

EXTRACTION OIL & GAS

Adams County

Sec 25-T1S-R66W

ALMA 1S-66-2524-12NH

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

29 August, 2017



Project: Adams County
Site: Sec 25-T1S-R66W
Well: ALMA 1S-66-2524-12NH
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: 52129.0snT
Dip Angle: 66.48°
Date: 8/18/2017
Model: IGRF2015

WELL DETAILS: ALMA 1S-66-2524-12NH

+N/-S	+E/-W	Northing	Easting	5180.00	Latitude	Longitude	Slot
0.00	0.00	1218124.33	3218364.29		39° 55' 46.200 N	104° 43' 16.860 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	1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
3	2028.65	18.57	242.46	2012.47	-68.98	-132.30	2.00	242.46	-42.44	
4	6120.84	18.57	242.46	5891.53	-671.54	-1288.07	0.00	0.00	-413.20	
5	7049.48	0.00	0.00	6804.00	-740.52	-1420.37	2.00	180.00	-455.64	
6	7149.48	0.00	0.00	6904.00	-740.52	-1420.37	0.00	0.00	-455.64	
7	8049.56	90.00	0.13	7477.00	-167.52	-1419.05	10.00	0.13	106.56	ALMA 12NH LP
8	15422.44	90.00	0.13	7477.00	7205.35	-1401.81	0.00	0.00	7340.44	ALMA 12NH PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1500.00	1501.31	Fox Hills aquifer base
7283.00	7563.61	Sharon Springs
7315.00	7607.82	Top Niobrara
7325.00	7622.36	Nio A Chalk
7346.00	7654.30	Nio A Marl
7467.00	7942.34	Nio B Chalk

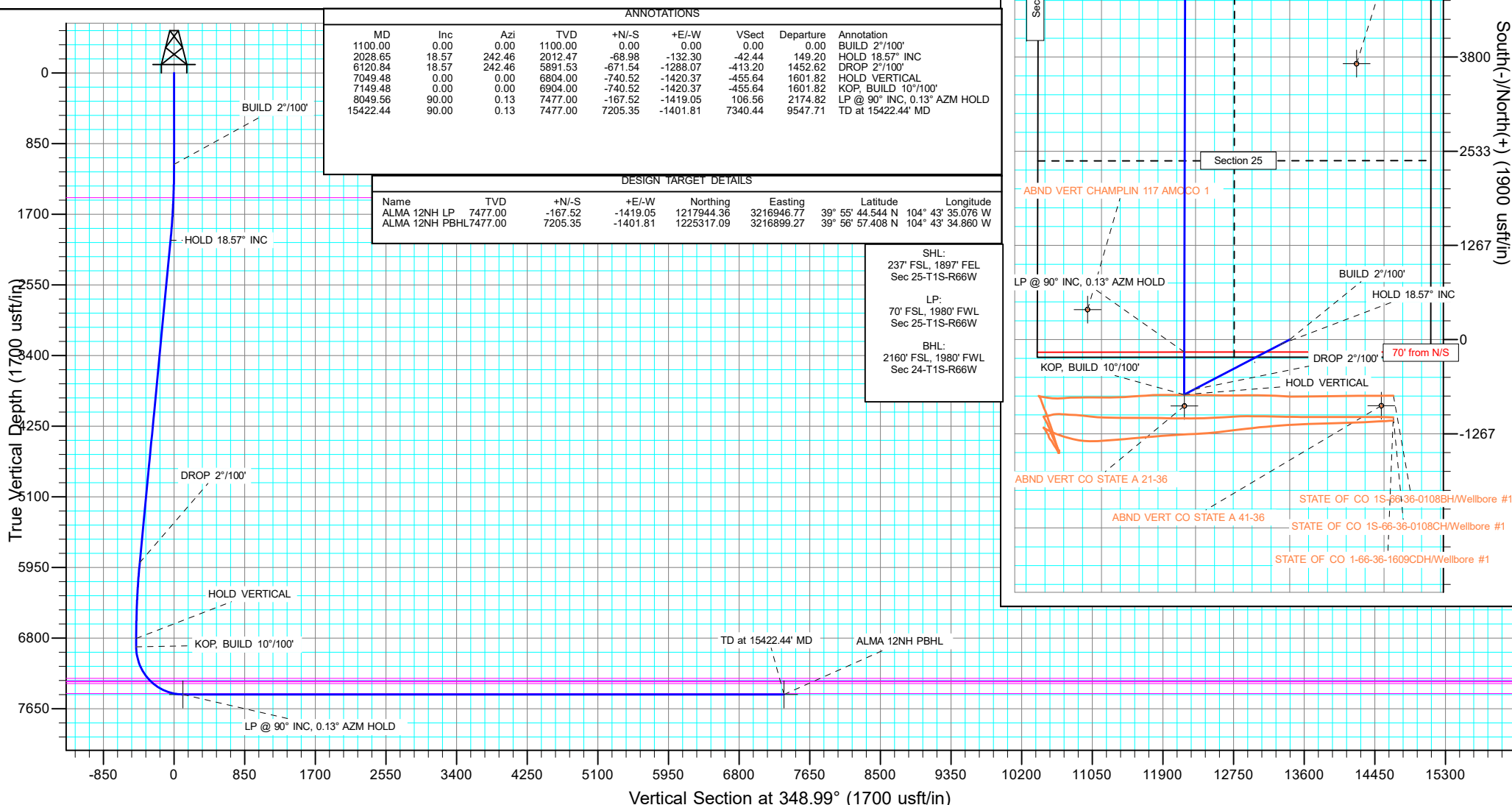
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	BUILD 2°/100'
2028.65	18.57	242.46	2012.47	-68.98	-132.30	-42.44	149.20	HOLD 18.57° INC
6120.84	18.57	242.46	5891.53	-671.54	-1288.07	-413.20	1452.62	DROP 2°/100'
7049.48	0.00	0.00	6804.00	-740.52	-1420.37	-455.64	1601.82	HOLD VERTICAL
7149.48	0.00	0.00	6904.00	-740.52	-1420.37	-455.64	1601.82	KOP, BUILD 10°/100'
8049.56	90.00	0.13	7477.00	-167.52	-1419.05	106.56	2174.82	LP @ 90° INC, 0.13° AZM HOLD
15422.44	90.00	0.13	7477.00	7205.35	-1401.81	7340.44	9547.71	TD at 15422.44' MD

