

EXTRACTION OIL & GAS

Adams County

Sec 25-T1S-R66W

ALMA 1S-66-2524-8CDH

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

29 August, 2017



Project: Adams County
Site: Sec 25-T1S-R66W
Well: ALMA 1S-66-2524-8CDH
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-66-2524-8CDH

+N/-S	+E/-W	Northing	Easting	5178.00	Latitude	Longitude	Slot
0.00	0.00	1218272.69	3218250.81		39° 55' 47.676 N	104° 43' 18.300 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	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
3	1453.18	9.06	183.80	1451.29	-35.69	-2.37	2.00	183.80	-35.67	
4	6660.62	9.06	183.80	6593.71	-854.22	-56.73	0.00	0.00	-853.74	
5	7113.80	0.00	0.00	7045.00	-889.91	-59.10	2.00	180.00	-889.41	
6	7213.80	0.00	0.00	7145.00	-889.91	-59.10	0.00	0.00	-889.41	
7	8113.86	90.00	0.02	7718.00	-316.91	-58.89	10.00	0.02	-316.43	ALMA 8CDH LP
8	15490.37	90.00	0.02	7718.00	7059.60	-56.07	0.00	0.00	7059.82	ALMA 8CDH PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1500.00	1502.50	Fox Hills aquifer base
7283.00	7353.17	Sharon Springs
7315.00	7386.39	Top Niobrara
7325.00	7396.90	Nio A Chalk
7346.00	7419.16	Nio A Marl
7467.00	7555.73	Nio B Chalk
7515.00	7616.02	Nio B Marl
7552.00	7666.42	Nio C Chalk
7573.00	7697.10	Nio D Marl
7684.00	7915.48	Ft Hayes Limestone
7718.00	8113.86	Codell Sandstone

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	BUILD 2°/100'
1453.18	9.06	183.80	1451.29	-35.69	-2.37	-35.67	35.77	HOLD 9.06° INC
6660.62	9.06	183.80	6593.71	-854.22	-56.73	-853.74	856.10	DROP 2°/100'
7113.80	0.00	0.00	7045.00	-889.91	-59.10	-889.41	891.87	HOLD VERTICAL
7213.80	0.00	0.00	7145.00	-889.91	-59.10	-889.41	891.87	KOP, BUILD 10°/100'
8113.86	90.00	0.02	7718.00	-316.91	-58.89	-316.43	1464.87	LP @ 90° INC, 0.02° AZM HOLD
15490.37	90.00	0.02	7718.00	7059.60	-56.07	7059.82	8841.38	TD at 15490.37' MD

