

BTA Oil Producers, LLC

Lea County, NM

Grama

Grama #5H

Wellbore #1

Plan: Design #1

HOBBS OCD

JUN 16 2017

RECEIVED

Standard Planning Report - Geographic

17 October, 2016

BTA
Planning Report - Geographic

Database: EDM 5000.1 Single User Db Company: BTA Oil Producers, LLC Project: Lea County, NM Site: Grama Well: Grama #5H Wellbore: Wellbore #1 Design: Design #1	Local Co-ordinate Reference: Well Grama #5H TVD Reference: KB @ 3504.0usft (Nomac 94) MD Reference: KB @ 3504.0usft (Nomac 94) North Reference: Grid Survey Calculation Method: Minimum Curvature
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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 #5H			
Well Position	+N/-S	0.0 usft	Northing: 504,814.30 usft
	+E/-W	0.0 usft	Easting: 767,436.10 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Ground Level:	3,479.0 usft

Wellbore: Wellbore #1					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	12/31/2009	(°) 7.71	(°) 60.41	(nT) 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 (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,877.0	0.00	0.00	9,877.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,777.0	90.00	359.66	10,450.0	572.9	-3.4	10.00	10.00	0.00	359.66	
20,366.0	90.00	359.66	10,450.0	10,161.7	-59.9	0.00	0.00	0.00	0.00	
20,366.0	0.00	0.00	10,450.0	10,161.7	-59.9	0.00	0.00	0.00	180.00	Grama #5H 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 #5H
 Wellbore: Wellbore #1
 Design: Design #1

Local Co-ordinate Reference: Well Grama #5H
 TVD Reference: KB @ 3504.0usft (Nomac 94)
 MD Reference: KB @ 3504.0usft (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	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
100.0	0.00	0.00	100.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
200.0	0.00	0.00	200.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
300.0	0.00	0.00	300.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
400.0	0.00	0.00	400.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
500.0	0.00	0.00	500.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
600.0	0.00	0.00	600.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
700.0	0.00	0.00	700.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
800.0	0.00	0.00	800.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
900.0	0.00	0.00	900.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W
5,400.0	0.00	0.00	5,400.0	0.0	0.0	504,814.30	767,436.10	32° 23' 5.540 N	103° 28' 1.191 W

