

**STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES  
OIL CONSERVATION DIVISION**

**APPLICATION OF CATENA RESOURCES  
OPERATING, LLC TO AMEND ORDER NO.  
R-21492, LEA COUNTY, NEW MEXICO.**

**CASE NO. 22718  
ORDER NO. R-21492  
(Re-Open Case No. 21459)**

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Compulsory Pooling Checklist for Case No. 22718

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A-2	C102s for Wells
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A-4	Sample Well Proposal Letter and AFEs
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**COMPULSORY POOLING APPLICATION CHECKLIST****ALL INFORMATION IN THE APPLICATION MUST BE SUPPORTED BY SIGNED AFFIDAVITS**

<b>Case No.:</b>	<b>22718</b>
<b>Hearing Date:</b>	<b>5/5/2022</b>
Applicant	Catena Resources Operating, LLC
Designated Operator & OGRID	328449
Applicant's Counsel	Hinkle Shanor LLP
Case Title	Application of Catena Resources Operating, LLC for Compulsory Pooling, Lea County, New Mexico
Entries of Appearance/Intervenors	COG Operating LLC
Well Family	Mariner
<b>Formation/Pool</b>	
Formation Name(s) or Vertical Extent	Wolfcamp
Primary Product (Oil or Gas)	Oil
Pooling this vertical extent	Wolfcamp Formation
Pool Name and Pool Code	Scharb; Wolfcamp (55640)
Well Location Setback Rules	Standard
Spacing Unit Size	320
<b>Spacing Unit</b>	
Type (Horizontal/Vertical)	Horizontal
Size (Acres)	320
Building Blocks	quarter-quarter
Orientation	North/South
Description: TRS/County	W/2 E/2 of Sections 6 and 7, Township 19 South, Range 35 East, Lea County, NM
Standard Horizontal Well Spacing Unit (Y/N), If No, describe	Yes
<b>Other Situations</b>	
Depth Severance: Y/N. If yes, description	No
Proximity Tracts: If yes, description	No
Proximity Defining Well: if yes, description	No
<b>Well(s)</b>	
Name & API (if assigned), surface and bottom hole location, footages, completion target, orientation, completion status (standard or non-standard)	Add wells as needed
Well #1	Mariner W2E2 06 07 W1 State Com 1H (API # pending) SHL: 422' FNL & 2329' FEL, Unit B, Section 18, T19S-R35E BHL: 100' FNL & 1980' FEL, Unit B, Section 6, T19S-R35E Completion Target: Wolfcamp (Approx. 10,870' TVD) Well Orientation: South to North
Horizontal Well First and Last Take Points	Exhibit A-2
Completion Target (Formation, TVD and MD)	Exhibit A-4
<b>AFE Capex and Operating Costs</b>	
Drilling Supervision/Month \$	\$8,500.00
Production Supervision/Month \$	\$850.00
Justification for Supervision Costs	Exhibit A
Requested Risk Charge	200%
<b>Notice of Hearing</b>	
Proposed Notice of Hearing	Exhibit C-1
Proof of Mailed Notice of Hearing (20 days before hearing)	Exhibit C-1, C-2

Proof of Published Notice of Hearing (10 days before hearing)	Exhibit C-3
<b>Ownership Determination</b>	
Land Ownership Schematic of Spacing Unit	Exhibit A-3
Tract List (including lease numbers & owners)	Exhibit A-3
Pooled Parties (including ownership type)	Exhibit A-3
Unlocatable Parties to be Pooled	None
Ownership Depth Severance (including percentage above & below)	N/A
<b>Joinder</b>	
Sample Copy of Proposal Letter	Exhibit A-4
List of Interest Owners (ie Exhibit A of JOA)	Exhibit A-3
Chronology of Contact with Non-Joined Working Interests	Exhibit A-5
Overhead Rates In Proposal Letter	N/A
Cost Estimate to Drill and Complete	Exhibit A-4
Cost Estimate to Equip Well	Exhibit A-4
Cost Estimate for Production Facilities	Exhibit A-4
<b>Geology</b>	
Summary (including special considerations)	Exhibit B
Spacing Unit Schematic	Exhibit B-2
Gross Isopach	Exhibit B-5
Well Orientation (with rationale)	Exhibit B
Target Formation	Exhibit B
HSU Cross Section	Exhibit B-4
Depth Severance Discussion	N/A
<b>Forms, Figures and Tables</b>	
C-102	Exhibit A-2
Tracts	Exhibit A-3
Summary of Interests, Unit Recapitulation (Tracts)	Exhibit A-3
General Location Map (including basin)	Exhibit B-2
Well Bore Location Map	Exhibit B-2
Structure Contour Map - Subsea Depth	Exhibit B-3
Cross Section Location Map (including wells)	Exhibit B-3
Cross Section (including Landing Zone)	Exhibit B-4
<b>Additional Information</b>	
<b>CERTIFICATION: I hereby certify that the information provided in this checklist is complete and accurate.</b>	
<b>Printed Name</b> (Attorney or Party Representative):	Dana S. Hardy
<b>Signed Name</b> (Attorney or Party Representative):	/s/ Dana S. Hardy
<b>Date:</b>	5/3/2022

**STATE OF NEW MEXICO  
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**APPLICATION OF CATENA RESOURCES  
OPERATING, LLC TO AMEND ORDER NO. R-  
21492, LEA COUNTY, NEW MEXICO.**

**CASE NO. 22718  
ORDER NO. R-21492  
(Re-Open Case No. 21459)**

**SELF-AFFIRMED STATEMENT  
OF CATO CLARK**

1. I am the Vice President of Land at Catena Resources Operating, LLC (“Catena”) and am over 18 years of age. I have personal knowledge of the matters addressed herein and am competent to provide this Self-Affirmed Statement. I have previously testified before the New Mexico Oil Conservation Division (“Division”) and my credentials as an expert in petroleum land matters were accepted and made a matter of record.

2. I am familiar with the land matters involved in the above-referenced case. Copies of the application and hearing notice are attached hereto as **Exhibit A-1**.

3. None of the parties proposed to be pooled in this case indicated opposition to this matter proceeding by affidavit, therefore I do not expect any opposition at hearing.

4. On October 13, 2020, the Division entered Order No. R-21492 (“Order”) in Case No. 21459, which pooled all uncommitted interests in the Wolfcamp formation underlying a 640-acre, more or less, standard horizontal spacing unit comprised of the E/2 of Sections 6 and 7, Township 19 south, Range 35 East, NMPM, Lea County (“Unit”). The Order further dedicated the Unit to the Mariner 193507 1H Well, to be drilled from a surface hole location in Unit A of Section 18 to a bottom hole location in Lot 1 of Section 6; and designated Applicant as operator of the Unit and the Mariner 193507 1H Well.

5. Catena subsequently sought an extension of time to commence drill the Well until October 13, 2022, which was approved by Order No. R-21492-A.

6. Since Order No. R-21492 was issued, Catena has revised its development plans and seeks to amend the Unit so that it consists of a 320-acre, more or less, standard horizontal spacing unit comprised of the W/2 E/2 of Sections 6 and 7, Township 19 South, Range 35 East in Lea County. Applicant seeks to dedicate this spacing unit to the proposed Mariner W2 E2 06 07 W1 State Com 1H well (the "Well"), which will be horizontally drilled from a surface location in the NW/4 NE/4 (Unit B) of Section 18 to a bottom hole location in the NW/4 NE/4 (Unit B) of Section 6.

7. Since Order No. R-21492 was entered, Catena has also identified additional interest owners whose interest should be pooled under the terms of the Order.