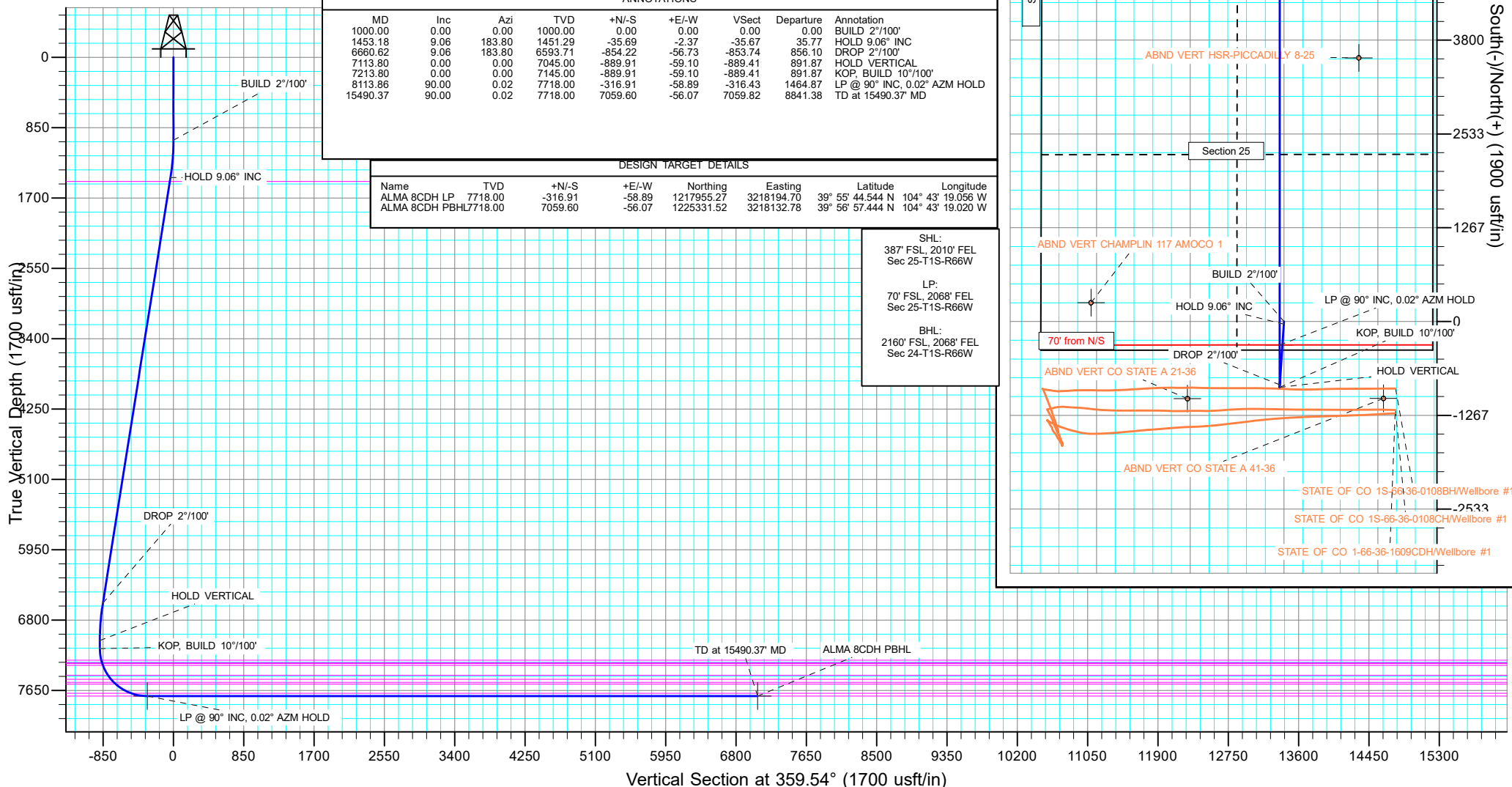
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ALMA 8CDH LP	7718.00	-316.91	-58.89	1217955.27	3218194.70	39° 55' 44.544 N	104° 43' 19.056 W
ALMA 8CDH PBHL	7718.00	7059.60	-56.07	1225331.52	3218132.78	39° 56' 57.444 N	104° 43' 19.020 W

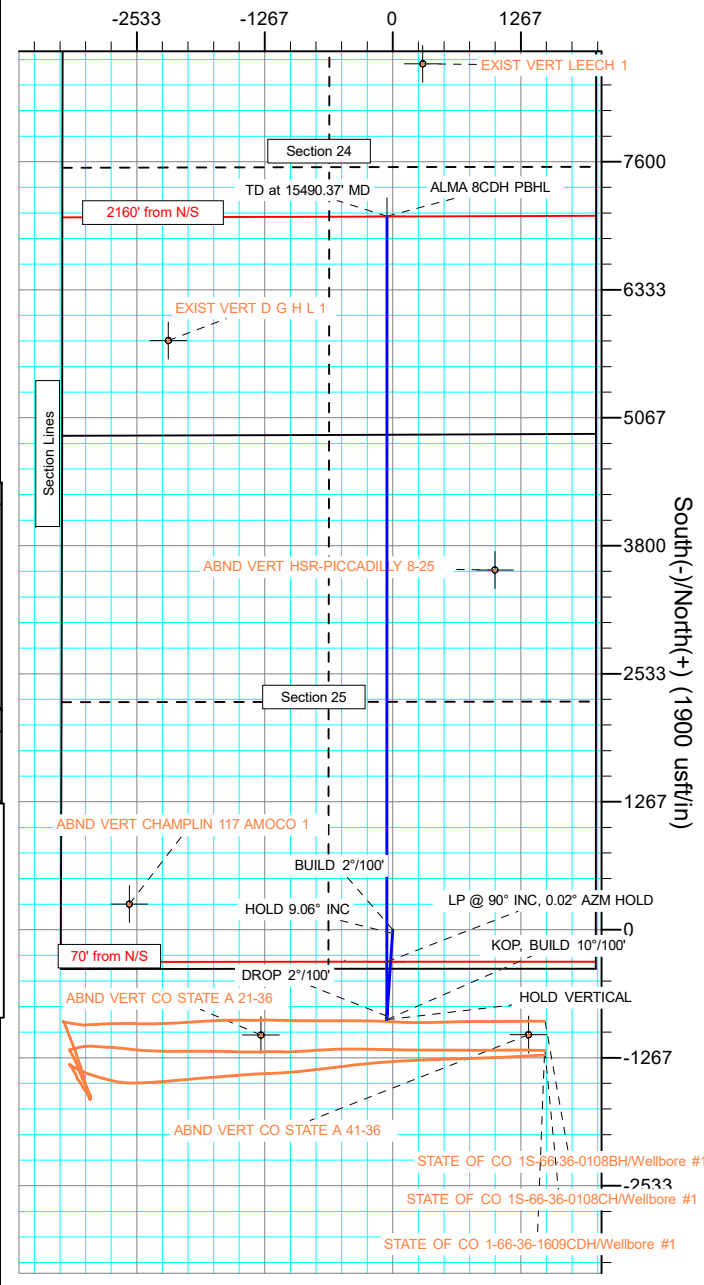
SHL:
387' FSL, 2010' FEL
Sec 25-T1S-R66W

