

BTA Oil Producers, LLC

Lea County, NM

Grama

Grama #4H

Wellbore #1

Plan: Design #1

HOBBS OCD

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Standard Planning Report - Geographic

17 October, 2016

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Planning Report - Geographic

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Grama #4H
Company:	BTA Oil Producers, LLC	TVD Reference:	KB @ 3501.0usft
Project:	Lea County, NM	MD Reference:	KB @ 3501.0usft
Site:	Grama	North Reference:	Grid
Well:	Grama #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project:	Lea County, NM, Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site:	Grama				
Site Position:	Northing:	504,907.50 usft	Latitude:	32° 23' 6.826 N	
From:	Map	Easting:	762,856.00 usft	Longitude:	103° 28' 54.589 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.46 °

Well:	Grama #4H					
Well Position	+N/-S	0.0 usft	Northing:	504,805.00 usft	Latitude:	32° 23' 5.580 N
	+E/-W	0.0 usft	Easting:	765,786.50 usft	Longitude:	103° 28' 20.427 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,476.0 usft	

Wellbore:	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	12/31/2009	(°)	(°)	(nT)
			7.72	60.41	48,901

Design:	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	359.66

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,882.0	0.00	0.00	9,882.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,782.0	90.00	359.66	10,455.0	572.9	-3.4	10.00	10.00	0.00	359.66	
20,367.8	90.00	359.66	10,455.0	10,158.5	-59.9	0.00	0.00	0.00	0.00	Grama #4H BHL

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Planning Report - Geographic

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Company: BTA Oil Producers, LLC
Project: Lea County, NM
Site: Grama
Well: Grama #4H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Grama #4H
TVD Reference: KB @ 3501.0usft
MD Reference: KB @ 3501.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
100.0	0.00	0.00	100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
200.0	0.00	0.00	200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
300.0	0.00	0.00	300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
400.0	0.00	0.00	400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
500.0	0.00	0.00	500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
600.0	0.00	0.00	600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
700.0	0.00	0.00	700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
800.0	0.00	0.00	800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
900.0	0.00	0.00	900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W
5,400.0	0.00	0.00	5,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N	103° 28' 20.427 W

