

30-025-48459

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BTA Oil Producers, LLC

Lea County, NM

Rojo

Rojo #11H

Wellbore #1

Plan: Design #1

Standard Planning Report - Geographic

10 March, 2017

BTA
Planning Report - Geographic

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Rojo #11H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 3344.0usft
Project:	Lea County, NM	MD Reference:	GL @ 3344.0usft
Site:	Rojo	North Reference:	Grid
Well:	Rojo #11H	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	Rojo				
Site Position:		Northing:	399,019.90 usft	Latitude:	32° 5' 40.608 N
From:	Map	Easting:	741,892.00 usft	Longitude:	103° 33' 8.030 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well	Rojo #11H					
Well Position	+N/-S	0.0 usft	Northing:	403,901.60 usft	Latitude:	32° 6' 28.987 N
	+E/-W	0.0 usft	Easting:	740,899.70 usft	Longitude:	103° 33' 19.155 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,344.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.73	60.14	48,725

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	176.28

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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,348.0	0.00	0.00	8,348.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,648.0	6.00	55.41	8,647.5	8.9	12.9	2.00	2.00	0.00	55.41	
11,717.9	6.00	55.41	11,700.5	191.1	277.1	0.00	0.00	0.00	0.00	
12,017.9	0.00	0.00	12,000.0	200.0	290.0	2.00	-2.00	0.00	180.00	
12,115.4	0.00	0.00	12,097.5	200.0	290.0	0.00	0.00	0.00	0.00	
12,865.4	90.00	179.60	12,575.0	-277.5	293.3	12.00	12.00	0.00	179.60	
17,597.7	90.00	179.60	12,575.0	-5,009.6	326.0	0.00	0.00	0.00	0.00	Rojo #11H BHL

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Project:	Lea County, NM	MD Reference:	GL @ 3344.0usft
Site:	Rojo	North Reference:	Grid
Well:	Rojo #11H	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	
0.0	0.00	0.00	0.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
100.0	0.00	0.00	100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
200.0	0.00	0.00	200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
300.0	0.00	0.00	300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
400.0	0.00	0.00	400.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
500.0	0.00	0.00	500.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
600.0	0.00	0.00	600.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
700.0	0.00	0.00	700.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
800.0	0.00	0.00	800.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
900.0	0.00	0.00	900.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,100.0	0.00	0.00	4,100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,500.0	0.00	0.00	4,500.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,600.0	0.00	0.00	4,600.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,700.0	0.00	0.00	4,700.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
4,900.0	0.00	0.00	4,900.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,100.0	0.00	0.00	5,100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,200.0	0.00	0.00	5,200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,300.0	0.00	0.00	5,300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	