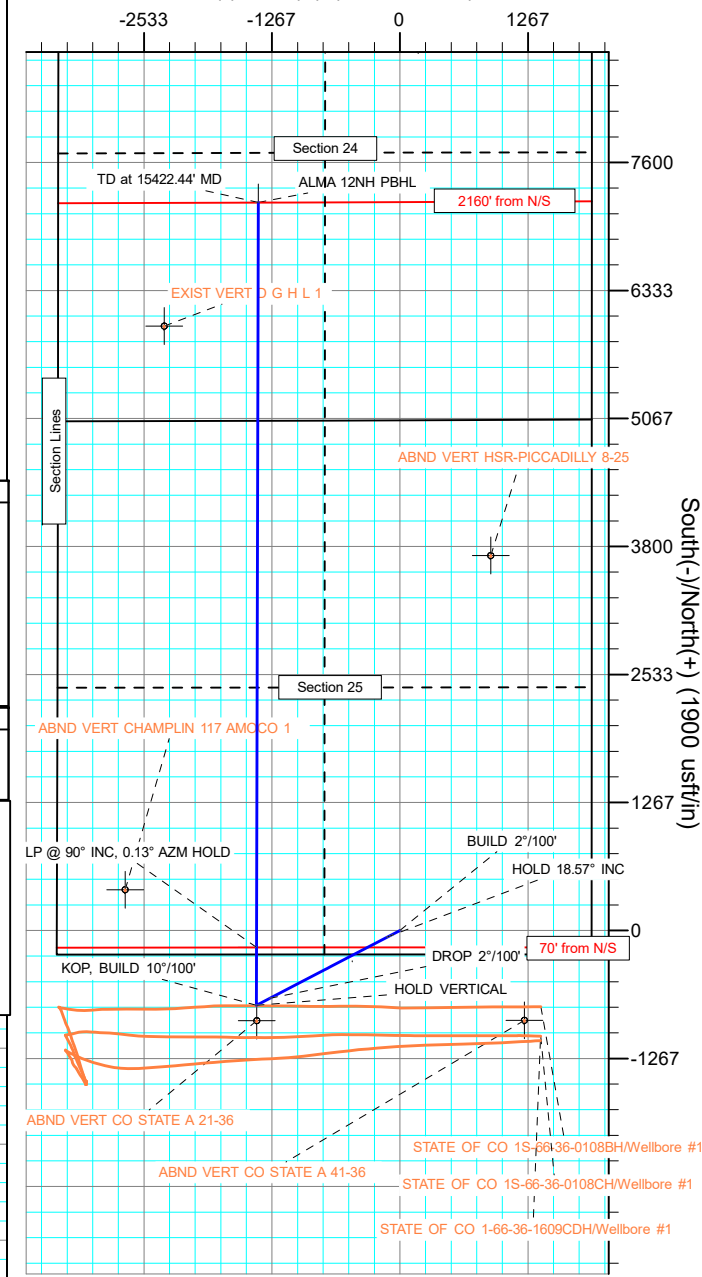
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ALMA 12NH LP	7477.00	-167.52	-1419.05	1217944.36	3216946.77	39° 55' 44.544 N	104° 43' 35.076 W
ALMA 12NH PBHL	7477.00	7205.35	-1401.81	1225317.09	3216899.27	39° 56' 57.408 N	104° 43' 34.860 W