LP:
70' FSL, 2068' FEL
Sec 25-T1S-R66W

BHL:
2160' FSL, 2068' FEL
Sec 24-T1S-R66W



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



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-8CDH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5203.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5203.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-8CDH	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-66-2524-8CDH					
Well Position	+N/-S	386.20 usft	Northing:	1,218,272.68 usft	Latitude:	39° 55' 47.676 N
	+E/-W	-2,007.96 usft	Easting:	3,218,250.81 usft	Longitude:	104° 43' 18.300 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,178.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/17/2017	8.13	66.48	52,129.52447858

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	359.54

Plan Survey Tool Program	Date	8/29/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,490.37	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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,453.18	9.06	183.80	1,451.29	-35.69	-2.37	2.00	2.00	0.00	183.80	
6,660.62	9.06	183.80	6,593.71	-854.22	-56.73	0.00	0.00	0.00	0.00	
7,113.80	0.00	0.00	7,045.00	-889.91	-59.10	2.00	-2.00	0.00	180.00	
7,213.80	0.00	0.00	7,145.00	-889.91	-59.10	0.00	0.00	0.00	0.00	
8,113.86	90.00	0.02	7,718.00	-316.91	-58.89	10.00	10.00	0.00	0.02	ALMA 8CDH LP
15,490.37	90.00	0.02	7,718.00	7,059.60	-56.07	0.00	0.00	0.00	0.00	ALMA 8CDH PBHL

