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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

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

1. Operator Name and Address	2. OGRID Number
MORNINGSTAR OPERATING LLC, 400 W 7TH ST, FORT WORTH, TX 76102	330132
	3. API Number **30-025-51202**

4. Property Code	5. Property Name	6. Well No.
331870	CENTRAL VACUUM UNIT	252

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
B	36	17S	34E		663	N	2266	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
C	36	17S	34E		724	N	2628	W	LEA

9. Pool Information

Pool Name	Pool Code
VACUUM; GRAYBURG-SAN ANDRES	62180

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
NEW	OIL		STATE	3999
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	5169 TVD	SAN ANDRES		04/15/2023
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	12/14	9 5/8	36#	1562 MD, 1559 TVD	506 SX	0
PROD	8 3/4	5 1/2	17#	5185 MD, 5169 TVD	800 SX	0

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
DOUBLE RAM	3000	3000	SHAFFER

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
I further certify that I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☒, if applicable.
Signature: Connie Blaylock

Printed name: CONNIE BLAYLOCK	
Title: REGULATORY ANALYST	
E-mail Address: cblaylock@txoenergy.com	
Date: 02/21/2023 Phone: 817-334-7882	

OIL CONSERVATION DIVISION

Approved By:	
Title:	
Approved Date:	Expiration Date:
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, New Mexico 87505

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

☐AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-51202	62180	VACUUM; GRAYBURG-SAN ANDRES

Property Code	Property Name	Well Number
331870	Central Vacuum Unit	252

OGRID No.	Operator Name	Elevation
330132	MORNINGSTAR OPERATING, LLC	3999'

Surface Location

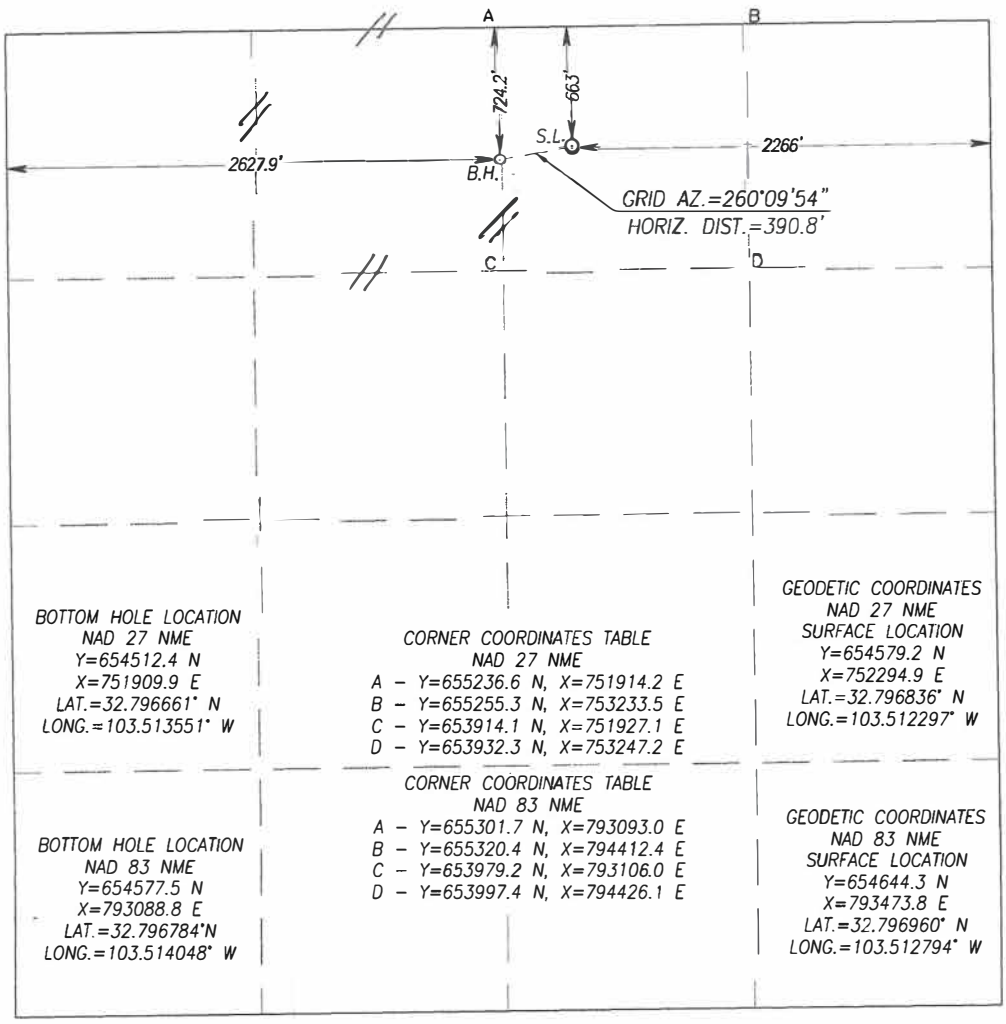
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	36	17-S	34-E		663	NORTH	2266	EAST	LEA