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5,500.0	0.00	0.00	5,500.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,700.0	0.00	0.00	5,700.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,800.0	0.00	0.00	5,800.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
5,900.0	0.00	0.00	5,900.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,100.0	0.00	0.00	6,100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,200.0	0.00	0.00	6,200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,300.0	0.00	0.00	6,300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,400.0	0.00	0.00	6,400.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,500.0	0.00	0.00	6,500.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,600.0	0.00	0.00	6,600.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,700.0	0.00	0.00	6,700.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,800.0	0.00	0.00	6,800.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
6,900.0	0.00	0.00	6,900.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,000.0	0.00	0.00	7,000.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,100.0	0.00	0.00	7,100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,200.0	0.00	0.00	7,200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,300.0	0.00	0.00	7,300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,400.0	0.00	0.00	7,400.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,500.0	0.00	0.00	7,500.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,600.0	0.00	0.00	7,600.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,700.0	0.00	0.00	7,700.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,800.0	0.00	0.00	7,800.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
7,900.0	0.00	0.00	7,900.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
8,000.0	0.00	0.00	8,000.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
8,100.0	0.00	0.00	8,100.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
8,200.0	0.00	0.00	8,200.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
8,300.0	0.00	0.00	8,300.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
8,348.0	0.00	0.00	8,348.0	0.0	0.0	403,901.60	740,899.70	32° 6' 28.987 N	103° 33' 19.155 W	
8,400.0	1.04	55.41	8,400.0	0.3	0.4	403,901.87	740,900.08	32° 6' 28.989 N	103° 33' 19.151 W	
8,500.0	3.04	55.41	8,499.9	2.3	3.3	403,903.89	740,903.01	32° 6' 29.009 N	103° 33' 19.117 W	
8,600.0	5.04	55.41	8,599.7	6.3	9.1	403,907.89	740,908.81	32° 6' 29.048 N	103° 33' 19.049 W	
8,648.0	6.00	55.41	8,647.5	8.9	12.9	403,910.51	740,912.62	32° 6' 29.074 N	103° 33' 19.004 W	
8,700.0	6.00	55.41	8,699.2	12.0	17.4	403,913.59	740,917.09	32° 6' 29.104 N	103° 33' 18.952 W	
8,800.0	6.00	55.41	8,798.6	17.9	26.0	403,919.53	740,925.69	32° 6' 29.162 N	103° 33' 18.852 W	
8,900.0	6.00	55.41	8,898.1	23.9	34.6	403,925.46	740,934.30	32° 6' 29.220 N	103° 33' 18.751 W	
9,000.0	6.00	55.41	8,997.5	29.8	43.2	403,931.40	740,942.90	32° 6' 29.278 N	103° 33' 18.651 W	
9,100.0	6.00	55.41	9,097.0	35.7	51.8	403,937.33	740,951.51	32° 6' 29.336 N	103° 33' 18.550 W	
9,200.0	6.00	55.41	9,196.4	41.7	60.4	403,943.26	740,960.11	32° 6' 29.395 N	103° 33' 18.449 W	
9,300.0	6.00	55.41	9,295.9	47.6	69.0	403,949.20	740,968.72	32° 6' 29.453 N	103° 33' 18.349 W	
9,400.0	6.00	55.41	9,395.3	53.5	77.6	403,955.13	740,977.32	32° 6' 29.511 N	103° 33' 18.248 W	
9,500.0	6.00	55.41	9,494.8	59.5	86.2	403,961.07	740,985.93	32° 6' 29.569 N	103° 33' 18.148 W	
9,600.0	6.00	55.41	9,594.2	65.4	94.8	403,967.00	740,994.53	32° 6' 29.627 N	103° 33' 18.047 W	
9,700.0	6.00	55.41	9,693.7	71.3	103.4	403,972.94	741,003.14	32° 6' 29.685 N	103° 33' 17.947 W	
9,800.0	6.00	55.41	9,793.1	77.3	112.0	403,978.87	741,011.74	32° 6' 29.743 N	103° 33' 17.846 W	
9,900.0	6.00	55.41	9,892.6	83.2	120.7	403,984.80	741,020.34	32° 6' 29.801 N	103° 33' 17.746 W	
10,000.0	6.00	55.41	9,992.0	89.1	129.3	403,990.74	741,028.95	32° 6' 29.859 N	103° 33' 17.645 W	
10,100.0	6.00	55.41	10,091.5	95.1	137.9	403,996.67	741,037.55	32° 6' 29.917 N	103° 33' 17.545 W	
10,200.0	6.00	55.41	10,190.9	101.0	146.5	404,002.61	741,046.16	32° 6' 29.976 N	103° 33' 17.444 W	
10,300.0	6.00	55.41	10,290.4	106.9	155.1	404,008.54	741,054.76	32° 6' 30.034 N	103° 33' 17.344 W	
10,400.0	6.00	55.41	10,389.9	112.9	163.7	404,014.48	741,063.37	32° 6' 30.092 N	103° 33' 17.243 W	
10,500.0	6.00	55.41	10,489.3	118.8	172.3	404,020.41	741,071.97	32° 6' 30.150 N	103° 33' 17.143 W	
10,600.0	6.00	55.41	10,588.8	124.7	180.9	404,026.34	741,080.58	32° 6' 30.208 N	103° 33' 17.042 W	
10,700.0	6.00	55.41	10,688.2	130.7	189.5	404,032.28	741,089.18	32° 6' 30.266 N	103° 33' 16.941 W	