8. **Exhibit A-2** contains the C-102 for the Well.

9. **Exhibit A-3** contains a plat identifying ownership by tract in the Unit. This exhibit also includes any applicable lease numbers, unit recapitulation, and identifies the additional uncommitted interests to be pooled under the terms of Order No. R-21492.

10. **Exhibit A-4** is the well proposal letter and AFE sent to the additional interest owners to be pooled under the terms of Order No. R-21492.

11. Catena has conducted a diligent search of all public records in Lea County, including phone directories and computer databases.

12. All interest owners Catena seeks to pool are locatable.

13. In my opinion, Catena made a good-faith effort to reach voluntary joinder of uncommitted interests in the Well as indicated by the chronology of contact described in **Exhibit A-5**.

14. Catena requests overhead and administrative rates of \$8,500 per month while the Well is being drilled and \$850 per month while the Well is producing. These rates are fair and are comparable to the rates charged by Catena and other operators in the vicinity.

15. In my opinion, the granting of Catena's application would serve the interests of conservation and the prevention of waste.

16. The attached exhibits attached were either prepared by me or under my supervision or were compiled from company business records.

17. I understand that this Self-Affirmed Statement will be used as written testimony in this case. I affirm that my testimony in paragraphs 1 through 18 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.



Cato Clark



Date

**STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES  
OIL CONSERVATION DIVISION**

**APPLICATION OF CATENA RESOURCES  
OPERATING, LLC TO AMEND ORDER NO. R-21492,  
LEA COUNTY, NEW MEXICO**

**Case No. 22718  
Order No. R-21492  
(Re-Open Case No. 21459)**

**APPLICATION**

Catena Resources Operating, LLC (“Applicant” or “Catena”) (OGRID No. 328449), by and through the undersigned counsel, files this application requesting that the Oil Conservation Division (“Division”) amend Order No. R-21492 (“Order”) to: (1) reduce the size of the approved horizontal spacing unit from 640-acres to 320-acres, more or less, consisting of the W/2 E/2 of Sections 6 and 7, Township 19 South, Range 35 East in Lea County; (2) amend the location of the initial well approved by the Order; and (3) pool additional interest owners under the terms of the Order. In support of its application, Catena states the following.

1. Division Order No. R-21492, entered on October 13, 2020 in Case No. 21459: pooled uncommitted mineral interests in the Wolfcamp formation underlying a 640-acre, more or less, standard horizontal spacing unit comprised of the E/2 of Sections 6 and 7, Township 19 South, Range 35 East, NMPM, Lea County (“the Unit”); dedicated the Unit to the Mariner 193507 1H Well, to be drilled from a surface hole location in Unit A of Section 18 to a bottom hole location in Lot 1 of Section 6; and designated Catena as the operator of the Unit and the well.

2. Catena subsequently sought an extension of the time to commence drilling the well until October 13, 2022, which was approved by Order No. R-21492-A.

3. Since Order No. R-21492 was issued, Catena has revised its development plans and seeks to amend the Unit so that it consists of a 320-acre, more or less, standard horizontal spacing

Catena Resources Operating, LLC  
Case No. 22718  
Exhibit A-1

unit comprised of the W/2 E/2 of Sections 6 and 7, Township 19 South, Range 35 East in Lea County. Catena seeks to dedicate this spacing unit to the proposed **Mariner W2 E2 06 07 W1 State Com 1H** well (the “Well”), which will be horizontally drilled from a surface location in the NW/4 NE/4 (Unit B) of Section 18 to a bottom hole location in the NW/4 NE/4 (Unit B) of Section 6.

4. The completed interval of the Well will be orthodox.

5. Applicant has sought and been unable to obtain voluntary agreement for the development of these lands from all interest owners in the subject Unit and therefore seeks to pool interest owners under the terms of Order No. R-21492.

6. Amending the Unit dedicated to the Well and the location of the Well, and pooling interest owners under the terms of Order No. 21492, will prevent the drilling of unnecessary wells, prevent waste, and protect correlative rights.

7. In order to allow Catena to obtain its just and fair share of the oil and gas underlying the subject lands, Order No. R-21492 should be amended as set forth above.

8. Catena requests that the other terms of Order Nos. R-21492 and R-21492-A remain in effect.

WHEREFORE, Catena requests that this application be set for hearing on May 5, 2022 and that, after notice and hearing, the Division enter an order:

A. Amending the horizontal spacing unit approved by Order No. R-21492 to consist of a 320-acre, more or less, standard horizontal spacing unit comprised of the W/2 E/2 of Sections 6 and 7 of Township 19 South, Range 35 East;

B. Amending the location of the initial well approved by Order No. R-21492; and

C. Pooling additional interest owners under the terms of Order No. R-21492.

Respectfully submitted,

HINKLE SHANOR LLP

*/s/ Dana S. Hardy* \_\_\_\_\_

Dana S. Hardy

Jaclyn M. McLean

P.O. Box 2068

Santa Fe, NM 87504-2068

Phone: (505) 982-4554

Facsimile: (505) 982-8623

dhardy@hinklelawfirm.com

jmclean@hinklelawfirm.com

*Counsel for Catena Resources Operating, LLC*

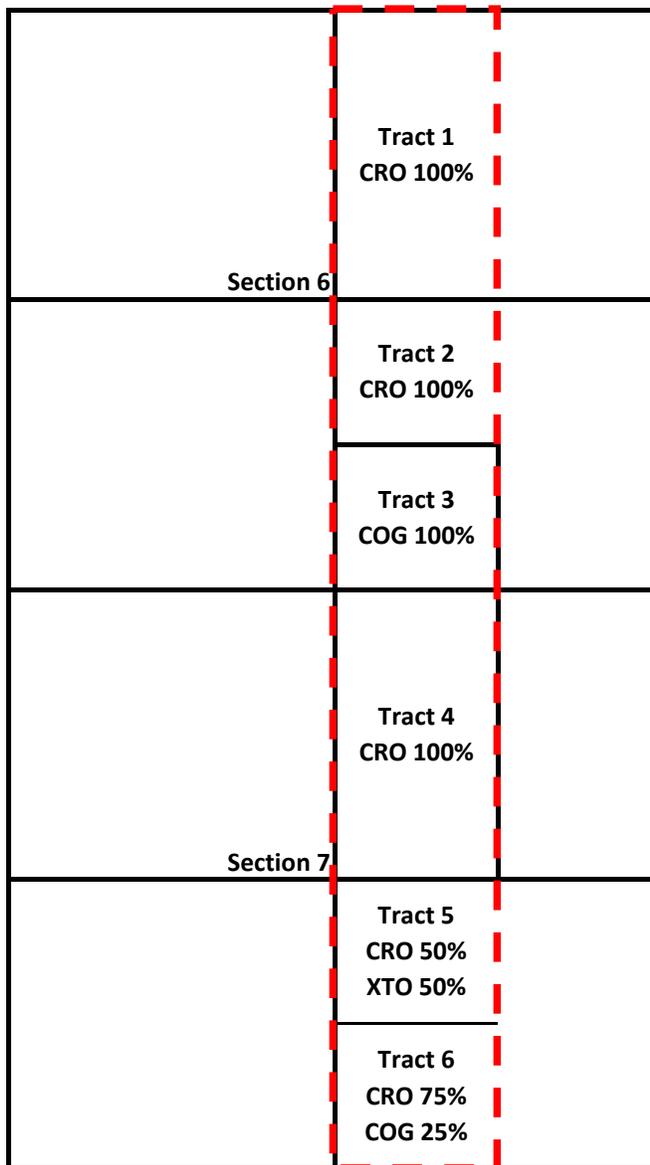
**Application of Catena Resources Operating, LLC to Amend Order No. R-21492, Lea County, New Mexico.** Order No. R-21492 issued in Case No. 21459: pooled uncommitted mineral interests in the Wolfcamp formation underlying a 640-acre, more or less, standard horizontal spacing unit comprised of the E/2 of Sections 6 and 7, Township 19 South, Range 35 East, NMPM, Lea County (“the Unit”); dedicated the Unit to the Mariner 193507 1H Well, to be drilled from a surface hole location in Unit A of Section 18 to a bottom hole location in Lot 1 of Section 6; and designated Catena as the operator of the Unit and the well. Catena seeks to: amend the Unit so that it consists of a 320-acre, more or less, standard horizontal spacing unit comprised of the W/2 E/2 of Sections 6 and 7, Township 19 South, Range 35 East in Lea County; dedicate the Unit to the proposed **Mariner W2 E2 06 07 W1 State Com 1H** well (the “Well”), which will be horizontally drilled from a surface location in the NW/4 NE/4 (Unit B) of Section 18 to a bottom hole location in the NW/4 NE/4 (Unit B) of Section 6; and pool interest owners under the terms of Order No. R-21492. The Well is located approximately 18 miles west of Hobbs.