BTA

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5,500.0	0.00	0.00	5,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
5,600.0	0.00	0.00	5,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
5,700.0	0.00	0.00	5,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
5,800.0	0.00	0.00	5,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
5,900.0	0.00	0.00	5,900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,000.0	0.00	0.00	6,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,100.0	0.00	0.00	6,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,200.0	0.00	0.00	6,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,300.0	0.00	0.00	6,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,400.0	0.00	0.00	6,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,500.0	0.00	0.00	6,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,600.0	0.00	0.00	6,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,700.0	0.00	0.00	6,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,800.0	0.00	0.00	6,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
6,900.0	0.00	0.00	6,900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,000.0	0.00	0.00	7,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,100.0	0.00	0.00	7,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,200.0	0.00	0.00	7,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,300.0	0.00	0.00	7,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,400.0	0.00	0.00	7,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,500.0	0.00	0.00	7,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,600.0	0.00	0.00	7,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,700.0	0.00	0.00	7,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,800.0	0.00	0.00	7,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
7,900.0	0.00	0.00	7,900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,000.0	0.00	0.00	8,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,100.0	0.00	0.00	8,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,200.0	0.00	0.00	8,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,300.0	0.00	0.00	8,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,400.0	0.00	0.00	8,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,500.0	0.00	0.00	8,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,600.0	0.00	0.00	8,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,700.0	0.00	0.00	8,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,800.0	0.00	0.00	8,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
8,900.0	0.00	0.00	8,900.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,000.0	0.00	0.00	9,000.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,100.0	0.00	0.00	9,100.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,200.0	0.00	0.00	9,200.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,300.0	0.00	0.00	9,300.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,400.0	0.00	0.00	9,400.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,500.0	0.00	0.00	9,500.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,600.0	0.00	0.00	9,600.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,700.0	0.00	0.00	9,700.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,800.0	0.00	0.00	9,800.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,882.0	0.00	0.00	9,882.0	0.0	0.0	504,805.00	765,786.50	32° 23' 5.580 N		103° 28' 20.427 W
9,900.0	1.80	359.66	9,900.0	0.3	0.0	504,805.28	765,786.50	32° 23' 5.582 N		103° 28' 20.427 W
10,000.0	11.80	359.66	9,999.2	12.1	-0.1	504,817.10	765,786.43	32° 23' 5.699 N		103° 28' 20.427 W
10,100.0	21.80	359.66	10,094.8	41.0	-0.2	504,845.96	765,786.26	32° 23' 5.985 N		103° 28' 20.426 W
10,200.0	31.80	359.66	10,183.9	86.0	-0.5	504,890.98	765,785.99	32° 23' 6.430 N		103° 28' 20.425 W
10,300.0	41.80	359.66	10,263.9	145.8	-0.9	504,950.80	765,785.64	32° 23' 7.022 N		103° 28' 20.423 W
10,400.0	51.80	359.66	10,332.3	218.6	-1.3	505,023.60	765,785.21	32° 23' 7.743 N		103° 28' 20.421 W
10,500.0	61.80	359.66	10,387.0	302.2	-1.8	505,107.16	765,784.72	32° 23' 8.570 N		103° 28' 20.419 W
10,600.0	71.80	359.66	10,426.3	394.0	-2.3	505,198.95	765,784.17	32° 23' 9.478 N		103° 28' 20.417 W
10,700.0	81.80	359.66	10,449.1	491.2	-2.9	505,296.18	765,783.60	32° 23' 10.440 N		103° 28' 20.415 W
10,782.0	90.00	359.66	10,455.0	572.9	-3.4	505,377.94	765,783.12	32° 23' 11.249 N		103° 28' 20.413 W

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 Company: BTA Oil Producers, LLC
 Project: Lea County, NM
 Site: Grama
 Well: Grama #4H
 Wellbore: Wellbore #1
 Design: Design #1

