

Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
June 19, 2008

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

WELL API NO. <b>30-025-21336</b>
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. <b>E-9141</b>
7. Lease Name or Unit Agreement Name <b>GR Unit</b>
8. Well Number <b>01</b>
9. OGRID Number <b>234255</b>
10. Pool name or Wildcat <b>Grama Ridge, Morrow</b>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) <b>3,664' GL</b>

**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: Storage

2. Name of Operator  
**Enstor Grama Ridge Transportation and Storage, LLC**

3. Address of Operator  
**10375 Richmond Ave., Suite 1900, Houston, TX 77042**

4. Well Location  
Unit Letter **E** : **1980** feet from the **North** line and **660** feet from the **West** line  
Section **3** Township **22S** Range **34E** NMPM **Lea** County

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

<b>NOTICE OF INTENTION TO:</b>		<b>SUBSEQUENT REPORT OF:</b>	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
OTHER: NOI Workover <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

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 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Proposed workover operation: Kill well; pull tubing & packer; run integrity log on cemented casing; run new tubing & new packer; reperforate; re-frac; cleanout wellbore; put back into service.

Estimated date of starting proposed: April 3, 2023

**Condition of Approval: notify  
OCD Hobbs office 24 hours  
prior of running MIT Test & Chart**

Spud Date:  Rig Release Date:

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

SIGNATURE Kevin L. Ancell TITLE: Vice President, Subsurface & Wells DATE 03/29/2023

Type or print name Kevin Ancell E-mail address: Kevin.Ancell@enstorinc.com PHONE: 281.374.3057

**For State Use Only**

APPROVED BY: Kerry Fortner TITLE Compliance Officer A DATE 7/11/23  
Conditions of Approval



March 29, 2023

## Enstor Grama Ridge GRMU #1 - Workover Procedure

### Pre-Workover Operations Phase:

1. Pre-workover operations should be no more than 1 week prior to mobilizing the workover rig
2. Move in and rig up (MIRU) three frac tanks and fill one with 500 bbls of 8.3 ppg treated & inhibited freshwater. (6% KCL-SC, 3 gals per 1,000 gals)
3. Attach pump-in sub to top of wellhead.
4. Rig up the pump truck and lines and pressure test lines to 1,500 psi for 5 mins.
5. Kill well with 30 bbls of HEC pill followed by 250 bbls of 8.3 ppf treated & inhibited fresh water, placing half of pill into the reservoir. Shut down and verify absence of surface pressure. *Note: This displacement volume leaves the top of pill above the 5 ½" x 3 ½" crossover at 11,261 feet. All depths are reference to measured depth.*
6. Leave well shut in overnight and observe any buildup of pressure the following morning.
7. Ensure well is dead before mobilizing wireline.
8. MIRU wireline unit and attach a retrievable bridge plug (RBP).
  - Wireline company and retrievable bridge plug – Service Provider
9. Pressure test lubricator to  $\pm 2,500$  psi. (*Greater than expected surface pressure.*)
10. Make up (MU) GR/JB run. Run in the hole and set the RBP in the 5-1/2", 20.0 ppf tubing at  $\pm 500$  feet.
  - Setting depth to be determined based on reservoir pressure and rig timing
  - RBP should not be set more than a week prior to rig arriving
11. Fill tubing with treated & inhibited fresh water and pressure up to 1,000 psi and hold for 10 mins to ensure RBP is set and holding pressure.
12. Rig down (RD) the wireline unit and equipment.



