

Submit 1 Copy To Appropriate District
Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

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

WELL API NO.	30-025-24363
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name	VACUUM GRAYBURG SAN ANDRES UNIT
8. Well Number	045
9. OGRID Number	330132
10. Pool name or Wildcat	VACUUM; GRAYBURG-SAN ANDRES
11. Elevation (Show whether DR, RKB, RT, GR, etc.)	

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☐ Other ☐ INJECTION

2. Name of Operator
MORNINGSTAR OPERATING LLC

3. Address of Operator
400 W 7TH ST, FORT WORTH, TX 76102

4. Well Location
Unit Letter C: 1310 feet from the N line and 2530 feet from the W line
Section 02 Township 18S Range 34E NMPM County LEA

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☒
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

Notify OCD 24 hrs. prior to any work
done. gilbert.cordero@emnrd.nm.gov

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion

MorningStar Operating requests approval for the following P&A procedure:

- MIRU. Run bit and work down to BP @ 3745'. POOH.
- PU and run on/off tool, engage BP @ 3745'. Release BP. Set CIBP @ 4384'. Test Csg 500psi/30min
- Plug 1: Spot 25 sx cmt on top of CIBP @ 4384'. Est. TOC @ 4022'.
- Plug 2: Spot 37 sx cmt from 2354'-2889'.
- Perf @ 1607'. Plug 3: Pump 49 sx inside/outside plug from 1407'-1607'.
- Perf @ 406'. Plug 4: Circulate 107 sx cmt plug from 406' to surface.
- Cut off wellhead. Verify cmt to surface on all strings. Install dry hole marker.

Note: Well has casing restriction from ~380'-407'. Will attempt to work through restriction and P&A as proposed. If restriction causes issues will contact OCD for planning.

Spud Date:

Rig Release Date:

SEE ATTACHED COA's

MUST BE PLUGGED BY 8/1/25

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Connie Blaylock TITLE Regulatory Analyst DATE 11/01/2024

Type or print name Connie Blaylock E-mail address: cblaylock@txoenergy.com PHONE: 817-334-7882

For State Use Only

APPROVED BY: [Signature] TITLE Staff Manager DATE 11/14/24

Conditions of Approval (if any):

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
Standard Plugging Conditions



This document provides OCD's general plugging conditions of approval. It should be noted that the list below may not cover special plugging programs in unique and unusual cases, and OCD expressly reserves the right to impose additional requirements to the extent dictated by project conditions. The OCD also reserves the right to approve deviations from the below conditions if field conditions warrant a change. A C-103F NOI to P&A must be approved prior to plugging operations. Failure to comply with the conditions attached to a plugging approval may result in a violation of 19.15.5.11 NMAC, which may result in enforcement actions, including but not limited to penalties and a requirement that the well be re-plugged as necessary.

1. Notify OCD office at least 24 hours before beginning work and seek prior approval to implementing any changes to the C-103 NOI to PA.
 - North Contact, Monica Kuehling, 505-320-0243, monica.kuehling@emnrd.nm.gov
 - South Contact, Gilbert Cordero, 575-626-0830, gilbert.cordero@emnrd.nm.gov
2. A Cement Bond Log is required to ensure strata isolation of producing formations, protection of water and correlative rights. A CBL must be run or be on file that can be used to properly evaluate the cement behind the casing.

Note: Logs must be submitted to OCD via OCD permitting. A copy of the log may be emailed to OCD inspector for faster review times, but emailing does not relieve the operators obligation to submit through OCD permitting.

3. Once Plugging operations have commenced, the rig must not rig down until the well is fully plugged without OCD approval. If gap in plugging operations exceeds 30 days, the Operator must file a subsequent sundry of work performed and revised NOI for approval on work remaining. At no time shall the rig be removed from location if it will result in waste or contamination of fresh water.
4. Insure all bradenheads have been exposed, identified and valves are operational prior to rig up.
5. Fluids must be placed between all cement plugs mixed at 25 sacks per 100 bbls of water.
 - North, water or mud laden fluids
 - South, mud laden fluids
6. Closed loop system is to be used for entire plugging operation. Upon completion, contents of steel pits are to be hauled to an OCD permitted disposal facility.
7. Class of cement shall be used in accordance with the below table for depth allowed.

Class	TVD Lower Limit (feet)
Class A/B	6,000
Class I/II	6,000
Class C or III	6,000
Class G and H	8,000
Class D	10,000