**EXHIBIT A-3**  
**Mariner W2E2 07 06 W1 State Com 1H**  
**Proposed Wolfcamp Spacing Unit**  
**Lea County, New Mexico**  
**W2E2 Sections 6 & 7 -T19S-R35E**

Catena Resources Operating (CRO)	78.10%
<b><u>Parties to be Pooled</u></b>	
COG Operating LLC (COG)	15.65%
XTO Holdings, LLC (XTO)	6.25%
<b><u>Total</u></b>	<b><u>100.00%</u></b>

<b><u>Tracts</u></b>		
Tract 1	W/2 NE/4	Section 6
Tract 2	NW/4 SE/4	Section 6
Tract 3	SW/4 SE/4	Section 6
Tract 4	W/2 NE/4	Section 7
Tract 5	NW/4 SE/4	Section 7
Tract 6	SW/4 SE/4	Section 7



Catena Resources Operating, LLC  
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 Exhibit A-3



2/23/2022

Via Certified Mail: 9314 8699 0430 0092 2116 85

COG Operating, LLC  
 c/o ConocoPhillips  
 Attn: Baylor Mitchell  
 600 W. Illinois Ave.  
 Midland, TX 79701

RE: Mariner W2E2 06 07 W1 State Com 1H  
 W/2 E/2 Section 6 T19S R35E,  
 W/2 E/2 Section 7 T19S R35E  
 Lea County, NM

Dear Working Interest Owner,

Catena Resources Operating, LLC ("Catena") as Operator hereby proposes to drill and operate the captioned horizontal well, as further described in the enclosed AFE, (hereinafter, the "Well"):

Well Name	SHL	BHL	Target Formation	Proposed TVD	Proposed TMD
Mariner W2E2 06 07 W1 State Com 1H	420' FNL, 2330' FEL, 18-19S-35E	100' FNL, 1980' FEL, 6-19S-35E	Wolfcamp A	10,870'	22,000'

The Estimated Well Costs for the Well are \$8,694,255.00.

As an alternative to your participation, Catena proposes to acquire your interest via term assignment, subject to due diligence and title verification satisfactory to Catena, should you so elect.

In any event, Catena respectfully requests you (i) indicate your election by initialing next to one of the three (3) options on the following page, (ii) execute one copy of this letter, and (iii) in the event you elect to participate in the drilling and completion of the Well, execute one copy of the enclosed AFE, and return all of same to the undersigned at the letterhead address or the email address reflected below within 30 days of your receipt hereof. In the event of your participation, Catena will furnish a proposed joint operating agreement upon request.

Should you have any questions regarding the foregoing, please feel free to contact the undersigned at any of the points indicated below.

Best regards,

Cato Clark  
 Vice President, Land  
 Catena Resources Operating, LLC  
 1001 Fannin Street, 22<sup>nd</sup> Floor  
 Houston, TX 77002  
 Direct: 346.200.7894  
[Clark@catenares.com](mailto:Clark@catenares.com)

Catena Resources Operating, LLC

Case No. 22718

Exhibit A-4

713-429-5229

[www.catenares.com](http://www.catenares.com)  
[info@catenares.com](mailto:info@catenares.com)

1001 Fannin St.  
 22<sup>nd</sup> Floor  
 Houston, TX 77002



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BY ITS INITIALS & EXECUTION IN THE SPACE PROVIDED BELOW, THE UNDERSIGNED:

\_\_\_\_ CONSENTS TO PARTICIPATE TO THE FULL EXTENT OF ITS INTEREST IN THE PROPOSED OPERATION(S) AND BEAR ITS PROPORTIONATE SHARE OF ALL COSTS AND EXPENSES ASSOCIATED THEREWITH

OR

\_\_\_\_ DOES NOT CONSENT TO PARTICIPATE IN THE PROPOSED OPERATION(S)

OR

\_\_\_\_ REQUESTS CATENA DELIVER A TERM ASSIGNMENT FOR REVIEW AND EXECUTION

COG Operating, LLC  
c/o ConocoPhillips

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_





**Exhibit A-5**

**Catena Resources Operating, LLC – Mariner W2E2 06 07 W1 State Com 1H Discussion Timeline**

**COG Operating LLC c/o ConocoPhillips Company**

Catena Resources Operating, LLC sent original well proposals on February 23, 2022. At such time, Catena and ConocoPhillips (formerly Concho Oil & Gas) were already engaged in discussions regarding the proposed well. Catena and ConocoPhillips are in ongoing discussions on the well proposal.

**XTO Holding, LLC**

Catena Resources Operating, LLC sent original well proposals on February 23, 2022. At such time, Catena and XTO Holdings, LLC were already engaged in discussions regarding the proposed well. Catena and XTO Holdings, LLC are in ongoing discussions on the well proposal.

Catena Resources Operating, LLC  
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Exhibit A-5

**STATE OF NEW MEXICO  
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21492, LEA COUNTY, NEW MEXICO.**

**CASE NO. 22718  
ORDER NO. R-21492  
(Re-Open Case No. 21459)**

**SELF-AFFIRMED STATEMENT  
OF CATHERINE HENRY**

1. I am a geologist at Catena Resources Operating, LLC (“Catena”) and am over 18 years of age. I have personal knowledge of the matters addressed herein and am competent to provide this Self-Affirmed Statement. I have not previously testified before the New Mexico Oil Conservation Division (“Division”).

2. I have a MS in Geology and 5 years of experience in the petroleum industry. My experience has focused on well planning, well log analysis, resource development, resource mapping, and resource evaluation for horizontal development programs primarily in the Delaware, Permian, and Williston Basins. A copy of my resume is attached as **Exhibit B-1**.

3. I am familiar with the geological matters that pertain to the above-referenced case.

4. **Exhibit B-2** is a project location map that shows the location of the proposed horizontal well spacing unit.

5. Catena is targeting the Wolfcamp formation. **Exhibit B-3** is a subsea structure map that I prepared for this interval with 100-foot contours. The proposed horizontal well spacing unit is highlighted in red and the initial well is depicted with a green dashed line. Existing producing wells in the Wolfcamp formation are represented by solid orange lines. The structure map shows the Wolfcamp formation dipping to the South. The structure appears consistent across the proposed

spacing unit and I do not observe any faulting, pinch outs, or other geologic impediments to drilling horizontal wells in this area.

