

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 282417

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

1. Operator Name and Address XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707		2. OGRID Number 5380
		3. API Number 30-015-47096
4. Property Code 317788	5. Property Name REMUDA SOUTH 25 STATE	6. Well No. 162H

7. Surface Location

UL - Lot F	Section 25	Township 23S	Range 29E	Lot Idn f	Feet From 2355	N/S Line N	Feet From 1920	E/W Line W	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot M	Section 36	Township 23S	Range 29E	Lot Idn M	Feet From 200	N/S Line S	Feet From 1090	E/W Line W	County Eddy
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9. Pool Information

PURPLE SAGE;WOLFCAMP (GAS)	98220
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Additional Well Information

11. Work Type New Well	12. Well Type GAS	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3074
16. Multiple N	17. Proposed Depth 19125	18. Formation Wolfcamp	19. Contractor	20. Spud Date 6/15/2020
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	20	16	75	392	570	0
Int1	14.75	11.75	47	3162	1960	0
Int2	10.625	8.625	32	10550	1680	3262
Prod	7.875	5.5	20	19125	2560	10050

Casing/Cement Program: Additional Comments

DV tool may be set @ 3262'. The surface fresh water sands will be protected by setting 16" inch casing @ 392' (25' above the salt) and circulating cement back to surface. The salt will be isolated by setting 11-3/4" inch casing at 3162' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 8-5/8" inch casing at 10550' and cementing 200' into the 11-3/4 inch casing. A 7-7/8" inch curve and lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back up to the 2nd intermediate (estimated TOC 10050 feet) per Potash regulations.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	10000	10000	Cameron

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.		OIL CONSERVATION DIVISION	
Signature:			
Printed Name: Electronically filed by Deeann Kemp	Approved By: Raymond Podany		
Title: Regulatory	Title: Geologist		
Email Address: DeeAnn_Kemp@xtoenergy.com	Approved Date: 5/13/2020	Expiration Date: 5/13/2022	
Date: 5/13/2020	Phone: 432-620-6724	Conditions of Approval Attached	

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp
⁴ Property Code	⁵ Property Name REMUDA SOUTH 25 STATE	
⁷ OGRID No. 005380	⁸ Operator Name XTO ENERGY, INC.	⁶ Well Number 162H ⁹ Elevation 3,074'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	25	23 S	29 E		2,355	NORTH	1,920	WEST	EDDY

¹¹ 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
M	36	23 S	29 E		200	SOUTH	1,090	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
480			

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.

	SHL (NAD83 NME) Y = 464,624.3 X = 662,737.0 LAT. = 32.276716 °N LONG. = 103.940524 °W FTP (NAD83 NME) Y = 463,991.4 X = 661,906.8 LAT. = 32.274984 °N LONG. = 103.943217 °W CORNER COORDINATES (NAD83 NME) A - Y = 464,320.4 N , X = 660,816.8 E B - Y = 464,319.7 N , X = 662,143.0 E C - Y = 461,665.9 N , X = 660,817.1 E D - Y = 461,666.6 N , X = 662,145.6 E E - Y = 459,002.1 N , X = 660,832.0 E F - Y = 459,004.0 N , X = 662,159.8 E G - Y = 456,341.5 N , X = 660,848.3 E H - Y = 456,344.3 N , X = 662,174.7 E SHL (NAD27 NME) Y = 464,564.4 X = 621,554.2 LAT. = 32.276592 °N LONG. = 103.940032 °W FTP (NAD27 NME) Y = 463,931.6 X = 620,724.0 LAT. = 32.274861 °N LONG. = 103.942726 °W CORNER COORDINATES (NAD27 NME) A - Y = 464,260.5 N , X = 619,634.0 E B - Y = 464,259.9 N , X = 620,960.2 E C - Y = 461,606.0 N , X = 619,634.3 E D - Y = 461,606.7 N , X = 620,962.7 E E - Y = 458,942.4 N , X = 619,649.0 E F - Y = 458,944.3 N , X = 620,976.8 E G - Y = 456,281.8 N , X = 619,665.2 E H - Y = 456,284.6 N , X = 620,991.6 E	¹⁷ 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. <i>Cassie Evans</i> 005/04/2020 Signature Date Cassie Evans Printed Name cassie_evans@xtoenergy.com E-mail Address
¹⁸ 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. 04-15-2020 Date of Survey Signature and Seal of Professional Surveyor: <i>[Signature]</i> MARK DILLON HARP 23786 Certificate Number AR 2019103429		

