	1,058.33	-447.13	0.00	0.00	0.00
5,200.00	15.76	122.25	5,028.11	-682.20	1,081.29	-456.83	0.00	0.00	0.00
5,300.00	15.76	122.25	5,124.35	-696.69	1,104.25	-466.54	0.00	0.00	0.00
5,400.00	15.76	122.25	5,220.59	-711.18	1,127.22	-476.24	0.00	0.00	0.00
5,500.00	15.76	122.25	5,316.83	-725.66	1,150.18	-485.94	0.00	0.00	0.00
5,600.00	15.76	122.25	5,413.08	-740.15	1,173.15	-495.64	0.00	0.00	0.00
5,700.00	15.76	122.25	5,509.32	-754.64	1,196.11	-505.34	0.00	0.00	0.00
5,800.00	15.76	122.25	5,605.56	-769.13	1,219.07	-515.05	0.00	0.00	0.00
5,900.00	15.76	122.25	5,701.81	-783.62	1,242.04	-524.75	0.00	0.00	0.00
6,000.00	15.76	122.25	5,798.05	-798.11	1,265.00	-534.45	0.00	0.00	0.00
6,100.00	15.76	122.25	5,894.29	-812.59	1,287.97	-544.15	0.00	0.00	0.00
6,200.00	15.76	122.25	5,990.54	-827.08	1,310.93	-553.85	0.00	0.00	0.00
6,236.99	15.76	122.25	6,026.14	-832.44	1,319.43	-557.44	0.00	0.00	0.00
DROP 2°/100'									
6,300.00	14.49	122.25	6,086.96	-841.21	1,333.33	-563.32	2.00	-2.00	0.00
6,400.00	12.49	122.25	6,184.20	-853.67	1,353.07	-571.65	2.00	-2.00	0.00
6,500.00	10.49	122.25	6,282.19	-864.30	1,369.92	-578.78	2.00	-2.00	0.00
6,600.00	8.49	122.25	6,380.81	-873.10	1,383.87	-584.67	2.00	-2.00	0.00
6,700.00	6.49	122.25	6,479.95	-880.06	1,394.90	-589.33	2.00	-2.00	0.00
6,800.00	4.49	122.25	6,579.49	-885.17	1,403.00	-592.75	2.00	-2.00	0.00
6,900.00	2.49	122.25	6,679.30	-888.42	1,408.15	-594.93	2.00	-2.00	0.00
7,000.00	0.49	122.25	6,779.26	-889.81	1,410.36	-595.86	2.00	-2.00	0.00
7,024.74	0.00	0.00	6,804.00	-889.87	1,410.45	-595.90	2.00	-2.00	0.00
HOLD VERTICAL									
7,100.00	0.00	0.00	6,879.26	-889.87	1,410.45	-595.90	0.00	0.00	0.00
7,124.74	0.00	0.00	6,904.00	-889.87	1,410.45	-595.90	0.00	0.00	0.00
KOP, BUILD 10°/100'									
7,150.00	2.53	0.02	6,929.25	-889.31	1,410.45	-595.35	10.00	10.00	0.00
7,200.00	7.53	0.02	6,979.04	-884.94	1,410.45	-591.06	10.00	10.00	0.00
7,250.00	12.52	0.02	7,028.26	-876.23	1,410.45	-582.53	10.00	10.00	0.00
7,300.00	17.52	0.02	7,076.54	-863.28	1,410.46	-569.82	10.00	10.00	0.00
7,350.00	22.52	0.02	7,123.50	-846.16	1,410.46	-553.04	10.00	10.00	0.00
7,400.00	27.52	0.02	7,168.79	-825.02	1,410.47	-532.30	10.00	10.00	0.00
7,450.00	32.52	0.02	7,212.07	-800.01	1,410.48	-507.78	10.00	10.00	0.00
7,500.00	37.52	0.02	7,253.00	-771.32	1,410.49	-479.65	10.00	10.00	0.00
7,538.86	41.41	0.02	7,283.00	-746.62	1,410.50	-455.43	10.00	10.00	0.00
Sharon Springs									
7,550.00	42.52	0.02	7,291.28	-739.18	1,410.50	-448.12	10.00	10.00	0.00
7,583.08	45.83	0.02	7,315.00	-716.13	1,410.51	-425.52	10.00	10.00	0.00
Top Niobrara									
7,597.62	47.28	0.02	7,325.00	-705.57	1,410.51	-415.17	10.00	10.00	0.00
Nio A Chalk									
7,600.00	47.52	0.02	7,326.61	-703.82	1,410.51	-413.45	10.00	10.00	0.00
