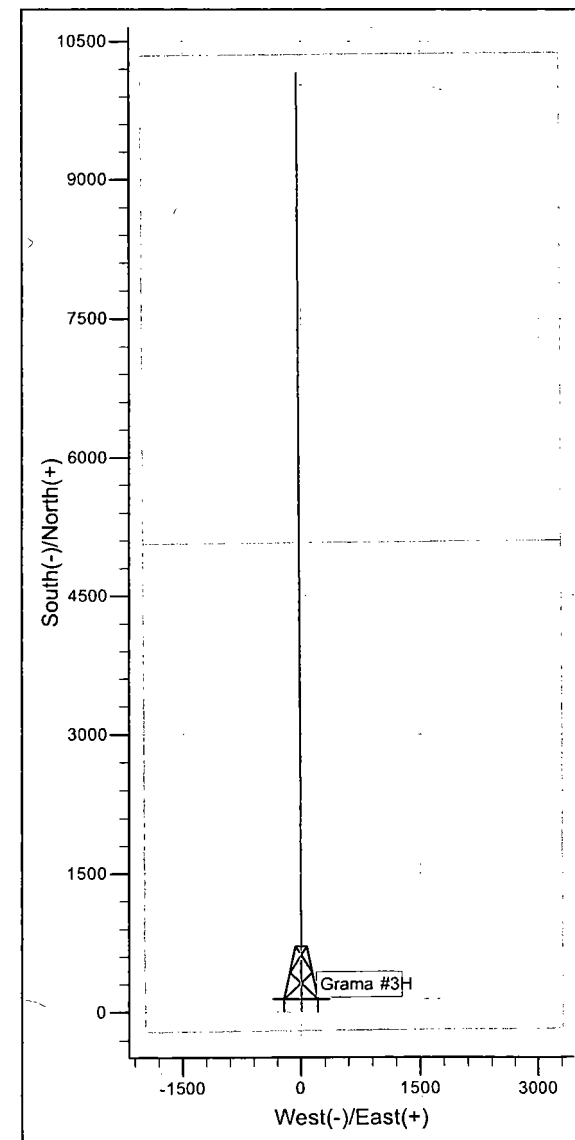
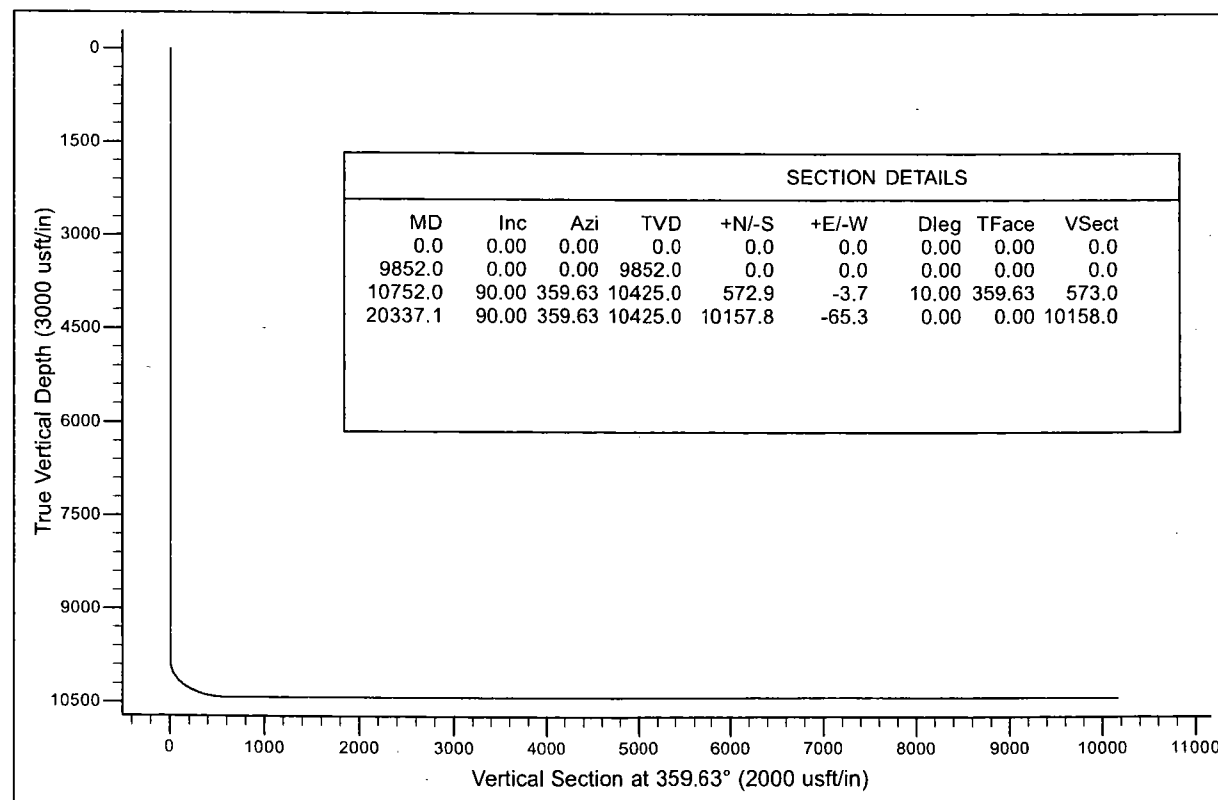


