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Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

***SUBMIT IN TRIPLICATE** - Other instructions on page 2*

1. Type of Well: ☐ Oil Well ☐ Gas Well ☑ Other Natural Gas Storage	5. Lease Serial No. NM-058678
	6. If Indian, Allottee or Tribe Name
	7. If Unit of CA/Agreement, Name and/or No. 14-08-0001014277 (NMNM70953X)
	8. Well Name and No. GRM UNIT #4
2. Name of Operator Enstor Grama Ridge Storage and Transportation, LLC	9. API Well No. 30-025-21334
3a. Address 20329 State Hwy 249, Suite 500 Houston, TX 77070 / 3b. Phone No. *(include area code)* (281) 374-3050	10. Field and Pool or Exploratory Area Morrow Formation, Grama Ridge
4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* 2310' FNL and 2310' FWL of Section 4, Township 22S, Range 34E	11. Country or Parish, State Lea County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☑ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

GRM UNIT #4 failed the 2017 NMOCD Bradenhead test because of communication between the tubing and production casing annulus. As a result of the failed test, the well was immediately shut-in. After review, it was determined that the well will be plugged and abandoned due to age, cost to repair, and low deliverability (See attached Plugging Procedure and Schematics). The estimated completion date for this project is September 2018. This P&A will also be included in the 2018 Plan of Operations.

*Please note that well will remain shut-in until P&A

INT TO PA 3m.
P&A NR _____
P&A R _____

SEE ATTACHED FOR CONDITIONS OF APPROVAL

RECLAMATION PROCEDURE ATTACHED

Below ground level dry hole marker required

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)* Nick Nicodemus — Title Director, Land & Regulatory Affairs

Signature — Date 11/17/2017

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by James A. Amos — Title Supv. PET — Date 1-23-18

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. — Office Carlsbad

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

MLB/OCD 2/5/2018

GRM UNIT #4 Plugging Procedure

1. Set cement retainer by wireline at 12,770' MD. Pressure test CMT RET to 2,000 psi for 30 minutes. Squeeze Morrow perfs with 100 sx Class H cement & place 50' cement on top.

2. Place 156 sx Class H balanced cement plug from 11,500' to 12,720' MD. Tag & record. Pressure test plug to 1,000 psi for 30 min on chart. Circulate 550 bbl of 9.0 ppg salt gel mud into well bore. Add plug T/Wolfcamp - spot plug from 11,410 - 11,280
Perf. @ 8400 SQZ cmt to 8220 - 8400

3. ~~Place 60 sx~~ Class H balanced cement plug from ~~8,000~~ to ~~8,220~~' MD. Tag TOC & record. Pressure test plug to 1,000 psi for 30 minutes on chart.

4. Perforate 7-5/8" casing at 5,811' MD and squeeze with 100 sx Class C cement. Tag TOC and record. Pressure test plug to 500 psi for 30 minutes on chart. Tag no lower than 5560. (Del & Shoe)

5. Perforate at 1,800' MD and cement squeeze with 100 sx Class C cement. Displace cement from 1,600' to 1,800' MD. Tag TOC and record. Pressure test plug to 500 psi for 30 minutes on chart. Deep penetrating shots to perf both 7 5/8 & 10 3/4.

6. Perforate at ~~430~~ 380' MD. Circulate and place 210 sx Class C cement inside 7-5/8" csg and 7-5/8" by 10-3/4" annulus. TOC to 5' BGL. Tag TOC and record.
2nd 10 3/4" x 16" ANNULUS (MW)

7. Mechanical cut 7-5/8" csg and 10-3/4" csg @ 5' BGL, cut off well head and anchors @ 3' BGL, install ID plate and well marker.

Add plug (Yates) Perf both 7 5/8" and 10 3/4" (deep penetrating shots) SQZ cmt in/out both from 3964 - 3824. WOC Tag.

Enstor	Field: Grama Ridge Morrow	WELL	04
	Lease/County: GRM UNIT/Lea County	DATE	11/13/2017
	Location: F Unit, Section 4, Township 22S, Range 34E	API #:	30-025-21334
DRAWING STATUS	Proposed P&A	DRAWING BY	M. Morris– Production Engr.

RKB	15'/3,645'
Annular Fluid	9.0 ppg salt gel
Elev	3,630'
Top tree flange	7-1/16"x5M

16" 65# @ 330' in 20" hole
CTOC @ surface

MASP: 5,100 psi
BHP: 4,600 psi
BHT-177 F
Annulus pressure – 3,400 psi

Perf, Both. 7⅝ & 10¾

Perforate @ 1,800' MD & cement squeeze with 100 sx Class C cement. Displace cement from 1,600-1,800' MD. Tag TOC and record. Pressure test plug to 500 psi for 30 Min on chart.