6. **Exhibit B-3** also shows a cross-section line in red running North to South reflecting three wells penetrating the Wolfcamp formation that I used to construct a stratigraphic cross-section from A to A'. These wells contain good logs and I consider them representative of the geology in the subject area.

7. **Exhibit B-4** is a stratigraphic cross-section that I prepared using the logs from the three wells noted on Exhibit B-3. Each well in the cross-section contains the gamma ray in the first track, and resistivity in the second track. The initial target interval is labeled and marked. The cross-section demonstrates that the targeted interval is continuous across the proposed spacing unit.

8. **Exhibit B-5** is a Gross Isopach map of the Wolfcamp formation. The proposed horizontal well spacing unit is highlighted in red and the initial well is depicted with a green dashed line. Existing producing wells in the Wolfcamp formation are represented by solid orange lines. The anticipated gross thickness of the Wolfcamp formation interval is 500 to 600 ft. The gross isopach map demonstrates that the Wolfcamp formation is present across the proposed spacing unit. The location of the previous cross-section from A-A' in Exhibit B-4 is also shown as a red line on this map.

9. In my opinion the stand-up orientation of the proposed well is the preferred orientation for horizontal well development in this area and is appropriate to efficiently and effectively develop the subject acreage.

10. Based on my geologic study, the Wolfcamp formation underlying the subject area is suitable for development by horizontal wells and the acreage comprising the proposed spacing unit will be productive and contribute proportionately to the production from the well.

11. In my opinion, the granting of Catena's application will serve the interests of conservation, the protection of correlative rights, and the prevention of waste.

12. The exhibits attached hereto were either prepared by me or under my supervision or were compiled from company business records.

13. I understand this Self-Affirmed Statement will be used as written testimony in this case. I affirm my testimony in paragraphs 1 through 12 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date identified next to my signature below.

  
Catherine Henry

  
Date

**Exhibit B-1****Catherine Elizabeth Henry**

*5+ year petroleum industry career, conventionally and unconventionally trained geologist with experience working in with both upstream and midstream businesses.*

**PROFESSIONAL EXPERIENCE****PERCUSSION PETROLEUM II, LLC & CATENA RESOURCES OPERATING, LLC – Houston, TX** **12/2021-Present****Geologist II**

- Responsible for providing geological support for horizontal drilling program
- Utilizing subsurface technical analysis to plan pad locations and development pattern well layouts for multi-bench development
- Providing subsurface analysis and guidance on SWD well locations and interval of interest

**GULF COAST SEQUESTRATION – Houston, TX****9/2021 - 11/2021****Geologist – Contract**

- Collaborated with geoscience team to accomplish near-term business needs. This included collecting and interpreting historic production data from DrillingInfo, maintaining ArcGIS project, and digitizing raster logs in Petra.
- Contributed to and analyzed the permitting process with the EPA, shallow onshore Gulf Coast geology, and the full cycle CCUS process.

**OASIS PETROLEUM – Houston, TX****2017 - 2021****Geologist II****1/2020 - 3/2021**

- Utilized SWD geologist role to de-risk inventory by identifying drill risk in core acreage areas and assisting with new casing design. This yielded program management accomplishments with significant business impact:
  - Planned and took on geological responsibilities for a 12 well drilling program
  - Successfully managed ideas across different functional groups; implemented new working standard for the organization on drilling operations through over-pressured corridors.
- Portfolio Management: risk ranked core acreage (404k net acres) at the DSU level and assigned cost with each risk tier. Resulted in capital inputs for project economics for every DSU to support corporate planning group.

**Geologist I****7/2017 - 1/2020**

- Redesigned saltwater disposal (SWD) geologist role that successfully impacted both upstream and midstream businesses.
  - Developed geologic interpretation of complex fluvial/deltaic Inyan Kara stratigraphy across Williston Basin that significantly impacted well planning and operations.
  - Collaborated with cross-functional team of reservoir and facility engineers to characterize conventional reservoir.
  - Spearheaded successful material balance and decline curve analysis to achieve pore volume of reservoir and tie back to reservoir pressure. Completed analysis of pressure fall-off tests of 10+ wells used to predict EUI of saltwater disposal wells in sand tank.
  - Responsible for scouting new SWD permits; incorporate pipeline/infrastructure and state regulations with new locations; geosteering new SWDs; assisted BD group with third party business opportunities; monitored OBO activity in the basin.
- Operations Geologist (7/2017 – 7/2018)
  - Drilled 15+ wells to completion while demonstrating ability to stay in target zone in both Bakken and Three Forks formations.
  - Generated structure and isopach maps of target formations; produced geopros for permitting.
  - Proactively communicated with drilling/execution team as well as field personnel on geohazards and target changes.
  - Partnered with completions engineers on frac recommendation design; identified geohazards in the area (Lodgepole, Pronghorn thick, offset Mission Canyon production); utilized microseismic data.

**CENTERPOINT ENERGY – Houston, TX****8/2016 - 7/2017****Project Lead – Infrastructure Data Specialist**

- Data Specialist: responsible for locating work orders for natural gas pipeline installation in the Houston area using SAP. Duties included validating pipeline attributes in ArcMap and meeting time restraints of the project.

Catena Resources Operating, LLC  
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Exhibit B-1

**Exhibit B-1****EDUCATION**

<b>MBA Candidate, Class of 2023</b> Texas A&M University Houston, TX	<b>MS in Geology, 2016</b> University of Mississippi Oxford, MS	<b>BS in Geology, 2014</b> Graduated with Honor Millsaps College, Jackson, MS
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**RELATED EXPERIENCE**

**UNIVERSITY OF MISSISSIPPI- Oxford, MS** **8/2014 - 5/2016**  
Teaching Assistant- Courses: *ArcGIS* and *Intro to Geology*

**ENERVEST, LTD. – Houston, TX** **Summer 2015; Winter 2014 - 2015**  
**Geoscience Intern**

- Completed multiple geologic projects in the Fort Worth Basin, Texas. Results yielded structure maps for the Atoka, Bend, and Marble Falls Formations, net pay maps, and cross-sections.
- Used 2D and 3D seismic profile mapping and well log correlation on IHS Kingdom (SMT) to focus on recompletion opportunities up-hole of the Barnett Shale. Project concluded production to be associated with stratigraphic traps rather than structural, with several legacy wells as recompletion candidates.

**JURA-SEACH, INC. – Jackson, MS** **Fall 2012 - Summer 2014**  
**Geoscience Intern**

- Completed multiple projects in Little Cedar Creek Field, southwest AL. Project responsibilities included 2D seismic profile mapping on Kingdom (IHS), well log correlation, core analysis, and building geological structure and stratigraphic cross-sections of the Smackover and Norphlet Formations.

**SKILLS & TRAINING**

**Software:** IHS Kingdom · Petra · ArcGIS · Spotfire · StarSteer · LatNav · DrillingInfo · Adobe Illustrator · Microsoft Office

**Nautilus Training:**

- Practical Subsurface Mapping
- Formation Evaluation: Principles and Practices
- Geophysics for Subsurface Professionals
- Low Resistivity Pay Evaluation
- Reservoir Engineering for Non-Reservoir Engineers

**In-house training: Reservoir Engineering for Non-Reservoir Engineers** **2019**

**Short Course: ExxonMobil – “Integrated Basin and Play Analysis” (IBA): AAPG/SEG Student Expo** **2015**

**In-house Franklin-Covey trainings: Social Styles & Seven Habits of Highly Effective People** **2017; 2018**

**HONORS, AWARDS & AFFILIATIONS**

**Mississippi Geological Society - Boland Scholarship Recipient** **2014**

Awarded to one student from each institution in Mississippi for hard work and dedication to the geosciences and community.

