

HOBBS OGD

MAY 13 2019

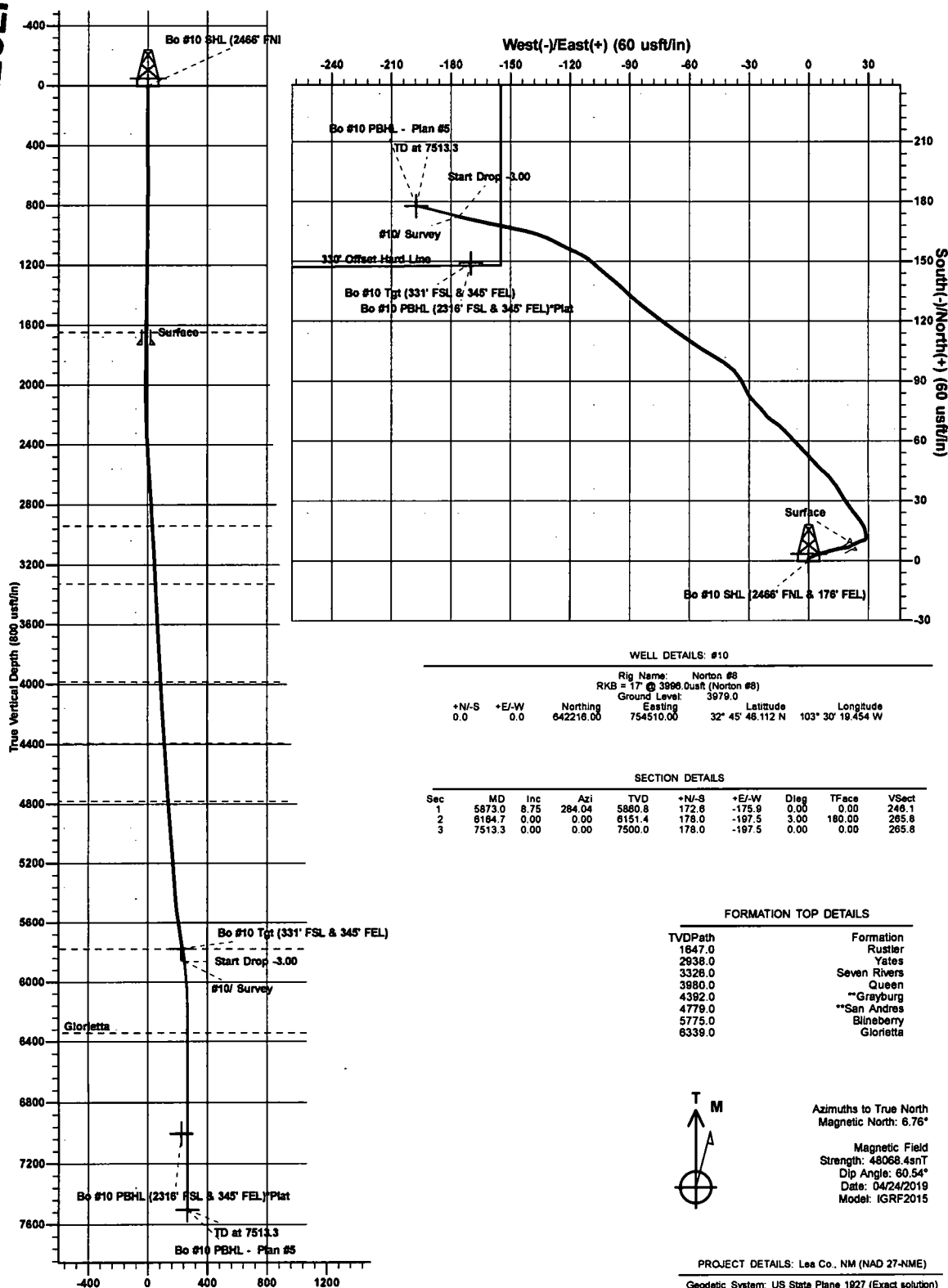
RECEIVED

CROSS TIMBERS
ENERGY, LLCCompany: Cross Timbers Energy, LLC
Project: Lea Co., NM (NAD 27-NME)
Site: New Mexico Bo State
Well: #10
Wellbore: OH
Design: Plan #5

