



Caza Operating LLC

Lea Co., NM

Comanche 25-36 Fed State

2Y

OH

Plan: Plan #1

Standard Planning Report

13 January, 2021



Released to Imaging: 2/16/2021 4:00:45 PM

Plan #1



Project: Lea Co., NM
Site: Comanche 25-36 Fed State
Well: 2Y
Wellbore: OH
Design: Plan #1
Lat: 32.020500
Long: -103.317202
GL: 2946.00
KB: KB=23.6' @ 2969.60usft

WELL DETAILS: 2Y

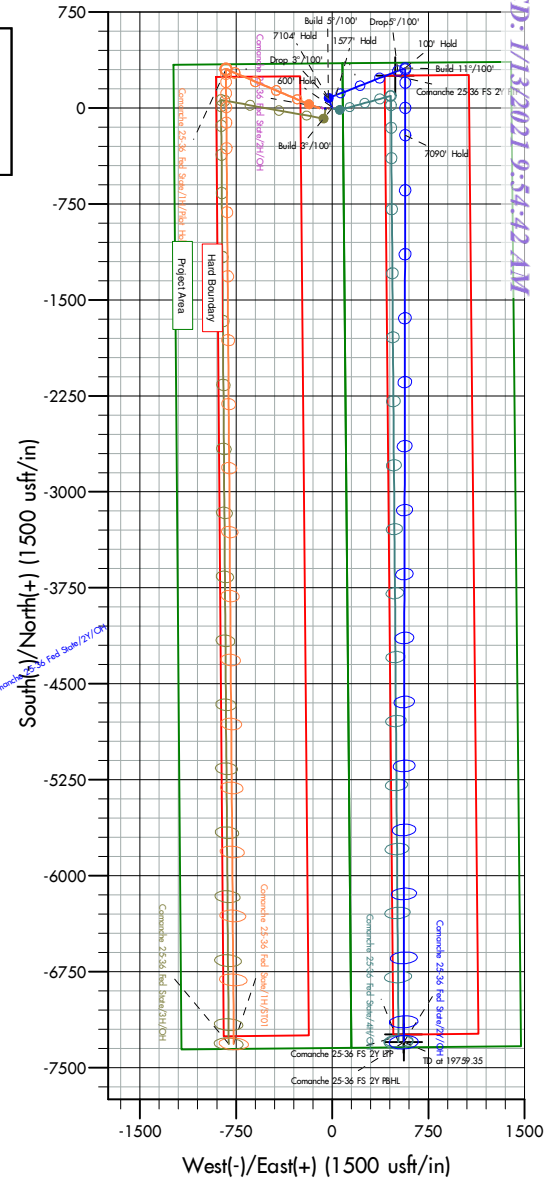
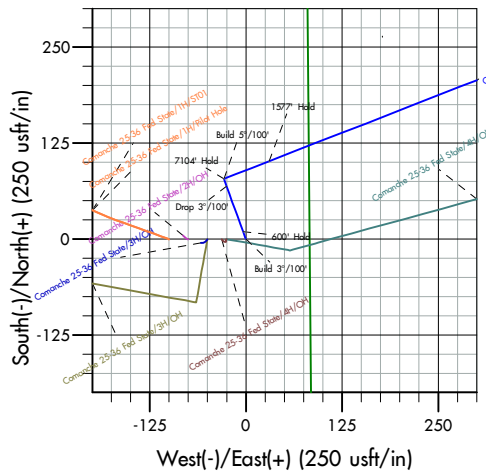
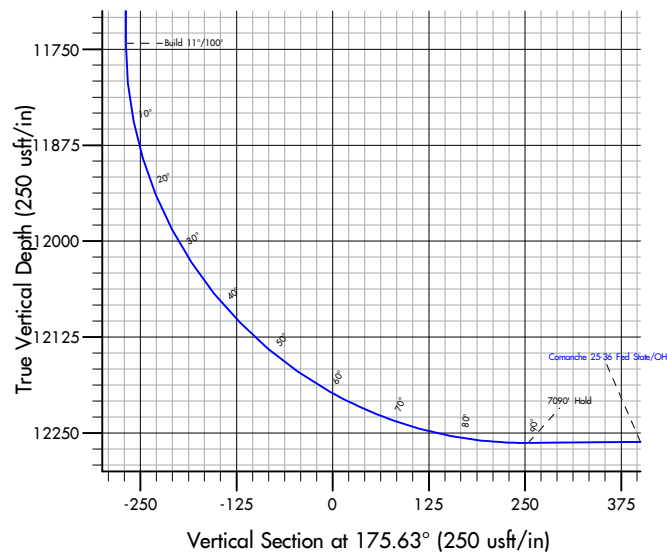
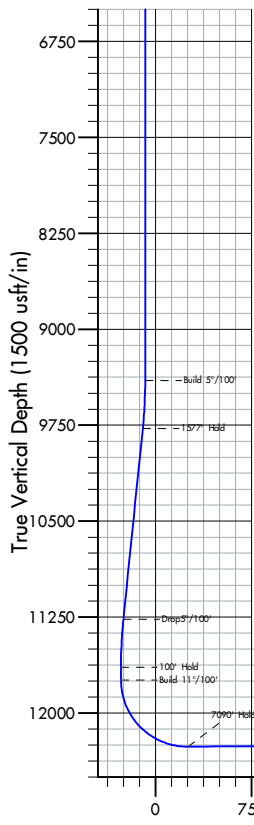
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	372677.43	856263.14	32.020500	-103.317202

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Comanche 25-36 FS 2Y FTP	0.00	254.10	492.16	372931.53	856755.30	Point
Comanche 25-36 FS 2Y LTP	12212.60	-7241.26	557.42	365436.17	856820.56	Point
Comanche 25-36 FS 2Y PBHL	12212.60	-7301.26	558.01	365376.17	856821.15	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	Build 3°/100'
1500.00	0.00	340.00	1499.63	9.83	-3.58	3.00	340.00	-10.08	600' Hold
2100.00	6.00	340.00	2096.35	68.77	-25.03	0.00	0.00	-70.47	Drop 3°/100'
2300.00	0.00	0.00	2295.98	78.60	-28.61	3.00	180.00	-80.55	7104' Hold
9404.02	0.00	0.00	9400.00	78.60	-28.61	0.00	0.00	-80.55	Build 5°/100'
9786.88	19.14	68.65	9775.78	101.67	30.41	5.00	68.65	-99.06	1577' Hold
11364.61	19.14	68.65	11266.26	290.04	512.28	0.00	0.00	-250.17	Drop 5°/100'
11747.47	0.00	180.10	11642.04	313.12	571.30	5.00	180.00	-268.67	100' Hold
11847.47	0.00	180.10	11742.04	313.12	571.30	0.00	0.00	-268.67	Build 11°/100'
12669.35	90.41	180.10	12262.90	-211.45	570.38	11.00	0.00	254.30	7090' Hold
19759.35	90.41	180.10	12212.60	-7301.26	558.01	0.00	0.00	7322.55	TD at 19759.35



Plan: Plan #1 (2Y/OH)
Created By: Dusty Moyer Date: 9-25 January 13 2021

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Azimuths to Grid North
True North: 0°
Magnetic North: 5°
Magnetic Field Strength: 47453 on T
Dip Angle: 5.5°
Date: 1/13/2021
Model: HDGM301



Received by OCD: 1/13/2021 9:54:42 AM



Altitude Energy Partners

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 2Y
Company:	Caza Operating LLC	TVD Reference:	KB=23.6' @ 2969.60usft
Project:	Lea Co., NM	MD Reference:	KB=23.6' @ 2969.60usft
Site:	Comanche 25-36 Fed State	North Reference:	Grid
Well:	2Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Lea Co., NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Comanche 25-36 Fed State				
Site Position:		Northing:	372,677.38	usft	Latitude:	32.020500
From:	Map	Easting:	856,238.05	usft	Longitude:	-103.317284
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well	2Y					
Well Position	+N/-S	0.00 usft	Northing:	372,677.43 usft	Latitude:	32.020500
	+E/-W	0.00 usft	Easting:	856,263.14 usft	Longitude:	-103.317203
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,946.00 usft
Grid Convergence:		0.54 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021	1/13/2021	6.40	59.63	47,453.60000000

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	175.63	

Plan Survey Tool Program	Date	1/13/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	19,759.15 Plan #1 (OH)	MWD+HRGM		
			OWSG MWD + HDGM		



Altitude Energy Partners

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Site:	Comanche 25-36 Fed State	North Reference:	Grid
Well:	2Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	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	
1,500.00	6.00	340.00	1,499.63	9.83	-3.58	3.00	3.00	0.00	340.00	
2,100.00	6.00	340.00	2,096.35	68.77	-25.03	0.00	0.00	0.00	0.00	
2,300.00	0.00	0.00	2,295.98	78.60	-28.61	3.00	-3.00	0.00	180.00	
9,404.02	0.00	0.00	9,400.00	78.60	-28.61	0.00	0.00	0.00	0.00	
9,786.88	19.14	68.65	9,775.78	101.67	30.41	5.00	5.00	0.00	68.65	
11,364.61	19.14	68.65	11,266.26	290.04	512.28	0.00	0.00	0.00	0.00	
11,747.47	0.00	180.10	11,642.04	313.12	571.30	5.00	-5.00	0.00	180.00	
11,847.47	0.00	180.10	11,742.04	313.12	571.30	0.00	0.00	0.00	0.00	
12,669.35	90.41	180.10	12,262.90	-211.45	570.38	11.00	11.00	0.00	0.00	
19,759.35	90.41	180.10	12,212.60	-7,301.26	558.01	0.00	0.00	0.00	0.00	Comanche 25-36 FS :



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Planning Report



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Site:	Comanche 25-36 Fed State	North Reference:	Grid
Well:	2Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
708.60	0.00	0.00	708.60	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,055.60	0.00	0.00	1,055.60	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt									
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 3°/100'									
1,400.00	3.00	340.00	1,399.95	2.46	-0.90	-2.52	3.00	3.00	0.00
1,500.00	6.00	340.00	1,499.63	9.83	-3.58	-10.08	3.00	3.00	0.00
600' Hold									
1,600.00	6.00	340.00	1,599.09	19.65	-7.15	-20.14	0.00	0.00	0.00
1,700.00	6.00	340.00	1,698.54	29.48	-10.73	-30.21	0.00	0.00	0.00
1,800.00	6.00	340.00	1,797.99	39.30	-14.30	-40.27	0.00	0.00	0.00
1,900.00	6.00	340.00	1,897.44	49.12	-17.88	-50.34	0.00	0.00	0.00
2,000.00	6.00	340.00	1,996.90	58.94	-21.45	-60.41	0.00	0.00	0.00
2,100.00	6.00	340.00	2,096.35	68.77	-25.03	-70.47	0.00	0.00	0.00
Drop 3°/100'									
2,200.00	3.00	340.00	2,196.03	76.14	-27.71	-78.03	3.00	-3.00	0.00
2,300.00	0.00	0.00	2,295.98	78.60	-28.61	-80.55	3.00	-3.00	0.00
7104' Hold									
2,400.00	0.00	0.00	2,395.98	78.60	-28.61	-80.55	0.00	0.00	0.00
2,500.00	0.00	0.00	2,495.98	78.60	-28.61	-80.55	0.00	0.00	0.00
2,600.00	0.00	0.00	2,595.98	78.60	-28.61	-80.55	0.00	0.00	0.00
2,700.00	0.00	0.00	2,695.98	78.60	-28.61	-80.55	0.00	0.00	0.00
2,800.00	0.00	0.00	2,795.98	78.60	-28.61	-80.55	0.00	0.00	0.00
2,900.00	0.00	0.00	2,895.98	78.60	-28.61	-80.55	0.00	0.00	0.00
2,906.62	0.00	0.00	2,902.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Base of Salt									
3,000.00	0.00	0.00	2,995.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,100.00	0.00	0.00	3,095.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,169.62	0.00	0.00	3,165.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Castile									
3,200.00	0.00	0.00	3,195.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,299.62	0.00	0.00	3,295.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Tansil									
3,300.00	0.00	0.00	3,295.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,400.00	0.00	0.00	3,395.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,500.00	0.00	0.00	3,495.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,583.62	0.00	0.00	3,579.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Yates									
3,600.00	0.00	0.00	3,595.98	78.60	-28.61	-80.55	0.00	0.00	0.00



Altitude Energy Partners

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Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,700.00	0.00	0.00	3,695.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,800.00	0.00	0.00	3,795.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,834.62	0.00	0.00	3,830.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Seven Rivers									
3,900.00	0.00	0.00	3,895.98	78.60	-28.61	-80.55	0.00	0.00	0.00
3,988.62	0.00	0.00	3,984.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Queen									
4,000.00	0.00	0.00	3,995.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,100.00	0.00	0.00	4,095.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,199.62	0.00	0.00	4,195.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Grayburg									
4,200.00	0.00	0.00	4,195.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,300.00	0.00	0.00	4,295.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,400.00	0.00	0.00	4,395.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,500.00	0.00	0.00	4,495.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,524.62	0.00	0.00	4,520.60	78.60	-28.61	-80.55	0.00	0.00	0.00
San Andres									
4,600.00	0.00	0.00	4,595.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,700.00	0.00	0.00	4,695.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,800.00	0.00	0.00	4,795.98	78.60	-28.61	-80.55	0.00	0.00	0.00
4,900.00	0.00	0.00	4,895.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,000.00	0.00	0.00	4,995.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,004.62	0.00	0.00	5,000.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Delaware									
5,100.00	0.00	0.00	5,095.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,200.00	0.00	0.00	5,195.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,300.00	0.00	0.00	5,295.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,400.00	0.00	0.00	5,395.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,500.00	0.00	0.00	5,495.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,600.00	0.00	0.00	5,595.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,700.00	0.00	0.00	5,695.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,800.00	0.00	0.00	5,795.98	78.60	-28.61	-80.55	0.00	0.00	0.00
5,900.00	0.00	0.00	5,895.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,000.00	0.00	0.00	5,995.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,100.00	0.00	0.00	6,095.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,200.00	0.00	0.00	6,195.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,300.00	0.00	0.00	6,295.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,400.00	0.00	0.00	6,395.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,500.00	0.00	0.00	6,495.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,600.00	0.00	0.00	6,595.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,700.00	0.00	0.00	6,695.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,800.00	0.00	0.00	6,795.98	78.60	-28.61	-80.55	0.00	0.00	0.00
6,900.00	0.00	0.00	6,895.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,000.00	0.00	0.00	6,995.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,100.00	0.00	0.00	7,095.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,200.00	0.00	0.00	7,195.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,300.00	0.00	0.00	7,295.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,400.00	0.00	0.00	7,395.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,479.62	0.00	0.00	7,475.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Brushy Canyon									
7,500.00	0.00	0.00	7,495.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,600.00	0.00	0.00	7,595.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,700.00	0.00	0.00	7,695.98	78.60	-28.61	-80.55	0.00	0.00	0.00



Altitude Energy Partners

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Database: EDM 5000.1 Single User Db
 Company: Caza Operating LLC
 Project: Lea Co., NM
 Site: Comanche 25-36 Fed State
 Well: 2Y
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well 2Y

KB=23.6' @ 2969.60usft

KB=23.6' @ 2969.60usft

Grid

Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,800.00	0.00	0.00	7,795.98	78.60	-28.61	-80.55	0.00	0.00	0.00
7,900.00	0.00	0.00	7,895.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,000.00	0.00	0.00	7,995.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,100.00	0.00	0.00	8,095.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,200.00	0.00	0.00	8,195.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,300.00	0.00	0.00	8,295.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,400.00	0.00	0.00	8,395.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,500.00	0.00	0.00	8,495.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,600.00	0.00	0.00	8,595.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,700.00	0.00	0.00	8,695.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,779.62	0.00	0.00	8,775.60	78.60	-28.61	-80.55	0.00	0.00	0.00
Bone Spring/Glorieta									
8,800.00	0.00	0.00	8,795.98	78.60	-28.61	-80.55	0.00	0.00	0.00
8,900.00	0.00	0.00	8,895.98	78.60	-28.61	-80.55	0.00	0.00	0.00
9,000.00	0.00	0.00	8,995.98	78.60	-28.61	-80.55	0.00	0.00	0.00
9,100.00	0.00	0.00	9,095.98	78.60	-28.61	-80.55	0.00	0.00	0.00
9,200.00	0.00	0.00	9,195.98	78.60	-28.61	-80.55	0.00	0.00	0.00
9,300.00	0.00	0.00	9,295.98	78.60	-28.61	-80.55	0.00	0.00	0.00
9,404.02	0.00	0.00	9,400.00	78.60	-28.61	-80.55	0.00	0.00	0.00
Build 5°/100'									
9,500.00	4.80	68.65	9,495.87	80.06	-24.87	-81.72	5.00	5.00	0.00
9,600.00	9.80	68.65	9,595.03	84.68	-13.04	-85.43	5.00	5.00	0.00
9,700.00	14.80	68.65	9,692.70	92.44	6.80	-91.65	5.00	5.00	0.00
9,786.88	19.14	68.65	9,775.78	101.67	30.41	-99.06	5.00	5.00	0.00
1577' Hold									
9,800.00	19.14	68.65	9,788.17	103.24	34.42	-100.31	0.00	0.00	0.00
9,900.00	19.14	68.65	9,882.64	115.18	64.96	-109.89	0.00	0.00	0.00
10,000.00	19.14	68.65	9,977.11	127.11	95.50	-119.47	0.00	0.00	0.00
10,100.00	19.14	68.65	10,071.58	139.05	126.04	-129.05	0.00	0.00	0.00
10,200.00	19.14	68.65	10,166.05	150.99	156.59	-138.62	0.00	0.00	0.00
10,300.00	19.14	68.65	10,260.52	162.93	187.13	-148.20	0.00	0.00	0.00
10,400.00	19.14	68.65	10,355.00	174.87	217.67	-157.78	0.00	0.00	0.00
10,500.00	19.14	68.65	10,449.47	186.81	248.21	-167.36	0.00	0.00	0.00
10,581.65	19.14	68.65	10,526.60	196.56	273.15	-175.18	0.00	0.00	0.00
1st Bone Spring Sand									
10,600.00	19.14	68.65	10,543.94	198.75	278.75	-176.93	0.00	0.00	0.00
10,700.00	19.14	68.65	10,638.41	210.69	309.30	-186.51	0.00	0.00	0.00
10,800.00	19.14	68.65	10,732.88	222.63	339.84	-196.09	0.00	0.00	0.00
10,900.00	19.14	68.65	10,827.35	234.57	370.38	-205.67	0.00	0.00	0.00
10,947.90	19.14	68.65	10,872.60	240.29	385.01	-210.26	0.00	0.00	0.00
2nd Bone Spring Sand									
11,000.00	19.14	68.65	10,921.82	246.51	400.92	-215.25	0.00	0.00	0.00
11,100.00	19.14	68.65	11,016.29	258.45	431.46	-224.82	0.00	0.00	0.00
11,200.00	19.14	68.65	11,110.76	270.39	462.01	-234.40	0.00	0.00	0.00
11,300.00	19.14	68.65	11,205.23	282.33	492.55	-243.98	0.00	0.00	0.00
11,364.61	19.14	68.65	11,266.26	290.04	512.28	-250.17	0.00	0.00	0.00
Drop 5°/100'									
11,400.00	17.37	68.65	11,299.87	294.08	522.61	-253.40	5.00	-5.00	0.00
11,500.00	12.37	68.65	11,396.49	303.42	546.51	-260.90	5.00	-5.00	0.00
11,600.00	7.37	68.65	11,494.98	309.67	562.47	-265.91	5.00	-5.00	0.00
11,700.00	2.37	68.65	11,594.58	312.76	570.38	-268.39	5.00	-5.00	0.00
11,747.47	0.00	180.10	11,642.04	313.12	571.30	-268.67	5.00	-5.00	0.00
100' Hold									



Altitude Energy Partners

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 2Y
Company:	Caza Operating LLC	TVD Reference:	KB=23.6' @ 2969.60usft
Project:	Lea Co., NM	MD Reference:	KB=23.6' @ 2969.60usft
Site:	Comanche 25-36 Fed State	North Reference:	Grid
Well:	2Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,800.00	0.00	0.00	11,694.57	313.12	571.30	-268.67	0.00	0.00	0.00	
11,847.47	0.00	0.00	11,742.04	313.12	571.30	-268.67	0.00	0.00	0.00	
Build 11°/100'										
11,850.00	0.28	180.10	11,744.57	313.11	571.30	-268.67	11.00	11.00	0.00	
11,885.06	4.13	180.10	11,779.60	311.76	571.30	-267.32	11.00	11.00	0.00	
3rd Bone Spring Sand										
11,900.00	5.78	180.10	11,794.48	310.47	571.30	-266.04	11.00	11.00	0.00	
11,950.00	11.28	180.10	11,843.91	303.06	571.28	-258.65	11.00	11.00	0.00	
12,000.00	16.78	180.10	11,892.40	290.94	571.26	-246.57	11.00	11.00	0.00	
12,050.00	22.28	180.10	11,939.51	274.24	571.23	-229.91	11.00	11.00	0.00	
12,100.00	27.78	180.10	11,984.79	253.09	571.19	-208.83	11.00	11.00	0.00	
12,150.00	33.28	180.10	12,027.85	227.70	571.15	-183.52	11.00	11.00	0.00	
12,200.00	38.78	180.10	12,068.27	198.31	571.10	-154.21	11.00	11.00	0.00	
12,230.67	42.15	180.10	12,091.60	178.40	571.06	-134.37	11.00	11.00	0.00	
Wolfcamp										
12,250.00	44.28	180.10	12,105.68	165.17	571.04	-121.18	11.00	11.00	0.00	
12,300.00	49.78	180.10	12,139.75	128.60	570.98	-84.72	11.00	11.00	0.00	
12,350.00	55.28	180.10	12,170.16	88.93	570.91	-45.17	11.00	11.00	0.00	
12,400.00	60.78	180.10	12,196.63	46.53	570.83	-2.90	11.00	11.00	0.00	
12,450.00	66.28	180.10	12,218.91	1.79	570.76	41.70	11.00	11.00	0.00	
12,500.00	71.78	180.10	12,236.79	-44.88	570.67	88.23	11.00	11.00	0.00	
12,550.00	77.28	180.10	12,250.13	-93.05	570.59	136.25	11.00	11.00	0.00	
12,600.00	82.78	180.10	12,258.78	-142.27	570.50	185.33	11.00	11.00	0.00	
12,650.00	88.28	180.10	12,262.68	-192.10	570.42	235.01	11.00	11.00	0.00	
12,669.35	90.41	180.10	12,262.90	-211.45	570.38	254.30	11.00	11.00	0.00	
7090' Hold										
12,700.00	90.41	180.10	12,262.68	-242.10	570.33	284.85	0.00	0.00	0.00	
12,800.00	90.41	180.10	12,261.97	-342.10	570.16	384.55	0.00	0.00	0.00	
12,900.00	90.41	180.10	12,261.27	-442.09	569.98	484.24	0.00	0.00	0.00	
13,000.00	90.41	180.10	12,260.56	-542.09	569.81	583.93	0.00	0.00	0.00	
13,100.00	90.41	180.10	12,259.85	-642.09	569.63	683.63	0.00	0.00	0.00	
13,200.00	90.41	180.10	12,259.14	-742.08	569.46	783.32	0.00	0.00	0.00	
13,300.00	90.41	180.10	12,258.43	-842.08	569.28	883.01	0.00	0.00	0.00	
13,400.00	90.41	180.10	12,257.72	-942.08	569.11	982.71	0.00	0.00	0.00	
13,500.00	90.41	180.10	12,257.01	-1,042.08	568.93	1,082.40	0.00	0.00	0.00	
13,600.00	90.41	180.10	12,256.30	-1,142.07	568.76	1,182.09	0.00	0.00	0.00	
13,700.00	90.41	180.10	12,255.59	-1,242.07	568.59	1,281.79	0.00	0.00	0.00	
13,800.00	90.41	180.10	12,254.88	-1,342.07	568.41	1,381.48	0.00	0.00	0.00	
13,900.00	90.41	180.10	12,254.17	-1,442.07	568.24	1,481.17	0.00	0.00	0.00	
14,000.00	90.41	180.10	12,253.46	-1,542.06	568.06	1,580.87	0.00	0.00	0.00	
14,100.00	90.41	180.10	12,252.75	-1,642.06	567.89	1,680.56	0.00	0.00	0.00	
14,200.00	90.41	180.10	12,252.04	-1,742.06	567.71	1,780.25	0.00	0.00	0.00	
14,300.00	90.41	180.10	12,251.33	-1,842.06	567.54	1,879.95	0.00	0.00	0.00	
14,400.00	90.41	180.10	12,250.62	-1,942.05	567.36	1,979.64	0.00	0.00	0.00	
14,500.00	90.41	180.10	12,249.91	-2,042.05	567.19	2,079.33	0.00	0.00	0.00	
14,600.00	90.41	180.10	12,249.20	-2,142.05	567.01	2,179.03	0.00	0.00	0.00	
14,700.00	90.41	180.10	12,248.49	-2,242.04	566.84	2,278.72	0.00	0.00	0.00	
14,800.00	90.41	180.10	12,247.79	-2,342.04	566.67	2,378.41	0.00	0.00	0.00	
14,900.00	90.41	180.10	12,247.08	-2,442.04	566.49	2,478.10	0.00	0.00	0.00	
15,000.00	90.41	180.10	12,246.37	-2,542.04	566.32	2,577.80	0.00	0.00	0.00	
15,100.00	90.41	180.10	12,245.66	-2,642.03	566.14	2,677.49	0.00	0.00	0.00	
15,200.00	90.41	180.10	12,244.95	-2,742.03	565.97	2,777.18	0.00	0.00	0.00	
15,300.00	90.41	180.10	12,244.24	-2,842.03	565.79	2,876.88	0.00	0.00	0.00	