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GAS CAPTURE PLAN

Date: 5/13/2020

☒ Original

Operator & OGRID No.: [5380] XTO ENERGY, INC

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
REMUDA SOUTH 25 STATE #162H	30-015-47096	F-25-23S-29E	2355N 1920W	2600	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to LUCID ENERGY DELAWARE, LLC and will be connected to LUCID ENERGY DELAWARE, LLC High/Low Pressure gathering system located in Eddy County, New Mexico. It will require 0' of pipeline to connect the facility to High/Low Pressure gathering system. XTO ENERGY, INC provides (periodically) to LUCID ENERGY DELAWARE, LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO ENERGY, INC and LUCID ENERGY DELAWARE, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at LUCID ENERGY DELAWARE, LLC Processing Plant located in Sec. 13, Twn. 24S, Rng. 33E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on LUCID ENERGY DELAWARE, LLC system at that time. Based on current information, it is XTO ENERGY, INC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Form APD Comments

Permit 282417

PERMIT COMMENTS

Operator Name and Address: XTO ENERGY, INC [5380] 6401 Holiday Hill Road Midland, TX 79707	API Number: 30-015-47096
	Well: REMUDA SOUTH 25 STATE #162H

Created By	Comment	Comment Date
kkardos	XTO requests the following variances: use a 5000 psi annular BOP with a 10,000 psi BOP stack. Also a variance is requested to test the 5M annular to 70% of working pressure at 3500 psi. Approval to utilize a spudder rig to pre-set surface casing per the attached Description of Operations. Batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM to skid the rig	5/13/2020

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Form APD Conditions
Permit 282417

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: XTO ENERGY, INC [5380] 6401 Holiday Hill Road Midland, TX 79707		API Number: 30-015-47096
		Well: REMUDA SOUTH 25 STATE #162H
OCD Reviewer	Condition	
ksimmons	Will require a directional survey with the C-104	
ksimmons	Cement is required to circulate on both surface and intermediate1 strings of casing	



XTO Permian Operating, LLC

Eddy Co., NM

Remuda South 25 State

162H

Wellbore #1

Plan: Design #1

Standard Planning Report

27 April, 2020





Nabors Drilling Solutions

Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 162H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Project:	Eddy Co., NM	MD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Site:	Remuda South 25 State	North Reference:	Grid
Well:	162H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Eddy Co., NM		
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		Remuda South 25 State			
Site Position:		Northing:	464,564.400 usft	Latitude:	32° 16' 35.730724 N
From:	Map	Easting:	621,554.200 usft	Longitude:	103° 56' 24.116704 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.21 °

Well	162H					
Well Position	+N/-S	0.00 ft	Northing:	464,564.400 usft	Latitude:	32° 16' 35.730724 N
	+E/-W	0.00 ft	Easting:	621,554.200 usft	Longitude:	103° 56' 24.116704 W
Position Uncertainty		2.00 ft	Wellhead Elevation:		Ground Level:	3,074.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	4/24/2020	6.87	59.98	47,849.20000000

Design	Design #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	185.66	

Plan Survey Tool Program	Date	4/27/2020			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	19,125.93	Design #1 (Wellbore #1)	MWD+HRGM	
			OWSG MWD + HRGM		



Nabors Drilling Solutions

Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 162H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Project:	Eddy Co., NM	MD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Site:	Remuda South 25 State	North Reference:	Grid
Well:	162H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,513.80	7.71	270.00	2,512.25	0.00	-34.50	1.50	1.50	0.00	270.00	
8,204.70	7.71	270.00	8,151.75	0.00	-797.70	0.00	0.00	0.00	0.00	
8,718.50	0.00	0.00	8,664.00	0.00	-832.20	1.50	-1.50	0.00	180.00	
10,718.50	0.00	0.00	10,664.00	0.00	-832.20	0.00	0.00	0.00	0.00	
11,616.97	89.85	179.77	11,236.96	-571.42	-829.94	10.00	10.00	20.01	179.77	
19,125.95	89.85	179.77	11,257.00	-8,080.32	-800.20	0.00	0.00	0.00	0.00	Remuda South 25 State



