

EXTRACTION OIL & GAS

Adams County

Sec 25-T1S-R66W

ALMA 1S-66-2524-11NH

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

29 August, 2017



Project: Adams County
Site: Sec 25-T1S-R66W
Well: ALMA 1S-66-2524-11NH
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: 52129.3snT
Dip Angle: 66.48°
Date: 8/17/2017
Model: IGRF2015

WELL DETAILS: ALMA 1S-66-2524-11NH

+N/-S	+E/-W	Northing	Easting	5180.00	Latitude	Longitude	Slot
0.00	0.00	1218124.57	3218392.34		39° 55' 46.200 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	1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	
3	2095.45	15.91	236.47	2085.26	-60.61	-91.47	2.00	236.47	-46.13	
4	6185.58	15.91	236.47	6018.74	-679.92	-1026.03	0.00	0.00	-517.43	
5	6981.02	0.00	0.00	6804.00	-740.53	-1117.50	2.00	180.00	-563.56	
6	7081.02	0.00	0.00	6904.00	-740.53	-1117.50	0.00	0.00	-563.56	
7	7981.09	90.00	0.13	7477.00	-167.53	-1116.17	10.00	0.13	2.69	ALMA 11NH LP
8	15353.97	90.00	0.13	7477.00	-7205.33	-1099.02	0.00	0.00	7288.67	ALMA 11NH PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1500.00	1500.16	Fox Hills aquifer base
7283.00	7495.14	Sharon Springs
7315.00	7539.36	Top Niobrara
7325.00	7553.90	Nio A Chalk
7346.00	7585.84	Nio A Marl
7467.00	7873.88	Nio B Chalk

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	BUILD 2°/100'
2095.45	15.91	236.47	2085.26	-60.61	-91.47	-46.13	109.73	HOLD 15.91° INC
6185.58	15.91	236.47	6018.74	-679.92	-1026.03	-517.43	1230.87	DROP 2°/100'
6981.02	0.00	0.00	6804.00	-740.53	-1117.50	-563.56	1340.59	HOLD VERTICAL
7081.02	0.00	0.00	6904.00	-740.53	-1117.50	-563.56	1340.59	KOP, BUILD 10°/100'
7981.09	90.00	0.13	7477.00	-167.53	-1116.17	2.69	1913.59	LP @ 90° INC, 0.13° AZM HOLD
15353.97	90.00	0.13	7477.00	-7205.33	-1099.02	7288.67	9286.48	TD at 15353.97' MD