**Mississippi Academy of Science** **2014**

Best oral presentation in Geology and Geography division at the Mississippi Academy of Science Annual Meeting.

Honorable mention in the Millsaps-HHMI Undergraduate Scholars Symposium poster presentation.

**Wendell B. Johnson Memorial Award** **2013**

Awarded to a junior geology major at Millsaps College with an outstanding record of scholarship, research, and service

**Dudley Hughes Exploration Internship** **2012; 2013**

Endowment funds internships that focus on oil and gas exploration; funded internship at Jura-Search, Inc.

**American Association of Petroleum Geologists** - Member

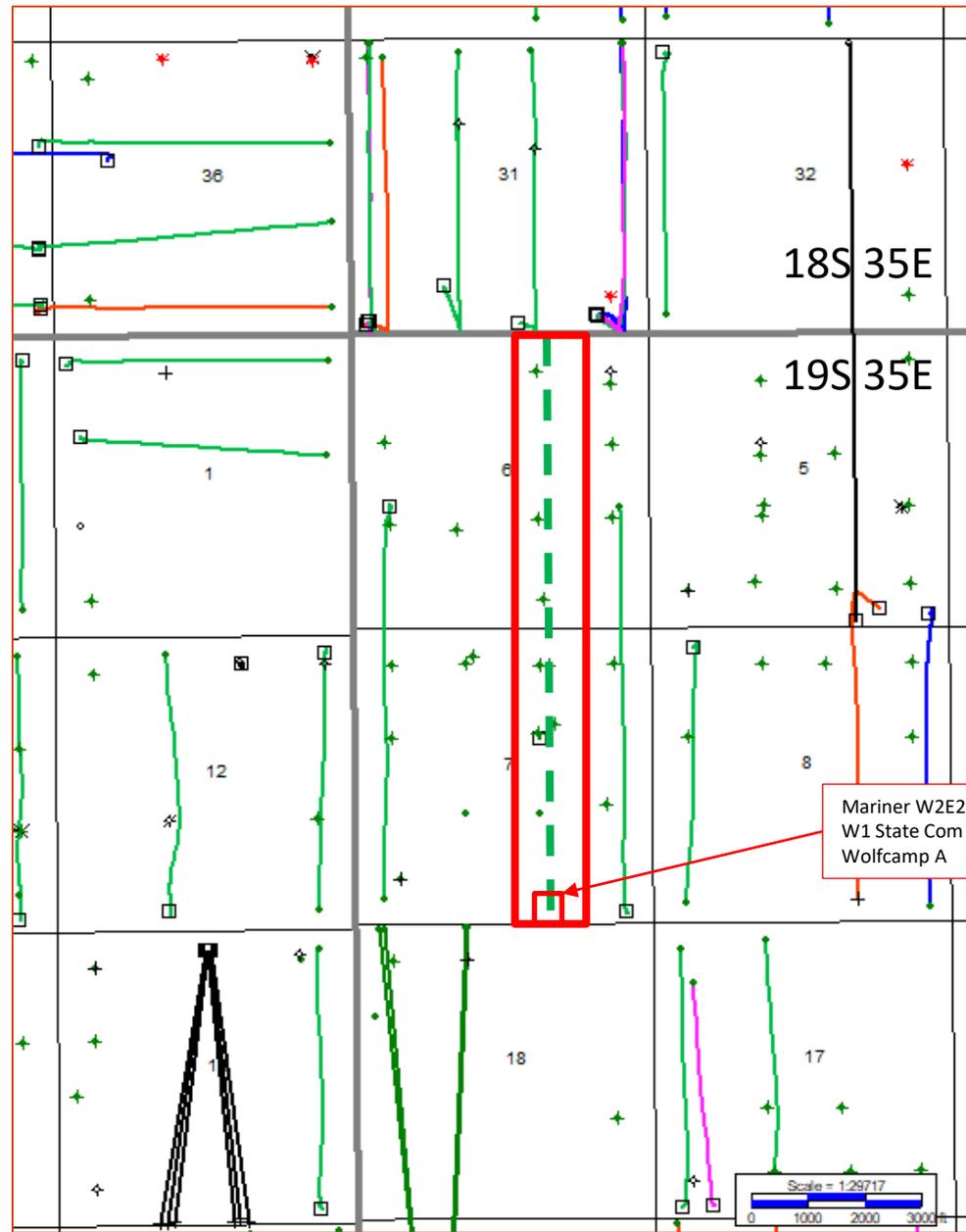
**Saint Cecilia Catholic Church** – Parishioner and LifeTeen