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
C	36	17-S	34-E		724.2	NORTH	2627.9	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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



BOTTOM HOLE LOCATION
NAD 27 NME
Y=654512.4 N
X=751909.9 E
LAT.=32.796661° N
LONG.=103.513551° W

CORNER COORDINATES TABLE
NAD 27 NME
A – Y=655236.6 N, X=751914.2 E
B – Y=655255.3 N, X=753233.5 E
C – Y=653914.1 N, X=751927.1 E
D – Y=653932.3 N, X=753247.2 E

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y=654579.2 N
X=752294.9 E
LAT.=32.796836° N
LONG.=103.512297° W

BOTTOM HOLE LOCATION
NAD 83 NME
Y=654577.5 N
X=793088.8 E
LAT.=32.796784°N
LONG.=103.514048° W

CORNER COORDINATES TABLE
NAD 83 NME
A – Y=655301.7 N, X=793093.0 E
B – Y=655320.4 N, X=794412.4 E
C – Y=653979.2 N, X=793106.0 E
D – Y=653997.4 N, X=794426.1 E

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y=654644.3 N
X=793473.8 E
LAT.=32.796960° N
LONG.=103.512794° W

OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Connie Blaylock 02/21/2023
Signature Date

CONNIE BLAYLOCK
Printed Name

cblaylock@txoenergy.com
E-mail Address

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.

JANUARY 23, 2023
Date of Survey

12641
Signature & Seal of Professional Surveyor

NEW MEXICO · GARY G. EIDSON · REGISTERED PROFESSIONAL SURVEYOR

Gary G Eidson 01/31/2023

Certificate Number	Gary G. Eidson	12641
	Ronald J. Eidson	3239

ACK JWSC W.O.: 23.11.0014

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: MORNINGSTAR OPERATING LLC **OGRID:** 330132 **Date:** 02 / 23 / 2023

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
CENTRAL VACUUM UNIT 252		B/ 36/ 17S/ 34E	663 FNL	70	300	400
	30-025-51202		2266 FEL			

IV. Central Delivery Point Name: CENTRAL VACUUM UNIT BATTERY [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
CENTRAL VACUUM UNIT 252		04/15/2023	04/22/2023	08/15/2023	08/29/2023	09/01/2023
	30-025-51202					

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	Connie Blaylock
Printed Name:	CONNIE BLAYLOCK
Title:	REGULATORY ANALYST
E-mail Address:	cblaylock@txoenergy.com
Date:	02/23/2023
Phone:	817-334-7882

OIL CONSERVATION DIVISION

(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

VI. **Separation Equipment**: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

Each well will full stream produce to a satellite location. At each satellite, bulk and test measurements for unit allocation are performed. Liquids are then sent on to the battery for lact sales. All vessels are sized based on historical well performance, and historical volumes were generally higher than what we now process and produce.

Satellite (gas venting is minimal to none in this satellite bulk and test transport to central battery). Test – 2 phase test vessel and Coriolis measurement on liquid and gas phases. Bulk – 2 phase vessel for gas separation from liquids. All gas from the satellite is sent to the plant for processing and reinjection into the unit. All liquids from the satellite are sent to the Central Vacuum Unit Battery.