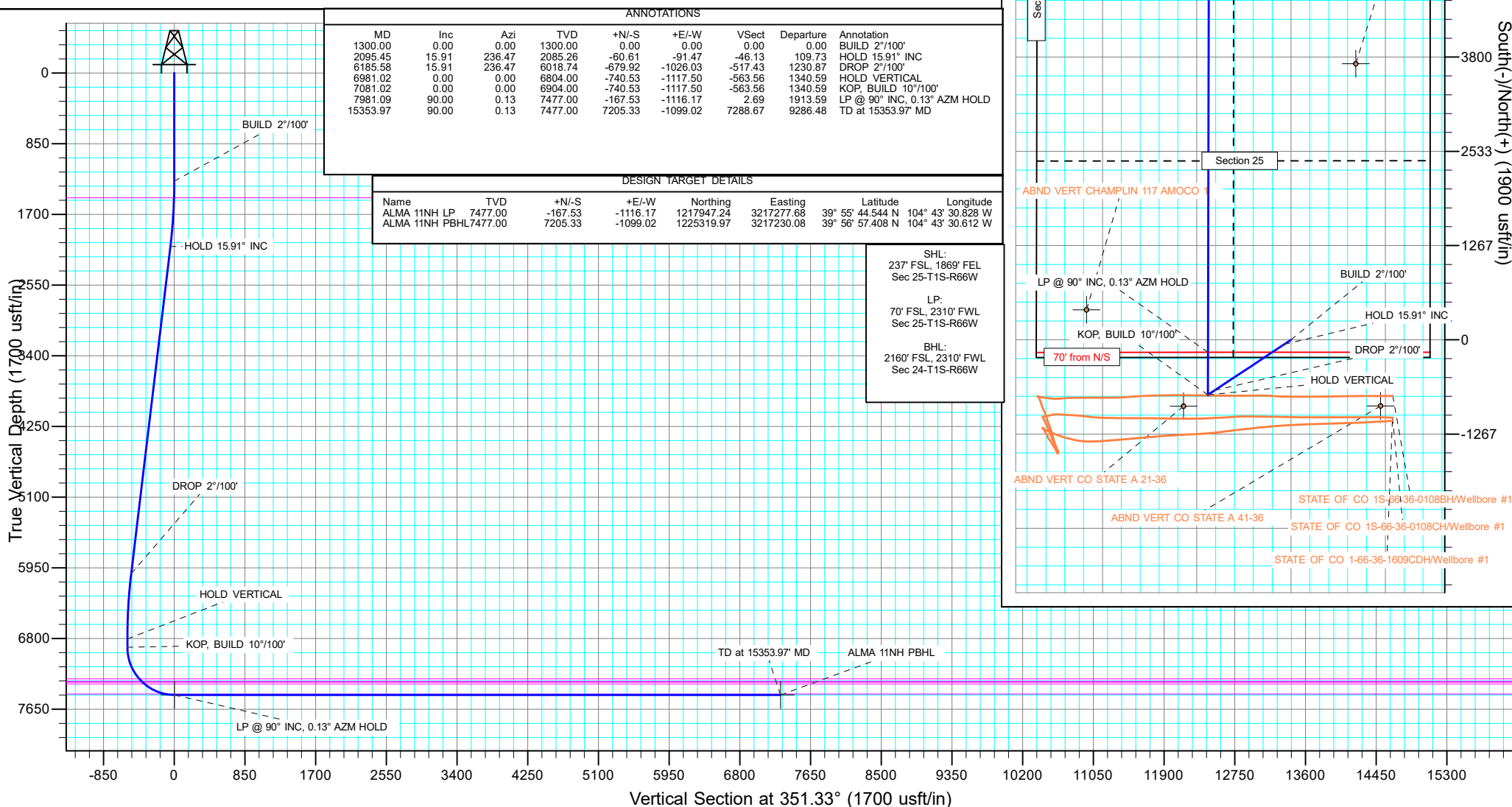
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ALMA 11NH LP	7477.00	-167.53	-1116.17	1217947.24	3217277.68	39° 55' 44.544 N	104° 43' 30.828 W
ALMA 11NH PBHL	7477.00	-7205.33	-1099.02	1225319.97	3217230.08	39° 56' 57.408 N	104° 43' 30.612 W

SHL:
237' FSL, 1869' FEL
Sec 25-T1S-R66W

LP:
70' FSL, 2310' FWL
Sec 25-T1S-R66W

BHL:
2160' FSL, 2310' FWL
Sec 24-T1S-R66W



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-11NH
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-66-2524-11NH	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-66-2524-11NH					
Well Position	+N/-S	236.84 usft	Northing:	1,218,124.57 usft	Latitude:	39° 55' 46.200 N
	+E/-W	-1,867.75 usft	Easting:	3,218,392.34 usft	Longitude:	104° 43' 16.500 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	52,129.34614105

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	351.33

Plan Survey Tool Program	Date	8/29/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,353.97	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	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,095.45	15.91	236.47	2,085.26	-60.61	-91.47	2.00	2.00	0.00	236.47	
6,185.58	15.91	236.47	6,018.74	-679.92	-1,026.03	0.00	0.00	0.00	0.00	
6,981.02	0.00	0.00	6,804.00	-740.53	-1,117.50	2.00	-2.00	0.00	180.00	
7,081.02	0.00	0.00	6,904.00	-740.53	-1,117.50	0.00	0.00	0.00	0.00	
7,981.09	90.00	0.13	7,477.00	-167.53	-1,116.17	10.00	10.00	0.01	0.13	ALMA 11NH LP
15,353.97	90.00	0.13	7,477.00	7,205.33	-1,099.02	0.00	0.00	0.00	0.00	ALMA 11NH PBHL