Altitude Energy Partners

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 2Y
Company:	Caza Operating LLC	TVD Reference:	KB=23.6' @ 2969.60usft
Project:	Lea Co., NM	MD Reference:	KB=23.6' @ 2969.60usft
Site:	Comanche 25-36 Fed State	North Reference:	Grid
Well:	2Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,400.00	90.41	180.10	12,243.53	-2,942.03	565.62	2,976.57	0.00	0.00	0.00	
15,500.00	90.41	180.10	12,242.82	-3,042.02	565.44	3,076.26	0.00	0.00	0.00	
15,600.00	90.41	180.10	12,242.11	-3,142.02	565.27	3,175.96	0.00	0.00	0.00	
15,700.00	90.41	180.10	12,241.40	-3,242.02	565.09	3,275.65	0.00	0.00	0.00	
15,800.00	90.41	180.10	12,240.69	-3,342.02	564.92	3,375.34	0.00	0.00	0.00	
15,900.00	90.41	180.10	12,239.98	-3,442.01	564.75	3,475.04	0.00	0.00	0.00	
16,000.00	90.41	180.10	12,239.27	-3,542.01	564.57	3,574.73	0.00	0.00	0.00	
16,100.00	90.41	180.10	12,238.56	-3,642.01	564.40	3,674.42	0.00	0.00	0.00	
16,200.00	90.41	180.10	12,237.85	-3,742.00	564.22	3,774.12	0.00	0.00	0.00	
16,300.00	90.41	180.10	12,237.14	-3,842.00	564.05	3,873.81	0.00	0.00	0.00	
16,400.00	90.41	180.10	12,236.43	-3,942.00	563.87	3,973.50	0.00	0.00	0.00	
16,500.00	90.41	180.10	12,235.72	-4,042.00	563.70	4,073.20	0.00	0.00	0.00	
16,600.00	90.41	180.10	12,235.01	-4,141.99	563.52	4,172.89	0.00	0.00	0.00	
16,700.00	90.41	180.10	12,234.31	-4,241.99	563.35	4,272.58	0.00	0.00	0.00	
16,800.00	90.41	180.10	12,233.60	-4,341.99	563.17	4,372.28	0.00	0.00	0.00	
16,900.00	90.41	180.10	12,232.89	-4,441.99	563.00	4,471.97	0.00	0.00	0.00	
17,000.00	90.41	180.10	12,232.18	-4,541.98	562.83	4,571.66	0.00	0.00	0.00	
17,100.00	90.41	180.10	12,231.47	-4,641.98	562.65	4,671.36	0.00	0.00	0.00	
17,200.00	90.41	180.10	12,230.76	-4,741.98	562.48	4,771.05	0.00	0.00	0.00	
17,300.00	90.41	180.10	12,230.05	-4,841.98	562.30	4,870.74	0.00	0.00	0.00	
17,400.00	90.41	180.10	12,229.34	-4,941.97	562.13	4,970.44	0.00	0.00	0.00	
17,500.00	90.41	180.10	12,228.63	-5,041.97	561.95	5,070.13	0.00	0.00	0.00	
17,600.00	90.41	180.10	12,227.92	-5,141.97	561.78	5,169.82	0.00	0.00	0.00	
17,700.00	90.41	180.10	12,227.21	-5,241.96	561.60	5,269.52	0.00	0.00	0.00	
17,800.00	90.41	180.10	12,226.50	-5,341.96	561.43	5,369.21	0.00	0.00	0.00	
17,900.00	90.41	180.10	12,225.79	-5,441.96	561.26	5,468.90	0.00	0.00	0.00	
18,000.00	90.41	180.10	12,225.08	-5,541.96	561.08	5,568.60	0.00	0.00	0.00	
18,100.00	90.41	180.10	12,224.37	-5,641.95	560.91	5,668.29	0.00	0.00	0.00	
18,200.00	90.41	180.10	12,223.66	-5,741.95	560.73	5,767.98	0.00	0.00	0.00	
18,300.00	90.41	180.10	12,222.95	-5,841.95	560.56	5,867.68	0.00	0.00	0.00	
18,400.00	90.41	180.10	12,222.24	-5,941.95	560.38	5,967.37	0.00	0.00	0.00	
18,500.00	90.41	180.10	12,221.53	-6,041.94	560.21	6,067.06	0.00	0.00	0.00	
18,600.00	90.41	180.10	12,220.83	-6,141.94	560.03	6,166.76	0.00	0.00	0.00	
18,700.00	90.41	180.10	12,220.12	-6,241.94	559.86	6,266.45	0.00	0.00	0.00	
18,800.00	90.41	180.10	12,219.41	-6,341.94	559.68	6,366.14	0.00	0.00	0.00	
18,900.00	90.41	180.10	12,218.70	-6,441.93	559.51	6,465.84	0.00	0.00	0.00	
19,000.00	90.41	180.10	12,217.99	-6,541.93	559.34	6,565.53	0.00	0.00	0.00	
19,100.00	90.41	180.10	12,217.28	-6,641.93	559.16	6,665.22	0.00	0.00	0.00	
19,200.00	90.41	180.10	12,216.57	-6,741.92	558.99	6,764.92	0.00	0.00	0.00	
19,300.00	90.41	180.10	12,215.86	-6,841.92	558.81	6,864.61	0.00	0.00	0.00	
19,400.00	90.41	180.10	12,215.15	-6,941.92	558.64	6,964.30	0.00	0.00	0.00	
19,500.00	90.41	180.10	12,214.44	-7,041.92	558.46	7,064.00	0.00	0.00	0.00	
19,600.00	90.41	180.10	12,213.73	-7,141.91	558.29	7,163.69	0.00	0.00	0.00	
19,700.00	90.41	180.10	12,213.02	-7,241.91	558.11	7,263.38	0.00	0.00	0.00	
19,754.98	90.41	180.10	12,212.63	-7,296.89	558.02	7,318.19	0.00	0.00	0.00	
20" Casing										
19,759.35	90.41	180.10	12,212.60	-7,301.26	558.01	7,322.55	0.00	0.00	0.00	
TD at 19759.35										



Altitude Energy Partners

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 2Y
Company:	Caza Operating LLC	TVD Reference:	KB=23.6' @ 2969.60usft
Project:	Lea Co., NM	MD Reference:	KB=23.6' @ 2969.60usft
Site:	Comanche 25-36 Fed State	North Reference:	Grid
Well:	2Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)		
Comanche 25-36 FS 2Y	0.00	0.00	0.00	254.10	492.16	372,931.53	856,755.30	32.021185	-103.315607
- plan misses target center by 553.88usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Comanche 25-36 FS 2Y	0.00	0.00	12,212.60	-7,301.26	558.01	365,376.17	856,821.15	32.000417	-103.315624
- plan hits target center									
- Point									
Comanche 25-36 FS 2Y	0.00	0.00	12,212.60	-7,241.26	557.42	365,436.17	856,820.56	32.000582	-103.315624
- plan misses target center by 0.81usft at 19699.35usft MD (12213.03 TVD, -7241.26 N, 558.11 E)									
- Point									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
19,754.98	12,212.63	20" Casing	20	24

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
708.60	708.60	Rustler				
1,055.60	1,055.60	Top of Salt				
2,906.62	2,902.60	Base of Salt				
3,169.62	3,165.60	Castile				
3,299.62	3,295.60	Tansil				
3,583.62	3,579.60	Yates				
3,834.62	3,830.60	Seven Rivers				
3,988.62	3,984.60	Queen				
4,199.62	4,195.60	Grayburg				
4,524.62	4,520.60	San Andres				
5,004.62	5,000.60	Delaware				
7,479.62	7,475.60	Brushy Canyon				
8,779.62	8,775.60	Bone Spring/Glorieta				
10,581.65	10,526.60	1st Bone Spring Sand				
10,947.90	10,872.60	2nd Bone Spring Sand				
11,885.06	11,779.60	3rd Bone Spring Sand				
12,230.67	12,091.60	Wolfcamp				



Altitude Energy Partners

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 2Y
Company:	Caza Operating LLC	TVD Reference:	KB=23.6' @ 2969.60usft
Project:	Lea Co., NM	MD Reference:	KB=23.6' @ 2969.60usft
Site:	Comanche 25-36 Fed State	North Reference:	Grid
Well:	2Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,300.00	1,300.00	0.00	0.00	Build 3°/100'	
1,500.00	1,499.63	9.83	-3.58	600' Hold	
2,100.00	2,096.35	68.77	-25.03	Drop 3°/100'	
2,300.00	2,295.98	78.60	-28.61	7104' Hold	
9,404.02	9,400.00	78.60	-28.61	Build 5°/100'	
9,786.88	9,775.78	101.67	30.41	1577' Hold	
11,364.61	11,266.26	290.04	512.28	Drop 5°/100'	
11,747.47	11,642.04	313.12	571.30	100' Hold	
11,847.47	11,742.04	313.12	571.30	Build 11°/100'	
12,669.35	12,262.90	-211.45	570.38	7090' Hold	
19,759.35	12,212.60	-7,301.26	558.01	TD at 19759.35	



Caza Operating LLC

Lea Co., NM

Comanche 25-36 Fed State

2Y

OH

Plan #1

Anticollision Report

13 January, 2021





Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Max. Cent. Dist. of 1,000.00usft or Max. SF of 10	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	1/13/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	19,759.15	Plan #1 (OH)	MWD+HRGM	OWSG MWD + HDGM	

Summary						
Site Name	Reference	Offset	Distance		Separation	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
Offset Well - Wellbore - Design						
Comanche 25-36 Fed State						
1H - Pilot Hole - Plan #1	1,300.00	1,300.00	99.99	91.11	11.264	CC, ES
1H - Pilot Hole - Plan #1	9,404.02	9,404.02	158.10	91.26	2.365	SF
1H - ST01 - Plan #1	1,300.00	1,300.00	99.99	91.11	11.264	CC, ES
1H - ST01 - Plan #1	9,404.02	9,404.02	158.10	91.26	2.365	SF
2H - OH - OH	0.00	0.00	75.09			
2H - OH - OH	274.96	274.96	74.87	73.54	56.154	CC
2H - OH - OH	600.00	599.43	76.04	72.41	20.943	ES
3H - OH - OH	0.00	0.00	50.00			
3H - OH - OH	300.00	299.61	51.13	49.66	34.890	ES
3H - OH - OH	900.00	899.30	58.33	52.57	10.133	SF
3H - OH - Plan #1	1,393.31	1,392.68	49.81	40.28	5.229	CC
3H - OH - Plan #1	1,400.00	1,399.29	49.81	40.24	5.204	ES
3H - OH - Plan #1	9,404.02	9,404.02	164.96	98.32	2.475	SF
4H - OH - OH	0.00	0.00	25.09			
4H - OH - OH	600.00	599.99	25.88	22.28	7.195	ES
4H - OH - OH	900.00	899.56	30.54	24.83	5.344	SF
4H - OH - Plan #3	1,505.46	1,506.32	16.14	5.83	1.565	Collision Risk Procedures R

Offset Design: Comanche 25-36 Fed State - 1H - Pilot Hole - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+HRGM		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned:				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-90.02	-0.04	-99.99	99.99					
100.00	100.00	100.00	100.00	0.14	0.14	-90.02	-0.04	-99.99	99.99	99.72	0.27	365.097		
200.00	200.00	200.00	200.00	0.50	0.50	-90.02	-0.04	-99.99	99.99	99.00	0.99	100.917		
300.00	300.00	300.00	300.00	0.85	0.85	-90.02	-0.04	-99.99	99.99	98.28	1.71	58.550		
400.00	400.00	400.00	400.00	1.21	1.21	-90.02	-0.04	-99.99	99.99	97.57	2.42	41.238		
500.00	500.00	500.00	500.00	1.57	1.57	-90.02	-0.04	-99.99	99.99	96.85	3.14	31.827		
600.00	600.00	600.00	600.00	1.93	1.93	-90.02	-0.04	-99.99	99.99	96.13	3.86	25.914		
700.00	700.00	700.00	700.00	2.29	2.29	-90.02	-0.04	-99.99	99.99	95.41	4.58	21.853		
800.00	800.00	800.00	800.00	2.65	2.65	-90.02	-0.04	-99.99	99.99	94.70	5.29	18.893		
900.00	900.00	900.00	900.00	3.00	3.00	-90.02	-0.04	-99.99	99.99	93.98	6.01	16.639		
1,000.00	1,000.00	1,000.00	1,000.00	3.36	3.36	-90.02	-0.04	-99.99	99.99	93.26	6.73	14.865		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - Pilot Hole - Plan #1													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+HRGM		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
1,100.00	1,100.00	1,100.00	1,100.00	3.72	3.72	-90.02	-0.04	-99.99	99.99	92.55	7.44	13.434	CC, ES		
1,200.00	1,200.00	1,200.00	1,200.00	4.08	4.08	-90.02	-0.04	-99.99	99.99	91.83	8.16	12.253			
1,300.00	1,300.00	1,300.00	1,300.00	4.44	4.44	-90.02	-0.04	-99.99	99.99	91.11	8.88	11.264			
1,400.00	1,399.95	1,395.27	1,395.23	4.80	4.78	-70.85	0.77	-102.22	101.45	91.89	9.56	10.609			
1,500.00	1,499.63	1,490.28	1,489.97	5.16	5.11	-73.16	3.20	-108.89	105.96	95.74	10.22	10.363			
1,600.00	1,599.09	1,589.40	1,588.54	5.52	5.46	-76.14	6.73	-118.60	112.69	101.76	10.93	10.313			
1,700.00	1,698.54	1,689.01	1,687.61	5.88	5.82	-78.78	10.30	-128.39	119.71	108.07	11.64	10.285			
1,800.00	1,797.99	1,788.62	1,786.67	6.24	6.18	-81.12	13.86	-138.17	126.96	114.60	12.36	10.274			
1,900.00	1,897.44	1,888.23	1,885.74	6.61	6.54	-83.21	17.42	-147.96	134.40	121.31	13.08	10.275			
2,000.00	1,996.90	1,987.84	1,984.80	6.97	6.91	-85.08	20.98	-157.74	141.99	128.18	13.81	10.284			
2,100.00	2,096.35	2,087.45	2,083.86	7.34	7.27	-86.76	24.54	-167.52	149.72	135.18	14.54	10.300			
2,200.00	2,196.03	2,193.13	2,189.17	7.71	7.66	-88.04	27.54	-175.78	155.99	140.68	15.31	10.191			
2,300.00	2,295.98	2,300.00	2,295.98	8.07	8.04	-108.45	28.57	-178.59	158.10	142.05	16.05	9.850			
2,400.00	2,395.98	2,400.00	2,395.98	8.43	8.40	-108.45	28.57	-178.59	158.10	141.34	16.76	9.433			
2,421.13	2,417.11	2,421.13	2,417.11	8.50	8.47	-108.45	28.57	-178.59	158.10	141.19	16.91	9.350			
2,500.00	2,495.98	2,500.00	2,495.98	8.78	8.75	-108.45	28.57	-178.59	158.10	140.64	17.47	9.050			
2,521.13	2,517.11	2,521.13	2,517.11	8.86	8.83	-108.45	28.57	-178.59	158.10	140.48	17.62	8.973			
2,600.00	2,595.98	2,600.00	2,595.98	9.14	9.10	-108.45	28.57	-178.59	158.10	139.92	18.18	8.696			
2,621.13	2,617.12	2,621.13	2,617.12	9.21	9.18	-108.45	28.57	-178.59	158.10	139.77	18.33	8.625			
2,700.00	2,695.98	2,700.00	2,695.98	9.49	9.46	-108.45	28.57	-178.59	158.10	139.21	18.89	8.369			
2,721.13	2,717.12	2,721.13	2,717.12	9.57	9.53	-108.45	28.57	-178.59	158.10	139.06	19.04	8.303			
2,800.00	2,795.98	2,800.00	2,795.98	9.85	9.81	-108.45	28.57	-178.59	158.10	138.50	19.60	8.065			
2,821.13	2,817.12	2,821.13	2,817.12	9.92	9.89	-108.45	28.57	-178.59	158.10	138.35	19.75	8.004			
2,900.00	2,895.98	2,900.00	2,895.98	10.20	10.17	-108.45	28.57	-178.59	158.10	137.79	20.31	7.783			
2,921.13	2,917.12	2,921.13	2,917.12	10.28	10.24	-108.45	28.57	-178.59	158.10	137.64	20.47	7.726			
3,000.00	2,995.98	3,000.00	2,995.98	10.56	10.52	-108.45	28.57	-178.59	158.10	137.08	21.03	7.519			
3,021.13	3,017.12	3,021.13	3,017.12	10.63	10.60	-108.45	28.57	-178.59	158.10	136.93	21.18	7.466			
3,100.00	3,095.98	3,100.00	3,095.98	10.92	10.88	-108.45	28.57	-178.59	158.10	136.37	21.74	7.273			
3,121.13	3,117.12	3,121.13	3,117.12	10.99	10.95	-108.45	28.57	-178.59	158.10	136.22	21.89	7.223			
3,200.00	3,195.98	3,200.00	3,195.98	11.27	11.23	-108.45	28.57	-178.59	158.10	135.65	22.45	7.042			
3,221.13	3,217.12	3,221.13	3,217.12	11.35	11.31	-108.45	28.57	-178.59	158.10	135.50	22.60	6.995			
3,300.00	3,295.98	3,300.00	3,295.98	11.63	11.59	-108.45	28.57	-178.59	158.10	134.94	23.16	6.825			
3,321.13	3,317.12	3,321.13	3,317.12	11.70	11.67	-108.45	28.57	-178.59	158.10	134.79	23.32	6.781			
3,400.00	3,395.98	3,400.00	3,395.98	11.99	11.95	-108.45	28.57	-178.59	158.10	134.23	23.88	6.621			
3,421.13	3,417.12	3,421.13	3,417.12	12.06	12.02	-108.45	28.57	-178.59	158.10	134.08	24.03	6.580			
3,500.00	3,495.98	3,500.00	3,495.98	12.34	12.30	-108.45	28.57	-178.59	158.10	133.51	24.59	6.429			
3,521.13	3,517.12	3,521.13	3,517.12	12.42	12.38	-108.45	28.57	-178.59	158.10	133.36	24.74	6.390			
3,600.00	3,595.98	3,600.00	3,595.98	12.70	12.66	-108.45	28.57	-178.59	158.10	132.80	25.31	6.248			
3,621.13	3,617.12	3,621.13	3,617.12	12.77	12.73	-108.45	28.57	-178.59	158.10	132.65	25.46	6.211			
3,700.00	3,695.98	3,700.00	3,695.98	13.06	13.02	-108.45	28.57	-178.59	158.10	132.09	26.02	6.077			
3,721.13	3,717.12	3,721.13	3,717.12	13.13	13.09	-108.45	28.57	-178.59	158.10	131.94	26.17	6.041			
3,800.00	3,795.98	3,800.00	3,795.98	13.41	13.37	-108.45	28.57	-178.59	158.10	131.37	26.73	5.914			
3,821.13	3,817.12	3,821.13	3,817.12	13.49	13.45	-108.45	28.57	-178.59	158.10	131.22	26.88	5.881			
3,900.00	3,895.98	3,900.00	3,895.98	13.77	13.73	-108.45	28.57	-178.59	158.10	130.66	27.45	5.760			
3,921.13	3,917.12	3,921.13	3,917.12	13.85	13.80	-108.45	28.57	-178.59	158.10	130.51	27.60	5.729			
4,000.00	3,995.98	4,000.00	3,995.98	14.13	14.08	-108.45	28.57	-178.59	158.10	129.94	28.16	5.614			
4,021.13	4,017.12	4,021.13	4,017.12	14.20	14.16	-108.45	28.57	-178.59	158.10	129.79	28.31	5.584			
4,100.00	4,095.98	4,100.00	4,095.98	14.48	14.44	-108.45	28.57	-178.59	158.10	129.23	28.88	5.475			
4,121.20	4,117.19	4,121.20	4,117.19	14.56	14.52	-108.45	28.57	-178.59	158.10	129.08	29.03	5.447			
4,200.00	4,195.98	4,200.00	4,195.98	14.84	14.80	-108.45	28.57	-178.59	158.10	128.51	29.59	5.343			
4,221.13	4,217.12	4,221.13	4,217.12	14.92	14.87	-108.45	28.57	-178.59	158.10	128.36	29.74	5.316			
4,300.00	4,295.98	4,300.00	4,295.98	15.20	15.16	-108.45	28.57	-178.59	158.10	127.80	30.30	5.217			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - Pilot Hole - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		
4,321.13	4,317.12	4,321.13	4,317.12	15.27	15.23	-108.45	28.57	-178.59	158.10	127.65	30.46	5.191	
4,400.00	4,395.98	4,400.00	4,395.98	15.56	15.51	-108.45	28.57	-178.59	158.10	127.09	31.02	5.097	
4,421.13	4,417.12	4,421.13	4,417.12	15.63	15.59	-108.45	28.57	-178.59	158.10	126.93	31.17	5.072	
4,500.00	4,495.98	4,500.00	4,495.98	15.91	15.87	-108.45	28.57	-178.59	158.10	126.37	31.73	4.982	
4,521.13	4,517.12	4,521.13	4,517.12	15.99	15.95	-108.45	28.57	-178.59	158.10	126.22	31.89	4.958	
4,600.00	4,595.98	4,600.00	4,595.98	16.27	16.23	-108.45	28.57	-178.59	158.10	125.66	32.45	4.872	
4,621.13	4,617.12	4,621.13	4,617.12	16.35	16.30	-108.45	28.57	-178.59	158.10	125.50	32.60	4.850	
4,700.00	4,695.98	4,700.00	4,695.98	16.63	16.58	-108.45	28.57	-178.59	158.10	124.94	33.16	4.767	
4,721.13	4,717.12	4,721.13	4,717.12	16.70	16.66	-108.45	28.57	-178.59	158.10	124.79	33.32	4.746	
4,800.00	4,795.98	4,800.00	4,795.98	16.99	16.94	-108.45	28.57	-178.59	158.10	124.23	33.88	4.667	
4,821.13	4,817.12	4,821.13	4,817.12	17.06	17.02	-108.45	28.57	-178.59	158.10	124.07	34.03	4.646	
4,900.00	4,895.98	4,900.00	4,895.98	17.34	17.30	-108.45	28.57	-178.59	158.10	123.51	34.59	4.570	
4,921.13	4,917.12	4,921.13	4,917.12	17.42	17.37	-108.45	28.57	-178.59	158.10	123.36	34.75	4.550	
5,000.00	4,995.98	5,000.00	4,995.98	17.70	17.66	-108.45	28.57	-178.59	158.10	122.79	35.31	4.478	
5,021.13	5,017.12	5,021.13	5,017.12	17.78	17.73	-108.45	28.57	-178.59	158.10	122.64	35.46	4.459	
5,100.00	5,095.98	5,100.00	5,095.98	18.06	18.01	-108.45	28.57	-178.59	158.10	122.08	36.03	4.389	
5,121.13	5,117.12	5,121.13	5,117.12	18.14	18.09	-108.45	28.57	-178.59	158.10	121.93	36.18	4.370	
5,200.00	5,195.98	5,200.00	5,195.98	18.42	18.37	-108.45	28.57	-178.59	158.10	121.36	36.74	4.303	
5,221.13	5,217.12	5,221.13	5,217.12	18.49	18.45	-108.45	28.57	-178.59	158.10	121.21	36.89	4.286	
5,300.00	5,295.98	5,300.00	5,295.98	18.78	18.73	-108.45	28.57	-178.59	158.10	120.65	37.46	4.221	
5,321.13	5,317.12	5,321.13	5,317.12	18.85	18.80	-108.45	28.57	-178.59	158.10	120.50	37.61	4.204	
5,400.00	5,395.98	5,400.00	5,395.98	19.13	19.09	-108.45	28.57	-178.59	158.10	119.93	38.17	4.142	
5,421.13	5,417.12	5,421.13	5,417.12	19.21	19.16	-108.45	28.57	-178.59	158.10	119.78	38.32	4.126	
5,500.00	5,495.98	5,500.00	5,495.98	19.49	19.44	-108.45	28.57	-178.59	158.10	119.22	38.89	4.066	
5,521.13	5,517.12	5,521.13	5,517.12	19.57	19.52	-108.45	28.57	-178.59	158.10	119.07	39.04	4.050	
5,600.00	5,595.98	5,600.00	5,595.98	19.85	19.80	-108.45	28.57	-178.59	158.10	118.50	39.60	3.992	
5,621.13	5,617.12	5,621.13	5,617.12	19.92	19.88	-108.45	28.57	-178.59	158.10	118.35	39.75	3.977	
5,700.00	5,695.98	5,700.00	5,695.98	20.21	20.16	-108.45	28.57	-178.59	158.10	117.79	40.32	3.921	
5,721.13	5,717.12	5,721.13	5,717.12	20.28	20.23	-108.45	28.57	-178.59	158.10	117.64	40.47	3.907	
5,800.00	5,795.98	5,800.00	5,795.98	20.57	20.52	-108.45	28.57	-178.59	158.10	117.07	41.03	3.853	
5,821.13	5,817.12	5,821.13	5,817.12	20.64	20.59	-108.45	28.57	-178.59	158.10	116.92	41.19	3.839	
5,900.00	5,895.98	5,900.00	5,895.98	20.92	20.87	-108.45	28.57	-178.59	158.10	116.35	41.75	3.787	
5,921.13	5,917.12	5,921.13	5,917.12	21.00	20.95	-108.45	28.57	-178.59	158.10	116.20	41.90	3.773	
6,000.00	5,995.98	6,000.00	5,995.98	21.28	21.23	-108.45	28.57	-178.59	158.10	115.64	42.47	3.723	
6,021.13	6,017.12	6,021.13	6,017.12	21.36	21.31	-108.45	28.57	-178.59	158.10	115.49	42.62	3.710	
6,100.00	6,095.98	6,100.00	6,095.98	21.64	21.59	-108.45	28.57	-178.59	158.10	114.92	43.18	3.661	
6,121.13	6,117.12	6,121.13	6,117.12	21.71	21.66	-108.45	28.57	-178.59	158.10	114.77	43.33	3.649	
6,200.00	6,195.98	6,200.00	6,195.98	22.00	21.95	-108.45	28.57	-178.59	158.10	114.21	43.90	3.602	
6,221.13	6,217.12	6,221.13	6,217.12	22.07	22.02	-108.45	28.57	-178.59	158.10	114.06	44.05	3.589	
6,300.00	6,295.98	6,300.00	6,295.98	22.35	22.30	-108.45	28.57	-178.59	158.10	113.49	44.61	3.544	
6,321.13	6,317.12	6,321.13	6,317.12	22.43	22.38	-108.45	28.57	-178.59	158.10	113.34	44.76	3.532	
6,400.00	6,395.98	6,400.00	6,395.98	22.71	22.66	-108.45	28.57	-178.59	158.10	112.78	45.33	3.488	
6,421.13	6,417.12	6,421.13	6,417.12	22.79	22.74	-108.45	28.57	-178.59	158.10	112.62	45.48	3.476	
6,500.00	6,495.98	6,500.00	6,495.98	23.07	23.02	-108.45	28.57	-178.59	158.10	112.06	46.05	3.434	
6,521.13	6,517.12	6,521.13	6,517.12	23.15	23.10	-108.45	28.57	-178.59	158.10	111.91	46.20	3.422	
6,600.00	6,595.98	6,600.00	6,595.98	23.43	23.38	-108.45	28.57	-178.59	158.10	111.34	46.76	3.381	
6,621.13	6,617.12	6,621.13	6,617.12	23.50	23.45	-108.45	28.57	-178.59	158.10	111.19	46.91	3.370	
6,700.00	6,695.98	6,700.00	6,695.98	23.79	23.74	-108.45	28.57	-178.59	158.10	110.63	47.48	3.330	
6,721.13	6,717.12	6,721.13	6,717.12	23.86	23.81	-108.45	28.57	-178.59	158.10	110.48	47.63	3.320	
6,800.00	6,795.98	6,800.00	6,795.98	24.15	24.09	-108.45	28.57	-178.59	158.10	109.91	48.19	3.281	
6,821.13	6,817.12	6,821.13	6,817.12	24.22	24.17	-108.45	28.57	-178.59	158.10	109.76	48.34	3.270	
6,900.00	6,895.98	6,900.00	6,895.98	24.50	24.45	-108.45	28.57	-178.59	158.10	109.20	48.91	3.233	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - Pilot Hole - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,921.13	6,917.12	6,921.13	6,917.12	24.58	24.53	-108.45	28.57	-178.59	158.10	109.04	49.06	3.223	
7,000.00	6,995.98	7,000.00	6,995.98	24.86	24.81	-108.45	28.57	-178.59	158.10	108.48	49.63	3.186	
7,020.99	7,016.97	7,020.99	7,016.97	24.94	24.88	-108.45	28.57	-178.59	158.10	108.33	49.78	3.176	
7,100.00	7,095.98	7,100.00	7,095.98	25.22	25.17	-108.45	28.57	-178.59	158.10	107.76	50.34	3.141	
7,121.13	7,117.12	7,121.13	7,117.12	25.30	25.24	-108.45	28.57	-178.59	158.10	107.61	50.49	3.131	
7,200.00	7,195.98	7,200.00	7,195.98	25.58	25.53	-108.45	28.57	-178.59	158.10	107.05	51.06	3.097	
7,221.13	7,217.12	7,221.13	7,217.12	25.65	25.60	-108.45	28.57	-178.59	158.10	106.90	51.21	3.087	
7,300.00	7,295.98	7,300.00	7,295.98	25.94	25.88	-108.45	28.57	-178.59	158.10	106.33	51.77	3.054	
7,321.13	7,317.12	7,321.13	7,317.12	26.01	25.96	-108.45	28.57	-178.59	158.10	106.18	51.93	3.045	
7,400.00	7,395.98	7,400.00	7,395.98	26.29	26.24	-108.45	28.57	-178.59	158.10	105.61	52.49	3.012	
7,421.13	7,417.12	7,421.13	7,417.12	26.37	26.32	-108.45	28.57	-178.59	158.10	105.46	52.64	3.003	
7,500.00	7,495.98	7,500.00	7,495.98	26.65	26.60	-108.45	28.57	-178.59	158.10	104.90	53.21	2.972	
7,521.13	7,517.12	7,521.13	7,517.12	26.73	26.67	-108.45	28.57	-178.59	158.10	104.75	53.36	2.963	
7,600.00	7,595.98	7,600.00	7,595.98	27.01	26.96	-108.45	28.57	-178.59	158.10	104.18	53.92	2.932	
7,621.13	7,617.12	7,621.13	7,617.12	27.09	27.03	-108.45	28.57	-178.59	158.10	104.03	54.07	2.924	
7,700.00	7,695.98	7,700.00	7,695.98	27.37	27.32	-108.45	28.57	-178.59	158.10	103.47	54.64	2.894	
7,721.13	7,717.12	7,721.13	7,717.12	27.44	27.39	-108.45	28.57	-178.59	158.10	103.31	54.79	2.886	
7,800.00	7,795.98	7,800.00	7,795.98	27.73	27.67	-108.45	28.57	-178.59	158.10	102.75	55.36	2.856	
7,821.13	7,817.12	7,821.13	7,817.12	27.80	27.75	-108.45	28.57	-178.59	158.10	102.60	55.51	2.848	
7,900.00	7,895.98	7,900.00	7,895.98	28.08	28.03	-108.45	28.57	-178.59	158.10	102.03	56.07	2.820	
7,921.13	7,917.12	7,921.13	7,917.12	28.16	28.11	-108.45	28.57	-178.59	158.10	101.88	56.22	2.812	
8,000.00	7,995.98	8,000.00	7,995.98	28.44	28.39	-108.45	28.57	-178.59	158.10	101.32	56.79	2.784	
8,021.13	8,017.12	8,021.13	8,017.12	28.52	28.46	-108.45	28.57	-178.59	158.10	101.17	56.94	2.777	
8,100.00	8,095.98	8,100.00	8,095.98	28.80	28.75	-108.45	28.57	-178.59	158.10	100.60	57.50	2.749	
8,121.13	8,117.12	8,121.13	8,117.12	28.88	28.82	-108.45	28.57	-178.59	158.10	100.45	57.66	2.742	
8,200.00	8,195.98	8,200.00	8,195.98	29.16	29.11	-108.45	28.57	-178.59	158.10	99.88	58.22	2.716	
8,221.41	8,217.40	8,221.41	8,217.40	29.24	29.18	-108.45	28.57	-178.59	158.10	99.73	58.37	2.708	
8,300.00	8,295.98	8,300.00	8,295.98	29.52	29.46	-108.45	28.57	-178.59	158.10	99.17	58.94	2.683	
8,320.85	8,316.83	8,320.85	8,316.83	29.59	29.54	-108.45	28.57	-178.59	158.10	99.02	59.09	2.676	
8,400.00	8,395.98	8,400.00	8,395.98	29.88	29.82	-108.45	28.57	-178.59	158.10	98.45	59.65	2.650	
8,421.41	8,417.40	8,421.41	8,417.40	29.95	29.90	-108.45	28.57	-178.59	158.10	98.30	59.81	2.644	
8,500.00	8,495.98	8,500.00	8,495.98	30.23	30.18	-108.45	28.57	-178.59	158.10	97.74	60.37	2.619	
8,520.85	8,516.83	8,520.85	8,516.83	30.31	30.25	-108.45	28.57	-178.59	158.10	97.59	60.52	2.612	
8,600.00	8,595.98	8,600.00	8,595.98	30.59	30.54	-108.45	28.57	-178.59	158.10	97.02	61.09	2.588	
8,621.41	8,617.40	8,621.41	8,617.40	30.67	30.61	-108.45	28.57	-178.59	158.10	96.87	61.24	2.582	
8,700.00	8,695.98	8,700.00	8,695.98	30.95	30.90	-108.45	28.57	-178.59	158.10	96.30	61.80	2.558	
8,720.85	8,716.83	8,720.85	8,716.83	31.03	30.97	-108.45	28.57	-178.59	158.10	96.15	61.95	2.552	
8,800.00	8,795.98	8,800.00	8,795.98	31.31	31.25	-108.45	28.57	-178.59	158.10	95.59	62.52	2.529	
8,821.41	8,817.40	8,821.41	8,817.40	31.39	31.33	-108.45	28.57	-178.59	158.10	95.43	62.67	2.523	
8,900.00	8,895.98	8,900.00	8,895.98	31.67	31.61	-108.45	28.57	-178.59	158.10	94.87	63.24	2.500	
8,920.85	8,916.83	8,920.85	8,916.83	31.74	31.69	-108.45	28.57	-178.59	158.10	94.72	63.38	2.494	
9,000.00	8,995.98	9,000.00	8,995.98	32.03	31.97	-108.45	28.57	-178.59	158.10	94.15	63.95	2.472	
9,021.41	9,017.40	9,021.41	9,017.40	32.10	32.05	-108.45	28.57	-178.59	158.10	94.00	64.10	2.466	
9,100.00	9,095.98	9,100.00	9,095.98	32.38	32.33	-108.45	28.57	-178.59	158.10	93.44	64.67	2.445	
9,120.85	9,116.83	9,120.85	9,116.83	32.46	32.40	-108.45	28.57	-178.59	158.10	93.29	64.82	2.439	
9,200.00	9,195.98	9,200.00	9,195.98	32.74	32.69	-108.45	28.57	-178.59	158.10	92.72	65.38	2.418	
9,221.41	9,217.40	9,221.41	9,217.40	32.82	32.76	-108.45	28.57	-178.59	158.10	92.57	65.54	2.412	
9,300.00	9,295.98	9,300.00	9,295.98	33.10	33.04	-108.45	28.57	-178.59	158.10	92.00	66.10	2.392	
9,334.08	9,330.06	9,334.08	9,330.06	33.22	33.17	-108.45	28.57	-178.59	158.10	91.76	66.35	2.383	
9,404.02	9,400.00	9,404.02	9,400.00	33.47	33.42	-108.45	28.57	-178.59	158.10	91.26	66.85	2.365 SF	
9,500.00	9,495.87	9,495.87	9,495.87	33.81	33.72	-176.38	29.84	-181.59	164.85	97.43	67.42	2.445	
9,600.00	9,595.03	9,577.76	9,573.08	34.15	34.04	-174.47	33.70	-190.69	186.13	118.31	67.81	2.745	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - Pilot Hole - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
9,700.00	9,692.70	9,659.38	9,653.25	34.50	34.33	-172.04	39.62	-204.68	221.51	153.52	67.99	3.258	
9,786.88	9,775.78	9,724.18	9,716.01	34.79	34.56	-169.91	45.91	-219.50	262.94	194.95	67.99	3.867	
9,800.00	9,788.17	9,733.44	9,724.90	34.84	34.60	-169.67	46.92	-221.88	269.94	201.95	67.98	3.971	
9,900.00	9,882.64	9,800.00	9,788.15	35.19	34.84	-167.93	55.00	-240.96	325.78	258.02	67.77	4.807	
10,000.00	9,977.11	9,877.25	9,860.47	35.55	35.12	-166.13	65.60	-265.97	384.78	316.65	68.13	5.648	
10,100.00	10,071.58	9,957.34	9,935.39	35.91	35.42	-164.73	76.64	-292.03	444.10	375.46	68.65	6.469	
10,200.00	10,166.05	10,037.42	10,010.30	36.28	35.73	-163.66	87.69	-318.08	503.56	434.38	69.18	7.279	
10,300.00	10,260.52	10,117.51	10,085.22	36.66	36.04	-162.81	98.73	-344.14	563.11	493.38	69.73	8.075	
10,400.00	10,355.00	10,197.59	10,160.14	37.04	36.35	-162.13	109.77	-370.19	622.73	552.43	70.30	8.859	
10,500.00	10,449.47	10,277.68	10,235.06	37.43	36.67	-161.56	120.81	-396.25	682.39	611.52	70.87	9.629	
10,600.00	10,543.94	10,357.77	10,309.98	37.82	37.00	-161.09	131.86	-422.30	742.09	670.64	71.44	10.387	
10,700.00	10,638.41	10,437.85	10,384.90	38.22	37.32	-160.68	142.90	-448.36	801.81	729.79	72.03	11.132	
10,800.00	10,732.88	10,517.94	10,459.82	38.63	37.66	-160.33	153.94	-474.41	861.56	788.94	72.62	11.864	
10,900.00	10,827.35	10,598.02	10,534.74	39.04	37.99	-160.03	164.98	-500.47	921.33	848.11	73.21	12.584	
11,000.00	10,921.82	10,678.11	10,609.66	39.45	38.33	-159.76	176.03	-526.53	981.11	907.29	73.81	13.292	
11,100.00	11,016.29	10,758.19	10,684.57	39.87	38.68	-159.53	187.07	-552.58	1,040.90	966.48	74.42	13.987	
11,200.00	11,110.76	10,838.28	10,759.49	40.29	39.02	-159.32	198.11	-578.64	1,100.70	1,025.67	75.03	14.670	
11,300.00	11,205.23	10,918.36	10,834.41	40.72	39.37	-159.13	209.15	-604.69	1,160.52	1,084.87	75.65	15.341	
11,364.61	11,266.26	10,970.11	10,882.82	41.00	39.60	-159.02	216.29	-621.53	1,199.16	1,123.12	76.05	15.769	
11,400.00	11,299.87	10,998.74	10,909.61	41.15	39.73	-159.40	220.24	-630.84	1,219.92	1,143.66	76.27	15.996	
11,500.00	11,396.49	11,082.64	10,988.09	41.57	40.11	-160.22	231.80	-658.14	1,274.01	1,197.10	76.90	16.566	
11,600.00	11,494.98	11,170.44	11,070.23	41.96	40.50	-160.69	243.91	-686.70	1,321.05	1,243.50	77.56	17.033	
11,700.00	11,594.58	11,261.47	11,155.39	42.32	40.92	-160.87	256.46	-716.32	1,360.76	1,282.54	78.22	17.396	
11,747.47	11,642.04	11,305.62	11,196.69	42.48	41.12	-92.22	262.55	-730.69	1,376.98	1,298.44	78.53	17.534	
11,800.00	11,694.57	11,354.76	11,242.66	42.66	41.35	-91.90	269.32	-746.67	1,393.98	1,315.10	78.88	17.672	
11,847.47	11,742.04	11,865.73	11,742.04	42.81	43.40	-90.38	303.83	-828.09	1,399.42	1,315.75	83.67	16.726	
11,850.00	11,744.57	11,868.26	11,744.57	42.82	43.41	89.52	303.83	-828.09	1,399.42	1,315.74	83.68	16.723	
11,900.00	11,794.48	11,918.17	11,794.48	42.98	43.58	89.63	303.83	-828.09	1,399.40	1,315.38	84.02	16.656	
11,950.00	11,843.91	11,967.60	11,843.91	43.12	43.75	89.93	303.83	-828.09	1,399.37	1,315.03	84.34	16.592	
11,958.22	11,851.96	11,975.65	11,851.96	43.15	43.78	90.00	303.83	-828.09	1,399.37	1,314.98	84.39	16.582	
12,000.00	11,892.40	12,016.09	11,892.40	43.27	43.92	90.41	303.83	-828.09	1,399.41	1,314.76	84.65	16.532	
12,050.00	11,939.51	12,063.20	11,939.51	43.40	44.08	91.03	303.83	-828.09	1,399.63	1,314.69	84.94	16.477	
12,100.00	11,984.79	12,108.48	11,984.79	43.51	44.24	91.75	303.83	-828.09	1,400.20	1,314.98	85.22	16.430	
12,150.00	12,027.85	12,151.54	12,027.85	43.62	44.39	92.52	303.83	-828.09	1,401.31	1,315.82	85.49	16.392	
12,200.00	12,068.27	12,191.96	12,068.27	43.71	44.53	93.29	303.83	-828.09	1,403.16	1,317.43	85.73	16.367	
12,250.00	12,105.68	12,229.37	12,105.68	43.79	44.66	93.99	303.83	-828.09	1,405.99	1,320.03	85.96	16.357	
12,300.00	12,139.75	12,263.44	12,139.75	43.85	44.77	94.56	303.83	-828.09	1,410.00	1,323.84	86.16	16.364	
12,350.00	12,170.16	12,293.85	12,170.16	43.89	44.88	94.94	303.83	-828.09	1,415.41	1,329.06	86.35	16.391	
12,400.00	12,196.63	12,320.32	12,196.63	43.93	44.97	95.08	303.83	-828.09	1,422.39	1,335.87	86.52	16.440	
12,450.00	12,218.91	12,342.59	12,218.91	43.95	45.05	94.92	303.83	-828.09	1,431.08	1,344.42	86.66	16.513	
12,500.00	12,236.79	12,360.48	12,236.79	43.96	45.11	94.42	303.83	-828.09	1,441.58	1,354.79	86.79	16.610	
12,550.00	12,250.13	12,373.82	12,250.13	43.96	45.16	93.55	303.83	-828.09	1,453.90	1,367.01	86.89	16.733	
12,600.00	12,258.78	12,382.47	12,258.78	43.96	45.19	92.28	303.83	-828.09	1,468.02	1,381.05	86.97	16.880	
12,650.00	12,262.68	12,386.37	12,262.68	43.96	45.20	90.61	303.83	-828.09	1,483.84	1,396.82	87.02	17.051	
12,669.35	12,262.90	12,386.59	12,262.90	43.96	45.20	89.85	303.83	-828.09	1,490.38	1,403.35	87.04	17.124	
12,700.00	12,262.68	12,386.37	12,262.68	43.97	45.20	89.84	303.83	-828.09	1,501.21	1,414.15	87.06	17.244	
12,800.00	12,261.97	12,385.66	12,261.97	44.02	45.20	89.81	303.83	-828.09	1,540.23	1,453.08	87.15	17.674	
12,900.00	12,261.27	12,384.95	12,261.27	44.15	45.19	89.78	303.83	-828.09	1,584.61	1,497.36	87.26	18.160	
13,000.00	12,260.56	12,384.25	12,260.56	44.38	45.19	89.75	303.83	-828.09	1,633.92	1,546.54	87.39	18.698	
13,100.00	12,259.85	12,383.54	12,259.85	44.67	45.19	89.73	303.83	-828.09	1,687.72	1,600.19	87.52	19.283	
13,200.00	12,259.14	12,382.83	12,259.14	45.01	45.19	89.70	303.83	-828.09	1,745.59	1,657.92	87.67	19.912	
13,300.00	12,258.43	12,382.12	12,258.43	45.40	45.18	89.67	303.83	-828.09	1,807.14	1,719.33	87.81	20.579	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - Pilot Hole - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
13,400.00	12,257.72	12,381.41	12,257.72	45.83	45.18	89.64	303.83	-828.09	1,872.02	1,784.06	87.96	21.283	
13,500.00	12,257.01	12,380.70	12,257.01	46.30	45.18	89.61	303.83	-828.09	1,939.88	1,851.78	88.10	22.018	



