

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011
Permit 271517

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address MANZANO LLC P.O. Box 2107 Roswell, NM 88202		2. OGRID Number 231429
4. Property Code 321604		3. API Number 30-025-46330
5. Property Name TRINITY 22 STATE COM		6. Well No. 002H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
B	27	12S	38E	B	600	N	1584	E	Lea

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
B	22	12S	38E	B	50	N	1584	E	Lea

9. Pool Information

GLADIOLA;SAN ANDRES	27810
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3796
16. Multiple N	17. Proposed Depth 10750	18. Formation San Andres	19. Contractor	20. Spud Date 9/13/2019
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	8.625	32	2285	900	0
Prod	7.875	5.5	20	10750	2000	0

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	1500	SCHAEFFER

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable. Signature: _____ Printed Name: Electronically filed by Michael Hanagan Title: Manager Email Address: debbi@manzanoenergy.com Date: 8/23/2019	OIL CONSERVATION DIVISION Approved By: Paul F Kautz Title: Geologist Approved Date: 8/29/2019 Expiration Date: 8/29/2021 Conditions of Approval Attached
Phone: 505-623-1996	

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**State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505**

Permit 271517

1. API Number 30-025-46330	2. Pool Code 27810	3. Pool Name GLADIOLA;SAN ANDRES
4. Property Code 321604	5. Property Name TRINITY 22 STATE COM	6. Well No. 002H
7. OGRID No. 231429	8. Operator Name MANZANO LLC	9. Elevation 3796

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
B	27	12S	38E	B	600	N	1584	E	Lea

UL - Lot B	Section 22	Township 12S	Range 38E	Lot Idn B	Feet From 50	N/S Line N	Feet From 1584	E/W Line E	County Lea
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12. Dedicated Acres 160.00	13. Joint or Infill	14. Consolidation Code	15. Order No.
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OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location(s) or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

E-Signed By: Michael Hanagan

Title: Manager

Date: 8/23/2019

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Surveyed By: GARY JONES

Date of Survey: 6/13/2019

Certificate Number: 7977

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Comments

Permit 271517

PERMIT COMMENTS

Operator Name and Address: MANZANO LLC [231429] P.O. Box 2107 Roswell, NM 88202		API Number: 30-025-46330
		Well: TRINITY 22 STATE COM #002H

Created By	Comment	Comment Date
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 271517

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: MANZANO LLC [231429] P.O. Box 2107 Roswell, NM 88202	API Number: 30-025-46330
	Well: TRINITY 22 STATE COM #002H

OCD Reviewer	Condition
pkautz	Will require a directional survey with the C-104
pkautz	Will require a administrative order for non-standard location prior to placing the well on production.
pkautz	SURFACE & PRODUCTION CASING - Cement must circulate to surface
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	1)- The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool at 5753703186 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.

OCD - HOBBS
08/26/2019
RECEIVED

DISTRICT I
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DISTRICT IV
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Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-46330	Pool Code 27810	Pool Name GLADIOLA: SAN ANDRES
Property Code 321604	Property Name TRINITY 22 STATE COM	Well Number 2H
OGRID No. 231429	Operator Name MANZANO LLC	Elevation 3796'

Surface Location

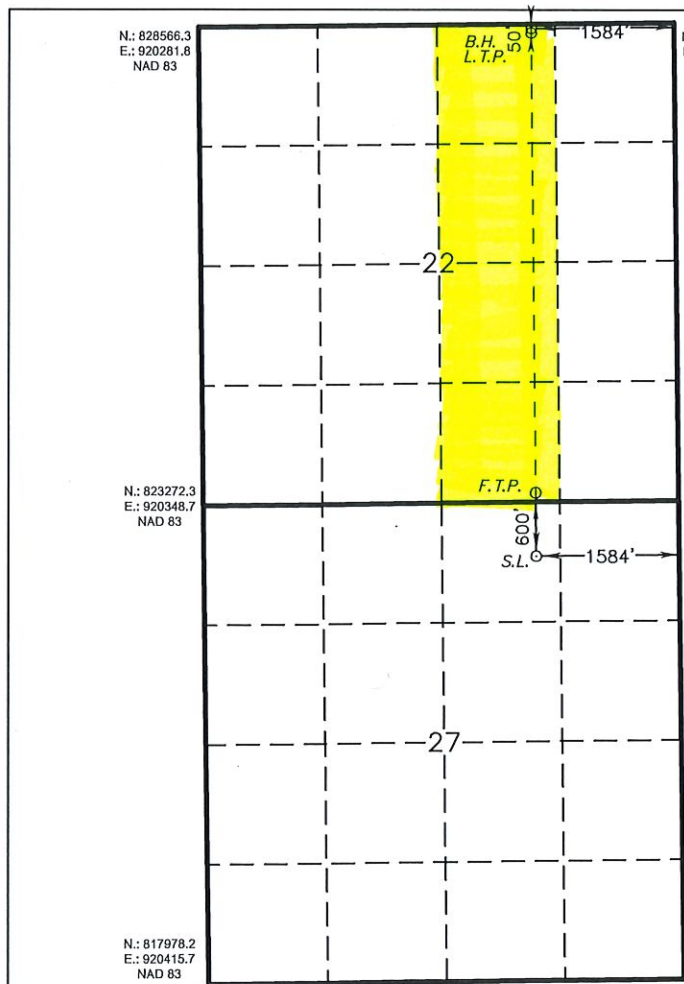
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	27	12 S	38 E		600	NORTH	1584	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	22	12 S	38 E		50	NORTH	1584	EAST	LEA