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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-66-2524-11NH	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
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
BUILD 2°/100'									
1,400.00	2.00	236.47	1,399.98	-0.96	-1.45	-0.73	2.00	2.00	0.00
1,500.00	4.00	236.47	1,499.84	-3.85	-5.82	-2.93	2.00	2.00	0.00
1,500.16	4.00	236.47	1,500.00	-3.86	-5.83	-2.94	0.00	0.00	0.00
Fox Hills aquifer base									
1,600.00	6.00	236.47	1,599.45	-8.67	-13.08	-6.60	2.00	2.00	0.00
1,700.00	8.00	236.47	1,698.70	-15.40	-23.24	-11.72	2.00	2.00	0.00
1,800.00	10.00	236.47	1,797.47	-24.04	-36.28	-18.30	2.00	2.00	0.00
1,900.00	12.00	236.47	1,895.62	-34.58	-52.18	-26.32	2.00	2.00	0.00
2,000.00	14.00	236.47	1,993.06	-47.01	-70.94	-35.77	2.00	2.00	0.00
2,095.45	15.91	236.47	2,085.26	-60.61	-91.47	-46.13	2.00	2.00	0.00
HOLD 15.91° INC									
2,100.00	15.91	236.47	2,089.64	-61.30	-92.51	-46.65	0.00	0.00	0.00
2,200.00	15.91	236.47	2,185.81	-76.44	-115.36	-58.17	0.00	0.00	0.00
2,300.00	15.91	236.47	2,281.98	-91.58	-138.20	-69.70	0.00	0.00	0.00
2,400.00	15.91	236.47	2,378.15	-106.73	-161.05	-81.22	0.00	0.00	0.00
2,500.00	15.91	236.47	2,474.32	-121.87	-183.90	-92.74	0.00	0.00	0.00
2,600.00	15.91	236.47	2,570.49	-137.01	-206.75	-104.27	0.00	0.00	0.00
2,700.00	15.91	236.47	2,666.66	-152.15	-229.60	-115.79	0.00	0.00	0.00
2,800.00	15.91	236.47	2,762.83	-167.29	-252.45	-127.31	0.00	0.00	0.00
2,900.00	15.91	236.47	2,859.00	-182.43	-275.30	-138.84	0.00	0.00	0.00
3,000.00	15.91	236.47	2,955.17	-197.57	-298.15	-150.36	0.00	0.00	0.00
3,100.00	15.91	236.47	3,051.34	-212.72	-321.00	-161.88	0.00	0.00	0.00
3,200.00	15.91	236.47	3,147.51	-227.86	-343.85	-173.41	0.00	0.00	0.00
3,300.00	15.91	236.47	3,243.68	-243.00	-366.70	-184.93	0.00	0.00	0.00
3,400.00	15.91	236.47	3,339.85	-258.14	-389.55	-196.45	0.00	0.00	0.00
3,500.00	15.91	236.47	3,436.02	-273.28	-412.40	-207.97	0.00	0.00	0.00
3,600.00	15.91	236.47	3,532.19	-288.42	-435.25	-219.50	0.00	0.00	0.00
3,700.00	15.91	236.47	3,628.36	-303.57	-458.10	-231.02	0.00	0.00	0.00
3,800.00	15.91	236.47	3,724.53	-318.71	-480.95	-242.54	0.00	0.00	0.00
3,900.00	15.91	236.47	3,820.70	-333.85	-503.79	-254.07	0.00	0.00	0.00
4,000.00	15.91	236.47	3,916.87	-348.99	-526.64	-265.59	0.00	0.00	0.00
4,100.00	15.91	236.47	4,013.04	-364.13	-549.49	-277.11	0.00	0.00	0.00
4,200.00	15.91	236.47	4,109.21	-379.27	-572.34	-288.64	0.00	0.00	0.00
4,300.00	15.91	236.47	4,205.38	-394.41	-595.19	-300.16	0.00	0.00	0.00
4,400.00	15.91	236.47	4,301.55	-409.56	-618.04	-311.68	0.00	0.00	0.00
4,500.00	15.91	236.47	4,397.72	-424.70	-640.89	-323.20	0.00	0.00	0.00
4,600.00	15.91	236.47	4,493.89	-439.84	-663.74	-334.73	0.00	0.00	0.00