**Houston Geological Society** – Member

Core Team Volunteer

**Association for Women Geoscientists** -Member

Exhibit B-2: Locator Map



Mariner W2E2 7-6  
W1 State Com 1H  
Wolfcamp A

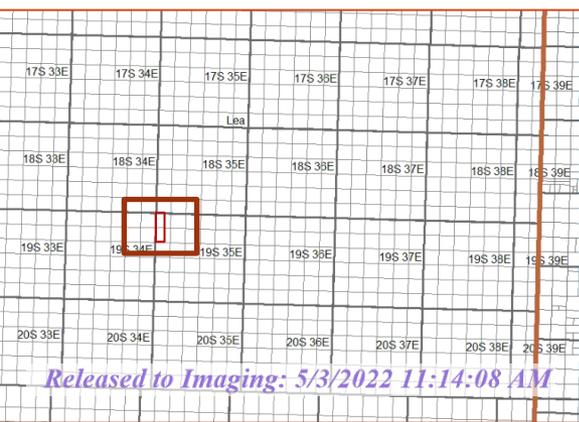
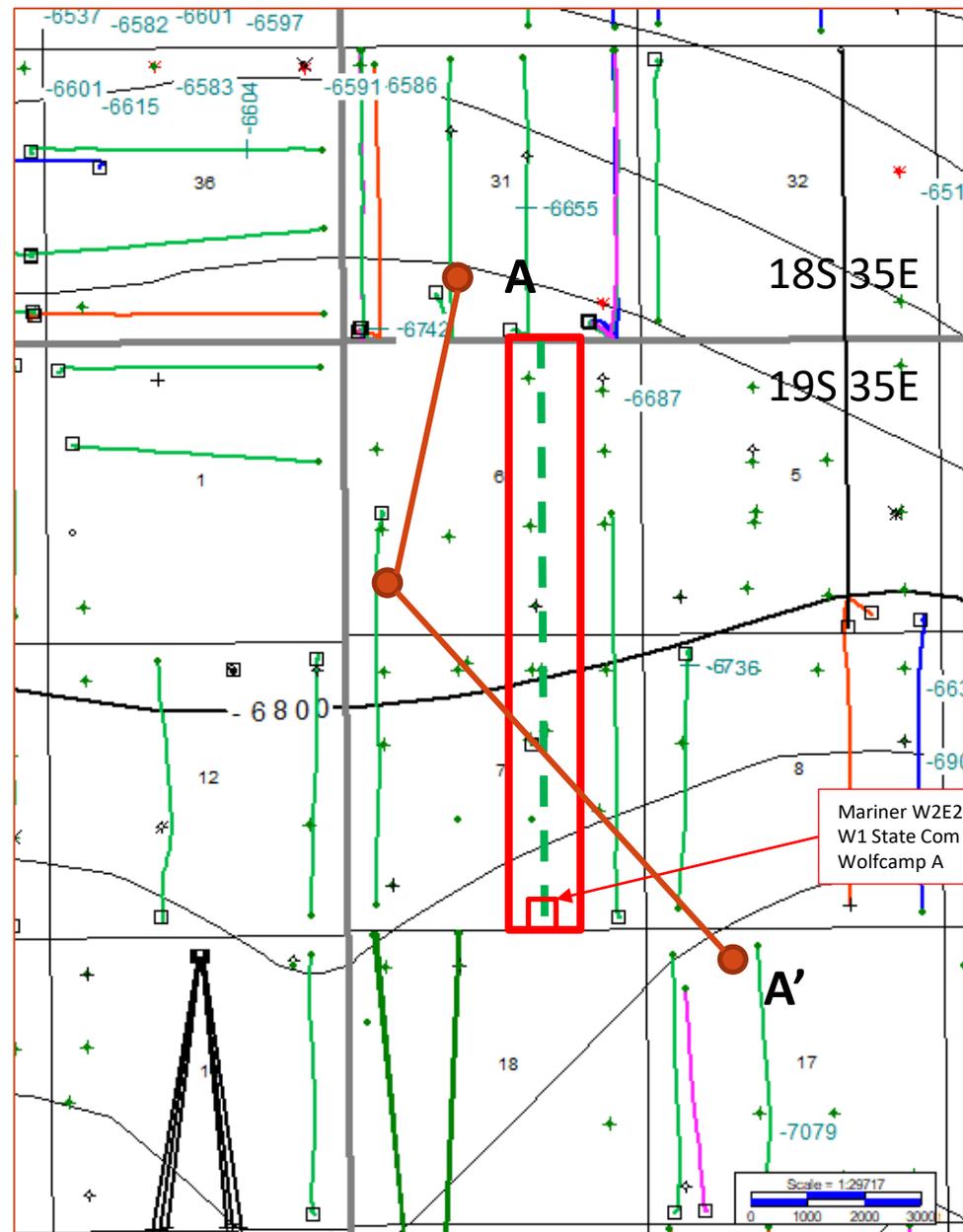
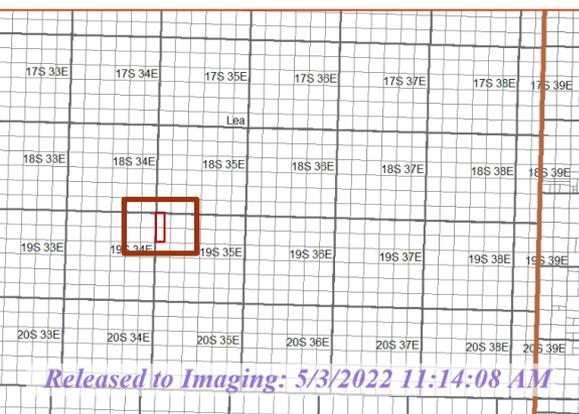


Exhibit B-3: Wolfcamp Top SSTVD



- First Bone Spring
- Second Bone Spring
- Third Bone Spring
- Wolfcamp A



Mariner W2E2 7-6  
W1 State Com 1H  
Wolfcamp A

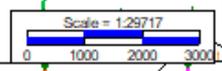
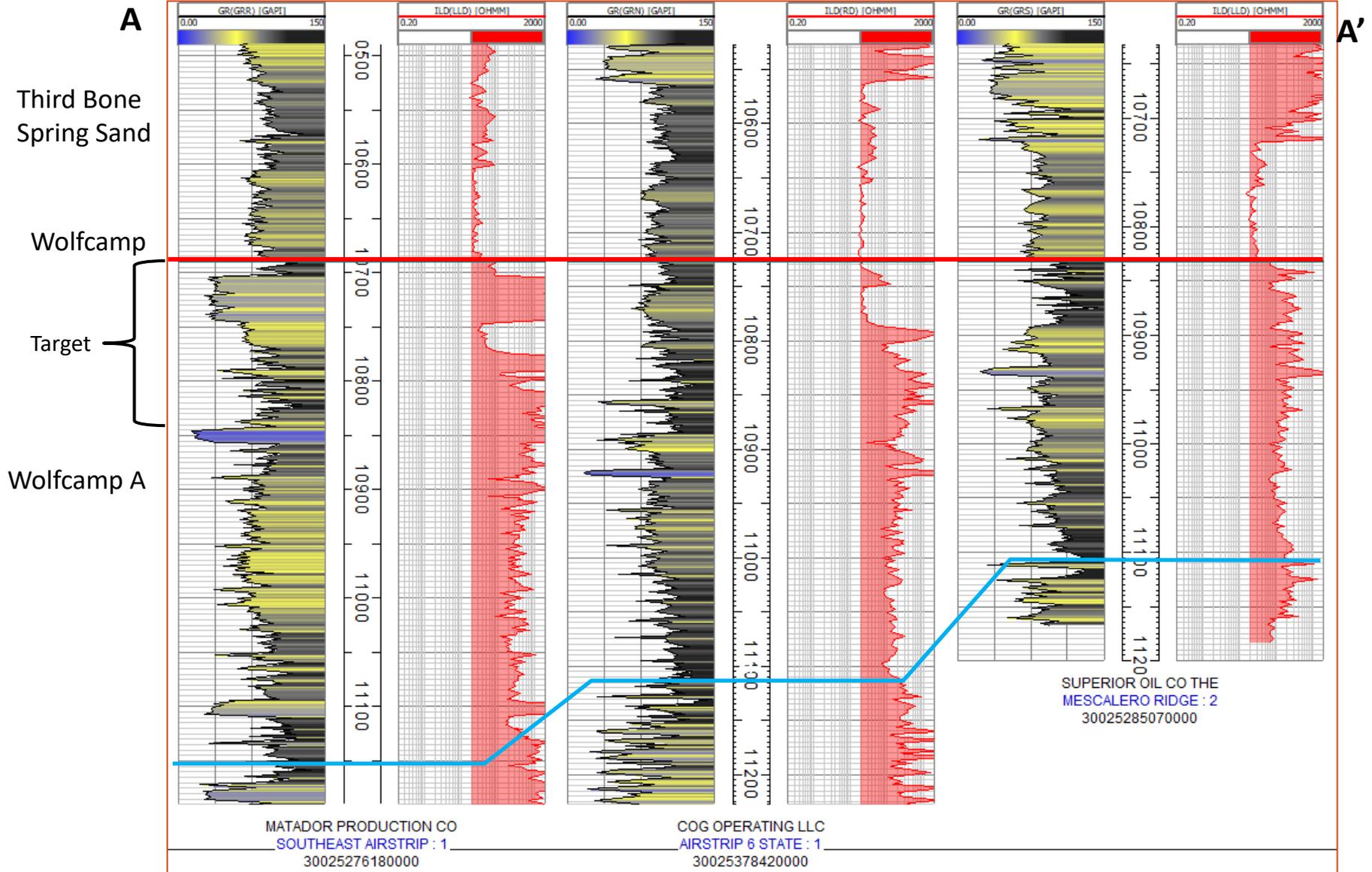
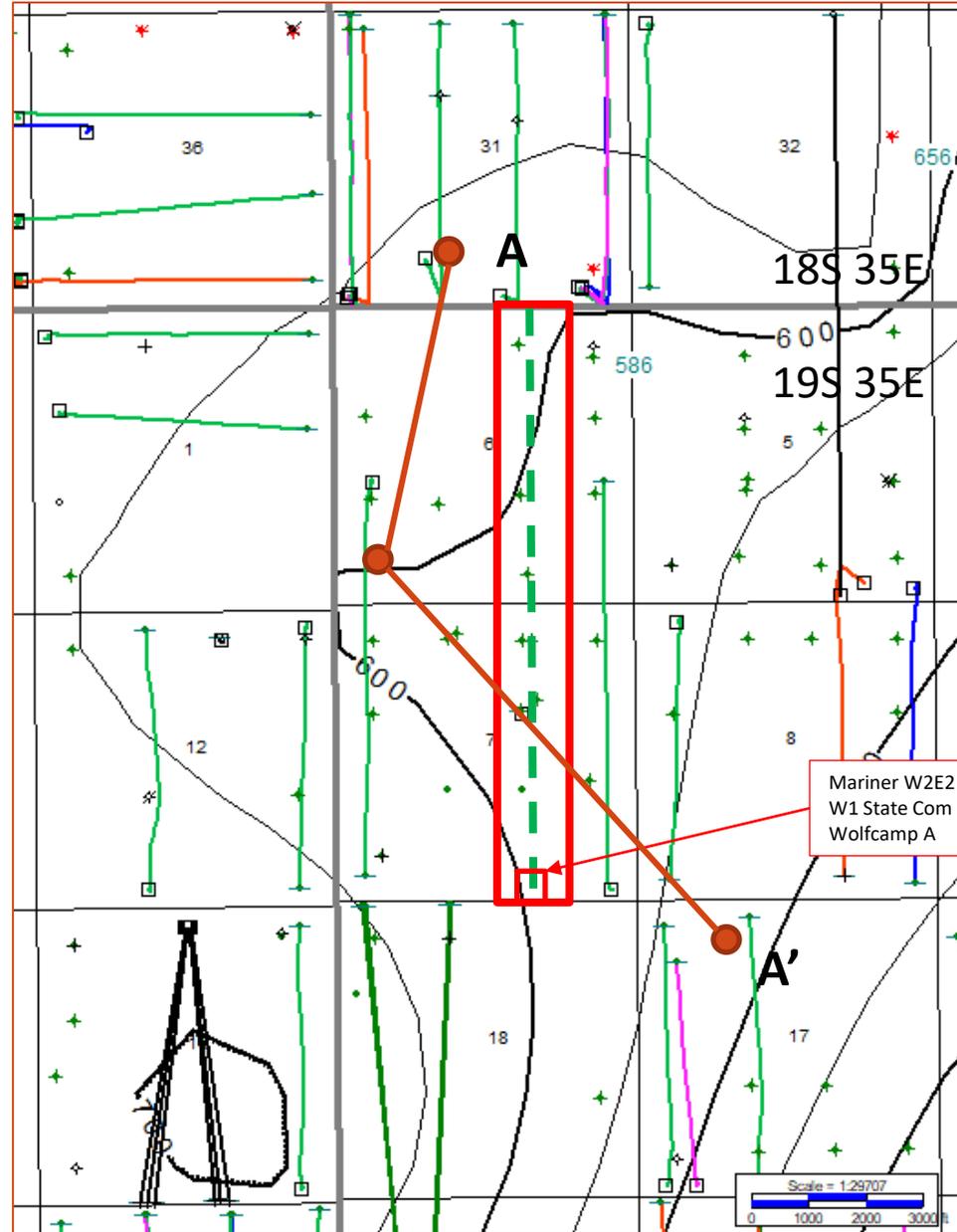