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - ST01 - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM, 11910-MWD+HRGM												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-90.02	-0.04	-99.99	99.99	99.72	0.27	365.097	
100.00	100.00	100.00	100.00	0.14	0.14	-90.02	-0.04	-99.99	99.99	99.00	0.99	100.917	
200.00	200.00	200.00	200.00	0.50	0.50	-90.02	-0.04	-99.99	99.99	98.28	1.71	58.550	
300.00	300.00	300.00	300.00	0.85	0.85	-90.02	-0.04	-99.99	99.99	97.57	2.42	41.238	
400.00	400.00	400.00	400.00	1.21	1.21	-90.02	-0.04	-99.99	99.99	96.85	3.14	31.827	
500.00	500.00	500.00	500.00	1.57	1.57	-90.02	-0.04	-99.99	99.99	96.13	3.86	25.914	
600.00	600.00	600.00	600.00	1.93	1.93	-90.02	-0.04	-99.99	99.99	95.41	4.58	21.853	
700.00	700.00	700.00	700.00	2.29	2.29	-90.02	-0.04	-99.99	99.99	94.70	5.29	18.893	
800.00	800.00	800.00	800.00	2.65	2.65	-90.02	-0.04	-99.99	99.99	93.98	6.01	16.639	
900.00	900.00	900.00	900.00	3.00	3.00	-90.02	-0.04	-99.99	99.99	93.26	6.73	14.865	
1,000.00	1,000.00	1,000.00	1,000.00	3.36	3.36	-90.02	-0.04	-99.99	99.99	92.55	7.44	13.434	
1,100.00	1,100.00	1,100.00	1,100.00	3.72	3.72	-90.02	-0.04	-99.99	99.99	91.83	8.16	12.253	
1,200.00	1,200.00	1,200.00	1,200.00	4.08	4.08	-90.02	-0.04	-99.99	99.99	91.11	8.88	11.264	CC, ES
1,300.00	1,300.00	1,300.00	1,300.00	4.44	4.44	-90.02	-0.04	-99.99	99.99	90.40	9.56	10.609	
1,400.00	1,399.95	1,395.27	1,395.23	4.80	4.78	-70.85	0.77	-102.22	101.45	91.89	9.56	10.609	
1,500.00	1,499.63	1,490.28	1,489.97	5.16	5.11	-73.16	3.20	-108.89	105.96	95.74	10.22	10.363	
1,600.00	1,599.09	1,589.40	1,588.54	5.52	5.46	-76.14	6.73	-118.60	112.69	101.76	10.93	10.313	
1,700.00	1,698.54	1,689.01	1,687.61	5.88	5.82	-78.78	10.30	-128.39	119.71	108.07	11.64	10.285	
1,800.00	1,797.99	1,788.62	1,786.67	6.24	6.18	-81.12	13.86	-138.17	126.96	114.60	12.36	10.274	
1,900.00	1,897.44	1,888.23	1,885.74	6.61	6.54	-83.21	17.42	-147.96	134.40	121.31	13.08	10.275	
2,000.00	1,996.90	1,987.84	1,984.80	6.97	6.91	-85.08	20.98	-157.74	141.99	128.18	13.81	10.284	
2,100.00	2,096.35	2,087.45	2,083.86	7.34	7.27	-86.76	24.54	-167.52	149.72	135.18	14.54	10.300	
2,200.00	2,196.03	2,193.13	2,189.17	7.71	7.66	-88.04	27.54	-175.78	155.99	140.68	15.31	10.191	
2,300.00	2,295.98	2,300.00	2,295.98	8.07	8.04	-108.45	28.57	-178.59	158.10	142.05	16.05	9.850	
2,400.00	2,395.98	2,400.00	2,395.98	8.43	8.40	-108.45	28.57	-178.59	158.10	141.34	16.76	9.433	
2,421.13	2,417.11	2,421.13	2,417.11	8.50	8.47	-108.45	28.57	-178.59	158.10	141.19	16.91	9.350	
2,500.00	2,495.98	2,500.00	2,495.98	8.78	8.75	-108.45	28.57	-178.59	158.10	140.64	17.47	9.050	
2,521.13	2,517.11	2,521.13	2,517.11	8.86	8.83	-108.45	28.57	-178.59	158.10	140.48	17.62	8.973	
2,600.00	2,595.98	2,600.00	2,595.98	9.14	9.10	-108.45	28.57	-178.59	158.10	139.92	18.18	8.696	
2,621.13	2,617.12	2,621.13	2,617.12	9.21	9.18	-108.45	28.57	-178.59	158.10	139.77	18.33	8.625	
2,700.00	2,695.98	2,700.00	2,695.98	9.49	9.46	-108.45	28.57	-178.59	158.10	139.21	18.89	8.369	
2,721.13	2,717.12	2,721.13	2,717.12	9.57	9.53	-108.45	28.57	-178.59	158.10	139.06	19.04	8.303	
2,800.00	2,795.98	2,800.00	2,795.98	9.85	9.81	-108.45	28.57	-178.59	158.10	138.50	19.60	8.065	
2,821.13	2,817.12	2,821.13	2,817.12	9.92	9.89	-108.45	28.57	-178.59	158.10	138.35	19.75	8.004	
2,900.00	2,895.98	2,900.00	2,895.98	10.20	10.17	-108.45	28.57	-178.59	158.10	137.79	20.31	7.783	
2,921.13	2,917.12	2,921.13	2,917.12	10.28	10.24	-108.45	28.57	-178.59	158.10	137.64	20.47	7.726	
3,000.00	2,995.98	3,000.00	2,995.98	10.56	10.52	-108.45	28.57	-178.59	158.10	137.08	21.03	7.519	
3,021.13	3,017.12	3,021.13	3,017.12	10.63	10.60	-108.45	28.57	-178.59	158.10	136.93	21.18	7.466	
3,100.00	3,095.98	3,100.00	3,095.98	10.92	10.88	-108.45	28.57	-178.59	158.10	136.37	21.74	7.273	
3,121.13	3,117.12	3,121.13	3,117.12	10.99	10.95	-108.45	28.57	-178.59	158.10	136.22	21.89	7.223	
3,200.00	3,195.98	3,200.00	3,195.98	11.27	11.23	-108.45	28.57	-178.59	158.10	135.65	22.45	7.042	
3,221.13	3,217.12	3,221.13	3,217.12	11.35	11.31	-108.45	28.57	-178.59	158.10	135.50	22.60	6.995	
3,300.00	3,295.98	3,300.00	3,295.98	11.63	11.59	-108.45	28.57	-178.59	158.10	134.94	23.16	6.825	
3,321.13	3,317.12	3,321.13	3,317.12	11.70	11.67	-108.45	28.57	-178.59	158.10	134.79	23.32	6.781	
3,400.00	3,395.98	3,400.00	3,395.98	11.99	11.95	-108.45	28.57	-178.59	158.10	134.23	23.88	6.621	
3,421.13	3,417.12	3,421.13	3,417.12	12.06	12.02	-108.45	28.57	-178.59	158.10	134.08	24.03	6.580	
3,500.00	3,495.98	3,500.00	3,495.98	12.34	12.30	-108.45	28.57	-178.59	158.10	133.51	24.59	6.429	
3,521.13	3,517.12	3,521.13	3,517.12	12.42	12.38	-108.45	28.57	-178.59	158.10	133.36	24.74	6.390	
3,600.00	3,595.98	3,600.00	3,595.98	12.70	12.66	-108.45	28.57	-178.59	158.10	132.80	25.31	6.248	
3,621.13	3,617.12	3,621.13	3,617.12	12.77	12.73	-108.45	28.57	-178.59	158.10	132.65	25.46	6.211	
3,700.00	3,695.98	3,700.00	3,695.98	13.06	13.02	-108.45	28.57	-178.59	158.10	132.09	26.02	6.077	
3,721.13	3,717.12	3,721.13	3,717.12	13.13	13.09	-108.45	28.57	-178.59	158.10	131.94	26.17	6.041	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - ST01 - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM, 11910-MWD+HRGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Rule Assigned:	Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
3,800.00	3,795.98	3,800.00	3,795.98	13.41	13.37	-108.45	28.57	-178.59	158.10	131.37	26.73	5.914	
3,821.13	3,817.12	3,821.13	3,817.12	13.49	13.45	-108.45	28.57	-178.59	158.10	131.22	26.88	5.881	
3,900.00	3,895.98	3,900.00	3,895.98	13.77	13.73	-108.45	28.57	-178.59	158.10	130.66	27.45	5.760	
3,921.13	3,917.12	3,921.13	3,917.12	13.85	13.80	-108.45	28.57	-178.59	158.10	130.51	27.60	5.729	
4,000.00	3,995.98	4,000.00	3,995.98	14.13	14.08	-108.45	28.57	-178.59	158.10	129.94	28.16	5.614	
4,021.13	4,017.12	4,021.13	4,017.12	14.20	14.16	-108.45	28.57	-178.59	158.10	129.79	28.31	5.584	
4,100.00	4,095.98	4,100.00	4,095.98	14.48	14.44	-108.45	28.57	-178.59	158.10	129.23	28.88	5.475	
4,121.20	4,117.19	4,121.20	4,117.19	14.56	14.52	-108.45	28.57	-178.59	158.10	129.08	29.03	5.447	
4,200.00	4,195.98	4,200.00	4,195.98	14.84	14.80	-108.45	28.57	-178.59	158.10	128.51	29.59	5.343	
4,221.13	4,217.12	4,221.13	4,217.12	14.92	14.87	-108.45	28.57	-178.59	158.10	128.36	29.74	5.316	
4,300.00	4,295.98	4,300.00	4,295.98	15.20	15.16	-108.45	28.57	-178.59	158.10	127.80	30.30	5.217	
4,321.13	4,317.12	4,321.13	4,317.12	15.27	15.23	-108.45	28.57	-178.59	158.10	127.65	30.46	5.191	
4,400.00	4,395.98	4,400.00	4,395.98	15.56	15.51	-108.45	28.57	-178.59	158.10	127.09	31.02	5.097	
4,421.13	4,417.12	4,421.13	4,417.12	15.63	15.59	-108.45	28.57	-178.59	158.10	126.93	31.17	5.072	
4,500.00	4,495.98	4,500.00	4,495.98	15.91	15.87	-108.45	28.57	-178.59	158.10	126.37	31.73	4.982	
4,521.13	4,517.12	4,521.13	4,517.12	15.99	15.95	-108.45	28.57	-178.59	158.10	126.22	31.89	4.958	
4,600.00	4,595.98	4,600.00	4,595.98	16.27	16.23	-108.45	28.57	-178.59	158.10	125.66	32.45	4.872	
4,621.13	4,617.12	4,621.13	4,617.12	16.35	16.30	-108.45	28.57	-178.59	158.10	125.50	32.60	4.850	
4,700.00	4,695.98	4,700.00	4,695.98	16.63	16.58	-108.45	28.57	-178.59	158.10	124.94	33.16	4.767	
4,721.13	4,717.12	4,721.13	4,717.12	16.70	16.66	-108.45	28.57	-178.59	158.10	124.79	33.32	4.746	
4,800.00	4,795.98	4,800.00	4,795.98	16.99	16.94	-108.45	28.57	-178.59	158.10	124.23	33.88	4.667	
4,821.13	4,817.12	4,821.13	4,817.12	17.06	17.02	-108.45	28.57	-178.59	158.10	124.07	34.03	4.646	
4,900.00	4,895.98	4,900.00	4,895.98	17.34	17.30	-108.45	28.57	-178.59	158.10	123.51	34.59	4.570	
4,921.13	4,917.12	4,921.13	4,917.12	17.42	17.37	-108.45	28.57	-178.59	158.10	123.36	34.75	4.550	
5,000.00	4,995.98	5,000.00	4,995.98	17.70	17.66	-108.45	28.57	-178.59	158.10	122.79	35.31	4.478	
5,021.13	5,017.12	5,021.13	5,017.12	17.78	17.73	-108.45	28.57	-178.59	158.10	122.64	35.46	4.459	
5,100.00	5,095.98	5,100.00	5,095.98	18.06	18.01	-108.45	28.57	-178.59	158.10	122.08	36.03	4.389	
5,121.13	5,117.12	5,121.13	5,117.12	18.14	18.09	-108.45	28.57	-178.59	158.10	121.93	36.18	4.370	
5,200.00	5,195.98	5,200.00	5,195.98	18.42	18.37	-108.45	28.57	-178.59	158.10	121.36	36.74	4.303	
5,221.13	5,217.12	5,221.13	5,217.12	18.49	18.45	-108.45	28.57	-178.59	158.10	121.21	36.89	4.286	
5,300.00	5,295.98	5,300.00	5,295.98	18.78	18.73	-108.45	28.57	-178.59	158.10	120.65	37.46	4.221	
5,321.13	5,317.12	5,321.13	5,317.12	18.85	18.80	-108.45	28.57	-178.59	158.10	120.50	37.61	4.204	
5,400.00	5,395.98	5,400.00	5,395.98	19.13	19.09	-108.45	28.57	-178.59	158.10	119.93	38.17	4.142	
5,421.13	5,417.12	5,421.13	5,417.12	19.21	19.16	-108.45	28.57	-178.59	158.10	119.78	38.32	4.126	
5,500.00	5,495.98	5,500.00	5,495.98	19.49	19.44	-108.45	28.57	-178.59	158.10	119.22	38.89	4.066	
5,521.13	5,517.12	5,521.13	5,517.12	19.57	19.52	-108.45	28.57	-178.59	158.10	119.07	39.04	4.050	
5,600.00	5,595.98	5,600.00	5,595.98	19.85	19.80	-108.45	28.57	-178.59	158.10	118.50	39.60	3.992	
5,621.13	5,617.12	5,621.13	5,617.12	19.92	19.88	-108.45	28.57	-178.59	158.10	118.35	39.75	3.977	
5,700.00	5,695.98	5,700.00	5,695.98	20.21	20.16	-108.45	28.57	-178.59	158.10	117.79	40.32	3.921	
5,721.13	5,717.12	5,721.13	5,717.12	20.28	20.23	-108.45	28.57	-178.59	158.10	117.64	40.47	3.907	
5,800.00	5,795.98	5,800.00	5,795.98	20.57	20.52	-108.45	28.57	-178.59	158.10	117.07	41.03	3.853	
5,821.13	5,817.12	5,821.13	5,817.12	20.64	20.59	-108.45	28.57	-178.59	158.10	116.92	41.19	3.839	
5,900.00	5,895.98	5,900.00	5,895.98	20.92	20.87	-108.45	28.57	-178.59	158.10	116.35	41.75	3.787	
5,921.13	5,917.12	5,921.13	5,917.12	21.00	20.95	-108.45	28.57	-178.59	158.10	116.20	41.90	3.773	
6,000.00	5,995.98	6,000.00	5,995.98	21.28	21.23	-108.45	28.57	-178.59	158.10	115.64	42.47	3.723	
6,021.13	6,017.12	6,021.13	6,017.12	21.36	21.31	-108.45	28.57	-178.59	158.10	115.49	42.62	3.710	
6,100.00	6,095.98	6,100.00	6,095.98	21.64	21.59	-108.45	28.57	-178.59	158.10	114.92	43.18	3.661	
6,121.13	6,117.12	6,121.13	6,117.12	21.71	21.66	-108.45	28.57	-178.59	158.10	114.77	43.33	3.649	
6,200.00	6,195.98	6,200.00	6,195.98	22.00	21.95	-108.45	28.57	-178.59	158.10	114.21	43.90	3.602	
6,221.13	6,217.12	6,221.13	6,217.12	22.07	22.02	-108.45	28.57	-178.59	158.10	114.06	44.05	3.589	
6,300.00	6,295.98	6,300.00	6,295.98	22.35	22.30	-108.45	28.57	-178.59	158.10	113.49	44.61	3.544	
6,321.13	6,317.12	6,321.13	6,317.12	22.43	22.38	-108.45	28.57	-178.59	158.10	113.34	44.76	3.532	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - ST01 - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM, 11910-MWD+HRGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Between	Between	Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	
6,400.00	6,395.98	6,400.00	6,395.98	22.71	22.66	-108.45	28.57	-178.59	158.10	112.78	45.33	3.488	
6,421.13	6,417.12	6,421.13	6,417.12	22.79	22.74	-108.45	28.57	-178.59	158.10	112.62	45.48	3.476	
6,500.00	6,495.98	6,500.00	6,495.98	23.07	23.02	-108.45	28.57	-178.59	158.10	112.06	46.05	3.434	
6,521.13	6,517.12	6,521.13	6,517.12	23.15	23.10	-108.45	28.57	-178.59	158.10	111.91	46.20	3.422	
6,600.00	6,595.98	6,600.00	6,595.98	23.43	23.38	-108.45	28.57	-178.59	158.10	111.34	46.76	3.381	
6,621.13	6,617.12	6,621.13	6,617.12	23.50	23.45	-108.45	28.57	-178.59	158.10	111.19	46.91	3.370	
6,700.00	6,695.98	6,700.00	6,695.98	23.79	23.74	-108.45	28.57	-178.59	158.10	110.63	47.48	3.330	
6,721.13	6,717.12	6,721.13	6,717.12	23.86	23.81	-108.45	28.57	-178.59	158.10	110.48	47.63	3.320	
6,800.00	6,795.98	6,800.00	6,795.98	24.15	24.09	-108.45	28.57	-178.59	158.10	109.91	48.19	3.281	
6,821.13	6,817.12	6,821.13	6,817.12	24.22	24.17	-108.45	28.57	-178.59	158.10	109.76	48.34	3.270	
6,900.00	6,895.98	6,900.00	6,895.98	24.50	24.45	-108.45	28.57	-178.59	158.10	109.20	48.91	3.233	
6,921.13	6,917.12	6,921.13	6,917.12	24.58	24.53	-108.45	28.57	-178.59	158.10	109.04	49.06	3.223	
7,000.00	6,995.98	7,000.00	6,995.98	24.86	24.81	-108.45	28.57	-178.59	158.10	108.48	49.63	3.186	
7,020.99	7,016.97	7,020.99	7,016.97	24.94	24.88	-108.45	28.57	-178.59	158.10	108.33	49.78	3.176	
7,100.00	7,095.98	7,100.00	7,095.98	25.22	25.17	-108.45	28.57	-178.59	158.10	107.76	50.34	3.141	
7,121.13	7,117.12	7,121.13	7,117.12	25.30	25.24	-108.45	28.57	-178.59	158.10	107.61	50.49	3.131	
7,200.00	7,195.98	7,200.00	7,195.98	25.58	25.53	-108.45	28.57	-178.59	158.10	107.05	51.06	3.097	
7,221.13	7,217.12	7,221.13	7,217.12	25.65	25.60	-108.45	28.57	-178.59	158.10	106.90	51.21	3.087	
7,300.00	7,295.98	7,300.00	7,295.98	25.94	25.88	-108.45	28.57	-178.59	158.10	106.33	51.77	3.054	
7,321.13	7,317.12	7,321.13	7,317.12	26.01	25.96	-108.45	28.57	-178.59	158.10	106.18	51.93	3.045	
7,400.00	7,395.98	7,400.00	7,395.98	26.29	26.24	-108.45	28.57	-178.59	158.10	105.61	52.49	3.012	
7,421.13	7,417.12	7,421.13	7,417.12	26.37	26.32	-108.45	28.57	-178.59	158.10	105.46	52.64	3.003	
7,500.00	7,495.98	7,500.00	7,495.98	26.65	26.60	-108.45	28.57	-178.59	158.10	104.90	53.21	2.972	
7,521.13	7,517.12	7,521.13	7,517.12	26.73	26.67	-108.45	28.57	-178.59	158.10	104.75	53.36	2.963	
7,600.00	7,595.98	7,600.00	7,595.98	27.01	26.96	-108.45	28.57	-178.59	158.10	104.18	53.92	2.932	
7,621.13	7,617.12	7,621.13	7,617.12	27.09	27.03	-108.45	28.57	-178.59	158.10	104.03	54.07	2.924	
7,700.00	7,695.98	7,700.00	7,695.98	27.37	27.32	-108.45	28.57	-178.59	158.10	103.47	54.64	2.894	
7,721.13	7,717.12	7,721.13	7,717.12	27.44	27.39	-108.45	28.57	-178.59	158.10	103.31	54.79	2.886	
7,800.00	7,795.98	7,800.00	7,795.98	27.73	27.67	-108.45	28.57	-178.59	158.10	102.75	55.36	2.856	
7,821.13	7,817.12	7,821.13	7,817.12	27.80	27.75	-108.45	28.57	-178.59	158.10	102.60	55.51	2.848	
7,900.00	7,895.98	7,900.00	7,895.98	28.08	28.03	-108.45	28.57	-178.59	158.10	102.03	56.07	2.820	
7,921.13	7,917.12	7,921.13	7,917.12	28.16	28.11	-108.45	28.57	-178.59	158.10	101.88	56.22	2.812	
8,000.00	7,995.98	8,000.00	7,995.98	28.44	28.39	-108.45	28.57	-178.59	158.10	101.32	56.79	2.784	
8,021.13	8,017.12	8,021.13	8,017.12	28.52	28.46	-108.45	28.57	-178.59	158.10	101.17	56.94	2.777	
8,100.00	8,095.98	8,100.00	8,095.98	28.80	28.75	-108.45	28.57	-178.59	158.10	100.60	57.50	2.749	
8,121.13	8,117.12	8,121.13	8,117.12	28.88	28.82	-108.45	28.57	-178.59	158.10	100.45	57.66	2.742	
8,200.00	8,195.98	8,200.00	8,195.98	29.16	29.11	-108.45	28.57	-178.59	158.10	99.88	58.22	2.716	
8,221.41	8,217.40	8,221.41	8,217.40	29.24	29.18	-108.45	28.57	-178.59	158.10	99.73	58.37	2.708	
8,300.00	8,295.98	8,300.00	8,295.98	29.52	29.46	-108.45	28.57	-178.59	158.10	99.17	58.94	2.683	
8,320.85	8,316.83	8,320.85	8,316.83	29.59	29.54	-108.45	28.57	-178.59	158.10	99.02	59.09	2.676	
8,400.00	8,395.98	8,400.00	8,395.98	29.88	29.82	-108.45	28.57	-178.59	158.10	98.45	59.65	2.650	
8,421.41	8,417.40	8,421.41	8,417.40	29.95	29.90	-108.45	28.57	-178.59	158.10	98.30	59.81	2.644	
8,500.00	8,495.98	8,500.00	8,495.98	30.23	30.18	-108.45	28.57	-178.59	158.10	97.74	60.37	2.619	
8,520.85	8,516.83	8,520.85	8,516.83	30.31	30.25	-108.45	28.57	-178.59	158.10	97.59	60.52	2.612	
8,600.00	8,595.98	8,600.00	8,595.98	30.59	30.54	-108.45	28.57	-178.59	158.10	97.02	61.09	2.588	
8,621.41	8,617.40	8,621.41	8,617.40	30.67	30.61	-108.45	28.57	-178.59	158.10	96.87	61.24	2.582	
8,700.00	8,695.98	8,700.00	8,695.98	30.95	30.90	-108.45	28.57	-178.59	158.10	96.30	61.80	2.558	
8,720.85	8,716.83	8,720.85	8,716.83	31.03	30.97	-108.45	28.57	-178.59	158.10	96.15	61.95	2.552	
8,800.00	8,795.98	8,800.00	8,795.98	31.31	31.25	-108.45	28.57	-178.59	158.10	95.59	62.52	2.529	
8,821.41	8,817.40	8,821.41	8,817.40	31.39	31.33	-108.45	28.57	-178.59	158.10	95.43	62.67	2.523	
8,900.00	8,895.98	8,900.00	8,895.98	31.67	31.61	-108.45	28.57	-178.59	158.10	94.87	63.24	2.500	
8,920.85	8,916.83	8,920.85	8,916.83	31.74	31.69	-108.45	28.57	-178.59	158.10	94.72	63.38	2.494	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - ST01 - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM, 11910-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Rule Assigned:	Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,000.00	8,995.98	9,000.00	8,995.98	32.03	31.97	-108.45	28.57	-178.59	158.10	94.15	63.95	2.472	
9,021.41	9,017.40	9,021.41	9,017.40	32.10	32.05	-108.45	28.57	-178.59	158.10	94.00	64.10	2.466	
9,100.00	9,095.98	9,100.00	9,095.98	32.38	32.33	-108.45	28.57	-178.59	158.10	93.44	64.67	2.445	
9,120.85	9,116.83	9,120.85	9,116.83	32.46	32.40	-108.45	28.57	-178.59	158.10	93.29	64.82	2.439	
9,200.00	9,195.98	9,200.00	9,195.98	32.74	32.69	-108.45	28.57	-178.59	158.10	92.72	65.38	2.418	
9,221.41	9,217.40	9,221.41	9,217.40	32.82	32.76	-108.45	28.57	-178.59	158.10	92.57	65.54	2.412	
9,300.00	9,295.98	9,300.00	9,295.98	33.10	33.04	-108.45	28.57	-178.59	158.10	92.00	66.10	2.392	
9,334.08	9,330.06	9,334.08	9,330.06	33.22	33.17	-108.45	28.57	-178.59	158.10	91.76	66.35	2.383	
9,404.02	9,400.00	9,404.02	9,400.00	33.47	33.42	-108.45	28.57	-178.59	158.10	91.26	66.85	2.365 SF	
9,500.00	9,495.87	9,490.54	9,486.44	33.81	33.72	-176.38	29.84	-181.59	164.85	97.43	67.42	2.445	
9,600.00	9,595.03	9,577.76	9,573.08	34.15	34.04	-174.47	33.70	-190.69	186.13	118.31	67.81	2.745	
9,700.00	9,692.70	9,659.38	9,653.25	34.50	34.33	-172.04	39.62	-204.68	221.51	153.52	67.99	3.258	
9,786.88	9,775.78	9,724.18	9,716.01	34.79	34.56	-169.91	45.91	-219.50	262.94	194.95	67.99	3.867	
9,800.00	9,788.17	9,733.44	9,724.90	34.84	34.60	-169.67	46.92	-221.88	269.94	201.95	67.98	3.971	
9,900.00	9,882.64	9,800.00	9,788.15	35.19	34.84	-167.93	55.00	-240.96	325.78	258.02	67.77	4.807	
10,000.00	9,977.11	9,877.25	9,860.47	35.55	35.12	-166.13	65.60	-265.97	384.78	316.65	68.13	5.648	
10,100.00	10,071.58	9,957.34	9,935.39	35.91	35.42	-164.73	76.64	-292.03	444.10	375.46	68.65	6.469	
10,200.00	10,166.05	10,037.42	10,010.30	36.28	35.73	-163.66	87.69	-318.08	503.56	434.38	69.18	7.279	
10,300.00	10,260.52	10,117.51	10,085.22	36.66	36.04	-162.81	98.73	-344.14	563.11	493.38	69.73	8.075	
10,400.00	10,355.00	10,197.59	10,160.14	37.04	36.35	-162.13	109.77	-370.19	622.73	552.43	70.30	8.859	
10,500.00	10,449.47	10,277.68	10,235.06	37.43	36.67	-161.56	120.81	-396.25	682.39	611.52	70.87	9.629	
10,600.00	10,543.94	10,357.77	10,309.98	37.82	37.00	-161.09	131.86	-422.30	742.09	670.64	71.44	10.387	
10,700.00	10,638.41	10,437.85	10,384.90	38.22	37.32	-160.68	142.90	-448.36	801.81	729.79	72.03	11.132	
10,800.00	10,732.88	10,517.94	10,459.82	38.63	37.66	-160.33	153.94	-474.41	861.56	788.94	72.62	11.864	
10,900.00	10,827.35	10,598.02	10,534.74	39.04	37.99	-160.03	164.98	-500.47	921.33	848.11	73.21	12.584	
11,000.00	10,921.82	10,678.11	10,609.66	39.45	38.33	-159.76	176.03	-526.53	981.11	907.29	73.81	13.292	
11,100.00	11,016.29	10,758.19	10,684.57	39.87	38.68	-159.53	187.07	-552.58	1,040.90	966.48	74.42	13.987	
11,200.00	11,110.76	10,838.28	10,759.49	40.29	39.02	-159.32	198.11	-578.64	1,100.70	1,025.67	75.03	14.670	
11,300.00	11,205.23	10,918.36	10,834.41	40.72	39.37	-159.13	209.15	-604.69	1,160.52	1,084.87	75.65	15.341	
11,364.61	11,266.26	10,970.11	10,882.82	41.00	39.60	-159.02	216.29	-621.53	1,199.16	1,123.12	76.05	15.769	
11,400.00	11,299.87	10,998.74	10,909.61	41.15	39.73	-159.40	220.24	-630.84	1,219.92	1,143.66	76.27	15.996	
11,500.00	11,396.49	11,082.64	10,988.09	41.57	40.11	-160.22	231.80	-658.14	1,274.01	1,197.10	76.90	16.566	
11,600.00	11,494.98	11,170.44	11,070.23	41.96	40.50	-160.69	243.91	-686.70	1,321.05	1,243.50	77.56	17.033	
11,700.00	11,594.58	11,261.47	11,155.39	42.32	40.92	-160.87	256.46	-716.32	1,360.76	1,282.54	78.22	17.396	
11,747.47	11,642.04	11,305.62	11,196.69	42.48	41.12	-92.22	262.55	-730.69	1,376.98	1,298.44	78.53	17.534	
11,800.00	11,694.57	11,354.76	11,242.66	42.66	41.35	-91.90	269.32	-746.67	1,393.98	1,315.10	78.88	17.672	
11,847.47	11,742.04	11,865.73	11,742.04	42.81	43.40	-90.38	303.83	-828.09	1,399.42	1,315.75	83.67	16.726	
11,850.00	11,744.57	11,868.26	11,744.57	42.82	43.41	-89.52	303.83	-828.09	1,399.42	1,315.74	83.68	16.723	
11,900.00	11,794.48	11,918.25	11,794.56	42.98	43.57	-89.63	303.75	-828.09	1,399.40	1,315.40	84.00	16.659	
11,950.00	11,843.91	11,968.79	11,844.95	43.12	43.58	-89.79	300.17	-828.06	1,399.35	1,315.19	84.16	16.628	
12,000.00	11,892.40	12,019.76	11,895.10	43.27	43.58	-89.95	291.19	-827.99	1,399.25	1,314.96	84.29	16.600	
12,050.00	11,939.51	12,071.10	11,944.36	43.40	43.57	-90.08	276.80	-827.87	1,399.12	1,314.71	84.41	16.575	
12,100.00	11,984.79	12,122.76	11,992.07	43.51	43.56	-90.19	257.06	-827.71	1,398.93	1,314.42	84.52	16.552	
12,150.00	12,027.85	12,174.66	12,037.57	43.62	43.55	-90.29	232.16	-827.51	1,398.71	1,314.09	84.62	16.530	
12,200.00	12,068.27	12,226.72	12,080.24	43.71	43.54	-90.36	202.37	-827.28	1,398.43	1,313.72	84.71	16.509	
12,250.00	12,105.68	12,278.86	12,119.46	43.79	43.53	-90.41	168.06	-827.00	1,398.11	1,313.32	84.80	16.488	
12,300.00	12,139.75	12,331.00	12,154.72	43.85	43.52	-90.43	129.69	-826.69	1,397.75	1,312.87	84.88	16.467	
12,350.00	12,170.16	12,383.05	12,185.53	43.89	43.51	-90.43	87.77	-826.36	1,397.35	1,312.38	84.97	16.445	
12,400.00	12,196.63	12,434.93	12,211.52	43.93	43.51	-90.41	42.90	-826.00	1,396.91	1,311.85	85.06	16.422	
12,450.00	12,218.91	12,486.57	12,232.40	43.95	43.50	-90.37	-4.30	-825.62	1,396.45	1,311.29	85.16	16.398	
12,500.00	12,236.79	12,537.89	12,247.99	43.96	43.50	-90.30	-53.17	-825.22	1,395.97	1,310.70	85.27	16.372	
12,550.00	12,250.13	12,588.82	12,258.19	43.96	43.50	-90.21	-103.04	-824.82	1,395.47	1,310.09	85.38	16.344	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - ST01 - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: Reference		0-MWD+HRGM, 11910-MWD+HRGM						Rule Assigned:					Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
12,600.00	12,258.78	12,639.33	12,263.00	43.96	43.50	90.10	-153.29	-824.42	1,394.97	1,309.47	85.51	16.314		
12,650.00	12,262.68	12,689.34	12,263.27	43.96	43.51	90.01	-203.30	-824.02	1,394.48	1,308.84	85.64	16.284		
12,669.35	12,262.90	12,708.69	12,263.16	43.96	43.51	90.01	-222.64	-823.86	1,394.29	1,308.60	85.69	16.271		
12,700.00	12,262.68	12,739.34	12,262.99	43.97	43.51	90.02	-253.29	-823.62	1,393.99	1,308.21	85.79	16.250		
12,800.00	12,261.97	12,839.33	12,262.42	44.02	43.55	90.02	-353.28	-822.81	1,393.02	1,306.87	86.14	16.171		
12,900.00	12,261.27	12,939.33	12,261.84	44.15	43.64	90.03	-453.27	-822.01	1,392.04	1,305.44	86.60	16.075		
13,000.00	12,260.56	13,039.32	12,261.27	44.38	43.78	90.03	-553.26	-821.21	1,391.06	1,303.92	87.14	15.964		
13,100.00	12,259.85	13,139.32	12,260.70	44.67	44.01	90.04	-653.25	-820.41	1,390.08	1,302.31	87.77	15.837		
13,200.00	12,259.14	13,239.31	12,260.13	45.01	44.31	90.04	-753.24	-819.60	1,389.11	1,300.61	88.50	15.697		
13,300.00	12,258.43	13,339.31	12,259.56	45.40	44.69	90.05	-853.23	-818.80	1,388.13	1,298.82	89.31	15.544		
13,400.00	12,257.72	13,439.30	12,258.98	45.83	45.12	90.06	-953.22	-818.00	1,387.15	1,296.95	90.20	15.379		
13,500.00	12,257.01	13,539.30	12,258.41	46.30	45.60	90.06	-1,053.21	-817.19	1,386.17	1,295.00	91.17	15.204		
13,600.00	12,256.30	13,639.29	12,257.84	46.81	46.13	90.07	-1,153.20	-816.39	1,385.20	1,292.97	92.23	15.020		
13,700.00	12,255.59	13,739.29	12,257.27	47.36	46.70	90.07	-1,253.19	-815.59	1,384.22	1,290.87	93.36	14.827		
13,800.00	12,254.88	13,839.28	12,256.70	47.95	47.31	90.08	-1,353.18	-814.79	1,383.24	1,288.69	94.56	14.628		
13,900.00	12,254.17	13,939.28	12,256.12	48.57	47.96	90.08	-1,453.17	-813.98	1,382.27	1,286.43	95.83	14.424		
14,000.00	12,253.46	14,039.27	12,255.55	49.22	48.64	90.09	-1,553.16	-813.18	1,381.29	1,284.12	97.17	14.215		
14,100.00	12,252.75	14,139.27	12,254.98	49.91	49.35	90.10	-1,653.15	-812.38	1,380.31	1,281.73	98.58	14.002		
14,200.00	12,252.04	14,239.26	12,254.41	50.62	50.10	90.10	-1,753.14	-811.58	1,379.33	1,279.28	100.05	13.786		
14,300.00	12,251.33	14,339.26	12,253.84	51.37	50.87	90.11	-1,853.14	-810.77	1,378.36	1,276.78	101.58	13.569		
14,400.00	12,250.62	14,439.25	12,253.26	52.15	51.67	90.11	-1,953.13	-809.97	1,377.38	1,274.22	103.16	13.351		
14,500.00	12,249.91	14,539.25	12,252.69	52.95	52.50	90.12	-2,053.12	-809.17	1,376.40	1,271.60	104.81	13.133		
14,600.00	12,249.20	14,639.24	12,252.12	53.78	53.36	90.13	-2,153.11	-808.36	1,375.43	1,268.93	106.50	12.915		
14,700.00	12,248.49	14,739.24	12,251.55	54.63	54.24	90.13	-2,253.10	-807.56	1,374.45	1,266.21	108.24	12.698		
14,800.00	12,247.79	14,839.23	12,250.98	55.51	55.14	90.14	-2,353.09	-806.76	1,373.47	1,263.44	110.03	12.483		
14,900.00	12,247.08	14,939.23	12,250.40	56.41	56.07	90.14	-2,453.08	-805.96	1,372.50	1,260.63	111.86	12.269		
15,000.00	12,246.37	15,039.22	12,249.83	57.33	57.02	90.15	-2,553.07	-805.15	1,371.52	1,257.78	113.74	12.058		