4,700.00	15.91	236.47	4,590.06	-454.98	-686.59	-346.25	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-66-2524-11NH	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	15.91	236.47	4,686.23	-470.12	-709.44	-357.77	0.00	0.00	0.00
4,900.00	15.91	236.47	4,782.40	-485.26	-732.29	-369.30	0.00	0.00	0.00
5,000.00	15.91	236.47	4,878.57	-500.40	-755.14	-380.82	0.00	0.00	0.00
5,100.00	15.91	236.47	4,974.74	-515.55	-777.99	-392.34	0.00	0.00	0.00
5,200.00	15.91	236.47	5,070.91	-530.69	-800.84	-403.87	0.00	0.00	0.00
5,300.00	15.91	236.47	5,167.08	-545.83	-823.69	-415.39	0.00	0.00	0.00
5,400.00	15.91	236.47	5,263.25	-560.97	-846.54	-426.91	0.00	0.00	0.00
5,500.00	15.91	236.47	5,359.42	-576.11	-869.38	-438.44	0.00	0.00	0.00
5,600.00	15.91	236.47	5,455.59	-591.25	-892.23	-449.96	0.00	0.00	0.00
5,700.00	15.91	236.47	5,551.76	-606.40	-915.08	-461.48	0.00	0.00	0.00
5,800.00	15.91	236.47	5,647.93	-621.54	-937.93	-473.00	0.00	0.00	0.00
5,900.00	15.91	236.47	5,744.10	-636.68	-960.78	-484.53	0.00	0.00	0.00
6,000.00	15.91	236.47	5,840.27	-651.82	-983.63	-496.05	0.00	0.00	0.00
6,100.00	15.91	236.47	5,936.44	-666.96	-1,006.48	-507.57	0.00	0.00	0.00
6,185.58	15.91	236.47	6,018.74	-679.92	-1,026.03	-517.43	0.00	0.00	0.00
DROP 2°/100'									
6,200.00	15.62	236.47	6,032.62	-682.08	-1,029.30	-519.08	2.00	-2.00	0.00
6,300.00	13.62	236.47	6,129.37	-696.03	-1,050.34	-529.69	2.00	-2.00	0.00
6,400.00	11.62	236.47	6,226.95	-708.09	-1,068.55	-538.88	2.00	-2.00	0.00
6,500.00	9.62	236.47	6,325.24	-718.27	-1,083.92	-546.62	2.00	-2.00	0.00
6,600.00	7.62	236.47	6,424.10	-726.55	-1,096.41	-552.93	2.00	-2.00	0.00
6,700.00	5.62	236.47	6,523.43	-732.92	-1,106.02	-557.77	2.00	-2.00	0.00
6,800.00	3.62	236.47	6,623.10	-737.37	-1,112.73	-561.16	2.00	-2.00	0.00
6,900.00	1.62	236.47	6,722.99	-739.90	-1,116.55	-563.08	2.00	-2.00	0.00
6,981.02	0.00	0.00	6,804.00	-740.53	-1,117.50	-563.56	2.00	-2.00	0.00
HOLD VERTICAL									
7,000.00	0.00	0.00	6,822.98	-740.53	-1,117.50	-563.56	0.00	0.00	0.00
7,081.02	0.00	0.00	6,904.00	-740.53	-1,117.50	-563.56	0.00	0.00	0.00
KOP, BUILD 10°/100'									
7,100.00	1.90	0.13	6,922.98	-740.22	-1,117.50	-563.25	10.00	10.00	0.00
7,150.00	6.90	0.13	6,972.81	-736.38	-1,117.49	-559.46	10.00	10.00	0.00
7,200.00	11.90	0.13	7,022.13	-728.22	-1,117.47	-551.40	10.00	10.00	0.00
7,250.00	16.90	0.13	7,070.54	-715.79	-1,117.44	-539.12	10.00	10.00	0.00
7,300.00	21.90	0.13	7,117.69	-699.19	-1,117.40	-522.71	10.00	10.00	0.00
7,350.00	26.90	0.13	7,163.21	-678.55	-1,117.36	-502.31	10.00	10.00	0.00
7,400.00	31.90	0.13	7,206.76	-654.01	-1,117.30	-478.07	10.00	10.00	0.00
7,450.00	36.90	0.13	7,248.00	-625.78	-1,117.23	-450.16	10.00	10.00	0.00
7,495.14	41.41	0.13	7,283.00	-597.28	-1,117.17	-422.00	10.00	10.00	0.00