TRUEshot LLC

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Bo #10 SHL (2466' FNL & 176' FEL)	0.0	0.0	0.0	642218.00	754510.00	32° 45' 46.112 N	103° 30' 19.454 W	Point
Bo #10 Tgt (331' FSL & 345' FEL)	5775.0	149.3	-169.8	642364.00	754339.00	32° 45' 47.590 N	103° 30' 21.443 W	Point
Bo #10 PBHL (2316' FSL & 345' FEL)*Plat	7000.0	149.3	-169.8	642364.00	754339.00	32° 45' 47.590 N	103° 30' 21.443 W	Point
Bo #10 PBHL - Plan #5	7500.0	178.0	-197.5	642392.46	754311.18	32° 45' 47.874 N	103° 30' 21.768 W	Point



WELL DETAILS: #10

Rig Name: Norton #8
RKB = 17' @ 3998.0usft (Norton #8)
Ground Level: 3979.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	642218.00	754510.00	32° 45' 46.112 N	103° 30' 19.454 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	5873.0	8.75	284.04	5880.8	172.8	-175.9	0.00	0.00	246.1
2	6184.7	0.00	0.00	6151.4	178.0	-197.5	3.00	180.00	265.8
3	7513.3	0.00	0.00	7500.0	178.0	-197.5	0.00	0.00	265.8

FORMATION TOP DETAILS

TVDPPath	Formation
1647.0	Rustler
2638.0	Valles
3326.0	Seven Rivers
3980.0	Queen
4392.0	**Grayburg
4779.0	**San Andres
5775.0	Blinberry
6339.0	Glorietta



Azimuths to True North
Magnetic North: 6.76°

Magnetic Field
Strength: 48068.4snT
Dip Angle: 60.54°
Date: 04/24/2019
Model: IGRF2015

PROJECT DETAILS: Lea Co., NM (NAD 27-NME)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

Plan: Plan #5 (#10/OH)

Created By: Prototype Well Planning, LLC Date: 8:54, May 03 2019

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information provided by Prototype are at the sole risk and responsibility of the user.