Local Co-ordinate Reference: Well Grama #4H
 TVD Reference: KB @ 3501.0usft
 MD Reference: KB @ 3501.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,800.0	90.00	359.66	10,455.0	590.9	-3.5	505,395.90	765,783.01	32° 23' 11.427 N	103° 28' 20.412 W
10,900.0	90.00	359.66	10,455.0	690.9	-4.1	505,495.90	765,782.42	32° 23' 12.416 N	103° 28' 20.410 W
11,000.0	90.00	359.66	10,455.0	790.9	-4.7	505,595.90	765,781.83	32° 23' 13.406 N	103° 28' 20.407 W
11,100.0	90.00	359.66	10,455.0	890.9	-5.3	505,695.89	765,781.24	32° 23' 14.395 N	103° 28' 20.405 W
11,200.0	90.00	359.66	10,455.0	990.9	-5.8	505,795.89	765,780.65	32° 23' 15.385 N	103° 28' 20.402 W
11,300.0	90.00	359.66	10,455.0	1,090.9	-6.4	505,895.89	765,780.06	32° 23' 16.374 N	103° 28' 20.400 W
11,400.0	90.00	359.66	10,455.0	1,190.9	-7.0	505,995.88	765,779.47	32° 23' 17.364 N	103° 28' 20.397 W
11,500.0	90.00	359.66	10,455.0	1,290.9	-7.6	506,095.88	765,778.89	32° 23' 18.353 N	103° 28' 20.395 W
11,600.0	90.00	359.66	10,455.0	1,390.9	-8.2	506,195.88	765,778.30	32° 23' 19.343 N	103° 28' 20.392 W
11,700.0	90.00	359.66	10,455.0	1,490.9	-8.8	506,295.88	765,777.71	32° 23' 20.332 N	103° 28' 20.390 W
11,800.0	90.00	359.66	10,455.0	1,590.9	-9.4	506,395.87	765,777.12	32° 23' 21.322 N	103° 28' 20.387 W
11,900.0	90.00	359.66	10,455.0	1,690.9	-10.0	506,495.87	765,776.53	32° 23' 22.312 N	103° 28' 20.385 W
12,000.0	90.00	359.66	10,455.0	1,790.9	-10.6	506,595.87	765,775.94	32° 23' 23.301 N	103° 28' 20.382 W
12,100.0	90.00	359.66	10,455.0	1,890.9	-11.1	506,695.87	765,775.35	32° 23' 24.291 N	103° 28' 20.380 W
12,200.0	90.00	359.66	10,455.0	1,990.9	-11.7	506,795.86	765,774.76	32° 23' 25.280 N	103° 28' 20.377 W
12,300.0	90.00	359.66	10,455.0	2,090.9	-12.3	506,895.86	765,774.17	32° 23' 26.270 N	103° 28' 20.374 W
12,400.0	90.00	359.66	10,455.0	2,190.9	-12.9	506,995.86	765,773.58	32° 23' 27.259 N	103° 28' 20.372 W
12,500.0	90.00	359.66	10,455.0	2,290.9	-13.5	507,095.85	765,772.99	32° 23' 28.249 N	103° 28' 20.369 W
12,600.0	90.00	359.66	10,455.0	2,390.9	-14.1	507,195.85	765,772.40	32° 23' 29.238 N	103° 28' 20.367 W
12,700.0	90.00	359.66	10,455.0	2,490.9	-14.7	507,295.85	765,771.81	32° 23' 30.228 N	103° 28' 20.364 W
12,800.0	90.00	359.66	10,455.0	2,590.9	-15.3	507,395.85	765,771.22	32° 23' 31.217 N	103° 28' 20.362 W
12,900.0	90.00	359.66	10,455.0	2,690.9	-15.9	507,495.84	765,770.63	32° 23' 32.207 N	103° 28' 20.359 W
13,000.0	90.00	359.66	10,455.0	2,790.9	-16.5	507,595.84	765,770.04	32° 23' 33.196 N	103° 28' 20.357 W
13,100.0	90.00	359.66	10,455.0	2,890.9	-17.0	507,695.84	765,769.45	32° 23' 34.186 N	103° 28' 20.354 W
13,200.0	90.00	359.66	10,455.0	2,990.9	-17.6	507,795.84	765,768.86	32° 23' 35.175 N	103° 28' 20.352 W
13,300.0	90.00	359.66	10,455.0	3,090.9	-18.2	507,895.83	765,768.27	32° 23' 36.165 N	103° 28' 20.349 W
13,400.0	90.00	359.66	10,455.0	3,190.9	-18.8	507,995.83	765,767.68	32° 23' 37.154 N	103° 28' 20.347 W