BTA
Planning Report - Geographic

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Rojo #11H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 3344.0usft
Project:	Lea County, NM	MD Reference:	GL @ 3344.0usft
Site:	Rojo	North Reference:	Grid
Well:	Rojo #11H	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
10,800.0	6.00	55.41	10,787.7	136.6	198.1	404,038.21	741,097.79	32° 6' 30.324 N	103° 33' 16.841 W
10,900.0	6.00	55.41	10,887.1	142.6	206.7	404,044.15	741,106.39	32° 6' 30.382 N	103° 33' 16.740 W
11,000.0	6.00	55.41	10,986.6	148.5	215.3	404,050.08	741,115.00	32° 6' 30.440 N	103° 33' 16.640 W
11,100.0	6.00	55.41	11,086.0	154.4	223.9	404,056.02	741,123.60	32° 6' 30.499 N	103° 33' 16.539 W
11,200.0	6.00	55.41	11,185.5	160.4	232.5	404,061.95	741,132.21	32° 6' 30.557 N	103° 33' 16.439 W
11,300.0	6.00	55.41	11,284.9	166.3	241.1	404,067.88	741,140.81	32° 6' 30.615 N	103° 33' 16.338 W
11,400.0	6.00	55.41	11,384.4	172.2	249.7	404,073.82	741,149.42	32° 6' 30.673 N	103° 33' 16.238 W
11,500.0	6.00	55.41	11,483.8	178.2	258.3	404,079.75	741,158.02	32° 6' 30.731 N	103° 33' 16.137 W
11,600.0	6.00	55.41	11,583.3	184.1	266.9	404,085.69	741,166.62	32° 6' 30.789 N	103° 33' 16.037 W
11,700.0	6.00	55.41	11,682.7	190.0	275.5	404,091.62	741,175.23	32° 6' 30.847 N	103° 33' 15.936 W
11,717.9	6.00	55.41	11,700.5	191.1	277.1	404,092.68	741,176.77	32° 6' 30.858 N	103° 33' 15.918 W
11,800.0	4.36	55.41	11,782.3	195.3	283.2	404,096.89	741,182.87	32° 6' 30.899 N	103° 33' 15.847 W
11,900.0	2.36	55.41	11,882.1	198.6	288.0	404,100.22	741,187.69	32° 6' 30.931 N	103° 33' 15.790 W
12,000.0	0.36	55.41	11,982.1	200.0	290.0	404,101.56	741,189.64	32° 6' 30.945 N	103° 33' 15.768 W
12,017.9	0.00	0.00	12,000.0	200.0	290.0	404,101.59	741,189.69	32° 6' 30.945 N	103° 33' 15.767 W
12,100.0	0.00	0.00	12,082.1	200.0	290.0	404,101.59	741,189.69	32° 6' 30.945 N	103° 33' 15.767 W
12,115.4	0.00	0.00	12,097.5	200.0	290.0	404,101.59	741,189.69	32° 6' 30.945 N	103° 33' 15.767 W
12,200.0	10.15	179.60	12,181.6	192.5	290.1	404,094.13	741,189.74	32° 6' 30.871 N	103° 33' 15.767 W
12,300.0	22.15	179.60	12,277.5	164.8	290.2	404,066.37	741,189.93	32° 6' 30.596 N	103° 33' 15.767 W
12,400.0	34.15	179.60	12,365.5	117.7	290.6	404,019.29	741,190.26	32° 6' 30.130 N	103° 33' 15.767 W
12,500.0	46.15	179.60	12,441.8	53.3	291.0	403,954.93	741,190.70	32° 6' 29.493 N	103° 33' 15.768 W
12,600.0	58.15	179.60	12,503.1	-25.5	291.6	403,876.12	741,191.25	32° 6' 28.714 N	103° 33' 15.768 W
12,700.0	70.15	179.60	12,546.6	-115.3	292.2	403,786.30	741,191.87	32° 6' 27.825 N	103° 33' 15.768 W
12,800.0	82.15	179.60	12,570.5	-212.2	292.8	403,689.39	741,192.54	32° 6' 26.866 N	103° 33' 15.769 W
12,865.4	90.00	179.60	12,575.0	-277.5	293.3	403,624.15	741,192.99	32° 6' 26.220 N	103° 33' 15.769 W
12,900.0	90.00	179.60	12,575.0	-312.0	293.5	403,589.60	741,193.23	32° 6' 25.878 N	103° 33' 15.769 W