March 29, 2023

**Workover Operations Phase:**

13. MI workover rig package (i.e., pump, tank, pipe racks, etc.) and conduct HSE kickoff and orientations with crew. Perform site orientation with all new vendor personnel.
14. RU to the well using base beam.
  - *Note: permanent anchors are available onsite but have not been pull tested in years.*
  - Required equipment are base beam, fluid pump and tank, choke manifold, catwalk, and 3 - 4 sets of pipe racks.
15. Verify well is dead. Nipple down (ND) the flowlines and platform.
  - *Note: This well has two (2) flowlines coming off each side of the flow cross. Recommend having a roustabout crew available to assist with rigging down of the flowline and platform around the wellhead*
  - Hotbolt the wellhead after removing the surface lines
16. MIRU the BOP's nipple up/down crew/testers to location. ND the wellhead x-mas tree and nipple up 11" 5M dual ram BOP stack and single BOP blines.
  - *Send off wellhead to be cleaned, inspected & repaired (if needed).*
  - BOP stack requirements – Triple with 3 ½ and 5 ½" rams with a set of blinds – Include a service technician for the BOP stack – Patterson, Knight, and Well Cat.
    - Confirm the rig floor capabilities – BOP stack height.
17. Pressure test BOPs stack to 250 psi low for 5 minutes. Conduct 3,000 psi high pressure test for 10 minutes, record same.
18. Pick up the RBP retrieval tool and 2-7/8" tubing work string, then RIH and latch onto RBP and retrieve the RBP from wellbore.

*Note: Equalize pressures above and below RBP before releasing.*

*Note: Monitor pressures and wellbore for fluid returns for at least 30 minutes prior to pulling out of the hole.*



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*Note: Address concerns about swabbing in the well or keeping the hole “full” while pulling the RBP.*

19. Back out hold-down pins on 11” wellhead and make up a 5-1/2” 20 ppf, P-110, SLX landing joint into the 5-1/2” 20 ppf, P-110, SLX tubing hanger or spear assembly. Pull approximately 20K tension to unseat the 5-1/2” casing hanger and have the tubing string at neutral weight. *Note: Approximate tubing string weight is 240K (dry hanging weight).*
20. Following Baker Hughes procedure for releasing the Model L-10 On-Off Tool from the Hornet Packer. Release the L-10 On-Off Tool from the Hornet Packer.
  - Baker procedure is attached to this document
21. Establish circulation (*if unable to establish traditional circulation, line up the manifold to reverse circulate*) and circulate at quickest rate possible without causing losses ( $\pm 6$  bpm) to clean off any potential debris on top of the Hornet Packer.
22. Latch back onto the Hornet Packer with the L-10 On-Off tool. Then following Baker Hughes procedure, release the Hornet Packer.
  - Set down a minimum of 500 lbs then rotate  $\frac{1}{4}$  turn to the right and pick up at the same time.
  - This will disengage the lower J and release the packer.
  - The bonded seal will unload and equalize the upper and lower annulus.
  - Then the Upper Slips will retrieve using between 15,000 - 25,000 lbs of tension.
  - Packing Element will be stretched out and the Lower Cone will disengage the Lower Slips.
  - Tool can be reset or retrieved at this point.
23. Pull out of hole and lay down the 5-1/2” tubing.
24. Move in and rig up wireline unit and run CBL & Casing Inspection Logs (i.e., magnetic flux or equivalent and multi-arm caliper surveys) through the 7-5/8” casing and 5-1/2” liner.
  - CBL results will on be interpreted below the fluid level



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25. MU and run the assembly into the wellbore on wireline with pressure control equipment and set the packer at a minimum depth of 12,726' RKB (*Minimum depth determined by the Injection Permit, 100' above the top perforation at 12,826'*). Perform a slack-off and pull test to ensure packer is seated correctly. Pressure-test the annulus to 1,000 psi to verify packer is set and release from same.
26. Rig down and move out wireline
27. MIRU casing handling tools, helium testing, and torque turn equipment. MIRU the pick-up/laydown machine if already not in place.
28. MU and run the string of 5-1/2", 20 ppf, P-110 X 3-1/2" 9.2 ppf L-80 Ultra FJ. Internally connection-test each connection to  $\pm 3,500$  psi, and record the torque required to make up tubing string utilizing the third-party torque turn equipment.  
  