Class E	14,000
Class F	16,000

8. After cutting the well head any "top off cement jobs" must remain static for 30 minutes. Any gas bubbles or flow during this 30 minutes shall be reported to the OCD for approval of next steps.
9. Trucking companies being used to haul oilfield waste fluids (Commercial or Private) to a disposal facility shall have an approved OCD C-133 permit.
 - A copy of this permit shall be available in each truck used to haul waste products.
 - It is the responsibility of the Operator and Contractor to verify that this permit is in place prior to performing work.
 - Drivers shall be able to produce a copy upon request of an OCD Compliance Officer.
10. Filing a [C-103] Sub. Plugging (C-103P) will serve as notification that the well has been plugged.
11. A [C-103] Sub. Release After P&A (C-103Q) shall be filed no later than a year after plugging and a site inspection by OCD Compliance officer to determine if the location is satisfactorily cleaned, all equipment, electric poles and trash has been removed to meet OCD standards before bonding can be released.
12. Produced water or brine-based fluids **may not** be used during any part of plugging operations without **prior OCD approval**.
13. Cementing;
 - All cement plugs will be neat cement and a minimum of 100' in length. 50' of calculated cement excess required for inside casing plugs and 100% calculated cement excess required on outside casing plugs.
 - If cement does not exist between or behind the casing strings at recommended formation depths, the casing perforations will be shot at 50' below the formation top and the cement retainer shall be set no more than 50' from the perforations.
 - WOC (Wait on Cement) time will be:
 - 4 hours for accelerated (calcium chloride) cement.
 - 6 hours on regular cement.
 - Operator must tag all cement plugs unless it meets the below condition.
 - The operator has a passing pressure test for the casing annulus and the plug is only an inside plug.
 - If perforations are made operator must tag all plugs using the work string to tag unless given approval to tag with wireline by the correct contact from COA #1 of this document.
 - This includes plugs pumped underneath a cement retainer to ensure retainer seats properly after cement is pumped.
 - Cement can only be bull-headed with specific prior approval.
 - Squeeze pressures are not to exceed the exposed formations frac gradient or the burst pressure of the casing.
14. A cement plug is required to be set from 50' below to 50' above (straddling) formation tops, casing shoes, casing stubs, any attempted casing cut offs, anywhere the casing is perforated, DV tools.
 - Perforation/Formation top plug. (When there is less than 100ft between the top perforation to the formation top.) These plugs are required to be started no greater than

50ft from the top perforation. However, the plug should be set below the formation top or as close to the formation top as possible for the maximum isolation between the formations. The plug is required to be a 100ft cement plug plus excess.

- Perforation Plug when a formation top is not included. These plugs are required to be started within 50ft of the top perforation. The plug is required to be a 100ft cement plug plus excess.
- Cement caps on top of bridge plugs or cement retainers for perforation plugs, that are not straddling a formation top, may be set using a bailer with a minimum of 35' of cement in lieu of the 100' plug. The bridge plug or retainer must be set within 50ft of the perforations.
- Perforations are required below the surface casing shoe if cement does not exist behind the casing, a 30-minute minimum wait time will be required immediately after perforating to determine if gas and/or water flows are present. If flow is present, the well will be shut-in for a minimum of one hour and the pressure recorded. If gas is detected contact the OCD office for directions.

15. No more than 3000 feet is allowed between cement plugs in cased hole and no more than 2000 feet is allowed in open hole.

16. Formation Tops to be isolated with cement plugs, but not limited to are:

- Northwest See Figure A
- South (Artesia) See Figure B
- Potash See Figure C
 - In the R-111-P (Or as subsequently revised) Area a solid cement plug must be set across the salt section. Fluid used to mix the cement shall be saturated with the salts that are common to the section penetrated and in suitable proportions, not more than 3% calcium chloride (by weight of cement) will be considered the desired mixture whenever possible, woe 4 hours and tag, this plug will be 50' below the bottom and 50' above the top of the Formation.
- South (Hobbs) See Figure D1 and D2
- Areas not provided above will need to be reviewed with the OCD on a case by case basis.

17. Markers

- Dry hole marker requirements 19.15.25.10.
The operator shall mark the exact location of plugged and abandoned wells with a steel marker not less than four inches in diameter set in cement and extending at least four feet above mean ground level. The marker must include the below information:
 1. Operator name
 2. Lease name and well number
 3. API number
 4. Unit letter
 5. Section, Township and Range
- AGRICULTURE (Below grade markers)
In Agricultural areas a request can be made for a below ground marker. For a below ground marker the operator must file their request on a C-103 notice of intent, and it must include the following;
 - A) Aerial photo showing the agricultural area
 - B) Request from the landowner for the below ground marker.

C) Subsequent plugging report for a well using a below ground marker must have an updated C-102 signed by a certified surveyor for SHL.

Note: A below ground marker is required with all pertinent information mentioned above on a plate, set 3' below ground level, a picture of the plate will be supplied to OCD for record, the exact location of the marker (longitude and latitude by GPS) will be provided to OCD. OCD requires a current survey to verify the location of the below ground marker, however OCD will accept a GPS coordinate that were taken with a GPS that has an accuracy of within 15 feet.

18. If work has not commenced within 1 year of the approval of this procedure, the approval is automatically expired. After 1 year a new [C-103] NOI Plugging (C-103F) must be submitted and approved prior to work.