7,629.56	50.48	0.02	7,346.00	-681.51	1,410.52	-391.58	10.00	10.00	0.00
Nio A Marl									
7,650.00	52.52	0.02	7,358.72	-665.52	1,410.52	-375.89	10.00	10.00	0.00
7,700.00	57.52	0.02	7,387.38	-624.56	1,410.54	-335.73	10.00	10.00	0.00
7,750.00	62.52	0.02	7,412.35	-581.26	1,410.55	-293.27	10.00	10.00	0.00
7,800.00	67.52	0.02	7,433.46	-535.96	1,410.57	-248.84	10.00	10.00	0.00
7,850.00	72.52	0.02	7,450.54	-488.98	1,410.58	-202.77	10.00	10.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-3NH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5204.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5204.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-3NH	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)	
7,900.00	77.52	0.02	7,463.46	-440.69	1,410.60	-155.42	10.00	10.00	0.00	
7,917.60	79.28	0.02	7,467.00	-423.45	1,410.60	-138.51	10.00	10.00	0.00	
Nio B Chalk										
7,950.00	82.52	0.02	7,472.12	-391.47	1,410.61	-107.15	10.00	10.00	0.00	
8,000.00	87.52	0.02	7,476.46	-341.67	1,410.63	-58.32	10.00	10.00	0.00	
8,024.81	90.00	0.02	7,477.00	-316.87	1,410.64	-33.99	10.00	10.00	0.00	
LP @ 90° INC, 0.02° AZM HOLD										
8,100.00	90.00	0.02	7,477.00	-241.68	1,410.66	39.74	0.00	0.00	0.00	
8,200.00	90.00	0.02	7,477.00	-141.68	1,410.70	137.80	0.00	0.00	0.00	
8,300.00	90.00	0.02	7,477.00	-41.68	1,410.73	235.87	0.00	0.00	0.00	
8,400.00	90.00	0.02	7,477.00	58.32	1,410.76	333.93	0.00	0.00	0.00	
8,500.00	90.00	0.02	7,477.00	158.32	1,410.80	431.99	0.00	0.00	0.00	
8,600.00	90.00	0.02	7,477.00	258.32	1,410.83	530.06	0.00	0.00	0.00	
8,700.00	90.00	0.02	7,477.00	358.32	1,410.86	628.12	0.00	0.00	0.00	
8,800.00	90.00	0.02	7,477.00	458.32	1,410.89	726.18	0.00	0.00	0.00	
8,900.00	90.00	0.02	7,477.00	558.32	1,410.93	824.25	0.00	0.00	0.00	
9,000.00	90.00	0.02	7,477.00	658.32	1,410.96	922.31	0.00	0.00	0.00	
9,100.00	90.00	0.02	7,477.00	758.32	1,410.99	1,020.37	0.00	0.00	0.00	
9,200.00	90.00	0.02	7,477.00	858.32	1,411.03	1,118.44	0.00	0.00	0.00	
9,300.00	90.00	0.02	7,477.00	958.32	1,411.06	1,216.50	0.00	0.00	0.00	
9,400.00	90.00	0.02	7,476.99	1,058.32	1,411.09	1,314.57	0.00	0.00	0.00	
9,500.00	90.00	0.02	7,476.99	1,158.32	1,411.12	1,412.63	0.00	0.00	0.00	
9,600.00	90.00	0.02	7,476.99	1,258.32	1,411.16	1,510.69	0.00	0.00	0.00	
9,700.00	90.00	0.02	7,476.99	1,358.32	1,411.19	1,608.76	0.00	0.00	0.00	
9,800.00	90.00	0.02	7,476.99	1,458.32	1,411.22	1,706.82	0.00	0.00	0.00	
9,900.00	90.00	0.02	7,476.99	1,558.32	1,411.26	1,804.88	0.00	0.00	0.00	
10,000.00	90.00	0.02	7,476.99	1,658.32	1,411.29	1,902.95	0.00	0.00	0.00	
10,100.00	90.00	0.02	7,476.99	1,758.32	1,411.32	2,001.01	0.00	0.00	0.00	
10,200.00	90.00	0.02	7,476.99	1,858.32	1,411.36	2,099.07	0.00	0.00	0.00	