13,000.0	90.00	179.60	12,575.0	-412.0	294.2	403,489.61	741,193.92	32° 6' 24.889 N	103° 33' 15.769 W
13,100.0	90.00	179.60	12,575.0	-512.0	294.9	403,389.61	741,194.61	32° 6' 23.899 N	103° 33' 15.770 W
13,200.0	90.00	179.60	12,575.0	-612.0	295.6	403,289.62	741,195.30	32° 6' 22.909 N	103° 33' 15.770 W
13,300.0	90.00	179.60	12,575.0	-712.0	296.3	403,189.62	741,195.99	32° 6' 21.920 N	103° 33' 15.770 W
13,400.0	90.00	179.60	12,575.0	-812.0	297.0	403,089.63	741,196.68	32° 6' 20.930 N	103° 33' 15.771 W
13,500.0	90.00	179.60	12,575.0	-912.0	297.7	402,989.63	741,197.38	32° 6' 19.941 N	103° 33' 15.771 W
13,600.0	90.00	179.60	12,575.0	-1,012.0	298.4	402,889.64	741,198.07	32° 6' 18.951 N	103° 33' 15.772 W
13,700.0	90.00	179.60	12,575.0	-1,112.0	299.1	402,789.64	741,198.76	32° 6' 17.962 N	103° 33' 15.772 W
13,800.0	90.00	179.60	12,575.0	-1,212.0	299.8	402,689.65	741,199.45	32° 6' 16.972 N	103° 33' 15.772 W
13,900.0	90.00	179.60	12,575.0	-1,312.0	300.5	402,589.65	741,200.14	32° 6' 15.982 N	103° 33' 15.773 W
14,000.0	90.00	179.60	12,575.0	-1,412.0	301.1	402,489.66	741,200.83	32° 6' 14.993 N	103° 33' 15.773 W
14,100.0	90.00	179.60	12,575.0	-1,512.0	301.8	402,389.66	741,201.52	32° 6' 14.003 N	103° 33' 15.773 W
14,200.0	90.00	179.60	12,575.0	-1,612.0	302.5	402,289.67	741,202.21	32° 6' 13.014 N	103° 33' 15.774 W
14,300.0	90.00	179.60	12,575.0	-1,712.0	303.2	402,189.67	741,202.90	32° 6' 12.024 N	103° 33' 15.774 W
14,400.0	90.00	179.60	12,575.0	-1,812.0	303.9	402,089.67	741,203.60	32° 6' 11.035 N	103° 33' 15.775 W
14,500.0	90.00	179.60	12,575.0	-1,912.0	304.6	401,989.68	741,204.29	32° 6' 10.045 N	103° 33' 15.775 W
14,600.0	90.00	179.60	12,575.0	-2,012.0	305.3	401,889.68	741,204.98	32° 6' 9.055 N	103° 33' 15.775 W
14,700.0	90.00	179.60	12,575.0	-2,112.0	306.0	401,789.69	741,205.67	32° 6' 8.066 N	103° 33' 15.776 W
14,800.0	90.00	179.60	12,575.0	-2,212.0	306.7	401,689.69	741,206.36	32° 6' 7.076 N	103° 33' 15.776 W
14,900.0	90.00	179.60	12,575.0	-2,312.0	307.4	401,589.70	741,207.05	32° 6' 6.087 N	103° 33' 15.776 W
15,000.0	90.00	179.60	12,575.0	-2,412.0	308.1	401,489.70	741,207.74	32° 6' 5.097 N	103° 33' 15.777 W
15,100.0	90.00	179.60	12,575.0	-2,512.0	308.7	401,389.71	741,208.43	32° 6' 4.108 N	103° 33' 15.777 W
15,200.0	90.00	179.60	12,575.0	-2,611.9	309.4	401,289.71	741,209.12	32° 6' 3.118 N	103° 33' 15.777 W
15,300.0	90.00	179.60	12,575.0	-2,711.9	310.1	401,189.72	741,209.82	32° 6' 2.129 N	103° 33' 15.778 W
15,400.0	90.00	179.60	12,575.0	-2,811.9	310.8	401,089.72	741,210.51	32° 6' 1.139 N	103° 33' 15.778 W
15,500.0	90.00	179.60	12,575.0	-2,911.9	311.5	400,989.73	741,211.20	32° 6' 0.149 N	103° 33' 15.779 W
15,600.0	90.00	179.60	12,575.0	-3,011.9	312.2	400,889.73	741,211.89	32° 5' 59.160 N	103° 33' 15.779 W
15,700.0	90.00	179.60	12,575.0	-3,111.9	312.9	400,789.74	741,212.58	32° 5' 58.170 N	103° 33' 15.779 W
15,800.0	90.00	179.60	12,575.0	-3,211.9	313.6	400,689.74	741,213.27	32° 5' 57.181 N	103° 33' 15.780 W