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5203.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5203.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-8CDH	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
BUILD 2°/100'									
1,100.00	2.00	183.80	1,099.98	-1.74	-0.12	-1.74	2.00	2.00	0.00
1,200.00	4.00	183.80	1,199.84	-6.96	-0.46	-6.96	2.00	2.00	0.00
1,300.00	6.00	183.80	1,299.45	-15.66	-1.04	-15.65	2.00	2.00	0.00
1,400.00	8.00	183.80	1,398.70	-27.82	-1.85	-27.80	2.00	2.00	0.00
1,453.18	9.06	183.80	1,451.29	-35.69	-2.37	-35.67	2.00	2.00	0.00
HOLD 9.06° INC									
1,500.00	9.06	183.80	1,497.53	-43.05	-2.86	-43.03	0.00	0.00	0.00
1,502.50	9.06	183.80	1,500.00	-43.44	-2.89	-43.42	0.00	0.00	0.00
Fox Hills aquifer base									
1,600.00	9.06	183.80	1,596.28	-58.77	-3.90	-58.74	0.00	0.00	0.00
1,700.00	9.06	183.80	1,695.03	-74.49	-4.95	-74.45	0.00	0.00	0.00
1,800.00	9.06	183.80	1,793.78	-90.21	-5.99	-90.16	0.00	0.00	0.00
1,900.00	9.06	183.80	1,892.53	-105.92	-7.03	-105.86	0.00	0.00	0.00
2,000.00	9.06	183.80	1,991.28	-121.64	-8.08	-121.57	0.00	0.00	0.00
2,100.00	9.06	183.80	2,090.04	-137.36	-9.12	-137.28	0.00	0.00	0.00
2,200.00	9.06	183.80	2,188.79	-153.08	-10.17	-152.99	0.00	0.00	0.00
2,300.00	9.06	183.80	2,287.54	-168.80	-11.21	-168.70	0.00	0.00	0.00
2,400.00	9.06	183.80	2,386.29	-184.52	-12.25	-184.41	0.00	0.00	0.00
2,500.00	9.06	183.80	2,485.04	-200.23	-13.30	-200.12	0.00	0.00	0.00
2,600.00	9.06	183.80	2,583.79	-215.95	-14.34	-215.83	0.00	0.00	0.00
2,700.00	9.06	183.80	2,682.54	-231.67	-15.39	-231.54	0.00	0.00	0.00
2,800.00	9.06	183.80	2,781.30	-247.39	-16.43	-247.25	0.00	0.00	0.00
2,900.00	9.06	183.80	2,880.05	-263.11	-17.47	-262.96	0.00	0.00	0.00
3,000.00	9.06	183.80	2,978.80	-278.83	-18.52	-278.67	0.00	0.00	0.00
3,100.00	9.06	183.80	3,077.55	-294.55	-19.56	-294.38	0.00	0.00	0.00
3,200.00	9.06	183.80	3,176.30	-310.26	-20.61	-310.09	0.00	0.00	0.00
3,300.00	9.06	183.80	3,275.05	-325.98	-21.65	-325.80	0.00	0.00	0.00
3,400.00	9.06	183.80	3,373.80	-341.70	-22.69	-341.51	0.00	0.00	0.00
3,500.00	9.06	183.80	3,472.56	-357.42	-23.74	-357.22	0.00	0.00	0.00
3,600.00	9.06	183.80	3,571.31	-373.14	-24.78	-372.93	0.00	0.00	0.00
3,700.00	9.06	183.80	3,670.06	-388.86	-25.82	-388.64	0.00	0.00	0.00
3,800.00	9.06	183.80	3,768.81	-404.57	-26.87	-404.35	0.00	0.00	0.00
3,900.00	9.06	183.80	3,867.56	-420.29	-27.91	-420.06	0.00	0.00	0.00
4,000.00	9.06	183.80	3,966.31	-436.01	-28.96	-435.77	0.00	0.00	0.00
4,100.00	9.06	183.80	4,065.06	-451.73	-30.00	-451.48	0.00	0.00	0.00
4,200.00	9.06	183.80	4,163.82	-467.45	-31.04	-467.19	0.00	0.00	0.00
4,300.00	9.06	183.80	4,262.57	-483.17	-32.09	-482.90	0.00	0.00	0.00
4,400.00	9.06	183.80	4,361.32	-498.89	-33.13	-498.61	0.00	0.00	0.00
4,500.00	9.06	183.80	4,460.07	-514.60	-34.18	-514.32	0.00	0.00	0.00
4,600.00	9.06	183.80	4,558.82	-530.32	-35.22	-530.03	0.00	0.00	0.00
4,700.00	9.06	183.80	4,657.57	-546.04	-36.26	-545.74	0.00	0.00	0.00

