

EXTRACTION OIL & GAS

Adams County

Sec 25-T1S-R66W

ALMA 1S-66-2524-14CDH

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

29 August, 2017



Project: Adams County
Site: Sec 25-T1S-R66W
Well: ALMA 1S-66-2524-14CDH
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-66-2524-14CDH

+N/-S	+E/-W	Northing	Easting	5178.00	Latitude	Longitude	Slot
0.00	0.00	1218124.08	3218336.25		39° 55' 46.200 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	900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	
3	1925.85	20.52	247.21	1904.07	-70.39	-167.53	2.00	247.21	-28.92	
4	6342.90	20.52	247.21	6040.93	-670.10	-1594.77	0.00	0.00	-275.33	
5	7368.75	0.00	0.00	7045.00	-740.49	-1762.30	2.00	180.00	-304.25	
6	7468.75	0.00	0.00	7145.00	-740.49	-1762.30	0.00	0.00	-304.25	
7	8368.81	90.00	0.11	7718.00	-167.49	-1761.20	10.00	0.11	252.34	ALMA 14CDH LP
8	15738.05	90.00	0.11	7718.00	-1746.66	-1746.66	0.00	0.00	7410.51	ALMA 14CDH PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1500.00	1504.48	Fox Hills aquifer base
7283.00	7608.12	Sharon Springs
7315.00	7641.35	Top Niobrara
7325.00	7651.85	Nio A Chalk
7346.00	7674.12	Nio A Marl
7467.00	7810.69	Nio B Chalk
7515.00	7870.98	Nio B Marl
7552.00	7921.37	Nio C Chalk
7573.00	7952.05	Nio D Marl
7684.00	8170.44	Ft Hayes Limestone
7718.00	8368.81	Codell Sandstone

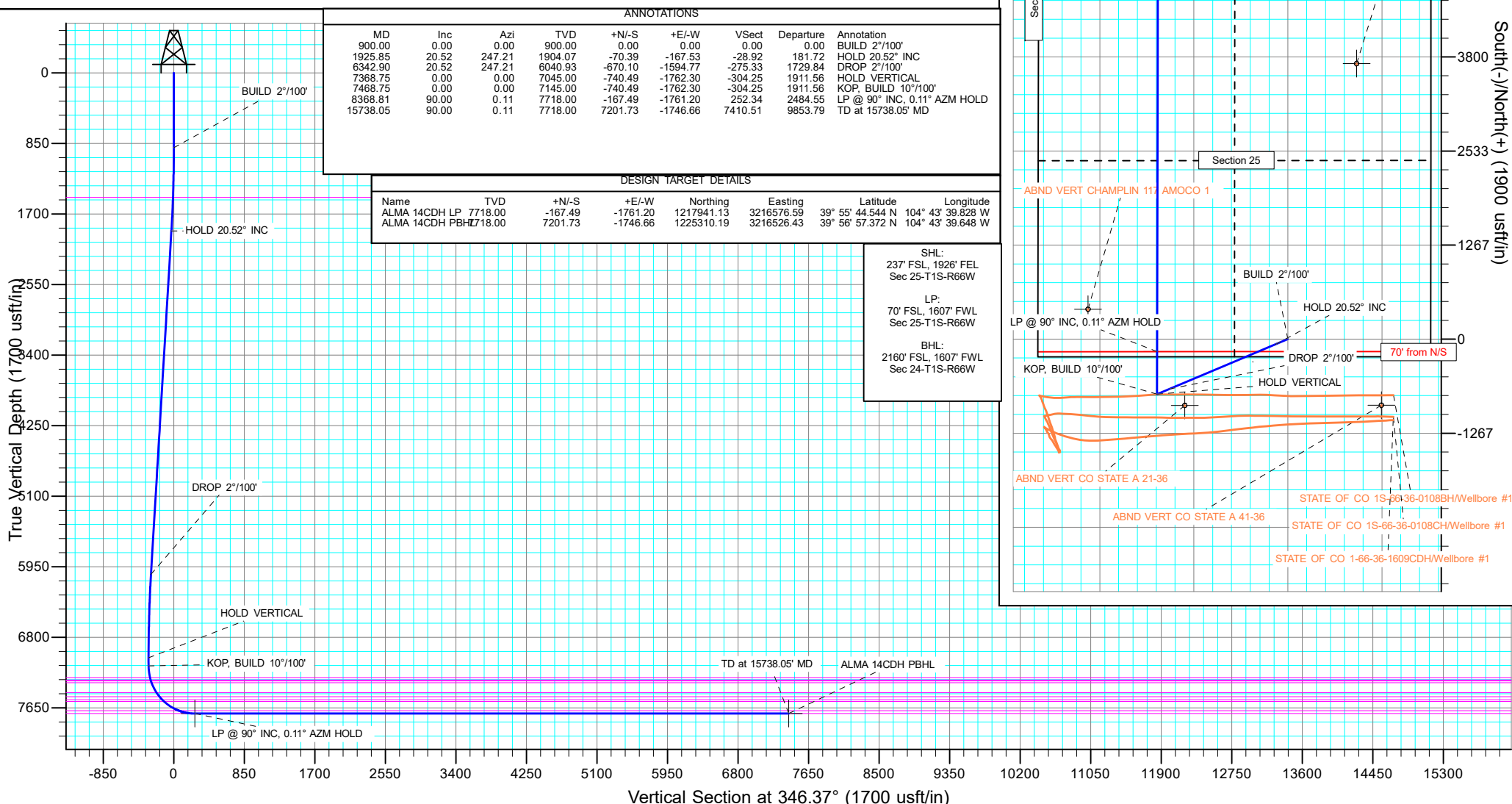
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	BUILD 2°/100'
1925.85	20.52	247.21	1904.07	-70.39	-167.53	-28.92	181.72	HOLD 20.52° INC
6342.90	20.52	247.21	6040.93	-670.10	-1594.77	-275.33	1729.84	DROP 2°/100'
7368.75	0.00	0.00	7045.00	-740.49	-1762.30	-304.25	1911.56	HOLD VERTICAL
7468.75	0.00	0.00	7145.00	-740.49	-1762.30	-304.25	1911.56	KOP, BUILD 10°/100'
8368.81	90.00	0.11	7718.00	-167.49	-1761.20	252.34	2484.55	LP @ 90° INC, 0.11° AZM HOLD
15738.05	90.00	0.11	7718.00	-1746.66	-1746.66	7410.51	9853.79	TD at 15738.05' MD