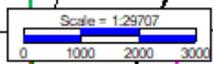
Exhibit B-4: Stratigraphic Cross section A-A' – Wolfcamp Datum

Exhibit B-4

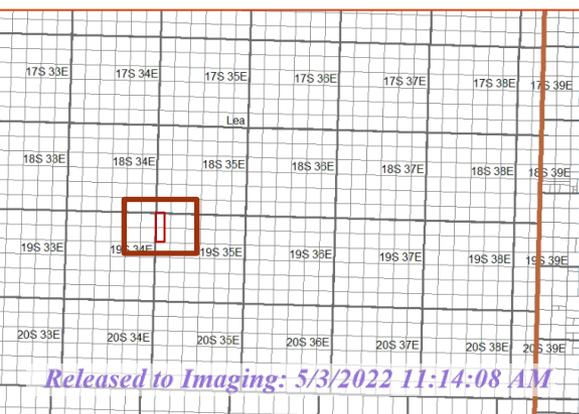




Mariner W2E2 7-6  
W1 State Com 1H  
Wolfcamp A



- First Bone Spring
- Second Bone Spring
- Third Bone Spring
- Wolfcamp A



STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES  
OIL CONSERVATION DIVISION

APPLICATION OF CATENA RESOURCES  
OPERATING LLC TO AMEND ORDER NO. R-21492,  
LEA COUNTY, NEW MEXICO.

Case No. 22718  
Order No. R-21492  
(Re-Open Case No. 21459)

SELF-AFFIRMED STATEMENT  
OF DANA S. HARDY

1. I am attorney in fact and authorized representative of Catena Resources Operating LLC, the Applicant herein, and being first duly sworn, upon oath, state as follows.

2. I am familiar with the Notice Letter attached as **Exhibit C-1** and caused the Notice Letter to be sent to the parties set out in the chart attached as **Exhibit C-2**.

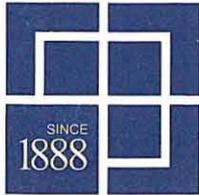
3. The above-referenced Application was provided, along with the Notice Letters, to the recipients listed in Exhibit C-2. Exhibit C-2 also provides the date each Notice Letter was sent and the date each return was received and includes copies of the certified mail receipts and white slips.

4. On April 7, 2022, I caused a notice to be published to all interested parties in the Carlsbad Current Argus. An Affidavit of Publication from the Legal Clerk of the Hobbs News-Sun, along with a copy of the notice publication, is attached as **Exhibit C-3**.

/s/ Dana S. Hardy  
Dana S. Hardy

5/3/2022  
Date

Catena Resources Operating, LLC  
Case No. 22718  
Exhibit C



hinklelawfirm.com

**HINKLE SHANOR LLP**  
ATTORNEYS AT LAW  
PO BOX 2068  
SANTA FE, NEW MEXICO 87504  
505-982-4554 (FAX) 505-982-8623

WRITER:

Dana S. Hardy, Partner  
dhardy@hinklelawfirm.com

March 31, 2022

**VIA CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

**TO ALL INTEREST OWNERS SUBJECT TO POOLING PROCEEDINGS**

**Re: Case No. 22718 - Application of Catena Resources Operating, LLC to Amend Order No. R-21492, Lea County, New Mexico.**

To whom it may concern:

This letter is to advise you that Catena Resources Operating, LLC filed the enclosed application with the New Mexico Oil Conservation Division. The hearing will be conducted on **May 5, 2022** beginning at 8:15 a.m.

During the COVID-19 Public Health Emergency, state buildings are closed to the public and hearings will be conducted remotely. To participate in the electronic hearing, see the instructions posted on the OCD Hearings website: <http://www.emnrd.state.nm.us/OCD/announcements.html>. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Pursuant to Division Rule 19.15.4.13.B, a party who intends to present evidence at the hearing shall file a pre-hearing statement and serve copies on other parties, or the attorneys of parties who are represented by counsel, at least four business days in advance of a scheduled hearing, but in no event later than 5:00 p.m. mountain time, on the Thursday preceding the scheduled hearing date. The statement must be filed at the Division's Santa Fe office or electronically submitted to [ocd.hearings@state.nm.us](mailto:ocd.hearings@state.nm.us) and should include: the names of the parties and their attorneys, a concise statement of the case, the names of all witnesses the party will call to testify at the hearing, the approximate time the party will need to present its case, and identification of any procedural matters that are to be resolved prior to the hearing.