SHL:
237' FSL, 1897' FEL
Sec 25-T1S-R66W
LP:
70' FSL, 1980' FWL
Sec 25-T1S-R66W
BHL:
2160' FSL, 1980' FWL
Sec 24-T1S-R66W



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



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-12NH
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-66-2524-12NH	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-66-2524-12NH					
Well Position	+N/-S	236.84 usft	Northing:	1,218,124.32 usft	Latitude:	39° 55' 46.200 N
	+E/-W	-1,895.80 usft	Easting:	3,218,364.30 usft	Longitude:	104° 43' 16.860 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	8/18/2017	8.13	66.48	52,129.02557450

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	348.99

Plan Survey Tool Program	Date	8/29/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,422.44	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	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,028.65	18.57	242.46	2,012.47	-68.98	-132.30	2.00	2.00	0.00	242.46	
6,120.84	18.57	242.46	5,891.53	-671.54	-1,288.07	0.00	0.00	0.00	0.00	
7,049.48	0.00	0.00	6,804.00	-740.52	-1,420.37	2.00	-2.00	0.00	180.00	
7,149.48	0.00	0.00	6,904.00	-740.52	-1,420.37	0.00	0.00	0.00	0.00	
8,049.56	90.00	0.13	7,477.00	-167.52	-1,419.05	10.00	10.00	0.01	0.13	ALMA 12NH LP
15,422.44	90.00	0.13	7,477.00	7,205.35	-1,401.81	0.00	0.00	0.00	0.00	ALMA 12NH PBHL