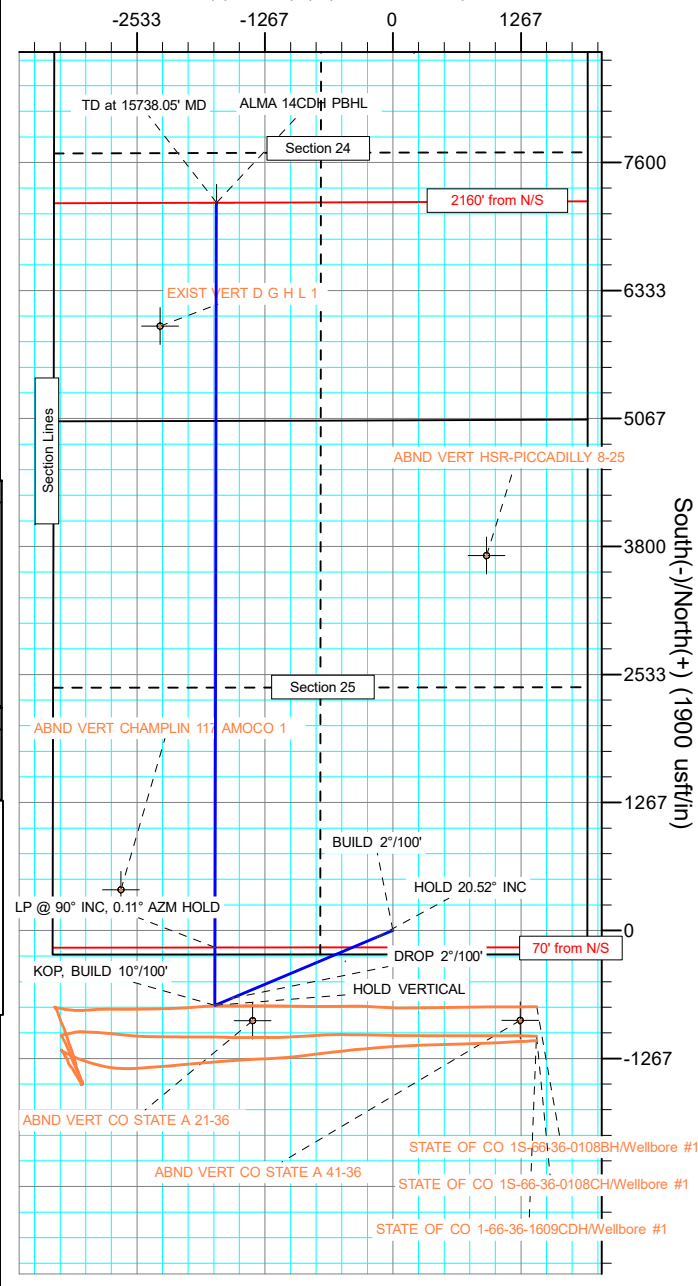
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ALMA 14CDH LP	7718.00	-167.49	-1761.20	1217941.13	3216576.59	39° 55' 44.544 N	104° 43' 39.828 W
ALMA 14CDH PBHL	7718.00	-1746.66	-1746.66	1225310.19	3216526.43	39° 56' 57.372 N	104° 43' 39.648 W