Figure A

North Formations to be isolated with cement plugs are:

- San Jose
- Nacimiento
- Ojo Alamo
- Kirtland
- Fruitland
- Picture Cliffs
- Chacra (if below the Chacra Line)
- Mesa Verde Group
- Mancos
- Gallup
- Basin Dakota (plugged at the top of the Graneros)
- Deeper formations will be reviewed on a case-by-case basis

Figure B

South (Artesia) Formations to be isolated with cement plugs are:

- Fusselman
- Montoya
- Devonian
- Morrow
- Strawn
- Atoka
- Permo-Penn
- Wolfcamp
- Bone Springs
- Delaware , in certain areas where the Delaware is subdivided into;
 - 1. Bell Canyon
 - 2. Cherry Canyon
 - 3. Brushy Canyon
- Any salt sections
- Abo
- Yeso
- Glorieta
- San Andres
- Greyburg
- Queen
- Yates

Figure D1 and D2

South (Hobbs) Formations to be isolated with cement plugs are:

The plugging requirements in the Hobbs Area are based on the well location within specific areas of the Area (See Figure D1). The Formations in the Hobbs Area to be isolated with cement plugs are (see Figure D2)

Figure D1 Map

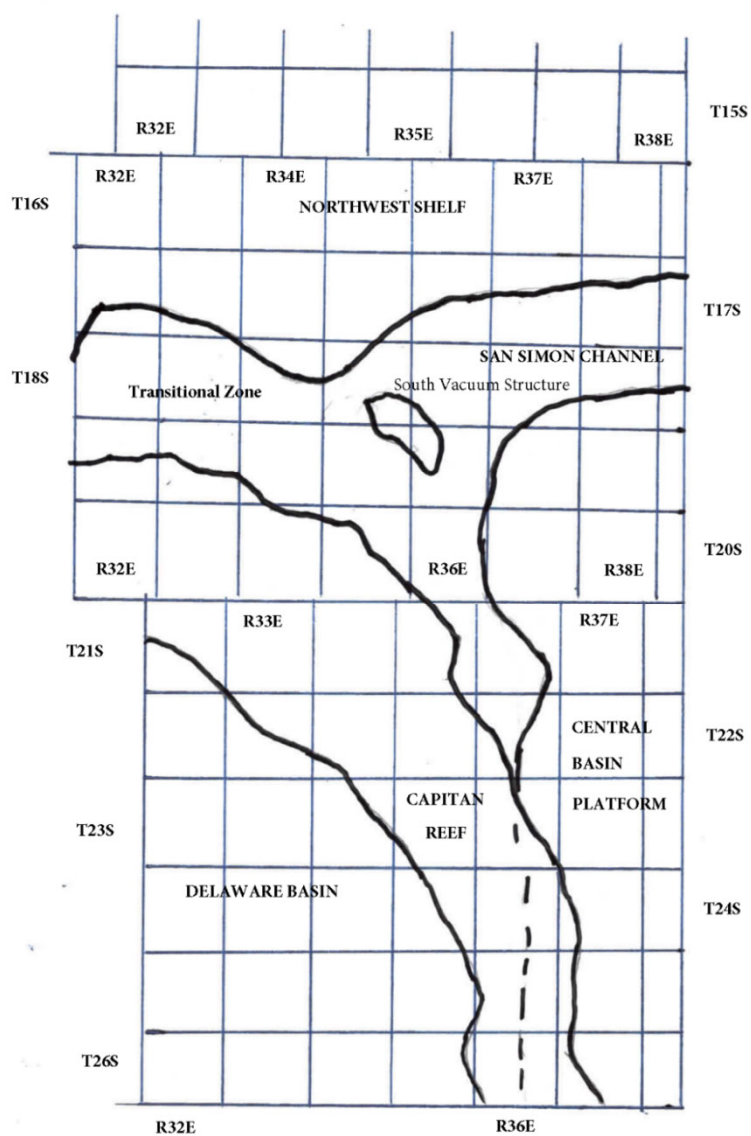


Figure D2 Formation Table

100' Plug to isolate upper and lower fresh water zones (typically 250' to 350')						
Northwest Shelf	Captan Reef Area	Transition Zone	San Simon Channel	South Vacuum Structure	Delaware Basin	Central Basin Platform
Granit Wash (Detrital basement material and fractured pre-Cambrian basement rock)	Siluro-Devonian	Morrow	Siluro-Devonian	Ellenburger	Siluro-Devonian	Granit Wash (Detrital basement material, fractured pre-Cambrian basement rock and fracture Mafic Volcanic intrusives).
Montoya	Mississippian	Atoka	Morrow	McKee	Morrow	Ellenburger
Fusselman	Morrow	Strawn	Wolfcamp	Siluro-Devonian	Atoka	Connell
Woodford	Atoka	Cisco	Abo Reef	Woodford	Strawn	Waddell
Siluro-Devonian	Strawn	Pennsylvanian	Bone Spring	Mississippian	Pennsylvanian	McKee
Chester	Pennsylvanian	Wolfcamp	Delaware	Barnett Shale	Lower Wolfcamp	Simpson Group
Austin	Wolfcamp	Bone Spring	San Andres	Morrow	Upper Wolfcamp	Montoya
Mississippian	Abo Reef, if present	Delaware	Queen	Atoka	Wolfcamp	Fusselman
Morrow	Abo, if present	San Andres	Yates	Strawn	Third Bone Spring Sand (Top of Wolfbone)	Silurian
Atoka	Queen, if present	Grayburg-San Andres	Base of Salt	Canyon	First Bone Spring Sand (Top of Lower Bone Spring)	Devonian
Lower Pennsylvanian	Bone Spring	Queen	Rustler	Pennsylvanian	Bone Spring	Strawn
Cisco-Canyon	Delaware	Seven Rivers		Blinbry	Brushy Canyon	Pennsylvanian
Pennsylvanian	Base Capitan Reef	Yates		Bone Spring	Delaware (Base of Salt)	Wolfcamp
Bough	Seven Rivers	Base of Salt		San Andres	Rustler	Abo
Wolfcamp	Yates	Rustler		Queen		Abo Reef
Abo	Top Capitan Reef			Base of Salt		Drinkard
Abo Reef, if present	Base of Salt			Rustler		Tubb
Yeso (Township 15 South to Township 17 South)	Rustler					Blinbry
Drinkard or Lower Yeso (Township 15 South to Township 17 South)						Paddock
Tubb (Township 15 South to Township 17 South)						Glorieta
Blinbry (Township 15 South to Township 17 South)						San Andres
Paddock (Township 15 South to Township 17 South)						Grayburg
Glorieta						Grayburg-San Andres
San Andres						Queen
Queen (Township 15 South to Township 17 South)						Seven Rivers
Seven Rivers (Township 15 South to Township 17 South)						Yates
Yates (Township 15 South to Township 17 South)						Base of Salt
Base of Salt						Rustler
Rustler						