*Note: Run enough 5-1/2" casing to place the crossover to 3-1/2" at approximately 50' - 75' above the top of the 5-1/2" liner (TOL @ 11,474' MD). 5-1/2" pup joints may be required to space and land the 5-1/2" hanger in the wellhead.*
29. Land the seal & latch assembly in the 5-1/2" production packer (type TBD) and take space out measurements. Make up space out pups as need.
30. Spot approximately 220 bbls (*Note: Estimating 5-1/2" X 3-1/2" x-over @ 11,400', and packer depth of 12,750'*) of inhibited packer fluid in the tubing and casing annulus.
  - Final volumes to be determined and calculated following the setting of the packer
31. Engage the anchor seal assembly in the production packer (type TBD) and land the 5-1/2" mandrel hanger in the wellhead.
32. Perform a Mechanical Integrity Test (MIT) on the annulus of the injection/withdrawal string by pressure-testing the tubing-casing annulus to  $\pm 550$  psi for 30 minutes on recorded chart.
33. RD well servicing unit and ancillary equipment and demobilize from the site.



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**Perforation & Frac Operations Phase:**

34. MIRU wireline unit.
35. MU and run – Deep penetrating guns and perforate the following:
  - Final gun size to be determined following the packer selection
  - 12,826' – 12,859' (33'), @ 6 spf (Re-perf Existing)
  - 12,912' – 12,920' (8'), @ ±12 spf (New Perfs)
  - 12,981' – 12,994' (13'), @ 6 spf (Re-perf Existing)
  - 13,009' – 13,025' (16'), @ 6 spf (Re-perf Existing)
36. Pressure test tree and casing to 3,000 psi on recorded chart.
37. MIRU frac crew and perform the frac:

**Coiled Tubing Operations Phase:**

38. MIRU coiled tubing, nitrogen pumping and flow-back equipment. RU to take flow through production separator with flare stack and route liquids downstream to open-top flowback tank.
39. Pull test the coil connector.
40. Make up the BOPs and injector head to the swab valve and test BOPs.
41. Make up a wash tool assembly.
42. Open the swab valve and trip in the hole. Check the pickup weight at 1,000' intervals or more frequently if necessary.
43. Pump fluid and nitrogen at a rate that allows for safe fluid and gas management at the surface. *Note: Record all packer depths and depths of any ID restrictions while running in the hole. If solid fill is encountered, wash down in short increments and pump viscous sweeps as necessary to remove the solids from the wellbore.*
44. Lower coiled tubing into perforated interval and work down to PBTD (13,207' MD) or deepest attainable depth while comingling fluid & nitrogen to clean out any fill.
45. Pull out of hole and close the wellhead valves.
46. RD CT and equipment and demobilize from site.

	<b>WELLBORE DIAGRAM</b>		
	FIELD :	Grama Ridge Morrow	<b>Current</b>
	LEASE/COUNTY:	GR State/Lea County	
STATUS:	Injection / Withdrawal	Well Name:	WELL #1
		API#:	30-025-21336
		DATE:	07/21/2020

E Unit, Section 3, Township 22S, Range 34E

<b>Locations:</b>	<b>SURFACE</b>	
LAT/LONG	103.46391	32.42272
GIS	1980' FNL	660' FWL

**Elevations:**

<b>GL</b>	<b>KB</b>	<b>RKB</b>
3,644'	14'	3,658'

<b>Depth:</b>	<b>MD</b>	<b>TVD</b>
TD (RKB):	13,257'	13,257'
PBTD (RKB):	13,207'	13,207'

<b>Formation Tops (RKB):</b>	
<b>Name</b>	<b>Depth</b>
BONE SPRING	8,263'
WOLFCAMP	11,268'
DES MOINES	11,618'
ATOKA	11,894'
MORROW	12,723'

Cored Analysis:	Yes
Avg Permeability:	
Net Pay:	32'
Avg Porosity:	0.1
Avg water-saturation:	

**SITP: 3,400 psi**  
**MASP: 5,100 psi**  
**BHP: 4,500 psi**

20" hole size, Conductor CSG  
 16" 65# J-55 8rd @ 370', CTOC  
 @ surface, tested to 1,000 psi  
 for 30 mins on 06/02/1965

13-3/4" hole size, Surf CSG 10-3/4"  
 51#/55.5# J-55 /N80 8rd @ 5,643',  
 TOC (Temp / Survey) @ 3,615' tested  
 to 3,000 psi for 30 mins

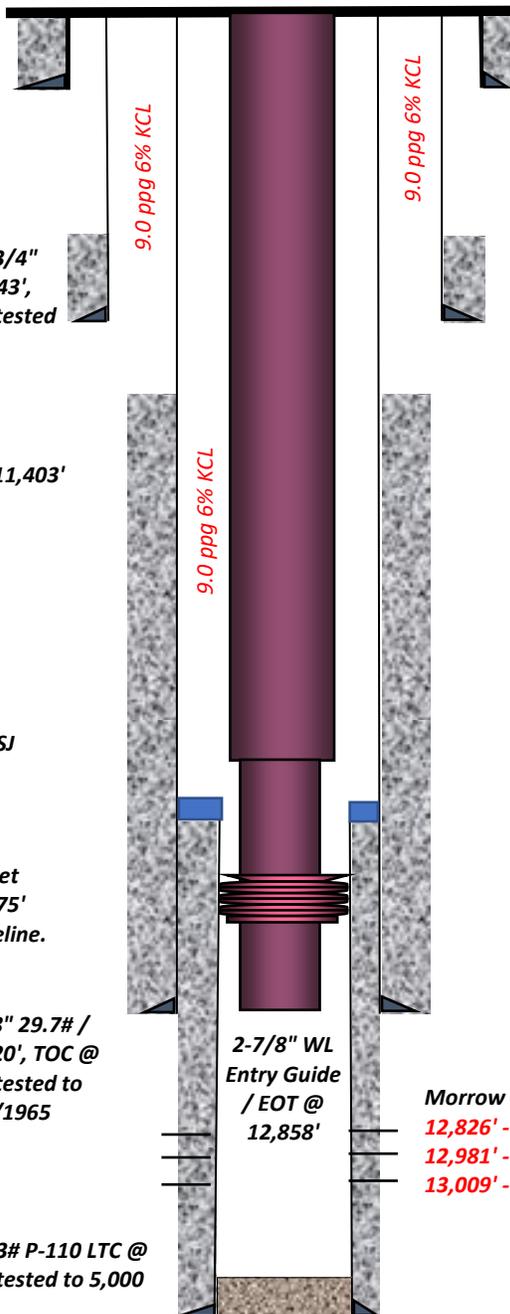
Tbg1: 5 1/2" 20# P-110 SLX @ 11,403'

Tbg2: 3-1/2" 9.2# P-110 Ultra SJ  
 @ 11,403' - 12,760'

**Baker 450-237 Model Hornet**  
**Retrievable PKR @ 12,750.75'**  
**Set on 01/04/2005 via Wireline.**

9-5/8" hole size, Prod csg 7-5/8" 29.7# /  
 33.7# N-80 / P-110 8rd @ 11,820', TOC @  
 7,340' by CBL on 12/28/2005, tested to  
 2,500 psi for 30 mins on 07/08/1965

6-5/8" hole size, Liner 5-1/2" 23# P-110 LTC @  
 11,474' - 13,252', CTOC @ TOL tested to 5,000  
 psi for 30 mins on 08/13/1965



**Morrow Perforations:**

- 12,826' - 12,859', 6 SPF (01-04-2005)
- 12,981' - 12,994', 6 SPF (01-03-2005)
- 13,009' - 13,025', 6 SPF (01-03-2005)

	<b>WELLBORE DIAGRAM</b>		
	FIELD :	Grama Ridge Morrow	<b>Proposed</b>
	LEASE/COUNTY:	GR State / Lea County	
STATUS:	Injection / Withdrawal	Well Name:	WELL #1
		API#:	30-025-21336
		DATE:	03/30/2023