Please do not hesitate to contact me if you have any questions about this matter.

Sincerely,

/s/ Dana S. Hardy

Dana S. Hardy

Enclosure

Catena Resources Operating, LLC  
Case No. 22718  
Exhibit C-1

PO BOX 10  
ROSWELL, NEW MEXICO 88202  
575-622-6510  
(FAX) 575-623-9332

PO BOX 2068  
SANTA FE, NEW MEXICO 87504  
505-982-4554  
(FAX) 505-982-8623

7601 JEFFERSON ST NE • SUITE 180  
ALBUQUERQUE, NEW MEXICO 87109  
505-858-8320  
(FAX) 505-858-8321

STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES  
OIL CONSERVATION DIVISION

APPLICATION OF CATENA RESOURCES  
OPERATING, LLC FOR COMPULSORY  
POOLING, EDDY COUNTY, NEW MEXICO

Case No. 22718

NOTICE LETTERS

<b>PARTY</b>	<b>NOTICE LETTER SENT</b>	<b>RETURN RECEIVED</b>
COG Operating, LLC c/o ConocoPhillips Attn: Baylor Mitchell 600 W. Illinois Avenue Midland, TX 79701	03/31/22	04/18/22
XTO Holdings, LLC Attn: Bryan Cifuentes 22777 Springwoods Village Pkwy. Spring, TX 77389	03/31/22	04/11/22

Catena Resources Operating, LLC  
Case No. 22718  
Exhibit C-2

**U.S. Postal Service™**  
**CERTIFIED MAIL® RECEIPT**  
*Domestic Mail Only*

For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

**OFFICIAL USE**

USPS SANTA NM FE O.  
SANTA NM MAIN POST OFFICE  
MAR 31 2022

7021 0950 0002 0365 7047

Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
<b>Total Postage and Fees</b>	\$

Sent To

Street and: COG Operating LLC c/o ConocoPhillips  
Attn: Baylor Mitchell  
600 W. Illinois Ave.  
City, State: Midland, TX 79701

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>X <i>Kaela Clinton</i></p> <p>B. Received by (Printed Name) <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p><i>Kaela Clinton</i></p> <p>C. Date of Delivery</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p>
<p>1. Article Addressed to:</p> <p>COG Operating LLC c/o ConocoPhillips Attn: Baylor Mitchell 600 W. Illinois Ave. Midland, TX 79701</p>	<p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Priority Mail Express®</p> <p><input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail™</p> <p><input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Registered Mail Restricted Delivery</p> <p><input type="checkbox"/> Certified Mail Restricted Delivery <input checked="" type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation™</p> <p><input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p> <p><input type="checkbox"/> Insured Mail</p> <p><input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>
<p>2. Article Number (Transfer from service label)</p> <p>7021 0950 0002 0365 7047</p>	
<p>PS Form 3811, July 2015 PSN 7530-02-000-9053</p>	<p>Domestic Return Receipt</p>

**CERTIFIED MAIL® RECEIPT**  
Domestic Mail Only

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**OFFICIAL MAIL**

Certified Mail Fee  
\$

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage  
\$

**Total Postage and Fees**  
\$

Sent To  
XTO Holdings, LLC  
Attn: Bryan Cifuentes  
22777 Springwoods Village Pkwy.  
Spring, TX 77389

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7021 0950 0002 0365 7054

Postmark Here  
MAR 31 2022

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature  <input checked="" type="checkbox"/> <i>[Signature]</i> <input type="checkbox"/> Agent  <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) <i>[Signature]</i> C. Date of Delivery <i>7/5/22</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes          If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <p>XTO Holdings, LLC          Attn: Bryan Cifuentes          22777 Springwoods Village Pkwy.          Spring, TX 77389</p> <p>          9590 9402 5760 0003 2677 50</p>	<p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Priority Mail Express®</p> <p><input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail™</p> <p><input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Registered Mail Restricted Delivery</p> <p><input type="checkbox"/> Certified Mail Restricted Delivery <input checked="" type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation™</p> <p><input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p> <p><input type="checkbox"/> Insured Mail</p> <p><input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>
<p>2. Article Number (Transfer from service label)</p> <p>7021 0950 0002 0365 7054</p>	
PS Form 3811, July 2015 PSN 7530-02-000-9053	Domestic Return Receipt

# Affidavit of Publication

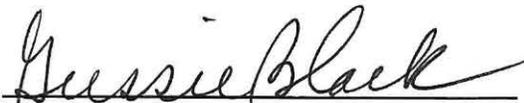
STATE OF NEW MEXICO  
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

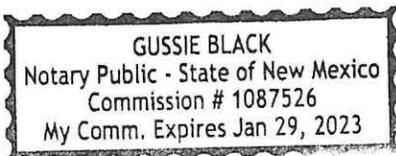
Beginning with the issue dated  
April 07, 2022  
and ending with the issue dated  
April 07, 2022.

  
\_\_\_\_\_  
Publisher

Sworn and subscribed to before me this  
\_\_\_\_th day of April 2022.

  
\_\_\_\_\_  
Business Manager

My commission expires  
January 29, 2023  
(Seal)



This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

**LEGAL NOTICE**  
April 7, 2022

This is to notify all interested parties, including COG Operating LLC c/o ConocoPhillips; XTO Holdings, LLC; and their successors and assigns, that the New Mexico Oil Conservation Division will conduct a hearing on an application submitted by Catena Resources Operating, LLC (Case No. 22718). During the COVID-19 Public Health Emergency, state buildings are closed to the public and hearings will be conducted remotely. The hearing will be conducted on May 5, 2022, beginning at 8:15 a.m. To participate in the electronic hearing, see the instructions posted on the OCD Hearings website for that date: <http://www.emnrd.state.nm.us/OCD/hearings.html>. Order No. R-21492 issued in Case No. 21459: pooled uncommitted mineral interests in the Wolfcamp formation underlying a 640-acre, more or less, standard horizontal spacing unit comprised of the E/2 of Sections 6 and 7, Township 19 South, Range 35 East, NMPM, Lea County ("the Unit"); dedicated the Unit to the Mariner 193507 1H Well, to be drilled from a surface hole location in Unit A of Section 18 to a bottom hole location in Lot 1 of Section 6; and designated Catena as the operator of the Unit and the well. Catena seeks to: amend the Unit so that it consists of a 320-acre, more or less, standard horizontal spacing unit comprised of the W/2 E/2 of Sections 6 and 7, Township 19 South, Range 35 East in Lea County; dedicate the Unit to the proposed **Mariner W2 E2 06 07 W1 State Com 1H** well (the "Well"), which will be horizontally drilled from a surface location in the NW/4 NE/4 (Unit B) of Section 18 to a bottom hole location in the NW/4 NE/4 (Unit B) of Section 6; and pool interest owners under the terms of Order No. R-21492. The Well is located approximately 18 miles west of Hobbs.  
#37520

02107475

00265551

GILBERT  
HINKLE, SHANOR LLP  
PO BOX 2068  
SANTA FE, NM 87504

Catena Resources Operating, LLC  
Case No. 22718  
Exhibit C-3