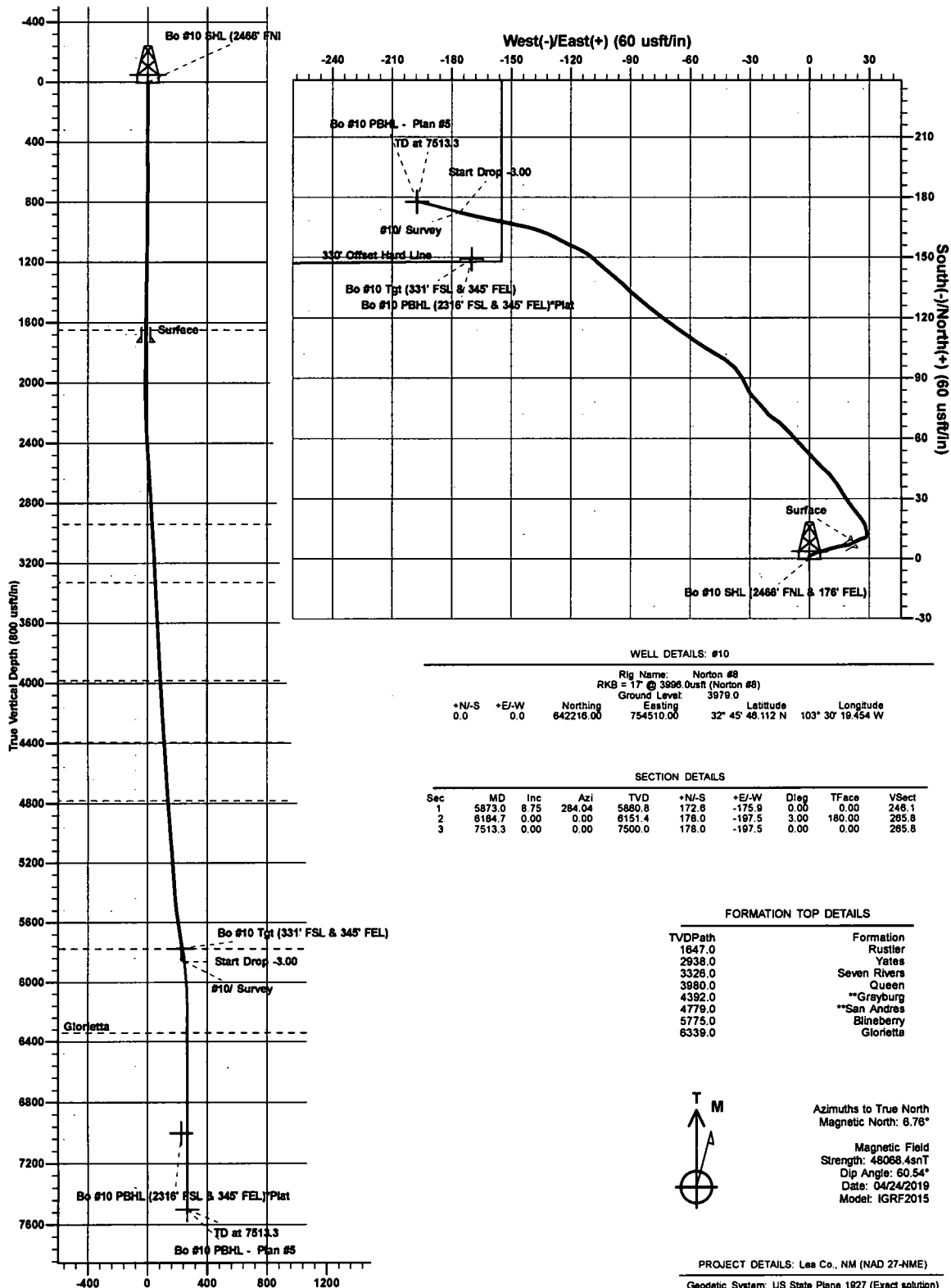


Company: Cross Timbers Energy, LLC
Project: Lea Co., NM (NAD 27-NME)
Site: New Mexico Bo State
Well: #10
Wellbore: OH
Design: Plan #5



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Bo #10 SHL (2466' FNL & 176' FEL)	0.0	0.0	0.0	842216.00	754510.00	32° 45' 48.112 N	103° 30' 19.454 W	Point
Bo #10 Tgt (331' FSL & 345' FEL)	5775.0	149.3	-169.8	842364.00	754339.00	32° 45' 47.590 N	103° 30' 21.443 W	Point
Bo #10 PBHL (2316' FSL & 345' FEL)*Plat	7000.0	149.3	-169.8	842364.00	754339.00	32° 45' 47.590 N	103° 30' 21.443 W	Point
Bo #10 PBHL - Plan #5	7500.0	178.0	-197.5	842392.46	754311.16	32° 45' 47.874 N	103° 30' 21.766 W	Point



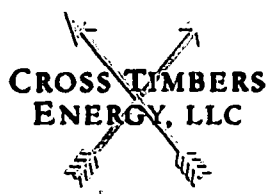
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PROJECT DETAILS: Lea Co., NM (NAD 27-NME)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1886
Zone: New Mexico East 3001
System Datum: Mean Sea Level

Plan: Plan #5 (#10/OH)

Created By: Prototype Well Planning, LLC Date: 8:54, May 03 2019



**CROSS TIMBERS
ENERGY, LLC**

Cross Timbers Energy, LLC

Lea Co., NM (NAD 27-NME)

New Mexico Bo State

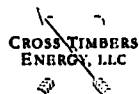
#10

OH

Plan: Plan #5

Standard Planning Report

03 May, 2019



Planning Report

Database: EDM 5000.1.13 Single User Db
Company: Cross Timbers Energy, LLC
Project: Lea Co., NM (NAD 27-NME)
Site: New Mexico Bo State
Well: #10
Wellbore: OH
Design: Plan #5