Central Vacuum Unit Battery (all gas and vapors are collected and compressed to the plant to minimize any venting). Gas scrubber and FWKO are utilized to remove any excess gas. This gas is gathered by our GRU compression to be sent to the gas plant for processing and reinjection into the unit. Water is moved from holding tanks to suction tanks to be reinjected into the unit. In the event of an emergency, gas can be routed to a flare on location.

VII. **Operational Practices**: Attach a complete description of the action Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

- Drilling Operations: Any natural gas produced during drilling operations will be combusted with a flare line. A properly sized flare stack will be located a minimum of 100 feet from the nearest surface hole location. If flaring isn't possible or poses a risk, Operator will vent natural gas to avoid any safety or environmental risks and report natural gas.

- Completion Operations: Hydrocarbon production will be minimized during completion and flowback operations. No flowback will occur until the well is connected to a properly sized system. When feasible, natural gas will be flared rather than vented. When sustained producible volumes are obtained, operations will turn to separation facilities and gathering pipeline.

- Production Operations: Efforts will be made to minimize waste. Process equipment (separator and tanks) is designed for efficient separation and routing produced gas to the sales pipeline. Flaring rather than venting will be the preferred method to handle emergencies and malfunctions. Equipment will be properly maintained with routine inspections and preventative maintenance. Weekly AVOs will be performed at facilities.

VIII. **Best Management Practices**: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

- Best management practices are used to minimize venting and flaring during downhole operations.

- Flaring will be used in lieu of venting when feasible.
- Adequate well control during completion operations will be employed to minimize oil and gas production.
- Tanks and vessels are isolated from their respective facilities prior to inspection, maintenance, and repairs.
- The preventive maintenance program includes weekly AVO inspections, identification of failures or malfunctions, and repairs as needed.
- Coordinate with third-party gathering and sales operators to minimize downtime and the need for venting/flaring during downstream pipeline and gas plant events.

MorningStar Operating LLC

CVU #252

Sec 36, T17S, R34E
Lea County, NM

API number 30-025-?????

AFE 22????

ENG: John Marschall
RIG: United Drilling
GLE: 3,999'
RKBE: 4,011' Rig KB: 12'

MWD LWD	Logging Program	Estimated Formation Tops	DEPTH MD	DEPTH TVD	CASING PROFILE	HOLE SIZE/MD	CASING/CEMENT SPECS	MW MUD TYPE	DEVIATION INFORMATION
			40'	40'			20"		
						12 1/4"	9 5/8" 36# J55 LTC Centralizer every 3rd No DV Tool Lead to Surface 330 sks, 12.5 ppg, 2.23 yld 100% Excess 0.25 lb/sk Celloflake LCM Tail to 1,229' 176 sks, 14.8 ppg, 1.34 yld 100% Excess 0.25 lb/sk Celloflake LCM ?? bbls (?? sx) to surface	Spud Mud 8.4 - 8.8 ppg	No Hardlines No Anti collision issues Start nudge at 400' Nudge ~ 390' west Keep DLS under 2° Hold angle to TD (no drop)
		Rustler Casing Point	1,512' 1,562'	1,509' 1,559'					
	Mud Loggers out from surface						5 1/2" 17# L80 LTC Centralizer every 3rd Lead to Surface 700 sks, 11.0 ppg, 2.64 yld 200% Excess 0.25 lb/sk Cello LCM 0.25 lb/sk KOL LCM	WBM (Brine) CO2 Flood 9.5 - 10.0 ppg	Hold angle to TD
		Yates	2,775'	2,768'					
Warning H2S in San Andres		Seven Rivers	3,100'	3,092'		8 3/4"	Tail to 3,900' 100 sks, 13.2 ppg, 1.23 yld 100% Excess 0.25 lb/sk Cello LCM 0.25 lb/sk KOL LCM	San Andres Pre-Treat H2S Possible Losses	
		Queen	3,664'	3,654'					
		Grayburg	4,013'	4,001'					
		Premier San Andres	4,276' 4,334'	4,263' 4,321'					
		Lovington	4,463'	4,450'					
		L. San Andres	4,515'	4,502'					
		TD	5,185'	5,169'			Confirm Volume with Fluid Caliper		