SHL:
237' FSL, 1926' FEL
Sec 25-T1S-R66W
LP:
70' FSL, 1607' FWL
Sec 25-T1S-R66W
BHL:
2160' FSL, 1607' FWL
Sec 24-T1S-R66W



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



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-14CDH
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-66-2524-14CDH	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-66-2524-14CDH				
Well Position	+N/-S	236.84 usft	Northing:	1,218,124.08 usft	Latitude:	39° 55' 46.200 N
	+E/-W	-1,923.84 usft	Easting:	3,218,336.25 usft	Longitude:	104° 43' 17.220 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	8/18/2017	8.13	66.48	52,129.03105066

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	346.37

Plan Survey Tool Program	Date	8/29/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,738.05	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	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,925.85	20.52	247.21	1,904.07	-70.39	-167.53	2.00	2.00	0.00	247.21	
6,342.90	20.52	247.21	6,040.93	-670.10	-1,594.77	0.00	0.00	0.00	0.00	
7,368.75	0.00	0.00	7,045.00	-740.49	-1,762.31	2.00	-2.00	0.00	180.00	
7,468.75	0.00	0.00	7,145.00	-740.49	-1,762.31	0.00	0.00	0.00	0.00	
8,368.81	90.00	0.11	7,718.00	-167.49	-1,761.20	10.00	10.00	0.01	0.11	ALMA 14CDH LP
15,738.05	90.00	0.11	7,718.00	7,201.73	-1,746.66	0.00	0.00	0.00	0.00	ALMA 14CDH PBHL