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-12NH
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-66-2524-12NH	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
BUILD 2°/100'									
1,200.00	2.00	242.46	1,199.98	-0.81	-1.55	-0.50	2.00	2.00	0.00
1,300.00	4.00	242.46	1,299.84	-3.23	-6.19	-1.99	2.00	2.00	0.00
1,400.00	6.00	242.46	1,399.45	-7.26	-13.92	-4.46	2.00	2.00	0.00
1,500.00	8.00	242.46	1,498.70	-12.89	-24.72	-7.93	2.00	2.00	0.00
1,501.31	8.03	242.46	1,500.00	-12.97	-24.88	-7.98	2.00	2.00	0.00
Fox Hills aquifer base									
1,600.00	10.00	242.46	1,597.47	-20.12	-38.59	-12.38	2.00	2.00	0.00
1,700.00	12.00	242.46	1,695.62	-28.94	-55.51	-17.81	2.00	2.00	0.00
1,800.00	14.00	242.46	1,793.06	-39.34	-75.46	-24.21	2.00	2.00	0.00
1,900.00	16.00	242.46	1,889.64	-51.30	-98.41	-31.57	2.00	2.00	0.00
2,000.00	18.00	242.46	1,985.27	-64.82	-124.33	-39.88	2.00	2.00	0.00
2,028.65	18.57	242.46	2,012.47	-68.98	-132.30	-42.44	2.00	2.00	0.00
HOLD 18.57° INC									
2,100.00	18.57	242.46	2,080.11	-79.48	-152.45	-48.91	0.00	0.00	0.00
2,200.00	18.57	242.46	2,174.90	-94.21	-180.70	-57.97	0.00	0.00	0.00
2,300.00	18.57	242.46	2,269.69	-108.93	-208.94	-67.03	0.00	0.00	0.00
2,400.00	18.57	242.46	2,364.48	-123.66	-237.18	-76.09	0.00	0.00	0.00
2,500.00	18.57	242.46	2,459.27	-138.38	-265.43	-85.15	0.00	0.00	0.00
2,600.00	18.57	242.46	2,554.06	-153.11	-293.67	-94.21	0.00	0.00	0.00
2,700.00	18.57	242.46	2,648.86	-167.83	-321.91	-103.27	0.00	0.00	0.00
2,800.00	18.57	242.46	2,743.65	-182.56	-350.16	-112.33	0.00	0.00	0.00
2,900.00	18.57	242.46	2,838.44	-197.28	-378.40	-121.39	0.00	0.00	0.00
3,000.00	18.57	242.46	2,933.23	-212.01	-406.64	-130.45	0.00	0.00	0.00
3,100.00	18.57	242.46	3,028.02	-226.73	-434.89	-139.51	0.00	0.00	0.00
3,200.00	18.57	242.46	3,122.82	-241.46	-463.13	-148.57	0.00	0.00	0.00
3,300.00	18.57	242.46	3,217.61	-256.18	-491.37	-157.63	0.00	0.00	0.00
3,400.00	18.57	242.46	3,312.40	-270.91	-519.62	-166.69	0.00	0.00	0.00
3,500.00	18.57	242.46	3,407.19	-285.63	-547.86	-175.75	0.00	0.00	0.00
3,600.00	18.57	242.46	3,501.98	-300.36	-576.10	-184.81	0.00	0.00	0.00
3,700.00	18.57	242.46	3,596.78	-315.08	-604.35	-193.87	0.00	0.00	0.00
3,800.00	18.57	242.46	3,691.57	-329.80	-632.59	-202.93	0.00	0.00	0.00
3,900.00	18.57	242.46	3,786.36	-344.53	-660.83	-211.99	0.00	0.00	0.00
4,000.00	18.57	242.46	3,881.15	-359.25	-689.08	-221.05	0.00	0.00	0.00
4,100.00	18.57	242.46	3,975.94	-373.98	-717.32	-230.11	0.00	0.00	0.00
4,200.00	18.57	242.46	4,070.73	-388.70	-745.56	-239.17	0.00	0.00	0.00
4,300.00	18.57	242.46	4,165.53	-403.43	-773.81	-248.23	0.00	0.00	0.00
4,400.00	18.57	242.46	4,260.32	-418.15	-802.05	-257.29	0.00	0.00	0.00
4,500.00	18.57	242.46	4,355.11	-432.88	-830.29	-266.35	0.00	0.00	0.00
4,600.00	18.57	242.46	4,449.90	-447.60	-858.54	-275.41	0.00	0.00	0.00