NOTES: Schematic Not to scale

MORNING STAR OPERATING, LLC

LEA CO., NW (NAD-27 / NME)
CVU
#252

Wellbore #1

Plan: PLAN #1

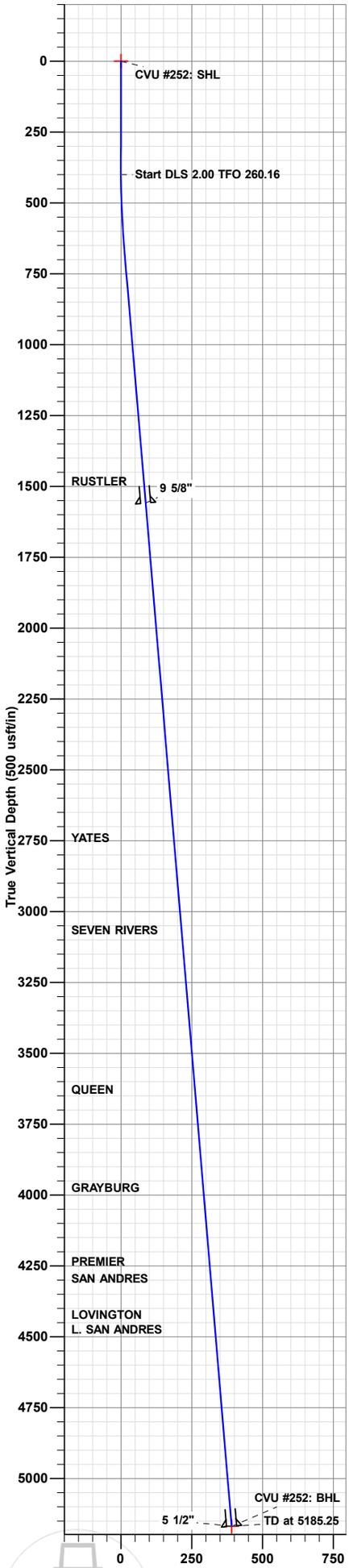
Standard Planning Report

11 February, 2023

MORNING STAR OPERATING, LLC

Project: LEA CO., NW (NAD-27 / NME)
Site: CVU
Well: #252
Wellbore: Wellbore #1
Design: PLAN #1

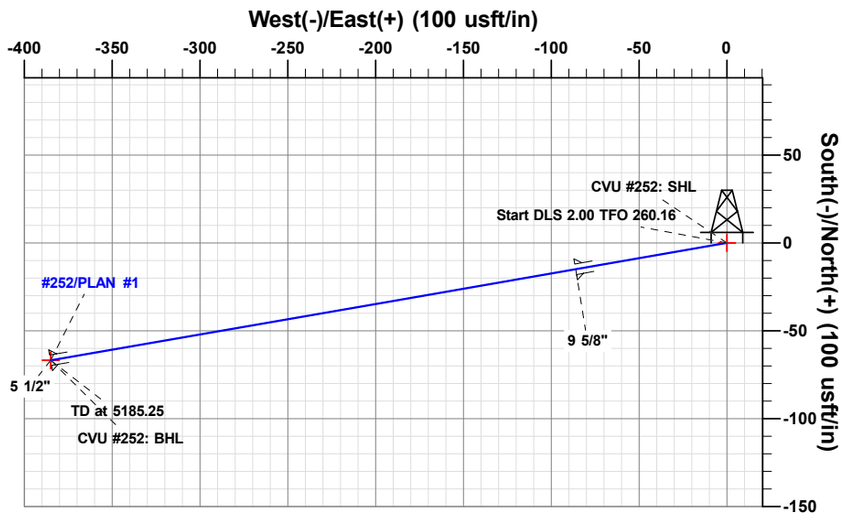
TRUEshot LLC



WELL DETAILS: #252

Rig Name: TBD
RKB = 12' @ 4011.00usft (TBD)
Ground Level: 3999.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	654579.20	752294.90	32.7968362	-103.5122969



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
3	640.23	4.80	260.16	639.95	-1.72	-9.92	2.00	260.16	10.07	
4	5185.25	4.80	260.16	5169.00	-66.80	-385.00	0.00	0.00	390.75	CVU #252: BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CVU #252: SHL	0.00	0.00	0.00	654579.20	752294.90	32.7968362	-103.5122969
CVU #252: BHL	5169.00	-66.80	-385.00	654512.40	751909.90	32.7966608	-103.5135514