Nabors Drilling Solutions

Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 162H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Project:	Eddy Co., NM	MD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Site:	Remuda South 25 State	North Reference:	Grid
Well:	162H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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
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	1.50	270.00	2,099.99	0.00	-1.31	0.13	1.50	1.50	0.00
2,200.00	3.00	270.00	2,199.91	0.00	-5.23	0.52	1.50	1.50	0.00
2,300.00	4.50	270.00	2,299.69	0.00	-11.77	1.16	1.50	1.50	0.00
2,400.00	6.00	270.00	2,399.27	0.00	-20.92	2.06	1.50	1.50	0.00
2,500.00	7.50	270.00	2,498.57	0.00	-32.68	3.22	1.50	1.50	0.00
2,513.80	7.71	270.00	2,512.25	0.00	-34.50	3.40	1.50	1.50	0.00
2,600.00	7.71	270.00	2,597.67	0.00	-46.06	4.54	0.00	0.00	0.00
2,700.00	7.71	270.00	2,696.77	0.00	-59.47	5.86	0.00	0.00	0.00
2,800.00	7.71	270.00	2,795.87	0.00	-72.89	7.18	0.00	0.00	0.00
2,900.00	7.71	270.00	2,894.96	0.00	-86.30	8.50	0.00	0.00	0.00
3,000.00	7.71	270.00	2,994.06	0.00	-99.71	9.83	0.00	0.00	0.00
3,100.00	7.71	270.00	3,093.16	0.00	-113.12	11.15	0.00	0.00	0.00
3,200.00	7.71	270.00	3,192.25	0.00	-126.53	12.47	0.00	0.00	0.00
3,300.00	7.71	270.00	3,291.35	0.00	-139.94	13.79	0.00	0.00	0.00
3,400.00	7.71	270.00	3,390.45	0.00	-153.35	15.11	0.00	0.00	0.00
3,500.00	7.71	270.00	3,489.54	0.00	-166.76	16.43	0.00	0.00	0.00
3,600.00	7.71	270.00	3,588.64	0.00	-180.17	17.76	0.00	0.00	0.00
3,700.00	7.71	270.00	3,687.74	0.00	-193.58	19.08	0.00	0.00	0.00
3,800.00	7.71	270.00	3,786.83	0.00	-206.99	20.40	0.00	0.00	0.00
3,900.00	7.71	270.00	3,885.93	0.00	-220.40	21.72	0.00	0.00	0.00
4,000.00	7.71	270.00	3,985.03	0.00	-233.81	23.04	0.00	0.00	0.00
4,100.00	7.71	270.00	4,084.12	0.00	-247.23	24.36	0.00	0.00	0.00
4,200.00	7.71	270.00	4,183.22	0.00	-260.64	25.69	0.00	0.00	0.00
4,300.00	7.71	270.00	4,282.32	0.00	-274.05	27.01	0.00	0.00	0.00
4,400.00	7.71	270.00	4,381.41	0.00	-287.46	28.33	0.00	0.00	0.00
4,500.00	7.71	270.00	4,480.51	0.00	-300.87	29.65	0.00	0.00	0.00
4,600.00	7.71	270.00	4,579.61	0.00	-314.28	30.97	0.00	0.00	0.00
4,700.00	7.71	270.00	4,678.70	0.00	-327.69	32.29	0.00	0.00	0.00
4,800.00	7.71	270.00	4,777.80	0.00	-341.10	33.62	0.00	0.00	0.00
4,900.00	7.71	270.00	4,876.90	0.00	-354.51	34.94	0.00	0.00	0.00
5,000.00	7.71	270.00	4,975.99	0.00	-367.92	36.26	0.00	0.00	0.00