13,500.0	90.00	359.66	10,455.0	3,290.9	-19.4	508,095.83	765,767.09	32° 23' 38.144 N	103° 28' 20.344 W
13,600.0	90.00	359.66	10,455.0	3,390.9	-20.0	508,195.82	765,766.50	32° 23' 39.133 N	103° 28' 20.342 W
13,700.0	90.00	359.66	10,455.0	3,490.9	-20.6	508,295.82	765,765.91	32° 23' 40.123 N	103° 28' 20.339 W
13,800.0	90.00	359.66	10,455.0	3,590.9	-21.2	508,395.82	765,765.32	32° 23' 41.112 N	103° 28' 20.337 W
13,900.0	90.00	359.66	10,455.0	3,690.9	-21.8	508,495.82	765,764.73	32° 23' 42.102 N	103° 28' 20.334 W
14,000.0	90.00	359.66	10,455.0	3,790.8	-22.4	508,595.81	765,764.14	32° 23' 43.091 N	103° 28' 20.332 W
14,100.0	90.00	359.66	10,455.0	3,890.8	-22.9	508,695.81	765,763.55	32° 23' 44.081 N	103° 28' 20.329 W
14,200.0	90.00	359.66	10,455.0	3,990.8	-23.5	508,795.81	765,762.96	32° 23' 45.070 N	103° 28' 20.327 W
14,300.0	90.00	359.66	10,455.0	4,090.8	-24.1	508,895.80	765,762.38	32° 23' 46.060 N	103° 28' 20.324 W
14,400.0	90.00	359.66	10,455.0	4,190.8	-24.7	508,995.80	765,761.79	32° 23' 47.049 N	103° 28' 20.322 W
14,500.0	90.00	359.66	10,455.0	4,290.8	-25.3	509,095.80	765,761.20	32° 23' 48.039 N	103° 28' 20.319 W
14,600.0	90.00	359.66	10,455.0	4,390.8	-25.9	509,195.80	765,760.61	32° 23' 49.029 N	103° 28' 20.317 W
14,700.0	90.00	359.66	10,455.0	4,490.8	-26.5	509,295.79	765,760.02	32° 23' 50.018 N	103° 28' 20.314 W
14,800.0	90.00	359.66	10,455.0	4,590.8	-27.1	509,395.79	765,759.43	32° 23' 51.008 N	103° 28' 20.312 W
14,900.0	90.00	359.66	10,455.0	4,690.8	-27.7	509,495.79	765,758.84	32° 23' 51.997 N	103° 28' 20.309 W
15,000.0	90.00	359.66	10,455.0	4,790.8	-28.2	509,595.79	765,758.25	32° 23' 52.987 N	103° 28' 20.307 W
15,100.0	90.00	359.66	10,455.0	4,890.8	-28.8	509,695.78	765,757.66	32° 23' 53.976 N	103° 28' 20.304 W
15,200.0	90.00	359.66	10,455.0	4,990.8	-29.4	509,795.78	765,757.07	32° 23' 54.966 N	103° 28' 20.302 W
15,300.0	90.00	359.66	10,455.0	5,090.8	-30.0	509,895.78	765,756.48	32° 23' 55.955 N	103° 28' 20.299 W
15,400.0	90.00	359.66	10,455.0	5,190.8	-30.6	509,995.77	765,755.89	32° 23' 56.945 N	103° 28' 20.297 W
15,500.0	90.00	359.66	10,455.0	5,290.8	-31.2	510,095.77	765,755.30	32° 23' 57.934 N	103° 28' 20.294 W
15,600.0	90.00	359.66	10,455.0	5,390.8	-31.8	510,195.77	765,754.71	32° 23' 58.924 N	103° 28' 20.292 W
15,700.0	90.00	359.66	10,455.0	5,490.8	-32.4	510,295.77	765,754.12	32° 23' 59.913 N	103° 28' 20.289 W
15,800.0	90.00	359.66	10,455.0	5,590.8	-33.0	510,395.76	765,753.53	32° 24' 0.903 N	103° 28' 20.287 W
15,900.0	90.00	359.66	10,455.0	5,690.8	-33.6	510,495.76	765,752.94	32° 24' 1.892 N	103° 28' 20.284 W
16,000.0	90.00	359.66	10,455.0	5,790.8	-34.1	510,595.76	765,752.35	32° 24' 2.882 N	103° 28' 20.281 W
16,100.0	90.00	359.66	10,455.0	5,890.8	-34.7	510,695.76	765,751.76	32° 24' 3.871 N	103° 28' 20.279 W
16,200.0	90.00	359.66	10,455.0	5,990.8	-35.3	510,795.75	765,751.17	32° 24' 4.861 N	103° 28' 20.276 W