MAGNETIC CORRECTION DATA:

Magnetic North is 5.92° East of Grid North (Magnetic Convergence)
To convert a Magnetic Direction to a Grid Direction, Add 5.92°

Magnetic Declination: 6.37°
Grid Convergence: 0.44° West

FORMATION TOP DETAILS

TVDPath	Formation
1509.00	RUSTLER
2768.00	YATES
3092.00	SEVEN RIVERS
3654.00	QUEEN
4001.00	GRAYBURG
4263.00	PREMIER
4321.00	SAN ANDRES
4450.00	LOVINGTON
4502.00	L. SAN ANDRES

Azimuths to Grid North
True North: -0.44°
Magnetic North: 5.92°

Magnetic Field
Strength: 47660.2snT
Dip Angle: 60.37°
Date: 02/11/2023
Model: IGRF2020

CASING DETAILS

TVD	MD	Name
1559.00	1562.52	9 5/8"
5169.00	5185.25	5 1/2"

PROJECT DETAILS: LEA CO., NW (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 #1 (#252/Wellbore #1)
Created By: Matthew May Date: 11:39, February 11 2023

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

☐AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	CVU	252
OGRID No.	Operator Name	Elevation
	MORNINGSTAR OPERATING, LLC	3999'

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	36	17-S	34-E		663	NORTH	2266	EAST	LEA

Bottom Hole Location If Different From Surface

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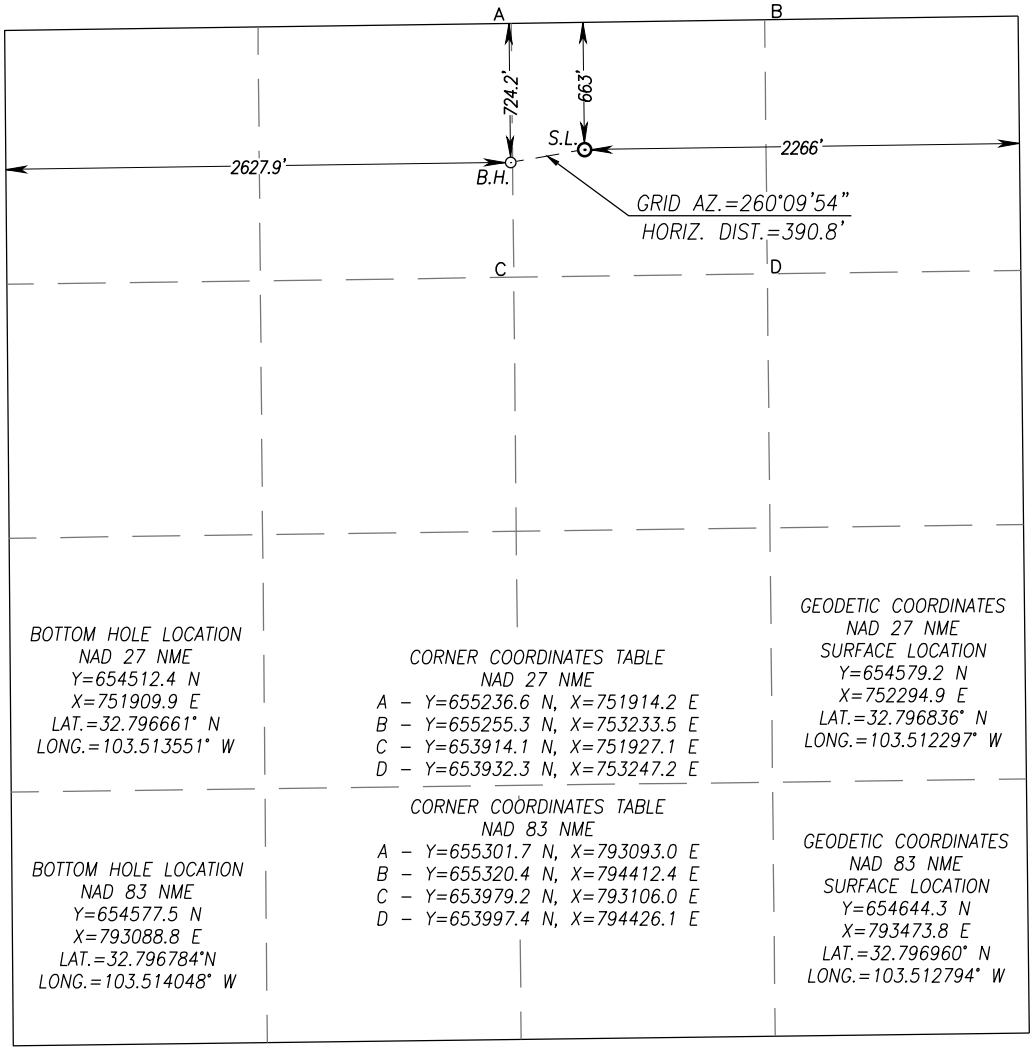
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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