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-14CDH
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-66-2524-14CDH	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
BUILD 2°/100'									
1,000.00	2.00	247.21	999.98	-0.68	-1.61	-0.28	2.00	2.00	0.00
1,100.00	4.00	247.21	1,099.84	-2.70	-6.43	-1.11	2.00	2.00	0.00
1,200.00	6.00	247.21	1,199.45	-6.08	-14.47	-2.50	2.00	2.00	0.00
1,300.00	8.00	247.21	1,298.70	-10.80	-25.70	-4.44	2.00	2.00	0.00
1,400.00	10.00	247.21	1,397.47	-16.86	-40.12	-6.93	2.00	2.00	0.00
1,500.00	12.00	247.21	1,495.62	-24.25	-57.71	-9.96	2.00	2.00	0.00
1,504.48	12.09	247.21	1,500.00	-24.61	-58.58	-10.11	2.00	2.00	0.00
Fox Hills aquifer base									
1,600.00	14.00	247.21	1,593.06	-32.96	-78.45	-13.54	2.00	2.00	0.00
1,700.00	16.00	247.21	1,689.64	-42.99	-102.31	-17.66	2.00	2.00	0.00
1,800.00	18.00	247.21	1,785.27	-54.32	-129.27	-22.32	2.00	2.00	0.00
1,900.00	20.00	247.21	1,879.82	-66.93	-159.28	-27.50	2.00	2.00	0.00
1,925.85	20.52	247.21	1,904.07	-70.39	-167.53	-28.92	2.00	2.00	0.00
HOLD 20.52° INC									
2,000.00	20.52	247.21	1,973.51	-80.46	-191.49	-33.06	0.00	0.00	0.00
2,100.00	20.52	247.21	2,067.17	-94.04	-223.80	-38.64	0.00	0.00	0.00
2,200.00	20.52	247.21	2,160.83	-107.61	-256.11	-44.22	0.00	0.00	0.00
2,300.00	20.52	247.21	2,254.48	-121.19	-288.43	-49.80	0.00	0.00	0.00
2,400.00	20.52	247.21	2,348.14	-134.77	-320.74	-55.37	0.00	0.00	0.00
2,500.00	20.52	247.21	2,441.80	-148.35	-353.05	-60.95	0.00	0.00	0.00
2,600.00	20.52	247.21	2,535.45	-161.92	-385.36	-66.53	0.00	0.00	0.00
2,700.00	20.52	247.21	2,629.11	-175.50	-417.68	-72.11	0.00	0.00	0.00
2,800.00	20.52	247.21	2,722.77	-189.08	-449.99	-77.69	0.00	0.00	0.00
2,900.00	20.52	247.21	2,816.42	-202.65	-482.30	-83.27	0.00	0.00	0.00
3,000.00	20.52	247.21	2,910.08	-216.23	-514.61	-88.84	0.00	0.00	0.00
3,100.00	20.52	247.21	3,003.74	-229.81	-546.92	-94.42	0.00	0.00	0.00
3,200.00	20.52	247.21	3,097.39	-243.38	-579.24	-100.00	0.00	0.00	0.00
3,300.00	20.52	247.21	3,191.05	-256.96	-611.55	-105.58	0.00	0.00	0.00
3,400.00	20.52	247.21	3,284.71	-270.54	-643.86	-111.16	0.00	0.00	0.00
3,500.00	20.52	247.21	3,378.36	-284.12	-676.17	-116.74	0.00	0.00	0.00
3,600.00	20.52	247.21	3,472.02	-297.69	-708.48	-122.32	0.00	0.00	0.00
3,700.00	20.52	247.21	3,565.68	-311.27	-740.80	-127.89	0.00	0.00	0.00
3,800.00	20.52	247.21	3,659.33	-324.85	-773.11	-133.47	0.00	0.00	0.00
3,900.00	20.52	247.21	3,752.99	-338.42	-805.42	-139.05	0.00	0.00	0.00
4,000.00	20.52	247.21	3,846.65	-352.00	-837.73	-144.63	0.00	0.00	0.00
4,100.00	20.52	247.21	3,940.31	-365.58	-870.05	-150.21	0.00	0.00	0.00
4,200.00	20.52	247.21	4,033.96	-379.15	-902.36	-155.79	0.00	0.00	0.00
4,300.00	20.52	247.21	4,127.62	-392.73	-934.67	-161.37	0.00	0.00	0.00
4,400.00	20.52	247.21	4,221.28	-406.31	-966.98	-166.94	0.00	0.00	0.00
4,500.00	20.52	247.21	4,314.93	-419.89	-999.29	-172.52	0.00	0.00	0.00
4,600.00	20.52	247.21	4,408.59	-433.46	-1,031.61	-178.10	0.00	0.00	0.00
4,700.00	20.52	247.21	4,502.25	-447.04	-1,063.92	-183.68	0.00	0.00	0.00