BTA
Planning Report - Geographic

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Grama #5H
Company:	BTA Oil Producers, LLC	TVD Reference:	KB @ 3504.0usft (Nomac 94)
Project:	Lea County, NM	MD Reference:	KB @ 3504.0usft (Nomac 94)
Site:	Grama	North Reference:	Grid
Well:	Grama #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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	10,450.0	6,095.8	-35.9	510,910.06	767,400.16	32° 24' 5.860 N	103° 28' 1.034 W	
16,400.0	90.00	359.66	10,450.0	6,195.8	-36.5	511,010.05	767,399.57	32° 24' 6.850 N	103° 28' 1.031 W	
16,500.0	90.00	359.66	10,450.0	6,295.8	-37.1	511,110.05	767,398.99	32° 24' 7.839 N	103° 28' 1.029 W	
16,600.0	90.00	359.66	10,450.0	6,395.8	-37.7	511,210.05	767,398.40	32° 24' 8.829 N	103° 28' 1.026 W	
16,700.0	90.00	359.66	10,450.0	6,495.8	-38.3	511,310.05	767,397.81	32° 24' 9.818 N	103° 28' 1.023 W	
16,800.0	90.00	359.66	10,450.0	6,595.8	-38.9	511,410.04	767,397.22	32° 24' 10.808 N	103° 28' 1.021 W	
16,900.0	90.00	359.66	10,450.0	6,695.8	-39.5	511,510.04	767,396.63	32° 24' 11.797 N	103° 28' 1.018 W	
17,000.0	90.00	359.66	10,450.0	6,795.8	-40.1	511,610.04	767,396.04	32° 24' 12.787 N	103° 28' 1.016 W	
17,100.0	90.00	359.66	10,450.0	6,895.8	-40.6	511,710.04	767,395.45	32° 24' 13.776 N	103° 28' 1.013 W	
17,200.0	90.00	359.66	10,450.0	6,995.8	-41.2	511,810.03	767,394.86	32° 24' 14.766 N	103° 28' 1.010 W	
17,300.0	90.00	359.66	10,450.0	7,095.8	-41.8	511,910.03	767,394.27	32° 24' 15.755 N	103° 28' 1.008 W	
17,400.0	90.00	359.66	10,450.0	7,195.8	-42.4	512,010.03	767,393.68	32° 24' 16.745 N	103° 28' 1.005 W	
17,500.0	90.00	359.66	10,450.0	7,295.8	-43.0	512,110.02	767,393.09	32° 24' 17.734 N	103° 28' 1.003 W	
17,600.0	90.00	359.66	10,450.0	7,395.8	-43.6	512,210.02	767,392.50	32° 24' 18.724 N	103° 28' 1.000 W	
17,700.0	90.00	359.66	10,450.0	7,495.8	-44.2	512,310.02	767,391.91	32° 24' 19.713 N	103° 28' 0.998 W	
17,800.0	90.00	359.66	10,450.0	7,595.8	-44.8	512,410.02	767,391.32	32° 24' 20.703 N	103° 28' 0.995 W	
17,900.0	90.00	359.66	10,450.0	7,695.8	-45.4	512,510.01	767,390.73	32° 24' 21.692 N	103° 28' 0.992 W	
18,000.0	90.00	359.66	10,450.0	7,795.8	-46.0	512,610.01	767,390.14	32° 24' 22.682 N	103° 28' 0.990 W	
18,100.0	90.00	359.66	10,450.0	7,895.8	-46.5	512,710.01	767,389.55	32° 24' 23.671 N	103° 28' 0.987 W	
18,200.0	90.00	359.66	10,450.0	7,995.8	-47.1	512,810.01	767,388.96	32° 24' 24.661 N	103° 28' 0.985 W	
18,300.0	90.00	359.66	10,450.0	8,095.8	-47.7	512,910.00	767,388.38	32° 24' 25.650 N	103° 28' 0.982 W	
18,400.0	90.00	359.66	10,450.0	8,195.8	-48.3	513,010.00	767,387.79	32° 24' 26.640 N	103° 28' 0.980 W	
18,500.0	90.00	359.66	10,450.0	8,295.8	-48.9	513,110.00	767,387.20	32° 24' 27.629 N	103° 28' 0.977 W	
18,600.0	90.00	359.66	10,450.0	8,395.8	-49.5	513,210.00	767,386.61	32° 24' 28.619 N	103° 28' 0.974 W	
18,700.0	90.00	359.66	10,450.0	8,495.8	-50.1	513,309.99	767,386.02	32° 24' 29.608 N	103° 28' 0.972 W	
18,800.0	90.00	359.66	10,450.0	8,595.8	-50.7	513,409.99	767,385.43	32° 24' 30.598 N	103° 28' 0.969 W	
18,900.0	90.00	359.66	10,450.0	8,695.8	-51.3	513,509.99	767,384.84	32° 24' 31.587 N	103° 28' 0.967 W	
19,000.0	90.00	359.66	10,450.0	8,795.8	-51.8	513,609.99	767,384.25	32° 24' 32.577 N	103° 28' 0.964 W	
19,100.0	90.00	359.66	10,450.0	8,895.8	-52.4	513,709.98	767,383.66	32° 24' 33.567 N	103° 28' 0.962 W	
19,200.0	90.00	359.66	10,450.0	8,995.8	-53.0	513,809.98	767,383.07	32° 24' 34.556 N	103° 28' 0.959 W	
19,300.0	90.00	359.66	10,450.0	9,095.8	-53.6	513,909.98	767,382.48	32° 24' 35.546 N	103° 28' 0.956 W	
19,400.0	90.00	359.66	10,450.0	9,195.8	-54.2	514,009.97	767,381.89	32° 24' 36.535 N	103° 28' 0.954 W	
19,500.0	90.00	359.66	10,450.0	9,295.8	-54.8	514,109.97	767,381.30	32° 24' 37.525 N	103° 28' 0.951 W	
19,600.0	90.00	359.66	10,450.0	9,395.8	-55.4	514,209.97	767,380.71	32° 24' 38.514 N	103° 28' 0.949 W	
19,700.0	90.00	359.66	10,450.0	9,495.8	-56.0	514,309.97	767,380.12	32° 24' 39.504 N	103° 28' 0.946 W	
19,800.0	90.00	359.66	10,450.0	9,595.7	-56.6	514,409.96	767,379.53	32° 24' 40.493 N	103° 28' 0.943 W	
19,900.0	90.00	359.66	10,450.0	9,695.7	-57.2	514,509.96	767,378.94	32° 24' 41.483 N	103° 28' 0.941 W	
20,000.0	90.00	359.66	10,450.0	9,795.7	-57.7	514,609.96	767,378.35	32° 24' 42.472 N	103° 28' 0.938 W	
20,100.0	90.00	359.66	10,450.0	9,895.7	-58.3	514,709.96	767,377.76	32° 24' 43.462 N	103° 28' 0.936 W	
20,200.0	90.00	359.66	10,450.0	9,995.7	-58.9	514,809.95	767,377.18	32° 24' 44.451 N	103° 28' 0.933 W	
20,300.0	90.00	359.66	10,450.0	10,095.7	-59.5	514,909.95	767,376.59	32° 24' 45.441 N	103° 28' 0.931 W	
20,366.0	0.00	0.00	10,450.0	10,161.7	-59.9	514,975.90	767,376.20	32° 24' 46.093 N	103° 28' 0.929 W	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Grama #5H BHL	0.00	0.00	10,450.0	10,161.7	-59.9	514,975.90	767,376.20	32° 24' 46.093 N	103° 28' 0.929 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 #5H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Grama #5H
TVD Reference: KB @ 3504.0usft (Nomac 94)
MD Reference: KB @ 3504.0usft (Nomac 94)
North Reference: Grid
Survey Calculation Method: Minimum Curvature