Sharon Springs									
7,500.00	41.89	0.13	7,286.63	-594.06	-1,117.16	-418.81	10.00	10.00	0.00
7,539.36	45.83	0.13	7,315.00	-566.79	-1,117.10	-391.87	10.00	10.00	0.00
Top Niobrara									
7,550.00	46.89	0.13	7,322.34	-559.09	-1,117.08	-384.26	10.00	10.00	0.00
7,553.90	47.28	0.13	7,325.00	-556.23	-1,117.07	-381.43	10.00	10.00	0.00
Nio A Chalk									
7,585.84	50.48	0.13	7,346.00	-532.17	-1,117.02	-357.66	10.00	10.00	0.00
Nio A Marl									
7,600.00	51.89	0.13	7,354.88	-521.14	-1,116.99	-346.76	10.00	10.00	0.00
7,650.00	56.89	0.13	7,383.98	-480.50	-1,116.90	-306.60	10.00	10.00	0.00
7,700.00	61.89	0.13	7,409.43	-437.48	-1,116.80	-264.08	10.00	10.00	0.00
7,750.00	66.89	0.13	7,431.03	-392.41	-1,116.69	-219.54	10.00	10.00	0.00
7,800.00	71.89	0.13	7,448.62	-345.62	-1,116.58	-173.30	10.00	10.00	0.00
7,850.00	76.89	0.13	7,462.07	-297.48	-1,116.47	-125.73	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-66-2524-11NH	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)
7,873.88	79.28	0.13	7,467.00	-274.11	-1,116.42	-102.64	10.00	10.00	0.00
Nio B Chalk									
7,900.00	81.89	0.13	7,471.27	-248.35	-1,116.36	-77.18	10.00	10.00	0.00
7,950.00	86.89	0.13	7,476.16	-198.60	-1,116.24	-28.02	10.00	10.00	0.00
7,981.09	90.00	0.13	7,477.00	-167.53	-1,116.17	2.69	10.00	10.00	0.00
LP @ 90° INC, 0.13° AZM HOLD									
8,000.00	90.00	0.13	7,477.00	-148.62	-1,116.13	21.37	0.00	0.00	0.00
8,100.00	90.00	0.13	7,477.00	-48.62	-1,115.90	120.20	0.00	0.00	0.00
8,200.00	90.00	0.13	7,477.00	51.38	-1,115.66	219.02	0.00	0.00	0.00
8,300.00	90.00	0.13	7,477.00	151.38	-1,115.43	317.84	0.00	0.00	0.00
8,400.00	90.00	0.13	7,477.00	251.38	-1,115.20	416.66	0.00	0.00	0.00
8,500.00	90.00	0.13	7,477.00	351.38	-1,114.97	515.48	0.00	0.00	0.00
8,600.00	90.00	0.13	7,477.00	451.38	-1,114.74	614.30	0.00	0.00	0.00
8,700.00	90.00	0.13	7,477.00	551.38	-1,114.50	713.12	0.00	0.00	0.00
8,800.00	90.00	0.13	7,477.00	651.38	-1,114.27	811.95	0.00	0.00	0.00
8,900.00	90.00	0.13	7,477.00	751.38	-1,114.04	910.77	0.00	0.00	0.00
9,000.00	90.00	0.13	7,477.00	851.38	-1,113.81	1,009.59	0.00	0.00	0.00
9,100.00	90.00	0.13	7,477.00	951.38	-1,113.58	1,108.41	0.00	0.00	0.00
9,200.00	90.00	0.13	7,477.00	1,051.38	-1,113.35	1,207.23	0.00	0.00	0.00
9,300.00	90.00	0.13	7,477.00	1,151.38	-1,113.11	1,306.05	0.00	0.00	0.00
9,400.00	90.00	0.13	7,477.00	1,251.38	-1,112.88	1,404.87	0.00	0.00	0.00
9,500.00	90.00	0.13	7,477.00	1,351.38	-1,112.65	1,503.70	0.00	0.00	0.00
9,600.00	90.00	0.13	7,477.00	1,451.38	-1,112.42	1,602.52	0.00	0.00	0.00
9,700.00	90.00	0.13	7,477.00	1,551.38	-1,112.19	1,701.34	0.00	0.00	0.00
9,800.00	90.00	0.13	7,477.00	1,651.38	-1,111.95	1,800.16	0.00	0.00	0.00
9,900.00	90.00	0.13	7,477.00	1,751.38	-1,111.72	1,898.98	0.00	0.00	0.00