EXHIBIT "A"
CASE 9316
ORDER R-111-P

CONSOLIDATED LAND **DESCRIPTION** OF THE KNOWN POTASH
LEASING AREA, AS OF FEBRUARY 3, 1988

EDDY COUNTY, NEW MEXICO

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM

Section 10: SE/4 SE/4
Section 11: S/2 SW/4
Section 13: W/2 SW/4 and SE/4 SW/4
Section 14: W/2 NE/4, NW/4 and S/2
Section 15: E/2 NE/4, SE/4 SW/4 and SE/4
Section 22: N/2, N/2 SW/4, SE/4 SW/4 and SE/4
Section 23: All
Section 24: N/2 NW/4, SW/4 NW/4 and NW/4 SW/4
Section 26: NE/4, N/2 NW/4 and SE/4 NW/4
Section 27: N/2 NE/4 and NE/4 NW/4

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM

Section 11: SE/4 SE/4
Section 12: SE/4 NE/4 and S/2
Section 13: All
Section 14: NE/4, SE/4 NW/4 and S/2
Section 15: SE/4 SE/4
Section 22: NE/4, E/2 W/2 and SE/4
Section 23: All
Section 24: All
Section 25: NW/4 NW/4
Section 26: N/2 NE/4 AND NW/4
Section 27: NE/4 AND E/2 NW/4

TOWNSHIP 19 SOUTH, RANGE 30 EAST, NMPM

Section 2: SW/4
Section 3: W/2 SW/4, SE/4 SW/4, S/2 SE/4 and
NE/4 SE/4
Section 4: Lots 3 and 4. SW/4 NE/4, S/2 NW/4
and S/2
Section 5: Lots 1, 2. and 3, S/2 NE/4,
S/2 NW/4 and S/2
Section 6: S/2 SE/4 and NE/4 SE/4
Sections 7 to 10 inclusive
Section 11: S/2 NE/4, NW/4 NW/4 and S/2
Section 12: NE/4, S/2 NW/4 and S/2
Section 13: NE/4, W/2, N/2 SE/4 and SW/4 SE/4
Sections 14 to 18 inclusive
Section 19: Lots 1, 2, and 3, NE/4, E/2 NW/4,
NE/4 SW/4, E/2 SE/4 and
NW/4 SE/4
Sections 20 to 23 inclusive

Section 24: NW/4. NW/4 SW/4 and S/2 SW/4

Section 25: NW/4 NW/4
 Section 26: NE/4 NE/4, W/2 NE/4, W/2, W/2 SE/4
 and SE/4 SE/4
 Section 27: All
 Section 28: All
 Section 29: E/2, E/2 NW/4 and NW/4 NW/4
 Section 32: E/2 and SE/4 SW/4
 Section 33 to 35 inclusive
 Section 36: NW/4 NW/4, S/2 NW/4 and S/2

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM

Section 7: Lots 1, 2, and 3 and E/2 NW/4
 Section 18: Lots 1, 2, and 3 and SW/4 NE/4,
 E/2 NW/4 and NE/4 SW/4
 Section 31: Lot 4
 Section 34: SE/4 SE/4
 Section 35: S/2 SW/4 and SW/4 SE/4
 Section 36: S/2 SE/4

LEA COUNTY, NEW MEXICO**TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM**

Section 31: Lot 4
 Section 33: Lots 1 to 4 inclusive and N/2 S/2
 Section 34: Lots 1 to 4 inclusive and N/2 S/2
 Section 35: Lots 1 to 4 inclusive and N/2 S/2
 Section 36: Lots 1 to 4 inclusive, SE/4 NE/4,
 NW/4 SW/4 and NE/4 SE/4

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM

Section 22: SE/4 NE/4, E/2 SW/4 and SE/4
 Section 23: S/2 NW/4, SW/4, W/2 SE/4 and
 SE/4 SE/4
 Section 25: SW/4 NW/4, W/2 SW/4 and SE/4 SW/4
 Section 26: All
 Section 27: All
 Section 28: S/2 SE/4 and NE/4 SE/4
 Section 30: Lots 2 to 4 inclusive, S/2 NE/4,
 SE/4 NW/4, E/2 SW/4 and SE/4
 Section 31: All
 Section 32: NE/4, S/2 NW/4 and S/2
 Sections 33 to 35 inclusive
 Section 36: W/2 NE/4, SE/4 NE/4, NW/4 and S/2