4,700.00	18.57	242.46	4,544.69	-462.33	-886.78	-284.47	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-66-2524-12NH	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	18.57	242.46	4,639.49	-477.05	-915.02	-293.53	0.00	0.00	0.00	
4,900.00	18.57	242.46	4,734.28	-491.78	-943.26	-302.59	0.00	0.00	0.00	
5,000.00	18.57	242.46	4,829.07	-506.50	-971.51	-311.65	0.00	0.00	0.00	
5,100.00	18.57	242.46	4,923.86	-521.23	-999.75	-320.71	0.00	0.00	0.00	
5,200.00	18.57	242.46	5,018.65	-535.95	-1,027.99	-329.77	0.00	0.00	0.00	
5,300.00	18.57	242.46	5,113.44	-550.68	-1,056.24	-338.83	0.00	0.00	0.00	
5,400.00	18.57	242.46	5,208.24	-565.40	-1,084.48	-347.89	0.00	0.00	0.00	
5,500.00	18.57	242.46	5,303.03	-580.13	-1,112.72	-356.95	0.00	0.00	0.00	
5,600.00	18.57	242.46	5,397.82	-594.85	-1,140.97	-366.01	0.00	0.00	0.00	
5,700.00	18.57	242.46	5,492.61	-609.58	-1,169.21	-375.07	0.00	0.00	0.00	
5,800.00	18.57	242.46	5,587.40	-624.30	-1,197.45	-384.13	0.00	0.00	0.00	
5,900.00	18.57	242.46	5,682.20	-639.03	-1,225.70	-393.19	0.00	0.00	0.00	
6,000.00	18.57	242.46	5,776.99	-653.75	-1,253.94	-402.25	0.00	0.00	0.00	
6,100.00	18.57	242.46	5,871.78	-668.48	-1,282.18	-411.31	0.00	0.00	0.00	
6,120.84	18.57	242.46	5,891.53	-671.54	-1,288.07	-413.20	0.00	0.00	0.00	
DROP 2°/100'										
6,200.00	16.99	242.46	5,966.91	-682.72	-1,309.51	-420.08	2.00	-2.00	0.00	
6,300.00	14.99	242.46	6,063.04	-695.45	-1,333.93	-427.91	2.00	-2.00	0.00	
6,400.00	12.99	242.46	6,160.07	-706.63	-1,355.37	-434.79	2.00	-2.00	0.00	
6,500.00	10.99	242.46	6,257.88	-716.23	-1,373.79	-440.70	2.00	-2.00	0.00	
6,600.00	8.99	242.46	6,356.36	-724.25	-1,389.17	-445.63	2.00	-2.00	0.00	
6,700.00	6.99	242.46	6,455.38	-730.68	-1,401.49	-449.59	2.00	-2.00	0.00	
6,800.00	4.99	242.46	6,554.83	-735.50	-1,410.74	-452.55	2.00	-2.00	0.00	
6,900.00	2.99	242.46	6,654.58	-738.72	-1,416.91	-454.53	2.00	-2.00	0.00	
7,000.00	0.99	242.46	6,754.52	-740.32	-1,419.99	-455.52	2.00	-2.00	0.00	
7,049.48	0.00	0.00	6,804.00	-740.52	-1,420.37	-455.64	2.00	-2.00	0.00	
HOLD VERTICAL										
7,100.00	0.00	0.00	6,854.52	-740.52	-1,420.37	-455.64	0.00	0.00	0.00	
7,149.48	0.00	0.00	6,904.00	-740.52	-1,420.37	-455.64	0.00	0.00	0.00	
KOP, BUILD 10°/100'										
7,200.00	5.05	0.13	6,954.45	-738.29	-1,420.36	-453.46	10.00	10.00	0.00	
7,250.00	10.05	0.13	7,004.00	-731.73	-1,420.35	-447.01	10.00	10.00	0.00	
7,300.00	15.05	0.13	7,052.79	-720.86	-1,420.32	-436.36	10.00	10.00	0.00	
7,350.00	20.05	0.13	7,100.45	-705.79	-1,420.29	-421.57	10.00	10.00	0.00	
7,400.00	25.05	0.13	7,146.61	-686.62	-1,420.25	-402.76	10.00	10.00	0.00	
7,450.00	30.05	0.13	7,190.93	-663.51	-1,420.19	-380.08	10.00	10.00	0.00	
7,500.00	35.05	0.13	7,233.06	-636.61	-1,420.13	-353.69	10.00	10.00	0.00	
7,550.00	40.05	0.13	7,272.69	-606.15	-1,420.06	-323.81	10.00	10.00	0.00	