BOTTOM HOLE LOCATION
NAD 27 NME
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X=751909.9 E
LAT.=32.796661° N
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B – Y=655255.3 N, X=753233.5 E
C – Y=653914.1 N, X=751927.1 E
D – Y=653932.3 N, X=753247.2 E

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y=654579.2 N
X=752294.9 E
LAT.=32.796836° N
LONG.=103.512297° W

BOTTOM HOLE LOCATION
NAD 83 NME
Y=654577.5 N
X=793088.8 E
LAT.=32.796784°N
LONG.=103.514048° W

CORNER COORDINATES TABLE
NAD 83 NME
A – Y=655301.7 N, X=793093.0 E
B – Y=655320.4 N, X=794412.4 E
C – Y=653979.2 N, X=793106.0 E
D – Y=653997.4 N, X=794426.1 E

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y=654644.3 N
X=793473.8 E
LAT.=32.796960° N
LONG.=103.512794° W

OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Date

Printed Name

E-mail Address

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.

JANUARY 23, 2023
Date of Survey
Signature & Seal of Professional Surveyor

GARY G. EIDSON
NEW MEXICO
12641
REGISTERED PROFESSIONAL SURVEYOR

Gary G Eidson 01/31/2023

Certificate Number Gary G. Eidson 12641
Ronald J. Eidson 3239

ACK JWSC W.O.: 23.11.0014

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #252
Company:	MORNING STAR OPERATING, LLC	**TVD Reference:**	RKB = 12' @ 4011.00usft (TBD)
Project:	LEA CO., NW (NAD-27 / NME)	**MD Reference:**	RKB = 12' @ 4011.00usft (TBD)
Site:	CVU	**North Reference:**	Grid
Well:	#252	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Project LEA CO., NW (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 CVU

Site Position:		**Northing:**	653,042.20 usft	**Latitude:**	32.7925706
From:	Map	**Easting:**	754,218.70 usft	**Longitude:**	-103.5060760
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.45 °

Well #252

Well Position	**+N/-S**	1,537.00 usft	**Northing:**	654,579.20 usft	**Latitude:**	32.7968362
	+E/-W	-1,923.80 usft	**Easting:**	752,294.90 usft	**Longitude:**	-103.5122969
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,999.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	02/11/23	6.37	60.37	47,660

Design PLAN #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	260.16

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	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	
640.23	4.80	260.16	639.95	-1.72	-9.92	2.00	2.00	-41.56	260.16	
5,185.25	4.80	260.16	5,169.00	-66.80	-385.00	0.00	0.00	0.00	0.00	CVU #252: BHL