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	PROPOSED BOTTOM HOLE LOCATION Lat - N 33.271353° Long - W 103.081431° NMSPCE- N 828557.6 E 923974.9 (NAD-83)
	LAST TAKE POINT 100 FNL & 1584 FEL Lat - N 33.271217° Long - W 103.081431° NMSPCE- N 828507.6 E 923975.5 (NAD-83)
	FIRST TAKE POINT 100 FSL & 1584 FEL Lat - N 33.257239° Long - W 103.081425° NMSPCE- N 823421.7 E 924038.2 (NAD-83)
	SURFACE LOCATION Lat - N 33.255299° Long - W 103.081426° NMSPCE- N 822721.8 E 924047.1 (NAD-83)

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

 8/22/19

Signature _____ Date _____

Printed Name **MIKE HANAGAN**

Email Address **mike@manzanoenergy.com**

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.



Date Surveyed **JUNE 13, 2019**

Signature _____

Professional Surveyor

Certificate No. **Gary Jones 7977**

SCALE: 1" = 2000'
WO Num.: 34625

Manzano, LLC

DrilTech, LLC

Lea County, NM (NAD 83)
Trinity 22 State Com #2H
Wellbore #1
Plan #1



SURFACE LOCATION

US State Plane 1983
New Mexico Eastern Zone
Elevation: GL 3796' + RBK 13' @ 3809.00ft

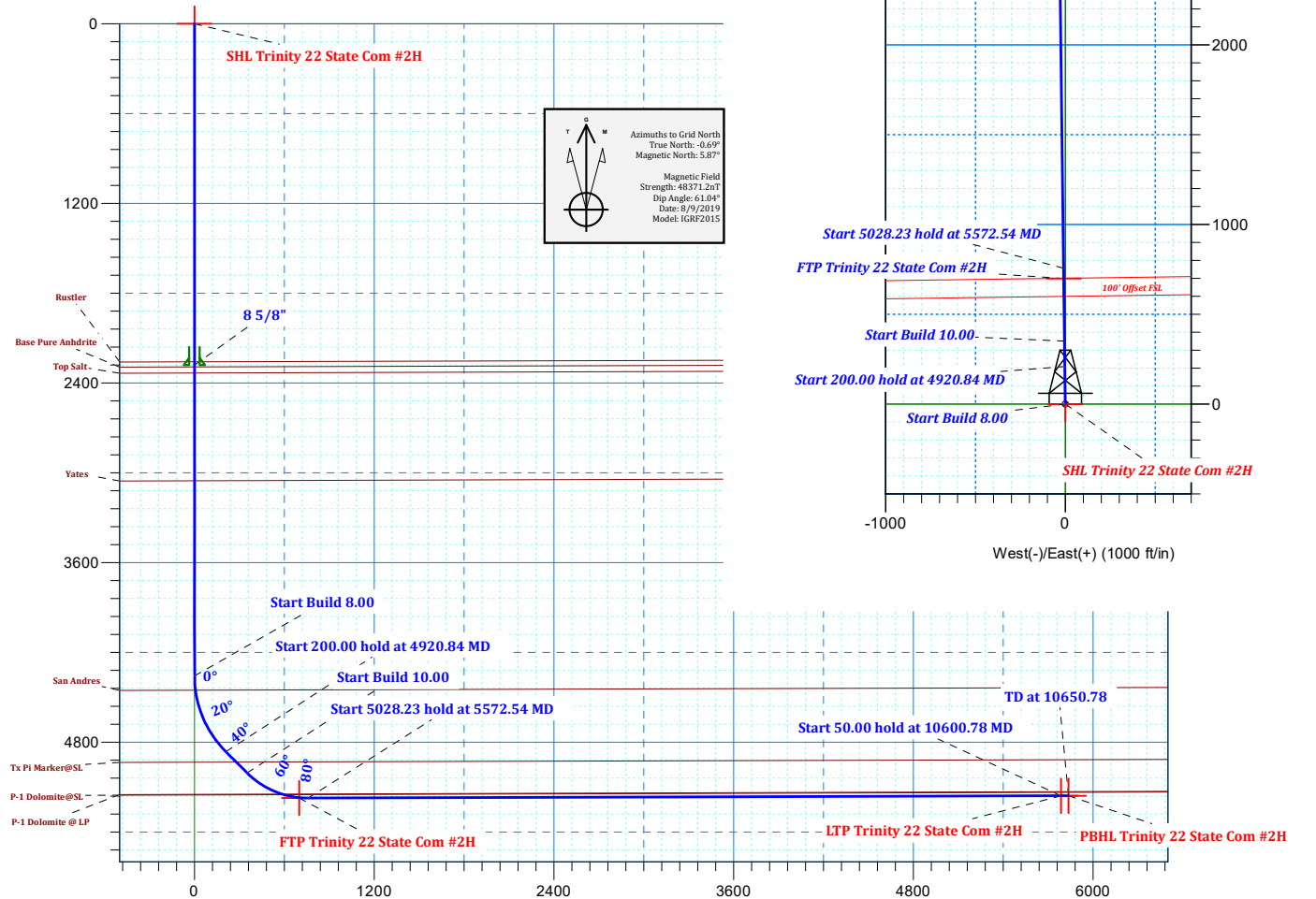
Northing	Easting	Latitude	Longitude
822721.80	924047.10	33° 15' 19.136 N	103° 4' 53.120 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4358.34	0.00	0.00	4358.34	0.00	0.00	0.00	0.00	0.00
4920.84	45.00	359.29	4864.76	209.75	-2.60	8.00	359.29	209.77
5120.84	45.00	359.29	5006.19	351.16	-4.35	0.00	0.00	351.19
5572.54	90.17	359.29	5174.00	757.98	-9.38	10.00	0.00	758.04
10600.78	90.17	359.29	5159.00	5785.81	-71.60	0.00	0.00	5786.25
10650.78	90.17	359.29	5158.85	5835.81	-72.22	0.00	0.00	5836.26