10,300.00	90.00	0.02	7,476.99	1,958.32	1,411.39	2,197.14	0.00	0.00	0.00	
10,400.00	90.00	0.02	7,476.99	2,058.32	1,411.42	2,295.20	0.00	0.00	0.00	
10,500.00	90.00	0.02	7,476.99	2,158.32	1,411.45	2,393.26	0.00	0.00	0.00	
10,600.00	90.00	0.02	7,476.99	2,258.32	1,411.49	2,491.33	0.00	0.00	0.00	
10,700.00	90.00	0.02	7,476.99	2,358.32	1,411.52	2,589.39	0.00	0.00	0.00	
10,800.00	90.00	0.02	7,476.99	2,458.32	1,411.55	2,687.46	0.00	0.00	0.00	
10,900.00	90.00	0.02	7,476.99	2,558.32	1,411.59	2,785.52	0.00	0.00	0.00	
11,000.00	90.00	0.02	7,476.99	2,658.32	1,411.62	2,883.58	0.00	0.00	0.00	
11,100.00	90.00	0.02	7,476.99	2,758.32	1,411.65	2,981.65	0.00	0.00	0.00	
11,200.00	90.00	0.02	7,476.99	2,858.32	1,411.69	3,079.71	0.00	0.00	0.00	
11,300.00	90.00	0.02	7,476.99	2,958.32	1,411.72	3,177.77	0.00	0.00	0.00	
11,400.00	90.00	0.02	7,476.99	3,058.32	1,411.75	3,275.84	0.00	0.00	0.00	
11,500.00	90.00	0.02	7,476.99	3,158.32	1,411.78	3,373.90	0.00	0.00	0.00	
11,600.00	90.00	0.02	7,476.99	3,258.32	1,411.82	3,471.96	0.00	0.00	0.00	
11,700.00	90.00	0.02	7,476.99	3,358.32	1,411.85	3,570.03	0.00	0.00	0.00	
11,800.00	90.00	0.02	7,476.99	3,458.32	1,411.88	3,668.09	0.00	0.00	0.00	
11,900.00	90.00	0.02	7,476.99	3,558.32	1,411.92	3,766.15	0.00	0.00	0.00	
12,000.00	90.00	0.02	7,476.98	3,658.32	1,411.95	3,864.22	0.00	0.00	0.00	
12,100.00	90.00	0.02	7,476.98	3,758.32	1,411.98	3,962.28	0.00	0.00	0.00	
12,200.00	90.00	0.02	7,476.98	3,858.32	1,412.01	4,060.34	0.00	0.00	0.00	
12,300.00	90.00	0.02	7,476.98	3,958.32	1,412.05	4,158.41	0.00	0.00	0.00	
12,400.00	90.00	0.02	7,476.98	4,058.32	1,412.08	4,256.47	0.00	0.00	0.00	
12,500.00	90.00	0.02	7,476.98	4,158.32	1,412.11	4,354.54	0.00	0.00	0.00	
12,600.00	90.00	0.02	7,476.98	4,258.32	1,412.15	4,452.60	0.00	0.00	0.00	
12,700.00	90.00	0.02	7,476.98	4,358.32	1,412.18	4,550.66	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-3NH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5204.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5204.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-3NH	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	7,476.98	4,458.32	1,412.21	4,648.73	0.00	0.00	0.00	
12,900.00	90.00	0.02	7,476.98	4,558.32	1,412.25	4,746.79	0.00	0.00	0.00	
13,000.00	90.00	0.02	7,476.98	4,658.32	1,412.28	4,844.85	0.00	0.00	0.00	
13,100.00	90.00	0.02	7,476.98	4,758.32	1,412.31	4,942.92	0.00	0.00	0.00	
13,200.00	90.00	0.02	7,476.98	4,858.32	1,412.34	5,040.98	0.00	0.00	0.00	
13,300.00	90.00	0.02	7,476.98	4,958.32	1,412.38	5,139.04	0.00	0.00	0.00	
13,400.00	90.00	0.02	7,476.98	5,058.32	1,412.41	5,237.11	0.00	0.00	0.00	
13,500.00	90.00	0.02	7,476.98	5,158.32	1,412.44	5,335.17	0.00	0.00	0.00	