Local Co-ordinate Reference: Well #10
TVD Reference: RKB = 17' @ 3996.0usft (Norton #8)
MD Reference: RKB = 17' @ 3996.0usft (Norton #8)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	Lea Co., NM (NAD 27-NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		New Mexico Bo State			
Site Position:		Northing:	642,216.00 usft	Latitude:	32° 45' 46.112 N
From:	Map	Easting:	754,510.00 usft	Longitude:	103° 30' 19.454 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.45 °

Well	#10					
Well Position	+N/-S	0.0 usft	Northing:	642,216.00 usft	Latitude:	32° 45' 46.112 N
	+E/-W	0.0 usft	Easting:	754,510.00 usft	Longitude:	103° 30' 19.454 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,979.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	04/24/19	6.76	60.54	48,068

Design	Plan #5				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	5,873.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	311.32	

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
5,873.0	8.75	284.04	5,860.8	172.6	-175.9	0.00	0.00	0.00	0.00	
6,164.7	0.00	0.00	6,151.4	178.0	-197.5	3.00	-3.00	0.00	180.00	
7,513.3	0.00	0.00	7,500.0	178.0	-197.5	0.00	0.00	0.00	0.00	



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MD Reference: RKB = 17' @ 3996.0usft (Norton #8)
North Reference: True
Survey Calculation Method: 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
165.0	0.20	345.00	165.0	0.3	-0.1	0.2	0.12	0.12	0.00
260.0	0.20	236.00	260.0	0.3	-0.3	0.4	0.34	0.00	-114.74
351.0	0.70	11.90	351.0	0.8	-0.3	0.7	0.94	0.55	149.34
443.0	0.70	42.30	443.0	1.8	0.2	1.0	0.40	0.00	33.04
495.0	0.50	21.10	495.0	2.2	0.5	1.1	0.57	-0.38	-40.77
586.0	0.90	227.10	586.0	2.1	0.1	1.3	1.50	0.44	-169.23
678.0	0.70	78.40	678.0	1.7	0.2	1.0	1.68	-0.22	-161.63
770.0	1.20	68.80	770.0	2.2	1.6	0.2	0.57	0.54	-10.43
861.0	0.90	53.40	861.0	3.0	3.1	-0.4	0.45	-0.33	-16.92
952.0	1.10	82.30	951.9	3.5	4.5	-1.1	0.59	0.22	31.76
1,044.0	1.30	80.40	1,043.9	3.8	6.4	-2.3	0.22	0.22	-2.07
1,139.0	1.50	65.70	1,138.9	4.5	8.6	-3.5	0.43	0.21	-15.47
1,234.0	1.10	80.00	1,233.9	5.1	10.6	-4.6	0.54	-0.42	15.05
1,327.0	1.70	74.20	1,326.8	5.7	12.8	-5.9	0.66	0.65	-6.24