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
SHL Trinity 22 State Com #2H	0.00	0.00	0.00	822721.80	924047.10
PBHL Trinity 22 State Com #2H	5158.85	5835.81	-72.20	828557.60	923974.90
LTP Trinity 22 State Com #2H	5159.00	5785.81	-71.60	828507.60	923975.50
FTP Trinity 22 State Com #2H	5174.00	699.90	-8.90	823421.70	924038.20



Vertical Section at 359.29° (1200 ft/in)

Manzano, LLC

Lea County, NM (NAD 83)

Trinity 22 State Com #2H

Trinity 22 State Com #2H

Wellbore #1

Plan: Plan #1

Standard Planning Report

09 August, 2019

Planning Report

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Trinity 22 State Com #2H			
Site Position:		Northing:	822,721.80 usft	Latitude:	33° 15' 19.136 N
From:	Map	Easting:	924,047.10 usft	Longitude:	103° 4' 53.120 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.69 °

Well	Trinity 22 State Com #2H					
Well Position	+N/-S	0.00 ft	Northing:	822,721.80 usft	Latitude:	33° 15' 19.136 N
	+E/-W	0.00 ft	Easting:	924,047.10 usft	Longitude:	103° 4' 53.120 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	3,796.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/9/2019	6.56	61.04	48,371.22395555

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	359.29

Plan Survey Tool Program	Date	8/9/2019		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	10,650.78	Plan #1 (Wellbore #1)	MWD
				MWD - Standard

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,358.34	0.00	0.00	4,358.34	0.00	0.00	0.00	0.00	0.00	0.00	
4,920.84	45.00	359.29	4,864.76	209.75	-2.60	8.00	8.00	0.00	359.29	
5,120.84	45.00	359.29	5,006.19	351.16	-4.35	0.00	0.00	0.00	0.00	
5,572.54	90.17	359.29	5,174.00	757.98	-9.38	10.00	10.00	0.00	0.00	
10,600.78	90.17	359.29	5,159.00	5,785.81	-71.60	0.00	0.00	0.00	0.00	LTP Trinity 22 State C
10,650.78	90.17	359.29	5,158.85	5,835.81	-72.22	0.00	0.00	0.00	0.00	PBHL Trinity 22 State

Planning Report

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SHL Trinity 22 State Com #2H										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,260.00	0.00	0.00	2,260.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rustler										
2,280.00	0.00	0.00	2,280.00	0.00	0.00	0.00	0.00	0.00	0.00	
8 5/8"										
2,294.00	0.00	0.00	2,294.00	0.00	0.00	0.00	0.00	0.00	0.00	
Base Pure Anhdrite										
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,334.00	0.00	0.00	2,334.00	0.00	0.00	0.00	0.00	0.00	0.00	
Top Salt										
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,054.00	0.00	0.00	3,054.00	0.00	0.00	0.00	0.00	0.00	0.00	
Yates										
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	