Nabors Drilling Solutions

Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 162H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Project:	Eddy Co., NM	MD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Site:	Remuda South 25 State	North Reference:	Grid
Well:	162H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
5,100.00	7.71	270.00	5,075.09	0.00	-381.33	37.58	0.00	0.00	0.00
5,200.00	7.71	270.00	5,174.19	0.00	-394.74	38.90	0.00	0.00	0.00
5,300.00	7.71	270.00	5,273.28	0.00	-408.15	40.22	0.00	0.00	0.00
5,400.00	7.71	270.00	5,372.38	0.00	-421.56	41.54	0.00	0.00	0.00
5,500.00	7.71	270.00	5,471.48	0.00	-434.98	42.87	0.00	0.00	0.00
5,600.00	7.71	270.00	5,570.57	0.00	-448.39	44.19	0.00	0.00	0.00
5,700.00	7.71	270.00	5,669.67	0.00	-461.80	45.51	0.00	0.00	0.00
5,800.00	7.71	270.00	5,768.77	0.00	-475.21	46.83	0.00	0.00	0.00
5,900.00	7.71	270.00	5,867.86	0.00	-488.62	48.15	0.00	0.00	0.00
6,000.00	7.71	270.00	5,966.96	0.00	-502.03	49.47	0.00	0.00	0.00
6,100.00	7.71	270.00	6,066.06	0.00	-515.44	50.80	0.00	0.00	0.00
6,200.00	7.71	270.00	6,165.15	0.00	-528.85	52.12	0.00	0.00	0.00
6,300.00	7.71	270.00	6,264.25	0.00	-542.26	53.44	0.00	0.00	0.00
6,400.00	7.71	270.00	6,363.35	0.00	-555.67	54.76	0.00	0.00	0.00
6,500.00	7.71	270.00	6,462.44	0.00	-569.08	56.08	0.00	0.00	0.00
6,600.00	7.71	270.00	6,561.54	0.00	-582.49	57.40	0.00	0.00	0.00
6,700.00	7.71	270.00	6,660.64	0.00	-595.90	58.73	0.00	0.00	0.00
6,800.00	7.71	270.00	6,759.73	0.00	-609.31	60.05	0.00	0.00	0.00
6,900.00	7.71	270.00	6,858.83	0.00	-622.73	61.37	0.00	0.00	0.00
7,000.00	7.71	270.00	6,957.93	0.00	-636.14	62.69	0.00	0.00	0.00
7,100.00	7.71	270.00	7,057.02	0.00	-649.55	64.01	0.00	0.00	0.00
7,200.00	7.71	270.00	7,156.12	0.00	-662.96	65.33	0.00	0.00	0.00
7,300.00	7.71	270.00	7,255.22	0.00	-676.37	66.66	0.00	0.00	0.00
7,400.00	7.71	270.00	7,354.31	0.00	-689.78	67.98	0.00	0.00	0.00
7,500.00	7.71	270.00	7,453.41	0.00	-703.19	69.30	0.00	0.00	0.00
7,600.00	7.71	270.00	7,552.51	0.00	-716.60	70.62	0.00	0.00	0.00
7,700.00	7.71	270.00	7,651.60	0.00	-730.01	71.94	0.00	0.00	0.00
7,800.00	7.71	270.00	7,750.70	0.00	-743.42	73.26	0.00	0.00	0.00
7,900.00	7.71	270.00	7,849.80	0.00	-756.83	74.59	0.00	0.00	0.00
8,000.00	7.71	270.00	7,948.89	0.00	-770.24	75.91	0.00	0.00	0.00
8,100.00	7.71	270.00	8,047.99	0.00	-783.65	77.23	0.00	0.00	0.00
8,204.70	7.71	270.00	8,151.75	0.00	-797.70	78.61	0.00	0.00	0.00
8,300.00	6.28	270.00	8,246.33	0.00	-809.30	79.76	1.50	-1.50	0.00
8,400.00	4.78	270.00	8,345.87	0.00	-818.93	80.70	1.50	-1.50	0.00
8,500.00	3.28	270.00	8,445.62	0.00	-825.95	81.40	1.50	-1.50	0.00
8,600.00	1.78	270.00	8,545.52	0.00	-830.36	81.83	1.50	-1.50	0.00
8,700.00	0.28	270.00	8,645.50	0.00	-832.16	82.01	1.50	-1.50	0.00
8,718.50	0.00	0.00	8,664.00	0.00	-832.20	82.01	1.50	-1.50	0.00
8,800.00	0.00	0.00	8,745.50	0.00	-832.20	82.01	0.00	0.00	0.00
8,900.00	0.00	0.00	8,845.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,000.00	0.00	0.00	8,945.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,100.00	0.00	0.00	9,045.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,200.00	0.00	0.00	9,145.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,300.00	0.00	0.00	9,245.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,400.00	0.00	0.00	9,345.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,500.00	0.00	0.00	9,445.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,600.00	0.00	0.00	9,545.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,700.00	0.00	0.00	9,645.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,800.00	0.00	0.00	9,745.50	0.00	-832.20	82.01	0.00	0.00	0.00
9,900.00	0.00	0.00	9,845.50	0.00	-832.20	82.01	0.00	0.00	0.00
10,000.00	0.00	0.00	9,945.50	0.00	-832.20	82.01	0.00	0.00	0.00
10,100.00	0.00	0.00	10,045.50	0.00	-832.20	82.01	0.00	0.00	0.00