Add plug Perf @ 3964, Sqz cmt to 3824, Tag

Perforate at 5,811' MD & squeeze with 100 sx Class C cement. Tag TOC and record. Pressure test plug to 500 psi for 30 minutes on chart WOC Tag @ 5560 (Del)

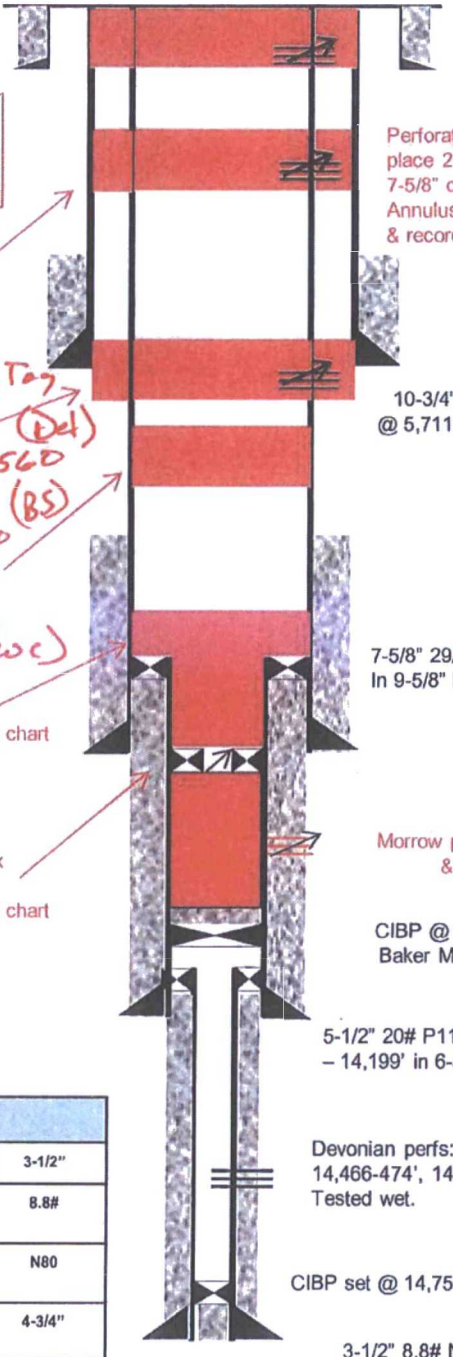
Perf @ 8400 SQZ Cmt To 8220 - 8400 (BS)

Place 60 sx Class H balanced cement plug from 8,000 – ~~8,220'~~ Tag TOC & record. Pressure test plug to 1,000 psi for 30 minutes on chart

Add Plug From 11,410 - 11200 (WC)

Place 156 sx Class H balanced plug from 11,500 to 12,720' MD Tag TOC and record. Pressure test plug to 1,000 psi for 30 min on chart Circulate 550 bbl 9.0 ppg salt gel into well bore.

Cement retainer set @ 12,770' MD. Squeeze Morrow with 100 sx Class H cement. Place 50' cement on top (6 sx of Class H). TOC @ 12,720' MD. Pressure test to 1,000 psi for 30 minutes on chart



Cut off casing @ 5' BGL. Cut off well head & anchors 3' BGL. Install well marker & ID plate

Perforate @ ~~430~~ 330' MD. Circulate & place 210 sxs Class C cmt inside 7-5/8" csg & 7-5/8" by 10-3/4" Annulus. TOC to 5' BGL. Tag TOC & record

10-3/4" 51/51# N80/J55 csg set @ 5,711' in 15" hole, TOC @ 3,445'

7-5/8" 29/34# N80/P110 @ 11,895' In 9-5/8" hole, TOC @ 10,230'

Morrow perfs: 12,873' – 12,903' & 13,093'-13,111'

CIBP @ 13,500' w/ cmt on top
Baker Model F pkr @ 13,386'

5-1/2" 20# P110 Liner from 11,639' – 14,199' in 6-5/8" hole.

Devonian perfs: 14,424-429', 14,440-460', 14,466-474', 14,544-550', & 14,562-570' MD Tested wet.