WELL DETAILS: Grama #3H					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	504794.30	764456.50	32° 23' 5.579 N	103° 28' 35.937 W

SITE DETAILS: Grama	
Site Centre Northing:	504907.50
Easting:	762856.00
Positional Uncertainty:	0.0
Convergence:	0.46
Local North:	Grid

BTA Oil Producers, LLC

PROJECT DETAILS: Lea County, NM	
Geodetic System:	US State Plane 1927 (Exact solution)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	New Mexico East 3001
System Datum:	Ground Level



BTA Oil Producers, LLC

Lea County, NM

Grama

Grama #3H

Wellbore #1

Plan: Design #1

HOBBS OCD
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Standard Planning Report - Geographic

17 October, 2016

BTA
Planning Report - Geographic

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Grama #3H
Company:	BTA Oil Producers, LLC	TVD Reference:	KB @ 3505.0usft (Nomac 94)
Project:	Lea County, NM	MD Reference:	KB @ 3505.0usft (Nomac 94)
Site:	Grama	North Reference:	Grid
Well:	Grama #3H	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 #3H		
Well Position	+N/-S	0.0 usft	Latitude: 32° 23' 5.579 N
	+E/-W	0.0 usft	Longitude: 103° 28' 35.937 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft Ground Level: 3,480.0 usft

Wellbore:	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	12/31/2009	7.72	60.41	48,900

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction 359.63
			(°)

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	
9,852.0	0.00	0.00	9,852.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,752.0	90.00	359.63	10,425.0	572.9	-3.7	10.00	10.00	0.00	359.63	
20,337.1	90.00	359.63	10,425.0	10,157.8	-65.3	0.00	0.00	0.00	0.00	Grama #3H BHL

BTA

Planning Report - Geographic

Database: EDM 5000.1 Single User Db
 Company: BTA Oil Producers, LLC
 Project: Lea County, NM
 Site: Grama
 Well: Grama #3H
 Wellbore: Wellbore #1
 Design: Design #1