Nabors Drilling Solutions

Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 162H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Project:	Eddy Co., NM	MD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Site:	Remuda South 25 State	North Reference:	Grid
Well:	162H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)	
10,200.00	0.00	0.00	10,145.50	0.00	-832.20	82.01	0.00	0.00	0.00	
10,300.00	0.00	0.00	10,245.50	0.00	-832.20	82.01	0.00	0.00	0.00	
10,400.00	0.00	0.00	10,345.50	0.00	-832.20	82.01	0.00	0.00	0.00	
10,500.00	0.00	0.00	10,445.50	0.00	-832.20	82.01	0.00	0.00	0.00	
10,600.00	0.00	0.00	10,545.50	0.00	-832.20	82.01	0.00	0.00	0.00	
10,700.00	0.00	0.00	10,645.50	0.00	-832.20	82.01	0.00	0.00	0.00	
10,718.50	0.00	0.00	10,664.00	0.00	-832.20	82.01	0.00	0.00	0.00	
10,750.00	3.15	179.77	10,695.48	-0.87	-832.20	82.87	10.00	10.00	0.00	
10,800.00	8.15	179.77	10,745.22	-5.79	-832.18	87.77	10.00	10.00	0.00	
10,850.00	13.15	179.77	10,794.35	-15.02	-832.14	96.96	10.00	10.00	0.00	
10,900.00	18.15	179.77	10,842.48	-28.51	-832.09	110.37	10.00	10.00	0.00	
10,950.00	23.15	179.77	10,889.25	-46.13	-832.02	127.90	10.00	10.00	0.00	
11,000.00	28.15	179.77	10,934.31	-67.77	-831.93	149.43	10.00	10.00	0.00	
11,050.00	33.15	179.77	10,977.31	-93.25	-831.83	174.77	10.00	10.00	0.00	
11,100.00	38.15	179.77	11,017.93	-122.38	-831.72	203.75	10.00	10.00	0.00	
11,150.00	43.15	179.77	11,055.85	-154.94	-831.59	236.14	10.00	10.00	0.00	
11,200.00	48.15	179.77	11,090.79	-190.69	-831.44	271.70	10.00	10.00	0.00	
11,250.00	53.15	179.77	11,122.48	-229.34	-831.29	310.14	10.00	10.00	0.00	
11,300.00	58.15	179.77	11,150.69	-270.60	-831.13	351.19	10.00	10.00	0.00	
11,350.00	63.15	179.77	11,175.19	-314.17	-830.96	394.53	10.00	10.00	0.00	
11,400.00	68.15	179.77	11,195.80	-359.71	-830.78	439.83	10.00	10.00	0.00	
11,450.00	73.15	179.77	11,212.36	-406.87	-830.59	486.74	10.00	10.00	0.00	
11,500.00	78.15	179.77	11,224.75	-455.29	-830.40	534.91	10.00	10.00	0.00	
11,550.00	83.15	179.77	11,232.87	-504.61	-830.20	583.97	10.00	10.00	0.00	
11,600.00	88.15	179.77	11,236.66	-554.45	-830.00	633.55	10.00	10.00	0.00	