15,100.00	12,245.66	15,139.22	12,249.26	58.27	57.98	90.15	-2,653.06	-804.35	1,370.54	1,254.88	115.66	11.850		
15,200.00	12,244.95	15,239.21	12,248.69	59.23	58.97	90.16	-2,753.05	-803.55	1,369.56	1,251.95	117.61	11.645		
15,300.00	12,244.24	15,339.21	12,248.12	60.21	59.97	90.17	-2,853.04	-802.74	1,368.59	1,248.98	119.61	11.442		
15,400.00	12,243.53	15,439.20	12,247.55	61.21	61.00	90.17	-2,953.03	-801.94	1,367.61	1,245.98	121.63	11.244		
15,500.00	12,242.82	15,539.20	12,246.97	62.22	62.03	90.18	-3,053.02	-801.14	1,366.63	1,242.94	123.70	11.048		
15,600.00	12,242.11	15,639.19	12,246.40	63.25	63.09	90.18	-3,153.01	-800.34	1,365.66	1,239.87	125.79	10.857		
15,700.00	12,241.40	15,739.19	12,245.83	64.30	64.15	90.19	-3,253.00	-799.53	1,364.68	1,236.77	127.91	10.669		
15,800.00	12,240.69	15,839.18	12,245.26	65.36	65.24	90.20	-3,352.99	-798.73	1,363.70	1,233.64	130.06	10.485		
15,900.00	12,239.98	15,939.18	12,244.69	66.44	66.33	90.20	-3,452.98	-797.93	1,362.73	1,230.48	132.24	10.305		
16,000.00	12,239.27	16,039.17	12,244.11	67.52	67.44	90.21	-3,552.97	-797.13	1,361.75	1,227.30	134.45	10.129		
16,100.00	12,238.56	16,139.17	12,243.54	68.63	68.56	90.21	-3,652.96	-796.32	1,360.77	1,224.10	136.68	9.956		
16,200.00	12,237.85	16,239.17	12,242.97	69.74	69.69	90.22	-3,752.95	-795.52	1,359.80	1,220.87	138.93	9.788		
16,300.00	12,237.14	16,339.16	12,242.40	70.86	70.83	90.23	-3,852.94	-794.72	1,358.82	1,217.62	141.20	9.623		
16,400.00	12,236.43	16,439.16	12,241.83	72.00	71.99	90.23	-3,952.93	-793.91	1,357.84	1,214.34	143.50	9.462		
16,500.00	12,235.72	16,539.15	12,241.25	73.14	73.15	90.24	-4,052.92	-793.11	1,356.87	1,211.05	145.82	9.305		
16,600.00	12,235.01	16,639.15	12,240.68	74.30	74.32	90.24	-4,152.91	-792.31	1,355.89	1,207.74	148.15	9.152		
16,700.00	12,234.31	16,739.14	12,240.11	75.46	75.50	90.25	-4,252.90	-791.51	1,354.91	1,204.41	150.50	9.002		
16,800.00	12,233.60	16,839.14	12,239.54	76.64	76.69	90.26	-4,352.89	-790.70	1,353.94	1,201.06	152.88	8.856		
16,900.00	12,232.89	16,939.13	12,238.97	77.82	77.89	90.26	-4,452.88	-789.90	1,352.96	1,197.69	155.26	8.714		
17,000.00	12,232.18	17,039.13	12,238.39	79.01	79.10	90.27	-4,552.87	-789.10	1,351.98	1,194.31	157.67	8.575		
17,100.00	12,231.47	17,139.12	12,237.82	80.21	80.31	90.27	-4,652.86	-788.30	1,351.01	1,190.92	160.09	8.439		
17,200.00	12,230.76	17,239.12	12,237.25	81.42	81.53	90.28	-4,752.85	-787.49	1,350.03	1,187.51	162.52	8.307		
17,300.00	12,230.05	17,339.11	12,236.68	82.63	82.76	90.29	-4,852.84	-786.69	1,349.05	1,184.08	164.97	8.178		
17,400.00	12,229.34	17,439.11	12,236.11	83.85	83.99	90.29	-4,952.83	-785.89	1,348.08	1,180.64	167.43	8.051		
17,500.00	12,228.63	17,539.10	12,235.53	85.08	85.24	90.30	-5,052.82	-785.08	1,347.10	1,177.19	169.91	7.928		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 1H - ST01 - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM, 11910-MWD+HRGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,600.00	12,227.92	17,639.10	12,234.96	86.31	86.48	90.30	-5,152.81	-784.28	1,346.12	1,173.73	172.39	7.808	
17,700.00	12,227.21	17,739.09	12,234.39	87.55	87.73	90.31	-5,252.80	-783.48	1,345.15	1,170.25	174.89	7.691	
17,800.00	12,226.50	17,839.09	12,233.82	88.80	88.99	90.32	-5,352.79	-782.68	1,344.17	1,166.77	177.40	7.577	
17,900.00	12,225.79	17,939.08	12,233.25	90.05	90.25	90.32	-5,452.79	-781.87	1,343.19	1,163.27	179.92	7.466	
18,000.00	12,225.08	18,039.08	12,232.67	91.30	91.52	90.33	-5,552.78	-781.07	1,342.22	1,159.77	182.45	7.357	
18,100.00	12,224.37	18,139.07	12,232.10	92.57	92.80	90.33	-5,652.77	-780.27	1,341.24	1,156.25	184.99	7.250	
18,200.00	12,223.66	18,239.07	12,231.53	93.83	94.07	90.34	-5,752.76	-779.46	1,340.26	1,152.72	187.54	7.147	
18,300.00	12,222.95	18,339.06	12,230.96	95.10	95.36	90.35	-5,852.75	-778.66	1,339.29	1,149.19	190.10	7.045	
18,400.00	12,222.24	18,439.06	12,230.39	96.38	96.64	90.35	-5,952.74	-777.86	1,338.31	1,145.64	192.67	6.946	
18,500.00	12,221.53	18,539.05	12,229.81	97.66	97.93	90.36	-6,052.73	-777.06	1,337.33	1,142.09	195.24	6.850	
18,600.00	12,220.83	18,639.05	12,229.24	98.94	99.23	90.36	-6,152.72	-776.25	1,336.36	1,138.53	197.82	6.755	
18,700.00	12,220.12	18,739.04	12,228.67	100.23	100.53	90.37	-6,252.71	-775.45	1,335.38	1,134.96	200.42	6.663	
18,800.00	12,219.41	18,839.04	12,228.10	101.52	101.83	90.38	-6,352.70	-774.65	1,334.40	1,131.39	203.01	6.573	
18,900.00	12,218.70	18,939.03	12,227.53	102.82	103.13	90.38	-6,452.69	-773.85	1,333.43	1,127.81	205.62	6.485	
19,000.00	12,217.99	19,039.03	12,226.96	104.12	104.44	90.39	-6,552.68	-773.04	1,332.45	1,124.22	208.23	6.399	
19,100.00	12,217.28	19,139.02	12,226.38	105.42	105.75	90.40	-6,652.67	-772.24	1,331.47	1,120.62	210.85	6.315	
19,200.00	12,216.57	19,239.02	12,225.81	106.73	107.07	90.40	-6,752.66	-771.44	1,330.50	1,117.02	213.48	6.232	
19,300.00	12,215.86	19,339.01	12,225.24	108.04	108.39	90.41	-6,852.65	-770.63	1,329.52	1,113.41	216.11	6.152	
19,400.00	12,215.15	19,439.01	12,224.67	109.35	109.71	90.41	-6,952.64	-769.83	1,328.55	1,109.80	218.75	6.073	
19,500.00	12,214.44	19,539.00	12,224.10	110.66	111.03	90.42	-7,052.63	-769.03	1,327.57	1,106.18	221.39	5.996	
19,600.00	12,213.73	19,639.00	12,223.52	111.98	112.36	90.43	-7,152.62	-768.23	1,326.59	1,102.55	224.04	5.921	
19,700.00	12,213.02	19,738.99	12,222.95	113.30	113.69	90.43	-7,252.61	-767.42	1,325.62	1,098.92	226.70	5.848	
19,759.35	12,212.60	19,798.34	12,222.61	114.09	114.48	90.44	-7,311.95	-766.95	1,325.04	1,096.76	228.27	5.805	
19,759.91	12,212.60	19,798.90	12,222.61	114.11	114.49	90.44	-7,312.51	-766.94	1,325.03	1,096.74	228.29	5.804	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 2H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 204-MWD+HRGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-90.01	-0.01	-75.09	75.09				
100.00	100.00	100.06	100.06	0.14	0.16	-90.01	-0.01	-75.05	75.05	74.76	0.30	253.945	
200.00	200.00	200.12	200.12	0.50	0.32	-90.00	-0.01	-74.94	74.94	74.12	0.81	92.217	
274.96	274.96	274.96	274.96	0.76	0.57	-90.01	-0.02	-74.87	74.87	73.54	1.33	56.154 CC	
300.00	300.00	299.96	299.96	0.85	0.66	-90.02	-0.03	-74.88	74.88	73.37	1.51	49.602	
400.00	400.00	399.76	399.76	1.21	1.00	-90.03	-0.04	-75.08	75.08	72.87	2.21	33.942	
500.00	500.00	499.67	499.67	1.57	1.35	-89.99	0.02	-75.44	75.44	72.52	2.92	25.834	
600.00	600.00	599.43	599.43	1.93	1.70	-89.82	0.24	-76.04	76.04	72.41	3.63	20.943 ES	
700.00	700.00	699.05	699.04	2.29	2.06	-89.44	0.75	-77.03	77.04	72.69	4.34	17.740	
800.00	800.00	798.81	798.79	2.65	2.41	-88.77	1.68	-78.43	78.46	73.40	5.06	15.520	
900.00	900.00	898.63	898.58	3.00	2.77	-87.78	3.10	-80.04	80.11	74.35	5.77	13.888	
900.45	900.45	899.07	899.03	3.01	2.77	-87.78	3.10	-80.05	80.12	74.35	5.77	13.882	
1,000.00	1,000.00	989.00	988.93	3.36	3.09	-86.73	4.67	-81.61	82.49	76.06	6.43	12.836	
1,100.00	1,100.00	989.00	988.93	3.72	3.09	-86.73	4.67	-81.61	137.91	132.12	5.80	23.795	
1,200.00	1,200.00	989.00	988.93	4.08	3.09	-86.73	4.67	-81.61	226.35	220.83	5.52	41.017	
1,300.00	1,300.00	989.00	988.93	4.44	3.09	-86.73	4.67	-81.61	321.64	316.17	5.46	58.897	
1,400.00	1,399.95	989.00	988.93	4.80	3.09	-55.74	4.67	-81.61	418.88	413.42	5.47	76.641	
1,500.00	1,499.63	989.00	988.93	5.16	3.09	-45.00	4.67	-81.61	516.66	511.17	5.49	94.034	
1,600.00	1,599.09	989.00	988.93	5.52	3.09	-45.00	4.67	-81.61	614.87	609.32	5.55	110.867	
1,700.00	1,698.54	989.00	988.93	5.88	3.09	-45.00	4.67	-81.61	713.58	707.96	5.61	127.133	
1,800.00	1,797.99	989.00	988.93	6.24	3.09	-45.00	4.67	-81.61	812.60	806.91	5.69	142.901	
1,900.00	1,897.44	989.00	988.93	6.61	3.09	-45.00	4.67	-81.61	911.83	906.07	5.77	158.159	
2,000.00	1,996.90	989.00	988.93	6.97	3.09	-45.00	4.67	-81.61	1,011.22	1,005.37	5.85	172.900	
2,100.00	2,096.35	989.00	988.93	7.34	3.09	-45.00	4.67	-81.61	1,110.72	1,104.78	5.94	187.122	
2,200.00	2,196.03	989.00	988.93	7.71	3.09	-79.06	4.67	-81.61	1,210.42	1,204.39	6.03	200.807	
2,300.00	2,295.98	989.00	988.93	8.07	3.09	-144.36	4.67	-81.61	1,310.22	1,304.10	6.12	214.020	
2,400.00	2,395.98	989.00	988.93	8.43	3.09	-144.36	4.67	-81.61	1,409.99	1,403.78	6.22	226.761	
2,500.00	2,495.98	989.00	988.93	8.78	3.09	-144.36	4.67	-81.61	1,509.80	1,503.48	6.32	238.979	
2,600.00	2,595.98	989.00	988.93	9.14	3.09	-144.36	4.67	-81.61	1,609.63	1,603.21	6.42	250.700	
2,700.00	2,695.98	989.00	988.93	9.49	3.09	-144.36	4.67	-81.61	1,709.48	1,702.95	6.53	261.934	
2,800.00	2,795.98	989.00	988.93	9.85	3.09	-144.36	4.67	-81.61	1,809.35	1,802.71	6.64	272.692	
2,900.00	2,895.98	989.00	988.93	10.20	3.09	-144.36	4.67	-81.61	1,909.23	1,902.48	6.75	282.985	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 3H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 235-MWD+HRGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-90.03	-0.03	-50.00	50.00				
100.00	100.00	99.88	99.88	0.14	0.16	-90.23	-0.20	-50.12	50.12	49.82	0.30	168.006	
200.00	200.00	199.75	199.75	0.50	0.32	-90.82	-0.72	-50.49	50.49	49.67	0.82	61.724	
300.00	300.00	299.61	299.60	0.85	0.61	-91.74	-1.56	-51.10	51.13	49.66	1.47	34.890 ES	
400.00	400.00	399.63	399.61	1.21	0.97	-92.80	-2.54	-51.88	51.94	49.76	2.18	23.794	
500.00	500.00	499.48	499.46	1.57	1.33	-93.78	-3.48	-52.66	52.78	49.88	2.90	18.203	
600.00	600.00	599.36	599.33	1.93	1.69	-94.49	-4.22	-53.76	53.93	50.31	3.62	14.916	
700.00	700.00	699.20	699.16	2.29	2.04	-94.76	-4.59	-55.11	55.31	50.98	4.33	12.776	
800.00	800.00	799.17	799.12	2.65	2.40	-94.76	-4.72	-56.68	56.88	51.84	5.04	11.280	
900.00	900.00	899.30	899.24	3.00	2.75	-94.62	-4.70	-58.14	58.33	52.57	5.76	10.133 SF	
1,000.00	1,000.00	913.00	912.93	3.36	2.80	-94.58	-4.67	-58.32	104.90	99.45	5.44	19.272	
1,100.00	1,100.00	913.00	912.93	3.72	2.80	-94.58	-4.67	-58.32	196.00	190.73	5.27	37.166	
1,200.00	1,200.00	913.00	912.93	4.08	2.80	-94.58	-4.67	-58.32	292.97	287.70	5.27	55.599	
1,300.00	1,300.00	913.00	912.93	4.44	2.80	-94.58	-4.67	-58.32	391.46	386.16	5.30	73.793	
1,400.00	1,399.95	913.00	912.93	4.80	2.80	-55.74	-4.67	-58.32	490.45	485.09	5.35	91.611	
1,500.00	1,499.63	913.00	912.93	5.16	2.80	-40.35	-4.67	-58.32	589.43	584.02	5.41	108.979	
1,600.00	1,599.09	913.00	912.93	5.52	2.80	-40.35	-4.67	-58.32	688.49	683.01	5.47	125.762	
1,700.00	1,698.54	913.00	912.93	5.88	2.80	-40.35	-4.67	-58.32	787.79	782.24	5.55	141.963	
1,800.00	1,797.99	913.00	912.93	6.24	2.80	-40.35	-4.67	-58.32	887.24	881.61	5.63	157.648	
1,900.00	1,897.44	913.00	912.93	6.61	2.80	-40.35	-4.67	-58.32	986.81	981.10	5.71	172.808	
2,000.00	1,996.90	913.00	912.93	6.97	2.80	-40.35	-4.67	-58.32	1,086.45	1,080.66	5.80	187.439	
2,100.00	2,096.35	913.00	912.93	7.34	2.80	-40.35	-4.67	-58.32	1,186.16	1,180.27	5.89	201.540	
2,200.00	2,196.03	913.00	912.93	7.71	2.80	-88.20	-4.67	-58.32	1,286.00	1,280.02	5.98	215.104	
2,300.00	2,295.98	913.00	912.93	8.07	2.80	-160.37	-4.67	-58.32	1,385.87	1,379.80	6.07	228.197	
2,400.00	2,395.98	913.00	912.93	8.43	2.80	-160.37	-4.67	-58.32	1,485.68	1,479.51	6.17	240.796	
2,500.00	2,495.98	913.00	912.93	8.78	2.80	-160.37	-4.67	-58.32	1,585.52	1,579.25	6.27	252.852	
2,600.00	2,595.98	913.00	912.93	9.14	2.80	-160.37	-4.67	-58.32	1,685.37	1,679.00	6.37	264.407	
2,700.00	2,695.98	913.00	912.93	9.49	2.80	-160.37	-4.67	-58.32	1,785.24	1,778.76	6.48	275.472	
2,800.00	2,795.98	913.00	912.93	9.85	2.80	-160.37	-4.67	-58.32	1,885.12	1,878.53	6.59	286.058	
2,900.00	2,895.98	913.00	912.93	10.20	2.80	-160.37	-4.67	-58.32	1,985.02	1,978.32	6.70	296.178	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 3H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
0.00	0.00	0.00	0.00	0.00	0.00	-90.03	-0.03	-50.00	50.00				
100.00	100.00	100.00	100.00	0.14	0.14	-90.03	-0.03	-50.00	50.00	49.73	0.27	182.567	
200.00	200.00	200.00	200.00	0.50	0.50	-90.03	-0.03	-50.00	50.00	49.01	0.99	50.463	
300.00	300.00	300.00	300.00	0.85	0.85	-90.03	-0.03	-50.00	50.00	48.29	1.71	29.278	
400.00	400.00	400.00	400.00	1.21	1.21	-90.03	-0.03	-50.00	50.00	47.58	2.42	20.621	
500.00	500.00	500.00	500.00	1.57	1.57	-90.03	-0.03	-50.00	50.00	46.86	3.14	15.915	
600.00	600.00	600.00	600.00	1.93	1.93	-90.03	-0.03	-50.00	50.00	46.14	3.86	12.958	
700.00	700.00	700.00	700.00	2.29	2.29	-90.03	-0.03	-50.00	50.00	45.42	4.58	10.928	
800.00	800.00	800.00	800.00	2.65	2.65	-90.03	-0.03	-50.00	50.00	44.71	5.29	9.447	
900.00	900.00	900.00	900.00	3.00	3.00	-90.03	-0.03	-50.00	50.00	43.99	6.01	8.320	
1,000.00	1,000.00	1,000.00	1,000.00	3.36	3.36	-90.03	-0.03	-50.00	50.00	43.27	6.73	7.433	
1,100.00	1,100.00	1,100.00	1,100.00	3.72	3.72	-90.03	-0.03	-50.00	50.00	42.56	7.44	6.717	
1,200.00	1,200.00	1,200.00	1,200.00	4.08	4.08	-90.03	-0.03	-50.00	50.00	41.84	8.16	6.127	
1,300.00	1,300.00	1,300.00	1,300.00	4.44	4.44	-90.03	-0.03	-50.00	50.00	41.12	8.88	5.632	
1,393.31	1,393.27	1,392.68	1,392.64	4.77	4.75	-75.03	-2.24	-50.39	49.81	40.28	9.52	5.229 CC	
1,400.00	1,399.95	1,399.29	1,399.25	4.80	4.78	-75.77	-2.57	-50.45	49.81	40.24	9.57	5.204 ES	
1,500.00	1,499.63	1,497.09	1,496.74	5.16	5.10	-92.06	-10.04	-51.76	52.20	41.97	10.24	5.100	
1,600.00	1,599.09	1,595.01	1,594.12	5.52	5.42	-110.05	-20.11	-53.54	61.30	50.39	10.91	5.620	
1,700.00	1,698.54	1,692.97	1,691.55	5.88	5.75	-122.61	-30.20	-55.32	74.82	63.23	11.59	6.457	
1,800.00	1,797.99	1,790.93	1,788.97	6.24	6.09	-131.12	-40.28	-57.10	90.81	78.54	12.27	7.400	
1,900.00	1,897.44	1,888.89	1,886.40	6.61	6.43	-137.03	-50.37	-58.88	108.17	95.21	12.96	8.347	
2,000.00	1,996.90	1,986.85	1,983.82	6.97	6.78	-141.28	-60.45	-60.65	126.34	112.69	13.65	9.256	
2,100.00	2,096.35	2,084.82	2,081.25	7.34	7.13	-144.46	-70.53	-62.43	145.02	130.68	14.34	10.110	
2,200.00	2,196.03	2,190.87	2,186.91	7.71	7.51	-146.74	-79.33	-63.98	159.90	144.79	15.11	10.582	
2,300.00	2,295.98	2,300.00	2,295.98	8.07	7.89	-167.42	-82.40	-64.52	164.96	149.09	15.87	10.397	
2,400.00	2,395.98	2,400.00	2,395.98	8.43	8.24	-167.42	-82.40	-64.52	164.96	148.38	16.57	9.953	
2,421.13	2,417.11	2,421.13	2,417.11	8.50	8.31	-167.42	-82.40	-64.52	164.96	148.23	16.72	9.864	
2,500.00	2,495.98	2,500.00	2,495.98	8.78	8.59	-167.42	-82.40	-64.52	164.96	147.67	17.28	9.545	
2,521.13	2,517.11	2,521.13	2,517.11	8.86	8.66	-167.42	-82.40	-64.52	164.96	147.52	17.43	9.463	
2,600.00	2,595.98	2,600.00	2,595.98	9.14	8.94	-167.42	-82.40	-64.52	164.96	146.96	17.99	9.168	
2,621.13	2,617.12	2,621.13	2,617.12	9.21	9.01	-167.42	-82.40	-64.52	164.96	146.81	18.14	9.093	
2,700.00	2,695.98	2,700.00	2,695.98	9.49	9.29	-167.42	-82.40	-64.52	164.96	146.25	18.70	8.820	
2,721.13	2,717.12	2,721.13	2,717.12	9.57	9.36	-167.42	-82.40	-64.52	164.96	146.10	18.85	8.750	
2,800.00	2,795.98	2,800.00	2,795.98	9.85	9.64	-167.42	-82.40	-64.52	164.96	145.54	19.41	8.498	
2,821.13	2,817.12	2,821.13	2,817.12	9.92	9.72	-167.42	-82.40	-64.52	164.96	145.39	19.56	8.432	
2,900.00	2,895.98	2,900.00	2,895.98	10.20	9.99	-167.42	-82.40	-64.52	164.96	144.83	20.12	8.197	
2,921.13	2,917.12	2,921.13	2,917.12	10.28	10.07	-167.42	-82.40	-64.52	164.96	144.68	20.27	8.137	
3,000.00	2,995.98	3,000.00	2,995.98	10.56	10.34	-167.42	-82.40	-64.52	164.96	144.12	20.83	7.918	
3,021.13	3,017.12	3,021.13	3,017.12	10.63	10.42	-167.42	-82.40	-64.52	164.96	143.97	20.98	7.861	
3,100.00	3,095.98	3,100.00	3,095.98	10.92	10.70	-167.42	-82.40	-64.52	164.96	143.41	21.55	7.656	
3,121.13	3,117.12	3,121.13	3,117.12	10.99	10.77	-167.42	-82.40	-64.52	164.96	143.26	21.70	7.603	
3,200.00	3,195.98	3,200.00	3,195.98	11.27	11.05	-167.42	-82.40	-64.52	164.96	142.70	22.26	7.411	
3,221.13	3,217.12	3,221.13	3,217.12	11.35	11.12	-167.42	-82.40	-64.52	164.96	142.55	22.41	7.361	
3,300.00	3,295.98	3,300.00	3,295.98	11.63	11.40	-167.42	-82.40	-64.52	164.96	141.99	22.97	7.181	
3,321.13	3,317.12	3,321.13	3,317.12	11.70	11.48	-167.42	-82.40	-64.52	164.96	141.84	23.12	7.135	
3,400.00	3,395.98	3,400.00	3,395.98	11.99	11.76	-167.42	-82.40	-64.52	164.96	141.27	23.68	6.965	
3,421.13	3,417.12	3,421.13	3,417.12	12.06	11.83	-167.42	-82.40	-64.52	164.96	141.12	23.83	6.921	
3,500.00	3,495.98	3,500.00	3,495.98	12.34	12.11	-167.42	-82.40	-64.52	164.96	140.56	24.40	6.762	
3,521.13	3,517.12	3,521.13	3,517.12	12.42	12.18	-167.42	-82.40	-64.52	164.96	140.41	24.55	6.720	
3,600.00	3,595.98	3,600.00	3,595.98	12.70	12.46	-167.42	-82.40	-64.52	164.96	139.85	25.11	6.570	
3,621.13	3,617.12	3,621.13	3,617.12	12.77	12.54	-167.42	-82.40	-64.52	164.96	139.70	25.26	6.531	
3,700.00	3,695.98	3,700.00	3,695.98	13.06	12.82	-167.42	-82.40	-64.52	164.96	139.13	25.82	6.388	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 3H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
3,721.13	3,717.12	3,721.13	3,717.12	13.13	12.89	-167.42	-82.40	-64.52	164.96	138.98	25.97	6.351	
3,800.00	3,795.98	3,800.00	3,795.98	13.41	13.17	-167.42	-82.40	-64.52	164.96	138.42	26.54	6.217	
3,821.13	3,817.12	3,821.13	3,817.12	13.49	13.25	-167.42	-82.40	-64.52	164.96	138.27	26.69	6.181	
3,900.00	3,895.98	3,900.00	3,895.98	13.77	13.53	-167.42	-82.40	-64.52	164.96	137.71	27.25	6.054	
3,921.13	3,917.12	3,921.13	3,917.12	13.85	13.60	-167.42	-82.40	-64.52	164.96	137.56	27.40	6.020	
4,000.00	3,995.98	4,000.00	3,995.98	14.13	13.88	-167.42	-82.40	-64.52	164.96	136.99	27.96	5.899	
4,021.13	4,017.12	4,021.13	4,017.12	14.20	13.96	-167.42	-82.40	-64.52	164.96	136.84	28.11	5.868	
4,100.00	4,095.98	4,100.00	4,095.98	14.48	14.24	-167.42	-82.40	-64.52	164.96	136.28	28.68	5.752	
4,121.13	4,117.12	4,121.13	4,117.12	14.56	14.31	-167.42	-82.40	-64.52	164.96	136.13	28.83	5.722	
4,200.00	4,195.98	4,200.00	4,195.98	14.84	14.59	-167.42	-82.40	-64.52	164.96	135.57	29.39	5.613	
4,221.13	4,217.12	4,221.13	4,217.12	14.92	14.67	-167.42	-82.40	-64.52	164.96	135.41	29.54	5.584	
4,300.00	4,295.98	4,300.00	4,295.98	15.20	14.95	-167.42	-82.40	-64.52	164.96	134.85	30.10	5.479	
4,321.13	4,317.12	4,321.13	4,317.12	15.27	15.02	-167.42	-82.40	-64.52	164.96	134.70	30.26	5.452	
4,400.00	4,395.98	4,400.00	4,395.98	15.56	15.30	-167.42	-82.40	-64.52	164.96	134.14	30.82	5.352	
4,421.13	4,417.12	4,421.13	4,417.12	15.63	15.38	-167.42	-82.40	-64.52	164.96	133.99	30.97	5.326	
4,500.00	4,495.98	4,500.00	4,495.98	15.91	15.66	-167.42	-82.40	-64.52	164.96	133.42	31.53	5.231	
4,521.13	4,517.12	4,521.13	4,517.12	15.99	15.73	-167.42	-82.40	-64.52	164.96	133.27	31.68	5.206	
4,600.00	4,595.98	4,600.00	4,595.98	16.27	16.01	-167.42	-82.40	-64.52	164.96	132.71	32.25	5.115	
4,621.13	4,617.12	4,621.13	4,617.12	16.35	16.09	-167.42	-82.40	-64.52	164.96	132.56	32.40	5.091	
4,700.00	4,695.98	4,700.00	4,695.98	16.63	16.37	-167.42	-82.40	-64.52	164.96	131.99	32.96	5.004	
4,721.13	4,717.12	4,721.13	4,717.12	16.70	16.45	-167.42	-82.40	-64.52	164.96	131.84	33.11	4.981	
4,800.00	4,795.98	4,800.00	4,795.98	16.99	16.73	-167.42	-82.40	-64.52	164.96	131.28	33.68	4.898	
4,821.13	4,817.12	4,821.13	4,817.12	17.06	16.80	-167.42	-82.40	-64.52	164.96	131.13	33.83	4.876	
4,900.00	4,895.98	4,900.00	4,895.98	17.34	17.08	-167.42	-82.40	-64.52	164.96	130.56	34.39	4.796	
4,921.13	4,917.12	4,921.13	4,917.12	17.42	17.16	-167.42	-82.40	-64.52	164.96	130.41	34.54	4.775	
5,000.00	4,995.98	5,000.00	4,995.98	17.70	17.44	-167.42	-82.40	-64.52	164.96	129.85	35.11	4.699	
5,021.13	5,017.12	5,021.13	5,017.12	17.78	17.51	-167.42	-82.40	-64.52	164.96	129.70	35.26	4.678	
5,100.00	5,095.98	5,100.00	5,095.98	18.06	17.80	-167.42	-82.40	-64.52	164.96	129.13	35.82	4.605	
5,121.13	5,117.12	5,121.13	5,117.12	18.14	17.87	-167.42	-82.40	-64.52	164.96	128.98	35.97	4.585	
5,200.00	5,195.98	5,200.00	5,195.98	18.42	18.15	-167.42	-82.40	-64.52	164.96	128.42	36.54	4.515	
5,221.13	5,217.12	5,221.13	5,217.12	18.49	18.23	-167.42	-82.40	-64.52	164.96	128.27	36.69	4.496	
5,300.00	5,295.98	5,300.00	5,295.98	18.78	18.51	-167.42	-82.40	-64.52	164.96	127.70	37.25	4.428	
5,321.13	5,317.12	5,321.13	5,317.12	18.85	18.58	-167.42	-82.40	-64.52	164.96	127.55	37.40	4.410	
5,400.00	5,395.98	5,400.00	5,395.98	19.13	18.86	-167.42	-82.40	-64.52	164.96	126.99	37.97	4.345	
5,421.13	5,417.12	5,421.13	5,417.12	19.21	18.94	-167.42	-82.40	-64.52	164.96	126.84	38.12	4.327	
5,500.00	5,495.98	5,500.00	5,495.98	19.49	19.22	-167.42	-82.40	-64.52	164.96	126.27	38.68	4.264	
5,521.13	5,517.12	5,521.13	5,517.12	19.57	19.30	-167.42	-82.40	-64.52	164.96	126.12	38.83	4.248	
5,600.00	5,595.98	5,600.00	5,595.98	19.85	19.58	-167.42	-82.40	-64.52	164.96	125.56	39.40	4.187	
5,621.13	5,617.12	5,621.13	5,617.12	19.92	19.65	-167.42	-82.40	-64.52	164.96	125.41	39.55	4.171	
5,700.00	5,695.98	5,700.00	5,695.98	20.21	19.94	-167.42	-82.40	-64.52	164.96	124.84	40.11	4.112	
5,721.13	5,717.12	5,721.13	5,717.12	20.28	20.01	-167.42	-82.40	-64.52	164.96	124.69	40.27	4.097	
5,800.00	5,795.98	5,800.00	5,795.98	20.57	20.29	-167.42	-82.40	-64.52	164.96	124.13	40.83	4.040	
5,821.13	5,817.12	5,821.13	5,817.12	20.64	20.37	-167.42	-82.40	-64.52	164.96	123.98	40.98	4.025	
5,900.00	5,895.98	5,900.00	5,895.98	20.92	20.65	-167.42	-82.40	-64.52	164.96	123.41	41.55	3.970	
5,921.13	5,917.12	5,921.13	5,917.12	21.00	20.72	-167.42	-82.40	-64.52	164.96	123.26	41.70	3.956	
6,000.00	5,995.98	6,000.00	5,995.98	21.28	21.01	-167.42	-82.40	-64.52	164.96	122.70	42.26	3.903	
6,021.13	6,017.12	6,021.13	6,017.12	21.36	21.08	-167.42	-82.40	-64.52	164.96	122.54	42.41	3.889	
6,100.00	6,095.98	6,100.00	6,095.98	21.64	21.36	-167.42	-82.40	-64.52	164.96	121.98	42.98	3.838	
6,121.13	6,117.12	6,121.13	6,117.12	21.71	21.44	-167.42	-82.40	-64.52	164.96	121.83	43.13	3.825	
6,200.00	6,195.98	6,200.00	6,195.98	22.00	21.72	-167.42	-82.40	-64.52	164.96	121.26	43.69	3.775	
6,221.13	6,217.12	6,221.13	6,217.12	22.07	21.80	-167.42	-82.40	-64.52	164.96	121.11	43.84	3.762	
6,300.00	6,295.98	6,300.00	6,295.98	22.35	22.08	-167.42	-82.40	-64.52	164.96	120.55	44.41	3.715	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 3H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,321.13	6,317.12	6,321.13	6,317.12	22.43	22.15	-167.42	-82.40	-64.52	164.96	120.40	44.56	3.702	
6,400.00	6,395.98	6,400.00	6,395.98	22.71	22.43	-167.42	-82.40	-64.52	164.96	119.83	45.12	3.656	
6,421.13	6,417.12	6,421.13	6,417.12	22.79	22.51	-167.42	-82.40	-64.52	164.96	119.68	45.28	3.643	
6,500.00	6,495.98	6,500.00	6,495.98	23.07	22.79	-167.42	-82.40	-64.52	164.96	119.12	45.84	3.599	
6,521.13	6,517.12	6,521.13	6,517.12	23.15	22.87	-167.42	-82.40	-64.52	164.96	118.97	45.99	3.587	
6,600.00	6,595.98	6,600.00	6,595.98	23.43	23.15	-167.42	-82.40	-64.52	164.96	118.40	46.56	3.543	
6,621.13	6,617.12	6,621.13	6,617.12	23.50	23.22	-167.42	-82.40	-64.52	164.96	118.25	46.71	3.532	
6,700.00	6,695.98	6,700.00	6,695.98	23.79	23.51	-167.42	-82.40	-64.52	164.96	117.69	47.27	3.490	
6,721.13	6,717.12	6,721.13	6,717.12	23.86	23.58	-167.42	-82.40	-64.52	164.96	117.53	47.42	3.478	
6,800.00	6,795.98	6,800.00	6,795.98	24.15	23.86	-167.42	-82.40	-64.52	164.96	116.97	47.99	3.437	
6,821.13	6,817.12	6,821.13	6,817.12	24.22	23.94	-167.42	-82.40	-64.52	164.96	116.82	48.14	3.427	
6,900.00	6,895.98	6,900.00	6,895.98	24.50	24.22	-167.42	-82.40	-64.52	164.96	116.25	48.70	3.387	
6,921.13	6,917.12	6,921.13	6,917.12	24.58	24.30	-167.42	-82.40	-64.52	164.96	116.10	48.85	3.376	
7,000.00	6,995.98	7,000.00	6,995.98	24.86	24.58	-167.42	-82.40	-64.52	164.96	115.54	49.42	3.338	
7,021.13	7,017.11	7,021.13	7,017.11	24.94	24.65	-167.42	-82.40	-64.52	164.96	115.39	49.57	3.328	
7,100.00	7,095.98	7,100.00	7,095.98	25.22	24.94	-167.42	-82.40	-64.52	164.96	114.82	50.14	3.290	
7,121.13	7,117.12	7,121.13	7,117.12	25.30	25.01	-167.42	-82.40	-64.52	164.96	114.67	50.29	3.280	
7,200.00	7,195.98	7,200.00	7,195.98	25.58	25.29	-167.42	-82.40	-64.52	164.96	114.11	50.85	3.244	
7,221.13	7,217.12	7,221.13	7,217.12	25.65	25.37	-167.42	-82.40	-64.52	164.96	113.95	51.00	3.234	
7,300.00	7,295.98	7,300.00	7,295.98	25.94	25.65	-167.42	-82.40	-64.52	164.96	113.39	51.57	3.199	
7,321.13	7,317.12	7,321.13	7,317.12	26.01	25.73	-167.42	-82.40	-64.52	164.96	113.24	51.72	3.189	
7,400.00	7,395.98	7,400.00	7,395.98	26.29	26.01	-167.42	-82.40	-64.52	164.96	112.67	52.28	3.155	
7,421.13	7,417.12	7,421.13	7,417.12	26.37	26.08	-167.42	-82.40	-64.52	164.96	112.52	52.43	3.146	
7,500.00	7,495.98	7,500.00	7,495.98	26.65	26.36	-167.42	-82.40	-64.52	164.96	111.96	53.00	3.112	
7,521.13	7,517.12	7,521.13	7,517.12	26.73	26.44	-167.42	-82.40	-64.52	164.96	111.81	53.15	3.104	
7,600.00	7,595.98	7,600.00	7,595.98	27.01	26.72	-167.42	-82.40	-64.52	164.96	111.24	53.72	3.071	
7,621.13	7,617.12	7,621.13	7,617.12	27.09	26.80	-167.42	-82.40	-64.52	164.96	111.09	53.87	3.062	
7,700.00	7,695.98	7,700.00	7,695.98	27.37	27.08	-167.42	-82.40	-64.52	164.96	110.52	54.43	3.031	
7,721.13	7,717.12	7,721.13	7,717.12	27.44	27.16	-167.42	-82.40	-64.52	164.96	110.37	54.58	3.022	
7,800.00	7,795.98	7,800.00	7,795.98	27.73	27.44	-167.42	-82.40	-64.52	164.96	109.81	55.15	2.991	