Local Co-ordinate Reference: Well Grama #3H
 TVD Reference: KB @ 3505.0usft (Nomac 94)
 MD Reference: KB @ 3505.0usft (Nomac 94)
 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	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
100.0	0.00	0.00	100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
200.0	0.00	0.00	200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
300.0	0.00	0.00	300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
400.0	0.00	0.00	400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
500.0	0.00	0.00	500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
600.0	0.00	0.00	600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
700.0	0.00	0.00	700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
800.0	0.00	0.00	800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
900.0	0.00	0.00	900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W
5,400.0	0.00	0.00	5,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 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 #3H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Grama #3H
TVD Reference: KB @ 3505.0usft (Nomac 94)
MD Reference: KB @ 3505.0usft (Nomac 94)
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	
5,500.0	0.00	0.00	5,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
5,700.0	0.00	0.00	5,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
5,800.0	0.00	0.00	5,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
5,900.0	0.00	0.00	5,900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,100.0	0.00	0.00	6,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,200.0	0.00	0.00	6,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,300.0	0.00	0.00	6,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,400.0	0.00	0.00	6,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,500.0	0.00	0.00	6,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,600.0	0.00	0.00	6,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,700.0	0.00	0.00	6,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,800.0	0.00	0.00	6,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
6,900.0	0.00	0.00	6,900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,000.0	0.00	0.00	7,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,100.0	0.00	0.00	7,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,200.0	0.00	0.00	7,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,300.0	0.00	0.00	7,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,400.0	0.00	0.00	7,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,500.0	0.00	0.00	7,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,600.0	0.00	0.00	7,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,700.0	0.00	0.00	7,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,800.0	0.00	0.00	7,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
7,900.0	0.00	0.00	7,900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,000.0	0.00	0.00	8,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,100.0	0.00	0.00	8,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,200.0	0.00	0.00	8,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,300.0	0.00	0.00	8,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,400.0	0.00	0.00	8,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,500.0	0.00	0.00	8,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,600.0	0.00	0.00	8,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,700.0	0.00	0.00	8,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,800.0	0.00	0.00	8,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