1,422.0	1.30	79.00	1,421.8	6.3	15.3	-7.3	0.44	-0.42	5.05
1,515.0	1.50	86.00	1,514.8	6.6	17.5	-8.8	0.28	0.22	7.53
1,610.0	1.50	71.60	1,609.7	7.0	19.9	-10.3	0.40	0.00	-15.16
1,704.0	1.30	58.20	1,703.7	8.0	22.0	-11.3	0.41	-0.21	-14.26
1,792.0	1.41	64.05	1,791.7	9.0	23.8	-12.0	0.20	0.13	6.65
1,887.0	1.45	66.16	1,886.7	10.0	26.0	-12.9	0.07	0.04	2.22
1,982.0	0.75	96.40	1,981.6	10.4	27.7	-13.9	0.93	-0.74	31.83
2,077.0	0.75	27.84	2,076.6	10.9	28.6	-14.3	0.89	0.00	-72.17
2,172.0	2.29	357.70	2,171.6	13.3	28.8	-12.8	1.77	1.62	-31.73
2,266.0	2.51	335.90	2,265.5	17.1	27.9	-9.7	0.99	0.23	-23.19
2,361.0	2.95	319.82	2,360.4	20.8	25.5	-5.4	0.93	0.46	-16.93
2,456.0	4.31	321.66	2,455.2	25.5	21.7	0.6	1.44	1.43	1.94
2,550.0	4.26	329.13	2,549.0	31.3	17.7	7.4	0.60	-0.05	7.95
2,645.0	4.31	328.60	2,643.7	37.4	14.0	14.1	0.07	0.05	-0.56
2,741.0	3.25	314.89	2,739.5	42.4	10.2	20.3	1.44	-1.10	-14.28
2,836.0	3.16	309.80	2,834.3	45.9	6.3	25.6	0.31	-0.09	-5.36
2,931.0	2.73	319.20	2,929.2	49.3	2.8	30.5	0.68	-0.45	9.89
2,939.8	2.88	318.94	2,938.0	49.6	2.5	30.9	1.67	1.66	-2.92
Yates									
3,026.0	4.31	317.35	3,024.0	53.7	-1.1	36.2	1.67	1.66	-1.85
3,121.0	3.16	316.56	3,118.8	58.2	-5.3	42.4	1.21	-1.21	-0.83
3,216.0	2.64	314.54	3,213.7	61.6	-8.7	47.2	0.56	-0.55	-2.13
3,311.0	2.90	318.94	3,308.6	65.0	-11.8	51.8	0.35	0.27	4.63
3,328.4	2.82	316.79	3,326.0	65.6	-12.4	52.6	0.78	-0.47	-12.36
Seven Rivers									
3,406.0	2.51	305.64	3,403.5	68.0	-15.1	56.2	0.78	-0.40	-14.37
3,501.0	2.99	304.26	3,498.4	70.6	-18.8	60.7	0.51	0.51	-1.45
3,596.0	2.77	325.52	3,593.3	73.9	-22.2	65.4	1.14	-0.23	22.38
3,690.0	2.81	312.61	3,687.2	77.3	-25.1	69.9	0.67	0.04	-13.73
3,786.0	3.60	320.43	3,783.0	81.2	-28.8	75.3	0.94	0.82	8.15
3,880.0	2.99	336.95	3,876.9	85.8	-31.6	80.4	1.19	-0.65	17.57
3,976.0	3.60	330.63	3,972.7	90.7	-34.1	85.5	0.74	0.64	-6.58
3,983.3	3.60	329.42	3,980.0	91.1	-34.3	85.9	1.04	0.06	-16.50
Queen									
4,071.0	3.78	315.51	4,067.5	95.5	-37.7	91.4	1.04	0.20	-15.87
4,165.0	4.00	303.47	4,161.3	99.5	-42.7	97.8	0.90	0.23	-12.81
4,260.0	3.74	297.84	4,256.1	102.8	-48.2	104.1	0.48	-0.27	-5.93
4,355.0	3.25	304.26	4,350.9	105.8	-53.1	109.7	0.66	-0.52	6.76