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WOLFCAMP	11,268'
DES MOINES	11,618'
ATOKA	11,894'
MORROW	12,723'

Cored Analysis:	Yes
Avg Permeability:	
Net Pay:	32'
Avg Porosity:	0.1
Avg water-saturation:	

**SITP: 3,400 psi**  
**MASP: 5,100 psi**  
**BHP: 4,500 psi**  
**BHT: 176 °F**

**Morrow Perforations:**

**12,826' - 12,859', 6 SPF (01-04-2005)**  
**12,981' - 12,994', 6 SPF (01-03-2005)**  
**13,009' - 13,025', 6 SPF (01-03-2005)**

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 for 30 mins on 06/02/1965

13-3/4" hole size, Surf CSG 10-3/4"  
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 TOC by (Temp / Survey) @ 3,615'  
 tested to 3,000 psi for 30 mins

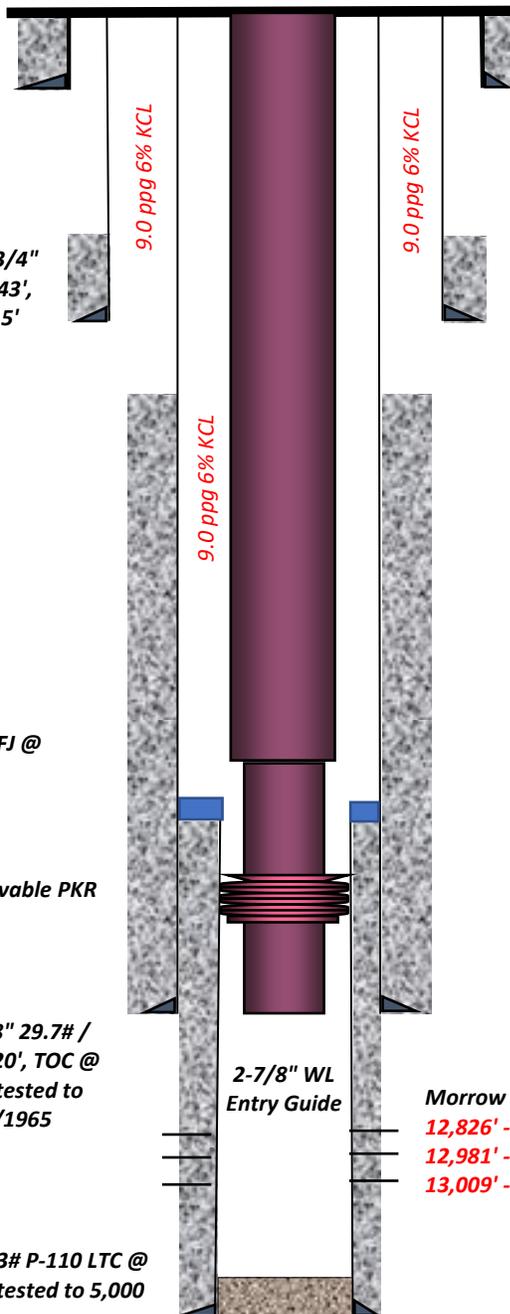
Tbg1: 5 1/2" 20 ppf P-110 CY

Tbg2: 3-1/2" 9.2# P-110 Ultra FJ @  
 11,400' - 12,750'

**Baker Model Hornet Retrievable PKR**  
**@ 12,750'**

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**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 201974

**CONDITIONS**

Operator: ENSTOR GRAMA RIDGE STORAGE AND TRANSPORTATION 10375 Richmond Ave Houston, TX 77042	OGRID: 234255
	Action Number: 201974
	Action Type: [C-103] NOI Workover (C-103G)

**CONDITIONS**

Created By	Condition	Condition Date
kfortner	Run PWOT MIT/BHT	7/11/2023