Planning Report

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Company:	MORNING STAR OPERATING, LLC	**TVD Reference:**	RKB = 12' @ 4011.00usft (TBD)
Project:	LEA CO., NW (NAD-27 / NME)	**MD Reference:**	RKB = 12' @ 4011.00usft (TBD)
Site:	CVU	**North Reference:**	Grid
Well:	#252	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CVU #252: SHL									
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	2.00	260.16	499.98	-0.30	-1.72	1.75	2.00	2.00	0.00
600.00	4.00	260.16	599.84	-1.19	-6.88	6.98	2.00	2.00	0.00
640.23	4.80	260.16	639.95	-1.72	-9.92	10.07	2.00	2.00	0.00
700.00	4.80	260.16	699.51	-2.58	-14.85	15.07	0.00	0.00	0.00
800.00	4.80	260.16	799.16	-4.01	-23.10	23.45	0.00	0.00	0.00
900.00	4.80	260.16	898.81	-5.44	-31.36	31.82	0.00	0.00	0.00
1,000.00	4.80	260.16	998.45	-6.87	-39.61	40.20	0.00	0.00	0.00
1,100.00	4.80	260.16	1,098.10	-8.30	-47.86	48.58	0.00	0.00	0.00
1,200.00	4.80	260.16	1,197.75	-9.74	-56.11	56.95	0.00	0.00	0.00
1,300.00	4.80	260.16	1,297.40	-11.17	-64.37	65.33	0.00	0.00	0.00
1,400.00	4.80	260.16	1,397.05	-12.60	-72.62	73.70	0.00	0.00	0.00
1,500.00	4.80	260.16	1,496.70	-14.03	-80.87	82.08	0.00	0.00	0.00
1,512.35	4.80	260.16	1,509.00	-14.21	-81.89	83.11	0.00	0.00	0.00
RUSTLER									
1,562.52	4.80	260.16	1,559.00	-14.93	-86.03	87.32	0.00	0.00	0.00
9 5/8"									
1,600.00	4.80	260.16	1,596.35	-15.46	-89.12	90.46	0.00	0.00	0.00
1,700.00	4.80	260.16	1,695.99	-16.90	-97.38	98.83	0.00	0.00	0.00
1,800.00	4.80	260.16	1,795.64	-18.33	-105.63	107.21	0.00	0.00	0.00
1,900.00	4.80	260.16	1,895.29	-19.76	-113.88	115.58	0.00	0.00	0.00
2,000.00	4.80	260.16	1,994.94	-21.19	-122.13	123.96	0.00	0.00	0.00
2,100.00	4.80	260.16	2,094.59	-22.62	-130.39	132.34	0.00	0.00	0.00
2,200.00	4.80	260.16	2,194.24	-24.05	-138.64	140.71	0.00	0.00	0.00
2,300.00	4.80	260.16	2,293.89	-25.49	-146.89	149.09	0.00	0.00	0.00
2,400.00	4.80	260.16	2,393.53	-26.92	-155.14	157.46	0.00	0.00	0.00
2,500.00	4.80	260.16	2,493.18	-28.35	-163.40	165.84	0.00	0.00	0.00
2,600.00	4.80	260.16	2,592.83	-29.78	-171.65	174.21	0.00	0.00	0.00
2,700.00	4.80	260.16	2,692.48	-31.21	-179.90	182.59	0.00	0.00	0.00
2,775.79	4.80	260.16	2,768.00	-32.30	-186.16	188.94	0.00	0.00	0.00
YATES									
2,800.00	4.80	260.16	2,792.13	-32.65	-188.16	190.97	0.00	0.00	0.00
2,900.00	4.80	260.16	2,891.78	-34.08	-196.41	199.34	0.00	0.00	0.00
3,000.00	4.80	260.16	2,991.43	-35.51	-204.66	207.72	0.00	0.00	0.00
3,100.00	4.80	260.16	3,091.08	-36.94	-212.91	216.09	0.00	0.00	0.00
3,100.93	4.80	260.16	3,092.00	-36.96	-212.99	216.17	0.00	0.00	0.00
SEVEN RIVERS									
3,200.00	4.80	260.16	3,190.72	-38.37	-221.17	224.47	0.00	0.00	0.00
3,300.00	4.80	260.16	3,290.37	-39.81	-229.42	232.85	0.00	0.00	0.00
3,400.00	4.80	260.16	3,390.02	-41.24	-237.67	241.22	0.00	0.00	0.00
3,500.00	4.80	260.16	3,489.67	-42.67	-245.92	249.60	0.00	0.00	0.00
3,600.00	4.80	260.16	3,589.32	-44.10	-254.18	257.97	0.00	0.00	0.00
3,664.91	4.80	260.16	3,654.00	-45.03	-259.53	263.41	0.00	0.00	0.00
QUEEN									
3,700.00	4.80	260.16	3,688.97	-45.53	-262.43	266.35	0.00	0.00	0.00
3,800.00	4.80	260.16	3,788.62	-46.96	-270.68	274.73	0.00	0.00	0.00
3,900.00	4.80	260.16	3,888.26	-48.40	-278.93	283.10	0.00	0.00	0.00
4,000.00	4.80	260.16	3,987.91	-49.83	-287.19	291.48	0.00	0.00	0.00