7,821.13	7,817.12	7,821.13	7,817.12	27.80	27.51	-167.42	-82.40	-64.52	164.96	109.66	55.30	2.983	
7,900.00	7,895.98	7,900.00	7,895.98	28.08	27.80	-167.42	-82.40	-64.52	164.96	109.09	55.86	2.953	
7,921.13	7,917.12	7,921.13	7,917.12	28.16	27.87	-167.42	-82.40	-64.52	164.96	108.94	56.02	2.945	
8,000.00	7,995.98	8,000.00	7,995.98	28.44	28.15	-167.42	-82.40	-64.52	164.96	108.38	56.58	2.915	
8,021.13	8,017.12	8,021.13	8,017.12	28.52	28.23	-167.42	-82.40	-64.52	164.96	108.22	56.73	2.908	
8,100.00	8,095.98	8,100.00	8,095.98	28.80	28.51	-167.42	-82.40	-64.52	164.96	107.66	57.30	2.879	
8,121.13	8,117.12	8,121.13	8,117.12	28.88	28.59	-167.42	-82.40	-64.52	164.96	107.51	57.45	2.871	
8,200.00	8,195.98	8,200.00	8,195.98	29.16	28.87	-167.42	-82.40	-64.52	164.96	106.94	58.01	2.843	
8,221.13	8,217.12	8,221.13	8,217.12	29.24	28.94	-167.42	-82.40	-64.52	164.96	106.79	58.16	2.836	
8,300.00	8,295.98	8,300.00	8,295.98	29.52	29.23	-167.42	-82.40	-64.52	164.96	106.23	58.73	2.809	
8,321.13	8,317.11	8,321.13	8,317.11	29.59	29.30	-167.42	-82.40	-64.52	164.96	106.08	58.88	2.802	
8,400.00	8,395.98	8,400.00	8,395.98	29.88	29.58	-167.42	-82.40	-64.52	164.96	105.51	59.45	2.775	
8,421.13	8,417.12	8,421.13	8,417.12	29.95	29.66	-167.42	-82.40	-64.52	164.96	105.36	59.60	2.768	
8,500.00	8,495.98	8,500.00	8,495.98	30.23	29.94	-167.42	-82.40	-64.52	164.96	104.80	60.16	2.742	
8,521.13	8,517.11	8,521.13	8,517.11	30.31	30.02	-167.42	-82.40	-64.52	164.96	104.64	60.31	2.735	
8,600.00	8,595.98	8,600.00	8,595.98	30.59	30.30	-167.42	-82.40	-64.52	164.96	104.08	60.88	2.710	
8,621.13	8,617.12	8,621.13	8,617.12	30.67	30.37	-167.42	-82.40	-64.52	164.96	103.93	61.03	2.703	
8,700.00	8,695.98	8,700.00	8,695.98	30.95	30.66	-167.42	-82.40	-64.52	164.96	103.36	61.59	2.678	
8,721.13	8,717.11	8,721.13	8,717.11	31.03	30.73	-167.42	-82.40	-64.52	164.96	103.21	61.75	2.672	
8,800.00	8,795.98	8,800.00	8,795.98	31.31	31.01	-167.42	-82.40	-64.52	164.96	102.65	62.31	2.647	
8,821.13	8,817.12	8,821.13	8,817.12	31.38	31.09	-167.42	-82.40	-64.52	164.96	102.49	62.46	2.641	
8,900.00	8,895.98	8,900.00	8,895.98	31.67	31.37	-167.42	-82.40	-64.52	164.96	101.93	63.03	2.617	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 3H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,921.13	8,917.11	8,921.13	8,917.11	31.74	31.45	-167.42	-82.40	-64.52	164.96	101.78	63.18	2.611	
9,000.00	8,995.98	9,000.00	8,995.98	32.03	31.73	-167.42	-82.40	-64.52	164.96	101.21	63.74	2.588	
9,021.13	9,017.12	9,021.13	9,017.12	32.10	31.81	-167.42	-82.40	-64.52	164.96	101.06	63.89	2.582	
9,100.00	9,095.98	9,100.00	9,095.98	32.38	32.09	-167.42	-82.40	-64.52	164.96	100.50	64.46	2.559	
9,121.13	9,117.11	9,121.13	9,117.11	32.46	32.16	-167.42	-82.40	-64.52	164.96	100.35	64.61	2.553	
9,200.00	9,195.98	9,200.00	9,195.98	32.74	32.45	-167.42	-82.40	-64.52	164.96	99.78	65.18	2.531	
9,221.13	9,217.12	9,221.13	9,217.12	32.82	32.52	-167.42	-82.40	-64.52	164.96	99.63	65.33	2.525	
9,300.00	9,295.98	9,300.00	9,295.98	33.10	32.80	-167.42	-82.40	-64.52	164.96	99.06	65.89	2.503	
9,334.67	9,330.65	9,334.67	9,330.65	33.22	32.93	-167.42	-82.40	-64.52	164.96	98.82	66.14	2.494	
9,404.02	9,400.00	9,404.02	9,400.00	33.47	33.18	-167.42	-82.40	-64.52	164.96	98.32	66.64	2.475 SF	
9,500.00	9,495.87	9,498.96	9,494.85	33.81	33.51	126.16	-81.77	-68.01	167.49	100.18	67.31	2.488	
9,600.00	9,595.03	9,594.47	9,589.74	34.15	33.84	132.41	-79.87	-78.51	177.18	109.21	67.97	2.607	
9,700.00	9,692.70	9,683.44	9,677.19	34.50	34.15	140.56	-76.96	-94.57	198.02	129.54	68.48	2.892	
9,786.88	9,775.78	9,753.66	9,745.26	34.79	34.39	147.44	-73.90	-111.47	227.78	159.08	68.71	3.315	
9,800.00	9,788.17	9,763.66	9,754.88	34.84	34.43	148.55	-73.41	-114.17	233.22	164.50	68.72	3.394	
9,900.00	9,882.64	9,836.62	9,824.33	35.19	34.68	155.96	-69.43	-136.15	279.15	210.46	68.68	4.064	
10,000.00	9,977.11	9,900.00	9,883.53	35.55	34.90	161.45	-65.40	-158.39	332.08	263.81	68.27	4.864	
10,100.00	10,071.58	9,966.05	9,943.96	35.91	35.14	166.35	-60.65	-184.62	390.74	322.67	68.07	5.740	
10,200.00	10,166.05	10,023.15	9,995.02	36.28	35.35	170.00	-56.10	-209.75	454.25	386.63	67.62	6.718	
10,300.00	10,260.52	10,075.65	10,040.91	36.66	35.54	172.95	-51.56	-234.83	521.81	454.68	67.12	7.774	
10,400.00	10,355.00	10,123.93	10,082.16	37.04	35.72	175.36	-47.09	-259.51	592.80	526.18	66.62	8.899	
10,500.00	10,449.47	10,168.35	10,119.25	37.43	35.90	177.37	-42.73	-283.57	666.73	600.62	66.11	10.085	
10,600.00	10,543.94	10,222.83	10,163.89	37.82	36.11	179.54	-37.17	-314.29	742.83	676.73	66.11	11.237	
10,700.00	10,638.41	10,284.11	10,214.05	38.22	36.37	-178.40	-30.89	-348.94	819.58	753.17	66.41	12.341	
10,800.00	10,732.88	10,345.39	10,264.21	38.63	36.64	-176.66	-24.62	-383.58	896.72	829.97	66.75	13.433	
10,900.00	10,827.35	10,406.68	10,314.37	39.04	36.91	-175.19	-18.34	-418.22	974.17	907.04	67.13	14.512	
11,000.00	10,921.82	10,467.96	10,364.54	39.45	37.19	-173.92	-12.07	-452.86	1,051.84	984.32	67.53	15.576	
11,100.00	11,016.29	10,529.25	10,414.70	39.87	37.49	-172.82	-5.80	-487.51	1,129.71	1,061.76	67.95	16.626	
11,200.00	11,110.76	10,590.53	10,464.86	40.29	37.79	-171.85	0.48	-522.15	1,207.72	1,139.34	68.38	17.661	
11,300.00	11,205.23	10,651.82	10,515.02	40.72	38.10	-171.00	6.75	-556.79	1,285.86	1,217.02	68.84	18.680	
11,364.61	11,266.26	10,691.41	10,547.44	41.00	38.31	-170.50	10.80	-579.17	1,336.40	1,267.26	69.14	19.330	
11,400.00	11,299.87	10,713.50	10,565.51	41.15	38.42	-170.59	13.07	-591.66	1,363.76	1,294.46	69.30	19.679	
11,500.00	11,396.49	11,607.34	11,396.49	41.57	42.50	-168.05	62.78	-866.16	1,433.02	1,352.35	80.67	17.764	
11,600.00	11,494.98	11,700.00	11,489.14	41.96	42.80	-168.37	62.23	-866.15	1,449.91	1,368.57	81.34	17.826	
11,700.00	11,594.58	11,763.96	11,552.70	42.32	42.99	-168.78	55.38	-866.10	1,459.96	1,378.07	81.89	17.829	
11,747.47	11,642.04	11,800.00	11,587.99	42.48	43.10	-100.45	48.10	-866.04	1,462.57	1,380.42	82.15	17.804	
11,800.00	11,694.57	11,828.79	11,615.76	42.66	43.18	-100.74	40.55	-865.98	1,465.02	1,382.63	82.38	17.783	
11,847.47	11,742.04	11,850.00	11,635.94	42.81	43.24	-100.99	34.01	-865.93	1,467.92	1,385.36	82.56	17.780	
11,850.00	11,744.57	11,859.61	11,644.99	42.82	43.27	78.77	30.77	-865.90	1,468.05	1,385.44	82.61	17.771	
11,900.00	11,794.48	11,889.76	11,672.97	42.98	43.35	78.05	19.55	-865.81	1,471.28	1,388.47	82.81	17.767	
11,950.00	11,843.91	11,919.72	11,700.08	43.12	43.43	77.40	6.82	-865.71	1,474.24	1,391.26	82.98	17.766	
12,000.00	11,892.40	11,950.00	11,726.70	43.27	43.50	76.83	-7.61	-865.59	1,476.87	1,393.73	83.14	17.764	
12,050.00	11,939.51	11,979.20	11,751.53	43.40	43.57	76.36	-22.97	-865.47	1,479.11	1,395.85	83.26	17.765	
12,100.00	11,984.79	12,000.00	11,768.67	43.51	43.61	76.02	-34.75	-865.38	1,480.98	1,397.67	83.31	17.777	
12,150.00	12,027.85	12,038.27	11,798.93	43.62	43.69	75.67	-58.17	-865.19	1,482.29	1,398.83	83.46	17.760	
12,200.00	12,068.27	12,067.71	11,820.99	43.71	43.74	75.47	-77.65	-865.03	1,483.16	1,399.62	83.54	17.753	
12,250.00	12,105.68	12,100.00	11,843.87	43.79	43.79	75.37	-100.42	-864.85	1,483.53	1,399.89	83.64	17.737	
12,300.00	12,139.75	12,126.49	11,861.56	43.85	43.83	75.37	-120.13	-864.69	1,483.37	1,399.68	83.69	17.724	
12,350.00	12,170.16	12,150.00	11,876.41	43.89	43.87	75.45	-138.36	-864.54	1,482.73	1,399.00	83.73	17.709	
12,400.00	12,196.63	12,185.28	11,897.10	43.93	43.91	75.66	-166.92	-864.31	1,481.53	1,397.68	83.85	17.668	
12,450.00	12,218.91	12,214.72	11,912.86	43.95	43.94	75.95	-191.79	-864.12	1,479.86	1,395.91	83.95	17.628	
12,500.00	12,236.79	12,250.00	11,929.86	43.96	43.97	76.36	-222.69	-863.87	1,477.75	1,393.65	84.09	17.572	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 3H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
12,550.00	12,250.13	12,273.82	11,940.14	43.96	43.98	76.80	-244.18	-863.69	1,475.16	1,390.98	84.19	17.522	
12,600.00	12,258.78	12,300.00	11,950.28	43.96	44.00	77.33	-268.31	-863.50	1,472.22	1,387.90	84.32	17.460	
12,650.00	12,262.68	12,333.36	11,961.43	43.96	44.02	78.01	-299.74	-863.25	1,468.92	1,384.41	84.51	17.382	
12,669.35	12,262.90	12,350.00	11,966.24	43.96	44.03	78.34	-315.68	-863.12	1,467.59	1,382.98	84.60	17.347	
12,700.00	12,262.68	12,363.51	11,969.76	43.97	44.03	78.47	-328.71	-863.02	1,465.53	1,380.84	84.70	17.303	
12,800.00	12,261.97	12,426.33	11,981.66	44.02	44.05	78.94	-390.36	-862.52	1,460.64	1,375.56	85.08	17.167	
12,900.00	12,261.27	12,496.86	11,986.08	44.15	44.08	79.13	-460.69	-861.96	1,458.26	1,372.77	85.49	17.059	
13,000.00	12,260.56	12,588.37	11,985.62	44.38	44.12	79.13	-552.20	-861.22	1,457.24	1,371.26	85.97	16.950	
13,100.00	12,259.85	12,688.36	11,985.11	44.67	44.20	79.13	-652.19	-860.42	1,456.24	1,369.67	86.57	16.822	
13,200.00	12,259.14	12,788.36	11,984.61	45.01	44.35	79.13	-752.18	-859.62	1,455.24	1,367.99	87.25	16.678	
13,300.00	12,258.43	12,888.35	11,984.11	45.40	44.58	79.13	-852.17	-858.81	1,454.24	1,366.22	88.02	16.521	
13,400.00	12,257.72	12,988.35	11,983.60	45.83	44.89	79.13	-952.16	-858.01	1,453.24	1,364.36	88.88	16.351	
13,500.00	12,257.01	13,088.34	11,983.10	46.30	45.28	79.13	-1,052.15	-857.21	1,452.24	1,362.43	89.81	16.170	
13,600.00	12,256.30	13,188.34	11,982.60	46.81	45.74	79.13	-1,152.14	-856.40	1,451.24	1,360.42	90.82	15.979	
13,700.00	12,255.59	13,288.33	11,982.09	47.36	46.26	79.13	-1,252.13	-855.60	1,450.24	1,358.33	91.91	15.778	
13,800.00	12,254.88	13,388.33	11,981.59	47.95	46.82	79.13	-1,352.12	-854.80	1,449.25	1,356.17	93.08	15.571	
13,900.00	12,254.17	13,488.32	11,981.09	48.57	47.43	79.13	-1,452.11	-854.00	1,448.25	1,353.94	94.31	15.356	
14,000.00	12,253.46	13,588.32	11,980.59	49.22	48.08	79.14	-1,552.10	-853.19	1,447.25	1,351.64	95.61	15.137	
14,100.00	12,252.75	13,688.31	11,980.08	49.91	48.76	79.14	-1,652.09	-852.39	1,446.25	1,349.27	96.98	14.913	
14,200.00	12,252.04	13,788.31	11,979.58	50.62	49.48	79.14	-1,752.08	-851.59	1,445.25	1,346.84	98.41	14.687	
14,300.00	12,251.33	13,888.30	11,979.08	51.37	50.22	79.14	-1,852.07	-850.79	1,444.25	1,344.36	99.90	14.458	
14,400.00	12,250.62	13,988.30	11,978.57	52.15	51.00	79.14	-1,952.06	-849.98	1,443.25	1,341.81	101.44	14.227	
14,500.00	12,249.91	14,088.29	11,978.07	52.95	51.81	79.14	-2,052.05	-849.18	1,442.25	1,339.21	103.04	13.997	
14,600.00	12,249.20	14,188.29	11,977.57	53.78	52.64	79.14	-2,152.04	-848.38	1,441.26	1,336.56	104.69	13.766	
14,700.00	12,248.49	14,288.28	11,977.07	54.63	53.50	79.14	-2,252.03	-847.57	1,440.26	1,333.86	106.40	13.537	
14,800.00	12,247.79	14,388.28	11,976.56	55.51	54.39	79.14	-2,352.02	-846.77	1,439.26	1,331.11	108.15	13.308	
14,900.00	12,247.08	14,488.27	11,976.06	56.41	55.30	79.14	-2,452.02	-845.97	1,438.26	1,328.32	109.94	13.082	
15,000.00	12,246.37	14,588.27	11,975.56	57.33	56.23	79.14	-2,552.01	-845.17	1,437.26	1,325.48	111.78	12.858	
15,100.00	12,245.66	14,688.26	11,975.05	58.27	57.18	79.14	-2,652.00	-844.36	1,436.26	1,322.60	113.66	12.637	
15,200.00	12,244.95	14,788.26	11,974.55	59.23	58.15	79.14	-2,751.99	-843.56	1,435.26	1,319.69	115.58	12.418	
15,300.00	12,244.24	14,888.25	11,974.05	60.21	59.14	79.14	-2,851.98	-842.76	1,434.26	1,316.73	117.53	12.203	
15,400.00	12,243.53	14,988.25	11,973.54	61.21	60.14	79.15	-2,951.97	-841.95	1,433.27	1,313.75	119.52	11.992	
15,500.00	12,242.82	15,088.24	11,973.04	62.22	61.17	79.15	-3,051.96	-841.15	1,432.27	1,310.72	121.54	11.784	
15,600.00	12,242.11	15,188.24	11,972.54	63.25	62.21	79.15	-3,151.95	-840.35	1,431.27	1,307.67	123.60	11.580	
15,700.00	12,241.40	15,288.23	11,972.04	64.30	63.26	79.15	-3,251.94	-839.55	1,430.27	1,304.59	125.68	11.380	
15,800.00	12,240.69	15,388.23	11,971.53	65.36	64.34	79.15	-3,351.93	-838.74	1,429.27	1,301.47	127.80	11.184	
15,900.00	12,239.98	15,488.22	11,971.03	66.44	65.42	79.15	-3,451.92	-837.94	1,428.27	1,298.33	129.94	10.992	
16,000.00	12,239.27	15,588.22	11,970.53	67.52	66.52	79.15	-3,551.91	-837.14	1,427.27	1,295.17	132.11	10.804	
16,100.00	12,238.56	15,688.21	11,970.02	68.63	67.63	79.15	-3,651.90	-836.33	1,426.27	1,291.98	134.30	10.620	
16,200.00	12,237.85	15,788.21	11,969.52	69.74	68.75	79.15	-3,751.89	-835.53	1,425.28	1,288.76	136.51	10.441	
16,300.00	12,237.14	15,888.20	11,969.02	70.86	69.88	79.15	-3,851.88	-834.73	1,424.28	1,285.53	138.75	10.265	
16,400.00	12,236.43	15,988.20	11,968.51	72.00	71.03	79.15	-3,951.87	-833.93	1,423.28	1,282.27	141.01	10.094	
16,500.00	12,235.72	16,088.19	11,968.01	73.14	72.18	79.15	-4,051.86	-833.12	1,422.28	1,278.99	143.29	9.926	
16,600.00	12,235.01	16,188.19	11,967.51	74.30	73.35	79.15	-4,151.85	-832.32	1,421.28	1,275.69	145.59	9.762	
16,700.00	12,234.31	16,288.18	11,967.01	75.46	74.52	79.16	-4,251.85	-831.52	1,420.28	1,272.38	147.91	9.603	
16,800.00	12,233.60	16,388.18	11,966.50	76.64	75.71	79.16	-4,351.84	-830.72	1,419.28	1,269.04	150.24	9.447	
16,900.00	12,232.89	16,488.17	11,966.00	77.82	76.90	79.16	-4,451.83	-829.91	1,418.28	1,265.69	152.59	9.295	
17,000.00	12,232.18	16,588.17	11,965.50	79.01	78.10	79.16	-4,551.82	-829.11	1,417.29	1,262.33	154.96	9.146	
17,100.00	12,231.47	16,688.16	11,964.99	80.21	79.31	79.16	-4,651.81	-828.31	1,416.29	1,258.94	157.34	9.001	
17,200.00	12,230.76	16,788.16	11,964.49	81.42	80.52	79.16	-4,751.80	-827.50	1,415.29	1,255.55	159.74	8.860	
17,300.00	12,230.05	16,888.15	11,963.99	82.63	81.74	79.16	-4,851.79	-826.70	1,414.29	1,252.14	162.15	8.722	
17,400.00	12,229.34	16,988.15	11,963.48	83.85	82.97	79.16	-4,951.78	-825.90	1,413.29	1,248.71	164.58	8.587	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 3H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,500.00	12,228.63	17,088.14	11,962.98	85.08	84.21	79.16	-5,051.77	-825.10	1,412.29	1,245.28	167.02	8.456	
17,600.00	12,227.92	17,188.14	11,962.48	86.31	85.45	79.16	-5,151.76	-824.29	1,411.29	1,241.83	169.47	8.328	
17,700.00	12,227.21	17,288.13	11,961.98	87.55	86.70	79.16	-5,251.75	-823.49	1,410.30	1,238.37	171.93	8.203	
17,800.00	12,226.50	17,388.13	11,961.47	88.80	87.95	79.16	-5,351.74	-822.69	1,409.30	1,234.89	174.40	8.081	
17,900.00	12,225.79	17,488.12	11,960.97	90.05	89.21	79.16	-5,451.73	-821.88	1,408.30	1,231.41	176.89	7.962	
18,000.00	12,225.08	17,588.12	11,960.47	91.30	90.47	79.17	-5,551.72	-821.08	1,407.30	1,227.92	179.38	7.845	
18,100.00	12,224.37	17,688.11	11,959.96	92.57	91.74	79.17	-5,651.71	-820.28	1,406.30	1,224.41	181.89	7.732	
18,200.00	12,223.66	17,788.11	11,959.46	93.83	93.02	79.17	-5,751.70	-819.48	1,405.30	1,220.90	184.40	7.621	
18,300.00	12,222.95	17,888.10	11,958.96	95.10	94.30	79.17	-5,851.69	-818.67	1,404.30	1,217.38	186.92	7.513	
18,400.00	12,222.24	17,988.10	11,958.46	96.38	95.58	79.17	-5,951.68	-817.87	1,403.30	1,213.85	189.45	7.407	
18,500.00	12,221.53	18,088.09	11,957.95	97.66	96.87	79.17	-6,051.67	-817.07	1,402.31	1,210.31	191.99	7.304	
18,600.00	12,220.83	18,188.09	11,957.45	98.94	98.16	79.17	-6,151.67	-816.27	1,401.31	1,206.76	194.54	7.203	
18,700.00	12,220.12	18,288.08	11,956.95	100.23	99.45	79.17	-6,251.66	-815.46	1,400.31	1,203.21	197.10	7.105	
18,800.00	12,219.41	18,388.08	11,956.44	101.52	100.75	79.17	-6,351.65	-814.66	1,399.31	1,199.65	199.66	7.008	
18,900.00	12,218.70	18,488.07	11,955.94	102.82	102.05	79.17	-6,451.64	-813.86	1,398.31	1,196.08	202.23	6.914	
19,000.00	12,217.99	18,588.07	11,955.44	104.12	103.36	79.17	-6,551.63	-813.05	1,397.31	1,192.50	204.81	6.823	
19,100.00	12,217.28	18,688.06	11,954.93	105.42	104.67	79.17	-6,651.62	-812.25	1,396.31	1,188.92	207.39	6.733	
19,200.00	12,216.57	18,788.06	11,954.43	106.73	105.98	79.17	-6,751.61	-811.45	1,395.31	1,185.33	209.98	6.645	
19,300.00	12,215.86	18,888.05	11,953.93	108.04	107.30	79.18	-6,851.60	-810.65	1,394.32	1,181.73	212.58	6.559	
19,400.00	12,215.15	18,988.05	11,953.43	109.35	108.62	79.18	-6,951.59	-809.84	1,393.32	1,178.13	215.18	6.475	
19,500.00	12,214.44	19,088.04	11,952.92	110.66	109.94	79.18	-7,051.58	-809.04	1,392.32	1,174.53	217.79	6.393	
19,600.00	12,213.73	19,188.04	11,952.42	111.98	111.26	79.18	-7,151.57	-808.24	1,391.32	1,170.91	220.41	6.313	
19,700.00	12,213.02	19,288.03	11,951.92	113.30	112.59	79.18	-7,251.56	-807.43	1,390.32	1,167.30	223.02	6.234	
19,759.35	12,212.60	19,347.38	11,951.62	114.09	113.38	79.18	-7,310.91	-806.96	1,389.73	1,165.15	224.58	6.188	
19,759.91	12,212.60	19,347.94	11,951.61	114.11	113.39	79.18	-7,311.47	-806.95	1,389.72	1,165.12	224.60	6.188	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 4H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 235-MWD+HRGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-90.11	-0.05	-25.09	25.09				
100.00	100.00	99.97	99.97	0.14	0.16	-90.19	-0.08	-25.15	25.15	24.85	0.30	84.339	
200.00	200.00	199.94	199.94	0.50	0.32	-90.41	-0.18	-25.32	25.32	24.51	0.82	30.964	
300.00	300.00	300.06	300.06	0.85	0.61	-90.87	-0.39	-25.42	25.43	23.97	1.46	17.416	
356.90	356.90	356.90	356.90	1.06	0.81	-91.42	-0.63	-25.26	25.27	23.41	1.86	13.563	
400.00	400.00	399.84	399.84	1.21	0.96	-91.98	-0.88	-25.39	25.41	23.24	2.17	11.715	
500.00	500.00	500.01	500.01	1.57	1.31	-93.40	-1.54	-25.88	25.92	23.04	2.88	8.994	
570.67	570.67	570.68	570.67	1.82	1.56	-94.86	-2.19	-25.77	25.86	22.47	3.39	7.635	
600.00	600.00	599.99	599.97	1.93	1.67	-95.89	-2.66	-25.74	25.88	22.28	3.60	7.195 ES	
700.00	700.00	699.55	699.53	2.29	2.02	-97.58	-3.54	-26.56	26.80	22.50	4.30	6.226	
800.00	800.00	799.52	799.47	2.65	2.37	-95.56	-2.79	-28.69	28.83	23.82	5.01	5.753	
900.00	900.00	899.55	899.48	3.00	2.71	-92.64	-1.41	-30.51	30.54	24.83	5.72	5.344	
900.00	900.00	899.56	899.48	3.00	2.71	-92.64	-1.41	-30.51	30.54	24.83	5.72	5.344 SF	
1,000.00	1,000.00	954.00	953.91	3.36	2.90	-90.73	-0.40	-31.49	55.83	50.34	5.49	10.167	
1,100.00	1,100.00	954.00	953.91	3.72	2.90	-90.73	-0.40	-31.49	149.45	144.23	5.22	28.618	
1,200.00	1,200.00	954.00	953.91	4.08	2.90	-90.73	-0.40	-31.49	248.10	242.86	5.24	47.355	
1,300.00	1,300.00	954.00	953.91	4.44	2.90	-90.73	-0.40	-31.49	347.52	342.24	5.29	65.722	
1,400.00	1,399.95	954.00	953.91	4.80	2.90	-43.70	-0.40	-31.49	447.11	441.76	5.34	83.651	
1,500.00	1,499.63	954.00	953.91	5.16	2.90	-27.56	-0.40	-31.49	546.54	541.13	5.41	101.090	
1,600.00	1,599.09	954.00	953.91	5.52	2.90	-27.56	-0.40	-31.49	645.95	640.47	5.48	117.940	
1,700.00	1,698.54	954.00	953.91	5.88	2.90	-27.56	-0.40	-31.49	745.52	739.97	5.55	134.213	
1,800.00	1,797.99	954.00	953.91	6.24	2.90	-27.56	-0.40	-31.49	845.19	839.56	5.64	149.967	
1,900.00	1,897.44	954.00	953.91	6.61	2.90	-27.56	-0.40	-31.49	944.93	939.21	5.72	165.195	
2,000.00	1,996.90	954.00	953.91	6.97	2.90	-27.56	-0.40	-31.49	1,044.72	1,038.92	5.81	179.894	
2,100.00	2,096.35	954.00	953.91	7.34	2.90	-27.56	-0.40	-31.49	1,144.55	1,138.65	5.90	194.065	
2,200.00	2,196.03	954.00	953.91	7.71	2.90	-100.53	-0.40	-31.49	1,244.48	1,238.49	5.99	207.711	
2,300.00	2,295.98	954.00	953.91	8.07	2.90	-177.91	-0.40	-31.49	1,344.40	1,338.32	6.09	220.898	
2,400.00	2,395.98	954.00	953.91	8.43	2.90	-177.91	-0.40	-31.49	1,444.24	1,438.06	6.18	233.584	
2,500.00	2,495.98	954.00	953.91	8.78	2.90	-177.91	-0.40	-31.49	1,544.10	1,537.82	6.28	245.722	
2,600.00	2,595.98	954.00	953.91	9.14	2.90	-177.91	-0.40	-31.49	1,643.98	1,637.59	6.39	257.360	
2,700.00	2,695.98	954.00	953.91	9.49	2.90	-177.91	-0.40	-31.49	1,743.87	1,737.37	6.49	268.510	
2,800.00	2,795.98	954.00	953.91	9.85	2.90	-177.91	-0.40	-31.49	1,843.77	1,837.17	6.60	279.181	
2,900.00	2,895.98	954.00	953.91	10.20	2.90	-177.91	-0.40	-31.49	1,943.68	1,936.97	6.72	289.387	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 4H - OH - Plan #3													Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+HRGM		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-90.11	-0.05	-25.09	25.09					
100.00	100.00	100.00	100.00	0.14	0.14	-90.11	-0.05	-25.09	25.09	24.82	0.27	91.612		
200.00	200.00	200.00	200.00	0.50	0.50	-90.11	-0.05	-25.09	25.09	24.10	0.99	25.323		
300.00	300.00	300.00	300.00	0.85	0.85	-90.11	-0.05	-25.09	25.09	23.38	1.71	14.692		
400.00	400.00	400.00	400.00	1.21	1.21	-90.11	-0.05	-25.09	25.09	22.67	2.42	10.348		
500.00	500.00	500.00	500.00	1.57	1.57	-90.11	-0.05	-25.09	25.09	21.95	3.14	7.986		
600.00	600.00	600.00	600.00	1.93	1.93	-90.11	-0.05	-25.09	25.09	21.23	3.86	6.502		
700.00	700.00	700.00	700.00	2.29	2.29	-90.11	-0.05	-25.09	25.09	20.51	4.58	5.484		
800.00	800.00	800.00	800.00	2.65	2.65	-90.11	-0.05	-25.09	25.09	19.80	5.29	4.741		
900.00	900.00	900.00	900.00	3.00	3.00	-90.11	-0.05	-25.09	25.09	19.08	6.01	4.175		
1,000.00	1,000.00	1,000.00	1,000.00	3.36	3.36	-90.11	-0.05	-25.09	25.09	18.36	6.73	3.730		
1,100.00	1,100.00	1,100.00	1,100.00	3.72	3.72	-90.11	-0.05	-25.09	25.09	17.65	7.44	3.371		
1,200.00	1,200.00	1,200.00	1,200.00	4.08	4.08	-90.11	-0.05	-25.09	25.09	16.93	8.16	3.075		
1,300.00	1,300.00	1,300.00	1,300.00	4.44	4.44	-90.11	-0.05	-25.09	25.09	16.21	8.88	2.826		
1,400.00	1,399.95	1,401.10	1,401.05	4.80	4.79	-78.02	-0.51	-22.46	21.79	12.21	9.58	2.275		
1,500.00	1,499.63	1,500.94	1,500.57	5.16	5.13	-116.70	-1.88	-14.69	16.17	5.90	10.27	1.574	Collision Risk Procedures Req.	
1,505.46	1,505.07	1,506.32	1,505.92	5.18	5.15	-120.14	-1.98	-14.14	16.14	5.83	10.31	1.565	Collision Risk Procedures Req., CC, E	
1,600.00	1,599.09	1,599.30	1,598.39	5.52	5.48	-166.22	-3.67	-4.56	23.48	12.49	10.99	2.136		
1,700.00	1,698.54	1,697.66	1,696.22	5.88	5.82	174.94	-5.45	5.56	38.61	26.94	11.67	3.308		
1,800.00	1,797.99	1,796.02	1,794.04	6.24	6.18	167.04	-7.24	15.69	55.51	43.14	12.36	4.490		
1,900.00	1,897.44	1,894.39	1,891.86	6.61	6.53	162.86	-9.03	25.81	72.95	59.89	13.06	5.586		
2,000.00	1,996.90	1,992.75	1,989.68	6.97	6.89	160.29	-10.81	35.94	90.62	76.86	13.76	6.585		
2,100.00	2,096.35	2,091.11	2,087.50	7.34	7.25	158.57	-12.60	46.06	108.41	93.94	14.46	7.495		
2,200.00	2,196.03	2,194.66	2,190.70	7.71	7.62	157.61	-14.07	54.42	122.11	106.90	15.22	8.025		
2,300.00	2,295.98	2,300.00	2,295.98	8.07	8.00	137.33	-14.57	57.28	126.72	110.76	15.96	7.941		
2,400.00	2,395.98	2,400.00	2,395.98	8.43	8.35	137.33	-14.57	57.28	126.72	110.05	16.67	7.603		
2,421.13	2,417.11	2,421.13	2,417.11	8.50	8.42	137.33	-14.57	57.28	126.72	109.90	16.82	7.535		
2,500.00	2,495.98	2,500.00	2,495.98	8.78	8.70	137.33	-14.57	57.28	126.72	109.34	17.38	7.292		
2,521.13	2,517.11	2,521.13	2,517.11	8.86	8.78	137.33	-14.57	57.28	126.72	109.19	17.53	7.229		
2,600.00	2,595.98	2,600.00	2,595.98	9.14	9.05	137.33	-14.57	57.28	126.72	108.63	18.09	7.005		
2,621.13	2,617.12	2,621.13	2,617.12	9.21	9.13	137.33	-14.57	57.28	126.72	108.48	18.24	6.947		
2,700.00	2,695.98	2,700.00	2,695.98	9.49	9.41	137.33	-14.57	57.28	126.72	107.92	18.80	6.740		
2,721.13	2,717.12	2,721.13	2,717.12	9.57	9.48	137.33	-14.57	57.28	126.72	107.77	18.95	6.687		
2,800.00	2,795.98	2,800.00	2,795.98	9.85	9.76	137.33	-14.57	57.28	126.72	107.21	19.51	6.494		
2,821.13	2,817.12	2,821.13	2,817.12	9.92	9.83	137.33	-14.57	57.28	126.72	107.06	19.66	6.445		
2,900.00	2,895.98	2,900.00	2,895.98	10.20	10.11	137.33	-14.57	57.28	126.72	106.49	20.22	6.266		
2,921.13	2,917.12	2,921.13	2,917.12	10.28	10.19	137.33	-14.57	57.28	126.72	106.34	20.38	6.219		
3,000.00	2,995.98	3,000.00	2,995.98	10.56	10.47	137.33	-14.57	57.28	126.72	105.78	20.94	6.052		
3,021.13	3,017.12	3,021.13	3,017.12	10.63	10.54	137.33	-14.57	57.28	126.72	105.63	21.09	6.009		
3,100.00	3,095.98	3,100.00	3,095.98	10.92	10.82	137.33	-14.57	57.28	126.72	105.07	21.65	5.853		
3,121.13	3,117.12	3,121.13	3,117.12	10.99	10.90	137.33	-14.57	57.28	126.72	104.92	21.80	5.813		
3,200.00	3,195.98	3,200.00	3,195.98	11.27	11.18	137.33	-14.57	57.28	126.72	104.36	22.36	5.666		
3,221.13	3,217.12	3,221.13	3,217.12	11.35	11.25	137.33	-14.57	57.28	126.72	104.21	22.51	5.629		
3,300.00	3,295.98	3,300.00	3,295.98	11.63	11.53	137.33	-14.57	57.28	126.72	103.64	23.08	5.491		
3,321.13	3,317.12	3,321.13	3,317.12	11.70	11.61	137.33	-14.57	57.28	126.72	103.49	23.23	5.456		
3,400.00	3,395.98	3,400.00	3,395.98	11.99	11.89	137.33	-14.57	57.28	126.72	102.93	23.79	5.327		
3,421.13	3,417.12	3,421.13	3,417.12	12.06	11.96	137.33	-14.57	57.28	126.72	102.78	23.94	5.293		
3,500.00	3,495.98	3,500.00	3,495.98	12.34	12.24	137.33	-14.57	57.28	126.72	102.22	24.50	5.171		
3,521.13	3,517.12	3,521.13	3,517.12	12.42	12.32	137.33	-14.57	57.28	126.72	102.06	24.65	5.140		
3,600.00	3,595.98	3,600.00	3,595.98	12.70	12.60	137.33	-14.57	57.28	126.72	101.50	25.22	5.025		
3,621.13	3,617.12	3,621.13	3,617.12	12.77	12.67	137.33	-14.57	57.28	126.72	101.35	25.37	4.995		
3,700.00	3,695.98	3,700.00	3,695.98	13.06	12.95	137.33	-14.57	57.28	126.72	100.79	25.93	4.887		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 4H - OH - Plan #3												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