7,563.61	41.41	0.13	7,283.00	-597.27	-1,420.04	-315.10	10.00	10.00	0.00	
Sharon Springs										
7,600.00	45.05	0.13	7,309.51	-572.35	-1,419.98	-290.64	10.00	10.00	0.00	
7,607.82	45.83	0.13	7,315.00	-566.78	-1,419.97	-285.18	10.00	10.00	0.00	
Top Niobrara										
7,622.36	47.28	0.13	7,325.00	-556.22	-1,419.95	-274.82	10.00	10.00	0.00	
Nio A Chalk										
7,650.00	50.05	0.13	7,343.25	-535.47	-1,419.90	-254.46	10.00	10.00	0.00	
7,654.30	50.48	0.13	7,346.00	-532.16	-1,419.89	-251.21	10.00	10.00	0.00	
Nio A Marl										
7,700.00	55.05	0.13	7,373.65	-495.79	-1,419.81	-215.52	10.00	10.00	0.00	
7,750.00	60.05	0.13	7,400.47	-453.61	-1,419.71	-174.14	10.00	10.00	0.00	
7,800.00	65.05	0.13	7,423.51	-409.26	-1,419.61	-130.62	10.00	10.00	0.00	
7,850.00	70.05	0.13	7,442.60	-363.06	-1,419.50	-85.30	10.00	10.00	0.00	
7,900.00	75.05	0.13	7,457.59	-315.38	-1,419.39	-38.51	10.00	10.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-12NH
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-66-2524-12NH	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)	
7,942.34	79.28	0.13	7,467.00	-274.10	-1,419.30	1.98	10.00	10.00	0.00	
Nio B Chalk										
7,950.00	80.05	0.13	7,468.37	-266.57	-1,419.28	9.38	10.00	10.00	0.00	
8,000.00	85.05	0.13	7,474.86	-217.01	-1,419.17	58.00	10.00	10.00	0.00	
8,049.56	90.00	0.13	7,477.00	-167.52	-1,419.05	106.56	10.00	10.00	0.00	
LP @ 90° INC, 0.13° AZM HOLD										
8,100.00	90.00	0.13	7,477.00	-117.07	-1,418.94	156.06	0.00	0.00	0.00	
8,200.00	90.00	0.13	7,477.00	-17.07	-1,418.71	254.17	0.00	0.00	0.00	
8,300.00	90.00	0.13	7,477.00	82.93	-1,418.48	352.29	0.00	0.00	0.00	
8,400.00	90.00	0.13	7,477.00	182.93	-1,418.25	450.40	0.00	0.00	0.00	
8,500.00	90.00	0.13	7,477.00	282.93	-1,418.02	548.52	0.00	0.00	0.00	
8,600.00	90.00	0.13	7,476.99	382.93	-1,417.79	646.64	0.00	0.00	0.00	
8,700.00	90.00	0.13	7,476.99	482.93	-1,417.56	744.75	0.00	0.00	0.00	
8,800.00	90.00	0.13	7,476.99	582.93	-1,417.33	842.87	0.00	0.00	0.00	
8,900.00	90.00	0.13	7,476.99	682.93	-1,417.10	940.98	0.00	0.00	0.00	
9,000.00	90.00	0.13	7,476.99	782.93	-1,416.87	1,039.10	0.00	0.00	0.00	
9,100.00	90.00	0.13	7,476.99	882.93	-1,416.64	1,137.21	0.00	0.00	0.00	
9,200.00	90.00	0.13	7,476.99	982.93	-1,416.41	1,235.33	0.00	0.00	0.00	
9,300.00	90.00	0.13	7,476.99	1,082.93	-1,416.18	1,333.44	0.00	0.00	0.00	
9,400.00	90.00	0.13	7,476.99	1,182.92	-1,415.95	1,431.56	0.00	0.00	0.00	
9,500.00	90.00	0.13	7,476.99	1,282.92	-1,415.72	1,529.67	0.00	0.00	0.00	
9,600.00	90.00	0.13	7,476.99	1,382.92	-1,415.49	1,627.79	0.00	0.00	0.00	
9,700.00	90.00	0.13	7,476.98	1,482.92	-1,415.26	1,725.90	0.00	0.00	0.00	
9,800.00	90.00	0.13	7,476.98	1,582.92	-1,415.03	1,824.02	0.00	0.00	0.00	
9,900.00	90.00	0.13	7,476.98	1,682.92	-1,414.80	1,922.14	0.00	0.00	0.00	