CIBP set @ 14,750' MD

3-1/2" 8.8# N80 Hydril liner f/ 13,859' – 14,870' in 4-3/4" hole

TD 14,870' RKB
PBTD: 13,280'

Casing Information					
Size	16"	10-3/4"	7-5/8"	5-1/2"	3-1/2"
Weight	65"	51/55#	29/34#	20#	8.8#
Grade/ Thrd		N80/J55	N80 P110	P110	N80
Hole Size	20"	15"	9-5/8"	6-5/8"	4-3/4"
Depth	300'	5,711'	11,895'	11,639-14,199'	13,859-14,870'
CMT	400 sx	1,000 sx	500 sx	305 sx	100 sx
TOC	Surface	3,455' ETOC Temp	10,230' Temp	TOL	TOL

Fracture Stimulation: On 11/16/2005 BJ conducted frac w/ 39,247 gal gelled water & 25,815# of 20/40 resin coated carboline into perfs @ 20 BPM. On 11/18/2005 BJ Conducted frac w/ 43,447 gal of gelled water and 17,528# of 20/40 resin coated carbolate into perfs @ 23 BPM

Enstor	Field: Grama Ridge Morrow	WELL	04
	Lease/County: GRM UNIT/Lea County	DATE	07/28/2017
	Location: F Unit, Section 4, Township 22S, Range 34E	API #:	30-025-21334
DRAWING STATUS	Current	DRAWING BY	M. Morris– Production Engr.

+/- RKB	15'/3,645'
Annular Fluid	9.0 ppg 2% KCL
+/- Elev	3,630'
Top tree flange	7-1/16"x5M

16" 65# @ 330' in 20" hole
CTOC @ surface,

SITP: 2,300 on 04/05/2014
SICP: 3,400 psi
MASP: 5,100 psi
BHP: 4,600 psi
BHT-177 F
Annulus pressure – 3,400 psi

10-3/4" 51/51# N80/J55 csg set @ 5,711' in 15" hole, TOC @ 3,445'

Baker Micorvertilog indicated 71% DOP at 7,216' WLM. Reduced burst Strength of 7-5/8" csg is 1,998 psi

Vertilog indicated 98% DOP @ 11,272'. Reduced burst strength of 7-5/8" csg Is 138 psi. TOC @ 10,230' MD

7-5/8" 29/34# N80/P110 @ 11,895' In 9-5/8" hole, TOC @ 10,230'

On 06/15/2017 Schlumberger Noise/Temp log indicated Baker Model F packer leak at 12,759'. On 06/20/2017 braden head test failed due to communication between tubing and annulus. On 06/21/2017 NMOCD issued Letter of Violation & Shut-in Notice. NMOCD well repair due date: 09/23/2017

On 11/04/2005 Vertilog indicated 100% DOP at 12,557' and 100% DOP at 12,623'. On 06/13/2017, EMIT-XL indicated 40% wall loss at 12,575'. Reduced burst strength of 5-1/2" 20# csg Is 7,584 psi.

Vertilog indicated 39% DOP at 12,798' WLM and EMIT-XL indicated 23% wall loss at 12,775' WLM. Reduced burst strength of 5-1/2" 20# Csg is 9,732 psi.

TUBING		
OD	5-1/2"	3-1/2"
PPF	20#	9.2#
Grd	Q-125	L-80
Thrd	ANJO	Ultra FJ
ID	4.778"	2.992"
Depth	11,552'	12,792'

Enstor WO on 10/08/2006-03/06/2006: 1-1/4" coiled tbg washed and milled to 13,000'. Impression blk indicated partial collapse csg. 1-1/2" CT washed to 13,211' CTM. CT jetted dry at 12,750'.

Baker Model F pkr set @ 12,795' w/ 35K# of compression

Morrow perfs: 12,873' – 12,903' & 13,093'-13,111'

CIBP @ 13,500' w/ cmt on top
Baker Model F pkr @ 13,386'

5-1/2" 20# P110 Liner from 11,639' – 14,199' in 6-5/8" hole.

Devonian perfs: 14,424-429', 14,440-460', 14,466-474', 14,544-550', & 14,562-570' MD Tested wet.