3,721.13	3,717.12	3,721.13	3,717.12	13.13	13.03	137.33	-14.57	57.28	126.72	100.64	26.08	4.858	
3,800.00	3,795.98	3,800.00	3,795.98	13.41	13.31	137.33	-14.57	57.28	126.72	100.07	26.65	4.756	
3,821.13	3,817.12	3,821.13	3,817.12	13.49	13.39	137.33	-14.57	57.28	126.72	99.92	26.80	4.729	
3,900.00	3,895.98	3,900.00	3,895.98	13.77	13.67	137.33	-14.57	57.28	126.72	99.36	27.36	4.631	
3,921.13	3,917.12	3,921.13	3,917.12	13.85	13.74	137.33	-14.57	57.28	126.72	99.21	27.51	4.606	
4,000.00	3,995.98	4,000.00	3,995.98	14.13	14.02	137.33	-14.57	57.28	126.72	98.64	28.07	4.514	
4,021.13	4,017.12	4,021.13	4,017.12	14.20	14.10	137.33	-14.57	57.28	126.72	98.49	28.23	4.489	
4,100.00	4,095.98	4,100.00	4,095.98	14.48	14.38	137.33	-14.57	57.28	126.72	97.93	28.79	4.402	
4,121.13	4,117.12	4,121.13	4,117.12	14.56	14.45	137.33	-14.57	57.28	126.72	97.78	28.94	4.379	
4,200.00	4,195.98	4,200.00	4,195.98	14.84	14.73	137.33	-14.57	57.28	126.72	97.22	29.50	4.295	
4,221.13	4,217.12	4,221.13	4,217.12	14.92	14.81	137.33	-14.57	57.28	126.72	97.06	29.66	4.273	
4,300.00	4,295.98	4,300.00	4,295.98	15.20	15.09	137.33	-14.57	57.28	126.72	96.50	30.22	4.193	
4,321.13	4,317.12	4,321.13	4,317.12	15.27	15.17	137.33	-14.57	57.28	126.72	96.35	30.37	4.172	
4,400.00	4,395.98	4,400.00	4,395.98	15.56	15.45	137.33	-14.57	57.28	126.72	95.79	30.93	4.096	
4,421.13	4,417.12	4,421.13	4,417.12	15.63	15.52	137.33	-14.57	57.28	126.72	95.63	31.09	4.077	
4,500.00	4,495.98	4,500.00	4,495.98	15.91	15.80	137.33	-14.57	57.28	126.72	95.07	31.65	4.004	
4,521.13	4,517.12	4,521.13	4,517.12	15.99	15.88	137.33	-14.57	57.28	126.72	94.92	31.80	3.985	
4,600.00	4,595.98	4,600.00	4,595.98	16.27	16.16	137.33	-14.57	57.28	126.72	94.36	32.36	3.915	
4,621.13	4,617.12	4,621.13	4,617.12	16.35	16.24	137.33	-14.57	57.28	126.72	94.20	32.52	3.897	
4,700.00	4,695.98	4,700.00	4,695.98	16.63	16.52	137.33	-14.57	57.28	126.72	93.64	33.08	3.831	
4,721.13	4,717.12	4,721.13	4,717.12	16.70	16.59	137.33	-14.57	57.28	126.72	93.49	33.23	3.813	
4,800.00	4,795.98	4,800.00	4,795.98	16.99	16.87	137.33	-14.57	57.28	126.72	92.92	33.79	3.750	
4,821.13	4,817.12	4,821.13	4,817.12	17.06	16.95	137.33	-14.57	57.28	126.72	92.77	33.95	3.733	
4,900.00	4,895.98	4,900.00	4,895.98	17.34	17.23	137.33	-14.57	57.28	126.72	92.21	34.51	3.672	
4,921.13	4,917.12	4,921.13	4,917.12	17.42	17.31	137.33	-14.57	57.28	126.72	92.06	34.66	3.656	
5,000.00	4,995.98	5,000.00	4,995.98	17.70	17.59	137.33	-14.57	57.28	126.72	91.49	35.23	3.597	
5,021.13	5,017.12	5,021.13	5,017.12	17.78	17.66	137.33	-14.57	57.28	126.72	91.34	35.38	3.582	
5,100.00	5,095.98	5,100.00	5,095.98	18.06	17.95	137.33	-14.57	57.28	126.72	90.78	35.94	3.526	
5,121.13	5,117.12	5,121.13	5,117.12	18.14	18.02	137.33	-14.57	57.28	126.72	90.63	36.09	3.511	
5,200.00	5,195.98	5,200.00	5,195.98	18.42	18.30	137.33	-14.57	57.28	126.72	90.06	36.66	3.457	
5,221.13	5,217.12	5,221.13	5,217.12	18.49	18.38	137.33	-14.57	57.28	126.72	89.91	36.81	3.443	
5,300.00	5,295.98	5,300.00	5,295.98	18.78	18.66	137.33	-14.57	57.28	126.72	89.35	37.37	3.391	
5,321.13	5,317.12	5,321.13	5,317.12	18.85	18.74	137.33	-14.57	57.28	126.72	89.20	37.52	3.377	
5,400.00	5,395.98	5,400.00	5,395.98	19.13	19.02	137.33	-14.57	57.28	126.72	88.63	38.09	3.327	
5,421.13	5,417.12	5,421.13	5,417.12	19.21	19.09	137.33	-14.57	57.28	126.72	88.48	38.24	3.314	
5,500.00	5,495.98	5,500.00	5,495.98	19.49	19.37	137.33	-14.57	57.28	126.72	87.92	38.80	3.266	
5,521.13	5,517.12	5,521.13	5,517.12	19.57	19.45	137.33	-14.57	57.28	126.72	87.76	38.95	3.253	
5,600.00	5,595.98	5,600.00	5,595.98	19.85	19.73	137.33	-14.57	57.28	126.72	87.20	39.52	3.207	
5,621.13	5,617.12	5,621.13	5,617.12	19.92	19.81	137.33	-14.57	57.28	126.72	87.05	39.67	3.194	
5,700.00	5,695.98	5,700.00	5,695.98	20.21	20.09	137.33	-14.57	57.28	126.72	86.48	40.23	3.149	
5,721.13	5,717.12	5,721.13	5,717.12	20.28	20.16	137.33	-14.57	57.28	126.72	86.33	40.39	3.138	
5,800.00	5,795.98	5,800.00	5,795.98	20.57	20.45	137.33	-14.57	57.28	126.72	85.77	40.95	3.094	
5,821.13	5,817.12	5,821.13	5,817.12	20.64	20.52	137.33	-14.57	57.28	126.72	85.62	41.10	3.083	
5,900.00	5,895.98	5,900.00	5,895.98	20.92	20.80	137.33	-14.57	57.28	126.72	85.05	41.67	3.041	
5,921.13	5,917.12	5,921.13	5,917.12	21.00	20.88	137.33	-14.57	57.28	126.72	84.90	41.82	3.030	
6,000.00	5,995.98	6,000.00	5,995.98	21.28	21.16	137.33	-14.57	57.28	126.72	84.34	42.38	2.990	
6,021.13	6,017.12	6,021.13	6,017.12	21.36	21.24	137.33	-14.57	57.28	126.72	84.19	42.53	2.979	
6,100.00	6,095.98	6,100.00	6,095.98	21.64	21.52	137.33	-14.57	57.28	126.72	83.62	43.10	2.940	
6,121.13	6,117.12	6,121.13	6,117.12	21.71	21.59	137.33	-14.57	57.28	126.72	83.47	43.25	2.930	
6,200.00	6,195.98	6,200.00	6,195.98	22.00	21.88	137.33	-14.57	57.28	126.72	82.91	43.81	2.892	
6,221.13	6,217.12	6,221.13	6,217.12	22.07	21.95	137.33	-14.57	57.28	126.72	82.75	43.97	2.882	
6,300.00	6,295.98	6,300.00	6,295.98	22.35	22.23	137.33	-14.57	57.28	126.72	82.19	44.53	2.846	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 4H - OH - Plan #3												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,321.13	6,317.12	6,321.13	6,317.12	22.43	22.31	137.33	-14.57	57.28	126.72	82.04	44.68	2.836	
6,400.00	6,395.98	6,400.00	6,395.98	22.71	22.59	137.33	-14.57	57.28	126.72	81.47	45.25	2.801	
6,421.13	6,417.12	6,421.13	6,417.12	22.79	22.67	137.33	-14.57	57.28	126.72	81.32	45.40	2.791	
6,500.00	6,495.98	6,500.00	6,495.98	23.07	22.95	137.33	-14.57	57.28	126.72	80.76	45.96	2.757	
6,521.13	6,517.12	6,521.13	6,517.12	23.15	23.02	137.33	-14.57	57.28	126.72	80.61	46.11	2.748	
6,600.00	6,595.98	6,600.00	6,595.98	23.43	23.31	137.33	-14.57	57.28	126.72	80.04	46.68	2.715	
6,621.13	6,617.12	6,621.13	6,617.12	23.50	23.38	137.33	-14.57	57.28	126.72	79.89	46.83	2.706	
6,700.00	6,695.98	6,700.00	6,695.98	23.79	23.66	137.33	-14.57	57.28	126.72	79.32	47.39	2.674	
6,721.13	6,717.12	6,721.13	6,717.12	23.86	23.74	137.33	-14.57	57.28	126.72	79.17	47.55	2.665	
6,800.00	6,795.98	6,800.00	6,795.98	24.15	24.02	137.33	-14.57	57.28	126.72	78.61	48.11	2.634	
6,821.13	6,817.12	6,821.13	6,817.12	24.22	24.10	137.33	-14.57	57.28	126.72	78.46	48.26	2.626	
6,900.00	6,895.98	6,900.00	6,895.98	24.50	24.38	137.33	-14.57	57.28	126.72	77.89	48.83	2.595	
6,921.13	6,917.12	6,921.13	6,917.12	24.58	24.46	137.33	-14.57	57.28	126.72	77.74	48.98	2.587	
7,000.00	6,995.98	7,000.00	6,995.98	24.86	24.74	137.33	-14.57	57.28	126.72	77.18	49.54	2.558	
7,021.13	7,017.12	7,021.13	7,017.12	24.94	24.81	137.33	-14.57	57.28	126.72	77.03	49.69	2.550	
7,100.00	7,095.98	7,100.00	7,095.98	25.22	25.10	137.33	-14.57	57.28	126.72	76.46	50.26	2.521	
7,121.13	7,117.12	7,121.13	7,117.12	25.30	25.17	137.33	-14.57	57.28	126.72	76.31	50.41	2.514	
7,200.00	7,195.98	7,200.00	7,195.98	25.58	25.45	137.33	-14.57	57.28	126.72	75.74	50.98	2.486	
7,221.13	7,217.12	7,221.13	7,217.12	25.65	25.53	137.33	-14.57	57.28	126.72	75.59	51.13	2.479	
7,300.00	7,295.98	7,300.00	7,295.98	25.94	25.81	137.33	-14.57	57.28	126.72	75.03	51.69	2.451	
7,321.13	7,317.12	7,321.13	7,317.12	26.01	25.89	137.33	-14.57	57.28	126.72	74.88	51.84	2.444	
7,400.00	7,395.98	7,400.00	7,395.98	26.29	26.17	137.33	-14.57	57.28	126.72	74.31	52.41	2.418	
7,421.13	7,417.12	7,421.13	7,417.12	26.37	26.24	137.33	-14.57	57.28	126.72	74.16	52.56	2.411	
7,500.00	7,495.98	7,500.00	7,495.98	26.65	26.53	137.33	-14.57	57.28	126.72	73.60	53.12	2.385	
7,521.13	7,517.12	7,521.13	7,517.12	26.73	26.60	137.33	-14.57	57.28	126.72	73.44	53.28	2.379	
7,600.00	7,595.98	7,600.00	7,595.98	27.01	26.88	137.33	-14.57	57.28	126.72	72.88	53.84	2.354	
7,621.13	7,617.12	7,621.13	7,617.12	27.09	26.96	137.33	-14.57	57.28	126.72	72.73	53.99	2.347	
7,700.00	7,695.98	7,700.00	7,695.98	27.37	27.24	137.33	-14.57	57.28	126.72	72.16	54.56	2.323	
7,721.13	7,717.12	7,721.13	7,717.12	27.44	27.32	137.33	-14.57	57.28	126.72	72.01	54.71	2.316	
7,800.00	7,795.98	7,800.00	7,795.98	27.73	27.60	137.33	-14.57	57.28	126.72	71.45	55.27	2.293	
7,821.13	7,817.12	7,821.13	7,817.12	27.80	27.68	137.33	-14.57	57.28	126.72	71.30	55.42	2.286	
7,900.00	7,895.98	7,900.00	7,895.98	28.08	27.96	137.33	-14.57	57.28	126.72	70.73	55.99	2.263	
7,921.13	7,917.12	7,921.13	7,917.12	28.16	28.03	137.33	-14.57	57.28	126.72	70.58	56.14	2.257	
8,000.00	7,995.98	8,000.00	7,995.98	28.44	28.32	137.33	-14.57	57.28	126.72	70.01	56.71	2.235	
8,021.13	8,017.12	8,021.13	8,017.12	28.52	28.39	137.33	-14.57	57.28	126.72	69.86	56.86	2.229	
8,100.00	8,095.98	8,100.00	8,095.98	28.80	28.67	137.33	-14.57	57.28	126.72	69.30	57.42	2.207	
8,121.13	8,117.12	8,121.13	8,117.12	28.88	28.75	137.33	-14.57	57.28	126.72	69.15	57.57	2.201	
8,200.00	8,195.98	8,200.00	8,195.98	29.16	29.03	137.33	-14.57	57.28	126.72	68.58	58.14	2.180	
8,221.13	8,217.12	8,221.13	8,217.12	29.24	29.11	137.33	-14.57	57.28	126.72	68.43	58.29	2.174	
8,300.00	8,295.98	8,300.00	8,295.98	29.52	29.39	137.33	-14.57	57.28	126.72	67.86	58.85	2.153	
8,321.13	8,317.12	8,321.13	8,317.12	29.59	29.47	137.33	-14.57	57.28	126.72	67.71	59.01	2.148	
8,400.00	8,395.98	8,400.00	8,395.98	29.88	29.75	137.33	-14.57	57.28	126.72	67.15	59.57	2.127	
8,421.13	8,417.12	8,421.13	8,417.12	29.95	29.82	137.33	-14.57	57.28	126.72	67.00	59.72	2.122	
8,500.00	8,495.98	8,500.00	8,495.98	30.23	30.11	137.33	-14.57	57.28	126.72	66.43	60.29	2.102	
8,521.13	8,517.12	8,521.13	8,517.12	30.31	30.18	137.33	-14.57	57.28	126.72	66.28	60.44	2.097	
8,600.00	8,595.98	8,600.00	8,595.98	30.59	30.46	137.33	-14.57	57.28	126.72	65.72	61.00	2.077	
8,621.13	8,617.12	8,621.13	8,617.12	30.67	30.54	137.33	-14.57	57.28	126.72	65.56	61.16	2.072	
8,700.00	8,695.98	8,700.00	8,695.98	30.95	30.82	137.33	-14.57	57.28	126.72	65.00	61.72	2.053	
8,721.13	8,717.12	8,721.13	8,717.12	31.03	30.90	137.33	-14.57	57.28	126.72	64.85	61.87	2.048	
8,800.00	8,795.98	8,800.00	8,795.98	31.31	31.18	137.33	-14.57	57.28	126.72	64.28	62.44	2.030	
8,821.13	8,817.12	8,821.13	8,817.12	31.38	31.26	137.33	-14.57	57.28	126.72	64.13	62.59	2.025	
8,900.00	8,895.98	8,900.00	8,895.98	31.67	31.54	137.33	-14.57	57.28	126.72	63.57	63.15	2.007	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 4H - OH - Plan #3													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,921.13	8,917.12	8,921.13	8,917.12	31.74	31.61	137.33	-14.57	57.28	126.72	63.41	63.30	2.002	
9,000.00	8,995.98	9,000.00	8,995.98	32.03	31.90	137.33	-14.57	57.28	126.72	62.85	63.87	1.984	Collision Risk Procedures Req.
9,021.13	9,017.12	9,021.13	9,017.12	32.10	31.97	137.33	-14.57	57.28	126.72	62.70	64.02	1.979	Collision Risk Procedures Req.
9,100.00	9,095.98	9,100.00	9,095.98	32.38	32.25	137.33	-14.57	57.28	126.72	62.13	64.59	1.962	Collision Risk Procedures Req.
9,121.13	9,117.12	9,121.13	9,117.12	32.46	32.33	137.33	-14.57	57.28	126.72	61.98	64.74	1.957	Collision Risk Procedures Req.
9,200.00	9,195.98	9,200.00	9,195.98	32.74	32.61	137.33	-14.57	57.28	126.72	61.42	65.30	1.940	Collision Risk Procedures Req.
9,221.13	9,217.12	9,221.13	9,217.12	32.82	32.69	137.33	-14.57	57.28	126.72	61.27	65.45	1.936	Collision Risk Procedures Req.
9,300.00	9,295.98	9,300.00	9,295.98	33.10	32.97	137.33	-14.57	57.28	126.72	60.70	66.02	1.919	Collision Risk Procedures Req.
9,334.67	9,330.66	9,334.67	9,330.66	33.22	33.09	137.33	-14.57	57.28	126.72	60.45	66.27	1.912	Collision Risk Procedures Req.
9,404.02	9,400.00	9,404.02	9,400.00	33.47	33.34	137.33	-14.57	57.28	126.72	59.95	66.76	1.898	Collision Risk Procedures Req.
9,500.00	9,495.87	9,495.81	9,491.72	33.81	33.67	68.97	-13.70	60.47	126.85	59.45	67.40	1.882	Collision Risk Procedures Req.
9,600.00	9,595.03	9,591.51	9,586.82	34.15	34.01	69.86	-10.93	70.57	127.28	59.27	68.00	1.872	Collision Risk Procedures Req.
9,700.00	9,692.70	9,687.33	9,680.98	34.50	34.35	71.35	-6.28	87.56	128.08	59.49	68.58	1.867	Collision Risk Procedures Req.
9,786.88	9,775.78	9,772.81	9,763.98	34.79	34.65	73.64	-0.87	107.29	128.70	59.51	69.19	1.860	Collision Risk Procedures Req.
9,797.17	9,785.50	9,783.06	9,773.91	34.83	34.69	74.06	-0.21	109.70	128.70	59.43	69.27	1.858	Collision Risk Procedures Req.
9,800.00	9,788.17	9,785.88	9,776.65	34.84	34.70	74.18	-0.02	110.36	128.70	59.41	69.29	1.857	Collision Risk Procedures Req.
9,900.00	9,882.64	9,885.44	9,873.22	35.19	35.06	78.30	6.38	133.73	129.05	58.98	70.07	1.842	Collision Risk Procedures Req.
10,000.00	9,977.11	9,985.01	9,969.79	35.55	35.43	82.37	12.79	157.10	130.07	59.22	70.85	1.836	Collision Risk Procedures Req.
10,100.00	10,071.58	10,084.58	10,066.37	35.91	35.79	86.36	19.19	180.47	131.74	60.11	71.63	1.839	Collision Risk Procedures Req.
10,200.00	10,166.05	10,184.14	10,162.94	36.28	36.16	90.23	25.60	203.84	134.04	61.63	72.41	1.851	Collision Risk Procedures Req.
10,300.00	10,260.52	10,283.71	10,259.51	36.66	36.54	93.95	32.00	227.21	136.93	63.75	73.18	1.871	Collision Risk Procedures Req.
10,400.00	10,355.00	10,383.28	10,356.08	37.04	36.91	97.51	38.41	250.57	140.38	66.43	73.95	1.898	Collision Risk Procedures Req.
10,500.00	10,449.47	10,482.84	10,452.66	37.43	37.29	100.89	44.82	273.94	144.35	69.64	74.71	1.932	Collision Risk Procedures Req.
10,600.00	10,543.94	10,582.41	10,549.23	37.82	37.67	104.08	51.22	297.31	148.79	73.33	75.46	1.972	Collision Risk Procedures Req.
10,700.00	10,638.41	10,681.98	10,645.80	38.22	38.06	107.07	57.63	320.68	153.67	77.46	76.21	2.016	
10,800.00	10,732.88	10,781.54	10,742.38	38.63	38.45	109.88	64.03	344.05	158.94	81.99	76.95	2.065	
10,900.00	10,827.35	10,881.11	10,838.95	39.04	38.84	112.50	70.44	367.42	164.57	86.87	77.70	2.118	
11,000.00	10,921.82	10,980.68	10,935.52	39.45	39.23	114.94	76.84	390.79	170.52	92.09	78.43	2.174	
11,100.00	11,016.29	11,080.24	11,032.10	39.87	39.62	117.21	83.25	414.16	176.76	97.59	79.17	2.233	
11,200.00	11,110.76	11,176.07	11,125.41	40.29	40.00	119.71	89.01	435.15	183.95	104.00	79.94	2.301	
11,300.00	11,205.23	11,268.46	11,216.60	40.72	40.35	123.64	92.88	449.31	194.65	113.98	80.67	2.413	
11,364.61	11,266.26	11,326.73	11,274.57	41.00	40.56	126.75	94.43	454.94	204.02	122.93	81.08	2.516	
11,400.00	11,299.87	11,358.22	11,306.00	41.15	40.68	128.70	94.97	456.91	209.76	128.46	81.29	2.580	
11,500.00	11,396.49	11,448.75	11,396.49	41.57	40.99	133.59	95.44	458.62	225.79	143.95	81.84	2.759	
11,600.00	11,494.98	11,540.73	11,488.48	41.96	41.30	136.81	95.20	458.62	238.37	156.00	82.37	2.894	
11,700.00	11,594.58	11,609.58	11,556.94	42.32	41.52	137.56	88.43	458.68	253.42	171.26	82.15	3.085	
11,747.47	11,642.04	11,641.44	11,588.16	42.48	41.61	-154.02	82.15	458.73	262.53	180.75	81.79	3.210	
11,800.00	11,694.57	11,675.66	11,621.19	42.66	41.72	-154.88	73.22	458.80	274.94	193.75	81.19	3.386	
11,847.47	11,742.04	11,700.00	11,644.28	42.81	41.79	-155.58	65.52	458.86	288.98	208.85	80.13	3.606	
11,850.00	11,744.57	11,700.00	11,644.28	42.82	41.79	24.28	65.52	458.86	289.84	209.86	79.98	3.624	
11,900.00	11,794.48	11,737.51	11,679.06	42.98	41.89	22.54	51.49	458.97	304.98	225.41	79.57	3.833	
11,950.00	11,843.91	11,767.81	11,706.33	43.12	41.97	21.29	38.29	459.08	318.78	240.27	78.51	4.060	
12,000.00	11,892.40	11,800.00	11,734.38	43.27	42.05	20.23	22.51	459.21	331.03	253.55	77.48	4.272	
12,050.00	11,939.51	11,827.82	11,757.76	43.40	42.12	19.43	7.46	459.33	341.65	265.67	75.99	4.496	
12,100.00	11,984.79	11,850.00	11,775.79	43.51	42.17	18.83	-5.46	459.43	350.75	276.86	73.88	4.747	
12,150.00	12,027.85	11,887.25	11,804.74	43.62	42.24	18.24	-28.89	459.62	357.85	284.83	73.03	4.900	
12,200.00	12,068.27	11,916.82	11,826.44	43.71	42.30	17.85	-48.98	459.78	363.35	291.92	71.43	5.087	
12,250.00	12,105.68	11,950.00	11,849.33	43.79	42.35	17.56	-72.98	459.97	367.11	296.99	70.12	5.236	
12,300.00	12,139.75	11,975.80	11,866.02	43.85	42.39	17.42	-92.65	460.13	369.01	300.90	68.11	5.418	
12,350.00	12,170.16	12,000.00	11,880.74	43.89	42.43	17.38	-111.86	460.29	369.22	303.24	65.98	5.596	
12,400.00	12,196.63	12,034.72	11,900.20	43.93	42.47	17.44	-140.60	460.52	367.50	302.69	64.81	5.670	
12,450.00	12,218.91	12,064.21	11,915.15	43.95	42.51	17.61	-166.02	460.72	364.05	300.81	63.24	5.756	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 4H - OH - Plan #3													Offset Site Error:	0.00 usft
Survey Program:		0-MWD+HRGM						Rule Assigned:					Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Highside		Offset Wellbore Centre		Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
12,500.00	12,236.79	12,100.00	11,931.26	43.96	42.55	17.93	-197.97	460.98	358.91	296.63	62.28	5.762		
12,550.00	12,250.13	12,123.39	11,940.55	43.96	42.58	18.32	-219.43	461.15	351.84	291.37	60.46	5.819		
12,600.00	12,258.78	12,150.00	11,949.89	43.96	42.61	18.85	-244.34	461.35	343.14	284.02	59.12	5.804		
12,650.00	12,262.68	12,183.00	11,959.63	43.96	42.65	19.58	-275.86	461.60	332.71	274.29	58.42	5.695		
12,669.35	12,262.90	12,200.00	11,963.84	43.96	42.67	19.98	-292.33	461.73	328.31	269.86	58.45	5.617		
12,700.00	12,262.68	12,213.16	11,966.71	43.97	42.69	20.14	-305.18	461.84	321.48	263.70	57.77	5.565		
12,800.00	12,261.97	12,275.58	11,975.74	44.02	42.78	20.65	-366.89	462.33	306.87	249.79	57.08	5.376		
12,900.00	12,261.27	12,349.95	11,977.31	44.15	42.92	20.66	-441.22	462.93	303.47	246.31	57.15	5.310		
13,000.00	12,260.56	12,449.95	11,976.70	44.38	43.15	20.49	-541.21	463.73	303.03	245.65	57.38	5.281		
13,100.00	12,259.85	12,549.94	11,976.09	44.67	43.43	20.32	-641.20	464.54	302.60	244.93	57.66	5.248		
13,200.00	12,259.14	12,649.94	11,975.48	45.01	43.75	20.16	-741.19	465.34	302.17	244.17	57.99	5.210		
13,300.00	12,258.43	12,749.93	11,974.87	45.40	44.12	19.99	-841.18	466.14	301.74	243.36	58.38	5.169		
13,400.00	12,257.72	12,849.93	11,974.26	45.83	44.54	19.82	-941.17	466.94	301.31	242.50	58.81	5.124		
13,500.00	12,257.01	12,949.92	11,973.65	46.30	44.99	19.65	-1,041.16	467.75	300.89	241.60	59.29	5.075		
13,600.00	12,256.30	13,049.92	11,973.03	46.81	45.49	19.48	-1,141.15	468.55	300.47	240.65	59.82	5.023		
13,700.00	12,255.59	13,149.91	11,972.42	47.36	46.03	19.31	-1,241.14	469.35	300.05	239.67	60.39	4.969		
13,800.00	12,254.88	13,249.91	11,971.81	47.95	46.60	19.14	-1,341.13	470.15	299.64	238.64	61.00	4.912		
13,900.00	12,254.17	13,349.90	11,971.20	48.57	47.21	18.97	-1,441.12	470.96	299.22	237.57	61.65	4.853		
14,000.00	12,253.46	13,449.90	11,970.59	49.22	47.85	18.80	-1,541.11	471.76	298.82	236.47	62.35	4.793		
14,100.00	12,252.75	13,549.89	11,969.98	49.91	48.53	18.63	-1,641.10	472.56	298.41	235.33	63.08	4.731		
14,200.00	12,252.04	13,649.89	11,969.37	50.62	49.25	18.46	-1,741.09	473.37	298.00	234.16	63.85	4.668		
14,300.00	12,251.33	13,749.89	11,968.76	51.37	49.99	18.29	-1,841.08	474.17	297.60	232.96	64.65	4.603		
14,400.00	12,250.62	13,849.88	11,968.15	52.15	50.76	18.11	-1,941.07	474.97	297.20	231.72	65.48	4.539		
14,500.00	12,249.91	13,949.88	11,967.54	52.95	51.56	17.94	-2,041.06	475.77	296.81	230.46	66.34	4.474		
14,600.00	12,249.20	14,049.87	11,966.93	53.78	52.39	17.76	-2,141.05	476.58	296.41	229.18	67.24	4.408		
14,700.00	12,248.49	14,149.87	11,966.32	54.63	53.24	17.59	-2,241.04	477.38	296.02	227.86	68.16	4.343		
14,800.00	12,247.79	14,249.86	11,965.70	55.51	54.12	17.42	-2,341.03	478.18	295.63	226.53	69.11	4.278		
14,900.00	12,247.08	14,349.86	11,965.09	56.41	55.02	17.24	-2,441.02	478.99	295.25	225.17	70.08	4.213		
15,000.00	12,246.37	14,449.85	11,964.48	57.33	55.94	17.06	-2,541.01	479.79	294.87	223.79	71.07	4.149		
15,100.00	12,245.66	14,549.85	11,963.87	58.27	56.88	16.89	-2,641.00	480.59	294.49	222.40	72.09	4.085		
15,200.00	12,244.95	14,649.84	11,963.26	59.23	57.85	16.71	-2,740.99	481.39	294.11	220.98	73.13	4.022		
15,300.00	12,244.24	14,749.84	11,962.65	60.21	58.83	16.54	-2,840.98	482.20	293.74	219.55	74.19	3.959		
15,400.00	12,243.53	14,849.83	11,962.04	61.21	59.83	16.36	-2,940.97	483.00	293.37	218.10	75.27	3.898		
15,500.00	12,242.82	14,949.83	11,961.43	62.22	60.85	16.18	-3,040.96	483.80	293.00	216.64	76.36	3.837		
15,600.00	12,242.11	15,049.82	11,960.82	63.25	61.89	16.00	-3,140.95	484.61	292.63	215.16	77.47	3.777		
15,700.00	12,241.40	15,149.82	11,960.21	64.30	62.94	15.82	-3,240.94	485.41	292.27	213.67	78.60	3.719		
15,800.00	12,240.69	15,249.81	11,959.60	65.36	64.01	15.64	-3,340.93	486.21	291.91	212.17	79.74	3.661		
15,900.00	12,239.98	15,349.81	11,958.99	66.44	65.09	15.46	-3,440.92	487.01	291.55	210.66	80.89	3.604		
16,000.00	12,239.27	15,449.80	11,958.37	67.52	66.18	15.28	-3,540.91	487.82	291.20	209.14	82.06	3.549		
16,100.00	12,238.56	15,549.80	11,957.76	68.63	67.29	15.10	-3,640.90	488.62	290.85	207.60	83.24	3.494		
16,200.00	12,237.85	15,649.79	11,957.15	69.74	68.40	14.92	-3,740.89	489.42	290.50	206.06	84.43	3.441		
16,300.00	12,237.14	15,749.79	11,956.54	70.86	69.53	14.74	-3,840.88	490.22	290.15	204.52	85.64	3.388		
16,400.00	12,236.43	15,849.78	11,955.93	72.00	70.68	14.56	-3,940.87	491.03	289.81	202.96	86.85	3.337		
16,500.00	12,235.72	15,949.78	11,955.32	73.14	71.83	14.38	-4,040.86	491.83	289.47	201.40	88.07	3.287		
16,600.00	12,235.01	16,049.77	11,954.71	74.30	72.99	14.19	-4,140.85	492.63	289.13	199.83	89.30	3.238		
16,700.00	12,234.31	16,149.77	11,954.10	75.46	74.16	14.01	-4,240.84	493.44	288.80	198.26	90.54	3.190		
16,800.00	12,233.60	16,249.76	11,953.49	76.64	75.34	13.83	-4,340.83	494.24	288.47	196.68	91.79	3.143		
16,900.00	12,232.89	16,349.76	11,952.88	77.82	76.53	13.64	-4,440.82	495.04	288.14	195.10	93.04	3.097		
17,000.00	12,232.18	16,449.76	11,952.27	79.01	77.73	13.46	-4,540.81	495.84	287.82	193.51	94.31	3.052		
17,100.00	12,231.47	16,549.75	11,951.66	80.21	78.93	13.27	-4,640.80	496.65	287.49	191.92	95.58	3.008		
17,200.00	12,230.76	16,649.75	11,951.04	81.42	80.15	13.09	-4,740.79	497.45	287.18	190.33	96.85	2.965		
17,300.00	12,230.05	16,749.74	11,950.43	82.63	81.37	12.90	-4,840.78	498.25	286.86	188.73	98.13	2.923		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Comanche 25-36 Fed State - 4H - OH - Plan #3												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,400.00	12,229.34	16,849.74	11,949.82	83.85	82.59	12.72	-4,940.77	499.06	286.55	187.13	99.42	2.882	
17,500.00	12,228.63	16,949.73	11,949.21	85.08	83.83	12.53	-5,040.76	499.86	286.24	185.53	100.71	2.842	
17,600.00	12,227.92	17,049.73	11,948.60	86.31	85.07	12.34	-5,140.75	500.66	285.93	183.92	102.01	2.803	
17,700.00	12,227.21	17,149.72	11,947.99	87.55	86.31	12.16	-5,240.74	501.46	285.63	182.32	103.31	2.765	
17,800.00	12,226.50	17,249.72	11,947.38	88.80	87.56	11.97	-5,340.73	502.27	285.33	180.71	104.62	2.727	
17,900.00	12,225.79	17,349.71	11,946.77	90.05	88.82	11.78	-5,440.72	503.07	285.03	179.10	105.93	2.691	
18,000.00	12,225.08	17,449.71	11,946.16	91.30	90.08	11.59	-5,540.71	503.87	284.73	177.49	107.24	2.655	
18,100.00	12,224.37	17,549.70	11,945.55	92.57	91.35	11.40	-5,640.70	504.67	284.44	175.88	108.56	2.620	
18,200.00	12,223.66	17,649.70	11,944.94	93.83	92.62	11.21	-5,740.69	505.48	284.15	174.27	109.88	2.586	
18,300.00	12,222.95	17,749.69	11,944.33	95.10	93.90	11.02	-5,840.68	506.28	283.87	172.66	111.21	2.553	
18,400.00	12,222.24	17,849.69	11,943.71	96.38	95.18	10.83	-5,940.67	507.08	283.59	171.05	112.54	2.520	
18,500.00	12,221.53	17,949.68	11,943.10	97.66	96.47	10.64	-6,040.66	507.89	283.31	169.43	113.87	2.488	
18,600.00	12,220.83	18,049.68	11,942.49	98.94	97.76	10.45	-6,140.65	508.69	283.03	167.82	115.21	2.457	
18,700.00	12,220.12	18,149.67	11,941.88	100.23	99.05	10.26	-6,240.64	509.49	282.76	166.21	116.55	2.426	
18,800.00	12,219.41	18,249.67	11,941.27	101.52	100.35	10.07	-6,340.63	510.29	282.49	164.60	117.89	2.396	
18,900.00	12,218.70	18,349.66	11,940.66	102.82	101.65	9.88	-6,440.62	511.10	282.22	162.98	119.24	2.367	
19,000.00	12,217.99	18,449.66	11,940.05	104.12	102.96	9.69	-6,540.61	511.90	281.96	161.37	120.59	2.338	
19,100.00	12,217.28	18,549.65	11,939.44	105.42	104.27	9.49	-6,640.60	512.70	281.70	159.76	121.94	2.310	
19,200.00	12,216.57	18,649.65	11,938.83	106.73	105.58	9.30	-6,740.59	513.51	281.44	158.15	123.29	2.283	
19,300.00	12,215.86	18,749.64	11,938.22	108.04	106.89	9.11	-6,840.58	514.31	281.19	156.54	124.65	2.256	
19,400.00	12,215.15	18,849.64	11,937.61	109.35	108.21	8.91	-6,940.57	515.11	280.94	154.93	126.01	2.229	
19,500.00	12,214.44	18,949.63	11,937.00	110.66	109.53	8.72	-7,040.56	515.91	280.69	153.32	127.37	2.204	
19,600.00	12,213.73	19,049.63	11,936.38	111.98	110.85	8.52	-7,140.55	516.72	280.45	151.71	128.74	2.178	
19,700.00	12,213.02	19,149.62	11,935.77	113.30	112.18	8.33	-7,240.54	517.52	280.21	150.10	130.11	2.154	
19,759.35	12,212.60	19,208.97	11,935.41	114.09	112.96	8.21	-7,299.89	518.00	280.07	149.18	130.89	2.140	
19,759.91	12,212.60	19,209.53	11,935.41	114.11	112.97	8.21	-7,300.45	518.00	280.06	149.16	130.90	2.139	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report



Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
Reference Site:	Comanche 25-36 Fed State	MD Reference:	KB=23.6' @ 2969.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	2Y	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB=23.6' @ 2969.60usft

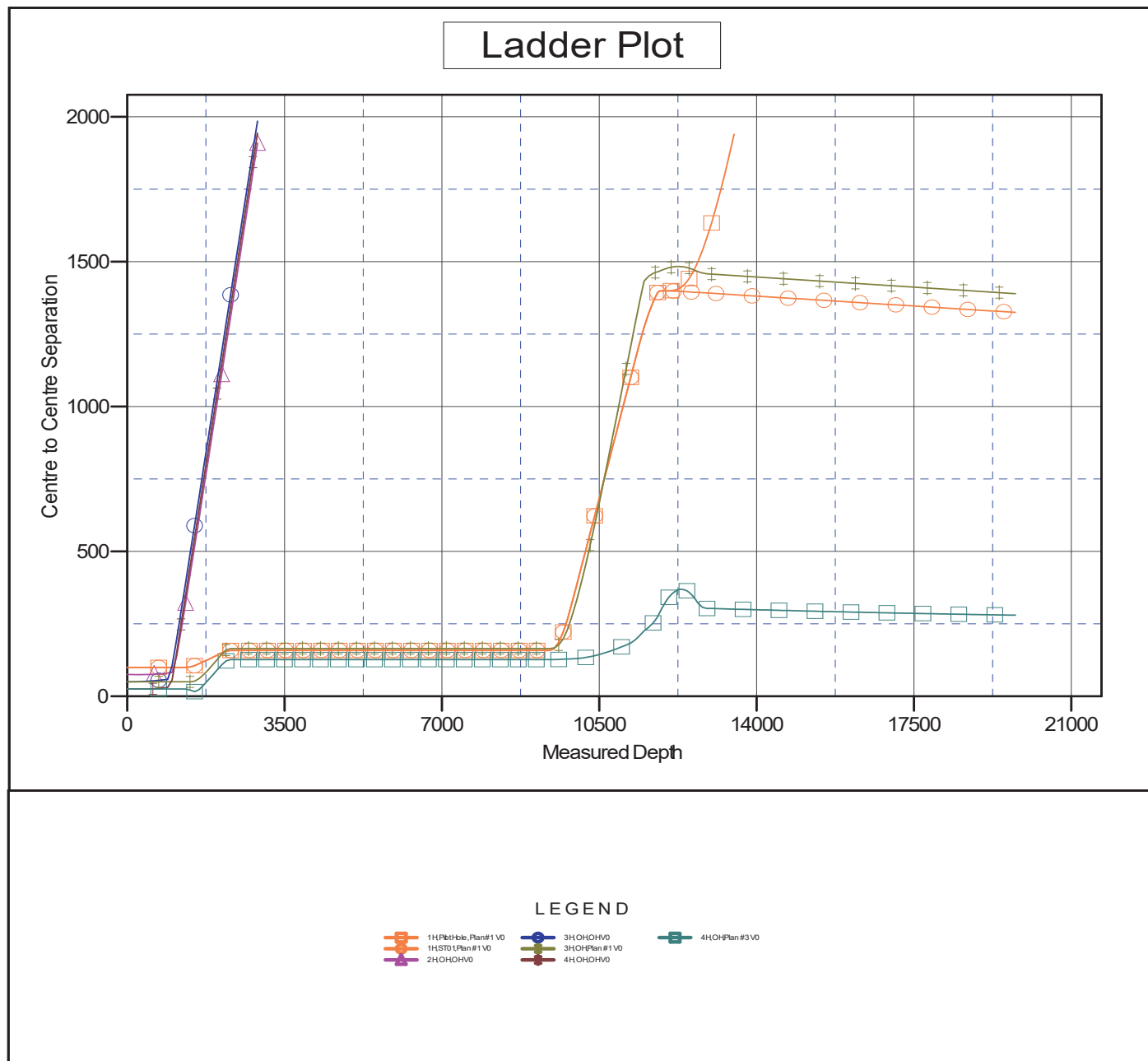
Offset Depths are relative to Offset Datum