TOWNSHIP 19 SOUTH, RANGE 34 EAST, NMPM

Section 31: Lots 3 and 4

EDDY COUNTY, NEW MEXICO

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM

Section 1: SE/4 NE/4 and E/2 SE/4
 Section 13: SW/4 NW/4, W/2 SW/4 AND SE/4 SW/4
 Section 14: NW/4 NE/4, S/2 NE/4, NW/4 and S/2
 Section 15: E/2 E/2, SE/4 SW/4 and W/2 SE/4
 Section 22: E/2 and E/2 NW/4
 Section 23: All
 Section 24: SW/4 NE/4, W/2, W/2 SE/4
 and SE/4 SE/4
 Section 25: N/2, SW/4, W/2 SE/4 and NE/4 SE/4
 Section 26: All
 Section 27: E/2
 Section 34: NE/4
 Section 35: N/2
 Section 36: W/2 NE/4 AND NW/4

TOWNSHIP 20 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 4 inclusive
 Section 5: Lots 1 to 3 inclusive, S/2 N/2
 and S/2
 Section 6 Lots 5, 6, and 7, S/2 NE/4, E/2 SW/4
 and SE/4
 Section 7 Lots 1 and 2. E/2 and E/2 NW/4
 Sections 8 to 17 inclusive
 Section 18 E/2
 Section 19 E/2 and SE/4 SW/4
 Sections 20 to 29 inclusive
 Section 30: Lots 1 to 3 inclusive, E/2 and
 E/2 W/2
 Section 31 E/4 and E/2 SE/4
 Sections 32 to 35 inclusive

TOWNSHIP 20 SOUTH, RANGE 31 EAST, NMPM

Section 1 Lots 1 to 3 inclusive, S/2 N/2
 and S/2
 Section 2: All
 Section 3: Lots 1 and 2, S/2 NE/4 and SE/4
 Section 6: Lots 4 to 7 inclusive, SE/4 NW/4,
 E/2 SW/4, W/2 SE/4 and
 SE/4 SE/4
 Section 7: All
 Section 8: S/2 N/2 and S/2
 Section 9: S/2 NW/4, SW/4, W/2 SE/4 and SE/4 SE/4
 Section 10: E/2 and SW/4
 Section 11 to 36 inclusive

LEA COUNTY, NEW MEXICO

TOWNSHIP 20 SOUTH, RANGE 32 EAST, NMPM

Sections 1 to 4 inclusive

Section 5: S/2 SE/4

Section 6: Lots 4 to 7 inclusive, SE/4 NW/4,
E/2 SW/4 and SW/4 SE/4

Sections 7 to 36 inclusive

TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM

Sections 1 to 36 inclusive

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM

Section 6: Lots 3 to 7 inclusive, SE/4 NE/4,
E/2SW/4, W/2 SE/4 AND
SE/4 SE/4

Section 7: All

Section 8: SW/4, S/2 NW/4, W/2 SE/4 and
SE/4 SE/4

Section 16: W/2 NW/4, SE/4 NW/4, SW/4 and
S/2 SE/4

Sections 17 to 21 inclusive

Section 22: N/2 NW/4, SW/4 NW/4, W/2 SE/4,
and SE/4 SE/4

Section 26: SW/4, W/2 SE/4 and SE/4 SE/4

Sections 27 to 35 inclusive

Section 36: SW/4 NW/4 and W/2 SW/4

EDDY COUNTY, NEW MEXICO

TOWNSHIP 21 SOUTH, RANGE 29 EAST, NMPM

Sections 1 to 3 inclusive

Section 4: Lots 1 through 16, NE/4 SW/4 and
SE/4

Section 5: Lot 1

Section 10: N/2 NE/4, SE/4 NE/4 and SE/4 SE/4

Sections 11 to 14 inclusive

Section 15: E/2 NE/4 and NE/4 SE/4

Section 23: N/2 NE/4

Section 24: E/2, N/2NW/4 and SE/4NW/4

Section 25: NE/4 NE/4 and S/2 SE/4

Section 35: Lots 2 to 4 inclusive, S/2 NE/4,
NE/4 SW/4 and N/2 SE/4

Section 36: Lots 1 to 4 inclusive, NE/4,
E/2 NW/4 AND N/2 S/2

TOWNSHIP 21 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 36 inclusive

TOWNSHIP 21 SOUTH, RANGE 31 EAST, NMPM
Sections 1 to 36 inclusive**LEA COUNTY, NEW MEXICO****TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM**

Sections 1 to 27 inclusive

Section 28: N/2 and N/2 S/2

Sections 29 to 31 inclusive

Section 32: NW/4 NE/4, NW/4 and NW/4 SW/4

Section 34: N/2 NE/4

Section 35: N/2 N/2

Section 36: E/2, N/2 NW/4, SE/4 NW/4 and
NE/4 SW/4**TOWNSHIP 21 SOUTH, RANGE 33 EAST, NMPM**Section 1: Lots 2 to 7 inclusive, Lots 10
to 14 inclusive, N/2 SW/4 and
SW/4 SW/4