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5203.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5203.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-8CDH	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	9.06	183.80	4,756.32	-561.76	-37.31	-561.45	0.00	0.00	0.00
4,900.00	9.06	183.80	4,855.08	-577.48	-38.35	-577.15	0.00	0.00	0.00
5,000.00	9.06	183.80	4,953.83	-593.20	-39.39	-592.86	0.00	0.00	0.00
5,100.00	9.06	183.80	5,052.58	-608.91	-40.44	-608.57	0.00	0.00	0.00
5,200.00	9.06	183.80	5,151.33	-624.63	-41.48	-624.28	0.00	0.00	0.00
5,300.00	9.06	183.80	5,250.08	-640.35	-42.53	-639.99	0.00	0.00	0.00
5,400.00	9.06	183.80	5,348.83	-656.07	-43.57	-655.70	0.00	0.00	0.00
5,500.00	9.06	183.80	5,447.58	-671.79	-44.61	-671.41	0.00	0.00	0.00
5,600.00	9.06	183.80	5,546.34	-687.51	-45.66	-687.12	0.00	0.00	0.00
5,700.00	9.06	183.80	5,645.09	-703.23	-46.70	-702.83	0.00	0.00	0.00
5,800.00	9.06	183.80	5,743.84	-718.94	-47.75	-718.54	0.00	0.00	0.00
5,900.00	9.06	183.80	5,842.59	-734.66	-48.79	-734.25	0.00	0.00	0.00
6,000.00	9.06	183.80	5,941.34	-750.38	-49.83	-749.96	0.00	0.00	0.00
6,100.00	9.06	183.80	6,040.09	-766.10	-50.88	-765.67	0.00	0.00	0.00
6,200.00	9.06	183.80	6,138.84	-781.82	-51.92	-781.38	0.00	0.00	0.00
6,300.00	9.06	183.80	6,237.60	-797.54	-52.97	-797.09	0.00	0.00	0.00
6,400.00	9.06	183.80	6,336.35	-813.25	-54.01	-812.80	0.00	0.00	0.00
6,500.00	9.06	183.80	6,435.10	-828.97	-55.05	-828.51	0.00	0.00	0.00
6,600.00	9.06	183.80	6,533.85	-844.69	-56.10	-844.22	0.00	0.00	0.00
6,660.62	9.06	183.80	6,593.71	-854.22	-56.73	-853.74	0.00	0.00	0.00
DROP 2°/100'									
6,700.00	8.28	183.80	6,632.64	-860.14	-57.12	-859.66	2.00	-2.00	0.00
6,800.00	6.28	183.80	6,731.83	-872.78	-57.96	-872.29	2.00	-2.00	0.00
6,900.00	4.28	183.80	6,831.40	-881.95	-58.57	-881.46	2.00	-2.00	0.00
7,000.00	2.28	183.80	6,931.24	-887.66	-58.95	-887.16	2.00	-2.00	0.00
7,100.00	0.28	183.80	7,031.21	-889.88	-59.10	-889.38	2.00	-2.00	0.00
7,113.80	0.00	0.00	7,045.00	-889.91	-59.10	-889.41	2.00	-2.00	0.00
HOLD VERTICAL									
7,200.00	0.00	0.00	7,131.21	-889.91	-59.10	-889.41	0.00	0.00	0.00
7,213.80	0.00	0.00	7,145.00	-889.91	-59.10	-889.41	0.00	0.00	0.00
KOP, BUILD 10°/100'									
7,250.00	3.62	0.02	7,181.18	-888.77	-59.10	-888.27	10.00	10.00	0.00
7,300.00	8.62	0.02	7,230.88	-883.44	-59.10	-882.94	10.00	10.00	0.00
7,350.00	13.62	0.02	7,279.93	-873.80	-59.09	-873.30	10.00	10.00	0.00
7,353.17	13.94	0.02	7,283.00	-873.04	-59.09	-872.55	10.00	10.00	0.00
Sharon Springs									
7,386.39	17.26	0.02	7,315.00	-864.11	-59.09	-863.61	10.00	10.00	0.00
Top Niobrara									
7,396.90	18.31	0.02	7,325.00	-860.90	-59.09	-860.41	10.00	10.00	0.00
Nio A Chalk									
7,400.00	18.62	0.02	7,327.95	-859.92	-59.09	-859.42	10.00	10.00	0.00
7,419.16	20.54	0.02	7,346.00	-853.50	-59.09	-853.00	10.00	10.00	0.00
Nio A Marl									
7,450.00	23.62	0.02	7,374.57	-841.91	-59.08	-841.41	10.00	10.00	0.00
7,500.00	28.62	0.02	7,419.45	-819.91	-59.07	-819.41	10.00	10.00	0.00
7,550.00	33.62	0.02	7,462.24	-794.07	-59.07	-793.58	10.00	10.00	0.00
7,555.73	34.19	0.02	7,467.00	-790.88	-59.06	-790.38	10.00	10.00	0.00
Nio B Chalk									
7,600.00	38.62	0.02	7,502.62	-764.61	-59.05	-764.12	10.00	10.00	0.00
7,616.02	40.22	0.02	7,515.00	-754.44	-59.05	-753.94	10.00	10.00	0.00
Nio B Marl									
7,650.00	43.62	0.02	7,540.28	-731.74	-59.04	-731.25	10.00	10.00	0.00