Planning Report

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,358.34	0.00	0.00	4,358.34	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 8.00									
4,400.00	3.33	359.29	4,399.98	1.21	-0.01	1.21	8.00	8.00	0.00
4,454.27	7.67	359.29	4,453.98	6.41	-0.08	6.42	8.00	8.00	0.00
San Andres									
4,500.00	11.33	359.29	4,499.08	13.96	-0.17	13.96	8.00	8.00	0.00
4,600.00	19.33	359.29	4,595.44	40.38	-0.50	40.39	8.00	8.00	0.00
4,700.00	27.33	359.29	4,687.19	79.96	-0.99	79.96	8.00	8.00	0.00
4,800.00	35.33	359.29	4,772.53	131.91	-1.63	131.92	8.00	8.00	0.00
4,900.00	43.33	359.29	4,849.82	195.24	-2.42	195.25	8.00	8.00	0.00
4,920.84	45.00	359.29	4,864.76	209.75	-2.60	209.77	8.00	8.00	0.00
Start 200.00 hold at 4920.84 MD									
5,000.00	45.00	359.29	4,920.74	265.73	-3.29	265.75	0.00	0.00	0.00
5,018.99	45.00	359.29	4,934.17	279.16	-3.45	279.18	0.00	0.00	0.00
Tx Pi Marker@SL									
5,100.00	45.00	359.29	4,991.45	336.43	-4.16	336.46	0.00	0.00	0.00
5,120.84	45.00	359.29	5,006.19	351.16	-4.35	351.19	0.00	0.00	0.00
Start Build 10.00									
5,200.00	52.92	359.29	5,058.12	410.82	-5.08	410.85	10.00	10.00	0.00
5,300.00	62.92	359.29	5,111.17	495.43	-6.13	495.47	10.00	10.00	0.00
5,395.13	72.43	359.29	5,147.27	583.32	-7.22	583.37	10.00	10.00	0.00
P-1 Dolomite @ LP									
5,400.00	72.92	359.29	5,148.72	587.97	-7.28	588.02	10.00	10.00	0.00
5,408.76	73.79	359.29	5,151.23	596.37	-7.38	596.41	10.00	10.00	0.00
P-1 Dolomite@SL									
5,500.00	82.92	359.29	5,169.63	685.63	-8.48	685.68	10.00	10.00	0.00
5,514.53	84.37	359.29	5,171.24	700.06	-8.66	700.12	10.00	10.00	0.00
FTP Trinity 22 State Com #2H									
5,572.54	90.17	359.29	5,174.00	757.98	-9.38	758.04	10.00	10.00	0.00
Start 5028.23 hold at 5572.54 MD									
5,600.00	90.17	359.29	5,173.92	785.44	-9.72	785.50	0.00	0.00	0.00
5,700.00	90.17	359.29	5,173.62	885.43	-10.96	885.50	0.00	0.00	0.00
5,800.00	90.17	359.29	5,173.32	985.42	-12.19	985.50	0.00	0.00	0.00
5,900.00	90.17	359.29	5,173.02	1,085.41	-13.43	1,085.50	0.00	0.00	0.00
6,000.00	90.17	359.29	5,172.72	1,185.40	-14.67	1,185.50	0.00	0.00	0.00
6,100.00	90.17	359.29	5,172.42	1,285.40	-15.91	1,285.49	0.00	0.00	0.00
6,200.00	90.17	359.29	5,172.13	1,385.39	-17.14	1,385.49	0.00	0.00	0.00
6,300.00	90.17	359.29	5,171.83	1,485.38	-18.38	1,485.49	0.00	0.00	0.00
6,400.00	90.17	359.29	5,171.53	1,585.37	-19.62	1,585.49	0.00	0.00	0.00
6,500.00	90.17	359.29	5,171.23	1,685.36	-20.86	1,685.49	0.00	0.00	0.00
6,600.00	90.17	359.29	5,170.93	1,785.36	-22.09	1,785.49	0.00	0.00	0.00
6,700.00	90.17	359.29	5,170.64	1,885.35	-23.33	1,885.49	0.00	0.00	0.00
6,800.00	90.17	359.29	5,170.34	1,985.34	-24.57	1,985.49	0.00	0.00	0.00
6,900.00	90.17	359.29	5,170.04	2,085.33	-25.81	2,085.49	0.00	0.00	0.00
7,000.00	90.17	359.29	5,169.74	2,185.32	-27.04	2,185.49	0.00	0.00	0.00
7,100.00	90.17	359.29	5,169.44	2,285.32	-28.28	2,285.49	0.00	0.00	0.00