8,900.0	0.00	0.00	8,900.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,000.0	0.00	0.00	9,000.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,100.0	0.00	0.00	9,100.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,200.0	0.00	0.00	9,200.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,300.0	0.00	0.00	9,300.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,400.0	0.00	0.00	9,400.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,500.0	0.00	0.00	9,500.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,600.0	0.00	0.00	9,600.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,700.0	0.00	0.00	9,700.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,800.0	0.00	0.00	9,800.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,852.0	0.00	0.00	9,852.0	0.0	0.0	504,794.30	764,456.50	32° 23' 5.579 N	103° 28' 35.937 W	
9,900.0	4.80	359.63	9,899.9	2.0	0.0	504,796.31	764,456.48	32° 23' 5.599 N	103° 28' 35.937 W	
10,000.0	14.80	359.63	9,998.4	19.0	-0.1	504,813.30	764,456.37	32° 23' 5.767 N	103° 28' 35.936 W	
10,100.0	24.80	359.63	10,092.3	52.8	-0.3	504,847.12	764,456.16	32° 23' 6.102 N	103° 28' 35.936 W	
10,200.0	34.80	359.63	10,179.0	102.4	-0.7	504,896.75	764,455.84	32° 23' 6.593 N	103° 28' 35.935 W	
10,300.0	44.80	359.63	10,255.7	166.4	-1.1	504,960.67	764,455.43	32° 23' 7.226 N	103° 28' 35.934 W	
10,400.0	54.80	359.63	10,320.2	242.6	-1.6	505,036.95	764,454.94	32° 23' 7.980 N	103° 28' 35.932 W	
10,500.0	64.80	359.63	10,370.5	329.0	-2.1	505,123.26	764,454.38	32° 23' 8.835 N	103° 28' 35.931 W	
10,600.0	74.80	359.63	10,404.9	422.7	-2.7	505,216.98	764,453.78	32° 23' 9.762 N	103° 28' 35.929 W	
10,700.0	84.80	359.63	10,422.6	521.0	-3.3	505,315.27	764,453.15	32° 23' 10.735 N	103° 28' 35.927 W	
10,752.0	90.00	359.63	10,425.0	572.9	-3.7	505,367.24	764,452.81	32° 23' 11.249 N	103° 28' 35.926 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 #3H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Grama #3H
TVD Reference: KB @ 3505.0usft (Nomac 94)
MD Reference: KB @ 3505.0usft (Nomac 94)
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	359.63	10,425.0	620.9	-4.0	505,415.20	764,452.51	32° 23' 11.723 N	103° 28' 35.925 W
10,900.0	90.00	359.63	10,425.0	720.9	-4.6	505,515.19	764,451.86	32° 23' 12.713 N	103° 28' 35.924 W
11,000.0	90.00	359.63	10,425.0	820.9	-5.3	505,615.19	764,451.22	32° 23' 13.702 N	103° 28' 35.922 W
11,100.0	90.00	359.63	10,425.0	920.9	-5.9	505,715.19	764,450.58	32° 23' 14.692 N	103° 28' 35.920 W
11,200.0	90.00	359.63	10,425.0	1,020.9	-6.6	505,815.18	764,449.93	32° 23' 15.682 N	103° 28' 35.918 W
11,300.0	90.00	359.63	10,425.0	1,120.9	-7.2	505,915.18	764,449.29	32° 23' 16.671 N	103° 28' 35.916 W
11,400.0	90.00	359.63	10,425.0	1,220.9	-7.8	506,015.18	764,448.65	32° 23' 17.661 N	103° 28' 35.914 W
11,500.0	90.00	359.63	10,425.0	1,320.9	-8.5	506,115.18	764,448.01	32° 23' 18.650 N	103° 28' 35.912 W