BTA

Planning Report - Geographic

Database: EDM 5000.1 Single User Db
Company: BTA Oil Producers, LLC
Project: Lea County, NM
Site: Grama
Well: Grama #4H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Grama #4H
TVD Reference: KB @ 3501.0usft
MD Reference: KB @ 3501.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
16,300.0	90.00	359.66	10,455.0	6,090.8	-35.9	510,895.75	765,750.58	32° 24' 5.850 N	103° 28' 20.274 W
16,400.0	90.00	359.66	10,455.0	6,190.8	-36.5	510,995.75	765,749.99	32° 24' 6.840 N	103° 28' 20.271 W
16,500.0	90.00	359.66	10,455.0	6,290.8	-37.1	511,095.74	765,749.40	32° 24' 7.829 N	103° 28' 20.269 W
16,600.0	90.00	359.66	10,455.0	6,390.8	-37.7	511,195.74	765,748.81	32° 24' 8.819 N	103° 28' 20.266 W
16,700.0	90.00	359.66	10,455.0	6,490.8	-38.3	511,295.74	765,748.22	32° 24' 9.808 N	103° 28' 20.264 W
16,800.0	90.00	359.66	10,455.0	6,590.8	-38.9	511,395.74	765,747.63	32° 24' 10.798 N	103° 28' 20.261 W
16,900.0	90.00	359.66	10,455.0	6,690.8	-39.5	511,495.73	765,747.04	32° 24' 11.787 N	103° 28' 20.259 W
17,000.0	90.00	359.66	10,455.0	6,790.8	-40.0	511,595.73	765,746.45	32° 24' 12.777 N	103° 28' 20.256 W
17,100.0	90.00	359.66	10,455.0	6,890.8	-40.6	511,695.73	765,745.87	32° 24' 13.766 N	103° 28' 20.254 W
17,200.0	90.00	359.66	10,455.0	6,990.8	-41.2	511,795.73	765,745.28	32° 24' 14.756 N	103° 28' 20.251 W
17,300.0	90.00	359.66	10,455.0	7,090.8	-41.8	511,895.72	765,744.69	32° 24' 15.746 N	103° 28' 20.249 W
17,400.0	90.00	359.66	10,455.0	7,190.8	-42.4	511,995.72	765,744.10	32° 24' 16.735 N	103° 28' 20.246 W
17,500.0	90.00	359.66	10,455.0	7,290.8	-43.0	512,095.72	765,743.51	32° 24' 17.725 N	103° 28' 20.244 W
17,600.0	90.00	359.66	10,455.0	7,390.8	-43.6	512,195.71	765,742.92	32° 24' 18.714 N	103° 28' 20.241 W
17,700.0	90.00	359.66	10,455.0	7,490.8	-44.2	512,295.71	765,742.33	32° 24' 19.704 N	103° 28' 20.239 W
17,800.0	90.00	359.66	10,455.0	7,590.8	-44.8	512,395.71	765,741.74	32° 24' 20.693 N	103° 28' 20.236 W
17,900.0	90.00	359.66	10,455.0	7,690.8	-45.3	512,495.71	765,741.15	32° 24' 21.683 N	103° 28' 20.234 W
18,000.0	90.00	359.66	10,455.0	7,790.8	-45.9	512,595.70	765,740.56	32° 24' 22.672 N	103° 28' 20.231 W
18,100.0	90.00	359.66	10,455.0	7,890.8	-46.5	512,695.70	765,739.97	32° 24' 23.662 N	103° 28' 20.229 W
18,200.0	90.00	359.66	10,455.0	7,990.8	-47.1	512,795.70	765,739.38	32° 24' 24.651 N	103° 28' 20.226 W
18,300.0	90.00	359.66	10,455.0	8,090.8	-47.7	512,895.70	765,738.79	32° 24' 25.641 N	103° 28' 20.224 W
18,400.0	90.00	359.66	10,455.0	8,190.8	-48.3	512,995.69	765,738.20	32° 24' 26.630 N	103° 28' 20.221 W