7,200.00	90.17	359.29	5,169.14	2,385.31	-29.52	2,385.49	0.00	0.00	0.00
7,300.00	90.17	359.29	5,168.85	2,485.30	-30.76	2,485.49	0.00	0.00	0.00
7,400.00	90.17	359.29	5,168.55	2,585.29	-31.99	2,585.49	0.00	0.00	0.00

Planning Report

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
7,500.00	90.17	359.29	5,168.25	2,685.28	-33.23	2,685.49	0.00	0.00	0.00	
7,600.00	90.17	359.29	5,167.95	2,785.27	-34.47	2,785.49	0.00	0.00	0.00	
7,700.00	90.17	359.29	5,167.65	2,885.27	-35.71	2,885.49	0.00	0.00	0.00	
7,800.00	90.17	359.29	5,167.35	2,985.26	-36.94	2,985.49	0.00	0.00	0.00	
7,900.00	90.17	359.29	5,167.06	3,085.25	-38.18	3,085.49	0.00	0.00	0.00	
8,000.00	90.17	359.29	5,166.76	3,185.24	-39.42	3,185.49	0.00	0.00	0.00	
8,100.00	90.17	359.29	5,166.46	3,285.23	-40.66	3,285.49	0.00	0.00	0.00	
8,200.00	90.17	359.29	5,166.16	3,385.23	-41.89	3,385.49	0.00	0.00	0.00	
8,300.00	90.17	359.29	5,165.86	3,485.22	-43.13	3,485.49	0.00	0.00	0.00	
8,400.00	90.17	359.29	5,165.56	3,585.21	-44.37	3,585.48	0.00	0.00	0.00	
8,500.00	90.17	359.29	5,165.27	3,685.20	-45.60	3,685.48	0.00	0.00	0.00	
8,600.00	90.17	359.29	5,164.97	3,785.19	-46.84	3,785.48	0.00	0.00	0.00	
8,700.00	90.17	359.29	5,164.67	3,885.19	-48.08	3,885.48	0.00	0.00	0.00	
8,800.00	90.17	359.29	5,164.37	3,985.18	-49.32	3,985.48	0.00	0.00	0.00	
8,900.00	90.17	359.29	5,164.07	4,085.17	-50.55	4,085.48	0.00	0.00	0.00	
9,000.00	90.17	359.29	5,163.77	4,185.16	-51.79	4,185.48	0.00	0.00	0.00	
9,100.00	90.17	359.29	5,163.48	4,285.15	-53.03	4,285.48	0.00	0.00	0.00	
9,200.00	90.17	359.29	5,163.18	4,385.15	-54.27	4,385.48	0.00	0.00	0.00	
9,300.00	90.17	359.29	5,162.88	4,485.14	-55.50	4,485.48	0.00	0.00	0.00	
9,400.00	90.17	359.29	5,162.58	4,585.13	-56.74	4,585.48	0.00	0.00	0.00	
9,500.00	90.17	359.29	5,162.28	4,685.12	-57.98	4,685.48	0.00	0.00	0.00	
9,600.00	90.17	359.29	5,161.99	4,785.11	-59.22	4,785.48	0.00	0.00	0.00	
9,700.00	90.17	359.29	5,161.69	4,885.10	-60.45	4,885.48	0.00	0.00	0.00	
9,800.00	90.17	359.29	5,161.39	4,985.10	-61.69	4,985.48	0.00	0.00	0.00	
9,900.00	90.17	359.29	5,161.09	5,085.09	-62.93	5,085.48	0.00	0.00	0.00	
10,000.00	90.17	359.29	5,160.79	5,185.08	-64.17	5,185.48	0.00	0.00	0.00	
10,100.00	90.17	359.29	5,160.49	5,285.07	-65.40	5,285.48	0.00	0.00	0.00	
10,200.00	90.17	359.29	5,160.20	5,385.06	-66.64	5,385.48	0.00	0.00	0.00	
10,300.00	90.17	359.29	5,159.90	5,485.06	-67.88	5,485.48	0.00	0.00	0.00	
10,400.00	90.17	359.29	5,159.60	5,585.05	-69.12	5,585.48	0.00	0.00	0.00	
10,500.00	90.17	359.29	5,159.30	5,685.04	-70.35	5,685.48	0.00	0.00	0.00	
10,600.00	90.17	359.29	5,159.00	5,785.03	-71.59	5,785.47	0.00	0.00	0.00	
10,600.78	90.17	359.29	5,159.00	5,785.81	-71.60	5,786.25	0.00	0.00	0.00	
Start 50.00 hold at 10600.78 MD - LTP Trinity 22 State Com #2H										
10,650.78	90.17	359.29	5,158.85	5,835.81	-72.22	5,836.26	0.00	0.00	0.00	
TD at 10650.78 - PBHL Trinity 22 State Com #2H										