11,600.0	90.00	359.63	10,425.0	1,420.9	-9.1	506,215.17	764,447.36	32° 23' 19.640 N	103° 28' 35.911 W
11,700.0	90.00	359.63	10,425.0	1,520.9	-9.8	506,315.17	764,446.72	32° 23' 20.629 N	103° 28' 35.909 W
11,800.0	90.00	359.63	10,425.0	1,620.9	-10.4	506,415.17	764,446.08	32° 23' 21.619 N	103° 28' 35.907 W
11,900.0	90.00	359.63	10,425.0	1,720.9	-11.1	506,515.16	764,445.43	32° 23' 22.608 N	103° 28' 35.905 W
12,000.0	90.00	359.63	10,425.0	1,820.9	-11.7	506,615.16	764,444.79	32° 23' 23.598 N	103° 28' 35.903 W
12,100.0	90.00	359.63	10,425.0	1,920.9	-12.3	506,715.16	764,444.15	32° 23' 24.587 N	103° 28' 35.901 W
12,200.0	90.00	359.63	10,425.0	2,020.9	-13.0	506,815.15	764,443.51	32° 23' 25.577 N	103° 28' 35.900 W
12,300.0	90.00	359.63	10,425.0	2,120.9	-13.6	506,915.15	764,442.86	32° 23' 26.566 N	103° 28' 35.898 W
12,400.0	90.00	359.63	10,425.0	2,220.9	-14.3	507,015.15	764,442.22	32° 23' 27.556 N	103° 28' 35.896 W
12,500.0	90.00	359.63	10,425.0	2,320.9	-14.9	507,115.14	764,441.58	32° 23' 28.545 N	103° 28' 35.894 W
12,600.0	90.00	359.63	10,425.0	2,420.9	-15.6	507,215.14	764,440.93	32° 23' 29.535 N	103° 28' 35.892 W
12,700.0	90.00	359.63	10,425.0	2,520.9	-16.2	507,315.14	764,440.29	32° 23' 30.524 N	103° 28' 35.890 W
12,800.0	90.00	359.63	10,425.0	2,620.9	-16.8	507,415.13	764,439.65	32° 23' 31.514 N	103° 28' 35.888 W
12,900.0	90.00	359.63	10,425.0	2,720.9	-17.5	507,515.13	764,439.01	32° 23' 32.503 N	103° 28' 35.887 W
13,000.0	90.00	359.63	10,425.0	2,820.9	-18.1	507,615.13	764,438.36	32° 23' 33.493 N	103° 28' 35.885 W
13,100.0	90.00	359.63	10,425.0	2,920.9	-18.8	507,715.13	764,437.72	32° 23' 34.482 N	103° 28' 35.883 W
13,200.0	90.00	359.63	10,425.0	3,020.9	-19.4	507,815.12	764,437.08	32° 23' 35.472 N	103° 28' 35.881 W
13,300.0	90.00	359.63	10,425.0	3,120.9	-20.1	507,915.12	764,436.43	32° 23' 36.461 N	103° 28' 35.879 W
13,400.0	90.00	359.63	10,425.0	3,220.8	-20.7	508,015.12	764,435.79	32° 23' 37.451 N	103° 28' 35.877 W
13,500.0	90.00	359.63	10,425.0	3,320.8	-21.3	508,115.11	764,435.15	32° 23' 38.440 N	103° 28' 35.876 W
13,600.0	90.00	359.63	10,425.0	3,420.8	-22.0	508,215.11	764,434.51	32° 23' 39.430 N	103° 28' 35.874 W
13,700.0	90.00	359.63	10,425.0	3,520.8	-22.6	508,315.11	764,433.86	32° 23' 40.420 N	103° 28' 35.872 W
13,800.0	90.00	359.63	10,425.0	3,620.8	-23.3	508,415.10	764,433.22	32° 23' 41.409 N	103° 28' 35.870 W
13,900.0	90.00	359.63	10,425.0	3,720.8	-23.9	508,515.10	764,432.58	32° 23' 42.399 N	103° 28' 35.868 W
14,000.0	90.00	359.63	10,425.0	3,820.8	-24.6	508,615.10	764,431.93	32° 23' 43.388 N	103° 28' 35.866 W
14,100.0	90.00	359.63	10,425.0	3,920.8	-25.2	508,715.09	764,431.29	32° 23' 44.378 N	103° 28' 35.864 W
14,200.0	90.00	359.63	10,425.0	4,020.8	-25.8	508,815.09	764,430.65	32° 23' 45.367 N	103° 28' 35.863 W
14,300.0	90.00	359.63	10,425.0	4,120.8	-26.5	508,915.09	764,430.01	32° 23' 46.357 N	103° 28' 35.861 W
14,400.0	90.00	359.63	10,425.0	4,220.8	-27.1	509,015.08	764,429.36	32° 23' 47.346 N	103° 28' 35.859 W
14,500.0	90.00	359.63	10,425.0	4,320.8	-27.8	509,115.08	764,428.72	32° 23' 48.336 N	103° 28' 35.857 W
14,600.0	90.00	359.63	10,425.0	4,420.8	-28.4	509,215.08	764,428.08	32° 23' 49.325 N	103° 28' 35.855 W