Sections 2 to 11 inclusive

Section 12: NW/4 NW/4 and SW/4 SW/4

Section 13: N/2 NW/4, S/2 N/2 and S/2

Sections 14 to 24 inclusive

Section 25: N/2. SW/4 and W/2 SE/4

Sections 26 to 30 inclusive

Section 31: Lots 1 to 4 inclusive, NE/4,
E/2 W/2, N/2 SE/4 and
SW/4 SE/4

Section 32: N/2 and NW/4 SW/4

Section 33: N/2

Section 34: NE/4, N/2 NW/4 and E/2 SE/4

Section 35: All

Section 36: W/2 NE/4, NW/4 and S/2

TOWNSHIP 21 SOUTH, RANGE 34 EAST, NMPM**Section 17: W/2****Section 18: All**Section 19: Lots 1 to 4 inclusive, NE/4,
E/2 W/2, N/2 SE/4 and
SW/4 SE/4**Section 20:** NW/4 NW/4

Section 30: Lots 1 and 2 and NE/4 NW/4

Section 31: Lots 3 and 4

EDDY COUNTY, NEW MEXICO**TOWNSHIP 22 SOUTH, RANGE 28 EAST, NMPM**

Section 36: E/2 E/2

TOWNSHIP 22 SOUTH, RANGE 29 EAST, NMPM

Sections 1 and 2 inclusive
Section 3 SE/4 SW/4 and SE/4
Section 9 S/2 NE/4 and S/2
Sections 10 to 16 inclusive
Section 17 S/2 SE/4
Section 19 SE/4 NE/4 and E/2 SE/4
Sections 20 to 28 inclusive
Section 29 N/2 N/2, S/2 NE/4 and SE/4
Section 30 NE/4 NE/4
Section 31 Lots 1 to 4 inclusive, S/2 NE/4,
E/2 W/2 and SE/4
Sections 32 to 36 inclusive

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 36 inclusive

TOWNSHIP 22 SOUTH, RANGE 31 EAST, NMPM

Sections 1 to 11 inclusive
Section 12: NW/4 NE/4, NW/4 and NW/4 SW/4
Section 13: S/2 NW/4 and SW/4
Sections 14 through 23 inclusive
Section 24: W/2
Section 25: NW/4
Section 26: NE/4 AND N/2 NW/4
Sections 27 to 34 inclusive

LEA COUNTY, NEW MEXICO

TOWNSHIP 22 SOUTH, RANGE 32 EAST, NMPM

Section 1: Lot 1
Section 6: Lots 2 to 7 inclusive and SE/4 NW/4

TOWNSHIP 22 SOUTH, RANGE 33 EAST NMPM

Section 1: Lots 1 to 4 inclusive, S/2 N/2 and
N/2 S/2

Section 2: All
Section 3: Lot 1, SE/4 NE/4 and SE/4
Section 6: Lot 4
Section 10: NE/4
Section 11: NW/4 NE/4 AND NW/4

TOWNSHIP 22 SOUTH, RANGE 34 EAST NMPM

Section 6: Lots 4 to 6 inclusive

EDDY COUNTY, NEW MEXICO

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM

Section 1: Lot 1

TOWNSHIP 23 SOUTH, RANGE 29 EAST, NMPM

Sections 1 to 5 inclusive

Section 6: Lots 1 to 6 inclusive, S/2 NE/4,
SE/4 NW/4, E/2 SW/4 and SE/4

Section 7: NE/4 and NE/4 NW/4

Section 8: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Sections 9 to 16 inclusive

Section 17: NE/4 and E/2 SE/4

Sections 21 to 23 inclusive

Section 24: N/2, SW/4 and N/2 SE/4

Section 25: W/2 NW/4 and NW/4 SW/4

Section 26: All

Section 27: All

Section 28: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Section 33: N/2 NE/4 and NE/4 NW/4

Section 34: NE/4, E/2 NW/4, NW/4 NW/4,
NE/4 SW/4 and SE/4

Section 35: All

Section 36: W/2 NE/4, NW/4 and N/2 SW/4

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 18 inclusive

Section 19: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Section 20: All

Section 21: All

Section 22: N/2, S/2 SW/4, N/2 S/2 and SE/4 SE/4

Sections 23 to 25 inclusive

Section 26: E/2, SE/4 NW/4 and SW/4

Section 27: N/2 NW/4, SW/4 NW/4, SE/4 SW/4,
S/2 SE/4 and NE/4 SE/4

Section 28: N/2 and SW/4 Section 29 N/2 and SE/4

Section 30: N/2 NE/4

Section 32: N/2 NE/4

Section 33: SE/4 NE/4, N/2 NW/4, NE/4 SE/4
and S/2 SE/4

Sections 34 to 36 inclusive

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM**Section 2:** Lot 4, SW/4 NW/4 and W/2 SE/4