Planning Report

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
SHL Trinity 22 State Cor - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W
PBHL Trinity 22 State Cor - plan misses target center by 0.02ft at 10650.78ft MD (5158.85 TVD, 5835.81 N, -72.22 E) - Point	0.00	0.00	5,158.85	5,835.81	-72.20	828,557.60	923,974.90	33° 16' 16.872 N	103° 4' 53.146 W
LTP Trinity 22 State Cor - plan hits target center - Point	0.00	0.00	5,159.00	5,785.81	-71.60	828,507.60	923,975.50	33° 16' 16.378 N	103° 4' 53.146 W
FTP Trinity 22 State Cor - plan misses target center by 2.78ft at 5514.53ft MD (5171.24 TVD, 700.06 N, -8.66 E) - Point	0.00	0.00	5,174.00	699.90	-8.90	823,421.70	924,038.20	33° 15' 26.060 N	103° 4' 53.126 W

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
2,280.00	2,280.00	8 5/8"	8.625	12.250

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
2,260.00	2,260.00	Rustler		-0.17	359.29
2,294.00	2,294.00	Base Pure Anhydrite		-0.17	359.29
2,334.00	2,334.00	Top Salt		-0.17	359.29
3,054.00	3,054.00	Yates		-0.17	359.29
4,454.27	4,453.98	San Andres		-0.17	359.29
5,018.99	4,934.17	Tx Pi Marker@SL		-0.17	359.29
5,395.13	5,147.27	P-1 Dolomite @ LP		-0.17	359.29
5,408.76	5,151.23	P-1 Dolomite@SL		-0.17	359.29

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
4,358.34	4,358.34	0.00	0.00	Start Build 8.00
4,920.84	4,864.76	209.75	-2.60	Start 200.00 hold at 4920.84 MD
5,120.84	5,006.19	351.16	-4.35	Start Build 10.00
5,572.54	5,174.00	757.98	-9.38	Start 5028.23 hold at 5572.54 MD
10,600.78	5,159.00	5,785.81	-71.60	Start 50.00 hold at 10600.78 MD
10,650.78	5,158.85	5,835.81	-72.22	TD at 10650.78

Manzano, LLC

Lea County, NM (NAD 83)

Trinity 22 State Com #2H

Trinity 22 State Com #2H

Wellbore #1

Plan: Plan #1

Standard Planning Report - Geographic

09 August, 2019

Planning Report - Geographic

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Trinity 22 State Com #2H					
Site Position:		Northing:	822,721.80 usft	Latitude:	33° 15' 19.136 N	
From:	Map	Easting:	924,047.10 usft	Longitude:	103° 4' 53.120 W	
Position Uncertainty:		0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.69

Well	Trinity 22 State Com #2H					
Well Position	+N/-S	0.00 ft	Northing:	822,721.80 usft	Latitude:	33° 15' 19.136 N
	+E/-W	0.00 ft	Easting:	924,047.10 usft	Longitude:	103° 4' 53.120 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	3,796.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	8/9/2019	6.56	61.04	48,371.22395555

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	359.29	

Plan Survey Tool Program	Date	8/9/2019			
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks	
(ft)	(ft)				
1	0.00	10,650.78 Plan #1 (Wellbore #1)	MWD		
			MWD - Standard		

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,358.34	0.00	0.00	4,358.34	0.00	0.00	0.00	0.00	0.00	0.00	
4,920.84	45.00	359.29	4,864.76	209.75	-2.60	8.00	8.00	0.00	359.29	
5,120.84	45.00	359.29	5,006.19	351.16	-4.35	0.00	0.00	0.00	0.00	
5,572.54	90.17	359.29	5,174.00	757.98	-9.38	10.00	10.00	0.00	0.00	
10,600.78	90.17	359.29	5,159.00	5,785.81	-71.60	0.00	0.00	0.00	0.00	LTP Trinity 22 State C
10,650.78	90.17	359.29	5,158.85	5,835.81	-72.22	0.00	0.00	0.00	0.00	PBHL Trinity 22 State