Planning Report

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Project:	Adams County	MD Reference:	KB 25' @ 5203.00usft
Site:	Sec 25-T1S-R66W	North Reference:	True
Well:	ALMA 1S-66-2524-14CDH	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	20.52	247.21	4,595.90	-460.62	-1,096.23	-189.26	0.00	0.00	0.00	
4,900.00	20.52	247.21	4,689.56	-474.19	-1,128.54	-194.84	0.00	0.00	0.00	
5,000.00	20.52	247.21	4,783.22	-487.77	-1,160.85	-200.42	0.00	0.00	0.00	
5,100.00	20.52	247.21	4,876.87	-501.35	-1,193.17	-205.99	0.00	0.00	0.00	
5,200.00	20.52	247.21	4,970.53	-514.92	-1,225.48	-211.57	0.00	0.00	0.00	
5,300.00	20.52	247.21	5,064.19	-528.50	-1,257.79	-217.15	0.00	0.00	0.00	
5,400.00	20.52	247.21	5,157.84	-542.08	-1,290.10	-222.73	0.00	0.00	0.00	
5,500.00	20.52	247.21	5,251.50	-555.66	-1,322.41	-228.31	0.00	0.00	0.00	
5,600.00	20.52	247.21	5,345.16	-569.23	-1,354.73	-233.89	0.00	0.00	0.00	
5,700.00	20.52	247.21	5,438.81	-582.81	-1,387.04	-239.46	0.00	0.00	0.00	
5,800.00	20.52	247.21	5,532.47	-596.39	-1,419.35	-245.04	0.00	0.00	0.00	
5,900.00	20.52	247.21	5,626.13	-609.96	-1,451.66	-250.62	0.00	0.00	0.00	
6,000.00	20.52	247.21	5,719.78	-623.54	-1,483.98	-256.20	0.00	0.00	0.00	
6,100.00	20.52	247.21	5,813.44	-637.12	-1,516.29	-261.78	0.00	0.00	0.00	
6,200.00	20.52	247.21	5,907.10	-650.69	-1,548.60	-267.36	0.00	0.00	0.00	
6,300.00	20.52	247.21	6,000.75	-664.27	-1,580.91	-272.94	0.00	0.00	0.00	
6,342.90	20.52	247.21	6,040.93	-670.10	-1,594.77	-275.33	0.00	0.00	0.00	
DROP 2°/100'										
6,400.00	19.38	247.21	6,094.61	-677.64	-1,612.73	-278.43	2.00	-2.00	0.00	
6,500.00	17.38	247.21	6,189.50	-689.85	-1,641.79	-283.45	2.00	-2.00	0.00	
6,600.00	15.38	247.21	6,285.44	-700.77	-1,667.78	-287.93	2.00	-2.00	0.00	
6,700.00	13.38	247.21	6,382.31	-710.39	-1,690.67	-291.89	2.00	-2.00	0.00	
6,800.00	11.38	247.21	6,479.98	-718.69	-1,710.43	-295.30	2.00	-2.00	0.00	
6,900.00	9.38	247.21	6,578.34	-725.67	-1,727.03	-298.16	2.00	-2.00	0.00	
7,000.00	7.38	247.21	6,677.27	-731.31	-1,740.46	-300.48	2.00	-2.00	0.00	
7,100.00	5.38	247.21	6,776.64	-735.61	-1,750.69	-302.25	2.00	-2.00	0.00	
7,200.00	3.38	247.21	6,876.35	-738.57	-1,757.72	-303.46	2.00	-2.00	0.00	
7,300.00	1.38	247.21	6,976.26	-740.17	-1,761.54	-304.12	2.00	-2.00	0.00	
7,368.75	0.00	0.00	7,045.00	-740.49	-1,762.31	-304.25	2.00	-2.00	0.00	
HOLD VERTICAL										
7,400.00	0.00	0.00	7,076.25	-740.49	-1,762.31	-304.25	0.00	0.00	0.00	
7,468.75	0.00	0.00	7,145.00	-740.49	-1,762.31	-304.25	0.00	0.00	0.00	
KOP, BUILD 10°/100'										
7,500.00	3.12	0.11	7,176.23	-739.64	-1,762.30	-303.43	10.00	10.00	0.00	
7,550.00	8.12	0.11	7,225.98	-734.74	-1,762.29	-298.67	10.00	10.00	0.00	
7,600.00	13.12	0.11	7,275.10	-725.52	-1,762.28	-289.72	10.00	10.00	0.00	
7,608.12	13.94	0.11	7,283.00	-723.62	-1,762.27	-287.87	10.00	10.00	0.00	
Sharon Springs										
7,641.35	17.26	0.11	7,315.00	-714.69	-1,762.26	-279.19	10.00	10.00	0.00	
Top Niobrara										
7,650.00	18.12	0.11	7,323.24	-712.06	-1,762.25	-276.64	10.00	10.00	0.00	
7,651.85	18.31	0.11	7,325.00	-711.48	-1,762.25	-276.08	10.00	10.00	0.00	
Nio A Chalk										
7,674.12	20.54	0.11	7,346.00	-704.08	-1,762.23	-268.88	10.00	10.00	0.00	
Nio A Marl										
7,700.00	23.12	0.11	7,370.02	-694.46	-1,762.22	-259.54	10.00	10.00	0.00	
7,750.00	28.12	0.11	7,415.09	-672.84	-1,762.17	-238.54	10.00	10.00	0.00	
7,800.00	33.12	0.11	7,458.10	-647.38	-1,762.12	-213.81	10.00	10.00	0.00	
7,810.69	34.19	0.11	7,467.00	-641.46	-1,762.11	-208.06	10.00	10.00	0.00	
Nio B Chalk										
7,850.00	38.12	0.11	7,498.74	-618.27	-1,762.07	-185.53	10.00	10.00	0.00	