10,000.00	90.00	0.13	7,476.98	1,782.92	-1,414.57	2,020.25	0.00	0.00	0.00	
10,100.00	90.00	0.13	7,476.98	1,882.92	-1,414.34	2,118.37	0.00	0.00	0.00	
10,200.00	90.00	0.13	7,476.98	1,982.92	-1,414.11	2,216.48	0.00	0.00	0.00	
10,300.00	90.00	0.13	7,476.98	2,082.92	-1,413.88	2,314.60	0.00	0.00	0.00	
10,400.00	90.00	0.13	7,476.98	2,182.92	-1,413.65	2,412.71	0.00	0.00	0.00	
10,500.00	90.00	0.13	7,476.98	2,282.92	-1,413.42	2,510.83	0.00	0.00	0.00	
10,600.00	90.00	0.13	7,476.98	2,382.92	-1,413.19	2,608.94	0.00	0.00	0.00	
10,700.00	90.00	0.13	7,476.97	2,482.92	-1,412.96	2,707.06	0.00	0.00	0.00	
10,800.00	90.00	0.13	7,476.97	2,582.92	-1,412.73	2,805.17	0.00	0.00	0.00	
10,900.00	90.00	0.13	7,476.97	2,682.92	-1,412.50	2,903.29	0.00	0.00	0.00	
11,000.00	90.00	0.13	7,476.97	2,782.92	-1,412.27	3,001.40	0.00	0.00	0.00	
11,100.00	90.00	0.13	7,476.97	2,882.92	-1,412.04	3,099.52	0.00	0.00	0.00	
11,200.00	90.00	0.13	7,476.97	2,982.92	-1,411.81	3,197.64	0.00	0.00	0.00	
11,300.00	90.00	0.13	7,476.97	3,082.92	-1,411.58	3,295.75	0.00	0.00	0.00	
11,400.00	90.00	0.13	7,476.97	3,182.92	-1,411.35	3,393.87	0.00	0.00	0.00	
11,500.00	90.00	0.13	7,476.97	3,282.92	-1,411.12	3,491.98	0.00	0.00	0.00	
11,600.00	90.00	0.13	7,476.97	3,382.92	-1,410.89	3,590.10	0.00	0.00	0.00	
11,700.00	90.00	0.13	7,476.96	3,482.92	-1,410.66	3,688.21	0.00	0.00	0.00	
11,800.00	90.00	0.13	7,476.96	3,582.92	-1,410.43	3,786.33	0.00	0.00	0.00	
11,900.00	90.00	0.13	7,476.96	3,682.92	-1,410.20	3,884.44	0.00	0.00	0.00	
12,000.00	90.00	0.13	7,476.96	3,782.92	-1,409.97	3,982.56	0.00	0.00	0.00	
12,100.00	90.00	0.13	7,476.96	3,882.92	-1,409.74	4,080.67	0.00	0.00	0.00	
12,200.00	90.00	0.13	7,476.96	3,982.92	-1,409.51	4,178.79	0.00	0.00	0.00	
12,300.00	90.00	0.13	7,476.96	4,082.92	-1,409.28	4,276.90	0.00	0.00	0.00	
12,400.00	90.00	0.13	7,476.96	4,182.92	-1,409.05	4,375.02	0.00	0.00	0.00	
12,500.00	90.00	0.13	7,476.96	4,282.92	-1,408.82	4,473.14	0.00	0.00	0.00	
12,600.00	90.00	0.13	7,476.96	4,382.92	-1,408.59	4,571.25	0.00	0.00	0.00	
12,700.00	90.00	0.13	7,476.96	4,482.92	-1,408.36	4,669.37	0.00	0.00	0.00	
12,800.00	90.00	0.13	7,476.95	4,582.92	-1,408.13	4,767.48	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-12NH
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-66-2524-12NH	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)	
12,900.00	90.00	0.13	7,476.95	4,682.92	-1,407.90	4,865.60	0.00	0.00	0.00	
13,000.00	90.00	0.13	7,476.95	4,782.92	-1,407.67	4,963.71	0.00	0.00	0.00	
13,100.00	90.00	0.13	7,476.95	4,882.92	-1,407.44	5,061.83	0.00	0.00	0.00	
13,200.00	90.00	0.13	7,476.95	4,982.91	-1,407.21	5,159.94	0.00	0.00	0.00	
13,300.00	90.00	0.13	7,476.95	5,082.91	-1,406.98	5,258.06	0.00	0.00	0.00	
13,400.00	90.00	0.13	7,476.95	5,182.91	-1,406.75	5,356.17	0.00	0.00	0.00	