Planning Report - Geographic

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
SHL Trinity 22 State Com #2H										
100.00	0.00	0.00	100.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
200.00	0.00	0.00	200.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
300.00	0.00	0.00	300.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
400.00	0.00	0.00	400.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
500.00	0.00	0.00	500.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
600.00	0.00	0.00	600.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
700.00	0.00	0.00	700.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
800.00	0.00	0.00	800.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
900.00	0.00	0.00	900.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,260.00	0.00	0.00	2,260.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
Rustler										
2,280.00	0.00	0.00	2,280.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
8 5/8"										
2,294.00	0.00	0.00	2,294.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
Base Pure Anhydrite										
2,300.00	0.00	0.00	2,300.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,334.00	0.00	0.00	2,334.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
Top Salt										
2,400.00	0.00	0.00	2,400.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,054.00	0.00	0.00	3,054.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
Yates										
3,100.00	0.00	0.00	3,100.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
4,100.00	0.00	0.00	4,100.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	

Planning Report - Geographic

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,200.00	0.00	0.00	4,200.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
4,358.34	0.00	0.00	4,358.34	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W	
Start Build 8.00										
4,400.00	3.33	359.29	4,399.98	1.21	-0.01	822,723.01	924,047.09	33° 15' 19.148 N	103° 4' 53.120 W	
4,454.27	7.67	359.29	4,453.98	6.41	-0.08	822,728.21	924,047.02	33° 15' 19.199 N	103° 4' 53.120 W	
San Andres										
4,500.00	11.33	359.29	4,499.08	13.96	-0.17	822,735.76	924,046.93	33° 15' 19.274 N	103° 4' 53.120 W	
4,600.00	19.33	359.29	4,595.44	40.38	-0.50	822,762.18	924,046.60	33° 15' 19.535 N	103° 4' 53.120 W	
4,700.00	27.33	359.29	4,687.19	79.96	-0.99	822,801.75	924,046.11	33° 15' 19.927 N	103° 4' 53.120 W	
4,800.00	35.33	359.29	4,772.53	131.91	-1.63	822,853.71	924,045.47	33° 15' 20.441 N	103° 4' 53.120 W	
4,900.00	43.33	359.29	4,849.82	195.24	-2.42	822,917.04	924,044.68	33° 15' 21.067 N	103° 4' 53.121 W	
4,920.84	45.00	359.29	4,864.76	209.75	-2.60	822,931.55	924,044.50	33° 15' 21.211 N	103° 4' 53.121 W	
Start 200.00 hold at 4920.84 MD										
5,000.00	45.00	359.29	4,920.74	265.73	-3.29	822,987.52	924,043.81	33° 15' 21.765 N	103° 4' 53.121 W	
5,018.99	45.00	359.29	4,934.17	279.16	-3.45	823,000.95	924,043.65	33° 15' 21.898 N	103° 4' 53.121 W	
Tx Pi Marker@SL										
5,100.00	45.00	359.29	4,991.45	336.43	-4.16	823,058.23	924,042.94	33° 15' 22.464 N	103° 4' 53.121 W	
5,120.84	45.00	359.29	5,006.19	351.16	-4.35	823,072.96	924,042.75	33° 15' 22.610 N	103° 4' 53.121 W	
Start Build 10.00										
5,200.00	52.92	359.29	5,058.12	410.82	-5.08	823,132.62	924,042.02	33° 15' 23.200 N	103° 4' 53.122 W	
5,300.00	62.92	359.29	5,111.17	495.43	-6.13	823,217.23	924,040.97	33° 15' 24.037 N	103° 4' 53.122 W	
5,395.13	72.43	359.29	5,147.27	583.32	-7.22	823,305.12	924,039.88	33° 15' 24.907 N	103° 4' 53.123 W	
P-1 Dolomite @ LP										
5,400.00	72.92	359.29	5,148.72	587.97	-7.28	823,309.77	924,039.82	33° 15' 24.953 N	103° 4' 53.123 W	
5,408.76	73.79	359.29	5,151.23	596.37	-7.38	823,318.17	924,039.72	33° 15' 25.036 N	103° 4' 53.123 W	
P-1 Dolomite@SL										
5,500.00	82.92	359.29	5,169.63	685.63	-8.48	823,407.42	924,038.62	33° 15' 25.919 N	103° 4' 53.123 W	
5,514.53	84.37	359.29	5,171.24	700.06	-8.66	823,421.86	924,038.44	33° 15' 26.062 N	103° 4' 53.123 W	
FTP Trinity 22 State Com #2H										
5,572.54	90.17	359.29	5,174.00	757.98	-9.38	823,479.78	924,037.72	33° 15' 26.635 N	103° 4' 53.123 W	
Start 5028.23 hold at 5572.54 MD										
5,600.00	90.17	359.29	5,173.92	785.44	-9.72	823,507.23	924,037.38	33° 15' 26.907 N	103° 4' 53.123 W	
5,700.00	90.17	359.29	5,173.62	885.43	-10.96	823,607.23	924,036.14	33° 15' 27.896 N	103° 4' 53.124 W	
5,800.00	90.17	359.29	5,173.32	985.42	-12.19	823,707.22	924,034.91	33° 15' 28.885 N	103° 4' 53.124 W	
5,900.00	90.17	359.29	5,173.02	1,085.41	-13.43	823,807.21	924,033.67	33° 15' 29.874 N	103° 4' 53.125 W	
6,000.00	90.17	359.29	5,172.72	1,185.40	-14.67	823,907.20	924,032.43	33° 15' 30.864 N	103° 4' 53.125 W	
6,100.00	90.17	359.29	5,172.42	1,285.40	-15.91	824,007.19	924,031.19	33° 15' 31.853 N	103° 4' 53.126 W	
6,200.00	90.17	359.29	5,172.13	1,385.39	-17.14	824,107.18	924,029.96	33° 15' 32.842 N	103° 4' 53.126 W	
6,300.00	90.17	359.29	5,171.83	1,485.38	-18.38	824,207.18	924,028.72	33° 15' 33.832 N	103° 4' 53.127 W	
6,400.00	90.17	359.29	5,171.53	1,585.37	-19.62	824,307.17	924,027.48	33° 15' 34.821 N	103° 4' 53.127 W	
6,500.00	90.17	359.29	5,171.23	1,685.36	-20.86	824,407.16	924,026.24	33° 15' 35.810 N	103° 4' 53.128 W	
6,600.00	90.17	359.29	5,170.93	1,785.35	-22.09	824,507.15	924,025.01	33° 15' 36.799 N	103° 4' 53.128 W	
6,700.00	90.17	359.29	5,170.64	1,885.35	-23.33	824,607.14	924,023.77	33° 15' 37.789 N	103° 4' 53.128 W	
6,800.00	90.17	359.29	5,170.34	1,985.34	-24.57	824,707.13	924,022.53	33° 15' 38.778 N	103° 4' 53.129 W	
6,900.00	90.17	359.29	5,170.04	2,085.33	-25.81	824,807.13	924,021.29	33° 15' 39.767 N	103° 4' 53.129 W	
7,000.00	90.17	359.29	5,169.74	2,185.32	-27.04	824,907.12	924,020.06	33° 15' 40.756 N	103° 4' 53.130 W	
7,100.00	90.17	359.29	5,169.44	2,285.32	-28.28	825,007.11	924,018.82	33° 15' 41.746 N	103° 4' 53.130 W	
7,200.00	90.17	359.29	5,169.14	2,385.31	-29.52	825,107.10	924,017.58	33° 15' 42.735 N	103° 4' 53.131 W	
7,300.00	90.17	359.29	5,168.85	2,485.30	-30.76	825,207.09	924,016.34	33° 15' 43.724 N	103° 4' 53.131 W	
7,400.00	90.17	359.29	5,168.55	2,585.29	-31.99	825,307.08	924,015.11	33° 15' 44.713 N	103° 4' 53.132 W	
7,500.00	90.17	359.29	5,168.25	2,685.28	-33.23	825,407.08	924,013.87	33° 15' 45.703 N	103° 4' 53.132 W	
7,600.00	90.17	359.29	5,167.95	2,785.27	-34.47	825,507.07	924,012.63	33° 15' 46.692 N	103° 4' 53.133 W	