CIBP set @ 14,750' MD

3-1/2" 8.8# N80 Hydril liner f/ 13,859' – 14,870' in 4-3/4" hole

TD 14,870' RKB
PBTD: 13,280'

Casing Information					
Size	16"	10-3/4"	7-5/8"	5-1/2"	3-1/2"
Weight	65"	51/55#	29/34#	20#	8.8#
Grade/ Thrd		N80/J55	N80 P110	P110	N80
Hole Size	20"	15"	9-5/8"	6-5/8"	4-3/4"
Depth	300'	5,711'	11,895'	11,639-14,199'	13,859-14,870'
CMT	400 sx	1,000 sx	500 sx	305 sx	100 sx
TOC	Surface	3,455' ETOC Temp	10,230' Temp	TOL	TOL

Fracture Stimulation: On 11/16/2005 BJ conducted frac w/ 39,247 gal gelled water & 25,815# of 20/40 resin coated carboline into perfs @ 20 BPM. On 11/18/2005 BJ Conducted frac w/ 43,447 gal of gelled water and 17,528# of 20/40 resin coated carbolate into perfs @ 23 BPM

BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 East Greene Street
Carlsbad, New Mexico 88220
575-234-5972

Permanent Abandonment of Federal Wells
Conditions of Approval (LPC Habitat)

Failure to comply with the following Conditions of Approval may result in a Notice of Incidents of Noncompliance (INC) in accordance with 43 CFR 3163.1.

1. Plugging operations shall commence within **ninety (90)** days from the approval date of this Notice of Intent to Abandon.

If you are unable to plug the well by the 90th day provide this office, prior to the 90th day, with the reason for not meeting the deadline and a date when we can expect the well to be plugged. Failure to do so will result in enforcement action.

The rig used for the plugging procedure cannot be released and moved off without the prior approval of the authorized officer. Failure to do so may result in enforcement action.

2. Notification: **Contact the appropriate BLM office at least 24 hours prior to the commencing of any plugging operations. For wells in Chaves and Roosevelt County, call 575-627-0272; Eddy County, call 575-361-2822; Lea County, call 575-393-3612.**

3. Blowout Preventers: A blowout preventer (BOP), as appropriate, shall be installed before commencing any plugging operation. The BOP must be installed and maintained as per API and manufacturer recommendations. The minimum BOP requirement is a 2M system for a well not deeper than 9,090 feet; a 3M system for a well not deeper than 13,636 feet; and a 5M system for a well not deeper than 22,727 feet.

4. Mud Requirement: Mud shall be placed between all plugs. Minimum consistency of plugging mud shall be obtained by mixing at the rate of 25 sacks (50 pounds each) of gel per 100 barrels of brine water. Minimum nine (9) pounds per gallon.

5. Cement Requirement: Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours.

In lieu of a cement plug across perforations in a cased hole (not for any other plugs), a bridge plug set within 50 feet to 100 feet above the perforations shall be capped with 25 sacks of cement. If a bailer is used to cap this plug, 35 feet of cement shall be sufficient. **Before pumping or bailing cement on top of CIBP, tag will be required to verify depth. Based on depth, a tag of the cement may be deemed necessary.**

Unless otherwise specified in the approved procedure, the cement plug shall consist of either Neat Class "C", for up to 7,500 feet of depth or Neat Class "H", for deeper than 7,500 feet plugs.

6. Below Ground Level Cap (Lesser Prairie-Chicken Habitat): All casing shall be cut-off at the base of the cellar or 3 feet below final restored ground level (whichever is deeper). **The BLM is to be notified a minimum of 4 hours prior to the wellhead being cut off to verify that cement is to surface in the casing and all annuluses. Wellhead cut off shall commence within ten (10) calendar days of the well being plugged. If the cut off cannot be done by the 10th day, the BLM is to be contacted with justification to receive an extension for completing the cut off.** Upon the plugging and subsequent abandonment of wells that are located in lesser prairie-chicken habitat, the casings shall be cut-off at the base of the cellar or 3 feet below final restored ground level (whichever is deeper). The well bore shall then be covered with a metal plate at least ¼ inch thick and welded in place. A weep hole shall be left in the plate and/or casing.

NMOCD also requires the operator to notify NMOCD when this type of dry hole marker is used. This can be done on the subsequent report of abandonment which is submitted to the BLM after the well is plugged. State that a below ground cap was installed as required in the COA's from the BLM.

7. Subsequent Plugging Reporting: Within 30 days after plugging work is completed, file one original and three copies of the Subsequent Report of Abandonment, Form 3160-5 to BLM. The report should give in detail the manner in which the plugging work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. **Show date well was plugged.**

8. Trash: All trash, junk and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

Following the submission and approval of the Subsequent Report of Abandonment, surface restoration will be required. See attached reclamation objectives.