11,616.97	89.85	179.77	11,236.96	-571.42	-829.94	650.43	10.00	10.00	0.00	
11,700.00	89.85	179.77	11,237.18	-654.45	-829.61	733.02	0.00	0.00	0.00	
11,800.00	89.85	179.77	11,237.44	-754.45	-829.21	832.49	0.00	0.00	0.00	
11,900.00	89.85	179.77	11,237.71	-854.45	-828.82	931.97	0.00	0.00	0.00	
12,000.00	89.85	179.77	11,237.98	-954.45	-828.42	1,031.44	0.00	0.00	0.00	
12,100.00	89.85	179.77	11,238.25	-1,054.44	-828.02	1,130.91	0.00	0.00	0.00	
12,200.00	89.85	179.77	11,238.51	-1,154.44	-827.63	1,230.39	0.00	0.00	0.00	
12,300.00	89.85	179.77	11,238.78	-1,254.44	-827.23	1,329.86	0.00	0.00	0.00	
12,400.00	89.85	179.77	11,239.05	-1,354.44	-826.84	1,429.33	0.00	0.00	0.00	
12,500.00	89.85	179.77	11,239.31	-1,454.44	-826.44	1,528.81	0.00	0.00	0.00	
12,600.00	89.85	179.77	11,239.58	-1,554.44	-826.04	1,628.28	0.00	0.00	0.00	
12,700.00	89.85	179.77	11,239.85	-1,654.44	-825.65	1,727.75	0.00	0.00	0.00	
12,800.00	89.85	179.77	11,240.11	-1,754.44	-825.25	1,827.22	0.00	0.00	0.00	
12,900.00	89.85	179.77	11,240.38	-1,854.44	-824.86	1,926.70	0.00	0.00	0.00	
13,000.00	89.85	179.77	11,240.65	-1,954.43	-824.46	2,026.17	0.00	0.00	0.00	
13,100.00	89.85	179.77	11,240.91	-2,054.43	-824.06	2,125.64	0.00	0.00	0.00	
13,200.00	89.85	179.77	11,241.18	-2,154.43	-823.67	2,225.12	0.00	0.00	0.00	
13,300.00	89.85	179.77	11,241.45	-2,254.43	-823.27	2,324.59	0.00	0.00	0.00	
13,400.00	89.85	179.77	11,241.72	-2,354.43	-822.88	2,424.06	0.00	0.00	0.00	
13,500.00	89.85	179.77	11,241.98	-2,454.43	-822.48	2,523.54	0.00	0.00	0.00	
13,600.00	89.85	179.77	11,242.25	-2,554.43	-822.08	2,623.01	0.00	0.00	0.00	
13,700.00	89.85	179.77	11,242.52	-2,654.43	-821.69	2,722.48	0.00	0.00	0.00	
13,800.00	89.85	179.77	11,242.78	-2,754.43	-821.29	2,821.95	0.00	0.00	0.00	
13,900.00	89.85	179.77	11,243.05	-2,854.42	-820.90	2,921.43	0.00	0.00	0.00	
14,000.00	89.85	179.77	11,243.32	-2,954.42	-820.50	3,020.90	0.00	0.00	0.00	
14,100.00	89.85	179.77	11,243.58	-3,054.42	-820.10	3,120.37	0.00	0.00	0.00	
14,200.00	89.85	179.77	11,243.85	-3,154.42	-819.71	3,219.85	0.00	0.00	0.00	