Planning Report - Geographic

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude Longitude		
7,700.00	90.17	359.29	5,167.65	2,885.27	-35.71	825,607.06	924,011.40	33° 15' 47.681 N	103° 4' 53.133 W	
7,800.00	90.17	359.29	5,167.35	2,985.26	-36.94	825,707.05	924,010.16	33° 15' 48.671 N	103° 4' 53.134 W	
7,900.00	90.17	359.29	5,167.06	3,085.25	-38.18	825,807.04	924,008.92	33° 15' 49.660 N	103° 4' 53.134 W	
8,000.00	90.17	359.29	5,166.76	3,185.24	-39.42	825,907.03	924,007.68	33° 15' 50.649 N	103° 4' 53.134 W	
8,100.00	90.17	359.29	5,166.46	3,285.23	-40.66	826,007.03	924,006.45	33° 15' 51.638 N	103° 4' 53.135 W	
8,200.00	90.17	359.29	5,166.16	3,385.23	-41.89	826,107.02	924,005.21	33° 15' 52.628 N	103° 4' 53.135 W	
8,300.00	90.17	359.29	5,165.86	3,485.22	-43.13	826,207.01	924,003.97	33° 15' 53.617 N	103° 4' 53.136 W	
8,400.00	90.17	359.29	5,165.56	3,585.21	-44.37	826,307.00	924,002.73	33° 15' 54.606 N	103° 4' 53.136 W	
8,500.00	90.17	359.29	5,165.27	3,685.20	-45.60	826,406.99	924,001.50	33° 15' 55.595 N	103° 4' 53.137 W	
8,600.00	90.17	359.29	5,164.97	3,785.19	-46.84	826,506.98	924,000.26	33° 15' 56.585 N	103° 4' 53.137 W	
8,700.00	90.17	359.29	5,164.67	3,885.19	-48.08	826,606.98	923,999.02	33° 15' 57.574 N	103° 4' 53.138 W	
8,800.00	90.17	359.29	5,164.37	3,985.18	-49.32	826,706.97	923,997.78	33° 15' 58.563 N	103° 4' 53.138 W	
8,900.00	90.17	359.29	5,164.07	4,085.17	-50.55	826,806.96	923,996.55	33° 15' 59.553 N	103° 4' 53.139 W	
9,000.00	90.17	359.29	5,163.77	4,185.16	-51.79	826,906.95	923,995.31	33° 16' 0.542 N	103° 4' 53.139 W	
9,100.00	90.17	359.29	5,163.48	4,285.15	-53.03	827,006.94	923,994.07	33° 16' 1.531 N	103° 4' 53.139 W	
9,200.00	90.17	359.29	5,163.18	4,385.15	-54.27	827,106.93	923,992.83	33° 16' 2.520 N	103° 4' 53.140 W	
9,300.00	90.17	359.29	5,162.88	4,485.14	-55.50	827,206.93	923,991.60	33° 16' 3.510 N	103° 4' 53.140 W	
9,400.00	90.17	359.29	5,162.58	4,585.13	-56.74	827,306.92	923,990.36	33° 16' 4.499 N	103° 4' 53.141 W	
9,500.00	90.17	359.29	5,162.28	4,685.12	-57.98	827,406.91	923,989.12	33° 16' 5.488 N	103° 4' 53.141 W	
9,600.00	90.17	359.29	5,161.99	4,785.11	-59.22	827,506.90	923,987.88	33° 16' 6.477 N	103° 4' 53.142 W	
9,700.00	90.17	359.29	5,161.69	4,885.10	-60.45	827,606.89	923,986.65	33° 16' 7.467 N	103° 4' 53.142 W	
9,800.00	90.17	359.29	5,161.39	4,985.10	-61.69	827,706.89	923,985.41	33° 16' 8.456 N	103° 4' 53.143 W	
9,900.00	90.17	359.29	5,161.09	5,085.09	-62.93	827,806.88	923,984.17	33° 16' 9.445 N	103° 4' 53.143 W	
10,000.00	90.17	359.29	5,160.79	5,185.08	-64.17	827,906.87	923,982.93	33° 16' 10.434 N	103° 4' 53.144 W	
10,100.00	90.17	359.29	5,160.49	5,285.07	-65.40	828,006.86	923,981.70	33° 16' 11.424 N	103° 4' 53.144 W	
10,200.00	90.17	359.29	5,160.20	5,385.06	-66.64	828,106.85	923,980.46	33° 16' 12.413 N	103° 4' 53.144 W	
10,300.00	90.17	359.29	5,159.90	5,485.06	-67.88	828,206.84	923,979.22	33° 16' 13.402 N	103° 4' 53.145 W	
10,400.00	90.17	359.29	5,159.60	5,585.05	-69.12	828,306.84	923,977.99	33° 16' 14.392 N	103° 4' 53.145 W	
10,500.00	90.17	359.29	5,159.30	5,685.04	-70.35	828,406.83	923,976.75	33° 16' 15.381 N	103° 4' 53.146 W	
10,600.00	90.17	359.29	5,159.00	5,785.03	-71.59	828,506.82	923,975.51	33° 16' 16.370 N	103° 4' 53.146 W	
10,600.78	90.17	359.29	5,159.00	5,785.81	-71.60	828,507.60	923,975.50	33° 16' 16.378 N	103° 4' 53.146 W	
Start 50.00 hold at 10600.78 MD - LTP Trinity 22 State Com #2H										
10,650.78	90.17	359.29	5,158.85	5,835.81	-72.22	828,557.60	923,974.88	33° 16' 16.872 N	103° 4' 53.147 W	
TD at 10650.78 - PBHL Trinity 22 State Com #2H										

Planning Report - Geographic

Database:	EDM	Local Co-ordinate Reference	Well Trinity 22 State Com #2H
Company:	Manzano, LLC	TVD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Project:	Lea County, NM (NAD 83)	MD Reference:	GL 3796' + RBK 13' @ 3809.00ft
Site:	Trinity 22 State Com #2H	North Reference:	Grid
Well:	Trinity 22 State Com #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
SHL Trinity 22 State Cor - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	822,721.80	924,047.10	33° 15' 19.136 N	103° 4' 53.120 W
PBHL Trinity 22 State Cor - plan misses target center by 0.02ft at 10650.78ft MD (5158.85 TVD, 5835.81 N, -72.22 E) - Point	0.00	0.00	5,158.85	5,835.81	-72.20	828,557.60	923,974.90	33° 16' 16.872 N	103° 4' 53.146 W
LTP Trinity 22 State Cor - plan hits target center - Point	0.00	0.00	5,159.00	5,785.81	-71.60	828,507.60	923,975.50	33° 16' 16.378 N	103° 4' 53.146 W
FTP Trinity 22 State Cor - plan misses target center by 2.78ft at 5514.53ft MD (5171.24 TVD, 700.06 N, -8.66 E) - Point	0.00	0.00	5,174.00	699.90	-8.90	823,421.70	924,038.20	33° 15' 26.060 N	103° 4' 53.126 W

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
2,280.00	2,280.00	8 5/8"		8.625	12.250

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
2,260.00	2,260.00	Rustler		-0.17	359.29
2,294.00	2,294.00	Base Pure Anhydrite		-0.17	359.29
2,334.00	2,334.00	Top Salt		-0.17	359.29
3,054.00	3,054.00	Yates		-0.17	359.29
4,454.27	4,453.98	San Andres		-0.17	359.29
5,018.99	4,934.17	Tx Pi Marker@SL		-0.17	359.29
5,395.13	5,147.27	P-1 Dolomite @ LP		-0.17	359.29
5,408.76	5,151.23	P-1 Dolomite@SL		-0.17	359.29

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
4,358.34	4,358.34	0.00	0.00	Start Build 8.00	
4,920.84	4,864.76	209.75	-2.60	Start 200.00 hold at 4920.84 MD	
5,120.84	5,006.19	351.16	-4.35	Start Build 10.00	
5,572.54	5,174.00	757.98	-9.38	Start 5028.23 hold at 5572.54 MD	
10,600.78	5,159.00	5,785.81	-71.60	Start 50.00 hold at 10600.78 MD	
10,650.78	5,158.85	5,835.81	-72.22	TD at 10650.78	