BTA
Planning Report - Geographic

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Rojo #11H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 3344.0usft
Project:	Lea County, NM	MD Reference:	GL @ 3344.0usft
Site:	Rojo	North Reference:	Grid
Well:	Rojo #11H	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	
15,900.0	90.00	179.60	12,575.0	-3,311.9	314.3	400,589.75	741,213.96	32° 5' 56.191 N	103° 33' 15.780 W	
16,000.0	90.00	179.60	12,575.0	-3,411.9	315.0	400,489.75	741,214.65	32° 5' 55.202 N	103° 33' 15.780 W	
16,100.0	90.00	179.60	12,575.0	-3,511.9	315.7	400,389.76	741,215.35	32° 5' 54.212 N	103° 33' 15.781 W	
16,200.0	90.00	179.60	12,575.0	-3,611.9	316.3	400,289.76	741,216.04	32° 5' 53.222 N	103° 33' 15.781 W	
16,300.0	90.00	179.60	12,575.0	-3,711.9	317.0	400,189.77	741,216.73	32° 5' 52.233 N	103° 33' 15.781 W	
16,400.0	90.00	179.60	12,575.0	-3,811.9	317.7	400,089.77	741,217.42	32° 5' 51.243 N	103° 33' 15.782 W	
16,500.0	90.00	179.60	12,575.0	-3,911.9	318.4	399,989.78	741,218.11	32° 5' 50.254 N	103° 33' 15.782 W	
16,600.0	90.00	179.60	12,575.0	-4,011.9	319.1	399,889.78	741,218.80	32° 5' 49.264 N	103° 33' 15.783 W	
16,700.0	90.00	179.60	12,575.0	-4,111.9	319.8	399,789.79	741,219.49	32° 5' 48.275 N	103° 33' 15.783 W	
16,800.0	90.00	179.60	12,575.0	-4,211.9	320.5	399,689.79	741,220.18	32° 5' 47.285 N	103° 33' 15.783 W	
16,900.0	90.00	179.60	12,575.0	-4,311.9	321.2	399,589.80	741,220.87	32° 5' 46.295 N	103° 33' 15.784 W	
17,000.0	90.00	179.60	12,575.0	-4,411.9	321.9	399,489.80	741,221.57	32° 5' 45.306 N	103° 33' 15.784 W	
17,100.0	90.00	179.60	12,575.0	-4,511.9	322.6	399,389.81	741,222.26	32° 5' 44.316 N	103° 33' 15.784 W	
17,200.0	90.00	179.60	12,575.0	-4,611.9	323.3	399,289.81	741,222.95	32° 5' 43.327 N	103° 33' 15.785 W	
17,300.0	90.00	179.60	12,575.0	-4,711.9	324.0	399,189.81	741,223.64	32° 5' 42.337 N	103° 33' 15.785 W	
17,400.0	90.00	179.60	12,575.0	-4,811.9	324.6	399,089.82	741,224.33	32° 5' 41.348 N	103° 33' 15.785 W	
17,500.0	90.00	179.60	12,575.0	-4,911.9	325.3	398,989.82	741,225.02	32° 5' 40.358 N	103° 33' 15.786 W	
17,597.7	90.00	179.60	12,575.0	-5,009.6	326.0	398,892.10	741,225.70	32° 5' 39.391 N	103° 33' 15.786 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										
Rojo #11H BHL	0.00	0.00	12,575.0	-5,009.6	326.0	398,892.10	741,225.70	32° 5' 39.391 N	103° 33' 15.786 W	
- plan hits target center										
- Point										

Azimuths to Grid North
 True North: -0.41°
 Magnetic North: 7.32°

Magnetic Field
 Strength: 48725.4snT
 Dip Angle: 60.14°
 Date: 12/31/2009
 Model: IGRF200510

WELL DETAILS: Rojo #11H

	Ground Level: 3344.0					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	403901.60	740899.7032° 6' 28.987103° 33' 19.155 W			

SITE DETAILS: Rojo

Site Centre Northing: 399019.90
 Easting: 741892.00

Positional Uncertainty: 0.0
 Convergence: 0.42
 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