7,666.42	45.26	0.02	7,552.00	-720.25	-59.04	-719.75	10.00	10.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-8CDH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5203.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5203.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-8CDH	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)
Nio C Chalk									
7,697.10	48.33	0.02	7,573.00	-697.89	-59.03	-697.40	10.00	10.00	0.00
Nio D Marl									
7,700.00	48.62	0.02	7,574.93	-695.71	-59.03	-695.22	10.00	10.00	0.00
7,750.00	53.62	0.02	7,606.30	-656.81	-59.02	-656.32	10.00	10.00	0.00
7,800.00	58.62	0.02	7,634.17	-615.31	-59.00	-614.82	10.00	10.00	0.00
7,850.00	63.62	0.02	7,658.31	-571.54	-58.99	-571.06	10.00	10.00	0.00
7,900.00	68.62	0.02	7,678.55	-525.84	-58.97	-525.36	10.00	10.00	0.00
7,915.48	70.16	0.02	7,684.00	-511.35	-58.96	-510.87	10.00	10.00	0.00
Ft Hayes Limestone									
7,950.00	73.62	0.02	7,694.73	-478.55	-58.95	-478.06	10.00	10.00	0.00
8,000.00	78.61	0.02	7,706.72	-430.02	-58.93	-429.54	10.00	10.00	0.00
8,050.00	83.61	0.02	7,714.45	-380.64	-58.92	-380.16	10.00	10.00	0.00
8,100.00	88.61	0.02	7,717.83	-330.77	-58.90	-330.29	10.00	10.00	0.00
8,113.86	90.00	0.02	7,718.00	-316.91	-58.89	-316.43	10.00	10.00	0.00
LP @ 90° INC, 0.02° AZM HOLD - Codell Sandstone									
8,200.00	90.00	0.02	7,718.00	-230.77	-58.86	-230.30	0.00	0.00	0.00
8,300.00	90.00	0.02	7,718.00	-130.77	-58.83	-130.30	0.00	0.00	0.00
8,400.00	90.00	0.02	7,718.00	-30.77	-58.79	-30.30	0.00	0.00	0.00
8,500.00	90.00	0.02	7,718.00	69.23	-58.75	69.69	0.00	0.00	0.00
8,600.00	90.00	0.02	7,718.00	169.23	-58.72	169.69	0.00	0.00	0.00
8,700.00	90.00	0.02	7,718.00	269.23	-58.68	269.69	0.00	0.00	0.00
8,800.00	90.00	0.02	7,718.00	369.23	-58.65	369.68	0.00	0.00	0.00
8,900.00	90.00	0.02	7,718.00	469.23	-58.61	469.68	0.00	0.00	0.00
9,000.00	90.00	0.02	7,718.00	569.23	-58.57	569.68	0.00	0.00	0.00
9,100.00	90.00	0.02	7,718.00	669.23	-58.54	669.67	0.00	0.00	0.00
9,200.00	90.00	0.02	7,718.00	769.23	-58.50	769.67	0.00	0.00	0.00
9,300.00	90.00	0.02	7,718.00	869.23	-58.47	869.67	0.00	0.00	0.00
9,400.00	90.00	0.02	7,718.00	969.23	-58.43	969.66	0.00	0.00	0.00
9,500.00	90.00	0.02	7,717.99	1,069.23	-58.39	1,069.66	0.00	0.00	0.00
9,600.00	90.00	0.02	7,717.99	1,169.23	-58.36	1,169.66	0.00	0.00	0.00
9,700.00	90.00	0.02	7,717.99	1,269.23	-58.32	1,269.65	0.00	0.00	0.00
9,800.00	90.00	0.02	7,717.99	1,369.23	-58.29	1,369.65	0.00	0.00	0.00
9,900.00	90.00	0.02	7,717.99	1,469.23	-58.25	1,469.64	0.00	0.00	0.00
10,000.00	90.00	0.02	7,717.99	1,569.23	-58.21	1,569.64	0.00	0.00	0.00
10,100.00	90.00	0.02	7,717.99	1,669.23	-58.18	1,669.64	0.00	0.00	0.00
10,200.00	90.00	0.02	7,717.99	1,769.23	-58.14	1,769.63	0.00	0.00	0.00
10,300.00	90.00	0.02	7,717.99	1,869.23	-58.11	1,869.63	0.00	0.00	0.00
10,400.00	90.00	0.02	7,717.99	1,969.23	-58.07	1,969.63	0.00	0.00	0.00
10,500.00	90.00	0.02	7,717.99	2,069.23	-58.03	2,069.62	0.00	0.00	0.00
10,600.00	90.00	0.02	7,717.99	2,169.23	-58.00	2,169.62	0.00	0.00	0.00
10,700.00	90.00	0.02	7,717.99	2,269.23	-57.96	2,269.62	0.00	0.00	0.00
10,800.00	90.00	0.02	7,717.99	2,369.23	-57.93	2,369.61	0.00	0.00	0.00
10,900.00	90.00	0.02	7,717.99	2,469.23	-57.89	2,469.61	0.00	0.00	0.00
11,000.00	90.00	0.02	7,717.99	2,569.23	-57.85	2,569.61	0.00	0.00	0.00
11,100.00	90.00	0.02	7,717.99	2,669.23	-57.82	2,669.60	0.00	0.00	0.00
11,200.00	90.00	0.02	7,717.99	2,769.23	-57.78	2,769.60	0.00	0.00	0.00
11,300.00	90.00	0.02	7,717.99	2,869.23	-57.75	2,869.60	0.00	0.00	0.00
11,400.00	90.00	0.02	7,717.99	2,969.23	-57.71	2,969.59	0.00	0.00	0.00
11,500.00	90.00	0.02	7,717.99	3,069.23	-57.67	3,069.59	0.00	0.00	0.00
11,600.00	90.00	0.02	7,717.99	3,169.23	-57.64	3,169.59	0.00	0.00	0.00