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Wellbore: OH
Design: Plan #5

Local Co-ordinate Reference: Well #10
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MD Reference: RKB = 17' @ 3996.0usft (Norton #8)
North Reference: True
Survey Calculation Method: 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)
4,396.2	3.06	304.16	4,392.0	107.1	-55.0	112.0	0.46	-0.46	-0.25
**Grayburg									
4,451.0	2.81	304.00	4,446.8	108.6	-57.3	114.8	0.46	-0.46	-0.29
4,545.0	3.65	304.44	4,540.6	111.6	-61.7	120.0	0.89	0.89	0.47
4,640.0	4.26	304.96	4,635.4	115.3	-67.1	126.5	0.64	0.64	0.55
4,735.0	4.26	307.07	4,730.1	119.5	-72.8	133.6	0.16	0.00	2.22
4,784.0	4.33	307.06	4,779.0	121.7	-75.7	137.2	0.15	0.15	-0.01
**San Andres									
4,830.0	4.40	307.06	4,824.8	123.8	-78.5	140.7	0.15	0.15	-0.01
4,921.0	4.26	309.18	4,915.6	128.1	-83.9	147.6	0.23	-0.15	2.33
5,020.0	4.48	311.64	5,014.3	132.9	-89.7	155.1	0.29	0.22	2.48
5,114.0	4.44	313.93	5,108.0	137.9	-95.0	162.4	0.19	-0.04	2.44
5,209.0	4.09	306.02	5,202.7	142.5	-100.4	169.5	0.72	-0.37	-8.33
5,304.0	3.91	315.07	5,297.5	146.7	-105.4	176.1	0.69	-0.19	9.53
5,398.0	4.04	306.72	5,391.3	151.0	-110.4	182.6	0.63	0.14	-8.88
5,493.0	5.93	293.98	5,485.9	155.0	-117.5	190.6	2.29	1.99	-13.41
5,588.0	8.66	297.84	5,580.2	160.3	-128.3	202.2	2.92	2.87	4.06
5,684.0	10.46	282.29	5,674.8	165.6	-143.2	216.9	3.26	1.88	-16.20
5,777.0	10.77	281.41	5,766.2	169.1	-160.0	231.8	0.38	0.33	-0.95
5,785.9	10.58	281.61	5,775.0	169.4	-161.6	233.2	2.15	-2.11	2.27
Blaineberry									
5,873.0	8.75	284.04	5,860.8	172.6	-175.9	246.1	2.15	-2.10	2.79
5,900.0	7.94	284.04	5,887.6	173.6	-179.7	249.6	3.00	-3.00	0.00
6,000.0	4.94	284.04	5,986.9	176.3	-190.6	259.5	3.00	-3.00	0.00
6,100.0	1.94	284.04	6,086.7	177.7	-196.4	264.9	3.00	-3.00	0.00
6,164.7	0.00	0.00	6,151.4	178.0	-197.5	265.8	3.00	-3.00	0.00
6,200.0	0.00	0.00	6,186.7	178.0	-197.5	265.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,286.7	178.0	-197.5	265.8	0.00	0.00	0.00
6,352.3	0.00	0.00	6,339.0	178.0	-197.5	265.8	0.00	0.00	0.00
Glorietta									
6,400.0	0.00	0.00	6,386.7	178.0	-197.5	265.8	0.00	0.00	0.00
6,500.0	0.00	0.00	6,486.7	178.0	-197.5	265.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,586.7	178.0	-197.5	265.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,686.7	178.0	-197.5	265.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,786.7	178.0	-197.5	265.8	0.00	0.00	0.00
6,900.0	0.00	0.00	6,886.7	178.0	-197.5	265.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,986.7	178.0	-197.5	265.8	0.00	0.00	0.00
7,100.0	0.00	0.00	7,086.7	178.0	-197.5	265.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,186.7	178.0	-197.5	265.8	0.00	0.00	0.00
7,300.0	0.00	0.00	7,286.7	178.0	-197.5	265.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,386.7	178.0	-197.5	265.8	0.00	0.00	0.00
7,500.0	0.00	0.00	7,486.7	178.0	-197.5	265.8	0.00	0.00	0.00
7,513.3	0.00	0.00	7,500.0	178.0	-197.5	265.8	0.00	0.00	0.00



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North Reference: True
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Bo #10 SHL (2466' F) - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	642,216.00	754,510.00	32° 45' 46.112 N	103° 30' 19.454 W
Bo #10 Tgt (331' FSL) - plan misses target center by 21.7usft at 5786.5usft MD (5775.6 TVD, 169.4 N, -161.7 E) - Point	0.00	0.00	5,775.0	149.3	-169.8	642,364.00	754,339.00	32° 45' 47.590 N	103° 30' 21.443 W
Bo #10 PBHL (2316' F) - plan misses target center by 39.8usft at 7013.3usft MD (7000.0 TVD, 178.0 N, -197.5 E) - Point	0.00	0.00	7,000.0	149.3	-169.8	642,364.00	754,339.00	32° 45' 47.590 N	103° 30' 21.443 W
Bo #10 PBHL - Plan 1 - plan hits target center - Point	0.00	0.00	7,500.0	178.0	-197.5	642,392.46	754,311.16	32° 45' 47.874 N	103° 30' 21.766 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,730.3	1,730.0	Surface	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,647.3	1,647.0	Rustler		0.00	
2,939.8	2,938.0	Yates		0.00	
3,328.4	3,326.0	Seven Rivers		0.00	
3,983.3	3,980.0	Queen		0.00	
4,396.2	4,392.0	**Grayburg		0.00	
4,784.0	4,779.0	**San Andres		0.00	
5,785.9	5,775.0	Blaineberry		0.00	
6,352.3	6,339.0	Glorietta		0.00	