Nabors Drilling Solutions

Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 162H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Project:	Eddy Co., NM	MD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Site:	Remuda South 25 State	North Reference:	Grid
Well:	162H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
14,300.00	89.85	179.77	11,244.12	-3,254.42	-819.31	3,319.32	0.00	0.00	0.00
14,400.00	89.85	179.77	11,244.38	-3,354.42	-818.92	3,418.79	0.00	0.00	0.00
14,500.00	89.85	179.77	11,244.65	-3,454.42	-818.52	3,518.27	0.00	0.00	0.00
14,600.00	89.85	179.77	11,244.92	-3,554.42	-818.12	3,617.74	0.00	0.00	0.00
14,700.00	89.85	179.77	11,245.19	-3,654.42	-817.73	3,717.21	0.00	0.00	0.00
14,800.00	89.85	179.77	11,245.45	-3,754.41	-817.33	3,816.69	0.00	0.00	0.00
14,900.00	89.85	179.77	11,245.72	-3,854.41	-816.94	3,916.16	0.00	0.00	0.00
15,000.00	89.85	179.77	11,245.99	-3,954.41	-816.54	4,015.63	0.00	0.00	0.00
15,100.00	89.85	179.77	11,246.25	-4,054.41	-816.14	4,115.10	0.00	0.00	0.00
15,200.00	89.85	179.77	11,246.52	-4,154.41	-815.75	4,214.58	0.00	0.00	0.00
15,300.00	89.85	179.77	11,246.79	-4,254.41	-815.35	4,314.05	0.00	0.00	0.00
15,400.00	89.85	179.77	11,247.05	-4,354.41	-814.96	4,413.52	0.00	0.00	0.00
15,500.00	89.85	179.77	11,247.32	-4,454.41	-814.56	4,513.00	0.00	0.00	0.00
15,600.00	89.85	179.77	11,247.59	-4,554.40	-814.16	4,612.47	0.00	0.00	0.00
15,700.00	89.85	179.77	11,247.86	-4,654.40	-813.77	4,711.94	0.00	0.00	0.00
15,800.00	89.85	179.77	11,248.12	-4,754.40	-813.37	4,811.42	0.00	0.00	0.00
15,900.00	89.85	179.77	11,248.39	-4,854.40	-812.98	4,910.89	0.00	0.00	0.00
16,000.00	89.85	179.77	11,248.66	-4,954.40	-812.58	5,010.36	0.00	0.00	0.00
16,100.00	89.85	179.77	11,248.92	-5,054.40	-812.18	5,109.84	0.00	0.00	0.00
16,200.00	89.85	179.77	11,249.19	-5,154.40	-811.79	5,209.31	0.00	0.00	0.00
16,300.00	89.85	179.77	11,249.46	-5,254.40	-811.39	5,308.78	0.00	0.00	0.00
16,400.00	89.85	179.77	11,249.72	-5,354.40	-811.00	5,408.25	0.00	0.00	0.00
16,500.00	89.85	179.77	11,249.99	-5,454.39	-810.60	5,507.73	0.00	0.00	0.00
16,600.00	89.85	179.77	11,250.26	-5,554.39	-810.20	5,607.20	0.00	0.00	0.00
16,700.00	89.85	179.77	11,250.52	-5,654.39	-809.81	5,706.67	0.00	0.00	0.00
16,800.00	89.85	179.77	11,250.79	-5,754.39	-809.41	5,806.15	0.00	0.00	0.00
16,900.00	89.85	179.77	11,251.06	-5,854.39	-809.02	5,905.62	0.00	0.00	0.00
17,000.00	89.85	179.77	11,251.33	-5,954.39	-808.62	6,005.09	0.00	0.00	0.00
17,100.00	89.85	179.77	11,251.59	-6,054.39	-808.22	6,104.57	0.00	0.00	0.00
17,200.00	89.85	179.77	11,251.86	-6,154.39	-807.83	6,204.04	0.00	0.00	0.00
17,300.00	89.85	179.77	11,252.13	-6,254.39	-807.43	6,303.51	0.00	0.00	0.00
17,400.00	89.85	179.77	11,252.39	-6,354.38	-807.04	6,402.99	0.00	0.00	0.00
17,500.00	89.85	179.77	11,252.66	-6,454.38	-806.64	6,502.46	0.00	0.00	0.00
17,600.00	89.85	179.77	11,252.93	-6,554.38	-806.24	6,601.93	0.00	0.00	0.00
17,700.00	89.85	179.77	11,253.19	-6,654.38	-805.85	6,701.40	0.00	0.00	0.00
17,800.00	89.85	179.77	11,253.46	-6,754.38	-805.45	6,800.88	0.00	0.00	0.00
17,900.00	89.85	179.77	11,253.73	-6,854.38	-805.06	6,900.35	0.00	0.00	0.00
18,000.00	89.85	179.77	11,253.99	-6,954.38	-804.66	6,999.82	0.00	0.00	0.00
18,100.00	89.85	179.77	11,254.26	-7,054.38	-804.26	7,099.30	0.00	0.00	0.00
18,200.00	89.85	179.77	11,254.53	-7,154.38	-803.87	7,198.77	0.00	0.00	0.00
18,300.00	89.85	179.77	11,254.80	-7,254.37	-803.47	7,298.24	0.00	0.00	0.00
18,400.00	89.85	179.77	11,255.06	-7,354.37	-803.08	7,397.72	0.00	0.00	0.00
18,500.00	89.85	179.77	11,255.33	-7,454.37	-802.68	7,497.19	0.00	0.00	0.00
18,600.00	89.85	179.77	11,255.60	-7,554.37	-802.28	7,596.66	0.00	0.00	0.00
18,700.00	89.85	179.77	11,255.86	-7,654.37	-801.89	7,696.14	0.00	0.00	0.00
18,800.00	89.85	179.77	11,256.13	-7,754.37	-801.49	7,795.61	0.00	0.00	0.00
18,900.00	89.85	179.77	11,256.40	-7,854.37	-801.10	7,895.08	0.00	0.00	0.00
19,000.00	89.85	179.77	11,256.66	-7,954.37	-800.70	7,994.55	0.00	0.00	0.00
19,100.00	89.85	179.77	11,256.93	-8,054.37	-800.30	8,094.03	0.00	0.00	0.00
19,125.95	89.85	179.77	11,257.00	-8,080.32	-800.20	8,119.84	0.00	0.00	0.00