Sections 3 to 7 inclusive

Section 8: NE/4 NE/4, W/2 NE/4 and W/2

Section 9: N/2 N/2

Section 10: NW/4 NW/4 and SE/4 SE/4

Section 11: S/2 NE/4, S/2 SW/4 and SE/4

Section 12: SW/4 NW/4 and SW/4
Section 13: SW/4 **NE/4**, W/2 and W/2 SE/4
Section 14: All
Section 15: E/2, SE/4 NW/4 and **SW/4**
Section 16: SW/4 and S/2 SE/4
Section 17: NW/4 and S/2
Sections 18 to 23 inclusive
Section 24: W/2 NE/4 and W/2
Section 25: W/2 NE/4, NW/4, N/2 SW/4 and
 NW/4 SE/4
Section 26 to 34 inclusive
Section 35: N/2 NW/4 and SW/4 NW/4

TOWNSHIP 24 SOUTH, RANGE 29 EAST, NMPM

Section 2: Lots 2 to 4 inclusive
Section 3: Lot 1

TOWNSHIP 24 SOUTH, RANGE 30 EAST, NMPM

Section 1: Lots 1 to 4 inclusive, S/2 N/2,
 SW/4 and NW/4 SE/4
Section 2: All
Section 3: All
Section 4: Lots 1 and 2, S/2 NE/4, SE/4 NW/4,
 SW/4 SW/4, E/2 SW/4 and SE/4
Section 9: N/2, N/2 SW/4, SE/4 SW/4 and SE/4
Section 10: All
Section 11: All
Section 12: W/2 NW/4 and NW/4 SW/4
Section 14: W/2 NE/4 and **NW/4**
Section 15: NE/4 and N/2 NW/4

TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM

Section 3: Lots 2 to 4 inclusive, SW/4 NE/4,
 S/2 NW/4, SW/4 and W/2 SE/4
Section 4: All
Section 5: Lots 1 to 4 inclusive, S/2 N/2,
 N/2 S/2 and SE/4 SE/4
Section 6: Lots 1 to 6 inclusive, S/2 NE/4,
 SE/4 NW/4, NE/4 SW/4 and
 N/2 SE/4
Section 9: E/2 and NW/4
Section 10: W/2 NE/4 and W/2
Section 35: Lots 1 to 4 inclusive, S/2 N/2 and
 N/2 S/2
Section 36: Lots 1 and 2, SW/4 NW/4 and N/2 SW/4

TOWNSHIP 25 SOUTH, RANGE 31 EAST, NMPM

Section 1: Lots 3 and 4 and S/2 NW/4
Section 2: Lots 1 to 4 inclusive and S/2 N/2

VGSAU #45 Wellbore Diagram

Created:	01/05/06	By:	C. A. Irle
Updated:	07/05/23	By:	JFR
Lease:	Vacuum Grayburg San Andres Unit		
Field:	same		
Surf. Loc.:	1310' FNL, 2530' FWL		
Bot. Loc.:			
County:	Lea	St.:	NM
Status:	Active Injection Well		

Well #:	45	St. Lse:	B-3011-1
API	30-025-24363		
Unit Ltr.:	C	Section:	2
TSHP/Rng:	S-18 E-34		
Unit Ltr.:	Section:		
TSHP/Rng:			
Directions:	Buckeye, NM		

Surface Casing

Size:	8-5/8"
Wt., Grd.:	20# K-55
Depth:	356'
Sxs Cmt:	300
Circulate:	Yes
TOC:	Surface
Hole Size:	12 1/4

Production Casing

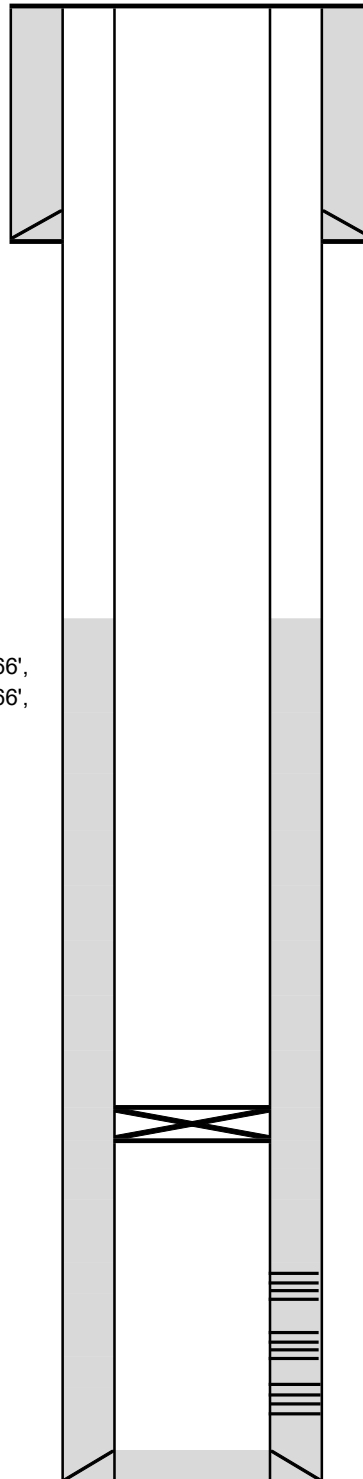
Size:	4-1/2"
Wt., Grd.:	9.5#, J-55
Depth:	4800'
Sxs Cmt:	600
Circulate:	No
TOC:	2464' CBL (1976)
Hole Size:	7 7/8"

Perf Details

4484', 88', 92', 97',
 4504', 7', 10', 13', 17', 28', 34', 40', 45', 55', 59', 66',
 75', 4600', 4', 13', 21', 25', 34', 38', 41', 46', 49', 66',
 72', 77', 82', 86', 90', 96',
 4700', 4', 10', 18', 24', 29', 36', 40', 44', 56'.