Central Meridian is -104.333334

Coordinates are relative to: 2Y

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.54°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Altitude Energy Partners

Anticollision Report

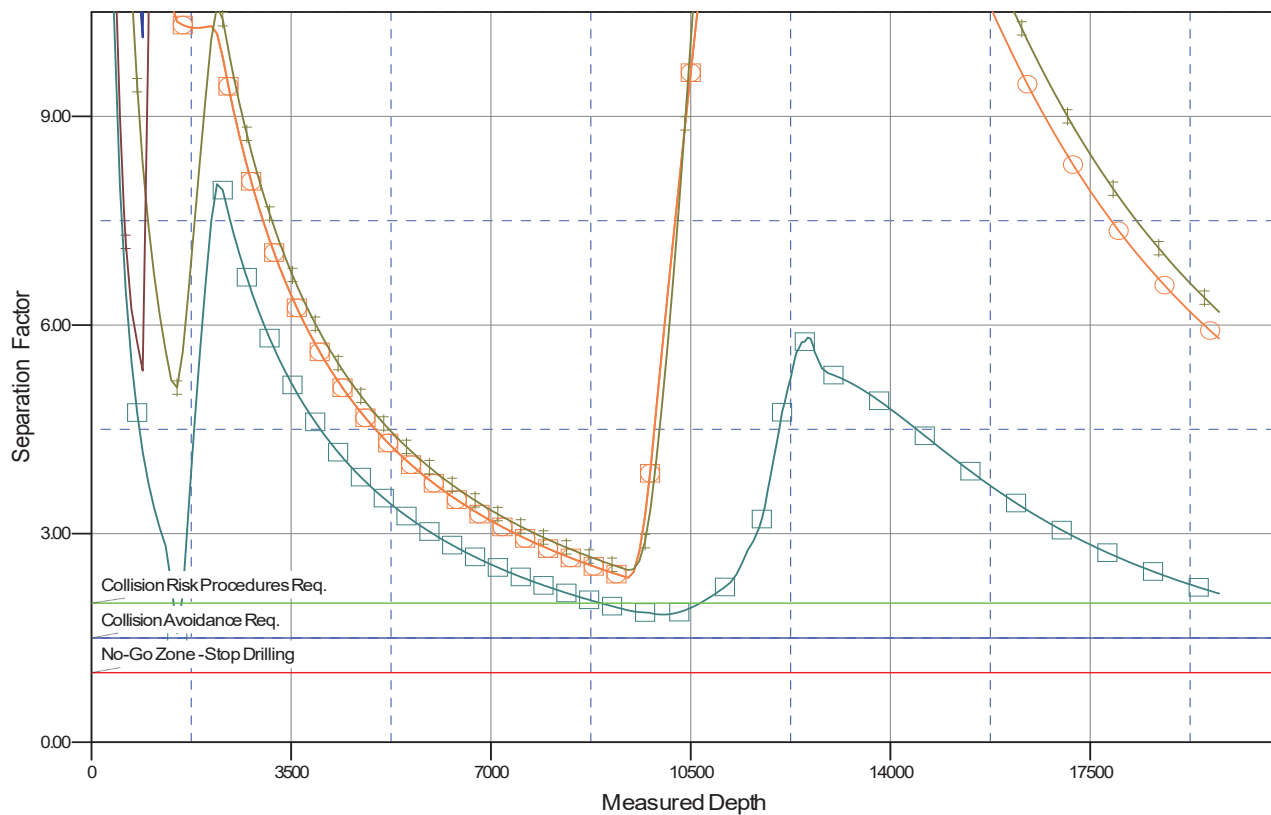


Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well 2Y
Project:	Lea Co., NM	TVD Reference:	KB=23.6' @ 2969.60usft
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Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB=23.6' @ 2969.60usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: 2Y
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 14596

CONDITIONS OF APPROVAL

Operator: CAZA OPERATING, LLC Suite 1550 Midland, TX79701	200 N Loraine St	OGRID: 249099	Action Number: 14596	Action Type: C-103V
OCD Reviewer pkautz	Condition None			