Timing Limitation Stipulation/ Condition of Approval for Lesser Prairie-Chicken:
From March 1st through June 15th annually, abandonment activities will be allowed except between the hours from 3:00 am and 9:00 am. Normal vehicle use on existing roads will not be restricted

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 E. Greene St.
Carlsbad, New Mexico 88220-6292
www.blm.gov/nm

TAKE PRIDE® IN AMERICA

In Reply Refer To: 1310

Reclamation Objectives and Procedures

Reclamation Objective: Oil and gas development is one of many uses of the public lands and resources. While development may have a short- or long-term effect on the land, successful reclamation can ensure the effect is not permanent. During the life of the development, all disturbed areas not needed for active support of production operations should undergo "interim" reclamation in order to minimize the environmental impacts of development on other resources and uses. At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land and water are restored.

The long-term objective of final reclamation is to set the course for eventual ecosystem restoration, including the restoration of the natural vegetation community, hydrology, and wildlife habitats. In most cases this means returning the land to a condition approximating or equal to that which existed prior to the disturbance. The final goal of reclamation is to restore the character of the land and water to its pre-disturbance condition. The operator is generally not responsible for achieving full ecological restoration of the site. Instead, the operator must achieve the short-term stability, visual, hydrological, and productivity objectives of the surface management agency and take steps necessary to ensure that long-term objectives will be reached through natural processes.

To achieve these objectives, remove any and all contaminants, scrap/trash, equipment, pipelines and powerlines. Strip and remove caliche, contour the location to blend with the surrounding landscape, re-distribute the native soils, provide erosion control as needed, rip and seed as specified in the original APD COA. This will apply to well pads, facilities, and access roads. Barricade access road at the starting point. If reserve pits have not reclaimed due to salts or other contaminants, submit a plan for approval, as to how you propose to provide adequate restoration of the pit area.

1. The Application for Permit to Drill or Reenter (APD, Form 3160-3), Surface Use Plan of Operations must include adequate measures for stabilization and reclamation of disturbed lands. Oil and Gas operators must plan for reclamation, both interim and final, up front in the APD process as per Onshore Oil and Gas Order No. 1.

2. For wells and/or access roads not having an approved plan, or an inadequate plan for surface reclamation (either interim or final reclamation), the operator must submit a proposal describing the procedures for reclamation. For interim reclamation, the appropriate time for submittal would be when filing the Well Completion or Recompletion Report and Log (Form 3160-4). For final reclamation, the appropriate time for submittal would be when filing the Notice of Intent, or the Subsequent Report of Abandonment, Sundry Notices and Reports on Wells (Form 3160-5). Interim reclamation is to be completed within 6 months of well completion, and final reclamation is to be completed within 6 months of well abandonment.

3. The operator must file a Subsequent Report Plug and Abandonment (Form 3160-5) following the plugging of a well.

4. Previous instruction had you waiting for a BLM specialist to inspect the location and provide you with reclamation requirements. If you have an approved Surface Use Plan of Operation and/or an approved Sundry Notice, you are free to proceed with reclamation as per approved APD. If you have issues or concerns, contact a BLM specialist to assist you. It would be in your interest to have a BLM specialist look at the location and access road prior to the removal of reclamation

equipment to ensure that it meets BLM objectives. Upon conclusion submit a Form 3160-5, Subsequent Report of Reclamation. This will prompt a specialist to inspect the location to verify work was completed as per approved plans.

5. The approved Subsequent Report of Reclamation will be your notice that the native soils, contour and seedbed have been reestablished. If the BLM objectives have not been met the operator will be notified and corrective actions may be required.

6. It is the responsibility of the operator to monitor these locations and/or access roads until such time as the operator feels that the BLM objective has been met. If after two growing seasons the location and/or access roads are not showing the potential for successful revegetation, additional actions may be needed. When you feel the BLM objectives have been met submit a Final Abandonment Notice (FAN), Form 3160-5, stating that all reclamation requirements have been achieved and the location and/or access road is ready for a final abandonment inspection.

7. At this time the BLM specialist will inspect the location and/or access road. If the native soils and contour have been restored, and the revegetation is successful, the FAN will be approved, releasing the operator of any further liability of the location and/or access road. If the location and/or access road have not achieved the objective, you will be notified as to additional work needed or additional time being needed to achieve the objective.

If there are any questions, please feel free to contact any of the following specialists:

Jim Amos
Supervisory Petroleum Engineering Tech
575-234-5909, 575-361-2648 (Cell)

Arthur Arias
Environmental Protection Specialist
575-234-6230

Henryetta Price
Environmental Protection Specialist
575-234-5951

Shelly Tucker
Environmental Protection Specialist
575-234-5979

Trishia Bad Bear, Hobbs Field Station
Natural Resource Specialist
575-393-3612