7,870.98	40.22	0.11	7,515.00	-605.02	-1,762.04	-172.66	10.00	10.00	0.00	
Nio B Marl										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-14CDH
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-66-2524-14CDH	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	43.12	0.11	7,536.67	-585.72	-1,762.01	-153.92	10.00	10.00	0.00	
7,921.38	45.26	0.11	7,552.00	-570.83	-1,761.98	-139.45	10.00	10.00	0.00	
Nio C Chalk										
7,950.00	48.12	0.11	7,571.63	-550.00	-1,761.94	-119.22	10.00	10.00	0.00	
7,952.05	48.33	0.11	7,573.00	-548.47	-1,761.93	-117.73	10.00	10.00	0.00	
Nio D Marl										
8,000.00	53.12	0.11	7,603.35	-511.36	-1,761.86	-81.69	10.00	10.00	0.00	
8,050.00	58.12	0.11	7,631.57	-470.11	-1,761.78	-41.61	10.00	10.00	0.00	
8,100.00	63.12	0.11	7,656.09	-426.56	-1,761.70	0.69	10.00	10.00	0.00	
8,150.00	68.12	0.11	7,676.72	-381.03	-1,761.61	44.92	10.00	10.00	0.00	
8,170.44	70.16	0.11	7,684.00	-361.93	-1,761.57	63.47	10.00	10.00	0.00	
Ft Hayes Limestone										
8,200.00	73.12	0.11	7,693.31	-333.88	-1,761.52	90.72	10.00	10.00	0.00	
8,250.00	78.12	0.11	7,705.73	-285.46	-1,761.42	137.75	10.00	10.00	0.00	
8,300.00	83.12	0.11	7,713.87	-236.14	-1,761.33	185.65	10.00	10.00	0.00	
8,350.00	88.12	0.11	7,717.69	-186.31	-1,761.23	234.07	10.00	10.00	0.00	
8,368.81	90.00	0.11	7,718.00	-167.49	-1,761.20	252.34	10.00	10.00	0.00	
LP @ 90° INC, 0.11° AZM HOLD - Codell Sandstone										
8,400.00	90.00	0.11	7,718.00	-136.31	-1,761.13	282.63	0.00	0.00	0.00	
8,500.00	90.00	0.11	7,718.00	-36.31	-1,760.94	379.77	0.00	0.00	0.00	
8,600.00	90.00	0.11	7,718.00	63.69	-1,760.75	476.90	0.00	0.00	0.00	
8,700.00	90.00	0.11	7,718.00	163.69	-1,760.55	574.04	0.00	0.00	0.00	
8,800.00	90.00	0.11	7,718.00	263.69	-1,760.36	671.18	0.00	0.00	0.00	
8,900.00	90.00	0.11	7,718.00	363.69	-1,760.17	768.31	0.00	0.00	0.00	
9,000.00	90.00	0.11	7,718.00	463.69	-1,759.97	865.45	0.00	0.00	0.00	
9,100.00	90.00	0.11	7,718.00	563.69	-1,759.78	962.59	0.00	0.00	0.00	
9,200.00	90.00	0.11	7,718.00	663.69	-1,759.59	1,059.72	0.00	0.00	0.00	
9,300.00	90.00	0.11	7,718.01	763.69	-1,759.39	1,156.86	0.00	0.00	0.00	
9,400.00	90.00	0.11	7,718.01	863.69	-1,759.20	1,254.00	0.00	0.00	0.00	
9,500.00	90.00	0.11	7,718.01	963.69	-1,759.00	1,351.14	0.00	0.00	0.00	
9,600.00	90.00	0.11	7,718.01	1,063.69	-1,758.81	1,448.27	0.00	0.00	0.00	
9,700.00	90.00	0.11	7,718.01	1,163.69	-1,758.62	1,545.41	0.00	0.00	0.00	
9,800.00	90.00	0.11	7,718.01	1,263.69	-1,758.42	1,642.55	0.00	0.00	0.00	
9,900.00	90.00	0.11	7,718.01	1,363.69	-1,758.23	1,739.68	0.00	0.00	0.00	
10,000.00	90.00	0.11	7,718.01	1,463.69	-1,758.04	1,836.82	0.00	0.00	0.00	
10,100.00	90.00	0.11	7,718.01	1,563.69	-1,757.84	1,933.96	0.00	0.00	0.00	
10,200.00	90.00	0.11	7,718.01	1,663.69	-1,757.65	2,031.09	0.00	0.00	0.00	
10,300.00	90.00	0.11	7,718.01	1,763.69	-1,757.45	2,128.23	0.00	0.00	0.00	
10,400.00	90.00	0.11	7,718.01	1,863.69	-1,757.26	2,225.37	0.00	0.00	0.00	
10,500.00	90.00	0.11	7,718.01	1,963.69	-1,757.07	2,322.50	0.00	0.00	0.00	
10,600.00	90.00	0.11	7,718.01	2,063.69	-1,756.87	2,419.64	0.00	0.00	0.00	
10,700.00	90.00	0.11	7,718.01	2,163.69	-1,756.68	2,516.78	0.00	0.00	0.00	
10,800.00	90.00	0.11	7,718.01	2,263.69	-1,756.49	2,613.91	0.00	0.00	0.00	
10,900.00	90.00	0.11	7,718.01	2,363.69	-1,756.29	2,711.05	0.00	0.00	0.00	
11,000.00	90.00	0.11	7,718.01	2,463.69	-1,756.10	2,808.19	0.00	0.00	0.00	
11,100.00	90.00	0.11	7,718.01	2,563.69	-1,755.91	2,905.32	0.00	0.00	0.00	
11,200.00	90.00	0.11	7,718.02	2,663.69	-1,755.71	3,002.46	0.00	0.00	0.00	