Nabors Drilling Solutions

Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 162H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Project:	Eddy Co., NM	MD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Site:	Remuda South 25 State	North Reference:	Grid
Well:	162H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
Remuda South 25 State	0.00	0.00	11,237.00	-632.80	-830.20	463,931.600	620,724.000	32° 16' 29.498504 N 103° 56' 33.813650 W	
- plan misses target center by 0.52ft at 11678.35ft MD (11237.12 TVD, -632.80 N, -829.69 E)									
- Point									
Remuda South 25 State	0.00	0.00	11,256.00	-7,950.32	-801.00	456,614.100	620,753.200	32° 15' 17.082829 N 103° 56' 33.783737 W	
- plan misses target center by 0.71ft at 18995.95ft MD (11256.65 TVD, -7950.31 N, -800.72 E)									
- Point									
Remuda South 25 State	0.00	0.00	11,257.00	-8,080.32	-800.20	456,484.100	620,754.000	32° 15' 15.796307 N 103° 56' 33.779929 W	
- plan hits target center									
- Point									



Nabors Drilling Solutions

Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 162H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Project:	Eddy Co., NM	MD Reference:	RT=23' (Nabors M 7507) @ 3097.00ft (Nabors M 7507)
Site:	Remuda South 25 State	North Reference:	Grid
Well:	162H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
7.00	7.00	Dewey Lake (Alluvium)				
67.00	67.00	Rustler				
218.00	218.00	Salado				
417.00	417.00	Est. Top of Salt				
3,068.56	3,062.00	Base of Salt				
3,277.45	3,269.00	Delaware Mountain Group				
3,317.81	3,309.00	Bell Canyon Sandstone				
4,148.31	4,132.00	Cherry Canyon Sandstone				
5,739.69	5,709.00	Brushy Canyon Sandstone				
6,753.85	6,714.00	Basal Brushy Canyon Sandstone				
7,008.15	6,966.00	Bone Spring				
7,183.73	7,140.00	Avalon Shale				
7,503.62	7,457.00	Avalon Limestone				
7,757.92	7,709.00	Lower Avalon Shale				
8,071.75	8,020.00	1st Bone Spring Sandstone				
8,401.14	8,347.00	2nd Bone Spring Limestone				
8,937.50	8,883.00	2nd Bone Spring Sandstone				
8,964.50	8,910.00	2nd Bone Spring Sandstone A				
9,027.50	8,973.00	2nd Bone Spring Limestone A/B				
9,092.50	9,038.00	2nd Bone Spring Sandstone B				
9,241.50	9,187.00	3rd Bone Spring Limestone				
9,564.50	9,510.00	3rd Bone Spring Shale				
10,017.50	9,963.00	3rd Bone Spring Sandstone				
10,300.50	10,246.00	3rd Bone Spring Sandstone Red Hills				
10,339.50	10,285.00	Wolfcamp Shale				
10,379.50	10,325.00	Wolfcamp X				
10,449.50	10,395.00	Wolfcamp Y				
10,486.50	10,432.00	Wolfcamp A				
10,800.79	10,746.00	Wolfcamp B				
10,999.65	10,934.00	Wolfcamp C				
11,184.07	11,080.00	Wolfcamp D				
11,429.30	11,206.00	Wolfcamp E				
11,633.55	11,237.00	LP				

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
 - a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nipped up and tested on the wellhead before drilling operations resume on each well.
 - a. The larger rig will move back onto the location within 180 days from the point at which the wells are secured and the spudder rig is moved off location.
 - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.