10,000.00	90.00	0.13	7,477.00	1,851.38	-1,111.49	1,997.80	0.00	0.00	0.00
10,100.00	90.00	0.13	7,477.00	1,951.38	-1,111.26	2,096.63	0.00	0.00	0.00
10,200.00	90.00	0.13	7,477.00	2,051.37	-1,111.03	2,195.45	0.00	0.00	0.00
10,300.00	90.00	0.13	7,477.00	2,151.37	-1,110.79	2,294.27	0.00	0.00	0.00
10,400.00	90.00	0.13	7,477.00	2,251.37	-1,110.56	2,393.09	0.00	0.00	0.00
10,500.00	90.00	0.13	7,477.00	2,351.37	-1,110.33	2,491.91	0.00	0.00	0.00
10,600.00	90.00	0.13	7,477.00	2,451.37	-1,110.10	2,590.73	0.00	0.00	0.00
10,700.00	90.00	0.13	7,477.00	2,551.37	-1,109.87	2,689.55	0.00	0.00	0.00
10,800.00	90.00	0.13	7,477.00	2,651.37	-1,109.64	2,788.38	0.00	0.00	0.00
10,900.00	90.00	0.13	7,477.00	2,751.37	-1,109.40	2,887.20	0.00	0.00	0.00
11,000.00	90.00	0.13	7,477.00	2,851.37	-1,109.17	2,986.02	0.00	0.00	0.00
11,100.00	90.00	0.13	7,477.00	2,951.37	-1,108.94	3,084.84	0.00	0.00	0.00
11,200.00	90.00	0.13	7,477.00	3,051.37	-1,108.71	3,183.66	0.00	0.00	0.00
11,300.00	90.00	0.13	7,477.00	3,151.37	-1,108.48	3,282.48	0.00	0.00	0.00
11,400.00	90.00	0.13	7,477.00	3,251.37	-1,108.24	3,381.30	0.00	0.00	0.00
11,500.00	90.00	0.13	7,477.00	3,351.37	-1,108.01	3,480.13	0.00	0.00	0.00
11,600.00	90.00	0.13	7,477.00	3,451.37	-1,107.78	3,578.95	0.00	0.00	0.00
11,700.00	90.00	0.13	7,477.00	3,551.37	-1,107.55	3,677.77	0.00	0.00	0.00
11,800.00	90.00	0.13	7,477.00	3,651.37	-1,107.32	3,776.59	0.00	0.00	0.00
11,900.00	90.00	0.13	7,477.00	3,751.37	-1,107.09	3,875.41	0.00	0.00	0.00
12,000.00	90.00	0.13	7,477.00	3,851.37	-1,106.85	3,974.23	0.00	0.00	0.00
12,100.00	90.00	0.13	7,477.00	3,951.37	-1,106.62	4,073.05	0.00	0.00	0.00
12,200.00	90.00	0.13	7,477.00	4,051.37	-1,106.39	4,171.88	0.00	0.00	0.00
12,300.00	90.00	0.13	7,477.00	4,151.37	-1,106.16	4,270.70	0.00	0.00	0.00
12,400.00	90.00	0.13	7,477.00	4,251.37	-1,105.93	4,369.52	0.00	0.00	0.00
12,500.00	90.00	0.13	7,477.00	4,351.37	-1,105.69	4,468.34	0.00	0.00	0.00
12,600.00	90.00	0.13	7,477.00	4,451.37	-1,105.46	4,567.16	0.00	0.00	0.00
12,700.00	90.00	0.13	7,477.00	4,551.37	-1,105.23	4,665.98	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-11NH
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-66-2524-11NH	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	0.13	7,477.00	4,651.37	-1,105.00	4,764.80	0.00	0.00	0.00	
12,900.00	90.00	0.13	7,477.00	4,751.37	-1,104.77	4,863.63	0.00	0.00	0.00	
13,000.00	90.00	0.13	7,477.00	4,851.37	-1,104.53	4,962.45	0.00	0.00	0.00	
13,100.00	90.00	0.13	7,477.00	4,951.37	-1,104.30	5,061.27	0.00	0.00	0.00	
13,200.00	90.00	0.13	7,477.00	5,051.37	-1,104.07	5,160.09	0.00	0.00	0.00	
13,300.00	90.00	0.13	7,477.00	5,151.37	-1,103.84	5,258.91	0.00	0.00	0.00	
13,400.00	90.00	0.13	7,477.00	5,251.37	-1,103.61	5,357.73	0.00	0.00	0.00	