14,700.0	90.00	359.63	10,425.0	4,520.8	-29.1	509,315.07	764,427.43	32° 23' 50.315 N	103° 28' 35.853 W
14,800.0	90.00	359.63	10,425.0	4,620.8	-29.7	509,415.07	764,426.79	32° 23' 51.304 N	103° 28' 35.852 W
14,900.0	90.00	359.63	10,425.0	4,720.8	-30.3	509,515.07	764,426.15	32° 23' 52.294 N	103° 28' 35.850 W
15,000.0	90.00	359.63	10,425.0	4,820.8	-31.0	509,615.07	764,425.51	32° 23' 53.283 N	103° 28' 35.848 W
15,100.0	90.00	359.63	10,425.0	4,920.8	-31.6	509,715.06	764,424.86	32° 23' 54.273 N	103° 28' 35.846 W
15,200.0	90.00	359.63	10,425.0	5,020.8	-32.3	509,815.06	764,424.22	32° 23' 55.262 N	103° 28' 35.844 W
15,300.0	90.00	359.63	10,425.0	5,120.8	-32.9	509,915.06	764,423.58	32° 23' 56.252 N	103° 28' 35.842 W
15,400.0	90.00	359.63	10,425.0	5,220.8	-33.6	510,015.05	764,422.93	32° 23' 57.241 N	103° 28' 35.840 W
15,500.0	90.00	359.63	10,425.0	5,320.8	-34.2	510,115.05	764,422.29	32° 23' 58.231 N	103° 28' 35.839 W
15,600.0	90.00	359.63	10,425.0	5,420.8	-34.8	510,215.05	764,421.65	32° 23' 59.220 N	103° 28' 35.837 W
15,700.0	90.00	359.63	10,425.0	5,520.8	-35.5	510,315.04	764,421.01	32° 24' 0.210 N	103° 28' 35.835 W
15,800.0	90.00	359.63	10,425.0	5,620.8	-36.1	510,415.04	764,420.36	32° 24' 1.199 N	103° 28' 35.833 W
15,900.0	90.00	359.63	10,425.0	5,720.8	-36.8	510,515.04	764,419.72	32° 24' 2.189 N	103° 28' 35.831 W
16,000.0	90.00	359.63	10,425.0	5,820.8	-37.4	510,615.03	764,419.08	32° 24' 3.178 N	103° 28' 35.829 W
16,100.0	90.00	359.63	10,425.0	5,920.8	-38.1	510,715.03	764,418.43	32° 24' 4.168 N	103° 28' 35.828 W
16,200.0	90.00	359.63	10,425.0	6,020.8	-38.7	510,815.03	764,417.79	32° 24' 5.158 N	103° 28' 35.826 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 #3H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Grama #3H
TVD Reference: KB @ 3505.0usft (Nomac 94)
MD Reference: KB @ 3505.0usft (Nomac 94)
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	359.63	10,425.0	6,120.8	-39.3	510,915.02	764,417.15	32° 24' 6.147 N	103° 28' 35.824 W	
16,400.0	90.00	359.63	10,425.0	6,220.8	-40.0	511,015.02	764,416.51	32° 24' 7.137 N	103° 28' 35.822 W	
16,500.0	90.00	359.63	10,425.0	6,320.8	-40.6	511,115.02	764,415.86	32° 24' 8.126 N	103° 28' 35.820 W	
16,600.0	90.00	359.63	10,425.0	6,420.8	-41.3	511,215.01	764,415.22	32° 24' 9.116 N	103° 28' 35.818 W	
16,700.0	90.00	359.63	10,425.0	6,520.8	-41.9	511,315.01	764,414.58	32° 24' 10.105 N	103° 28' 35.816 W	
16,800.0	90.00	359.63	10,425.0	6,620.8	-42.6	511,415.01	764,413.94	32° 24' 11.095 N	103° 28' 35.815 W	
16,900.0	90.00	359.63	10,425.0	6,720.8	-43.2	511,515.01	764,413.29	32° 24' 12.084 N	103° 28' 35.813 W	
17,000.0	90.00	359.63	10,425.0	6,820.8	-43.8	511,615.00	764,412.65	32° 24' 13.074 N	103° 28' 35.811 W	
17,100.0	90.00	359.63	10,425.0	6,920.8	-44.5	511,715.00	764,412.01	32° 24' 14.063 N	103° 28' 35.809 W	
17,200.0	90.00	359.63	10,425.0	7,020.8	-45.1	511,815.00	764,411.36	32° 24' 15.053 N	103° 28' 35.807 W	
17,300.0	90.00	359.63	10,425.0	7,120.8	-45.8	511,914.99	764,410.72	32° 24' 16.042 N	103° 28' 35.805 W	
17,400.0	90.00	359.63	10,425.0	7,220.8	-46.4	512,014.99	764,410.08	32° 24' 17.032 N	103° 28' 35.804 W	
17,500.0	90.00	359.63	10,425.0	7,320.8	-47.1	512,114.99	764,409.44	32° 24' 18.021 N	103° 28' 35.802 W	