Sqzd perfs: 4433', 55'

KB:	4026'
DF:	4025'
GL:	4016'
Ini. Spud:	03/24/73
Ini. Comp.:	04/05/73



Casing restriction
380'-407'

RBP @ 3745'

Perfs:
4484'-4756' (overall)

PBTD:	4782'
TD:	4800'

VGSAU #45 - Proposed P&A WBD

Created:	01/05/06	By:	C. A. Irlle
Updated:	07/05/23	By:	JFR
Lease:	Vacuum Grayburg San Andres Unit		
Field:	same		
Surf. Loc.:	1310' FNL, 2530' FWL		
Bot. Loc.:			
County:	Lea	St.:	NM
Status:	Active Injection Well		

Well #:	45	St. Lse:	B-3011-1
API	30-025-24363		
Unit Ltr.:	C	Section:	2
TSHP/Rng:	S-18 E-34		
Unit Ltr.:			
TSHP/Rng:			
Directions:	Buckeye, NM		

Surface Casing

Size:	8-5/8"
Wt., Grd.:	20# K-55
Depth:	356'
Sxs Cmt:	300
Circulate:	Yes
TOC:	Surface
Hole Size:	12 1/4

Production Casing

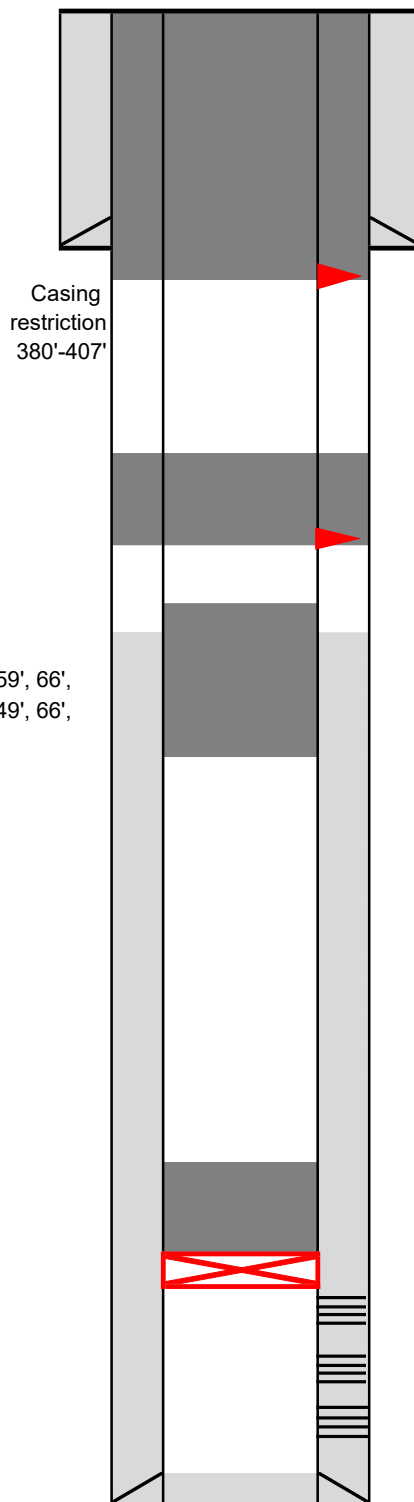
Size:	4-1/2"
Wt., Grd.:	9.5#, J-55
Depth:	4800'
Sxs Cmt:	600
Circulate:	No
TOC:	2464' CBL (1976)
Hole Size:	7 7/8"

Perf Details

4484', 88', 92', 97',
 4504', 7', 10', 13', 17', 28', 34', 40', 45', 55', 59', 66',
 75', 4600', 4', 13', 21', 25', 34', 38', 41', 46', 49', 66',
 72', 77', 82', 86', 90', 96',
 4700', 4', 10', 18', 24', 29', 36', 40', 44', 56'.

Sqzd perfs: 4433', 55'

Formation	Top
Rustler	1557'
Yates	2839'
Grayburg	4146'



KB: 4026'

GL: 4016'

Proposed Plug #4
 Circulate 107 sx from 0'-406'
 Perf @ 406'

Proposed Plug #3
 Inside/outside: 49 sx from 1407'-1607'
 Perf @ 1607'

Proposed Plug #2
 37 sx cmt plug 2354'-2889'

Proposed Plug #1
 BP @ 4384' capped w/ 25 sx
 Estimated TOC @ 4022'

Perfs:
 4484'-4756' (overall)

PBTD: 4782'

TD: 4800'

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 398109

CONDITIONS

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 398109
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

CONDITIONS

Created By	Condition	Condition Date
gcordero	Notify the OCD inspection supervisor via email 24 hours prior to beginning Plug & Abandon (P&A) operations.	11/14/2024