11,300.00	90.00	0.11	7,718.02	2,763.69	-1,755.52	3,099.60	0.00	0.00	0.00	
11,400.00	90.00	0.11	7,718.02	2,863.69	-1,755.32	3,196.73	0.00	0.00	0.00	
11,500.00	90.00	0.11	7,718.02	2,963.69	-1,755.13	3,293.87	0.00	0.00	0.00	
11,600.00	90.00	0.11	7,718.02	3,063.69	-1,754.94	3,391.01	0.00	0.00	0.00	
11,700.00	90.00	0.11	7,718.02	3,163.69	-1,754.74	3,488.14	0.00	0.00	0.00	
11,800.00	90.00	0.11	7,718.02	3,263.69	-1,754.55	3,585.28	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-14CDH
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-66-2524-14CDH	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	0.11	7,718.02	3,363.69	-1,754.36	3,682.42	0.00	0.00	0.00
12,000.00	90.00	0.11	7,718.02	3,463.68	-1,754.16	3,779.55	0.00	0.00	0.00
12,100.00	90.00	0.11	7,718.02	3,563.68	-1,753.97	3,876.69	0.00	0.00	0.00
12,200.00	90.00	0.11	7,718.02	3,663.68	-1,753.77	3,973.83	0.00	0.00	0.00
12,300.00	90.00	0.11	7,718.02	3,763.68	-1,753.58	4,070.96	0.00	0.00	0.00
12,400.00	90.00	0.11	7,718.02	3,863.68	-1,753.39	4,168.10	0.00	0.00	0.00
12,500.00	90.00	0.11	7,718.02	3,963.68	-1,753.19	4,265.24	0.00	0.00	0.00
12,600.00	90.00	0.11	7,718.02	4,063.68	-1,753.00	4,362.37	0.00	0.00	0.00
12,700.00	90.00	0.11	7,718.02	4,163.68	-1,752.81	4,459.51	0.00	0.00	0.00
12,800.00	90.00	0.11	7,718.02	4,263.68	-1,752.61	4,556.65	0.00	0.00	0.00
12,900.00	90.00	0.11	7,718.02	4,363.68	-1,752.42	4,653.79	0.00	0.00	0.00
13,000.00	90.00	0.11	7,718.02	4,463.68	-1,752.23	4,750.92	0.00	0.00	0.00
13,100.00	90.00	0.11	7,718.03	4,563.68	-1,752.03	4,848.06	0.00	0.00	0.00
13,200.00	90.00	0.11	7,718.03	4,663.68	-1,751.84	4,945.20	0.00	0.00	0.00
13,300.00	90.00	0.11	7,718.03	4,763.68	-1,751.64	5,042.33	0.00	0.00	0.00
13,400.00	90.00	0.11	7,718.03	4,863.68	-1,751.45	5,139.47	0.00	0.00	0.00
13,500.00	90.00	0.11	7,718.03	4,963.68	-1,751.26	5,236.61	0.00	0.00	0.00
13,600.00	90.00	0.11	7,718.03	5,063.68	-1,751.06	5,333.74	0.00	0.00	0.00
13,700.00	90.00	0.11	7,718.03	5,163.68	-1,750.87	5,430.88	0.00	0.00	0.00
13,800.00	90.00	0.11	7,718.03	5,263.68	-1,750.68	5,528.02	0.00	0.00	0.00
13,900.00	90.00	0.11	7,718.03	5,363.68	-1,750.48	5,625.15	0.00	0.00	0.00
14,000.00	90.00	0.11	7,718.03	5,463.68	-1,750.29	5,722.29	0.00	0.00	0.00
14,100.00	90.00	0.11	7,718.03	5,563.68	-1,750.09	5,819.43	0.00	0.00	0.00
14,200.00	90.00	0.11	7,718.03	5,663.68	-1,749.90	5,916.56	0.00	0.00	0.00
14,300.00	90.00	0.11	7,718.03	5,763.68	-1,749.71	6,013.70	0.00	0.00	0.00
14,400.00	90.00	0.11	7,718.03	5,863.68	-1,749.51	6,110.84	0.00	0.00	0.00
14,500.00	90.00	0.11	7,718.03	5,963.68	-1,749.32	6,207.97	0.00	0.00	0.00
14,600.00	90.00	0.11	7,718.03	6,063.68	-1,749.13	6,305.11	0.00	0.00	0.00
14,700.00	90.00	0.11	7,718.03	6,163.68	-1,748.93	6,402.25	0.00	0.00	0.00
14,800.00	90.00	0.11	7,718.03	6,263.68	-1,748.74	6,499.38	0.00	0.00	0.00
14,900.00	90.00	0.11	7,718.03	6,363.68	-1,748.55	6,596.52	0.00	0.00	0.00
15,000.00	90.00	0.11	7,718.04	6,463.68	-1,748.35	6,693.66	0.00	0.00	0.00
15,100.00	90.00	0.11	7,718.04	6,563.68	-1,748.16	6,790.79	0.00	0.00	0.00
15,200.00	90.00	0.11	7,718.04	6,663.68	-1,747.96	6,887.93	0.00	0.00	0.00
15,300.00	90.00	0.11	7,718.04	6,763.68	-1,747.77	6,985.07	0.00	0.00	0.00
15,400.00	90.00	0.11	7,718.04	6,863.68	-1,747.58	7,082.20	0.00	0.00	0.00
15,500.00	90.00	0.11	7,718.04	6,963.68	-1,747.38	7,179.34	0.00	0.00	0.00
15,600.00	90.00	0.11	7,718.04	7,063.68	-1,747.19	7,276.48	0.00	0.00	0.00
15,700.00	90.00	0.11	7,718.04	7,163.68	-1,747.00	7,373.61	0.00	0.00	0.00
15,738.05	90.00	0.11	7,718.00	7,201.73	-1,746.66	7,410.51	0.00	0.00	0.00
TD at 15738.05' MD									