Planning Report

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Company:	MORNING STAR OPERATING, LLC	**TVD Reference:**	RKB = 12' @ 4011.00usft (TBD)
Project:	LEA CO., NW (NAD-27 / NME)	**MD Reference:**	RKB = 12' @ 4011.00usft (TBD)
Site:	CVU	**North Reference:**	Grid
Well:	#252	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

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)
4,013.13	4.80	260.16	4,001.00	-50.02	-288.27	292.58	0.00	0.00	0.00
GRAYBURG									
4,100.00	4.80	260.16	4,087.56	-51.26	-295.44	299.85	0.00	0.00	0.00
4,200.00	4.80	260.16	4,187.21	-52.69	-303.69	308.23	0.00	0.00	0.00
4,276.06	4.80	260.16	4,263.00	-53.78	-309.97	314.60	0.00	0.00	0.00
PREMIER									
4,300.00	4.80	260.16	4,286.86	-54.12	-311.94	316.60	0.00	0.00	0.00
4,334.26	4.80	260.16	4,321.00	-54.61	-314.77	319.47	0.00	0.00	0.00
SAN ANDRES									
4,400.00	4.80	260.16	4,386.51	-55.56	-320.20	324.98	0.00	0.00	0.00
4,463.72	4.80	260.16	4,450.00	-56.47	-325.45	330.32	0.00	0.00	0.00
LOVINGTON									
4,500.00	4.80	260.16	4,486.16	-56.99	-328.45	333.36	0.00	0.00	0.00
4,515.90	4.80	260.16	4,502.00	-57.22	-329.76	334.69	0.00	0.00	0.00
L. SAN ANDRES									
4,600.00	4.80	260.16	4,585.80	-58.42	-336.70	341.73	0.00	0.00	0.00
4,700.00	4.80	260.16	4,685.45	-59.85	-344.95	350.11	0.00	0.00	0.00
4,800.00	4.80	260.16	4,785.10	-61.28	-353.21	358.48	0.00	0.00	0.00
4,900.00	4.80	260.16	4,884.75	-62.72	-361.46	366.86	0.00	0.00	0.00
5,000.00	4.80	260.16	4,984.40	-64.15	-369.71	375.24	0.00	0.00	0.00
5,100.00	4.80	260.16	5,084.05	-65.58	-377.96	383.61	0.00	0.00	0.00
5,185.25	4.80	260.16	5,169.00	-66.80	-385.00	390.75	0.00	0.00	0.00
5 1/2" - CVU #252: BHL									

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
CVU #252: SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	654,579.20	752,294.90	32.7968362	-103.5122969
CVU #252: BHL - plan hits target center - Point	0.00	0.00	5,169.00	-66.80	-385.00	654,512.40	751,909.90	32.7966608	-103.5135514

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,562.52	1,559.00	9 5/8"	9-5/8	12-1/4
5,185.25	5,169.00	5 1/2"	5-1/2	8-3/4

Planning Report

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Site:	CVU	**North Reference:**	Grid
Well:	#252	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,512.35	1,509.00	RUSTLER			
2,775.79	2,768.00	YATES			
3,100.93	3,092.00	SEVEN RIVERS			
3,664.91	3,654.00	QUEEN			
4,013.13	4,001.00	GRAYBURG			
4,276.06	4,263.00	PREMIER			
4,334.26	4,321.00	SAN ANDRES			
4,463.72	4,450.00	LOVINGTON			
4,515.90	4,502.00	L. SAN ANDRES			

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

CONDITIONS

Action 193697

CONDITIONS

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 193697
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Notify OCD 24 hours prior to casing & cement	3/15/2023
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	3/15/2023
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	3/15/2023
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud	3/15/2023
pkautz	Cement is required to circulate on both surface and production strings of casing	3/15/2023
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	3/15/2023