11,700.00	90.00	0.02	7,717.99	3,269.23	-57.60	3,269.58	0.00	0.00	0.00
11,800.00	90.00	0.02	7,717.99	3,369.23	-57.56	3,369.58	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-8CDH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5203.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5203.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-8CDH	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)	
11,900.00	90.00	0.02	7,717.99	3,469.23	-57.53	3,469.58	0.00	0.00	0.00	
12,000.00	90.00	0.02	7,717.98	3,569.23	-57.49	3,569.57	0.00	0.00	0.00	
12,100.00	90.00	0.02	7,717.98	3,669.23	-57.46	3,669.57	0.00	0.00	0.00	
12,200.00	90.00	0.02	7,717.98	3,769.23	-57.42	3,769.57	0.00	0.00	0.00	
12,300.00	90.00	0.02	7,717.98	3,869.23	-57.38	3,869.56	0.00	0.00	0.00	
12,400.00	90.00	0.02	7,717.98	3,969.23	-57.35	3,969.56	0.00	0.00	0.00	
12,500.00	90.00	0.02	7,717.98	4,069.23	-57.31	4,069.56	0.00	0.00	0.00	
12,600.00	90.00	0.02	7,717.98	4,169.23	-57.28	4,169.55	0.00	0.00	0.00	
12,700.00	90.00	0.02	7,717.98	4,269.23	-57.24	4,269.55	0.00	0.00	0.00	
12,800.00	90.00	0.02	7,717.98	4,369.23	-57.20	4,369.54	0.00	0.00	0.00	
12,900.00	90.00	0.02	7,717.98	4,469.23	-57.17	4,469.54	0.00	0.00	0.00	
13,000.00	90.00	0.02	7,717.98	4,569.23	-57.13	4,569.54	0.00	0.00	0.00	
13,100.00	90.00	0.02	7,717.98	4,669.23	-57.10	4,669.53	0.00	0.00	0.00	
13,200.00	90.00	0.02	7,717.98	4,769.23	-57.06	4,769.53	0.00	0.00	0.00	
13,300.00	90.00	0.02	7,717.98	4,869.23	-57.02	4,869.53	0.00	0.00	0.00	
13,400.00	90.00	0.02	7,717.98	4,969.23	-56.99	4,969.52	0.00	0.00	0.00	
13,500.00	90.00	0.02	7,717.98	5,069.23	-56.95	5,069.52	0.00	0.00	0.00	
13,600.00	90.00	0.02	7,717.98	5,169.23	-56.92	5,169.52	0.00	0.00	0.00	
13,700.00	90.00	0.02	7,717.98	5,269.23	-56.88	5,269.51	0.00	0.00	0.00	
13,800.00	90.00	0.02	7,717.98	5,369.23	-56.84	5,369.51	0.00	0.00	0.00	
13,900.00	90.00	0.02	7,717.98	5,469.23	-56.81	5,469.51	0.00	0.00	0.00	
14,000.00	90.00	0.02	7,717.98	5,569.23	-56.77	5,569.50	0.00	0.00	0.00	
14,100.00	90.00	0.02	7,717.98	5,669.23	-56.74	5,669.50	0.00	0.00	0.00	
14,200.00	90.00	0.02	7,717.98	5,769.23	-56.70	5,769.50	0.00	0.00	0.00	
14,300.00	90.00	0.02	7,717.98	5,869.23	-56.66	5,869.49	0.00	0.00	0.00	
14,400.00	90.00	0.02	7,717.98	5,969.23	-56.63	5,969.49	0.00	0.00	0.00	
14,500.00	90.00	0.02	7,717.97	6,069.23	-56.59	6,069.49	0.00	0.00	0.00	
14,600.00	90.00	0.02	7,717.97	6,169.23	-56.56	6,169.48	0.00	0.00	0.00	
14,700.00	90.00	0.02	7,717.97	6,269.23	-56.52	6,269.48	0.00	0.00	0.00	
14,800.00	90.00	0.02	7,717.97	6,369.23	-56.48	6,369.48	0.00	0.00	0.00	
14,900.00	90.00	0.02	7,717.97	6,469.23	-56.45	6,469.47	0.00	0.00	0.00	
15,000.00	90.00	0.02	7,717.97	6,569.23	-56.41	6,569.47	0.00	0.00	0.00	
15,100.00	90.00	0.02	7,717.97	6,669.23	-56.38	6,669.47	0.00	0.00	0.00	
15,200.00	90.00	0.02	7,717.97	6,769.23	-56.34	6,769.46	0.00	0.00	0.00	
15,300.00	90.00	0.02	7,717.97	6,869.23	-56.30	6,869.46	0.00	0.00	0.00	
15,400.00	90.00	0.02	7,717.97	6,969.23	-56.27	6,969.46	0.00	0.00	0.00	
15,490.37	90.00	0.02	7,718.00	7,059.60	-56.07	7,059.82	0.00	0.00	0.00	
TD at 15490.37' MD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		
- hit/miss target										
- Shape								Longitude		
ALMA 8CDH LP	0.00	0.00	7,718.00	-316.91	-58.89	1,217,955.27	3,218,194.70	39° 55' 44.544 N		
- plan hits target center										
- Point								104° 43' 19.056 W		
ALMA 8CDH PBHL	0.00	0.00	7,718.00	7,059.60	-56.07	1,225,331.52	3,218,132.78	39° 56' 57.444 N		
- plan hits target center										
- Point								104° 43' 19.020 W		