13,500.00	90.00	0.13	7,477.00	5,351.37	-1,103.38	5,456.55	0.00	0.00	0.00	
13,600.00	90.00	0.13	7,477.00	5,451.37	-1,103.14	5,555.38	0.00	0.00	0.00	
13,700.00	90.00	0.13	7,477.00	5,551.37	-1,102.91	5,654.20	0.00	0.00	0.00	
13,800.00	90.00	0.13	7,477.00	5,651.37	-1,102.68	5,753.02	0.00	0.00	0.00	
13,900.00	90.00	0.13	7,477.00	5,751.36	-1,102.45	5,851.84	0.00	0.00	0.00	
14,000.00	90.00	0.13	7,477.00	5,851.36	-1,102.22	5,950.66	0.00	0.00	0.00	
14,100.00	90.00	0.13	7,477.00	5,951.36	-1,101.98	6,049.48	0.00	0.00	0.00	
14,200.00	90.00	0.13	7,477.00	6,051.36	-1,101.75	6,148.30	0.00	0.00	0.00	
14,300.00	90.00	0.13	7,477.00	6,151.36	-1,101.52	6,247.13	0.00	0.00	0.00	
14,400.00	90.00	0.13	7,477.00	6,251.36	-1,101.29	6,345.95	0.00	0.00	0.00	
14,500.00	90.00	0.13	7,477.00	6,351.36	-1,101.06	6,444.77	0.00	0.00	0.00	
14,600.00	90.00	0.13	7,477.00	6,451.36	-1,100.83	6,543.59	0.00	0.00	0.00	
14,700.00	90.00	0.13	7,477.00	6,551.36	-1,100.59	6,642.41	0.00	0.00	0.00	
14,800.00	90.00	0.13	7,477.00	6,651.36	-1,100.36	6,741.23	0.00	0.00	0.00	
14,900.00	90.00	0.13	7,477.00	6,751.36	-1,100.13	6,840.05	0.00	0.00	0.00	
15,000.00	90.00	0.13	7,477.00	6,851.36	-1,099.90	6,938.88	0.00	0.00	0.00	
15,100.00	90.00	0.13	7,477.00	6,951.36	-1,099.67	7,037.70	0.00	0.00	0.00	
15,200.00	90.00	0.13	7,477.00	7,051.36	-1,099.43	7,136.52	0.00	0.00	0.00	
15,300.00	90.00	0.13	7,477.00	7,151.36	-1,099.20	7,235.34	0.00	0.00	0.00	
15,353.97	90.00	0.13	7,477.00	7,205.33	-1,099.02	7,288.67	0.00	0.00	0.00	
TD at 15353.97' 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 11NH LP	0.00	0.00	7,477.00	-167.53	-1,116.17	1,217,947.24	3,217,277.68	39° 55' 44.544 N	104° 43' 30.828 W	
- plan hits target center										
- Point										
ALMA 11NH PBHL	0.00	0.00	7,477.00	7,205.33	-1,099.02	1,225,319.97	3,217,230.09	39° 56' 57.408 N	104° 43' 30.612 W	
- plan hits target center										
- Point										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-11NH
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-66-2524-11NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,500.16	1,500.00	Fox Hills aquifer base				
7,495.14	7,283.00	Sharon Springs				
7,539.36	7,315.00	Top Niobrara				
7,553.90	7,325.00	Nio A Chalk				
7,585.84	7,346.00	Nio A Marl				
7,873.88	7,467.00	Nio B Chalk				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,300.00	1,300.00	0.00	0.00	BUILD 2°/100'	
2,095.45	2,085.26	-60.61	-91.47	HOLD 15.91° INC	
6,185.58	6,018.74	-679.92	-1,026.03	DROP 2°/100'	
6,981.02	6,804.00	-740.53	-1,117.50	HOLD VERTICAL	
7,081.02	6,904.00	-740.53	-1,117.50	KOP, BUILD 10°/100'	
7,981.09	7,477.00	-167.53	-1,116.17	LP @ 90° INC, 0.13° AZM HOLD	
15,353.97	7,477.00	7,205.33	-1,099.02	TD at 15353.97' MD	