17,600.0	90.00	359.63	10,425.0	7,420.8	-47.7	512,214.98	764,408.79	32° 24' 19.011 N	103° 28' 35.800 W	
17,700.0	90.00	359.63	10,425.0	7,520.8	-48.3	512,314.98	764,408.15	32° 24' 20.000 N	103° 28' 35.798 W	
17,800.0	90.00	359.63	10,425.0	7,620.8	-49.0	512,414.98	764,407.51	32° 24' 20.990 N	103° 28' 35.796 W	
17,900.0	90.00	359.63	10,425.0	7,720.8	-49.6	512,514.97	764,406.86	32° 24' 21.979 N	103° 28' 35.794 W	
18,000.0	90.00	359.63	10,425.0	7,820.8	-50.3	512,614.97	764,406.22	32° 24' 22.969 N	103° 28' 35.792 W	
18,100.0	90.00	359.63	10,425.0	7,920.8	-50.9	512,714.97	764,405.58	32° 24' 23.958 N	103° 28' 35.791 W	
18,200.0	90.00	359.63	10,425.0	8,020.7	-51.6	512,814.96	764,404.94	32° 24' 24.948 N	103° 28' 35.789 W	
18,300.0	90.00	359.63	10,425.0	8,120.7	-52.2	512,914.96	764,404.29	32° 24' 25.937 N	103° 28' 35.787 W	
18,400.0	90.00	359.63	10,425.0	8,220.7	-52.8	513,014.96	764,403.65	32° 24' 26.927 N	103° 28' 35.785 W	
18,500.0	90.00	359.63	10,425.0	8,320.7	-53.5	513,114.96	764,403.01	32° 24' 27.916 N	103° 28' 35.783 W	
18,600.0	90.00	359.63	10,425.0	8,420.7	-54.1	513,214.95	764,402.36	32° 24' 28.906 N	103° 28' 35.781 W	
18,700.0	90.00	359.63	10,425.0	8,520.7	-54.8	513,314.95	764,401.72	32° 24' 29.895 N	103° 28' 35.779 W	
18,800.0	90.00	359.63	10,425.0	8,620.7	-55.4	513,414.95	764,401.08	32° 24' 30.885 N	103° 28' 35.778 W	
18,900.0	90.00	359.63	10,425.0	8,720.7	-56.1	513,514.94	764,400.44	32° 24' 31.875 N	103° 28' 35.776 W	
19,000.0	90.00	359.63	10,425.0	8,820.7	-56.7	513,614.94	764,399.79	32° 24' 32.864 N	103° 28' 35.774 W	
19,100.0	90.00	359.63	10,425.0	8,920.7	-57.3	513,714.94	764,399.15	32° 24' 33.854 N	103° 28' 35.772 W	
19,200.0	90.00	359.63	10,425.0	9,020.7	-58.0	513,814.93	764,398.51	32° 24' 34.843 N	103° 28' 35.770 W	
19,300.0	90.00	359.63	10,425.0	9,120.7	-58.6	513,914.93	764,397.86	32° 24' 35.833 N	103° 28' 35.768 W	
19,400.0	90.00	359.63	10,425.0	9,220.7	-59.3	514,014.93	764,397.22	32° 24' 36.822 N	103° 28' 35.767 W	
19,500.0	90.00	359.63	10,425.0	9,320.7	-59.9	514,114.92	764,396.58	32° 24' 37.812 N	103° 28' 35.765 W	
19,600.0	90.00	359.63	10,425.0	9,420.7	-60.6	514,214.92	764,395.94	32° 24' 38.801 N	103° 28' 35.763 W	
19,700.0	90.00	359.63	10,425.0	9,520.7	-61.2	514,314.92	764,395.29	32° 24' 39.791 N	103° 28' 35.761 W	
19,800.0	90.00	359.63	10,425.0	9,620.7	-61.8	514,414.91	764,394.65	32° 24' 40.780 N	103° 28' 35.759 W	
19,900.0	90.00	359.63	10,425.0	9,720.7	-62.5	514,514.91	764,394.01	32° 24' 41.770 N	103° 28' 35.757 W	
20,000.0	90.00	359.63	10,425.0	9,820.7	-63.1	514,614.91	764,393.36	32° 24' 42.759 N	103° 28' 35.755 W	
20,100.0	90.00	359.63	10,425.0	9,920.7	-63.8	514,714.90	764,392.72	32° 24' 43.749 N	103° 28' 35.754 W	
20,200.0	90.00	359.63	10,425.0	10,020.7	-64.4	514,814.90	764,392.08	32° 24' 44.738 N	103° 28' 35.752 W	
20,300.0	90.00	359.63	10,425.0	10,120.7	-65.1	514,914.90	764,391.44	32° 24' 45.728 N	103° 28' 35.750 W	
20,337.1	90.00	359.63	10,425.0	10,157.8	-65.3	514,952.00	764,391.20	32° 24' 46.095 N	103° 28' 35.749 W	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Grama #3H BHL	0.00	0.00	10,425.0	10,157.8	-65.3	514,952.00	764,391.20	32° 24' 46.095 N	103° 28' 35.749 W	
- hit/miss target										
- Shape										
- plan hits target center										
- Point										