13,500.00	90.00	0.13	7,476.95	5,282.91	-1,406.52	5,454.29	0.00	0.00	0.00	
13,600.00	90.00	0.13	7,476.95	5,382.91	-1,406.29	5,552.40	0.00	0.00	0.00	
13,700.00	90.00	0.13	7,476.95	5,482.91	-1,406.06	5,650.52	0.00	0.00	0.00	
13,800.00	90.00	0.13	7,476.94	5,582.91	-1,405.83	5,748.64	0.00	0.00	0.00	
13,900.00	90.00	0.13	7,476.94	5,682.91	-1,405.60	5,846.75	0.00	0.00	0.00	
14,000.00	90.00	0.13	7,476.94	5,782.91	-1,405.37	5,944.87	0.00	0.00	0.00	
14,100.00	90.00	0.13	7,476.94	5,882.91	-1,405.14	6,042.98	0.00	0.00	0.00	
14,200.00	90.00	0.13	7,476.94	5,982.91	-1,404.91	6,141.10	0.00	0.00	0.00	
14,300.00	90.00	0.13	7,476.94	6,082.91	-1,404.68	6,239.21	0.00	0.00	0.00	
14,400.00	90.00	0.13	7,476.94	6,182.91	-1,404.45	6,337.33	0.00	0.00	0.00	
14,500.00	90.00	0.13	7,476.94	6,282.91	-1,404.22	6,435.44	0.00	0.00	0.00	
14,600.00	90.00	0.13	7,476.94	6,382.91	-1,403.99	6,533.56	0.00	0.00	0.00	
14,700.00	90.00	0.13	7,476.94	6,482.91	-1,403.76	6,631.67	0.00	0.00	0.00	
14,800.00	90.00	0.13	7,476.93	6,582.91	-1,403.53	6,729.79	0.00	0.00	0.00	
14,900.00	90.00	0.13	7,476.93	6,682.91	-1,403.30	6,827.91	0.00	0.00	0.00	
15,000.00	90.00	0.13	7,476.93	6,782.91	-1,403.07	6,926.02	0.00	0.00	0.00	
15,100.00	90.00	0.13	7,476.93	6,882.91	-1,402.84	7,024.14	0.00	0.00	0.00	
15,200.00	90.00	0.13	7,476.93	6,982.91	-1,402.61	7,122.25	0.00	0.00	0.00	
15,300.00	90.00	0.13	7,476.93	7,082.91	-1,402.38	7,220.37	0.00	0.00	0.00	
15,400.00	90.00	0.13	7,476.93	7,182.91	-1,402.15	7,318.48	0.00	0.00	0.00	
15,422.44	90.00	0.13	7,477.00	7,205.35	-1,401.81	7,340.44	0.00	0.00	0.00	
TD at 15422.44' 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 12NH PBHL	0.00	0.00	7,477.00	7,205.35	-1,401.81	1,225,317.08	3,216,899.27	39° 56' 57.408 N	104° 43' 34.860 W	
- plan hits target center										
- Point										
ALMA 12NH LP	0.00	0.00	7,477.00	-167.52	-1,419.05	1,217,944.35	3,216,946.77	39° 55' 44.544 N	104° 43' 35.076 W	
- plan hits target center										
- Point										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-12NH
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-66-2524-12NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,501.31	1,500.00	Fox Hills aquifer base				
7,563.61	7,283.00	Sharon Springs				
7,607.82	7,315.00	Top Niobrara				
7,622.36	7,325.00	Nio A Chalk				
7,654.30	7,346.00	Nio A Marl				
7,942.34	7,467.00	Nio B Chalk				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,100.00	1,100.00	0.00	0.00	BUILD 2°/100'	
2,028.65	2,012.47	-68.98	-132.30	HOLD 18.57° INC	
6,120.84	5,891.53	-671.54	-1,288.07	DROP 2°/100'	
7,049.48	6,804.00	-740.52	-1,420.37	HOLD VERTICAL	
7,149.48	6,904.00	-740.52	-1,420.37	KOP, BUILD 10°/100'	
8,049.56	7,477.00	-167.52	-1,419.05	LP @ 90° INC, 0.13° AZM HOLD	
15,422.44	7,477.00	7,205.35	-1,401.81	TD at 15422.44' MD	