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-8CDH
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5203.00usft
Project:	Adams County	MD Reference:	KB 25' @ 5203.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-8CDH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,502.50	1,500.00	Fox Hills aquifer base				
7,353.17	7,283.00	Sharon Springs				
7,386.39	7,315.00	Top Niobrara				
7,396.90	7,325.00	Nio A Chalk				
7,419.16	7,346.00	Nio A Marl				
7,555.73	7,467.00	Nio B Chalk				
7,616.02	7,515.00	Nio B Marl				
7,666.42	7,552.00	Nio C Chalk				
7,697.10	7,573.00	Nio D Marl				
7,915.48	7,684.00	Ft Hayes Limestone				
8,113.86	7,718.00	Codell Sandstone				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,000.00	1,000.00	0.00	0.00	BUILD 2°/100'	
1,453.18	1,451.29	-35.69	-2.37	HOLD 9.06° INC	
6,660.62	6,593.71	-854.22	-56.73	DROP 2°/100'	
7,113.80	7,045.00	-889.91	-59.10	HOLD VERTICAL	
7,213.80	7,145.00	-889.91	-59.10	KOP, BUILD 10°/100'	
8,113.86	7,718.00	-316.91	-58.89	LP @ 90° INC, 0.02° AZM HOLD	
15,490.37	7,718.00	7,059.60	-56.07	TD at 15490.37' MD	