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well ALMA 1S-66-2524-14CDH
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-66-2524-14CDH	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
ALMA 14CDH LP	0.00	0.00	7,718.00	-167.49	-1,761.20	1,217,941.13	3,216,576.60	39° 55' 44.544 N	104° 43' 39.828 W
- plan hits target center									
- Point									
ALMA 14CDH PBHL	0.00	0.00	7,718.00	7,201.73	-1,746.66	1,225,310.19	3,216,526.44	39° 56' 57.372 N	104° 43' 39.648 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
1,504.48	1,500.00	Fox Hills aquifer base				
7,608.12	7,283.00	Sharon Springs				
7,641.35	7,315.00	Top Niobrara				
7,651.85	7,325.00	Nio A Chalk				
7,674.12	7,346.00	Nio A Marl				
7,810.69	7,467.00	Nio B Chalk				
7,870.98	7,515.00	Nio B Marl				
7,921.38	7,552.00	Nio C Chalk				
7,952.05	7,573.00	Nio D Marl				
8,170.44	7,684.00	Ft Hayes Limestone				
8,368.81	7,718.00	Codell Sandstone				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	Comment	
900.00	900.00	0.00	0.00	BUILD 2°/100'	
1,925.85	1,904.07	-70.39	-167.53	HOLD 20.52° INC	
6,342.90	6,040.93	-670.10	-1,594.77	DROP 2°/100'	
7,368.75	7,045.00	-740.49	-1,762.31	HOLD VERTICAL	
7,468.75	7,145.00	-740.49	-1,762.31	KOP, BUILD 10°/100'	
8,368.81	7,718.00	-167.49	-1,761.20	LP @ 90° INC, 0.11° AZM HOLD	
15,738.05	7,718.00	7,201.73	-1,746.66	TD at 15738.05' MD	