13,600.00	90.00	0.02	7,476.98	5,258.32	1,412.48	5,433.23	0.00	0.00	0.00	
13,700.00	90.00	0.02	7,476.98	5,358.32	1,412.51	5,531.30	0.00	0.00	0.00	
13,800.00	90.00	0.02	7,476.98	5,458.32	1,412.54	5,629.36	0.00	0.00	0.00	
13,900.00	90.00	0.02	7,476.98	5,558.32	1,412.57	5,727.43	0.00	0.00	0.00	
14,000.00	90.00	0.02	7,476.98	5,658.32	1,412.61	5,825.49	0.00	0.00	0.00	
14,100.00	90.00	0.02	7,476.98	5,758.32	1,412.64	5,923.55	0.00	0.00	0.00	
14,200.00	90.00	0.02	7,476.98	5,858.32	1,412.67	6,021.62	0.00	0.00	0.00	
14,300.00	90.00	0.02	7,476.98	5,958.32	1,412.71	6,119.68	0.00	0.00	0.00	
14,400.00	90.00	0.02	7,476.98	6,058.32	1,412.74	6,217.74	0.00	0.00	0.00	
14,500.00	90.00	0.02	7,476.98	6,158.32	1,412.77	6,315.81	0.00	0.00	0.00	
14,600.00	90.00	0.02	7,476.97	6,258.32	1,412.81	6,413.87	0.00	0.00	0.00	
14,700.00	90.00	0.02	7,476.97	6,358.32	1,412.84	6,511.93	0.00	0.00	0.00	
14,800.00	90.00	0.02	7,476.97	6,458.32	1,412.87	6,610.00	0.00	0.00	0.00	
14,900.00	90.00	0.02	7,476.97	6,558.32	1,412.90	6,708.06	0.00	0.00	0.00	
15,000.00	90.00	0.02	7,476.97	6,658.32	1,412.94	6,806.12	0.00	0.00	0.00	
15,100.00	90.00	0.02	7,476.97	6,758.32	1,412.97	6,904.19	0.00	0.00	0.00	
15,200.00	90.00	0.02	7,476.97	6,858.32	1,413.00	7,002.25	0.00	0.00	0.00	
15,300.00	90.00	0.02	7,476.97	6,958.32	1,413.04	7,100.31	0.00	0.00	0.00	
15,404.96	90.00	0.02	7,477.00	7,063.28	1,413.02	7,203.23	0.00	0.00	0.00	
TD at 15404.96' 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 3NH LP	0.00	0.00	7,477.00	-316.87	1,410.64	1,217,969.45	3,219,804.39	39° 55' 44.544 N	104° 42' 58.392 W	
- plan hits target center										
- Point										
ALMA 3NH PBHL	0.00	0.00	7,477.00	7,063.28	1,413.02	1,225,349.33	3,219,741.97	39° 56' 57.480 N	104° 42' 58.356 W	
- plan hits target center										
- Point										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-3NH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5204.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5204.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-3NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,534.18	1,500.00	Fox Hills aquifer base				
7,538.86	7,283.00	Sharon Springs				
7,583.08	7,315.00	Top Niobrara				
7,597.62	7,325.00	Nio A Chalk				
7,629.56	7,346.00	Nio A Marl				
7,917.60	7,467.00	Nio B Chalk				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
100.00	100.00	0.00	0.00	BUILD 2°/100'	
887.75	877.86	-57.43	91.02	HOLD 15.76° INC	
6,236.99	6,026.14	-832.44	1,319.43	DROP 2°/100'	
7,024.74	6,804.00	-889.87	1,410.45	HOLD VERTICAL	
7,124.74	6,904.00	-889.87	1,410.45	KOP, BUILD 10°/100'	
8,024.81	7,477.00	-316.87	1,410.64	LP @ 90° INC, 0.02° AZM HOLD	
15,404.96	7,477.00	7,063.28	1,413.02	TD at 15404.96' MD	