18,500.0	90.00	359.66	10,455.0	8,290.8	-48.9	513,095.69	765,737.61	32° 24' 27.620 N	103° 28' 20.219 W
18,600.0	90.00	359.66	10,455.0	8,390.8	-49.5	513,195.69	765,737.02	32° 24' 28.609 N	103° 28' 20.216 W
18,700.0	90.00	359.66	10,455.0	8,490.8	-50.1	513,295.68	765,736.43	32° 24' 29.599 N	103° 28' 20.214 W
18,800.0	90.00	359.66	10,455.0	8,590.8	-50.7	513,395.68	765,735.84	32° 24' 30.588 N	103° 28' 20.211 W
18,900.0	90.00	359.66	10,455.0	8,690.8	-51.2	513,495.68	765,735.25	32° 24' 31.578 N	103° 28' 20.209 W
19,000.0	90.00	359.66	10,455.0	8,790.8	-51.8	513,595.68	765,734.66	32° 24' 32.567 N	103° 28' 20.206 W
19,100.0	90.00	359.66	10,455.0	8,890.8	-52.4	513,695.67	765,734.07	32° 24' 33.557 N	103° 28' 20.203 W
19,200.0	90.00	359.66	10,455.0	8,990.8	-53.0	513,795.67	765,733.48	32° 24' 34.546 N	103° 28' 20.201 W
19,300.0	90.00	359.66	10,455.0	9,090.8	-53.6	513,895.67	765,732.89	32° 24' 35.536 N	103° 28' 20.198 W
19,400.0	90.00	359.66	10,455.0	9,190.8	-54.2	513,995.67	765,732.30	32° 24' 36.525 N	103° 28' 20.196 W
19,500.0	90.00	359.66	10,455.0	9,290.8	-54.8	514,095.66	765,731.71	32° 24' 37.515 N	103° 28' 20.193 W
19,600.0	90.00	359.66	10,455.0	9,390.8	-55.4	514,195.66	765,731.12	32° 24' 38.504 N	103° 28' 20.191 W
19,700.0	90.00	359.66	10,455.0	9,490.8	-56.0	514,295.66	765,730.53	32° 24' 39.494 N	103° 28' 20.188 W
19,800.0	90.00	359.66	10,455.0	9,590.7	-56.6	514,395.65	765,729.94	32° 24' 40.483 N	103° 28' 20.186 W
19,900.0	90.00	359.66	10,455.0	9,690.7	-57.1	514,495.65	765,729.36	32° 24' 41.473 N	103° 28' 20.183 W
20,000.0	90.00	359.66	10,455.0	9,790.7	-57.7	514,595.65	765,728.77	32° 24' 42.462 N	103° 28' 20.181 W
20,100.0	90.00	359.66	10,455.0	9,890.7	-58.3	514,695.65	765,728.18	32° 24' 43.452 N	103° 28' 20.178 W
20,200.0	90.00	359.66	10,455.0	9,990.7	-58.9	514,795.64	765,727.59	32° 24' 44.441 N	103° 28' 20.176 W
20,300.0	90.00	359.66	10,455.0	10,090.7	-59.5	514,895.64	765,727.00	32° 24' 45.431 N	103° 28' 20.173 W
20,367.8	90.00	359.66	10,455.0	10,158.5	-59.9	514,963.40	765,726.60	32° 24' 46.102 N	103° 28' 20.172 W

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
hit/miss target									
Shape									
Grama #4H BHL	0.00	0.00	10,455.0	10,158.5	-59.9	514,963.40	765,726.60	32° 24' 46.102 N	103° 28' 20.172 W
- plan hits target center									
- Point									

BTA

Planning Report - Geographic

Database: EDM 5000.1 Single User Db
Company: BTA Oil Producers, LLC
Project: Lea County, NM
Site: Grama
Well: Grama #4H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Grama #4H
TVD Reference: KB @ 3501.0usft
MD Reference: KB @ 3501.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature