

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

**APPLICATION OF CIMAREX
ENERGY CO. FOR COMPULSORY
POOLING, LEA COUNTY,
NEW MEXICO**

CASE NO. 21144

Examiner Docket: April 16, 2020

CIMAREX'S EXHIBITS

James 20-29 Federal Com 38H and 39H



Earl E. DeBrine, Jr.
Lance D. Hough

 **MODRALL SPERLING**

500 Fourth Street NW, Suite 1000
P. O. Box 2168 / Albuquerque, NM 87103
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CIMAREX'S EXHIBITS

James 20-29 Federal Com 38H and 39H

- Exhibit A Compulsory Pooling Application Checklist
- Exhibit B Affidavit of Riley Morris
- B-1 Application
 - B-2 C102
 - B-3 Tract Map with WIs and ORRIs
 - B-4 Well Proposal Letter
 - B-5 Excerpt from Proposed JOA
 - B-6 Authorization for Expenditure
 - B-7 Communication Timeline
- Exhibit C Affidavit of Lucas Haas
- C-1 Locator and a Structure Map
 - C-2 Gross Thickness Isopach Map
 - C-3 Winerack/Lateral Trajectory Diagram
 - C-4 Stratigraphic Cross Section
 - C-5 Wellbore Diagram for each Proposed Well
- Exhibit D Affidavit of Lance D. Hough
- D-1 Hearing Notice
 - D-2 Certified Mail Log / Notice March 27, 2020
 Certified Mail Log / Report April 13, 2020
 - D-3 Affidavit of Publication

Earl E. DeBrine, Jr.
Lance D. Hough

 **MODRALL SPERLING**

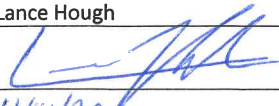
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COMPULSORY POOLING APPLICATION CHECKLIST (pdf)

ALL INFORMATION IN THE APPLICATION MUST BE SUPPORTED BY SIGNED AFFIDAVITS

Case: 21144	APPLICANT'S RESPONSE
Date	April 16, 2020
Applicant	Cimarex Energy Co.
Designated Operator & OGRID (affiliation if applicable)	Cimarex Energy Co. (OGRID 215099)
Applicant's Counsel:	Modrall Sperling
Case Title:	APPLICATION OF CIMAREX ENERGY CO. FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO, CASE NO. 21144
Entries of Appearance/Intervenors:	None
Well Family	James
Formation/Pool	
Formation Name(s) or Vertical Extent:	Bone Spring Formation
Primary Product (Oil or Gas):	Oil
Pooling this vertical extent:	Bone Spring Formation
Pool Name and Pool Code:	Sand Dunes; Bone Spring, South Pool (Pool Code: 53805)
Well Location Setback Rules:	Latest Statewide Horizontal Rules Apply
Spacing Unit Size:	320 Acres
Spacing Unit	
Type (Horizontal/Vertical)	Horizontal
Size (Acres)	320 Acres
Building Blocks:	Quarter-Quarter Sections
Orientation:	North to South
Description: TRS/County	E/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico
Standard Horizontal Well Spacing Unit (Y/N), If No, describe	Yes
Other Situations	
Depth Severance: Y/N. If yes, description	No
Proximity Tracts: If yes, description	No
Proximity Defining Well: if yes, description	N/A
Applicant's Ownership in Each Tract	Exhibit B.3
Well(s)	
Name & API (if assigned), surface and bottom hole location, footages, completion target, orientation, completion status (standard or non-standard)	See Exhibit B.1 and Exhibit B.2
Well #1	James 20-29 Federal Com 38H, API No. 30-025-45603 SHL: 340' from the North line and 760' from the West line of Section 20, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. BHL: 100' from the South line and 2178' from the West line of Section 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. Completion Target: Bone Spring at approx 10,560 feet TVD. Well Orientation: North to South Completion Location expected to be: Standard
Well #2	James 20-29 Federal Com 39H, API No. 30-025-45604 SHL: 340' from the North line and 740' from the West line of Section 20, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. BHL: 100' from the South line and 1386' from the West line of Section 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. Completion Target: Bone Spring at approx 10,880 feet TVD. Well Orientation: North to South Completion Location expected to be: Non-Standard (Approved via Administrative Order NSL-7994)



Horizontal Well First and Last Take Points	Exhibit B.2
Completion Target (Formation, TVD and MD)	Exhibit B.1; Exhibit B.2; Exhibit C.1, Exhibit C.6; Exhibit C.7
AFE Capex and Operating Costs	
Drilling Supervision/Month \$	8,000
Production Supervision/Month \$	800
Justification for Supervision Costs	Exhibit B.6 for AFEs
Requested Risk Charge	200%; see Exhibit B
Notice of Hearing	
Proposed Notice of Hearing	Exhibit D.1
Proof of Mailed Notice of Hearing (20 days before hearing)	Exhibit D.2
Proof of Published Notice of Hearing (10 days before hearing)	Exhibit D.3
Ownership Determination	
Land Ownership Schematic of the Spacing Unit	Exhibit B; Exhibit B.3
Tract List (including lease numbers and owners)	Exhibit B.3
Pooled Parties (including ownership type)	Exhibit B.3
Unlocatable Parties to be Pooled	Exhibit B.3; Exhibit D.2
Ownership Depth Severance (including percentage above & below)	None
Joinder	
Sample Copy of Proposal Letter	Exhibit B.4
List of Interest Owners (ie Exhibit A of JOA)	Exhibit B.3
Chronology of Contact with Non-Joined Working Interests	Exhibit B.7
Overhead Rates In Proposal Letter	Exhibit B.5
Cost Estimate to Drill and Complete	Exhibit B.6 for AFEs
Cost Estimate to Equip Well	Exhibit B.6 for AFEs
Cost Estimate for Production Facilities	Exhibit B.6 for AFEs
Geology	
Summary (including special considerations)	Exhibit C
Spacing Unit Schematic	Exhibits C.1, C.2, and C.3
Gunbarrel/Lateral Trajectory Schematic	Exhibit C.3
Well Orientation (with rationale)	Exhibit C
Target Formation	Exhibits C.1 through C.4
HSU Cross Section	Exhibits C.4
Depth Severance Discussion	Exhibit B
Forms, Figures and Tables	
C-102	Exhibit C.2
Tracts	Exhibit B.3
Summary of Interests, Unit Recapitulation (Tracts)	Exhibit B.3
General Location Map (including basin)	Exhibit C.1
Well Bore Location Map	Exhibits B.2, C.1 through C.5
Structure Contour Map - Subsea Depth	Exhibit C.1
Cross Section Location Map (including wells)	Exhibits C.1
Cross Section (including Landing Zone)	Exhibits C.4
Additional Information	
CERTIFICATION: I hereby certify that the information provided in this checklist is complete and accurate.	
Printed Name (Attorney or Party Representative):	Lance Hough
Signed Name (Attorney or Party Representative):	
Date:	4/14/20

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

**APPLICATION OF CIMAREX
ENERGY CO. FOR COMPULSORY
POOLING, LEA COUNTY,
NEW MEXICO**

CASE NO. 21144

AFFIDAVIT OF RILEY MORRIS

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

Riley Morris, being duly sworn, deposes and states:

1. I am a landman for Cimarex Energy Co. ("Cimarex"), over the age of 18 and have personal knowledge of the matters stated herein. I have previously been qualified to testify by the New Mexico Oil Conservation Division as an expert in petroleum land matters and my credentials were accepted and made part of the record in those proceedings.

2. I am familiar with the applications filed by Cimarex in the above-referenced cases and the land matters involved. Pursuant to NMAC 19.15.4.12.A(1), the following information is submitted in support of the above referenced compulsory pooling applications filed by Cimarex.

3. This case involves a request for an order from the Division for compulsory pooling of interest owners who have refused to voluntarily pool their interests for the proposed Bone Spring horizontal spacing unit described below, and in the wells to be drilled in the horizontal spacing unit.

4. Prior to filing it application, Cimarex made a good faith effort to obtain voluntary joinder of the working interest owners in the proposed wells. Cimarex identified all of the working interest, unleased mineral interests, and overriding royalty interest owners from a title opinion. To



locate interest owners, Cimarex conducted a diligent search of the public records in the county where the wells will be located, and conducted phone directory and computer searches to locate contact information for parties entitled to notification. I mailed all working interest owners well proposals and an Authorization for Expenditure, and a form of Operating Agreement upon request.

5. No opposition is expected. Prior to filing its application Cimarex contacted the interest owners being pooled regarding the proposed wells; the pooled working interest owners have failed or refused to voluntarily commit their interests in the wells. Cimarex provided all of the working interest owners, any unleased mineral owners, and overriding royalty owners with notice of this application, and none have entered an appearance in opposition to Cimarex's application.

6. In its Application, Cimarex seeks an order from the Division: (1) to the extent necessary, approving the creation of a 320-acre, more or less, Bone Spring horizontal spacing unit; and, (2) pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the E/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. This spacing unit will be dedicated to the **James 20-29 Federal Com 38H** and **James 20-29 Federal Com 39H** wells, to be horizontally drilled. The Application is attached hereto as **Exhibit B.1**.

7. Attached as **Exhibit B.2** are the C-102s for the proposed wells. The wells will develop the Sand Dunes; Bone Spring, South Pool (Pool Code: 53805). The producing interval for the **James 20-29 Federal Com 38H** well will be orthodox and comply with the Division's set back requirements, as the first and last take points will be no closer than 100' from the proposed unit boundary and the completed lateral will be no closer than 330' from the proposed unit boundary. The producing interval for the **James 20-29 Federal Com 39H** well will be unorthodox

and closer than 330' to the W/2 W/2 of Sections 20 and 29, and has been approved for a Non-Standard Location under Administrative Order NSL-7994.

8. A lease tract map outlining the unit to be pooled is attached hereto as **Exhibit B.3**. The working interest owners being pooled and the percent of their interest, as well as a list of overriding royal interest owners being pooled, are also included as part of **Exhibit B.3**. Cimarex owns an interest in the proposed unit and has a right to drill a well thereon.

9. There are no depth severances within the proposed spacing unit.

10. **Exhibit B.4** is a sample well proposal letter sent to each of the working interest owners seeking their voluntary participation in the wells.

11. **Exhibit B.5** is an excerpt of the proposed joint operating agreement, included with the well proposal letter sent to each of the working interest owners, that provides overhead and administrative rates of \$8,000/month during drilling and \$800/month while producing.

12. **Exhibit B.6** are the Authorizations for Expenditure for the proposed wells. The estimated cost of each well, set forth therein and listed below, is fair and reasonable, and is comparable to the costs of other wells of similar depth, length and completion method being drilled in this area of New Mexico.

a. **James 20-29 Federal Com 38H:** \$9,927,955.

b. **James 20-29 Federal Com 39H:** \$9,938,955.

13. **Exhibit B.7** is a summary of communications with the non-joined working interest.

14. Cimarex requests overhead and administrative rates of \$8,000/month during drilling and \$800/month while producing. These rates are fair and comparable to the rates charged by other operators for wells of this type in this area of Southeastern, New Mexico and consistent

with the rates awarded by the Division in recent compulsory pooling orders. Cimarex requests that these rates be adjusted periodically as provided in the COPAS Accounting Procedure.

15. Cimarex requests the maximum cost plus 200% risk charge be assessed against non-consenting pooled working interest owners.

16. Cimarex requests that it be designated operator of the wells.

17. Cimarex requests that it be allowed a period of one (1) year between when the wells are drilled and when the first well is completed under the order.

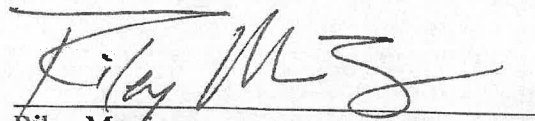
18. The parties Cimarex is seeking to pool were notified of this hearing.

19. Cimarex requests that overriding royalty interest owners be pooled.

20. Based upon my knowledge of the land matters involved in this case, education and training, it is my expert opinion that the granting of Cimarex's applications in this case is in the interests of conservation and the prevention of waste.

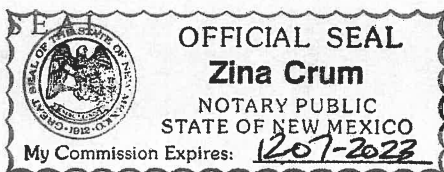
21. The attachments to my Affidavit were prepared by me or compiled from company business records.

22. Pursuant to Rule 1-011 NMRA, I declare and affirm under penalty of perjury under the laws of the State of New Mexico that the foregoing statements are true and correct to the best of my knowledge and belief.


Riley Morris

SUBSCRIBED AND SWORN to before me this 14th day of April 2020 by Riley Morris.


Notary Public
My commission expires: 12-07-2023



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

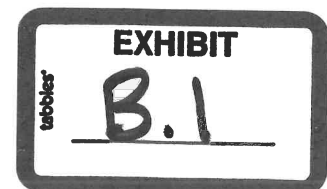
**APPLICATION OF CIMAREX
ENERGY CO. FOR COMPULSORY
POOLING, LEA COUNTY,
NEW MEXICO**

CASE NO. _____

APPLICATION

Cimarex Energy Co. ("Cimarex"), OGRID Number 215099, through its undersigned attorneys, hereby makes an application to the Oil Conservation Division pursuant to the provisions of NMSA (1978), Section 70-2-17, for an order pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the E/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. In support of this application, Cimarex states as follows:

1. Cimarex is an interest owner in the subject lands and has a right to drill a well thereon.
2. Cimarex seeks to dedicate the E/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico to form a 320-acre, more or less, Bone Spring horizontal spacing unit.
3. Cimarex plans to drill the following wells laterally in a southerly direction to a depth sufficient to test the Bone Spring formation:
 - a. The **James 20-29 Federal Com 38H** well is a horizontal well with a surface hole location in the NE/4 NW/4 (Unit C) of Section 20, Township 23 South, Range 32 East, Lea County, and an intended bottom hole location in the SE/4 SW/4 (Unit N) of Section 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. This well is proposed to be drilled vertically to a depth of approximately 10,500' to the Bone Spring formation.
 - b. The **James 20-29 Federal Com 39H** well is a horizontal well with a surface hole location in the NE/4 NW/4 (Unit C) of Section 20, Township 23 South, Range 32



East, Lea County, and an intended bottom hole location in the SE/4 SW/4 (Unit N) of Section 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. This well is proposed to be drilled vertically to a depth of approximately 10,850' to the Bone Spring formation.

4. These wells will be located within the Sand Dunes; Bone Spring, South Pool (Pool Code: 53805). While the **James 20-29 Federal Com 38H** well will comply with the Division's statewide setback requirements, Cimarex is seeking administrative approval of an unorthodox well location ("NSL") for the **James 20-29 Federal Com 39H** well as the completed lateral will be closer than 330' to the W/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico.

5. Cimarex sought, but has been unable to obtain, a voluntary agreement from all interest owners in the Bone Spring formation underlying the proposed spacing unit to participate in the drilling of the wells or to otherwise commit their interests to the wells.

6. The creation of a horizontal spacing unit and the pooling of all interests in the Bone Spring formation underlying the proposed unit will prevent the drilling of unnecessary wells, prevent waste and protect correlative rights.

WHEREFORE, Cimarex requests that this case is set for hearing before an Examiner of the Oil Conservation Division on April 2, 2020, and after notice and hearing as required by law, the Division enter its order:

A. Creating an approximately 320-acre horizontal spacing unit in the Bone Spring formation comprised of E/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico;

B. Pooling all mineral interests in the Bone Spring formation underlying a horizontal spacing unit within the E/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico;

- C. Designating Cimarex as operator of this unit and the wells to be drilled thereon;
- D. Authorizing Cimarex to recover its costs of drilling, completing, and equipping the wells;
- E. Approving actual operating charges and costs charged for supervision, together with a provision adjusting the rates pursuant to the COPAS accounting procedure;
- F. Setting a 200% charge for the risk involved in drilling and completing the wells in the event a working interest owner elects not to participate in the wells.

Respectfully submitted,

MODRALL, SPERLING, ROEHL, HARRIS
& SISK, P.A.

By: 

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Lance D. Hough
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500 Fourth Street NW, Suite 1000
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Attorneys for Applicant

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District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
511 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-45603	² Pool Code 53805	³ Pool Name Sand Dunes; Bone Spring, South
⁴ Property Code	⁵ Property Name JAMES 20-29 FEDERAL COM	⁶ Well Number 38H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3678.0

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
D	20	23S	32E		340	NORTH	760	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
N	29	23S	32E		100	SOUTH	2178	WEST	LEA
¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°17'46.82" (32.296338°)
LONGITUDE = 103°42'09.90" (103.702749°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°17'46.37" (32.296315°)
LONGITUDE = 103°42'08.15" (103.702265°)
STATE PLANE NAD 83 (N.M. EAST)
N: 472113.19' E: 736181.35'
STATE PLANE NAD 27 (N.M. EAST)
N: 472053.63' E: 694998.04'

NAD 83 (L.P./FTP)
LATITUDE = 32°17'46.86" (32.296349°)
LONGITUDE = 103°41'53.38" (103.698162°)
NAD 27 (L.P./FTP)
LATITUDE = 32°17'46.41" (32.296226°)
LONGITUDE = 103°41'51.64" (103.697677°)
STATE PLANE NAD 83 (N.M. EAST)
N: 472125.79' E: 737598.97'
STATE PLANE NAD 27 (N.M. EAST)
N: 472066.23' E: 696415.66'

NAD 83 (LTP/BHL)
LATITUDE = 32°16'06.71" (32.268530°)
LONGITUDE = 103°41'53.37" (103.698159°)
NAD 27 (LTP/BHL)
LATITUDE = 32°16'06.26" (32.268407°)
LONGITUDE = 103°41'51.63" (103.697676°)
STATE PLANE NAD 83 (N.M. EAST)
N: 462005.19' E: 737659.68'
STATE PLANE NAD 27 (N.M. EAST)
N: 461945.91' E: 696476.08'

● = SURFACE HOLE LOCATION
◇ = LANDING POINT/FIRST TAKE POINT
○ = BOTTOM HOLE LOCATION/
LAST TAKE POINT
▲ = SECTION CORNER LOCATED

"OPERATOR CERTIFICATION"
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order hereby entered by the division.
[Signature] 1/22/20
Signature Date
Amithy Crawford
Printed Name
acrawford@cimarex.com
E-mail Address

"SURVEYOR CERTIFICATION"
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
August 30, 2017
Date of Survey
Signature and Seal of Professional Surveyor:
[Signature]
PAUL BUCHELM
NEW MEXICO
23782
11-13-19
PROFESSIONAL SURVEYOR
Certificate Number

LINE TABLE

LINE	DIRECTION	LENGTH
L1	N89°43'53"E	1417.93'
L2	N89°43'55"E	2633.52'

NOTE:
• Distances referenced on plat to section lines are perpendicular.
• Basis of bearing is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

SCALE
REV: 2 S.T.O. 11-13-19 (NAME & WELLBORE CHANGE)

EXHIBIT
B.2

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720
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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-45604	² Pool Code 53805	³ Pool Name Sand Dunes; Bone Spring, South
⁴ Property Code	⁵ Property Name JAMES 20-29 FEDERAL COM	⁶ Well Number 39H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3677.8

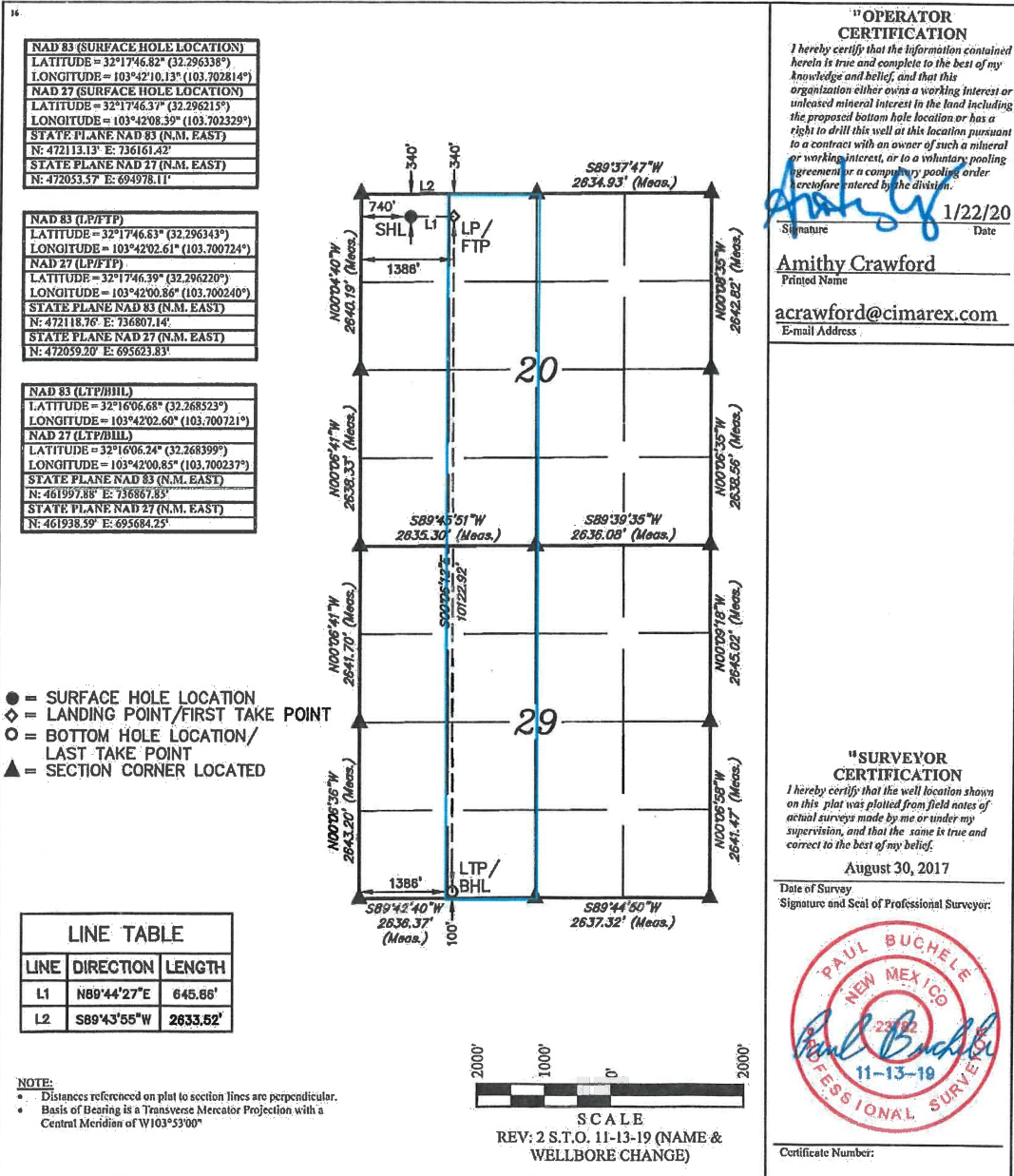
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	20	23S	32E		340	NORTH	740	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface

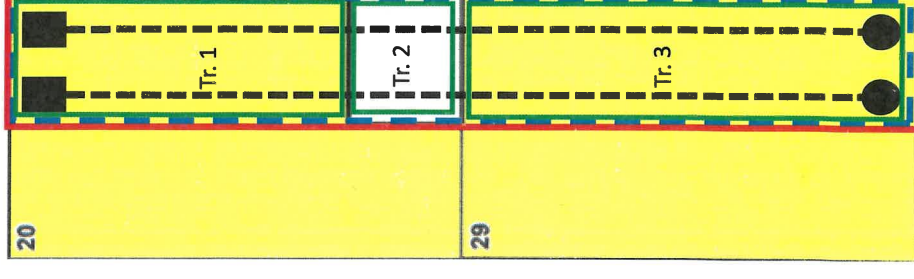
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	29	23S	32E		100	SOUTH	1386	WEST	LEA
¹² Dedicated Acres 3.20	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.	NSL Pending					

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



James 20-29 Fed Com 38H & 39H Working Interest Breakdown

- Proposed JOA Covers E/2 W/2 of Sections 20 and 29 (**Red Outline**) as to all depths,
 - WI Ownership:**
 - Tracts 1 and 3:
 - XEC: 62.503178%
 - Ball Oil & Gas, LLC: 0.182744%
 - Capitan Mountain Oil & Gas, LLC: 0.182744%
 - Patrick J.F. Gratton: 4.345021%
 - Centennial, LLC: 0.091373%
 - Earl A. Latimer, III and wife, Kathryn S. Latimer: 0.182744%
 - Marker Petroleum, Inc.: 0.913725%
 - Har-Vest, LLC: 0.365514%
 - Kerry D. Hunter: 0.206503%
 - J 4 Family limited Partnership: 0.206503%
 - H. Lee Harvard & Joanne W. Harvard Trust: 0.464629%
 - Harvard Petroleum Company, LLC: 3.817962%
 - All subject to JOA
 - EOG Y Resources, Inc.: 14.037384%**
 - To be pooled
 - Tract 2:
 - Devon: 10.90625%
 - Crumpp Family Partnership, Ltd.: 0.625%
 - Charles D. Ray: 0.3125%
 - All to be pooled
 - TBO Oil & Gas, LLC: 0.03125%
 - Tarpon Engineering Corp.: 0.125%
 - Warren Ventures, Ltd.: 0.5%
 - All subject to JOA
 - Proration Unit – 320 acres
 - E/2 W/2 of Sections 20 and 29 (**Blue Outline**)



James 20-29 Fed Com 38H & 39H ORRI Breakdown

- Proposed JOA Covers E/2 W/2 of Sections 20 and 29 (Red Outline) as to all depths, excluding existing wells

• ORRI Owners:

• Tracts 1 and 3:

- Forte Energy Corporation
- RLP Industries, Inc.
- Bail Oil & gas, LLC
- Capitan Mountain Oil & Gas, LLC
- Gerald Childress and wife, Martha G. Childress
- Larry G. Engwall and wife, Brenda J. Bryant
- Robert J. Gallivan, Jr. and wife, Barbara Gallivan
- Patrick J.F. Gratton and wife, Jean M. Gratton
- Tara N. Frederic, Trustee of the Tara N. Frederic Living Trust
- Centennial, LLC
- Earl A. Latimer, III and wife, Kathryn S. Latimer
- Marker Petroleum, Inc.
- Calvin B. Kimbrough, Trustee of the Ann Kimbrough Irrevocable Trust
- Share of The Calvin and Ann Kimbrough Revocable Trust
- Har-Vest, LLC:
- Kerry D. Hunter:
- J 4 Family limited Partnership:
- H. Lee Harvard and Jeffery L. Harvard, Co-Trustees of the H. Lee & Joanne W. Harvard Trust:
- Tumbler Energy Partners, LLC
- Harvard Petroleum Company, LLC
- EOG Y Resources, Inc.

- All to be Pooled

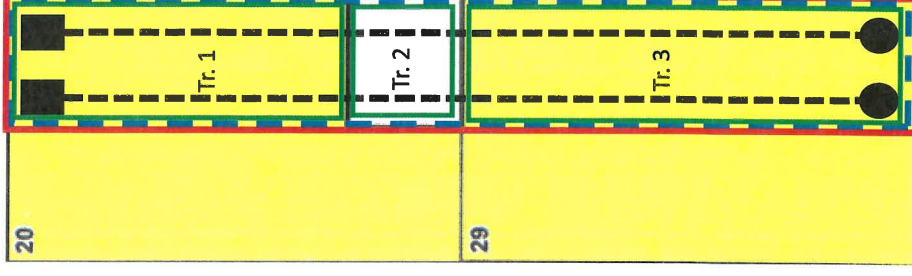
• Tract 2:

- Charles D. Ray
- Oak Valley Mineral and Land, LP
- Stillwater Investments

- All to be Pooled

• Proration Unit – 320 acres

- E/2 W/2 of Sections 20 and 29 (Blue Outline)



Cimarex Energy Co.
600 N. Marienfeld St.
Suite 600
Midland, TX 79701
Main: 432.571.7800



January 14, 2020

EOG Y Resources, Inc.
5509 Champions Drive
Midland, Texas 79706
Attn: Chuck Moran

**Re: Proposal to Drill
James 20-29 Fed Com 38H & 39H
Sections 20 & 29, Township 23 South, Range 32 East
Lea County, NM**

Dear Working Interest Owner,

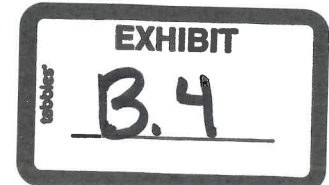
Cimarex Energy Co. hereby proposes to drill the James 20-29 Fed Com 38H & 39H wells at a legal location in Section 20, Township 23 South, Range 32 East, NMPM, Lea Co., New Mexico.

James 20-29 Fed Com 38H - The intended surface hole location for the well is 340' FNL and 760' FWL of Section 20, Township 23 South, Range 32 East, and the intended bottom hole location is 100' FSL and 2178' FWL of Section 29, Township 23 South, Range 32 East. The well is proposed to be drilled vertically to the Bone Spring formation and laterally in a southerly direction within the formation to the referenced bottom hole location. Total measured depth of the well is proposed to be approximately 20,500' feet from surface to terminus.

James 20-29 Fed Com 39H - The intended surface hole location for the well is 340' FNL and 740' FWL of Section 20, Township 23 South, Range 32 East, and the intended bottom hole location is 100' FSL and 1386' FWL of Section 29, Township 23 South, Range 32 East. The well is proposed to be drilled vertically to the Bone Spring formation and laterally in a southerly direction within the formation to the referenced bottom hole location. Total measured depth of the well is proposed to be approximately 20,500' feet from surface to terminus.

It should be understood that compliance with topography or cultural or environmental concerns, among others, might require modification of Cimarex's intended procedure. Cimarex will advise you of any such modifications.

Enclosed, in duplicate, is (i) our detailed AFE reflecting estimated costs associated with this proposal. If you intend to participate, please approve and return one (1) original of the enclosed AFE, along with the contact information to receive your well data, to the undersigned within thirty (30) days of receipt of this proposal. If you elect to purchase your own well control insurance, you must provide a certificate of such insurance to Cimarex prior to commencement of drilling operations; otherwise, you will be covered by insurance procured by Cimarex and will be responsible for your share of the cost.



Please call the undersigned with any questions or comments.

Respectfully,

Cody Elliott
432.571.7806

A handwritten signature in blue ink, appearing to be 'CE', is positioned to the right of the typed name and phone number.

ELECTION TO PARTICIPATE
James 20-29 Fed Com 38H

_____ EOG Y Resources, Inc. elects **TO** participate in the proposed James 20-29 Fed Com 38H well.

_____ EOG Y Resources, Inc. elects **NOT** to participate in the proposed James 20-29 Fed Com 38H well.

Dated this _____ day of _____, 2020.

Signature: _____

Title: _____

If your election above is **TO** participate in the proposed James 20-29 Fed Com 38H well, then:

_____ EOG Y Resources, Inc. elects **TO** be covered by well control insurance procured by Cimarex Energy Co.

_____ EOG Y Resources, Inc. elects **NOT** to be covered by well control insurance procured by Cimarex Energy Co. and agrees to provide Cimarex Energy Co. with a certificate of insurance prior to commencement of drilling operations or be deemed to have elected to be covered by well control insurance procured by Cimarex Energy Co.

**ELECTION TO PARTICIPATE
James 20-29 Fed Com 39H**

_____ EOG Y Resources, Inc. elects **TO** participate in the proposed James 20-29 Fed Com 39H well.

_____ EOG Y Resources, Inc. elects **NOT** to participate in the proposed James 20-29 Fed Com 39H well.

Dated this ____ day of _____, 2020.

Signature: _____

Title: _____

If your election above is TO participate in the proposed James 20-29 Fed Com 39H well, then:

_____ EOG Y Resources, Inc. elects **TO** be covered by well control insurance procured by Cimarex Energy Co.

_____ EOG Y Resources, Inc. elects **NOT** to be covered by well control insurance procured by Cimarex Energy Co. and agrees to provide Cimarex Energy Co. with a certificate of insurance prior to commencement of drilling operations or be deemed to have elected to be covered by well control insurance procured by Cimarex Energy Co.

EXCERPT FROM PROPOSED JOINT OPERATING AGREEMENT

B. OVERHEAD—FIXED RATE BASIS

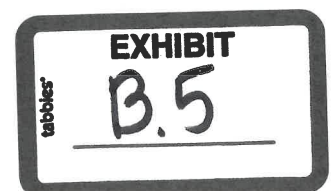
- (1) The Operator shall charge the Joint Account at the following rates per well per month:

Drilling Well Rate per month \$ 8,000.00 (prorated for less than a full month)

Producing Well Rate per month \$ 800.00

- (2) Application of Overhead--Drilling Well Rate shall be as follows:

- (a) Charges for onshore drilling wells shall begin on the spud date and terminate on the date the drilling and/or completion equipment used on the well is released, whichever occurs later. Charges for offshore and inland waters drilling wells shall begin on the date the drilling or completion equipment arrives on location and terminate on the date the drilling or completion equipment moves off location, or is released, whichever occurs first. No charge shall be made during suspension of drilling and/or completion operations for fifteen (15) or more consecutive calendar days.





Authorization For Expenditure Drilling

AFE # 26720029

Company Entity
Cimarex Energy Co (001)Date Prepared
4/14/2020

Exploration Region	Well Name	Prospect	Property Number	AFE
Permian Basin	JAMES 20-29 FEDERAL COM 38H	New Mexico Bone Spring Pros (Lea)	301471-497.01	26720029
County, State	Location	Estimated Spud	Estimated Completion	
Lea, NM	E2 Sec 20 & 29-T23S-R32E, Lea County, NM	7/15/2020		
<input checked="" type="checkbox"/> New Supplement Revision	Formation	Well Type	Ttl Measured Depth	Ttl Vertical Depth
	Bone Spring	DEV	20,500	10,500

Purpose Drill and complete well

Description

Drilling

Drill and complete a horizontal test. Drill to 1160 set surface casing. Drill to 4642' set intermediate casing. Drill to 10023' (KOP). Drill curve at 12"/100' initial build rate to +/- 90 degrees and 10500' TVD and drill a +/- 9280' long lateral in the bone spring formation. Run and cement production casing. Stage frac in 44 stages. Drill out plugs. Run production packer, tubing and GLVs.

Intangible	Dry Hole	After Casing Point	Completed Well Cost
Drilling Costs	\$3,182,860		\$3,182,860
Completion Costs		\$5,285,095	\$5,285,095
Total Intangible Cost	\$3,182,860	\$5,285,095	\$8,467,955
Tangible	Dry Hole	After Casing Point	Completed Well Cost
Well Equipment	\$200,000	\$772,000	\$972,000
Lease Equipment		\$488,000	\$488,000
Total Tangible Cost	\$200,000	\$1,260,000	\$1,460,000
Total Well Cost	\$3,382,860	\$6,545,095	\$9,927,955

Comments On Well Costs

1. All tubulars, well or lease equipment is priced by COPAS and CEPS guidelines using the Historic Price Multiplier.

Well Control Insurance

Unless otherwise indicated below, you, as a non-operating working interest owner, agree to be covered by Operator's well control insurance procured by Operator so long as Operator conducts operations hereunder and to pay your prorated share of the premiums therefore. If you elect to purchase your own well control insurance, you must provide a certificate of such insurance acceptable to Operator, as to form and limits, at the time this AFE is returned, if available, but in no event later than commencement of drilling operations. You agree that failure to provide the certificate of insurance, as provided herein, will result in your being covered by insurance procured by Operator.

☐ I elect to purchase my own well control insurance policy.

Marketing Election

Cimarex sells its gas under arm's-length contracts with third party purchasers. Such contracts may include fees. In addition, penalties may be incurred for insufficient volumes delivered over time. Should you choose to market your share of gas with Cimarex, you will be subject to all of the terms of such contracts. Upon written request to Cimarex's Marketing Department, we will share with you the terms and conditions pursuant to which gas will be sold. Failure to make an election below shall be deemed an election to market your gas with Cimarex under the terms and conditions set forth above.

☐ I elect to take my gas in kind.

☐ I elect to market my gas with Cimarex pursuant to the terms and conditions of its contract.

Comments on AFE

The above costs are estimates only and anticipate trouble free operations without any foreseeable change in plans. The actual costs may exceed the estimated costs without affecting the authorization for expenditure herein granted. By approval of this AFE, the working interest owner agrees to pay its proportionate share of actual legal, curative, regulatory and well costs under term of the joint operating agreement, regulatory order or other applicable agreement covering this well.

Nonoperator Approval

Company	Approved By (Print Name)	Approved By (Signature)

EXHIBIT

B.6

NOTICE TO NONOPERATOR: Costs shown on this form are estimates only. By executing this AFE, the consenting party agrees to pay its proportionate share of actual costs incurred. Overhead will be charged in accordance with the Joint Operating Agreement.

4/14/2020



Description	BCP - Drilling		ACP - Drilling		Comp/Stim		Production Equip		Post Completion		Total
	Codes	Amount	Codes	Amount	Codes	Amount	Codes	Amount	Codes	Amount	Cost
Roads & Location	DIDC.100	100,000			STIM.100	5,000	CON.100	7,500	PCOM.100	30,000	142,500
Damages	DIDC.105	10,000					CON.105	4,500			14,500
Mud/Fluids Disposal	DIDC.255	250,000			STIM.255	57,000			PCOM.255	0	307,000
Day Rate	DIDC.115	668,860	DICC.120	110,240							779,100
Misc Preparation	DIDC.120	45,000									45,000
Bits	DIDC.125	100,000	DICC.125	0	STIM.125	0			PCOM.125	0	100,000
Fuel	DIDC.135	110,000	DICC.130	0					PCOM.130	0	110,000
Water for Drilling Rig (Not Frac Water)	DIDC.140	5,000	DICC.135	0	STIM.135	25,000			PCOM.135	0	30,000
Mud & Additives	DIDC.145	350,000									350,000
SWD PIPED TO 3RD PARTY SWD WELL									PCOM.257	91,080	91,080
Surface Rentals	DIDC.150	116,000	DICC.140	0	STIM.140	179,000	CON.140	3,000	PCOM.140	120,000	418,000
Flowback Labor					STIM.141	0			PCOM.141	64,000	64,000
Downhole Rentals	DIDC.155	141,000			STIM.145	0			PCOM.145	0	141,000
Automation Labor							CON.150	53,500	PCOM.150	5,000	58,500
Mud Logging	DIDC.170	30,000									30,000
IPC & EXTERNAL PAINTING							CON.165	4,000			4,000
Cementing & Float Equipment	DIDC.185	105,000	DICC.155	175,000							280,000
Tubular Inspections	DIDC.190	40,000	DICC.160	5,000	STIM.160	2,000			PCOM.160	0	47,000
Casing Crews	DIDC.195	15,000	DICC.165	20,000	STIM.165	0					35,000
Mechanical Labor	DIDC.200	15,000	DICC.170	5,000	STIM.170	0	CON.170	152,500	PCOM.170	4,500	177,000
Trucking/Transportation	DIDC.205	20,000	DICC.175	15,000	STIM.175	7,000	CON.175	18,500	PCOM.175	5,000	65,500
Supervision	DIDC.210	117,000	DICC.180	16,000	STIM.180	71,000	CON.180	23,500	PCOM.180	0	227,500
Trailer House/Camp/Catering	DIDC.280	50,000	DICC.255	6,000	STIM.280	52,000					108,000
Other Misc Expenses	DIDC.220	3,000	DICC.190	0	STIM.190	43,000	CON.190	30,000	PCOM.190	0	76,000
Overhead	DIDC.225	10,000	DICC.195	5,000							15,000
MOB/DEMOB	DIDC.240	300,000									300,000
Directional Drilling Services	DIDC.245	209,000									209,000
Solids Control	DIDC.260	109,000									109,000
Well Control Equip (Snubbing Services)	DIDC.265	95,000	DICC.240	0	STIM.240	76,000			PCOM.240	0	171,000
Completion Rig					STIM.115	21,000			PCOM.115	0	21,000
Coil Tubing Services					STIM.260	354,000			PCOM.260	0	354,000
Completion Logging/Perforating/Wireline					STIM.200	365,000			PCOM.200	0	365,000
Composite Plugs					STIM.390	88,000			PCOM.390	0	88,000
Stimulation Pumping/Chemicals/Additives/Sand					STIM.210	2,072,000			PCOM.210	0	2,072,000
Stimulation Water/Water Transfer/Water Storage					STIM.395	309,000					309,000
Cimarex Owned Frac/Rental Equipment					STIM.305	42,000			PCOM.305	0	42,000
Legal/Regulatory/Curative	DIDC.300	10,000					CON.300	0			10,000
Well Control Insurance	DIDC.285	7,000									7,000
Major Construction Overhead							CON.305	24,500			24,500
FL/GL - ON PAD LABOR							CON.495	36,000			36,000
FL/GL - Labor							CON.500	103,500			103,500
FL/GL - Supervision							CON.505	36,000			36,000
Survey							CON.515	4,000			4,000
Contingency	DIDC.435	152,000	DICC.220	18,000	STIM.220	188,000	CON.220	72,000	PCOM.220	34,275	464,275
Contingency							CON.221	27,000			27,000
Total Intangible Cost		3,182,860		375,240		3,956,000		600,000		353,855	8,467,955
Surface Casing	DWEB.140	41,000									41,000
Intermediate Casing 1	DWEB.145	139,000									139,000
Production Casing or Liner			DWEA.100	497,000							497,000
Tubing					STIMT.105	63,000			PCOMT.105	0	63,000
Wellhead, Tree, Chokes	DWEB.115	20,000	DWEA.120	20,000	STIMT.120	25,000			PCOMT.120	0	65,000
Packer, Nipples					STIMT.400	15,000			PCOMT.400	0	15,000
SHORT ORDERS							CONT.380	22,500			22,500
PUMPS							CONT.385	6,000			6,000
WALKOVERS							CONT.390	2,500			2,500
Downhole Lift Equipment					STIMT.410	80,000			PCOMT.410	7,000	87,000
Surface Equipment									PCOMT.420	50,000	50,000
Well Automation Materials									PCOMT.455	15,000	15,000
N/C Lease Equipment							CONT.400	93,500			93,500
Battery Equipment							CONT.410	124,000			124,000
Secondary Containments							CONT.415	8,500			8,500
Overhead Power Distribution							CONT.420	41,000			41,000
Facility Electrical							CONT.425	25,000			25,000
Telecommunication Equipment							CONT.426	1,000			1,000
Meters and Metering Equipment							CONT.445	15,500			15,500
Facility Line Pipe							CONT.450	15,000			15,000
Lease Automation Materials							CONT.455	48,500			48,500
FL/GL - Materials							CONT.550	19,500			19,500
FL/GL - Line Pipe							CONT.555	65,500			65,500
Total Tangible Cost		200,000		517,000		183,000		488,000		72,000	1,460,000
Total Estimated Cost		3,382,860		892,240		4,139,000		1,088,000		425,855	9,927,955



Description	BCP - Drilling			ACP - Drilling			Comp/Stim		
	Codes		Amount	Codes		Amount	Codes		Amount
Roads & Location	DIDC.100		100,000				STIM.100		5,000
Damages	DIDC.105		10,000						
Mud/Fluids Disposal	DIDC.255		250,000				STIM.255		57,000
Day Rate	DIDC.115	23 days at \$26,000/day	668,860	DICC.120	4 days at \$26,000/day	110,240			
Misc Preparation	DIDC.120		45,000						
Bits	DIDC.125		100,000	DICC.125		0	STIM.125		0
Fuel	DIDC.135	1,300 gal/day at \$3.00/gal	110,000	DICC.130		0			
Water for Drilling Rig (Not Frac Water)	DIDC.140		5,000	DICC.135		0	STIM.135		25,000
Mud & Additives	DIDC.145		350,000						
SWD PIPED TO 3RD PARTY SWD WELL									
Surface Rentals	DIDC.150	Per Day (BCP)/day	116,000	DICC.140		0	STIM.140		179,000
Flowback Labor							STIM.141		0
Downhole Rentals	DIDC.155		141,000				STIM.145		0
Automation Labor									
Mud Logging	DIDC.170	21 days at \$1,200/day	30,000						
IPC & EXTERNAL PAINTING									
Cementing & Float Equipment	DIDC.185		105,000	DICC.155		175,000			
Tubular Inspections	DIDC.190		40,000	DICC.160		5,000	STIM.160		2,000
Casing Crews	DIDC.195		15,000	DICC.165		20,000	STIM.165		0
Mechanical Labor	DIDC.200		15,000	DICC.170		5,000	STIM.170		0
Trucking/Transportation	DIDC.205		20,000	DICC.175		15,000	STIM.175		7,000
Supervision	DIDC.210		117,000	DICC.180		16,000	STIM.180		71,000
Trailer House/Camp/Catering	DIDC.280		50,000	DICC.255		6,000	STIM.280		52,000
Other Misc Expenses	DIDC.220		3,000	DICC.190		0	STIM.190		43,000
Overhead	DIDC.225		10,000	DICC.195		5,000			
MOB/DEMOB	DIDC.240		300,000						
Directional Drilling Services	DIDC.245		209,000						
Solids Control	DIDC.260		109,000						
Well Control Equip (Snubbing Services)	DIDC.265		95,000	DICC.240		0	STIM.240		76,000
Completion Rig							STIM.115		21,000
Coil Tubing Services							STIM.260		354,000
Completion Logging/Perforating/Wireline							STIM.200		365,000
Composite Plugs							STIM.390		88,000
Stimulation							STIM.210		2,072,000
Stimulation Water/Water Transfer/Water							STIM.395		309,000
Cimarex Owned Frac/Rental Equipment							STIM.305		42,000
Legal/Regulatory/Curative	DIDC.300		10,000						
Well Control Insurance	DIDC.285	\$0.35/ft	7,000						
Major Construction Overhead									
FL/GL - ON PAD LABOR									
FL/GL - Labor									
FL/GL - Supervision									
Survey									
Contingency	DIDC.435	500 % of Drilling Intangibles	152,000	DICC.220		18,000	STIM.220		188,000
Contingency									
Total Intangible Cost			3,182,860			375,240			3,956,000
Surface Casing	DWEB.140	13 3/8" - 1,160ft at \$35.00/ft	41,000						
Intermediate Casing 1	DWEB.145	9 5/8" - 4,642ft at \$30.00/ft	139,000						
Production Casing or Liner				DWEA.100	7x5.5" - 20,056ft at \$24.80/ft	497,000			
Tubing							STIMT.105	2 7/8" - 9,020ft at \$7.00/ft	63,000
Wellhead, Tree, Chokes	DWEB.115		20,000	DWEA.120		20,000	STIMT.120		25,000
Packer, Nipples							STIMT.400		15,000
SHORT ORDERS									
PUMPS									
WALKOVERS									
Downhole Lift Equipment							STIMT.410		80,000
Surface Equipment									
Well Automation Materials									
N/C Lease Equipment									
Battery Equipment									
Secondary Containments									
Overhead Power Distribution									
Facility Electrical									
Telecommunication Equipment									
Meters and Metering Equipment									
Facility Line Pipe									
Lease Automation Materials									
FL/GL - Materials									
FL/GL - Line Pipe									
Total Tangible Cost			200,000			517,000			183,000
Total Estimated Cost			3,382,860			892,240			4,139,000



Description	Production Equip.		Post Completion		Total	
	Codes	Amount	Codes	Amount	Cost	
Roads & Location	CON.100	7,500	PCOM.100		30,000	142,500
Damages	CON.105	4,500				14,500
Mud/Fluids Disposal			PCOM.255		0	307,000
Day Rate						779,100
Misc Preparation						45,000
Bits			PCOM.125		0	100,000
Fuel			PCOM.130		0	110,000
Water for Drilling Rig (Not Frac Water)			PCOM.135		0	30,000
Mud & Additives						350,000
SWD PIPED TO 3RD PARTY SWD WELL			PCOM.257	2200 BWPD for 60 days @ \$0.69/bbl	91,080	91,080
Surface Rentals	CON.140	3,000	PCOM.140	Flowback Iron \$2000/d for 60 days	120,000	418,000
Flowback Labor			PCOM.141	Flowback Hands \$2000/d for 32 days	64,000	64,000
Downhole Rentals			PCOM.145		0	141,000
Automation Labor	CON.150	53,500	PCOM.150	Misc. Automation Labor	5,000	58,500
Mud Logging						30,000
IPC & EXTERNAL PAINTING	CON.165	4,000				4,000
Cementing & Float Equipment						280,000
Tubular Inspections			PCOM.160		0	47,000
Casing Crews						35,000
Mechanical Labor	CON.170	152,500	PCOM.170	Roustabout Crew 3 days @ \$1500/d	4,500	177,000
Trucking/Transportation	CON.175	18,500	PCOM.175	Trucking to clean out frac tanks	5,000	65,500
Supervision	CON.180	23,500	PCOM.180		0	227,500
Trailer House/Camp/Catering						108,000
Other Misc Expenses	CON.190	30,000	PCOM.190		0	76,000
Overhead						15,000
MOB/DEMOB						300,000
Directional Drilling Services						209,000
Solids Control						109,000
Well Control Equip (Snubbing Services)			PCOM.240		0	171,000
Completion Rig			PCOM.115		0	21,000
Coil Tubing Services			PCOM.260		0	354,000
Completion Logging/Perforating/Wireline			PCOM.200		0	365,000
Composite Plugs			PCOM.390		0	88,000
Stimulation Pumping/Chemicals/Additives/Sand			PCOM.210		0	2,072,000
Stimulation Water/Water Transfer/Water						309,000
Cimarex Owned Frac/Rental Equipment			PCOM.305		0	42,000
Legal/Regulatory/Curative	CON.300	0				10,000
Well Control Insurance						7,000
Major Construction Overhead	CON.305	24,500				24,500
FL/GL - ON PAD LABOR	CON.495	36,000				36,000
FL/GL - Labor	CON.500	103,500				103,500
FL/GL - Supervision	CON.505	36,000				36,000
Survey	CON.515	4,000				4,000
Contingency	CON.220	72,000	PCOM.220	15%	34,275	464,275
Contingency	CON.221	27,000				27,000
Total Intangible Cost		600,000			353,855	8,467,955
Surface Casing						41,000
Intermediate Casing 1						139,000
Production Casing or Liner						497,000
Tubing			PCOMT.105		0	63,000
Wellhead, Tree, Chokes			PCOMT.120		0	65,000
Packer, Nipples			PCOMT.400		0	15,000
SHORT ORDERS	CONT.380	22,500				22,500
PUMPS	CONT.385	6,000				6,000
WALKOVERS	CONT.390	2,500				2,500
Downhole Lift Equipment			PCOMT.410	Nipples, parts, and fittings	7,000	87,000
Surface Equipment			PCOMT.420	Sand Separator Purchase	50,000	50,000
Well Automation Materials			PCOMT.455	Misc. Automation Materials	15,000	15,000
N/C Lease Equipment	CONT.400	93,500				93,500
Battery Equipment	CONT.410	124,000				124,000
Secondary Containments	CONT.415	8,500				8,500
Overhead Power Distribution	CONT.420	41,000				41,000
Facility Electrical	CONT.425	25,000				25,000
Telecommunication Equipment	CONT.426	1,000				1,000
Meters and Metering Equipment	CONT.445	15,500				15,500
Facility Line Pipe	CONT.450	15,000				15,000
Lease Automation Materials	CONT.455	48,500				48,500
FL/GL - Materials	CONT.550	19,500				19,500
FL/GL - Line Pipe	CONT.555	65,500				65,500
Total Tangible Cost		488,000			72,000	1,460,000
Total Estimated Cost		1,088,000			425,855	9,927,955



Authorization For Expenditure Drilling

AFE # 26720030

Company Entity
Cimarex Energy Co (001)

Date Prepared
4/14/2020

Exploration Region	Well Name	Prospect	Property Number	AFE
Permian Basin	JAMES 20-29 FEDERAL COM 39H	New Mexico Bone Spring Pros (Lea)	301471-498.01	26720030
County, State	Location	Estimated Spud	Estimated Completion	
Lea, NM	Sec 20&29-T23S-R32E, Lea County, NM	8/19/2020		
<input checked="" type="checkbox"/> New <input type="checkbox"/> Supplement <input type="checkbox"/> Revision	Formation	Well Type	Ttl Measured Depth	Ttl Vertical Depth
	Bone Spring	DEV	20,500	10,850

Purpose **Drill and complete well**

Description

Drilling **Drill and complete a horizontal test. Drill to 1160' set surface casing. Drill to 4642' set intermediate casing. Drill to 10373' (KOP). Drill curve at 12"/100' initial build rate to +/- 90 degrees and 10850' TVD and drill a +/- 9280' long lateral in the bone spring formation. Run and cement production Casing. Stage frac in 44 stages. Drill out plugs. Run production packer, tubing and GLVs.**

Intangible	Dry Hole	After Casing Point	Completed Well Cost
Drilling Costs	\$3,182,860		\$3,182,860
Completion Costs		\$5,285,095	\$5,285,095
Total Intangible Cost	\$3,182,860	\$5,285,095	\$8,467,955
Tangible	Dry Hole	After Casing Point	Completed Well Cost
Well Equipment	\$200,000	\$783,000	\$983,000
Lease Equipment		\$488,000	\$488,000
Total Tangible Cost	\$200,000	\$1,271,000	\$1,471,000
Total Well Cost	\$3,382,860	\$6,556,095	\$9,938,955

Comments On Well Costs

1. All tubulars, well or lease equipment is priced by COPAS and CEPS guidelines using the Historic Price Multiplier.

Well Control Insurance

Unless otherwise indicated below, you, as a non-operating working interest owner, agree to be covered by Operator's well control insurance procured by Operator so long as Operator conducts operations hereunder and to pay your prorated share of the premiums therefore. If you elect to purchase your own well control insurance, you must provide a certificate of such insurance acceptable to Operator, as to form and limits, at the time this AFE is returned, if available, but in no event later than commencement of drilling operations. You agree that failure to provide the certificate of insurance, as provided herein, will result in your being covered by insurance procured by Operator.

☒ I elect to purchase my own well control insurance policy.

Marketing Election

Cimarex sells its gas under arm's-length contracts with third party purchasers. Such contracts may include fees. In addition, penalties may be incurred for insufficient volumes delivered over time. Should you choose to market your share of gas with Cimarex, you will be subject to all of the terms of such contracts. Upon written request to Cimarex's Marketing Department, we will share with you the terms and conditions pursuant to which gas will be sold. Failure to make an election below shall be deemed an election to market your gas with Cimarex under the terms and conditions set forth above.

☐ I elect to take my gas in kind.

☐ I elect to market my gas with Cimarex pursuant to the terms and conditions of its contract.

Comments on AFE

The above costs are estimates only and anticipate trouble free operations without any foreseeable change in plans. The actual costs may exceed the estimated costs without affecting the authorization for expenditure herein granted. By approval of this AFE, the working interest owner agrees to pay its proportionate share of actual legal, curative, regulatory and well costs under term of the joint operating agreement, regulatory order or other applicable agreement covering this well.

Nonoperator Approval

Company	Approved By (Print Name)	Approved By (Signature)	Date

NOTICE TO NONOPERATOR: Costs shown on this form are estimates only. By executing this AFE, the consenting party agrees to pay its proportionate share of actual costs incurred. Overhead will be charged in accordance with the Joint Operating Agreement.

4/14/2020



Description	BCP - Drilling		ACP - Drilling		Comp/Stim		Production Equip		Post Completion		Total
	Codes	Amount	Codes	Amount	Codes	Amount	Codes	Amount	Codes	Amount	Cost
Roads & Location	DIDC.100	100,000			STIM.100	5,000	CON.100	7,500	PCOM.100	30,000	142,500
Damages	DIDC.105	10,000					CON.105	4,500			14,500
Mud/Fluids Disposal	DIDC.255	250,000			STIM.255	57,000			PCOM.255	0	307,000
Day Rate	DIDC.115	668,860	DICC.120	110,240							779,100
Misc Preparation	DIDC.120	45,000									45,000
Bits	DIDC.125	100,000	DICC.125	0	STIM.125	0			PCOM.125	0	100,000
Fuel	DIDC.135	110,000	DICC.130	0					PCOM.130	0	110,000
Water for Drilling Rig (Not Frac Water)	DIDC.140	5,000	DICC.135	0	STIM.135	25,000			PCOM.135	0	30,000
Mud & Additives	DIDC.145	350,000									350,000
SWD PIPED TO 3RD PARTY SWD WELL									PCOM.257	91,080	91,080
Surface Rentals	DIDC.150	116,000	DICC.140	0	STIM.140	179,000	CON.140	3,000	PCOM.140	120,000	418,000
Flowback Labor					STIM.141	0			PCOM.141	64,000	64,000
Downhole Rentals	DIDC.155	141,000			STIM.145	0			PCOM.145	0	141,000
Automation Labor							CON.150	53,500	PCOM.150	5,000	58,500
Mud Logging	DIDC.170	30,000									30,000
IPC & EXTERNAL PAINTING							CON.165	4,000			4,000
Cementing & Float Equipment	DIDC.185	105,000	DICC.155	175,000							280,000
Tubular Inspections	DIDC.190	40,000	DICC.160	5,000	STIM.160	2,000			PCOM.160	0	47,000
Casing Crews	DIDC.195	15,000	DICC.165	20,000	STIM.165	0					35,000
Mechanical Labor	DIDC.200	15,000	DICC.170	5,000	STIM.170	0	CON.170	152,500	PCOM.170	4,500	177,000
Trucking/Transportation	DIDC.205	20,000	DICC.175	15,000	STIM.175	7,000	CON.175	18,500	PCOM.175	5,000	65,500
Supervision	DIDC.210	117,000	DICC.180	16,000	STIM.180	71,000	CON.180	23,500	PCOM.180	0	227,500
Trailer House/Camp/Catering	DIDC.280	50,000	DICC.255	6,000	STIM.280	52,000					108,000
Other Misc Expenses	DIDC.220	3,000	DICC.190	0	STIM.190	43,000	CON.190	30,000	PCOM.190	0	76,000
Overhead	DIDC.225	10,000	DICC.195	5,000							15,000
MOB/DEMOB	DIDC.240	300,000									300,000
Directional Drilling Services	DIDC.245	209,000									209,000
Solids Control	DIDC.260	109,000									109,000
Well Control Equip (Snubbing Services)	DIDC.265	95,000	DICC.240	0	STIM.240	76,000			PCOM.240	0	171,000
Completion Rig					STIM.115	21,000			PCOM.115	0	21,000
Coil Tubing Services					STIM.260	354,000			PCOM.260	0	354,000
Completion Logging/Perforating/Wireline					STIM.200	365,000			PCOM.200	0	365,000
Composite Plugs					STIM.390	88,000			PCOM.390	0	88,000
Stimulation Pumping/Chemicals/Additives/Sand					STIM.210	2,072,000			PCOM.210	0	2,072,000
Stimulation Water/Water Transfer/Water Storage					STIM.395	309,000					309,000
Cinarex Owned Frac/Rental Equipment					STIM.305	42,000			PCOM.305	0	42,000
Legal/Regulatory/Curative	DIDC.300	10,000					CON.300	0			10,000
Well Control Insurance	DIDC.285	7,000									7,000
Major Construction Overhead							CON.305	24,500			24,500
FL/GL - ON PAD LABOR							CON.495	36,000			36,000
FL/GL - Labor							CON.500	103,500			103,500
FL/GL - Supervision							CON.505	36,000			36,000
Survey							CON.515	4,000			4,000
Contingency	DIDC.435	152,000	DICC.220	18,000	STIM.220	188,000	CON.220	72,000	PCOM.220	34,275	464,275
Contingency							CON.221	27,000			27,000
Total Intangible Cost		3,182,860		375,240		3,956,000		600,000		353,855	8,467,955
Surface Casing	DWEB.140	41,000									41,000
Intermediate Casing 1	DWEB.145	139,000									139,000
Production Casing or Liner			DWEA.100	505,000							505,000
Tubing					STIMT.105	66,000			PCOMT.105	0	66,000
Wellhead, Tree, Chokes	DWEB.115	20,000	DWEA.120	20,000	STIMT.120	25,000			PCOMT.120	0	65,000
Packer, Nipples					STIMT.400	15,000			PCOMT.400	0	15,000
SHORT ORDERS							CONT.380	22,500			22,500
PUMPS							CONT.385	6,000			6,000
WALKOVERS							CONT.390	2,500			2,500
Downhole Lift Equipment					STIMT.410	80,000			PCOMT.410	7,000	87,000
Surface Equipment									PCOMT.420	50,000	50,000
Well Automation Materials									PCOMT.455	15,000	15,000
N/C Lease Equipment							CONT.400	93,500			93,500
Battery Equipment							CONT.410	124,000			124,000
Secondary Containments							CONT.415	8,500			8,500
Overhead Power Distribution							CONT.420	41,000			41,000
Facility Electrical							CONT.425	25,000			25,000
Telecommunication Equipment							CONT.426	1,000			1,000
Meters and Metering Equipment							CONT.445	15,500			15,500
Facility Line Pipe							CONT.450	15,000			15,000
Lease Automation Materials							CONT.455	48,500			48,500
FL/GL - Materials							CONT.550	19,500			19,500
FL/GL - Line Pipe							CONT.555	65,500			65,500
Total Tangible Cost		200,000		525,000		186,000		488,000		72,000	1,471,000
Total Estimated Cost		3,382,860		900,240		4,142,000		1,088,000		425,855	9,938,955



Description	BCP - Drilling			ACP - Drilling			Comp/Stim	
	Codes		Amount	Codes		Amount	Codes	Amount
Roads & Location	DIDC.100		100,000				STIM.100	5,000
Damages	DIDC.105		10,000					
Mud/Fluids Disposal	DIDC.255		250,000				STIM.255	57,000
Day Rate	DIDC.115	23 days at \$26,000/day	668,860	DICC.120	4 days at \$26,000/day	110,240		
Misc Preparation	DIDC.120		45,000					
Bits	DIDC.125		100,000	DICC.125		0	STIM.125	0
Fuel	DIDC.135	1,300 gal/day at \$3.00/gal	110,000	DICC.130		0		
Water for Drilling Rig (Not Frac Water)	DIDC.140		5,000	DICC.135		0	STIM.135	25,000
Mud & Additives	DIDC.145		350,000					
SWD PIPED TO 3RD PARTY SWD WELL								
Surface Rentals	DIDC.150	Per Day (BCP)/day	116,000	DICC.140		0	STIM.140	179,000
Flowback Labor							STIM.141	0
Downhole Rentals	DIDC.155		141,000				STIM.145	0
Automation Labor								
Mud Logging	DIDC.170	21 days at \$1,200/day	30,000					
IPC & EXTERNAL PAINTING								
Cementing & Float Equipment	DIDC.185		105,000	DICC.155		175,000		
Tubular Inspections	DIDC.190		40,000	DICC.160		5,000	STIM.160	2,000
Casing Crews	DIDC.195		15,000	DICC.165		20,000	STIM.165	0
Mechanical Labor	DIDC.200		15,000	DICC.170		5,000	STIM.170	0
Trucking/Transportation	DIDC.205		20,000	DICC.175		15,000	STIM.175	7,000
Supervision	DIDC.210		117,000	DICC.180		16,000	STIM.180	71,000
Trailer House/Camp/Catering	DIDC.280		50,000	DICC.255		6,000	STIM.280	52,000
Other Misc Expenses	DIDC.220		3,000	DICC.190		0	STIM.190	43,000
Overhead	DIDC.225		10,000	DICC.195		5,000		
MOB/DEMOB	DIDC.240		300,000					
Directional Drilling Services	DIDC.245		209,000					
Solids Control	DIDC.260		109,000					
Well Control Equip (Snubbing Services)	DIDC.265		95,000	DICC.240		0	STIM.240	76,000
Completion Rig							STIM.115	21,000
Coil Tubing Services							STIM.260	354,000
Completion Logging/Perforating/Wireline							STIM.200	365,000
Composite Plugs							STIM.390	88,000
Stimulation							STIM.210	2,072,000
Stimulation Water/Water Transfer/Water							STIM.395	309,000
Cimarex Owned Frac/Rental Equipment							STIM.305	42,000
Legal/Regulatory/Curative	DIDC.300		10,000					
Well Control Insurance	DIDC.285	\$0.35/ft	7,000					
Major Construction Overhead								
FL/GL - ON PAD LABOR								
FL/GL - Labor								
FL/GL - Supervision								
Survey								
Contingency	DIDC.435	500 % of Drilling Intangibles	152,000	DICC.220		18,000	STIM.220	188,000
Contingency								
Total Intangible Cost			3,182,860			375,240		3,956,000
Surface Casing	DWEB.140	13 3/8" - 1,160ft at \$35.00/ft	41,000					
Intermediate Casing 1	DWEB.145	9 5/8" - 4,642ft at \$30.00/ft	139,000					
Production Casing or Liner				DWEA.100	7x5.5" - 20,406ft at \$24.76/ft	505,000		
Tubing							STIMT.105	2 7/8" - 9,370ft at \$7.00/ft
Wellhead, Tree, Chokes	DWEB.115		20,000	DWEA.120		20,000	STIMT.120	66,000
Packer, Nipples							STIMT.400	25,000
SHORT ORDERS								15,000
PUMPS								
WALKOVERS								
Downhole Lift Equipment							STIMT.410	80,000
Surface Equipment								
Well Automation Materials								
N/C Lease Equipment								
Battery Equipment								
Secondary Containments								
Overhead Power Distribution								
Facility Electrical								
Telecommunication Equipment								
Meters and Metering Equipment								
Facility Line Pipe								
Lease Automation Materials								
FL/GL - Materials								
FL/GL - Line Pipe								
Total Tangible Cost			200,000			525,000		186,000
Total Estimated Cost			3,382,860			900,240		4,142,000



Description	Production Equip			Post Completion			Total
	Codes	Amount	Codes	Amount	Cost		
Roads & Location	CON.100	7,500	PCOM.100	30,000	142,500		
Damages	CON.105	4,500			14,500		
Mud/Fluids Disposal			PCOM.255	0	307,000		
Day Rate					779,100		
Misc Preparation					45,000		
Bits			PCOM.125	0	100,000		
Fuel			PCOM.130	0	110,000		
Water for Drilling Rig (Not Frac Water)			PCOM.135	0	30,000		
Mud & Additives					350,000		
SWD PIPED TO 3RD PARTY SWD WELL			PCOM.257	2200 BWPD for 60 days @ \$0.69/bbl	91,080		
Surface Rentals	CON.140	3,000	PCOM.140		120,000		
Flowback Labor			PCOM.141		64,000		
Downhole Rentals			PCOM.145		0		
Automation Labor	CON.150	53,500	PCOM.150	5,000	58,500		
Mud Logging					30,000		
IPC & EXTERNAL PAINTING	CON.165	4,000			4,000		
Cementing & Float Equipment					280,000		
Tubular Inspections			PCOM.160	0	47,000		
Casing Crews					35,000		
Mechanical Labor	CON.170	152,500	PCOM.170	4,500	177,000		
Trucking/Transportation	CON.175	18,500	PCOM.175	5,000	65,500		
Supervision	CON.180	23,500	PCOM.180	0	227,500		
Trailer House/Camp/Catering					108,000		
Other Misc Expenses	CON.190	30,000	PCOM.190	0	76,000		
Overhead					15,000		
MOB/DEMOB					300,000		
Directional Drilling Services					209,000		
Solids Control					109,000		
Well Control Equip (Snubbing Services)			PCOM.240	0	171,000		
Completion Rig			PCOM.115	0	21,000		
Coil Tubing Services			PCOM.260	0	354,000		
Completion Logging/Perforating/Wireline			PCOM.200	0	365,000		
Composite Plugs			PCOM.390	0	88,000		
Stimulation Pumping/Chemicals/Additives/Sand			PCOM.210	0	2,072,000		
Stimulation Water/Water Transfer/Water					309,000		
Cimarex Owned Frac/Rental Equipment			PCOM.305	0	42,000		
Legal/Regulatory/Curative	CON.300	0			10,000		
Well Control Insurance					7,000		
Major Construction Overhead	CON.305	24,500			24,500		
FL/GL - ON PAD LABOR	CON.495	36,000			36,000		
FL/GL - Labor	CON.500	103,500			103,500		
FL/GL - Supervision	CON.505	36,000			36,000		
Survey	CON.515	4,000			4,000		
Contingency	CON.220	72,000	PCOM.220	34,275	464,275		
Contingency	CON.221	27,000			27,000		
Total Intangible Cost		600,000			353,855		8,467,955
Surface Casing							41,000
Intermediate Casing 1							139,000
Production Casing or Liner							505,000
Tubing			PCOMT.105	0	66,000		
Wellhead, Tree, Chokes			PCOMT.120	0	65,000		
Packer, Nipples			PCOMT.400	0	15,000		
SHORT ORDERS	CONT.380	22,500			22,500		
PUMPS	CONT.385	6,000			6,000		
WALKOVERS	CONT.390	2,500			2,500		
Downhole Lift Equipment			PCOMT.410	7,000	87,000		
Surface Equipment			PCOMT.420	50,000	50,000		
Well Automation Materials			PCOMT.455	15,000	15,000		
N/C Lease Equipment	CONT.400	93,500			93,500		
Battery Equipment	CONT.410	124,000			124,000		
Secondary Containments	CONT.415	8,500			8,500		
Overhead Power Distribution	CONT.420	41,000			41,000		
Facility Electrical	CONT.425	25,000			25,000		
Telecommunication Equipment	CONT.426	1,000			1,000		
Meters and Metering Equipment	CONT.445	15,500			15,500		
Facility Line Pipe	CONT.450	15,000			15,000		
Lease Automation Materials	CONT.455	48,500			48,500		
FL/GL - Materials	CONT.550	19,500			19,500		
FL/GL - Line Pipe	CONT.555	65,500			65,500		
Total Tangible Cost		488,000			72,000		1,471,000
Total Estimated Cost		1,088,000			425,855		9,938,955

SUMMARY OF COMMUNICATIONS

Tarpon Engineering Corp., TBO Oil & Gas, LLC and Warren Ventures, Ltd. have all elected and executed the JOA covering the E/2 W/2 of Sections 20 and 29. Their interest does not need to be force pooled.

In addition, the following parties have also signed a JOA that covers the subject lands as it pertains to Tracts 2 and 3:

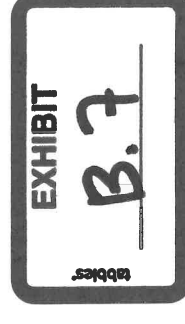
- Ball Oil & Gas, LLC
- Capitan Mountain Oil & Gas, LLC
- Patrick J.F. Gratton
- Centennial, LLC
- Earl A. Latimer, III and wife, Kathryn S. Latimer
- Marker Petroleum, Inc.
- Har-Vest, LLC
- Kerry D. Hunter
- J 4 Family limited Partnership
- H. Lee Harvard & Joanne W. Harvard Trust
- Harvard Petroleum Company, LLC

Devon Contact:

3/3/2020-4/13/2020 – Multiple calls and 19 emails to discuss path forward on development of these and trade concepts broached to acquire Devon's "Double X" acreage in Section 24, T24S, R32E, Lea County, NM. Received a competing proposal from Katie Dean, Devon Landman, for the Bigger Cat 16-4 Fed Com wells on April 7, 2020. Trade discussion is on going.

EGO Contact:

3/31/2020-4/13/2020 – Multiple calls and 17 emails to discuss our development plans for the wells. We executed a Letter Agreement with them that allows for EOG to not have to respond to a well proposal unless it is within 90 days of spud and that they would have a 30 day election period once received.



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

**APPLICATION OF CIMAREX
ENERGY CO. FOR COMPULSORY
POOLING, LEA COUNTY,
NEW MEXICO**

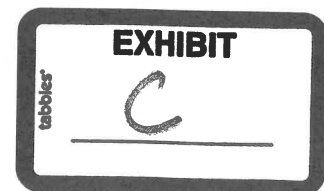
CASE NO. 21144

AFFIDAVIT OF LUCAS HAAS

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

Lucas Haas, being duly sworn, deposes and states:

1. I am over the age of 18, I am a geologist for Cimarex Energy Co. ("Cimarex"), and have personal knowledge of the matters stated herein.
2. I have not previously testified before the Oil Conservation Division ("Division").
3. I attended the State University of New York at Binghamton where I received a Bachelor of Science degree in Geology. I graduated in the spring of 2015. I attended the University of Colorado Boulder where I received a Master of Science degree in Geology. I graduated in the fall of 2018.
4. I have worked as a geologist since January 2019. My work for Cimarex includes the Permian Basin in New Mexico and I have been involved in the study and evaluation of the Bone Spring formation in the area of Lea County encompassing Cimarex's **James 20-29 Federal Com 38H and 39H wells** (*hereinafter* "Proposed Wells"). My resume summarizing my educational and work experience is attached immediately to this affidavit.




5. I conducted a geological study of the area that encompasses the horizontal spacing unit that is the subject of Cimarex's application in this case and am familiar with the geological matters involved in this case.

6. As part of my study, I have prepared the following geological exhibits with respect to the horizontal spacing unit that are attached hereto:

- a. **Exhibit C.1** contains both a Locator and a Structure Map. On the left, the Delaware Basin regional map identifies the location of the James 20-29 project area within the Delaware Basin for the Bone Spring horizontal spacing unit that is the subject of this application. On the right, the Structure Map of the base of the 2nd Bone Spring Sandstone formation identifies the Proposed Wells with black dotted lines and the well names, and the cross-section running from A-A' with the cross-section well names and a blue line in proximity to the Proposed Wells. The Structure Map shows that the structure gradually dips to the east. It also identifies the sections in which the Proposed Wells and cross-section wells are located, and the proposed Bone Spring unit that is the subject of this application.
- b. **Exhibit C.2** is a Gross Thickness Isopach Map. It shows that the gross thickness of the 2nd Bone Spring Sand interval ranges from 540 ft 560 ft and is relatively uniform across the proposed Bone Spring Unit. It also identifies the location of the Proposed Wells.
- c. **Exhibit C.3** is a Winerack/Lateral Trajectory Diagram. This diagram identifies the James 20-29 development plan, which includes the Proposed Wells identified in bright green that are located within the Bone Spring horizontal spacing unit that is the subject of this application.

- d. **Exhibit C.4** is a Stratigraphic Cross Section flattened on the base of the 2nd Bone Spring Sandstone formation. The well logs on the cross-section give a representative sample of the Bone Spring formation in the area. The target zone for the wells is the 2nd Bone Spring Sand formation, and that zone is consistent across the unit. The planned well-paths for the Proposed Wells are indicated by purple lines and well numbers. The distance between well depths is also provided.
 - e. **Exhibit C.5** includes two Wellbore Diagrams for each Proposed Well, individually.
7. Based upon my study as illustrated in these exhibits, knowledge of the geology in this area, and education and training, it is my expert opinion that:
- a. The horizontal spacing unit is justified from a geologic standpoint.
 - b. There are no structural impediments or faulting that will interfere with horizontal development.
 - c. Each quarter-quarter section in the unit will contribute more or less equally to production.
8. The preferred well orientation in this area is either N-S or E-W. This is due to the fact that regional max horizontal stress orientation in this area is approximately N55E. *See Snee & Zoback, 2018.*
9. The producing interval for the **James 20-29 Federal Com 38H** well will be orthodox and will comply with the Division's set back requirements. The producing interval for the **James 20-29 Federal Com 39H** well will be unorthodox and closer than 330' to the W/2 W/2 of Sections 20 and 29, and has been approved for a Non-Standard Location under Administrative Order NSL-7994.

10. Pursuant to Rule 1-011 NMRA, I declare and affirm under penalty of perjury under the laws of the State of New Mexico that the foregoing statements are true and correct to the best of my knowledge and belief.



Lucas Haas

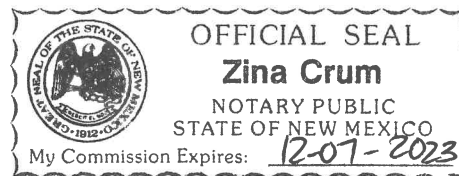
4/13/20

SUBSCRIBED AND SWORN to before me this 13th day of April 2020 by Lucas Haas.



Notary Public

My commission expires: 12-07-2023



LUCAS HAAS

Tel: (914) 255-6744 | Email: lucas.j.haas@gmail.com

EDUCATION

UNIVERSITY OF COLORADO

Master of Science, Geology (Advisor: Dr. Paul Weimer)

Boulder, CO

December 2018

- Thesis: *Sequence stratigraphy of Upper Jurassic to Miocene sections, deepwater Morondava Basin, offshore Madagascar*
 - Interpretation of seismic and well data to build a stratigraphic model and identify prospects off the coast of Madagascar
- Society of Exploration Geophysicists (SEG) chapter president (*August 2016 – December 2018*)
- Graduate teaching assistant for introductory geology, sedimentology/stratigraphy, and upper-level field courses

STATE UNIVERSITY OF NEW YORK AT BINGHAMTON

Bachelor of Science, Geology

Binghamton, NY

May 2015

PROFESSIONAL EXPERIENCE

CIMAREX ENERGY CO. *U.S. exploration and production company*

Midland, TX

Geologist, Delaware Basin

January 2019 – Current

- Responsible for well planning and operations in southern Lea County, NM acreage; planned and executed multi-well developments by effectively coordinating with landmen, regulatory specialists, and engineers
- Maximized acreage value by comparing well productivity to geological trends to optimize landing zones and well spacing
- Generated pre-drill geological prognoses; managed 3rd party mudlogging services; communicated drill plan revisions to geosteering team; reported post-drill operational and cost reports to management
- Evaluated acreage trade deals between Cimarex and other top Delaware Basin operators; assessed geological and economic potential of federal land sales and OBO (*operated-by-others*) well proposals
- Assessed offset competitor activity with reservoir engineering team; applied key learnings to future Cimarex developments
- Appraised new exploration ideas across the Permian Basin (Central Basin Platform, Eastern Midland Basin, Northwest Shelf) alongside senior geoscientists; determined new play feasibility and presented findings to exploration management

Geology Intern

May 2018 – August 2018

- Integrated core, petrophysical, and production data to generate drilling recommendations in Eddy County, New Mexico
- Selected porosity cut-offs based on core fluid saturations; created geologic maps of the 2nd Bone Spring Sand using Petra
- Evaluated production data from existing wells; identified correlation between geology and well productivity of the 2nd Bone Spring sand; presented well proposals and development scenarios to executive management

PLATTE RIVER ASSOCIATES, INC. *Basin modeling software company*

Boulder, CO

Software Quality Assurance Intern

May 2017 – September 2017

- Constructed geological models using the full-physics modeling software *BasinMod* to debug software updates and improve user-interface/user-experience (UI/UX); coordinated with software engineers to implement patches
- Modeled maturity of the Minnelusa shale source rock in the Powder River Basin to identify initial and peak generation times; quantified volumes of hydrocarbons generated and expelled from the Minnelusa

OMV *Austrian energy company*

Vienna, Austria

Intern, Exploration and Production Group

Summer 2014 & 2015

- Digitized raster logs from the Black Sea (offshore Bulgaria, 2014) and Adriatic Sea (offshore Croatia, 2015); updated LAS files in Eastern Europe exploration database
- Analyzed well logs to identify and pick formation tops; tied tops to 3-D seismic data and mapped reflections; generated seismic structure and isochron maps of pertinent formations to provide regional geologic context

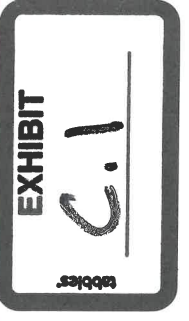
ADDITIONAL INFORMATION

- Foreign languages: German (*fluent*)
- Industry software proficiencies: Petra, Kingdom, StarSteer, Spotfire, BasinMod
- Military service in the Austrian Armed Forces, honorably discharged as Private First Class (*July 2010 – January 2011*)
- Citizenships: United States, Austria, Ireland
- Nautilus courses: Unconventional Resource Engineering; Geomechanics

Locator and Structure Maps

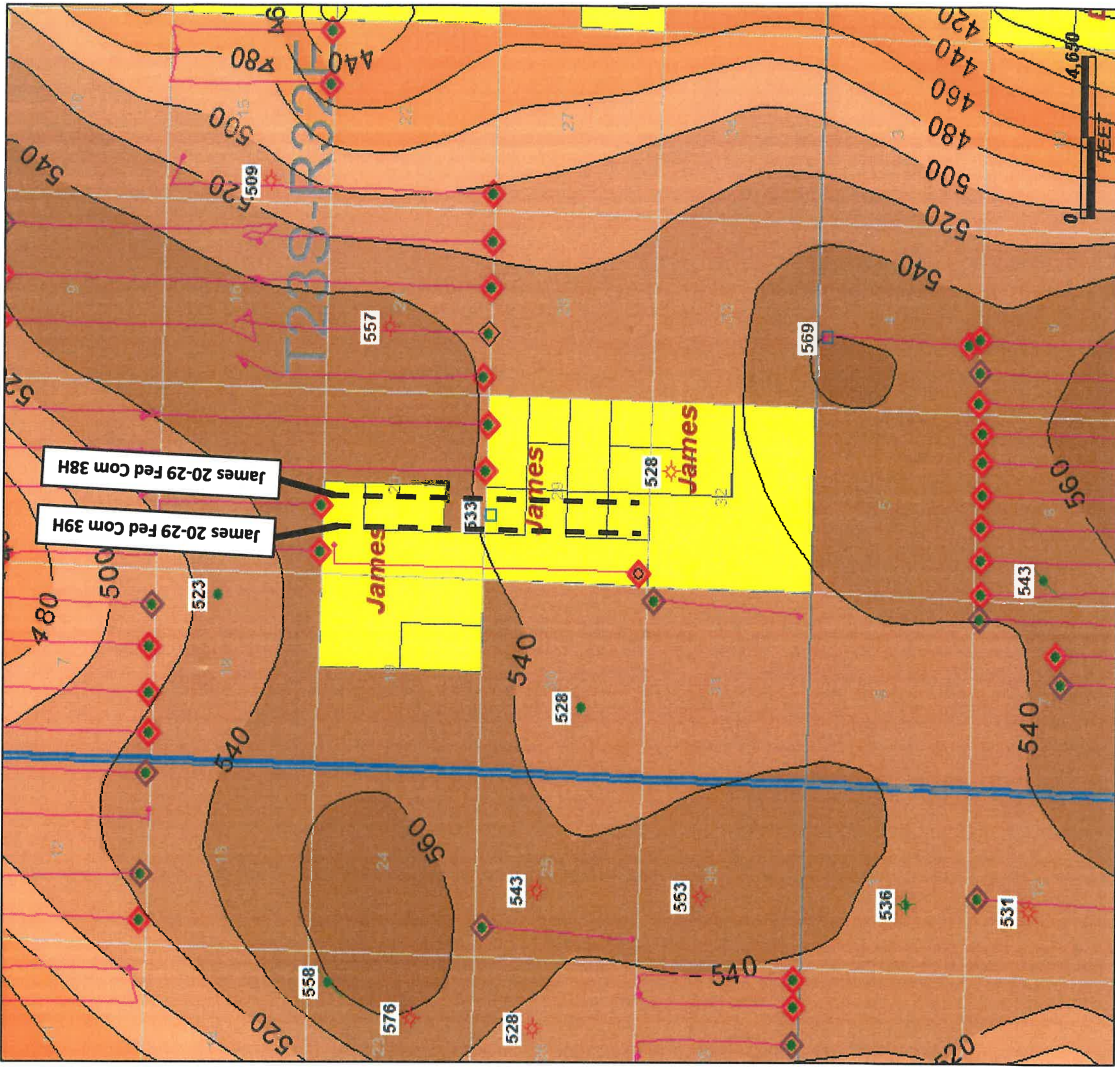
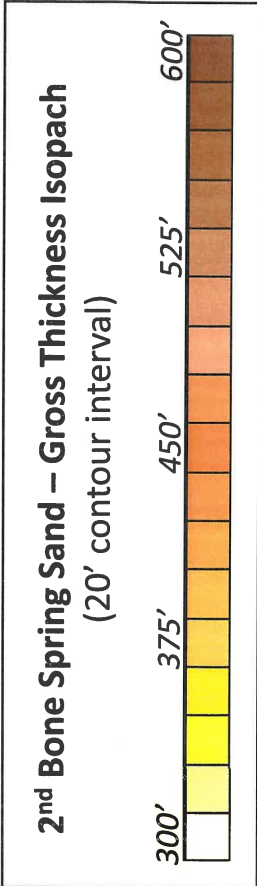
The map displays the border between Texas (TX) and New Mexico (NM). Counties shown include YOAKUM, GAINES, ANDREWS, ECT, CRA, WINKLER, LEA, EDDY, LOMING, WARD, REEVES, and CULBERSON. A red box in Lea County, NM, indicates the area shown in the inset map.

- 1) Delaware Basin regional map (*left*)
- 2) James Area - Base of 2nd Bone Spring Sandstone structure contour map (*right*; SSTVD; 50' intervals)
- 3) Cross section shown in blue (A to A')



2nd Sand Gross Thickness

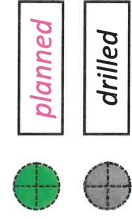
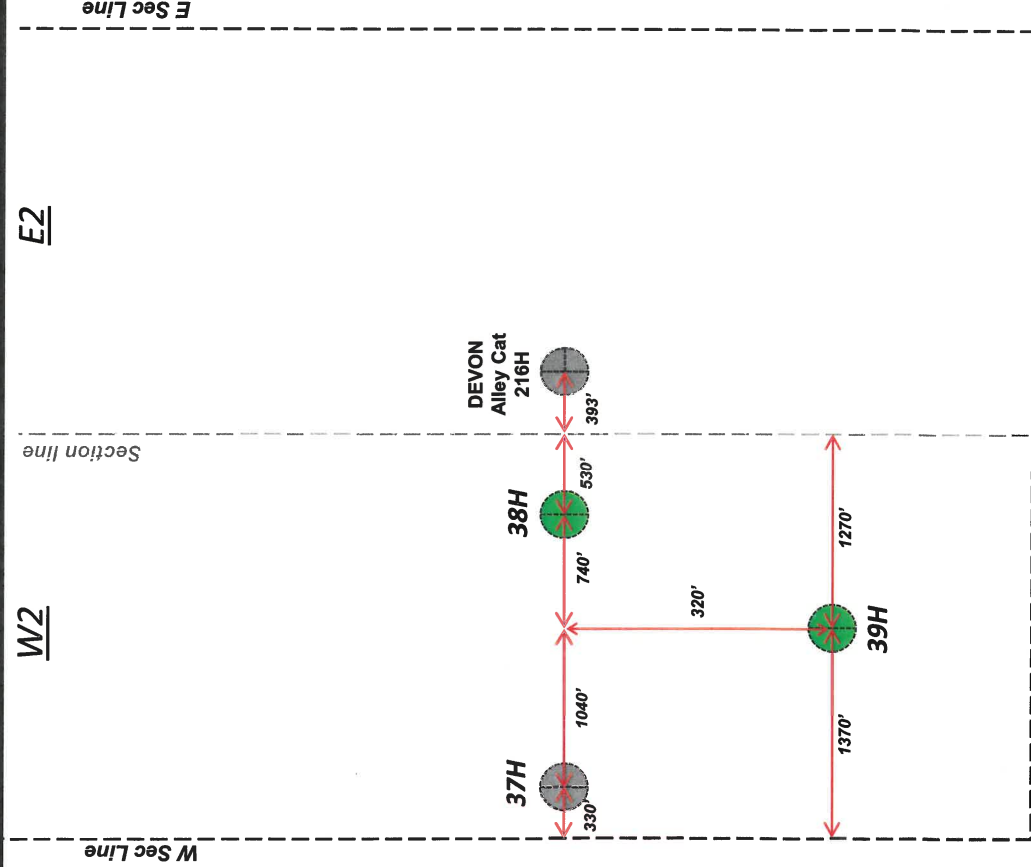
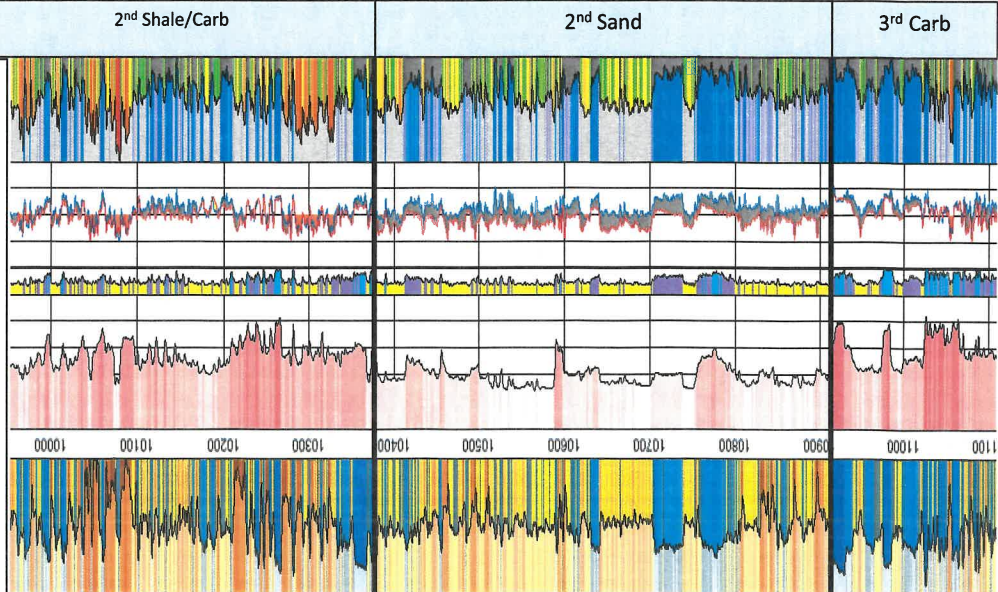
- Upper 2nd BSPG Sand producers
- Lower 2nd BSPG Sand producers
- ## 2nd BSPG Sand Gross Thickness values



XEC James 20-29 Winerack

GR	RES	PE DPHI NPHI	DPHI (15-0%)
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James Federal 20H Pilot Hole - 30025412510000

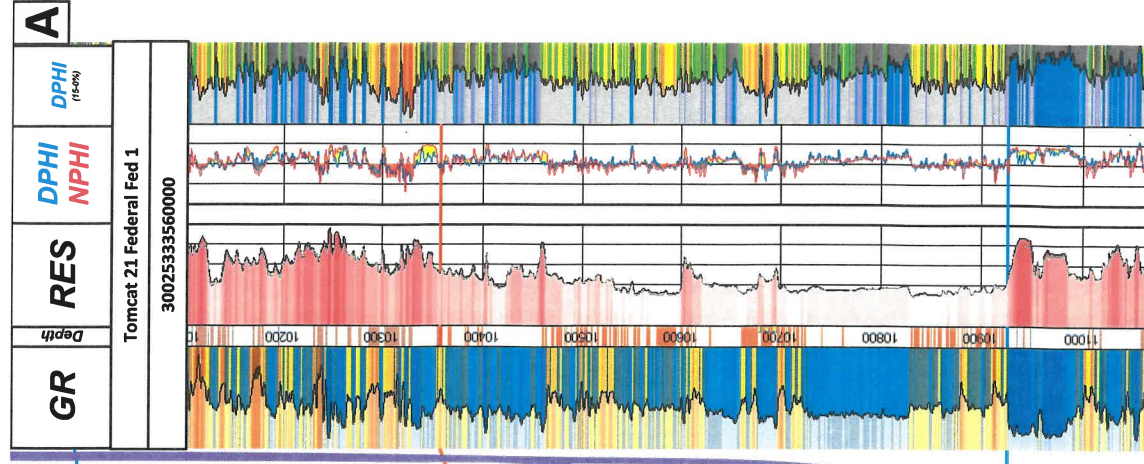
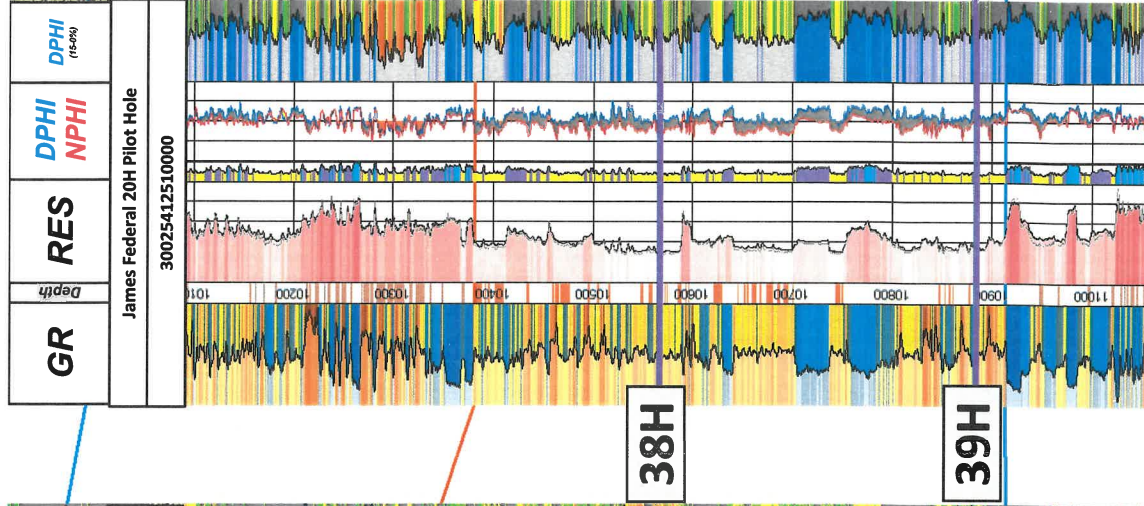
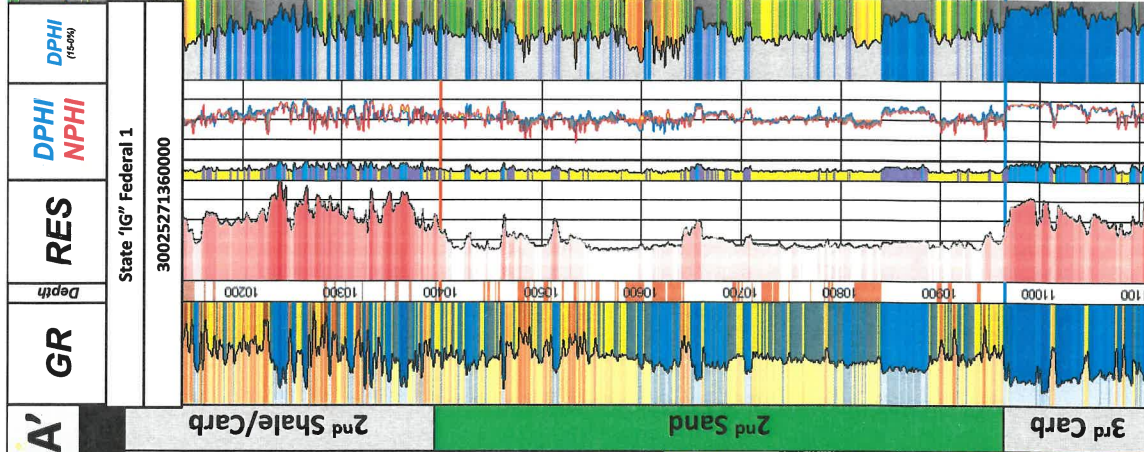
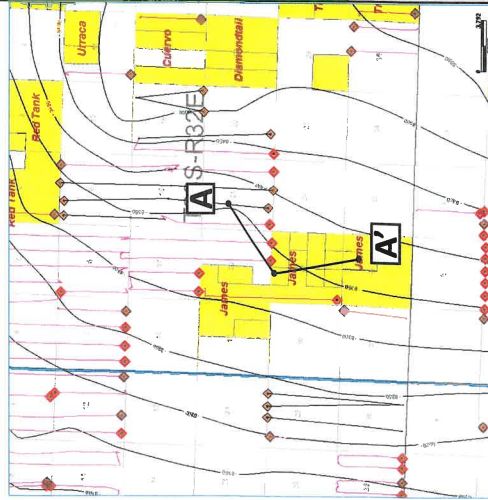


- Upper Middle
- Middle Avalon
- Lower Avalon
- 2nd BSPG - upper



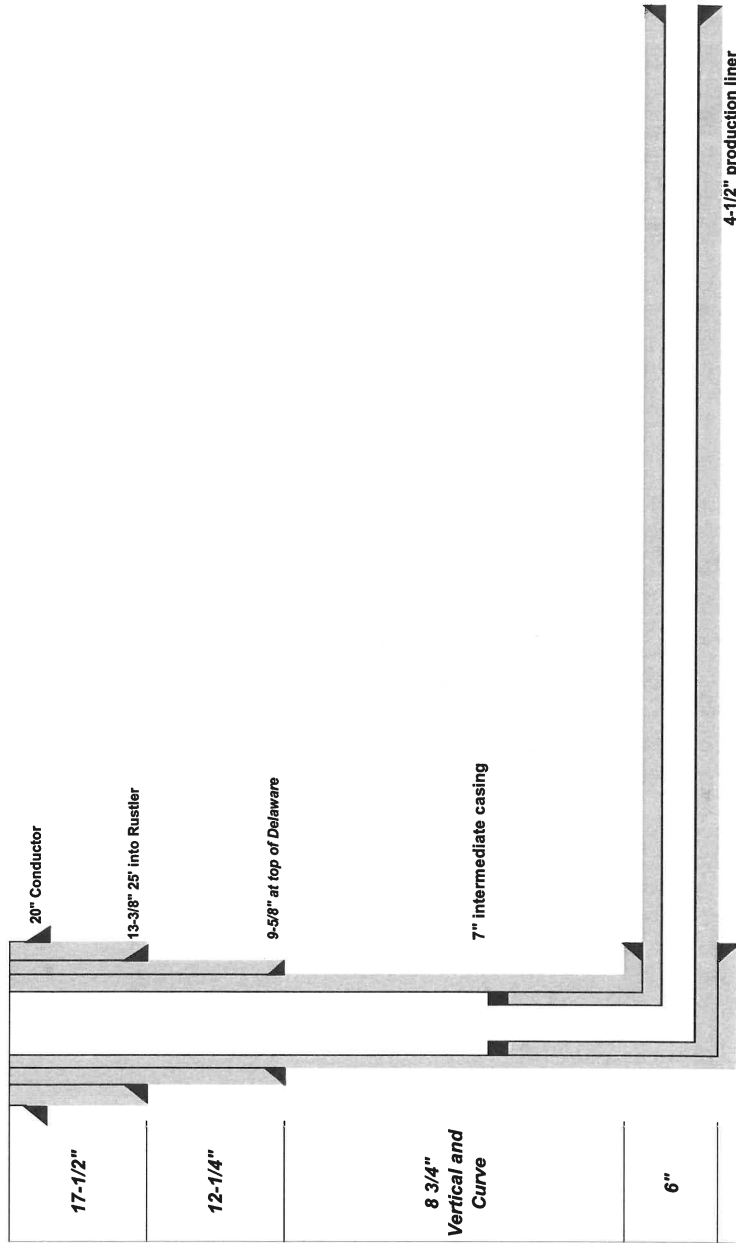
Strat. X-Section

- Proposed well paths shown in **purple**
- Cross section flattened on base of 2nd Bone Spring Sandstone



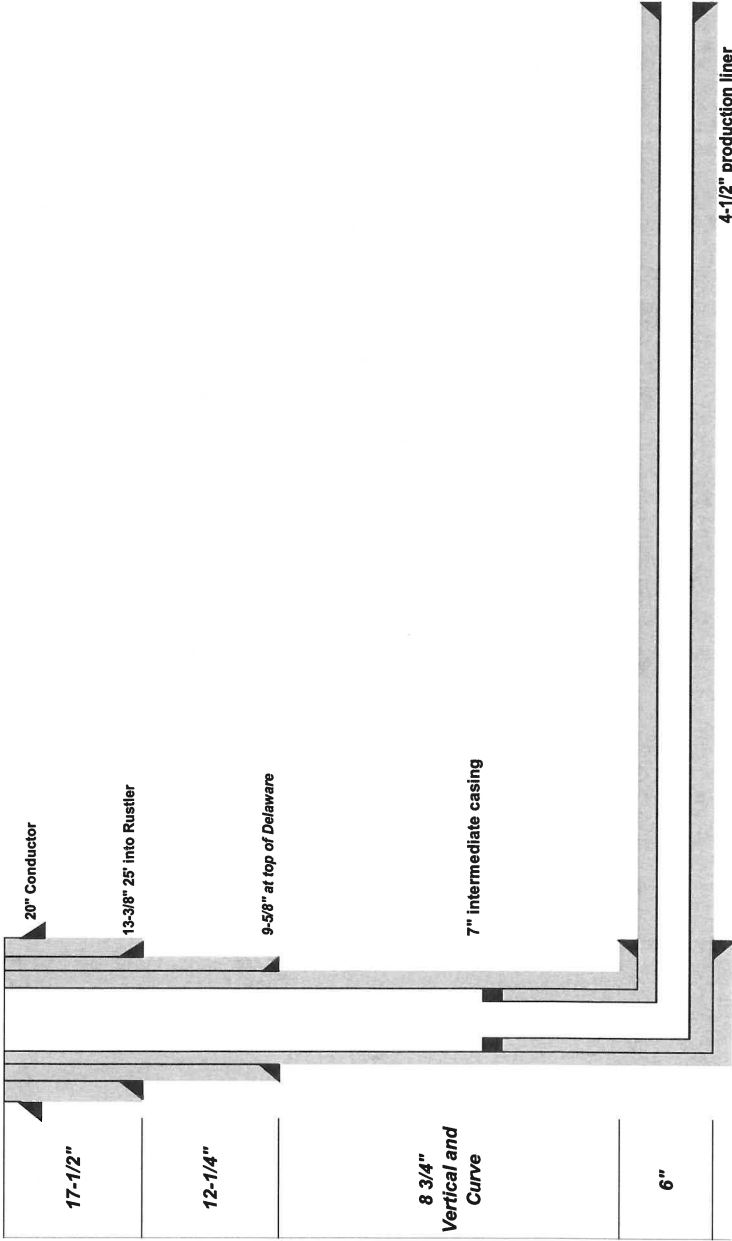
Wellbore Diagram

James 20-29 Fed 38H



Wellbore Diagram

James 20-29 Fed 39H



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

**APPLICATION OF CIMAREX
ENERGY CO. FOR COMPULSORY
POOLING, LEA COUNTY,
NEW MEXICO**

CASE NO. 21144

AFFIDAVIT OF LANCE D. HOUGH

STATE OF NEW MEXICO)
)ss.
COUNTY OF BERNALILLO)

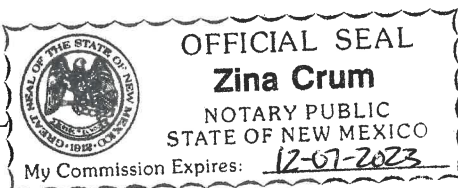
Lance D. Hough, attorney in fact and authorized representative of Cimarex Energy Co. ("Cimarex"), the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application was provided under notice of hearing to parties entitled to notice; and that the following are attached hereto: a sample of said notice of hearing as **Exhibit D.1**, a mailing list for notice of hearing and proof of mailed notice of hearing as **Exhibit D.2**, and proof of published notice of hearing as **Exhibit D.3**. As noted in the Affidavit of Riley Morris, Cimarex has conducted a good faith, diligent effort to find the names and correct addresses for the interest owners entitled to receive notice of the application filed herein.



Lance D. Hough

SUBSCRIBED AND SWORN to before me this 14th day of April 2020 by Lance D. Hough.

S E A L





Notary Public

My commission expires: 12-07-2023

EXHIBIT

D

tabbles



March 27, 2020

Lance D. Hough
Tel: 505.848.1826
Fax: 505.848.9710
Lance.Hough@modrall.com

VIA CERTIFIED MAIL - RETURN RECEIPT REQUESTED

TO: AFFECTED PARTIES

This letter is to advise you that Cimarex Energy Co. has filed the enclosed application with the New Mexico Oil Conservation Division:

Case No. 21144: Application of Cimarex Energy Co. for compulsory pooling, Lea County, New Mexico. Applicant seeks an order from the Division: (1) to the extent necessary, approving the creation of a 320-acre, more or less, Bone Spring horizontal spacing unit; and, (2) pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the E/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. This spacing unit will be dedicated to the **James 20-29 Federal Com 38H and 39H** wells, to be horizontally drilled. The completed interval for the **James 20-29 Federal Com 38H** well will be orthodox; the completed interval for the **James 20-29 Federal Com 39H** well will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Cimarex as operator of the wells, and a 200% charge for risk involved in drilling said wells. Said area is located approximately 23.5 miles east of Loving, New Mexico.

This application has been set for hearing before a Division Examiner at **8:15 a.m. on April 16, 2020**. The hearing will be held in Room 311 in the New Mexico State Capitol Building located at 490 Old Santa Fe Trail, Santa Fe, New Mexico 87501. As a party who may be affected by this application, we are notifying you of your right to appear at the hearing and participate in this case, including the right to present evidence either in support of or in opposition to the application. Failure to appear at the hearing may preclude you from any involvement in this case at a later date.

You are further notified that if you desire to appear in this case, then you are requested to file a Pre-Hearing Statement with the Division at least four business days in advance of a scheduled hearing before the Division or the Commission, but

Modrall Sperling
Roehl Harris & Sisk P.A.

500 Fourth Street NW
Suite 1000
Albuquerque,
New Mexico 87102

PO Box 2168
Albuquerque,
New Mexico 87103-2168

Tel: 505.848.1800
www.modrall.com



AFFECTED PARTIES

Cimarex / James 20-29 Federal Com 38H and 39H

March 27, 2020

Page 2

in no event later than 5:00 p.m. mountain time, on the Thursday preceding the scheduled hearing date, with a copy delivered to the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "L. Hough", written over a horizontal line.

Lance D. Hough
Attorney for Applicant

EED/ldh/w3708123.DOCX

Enclosures: as stated

Zina Crum
Modrall Sperling
500 4th Street NW
Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
03/27/2020

Firm Mailing Book ID: 187457

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest. Del. Fee	Reference Contents
1	9314 8699 0430 0070 3443 29	Ball Oil & Gas, LLC P.O. Box 1401 Roswell NM 88202	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
2	9314 8699 0430 0070 3443 36	Capitan Mountain Oil & Gas, LLC P.O. Box 1401 Roswell NM 88202	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
3	9314 8699 0430 0070 3443 43	Centennial LLC P.O. Box 1837 Roswell NM 88202	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
4	9314 8699 0430 0070 3443 50	Earl A. Latimer, III and wife, Kathryn S. Latimer 2008 W 27th St. Roswell NM 88201	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
5	9314 8699 0430 0070 3443 67	EOG Y Resources, Inc. Attn: Chuck Moran 5509 Champions Drive Midland TX 79706	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
6	9314 8699 0430 0070 3443 74	Harvard Petroleum Co., LLC 200 E Second Street Roswell NM 88201	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
7	9314 8699 0430 0070 3443 81	H. Lee Harvard and Jeffery L. Harvard, Co-Trustees H. Lee and Joanne W. Harvard Trust 200 East 2nd St Roswell NM 88201	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
8	9314 8699 0430 0070 3443 98	Har-Vest LLC P.O. Box 936 Roswell NM 88202	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
9	9314 8699 0430 0070 3444 04	J 4 Family Limited Partnership P.O. Box 936 Roswell NM 88202	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
10	9314 8699 0430 0070 3444 11	Kerry D. Hunter P.O. Box 2631 Roswell NM 88202	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
11	9314 8699 0430 0070 3444 28	Marker Petroleum Inc. 4637 E 91st St. Tulsa OK 74137	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
12	9314 8699 0430 0070 3444 35	Patrick J.F. Gratton and wife, Jean M. Gratton P.O. Box 200599 Dallas TX 75220	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
13	9314 8699 0430 0070 3444 42	Charles D Ray 10 Desta Drive, #120 Midland TX 79705	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
14	9314 8699 0430 0070 3444 59	Crump Family Partnership, Ltd 303 Veterans Airpark Ln., #6101 Midland TX 79705	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice

EXHIBIT

tabbles

D.2

Zina Crum
Modrall Sperling
500 4th Street NW
Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
03/27/2020

Firm Mailing Book ID: 187457

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
15	9314 8699 0430 0070 3444 66	Devon Energy Production Company, LP Attn: Outside Operated Properties 333 West Sheridan Avenue Oklahoma City OK 73102	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
16	9314 8699 0430 0070 3444 73	Tarpon Engineering Corporation P.O. Box 60226 Midland TX 79711	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
17	9314 8699 0430 0070 3444 80	TBO Oil & Gas, LLC 214 West Texas Ave., #1101 Midland TX 79701	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
18	9314 8699 0430 0070 3444 97	Warren Ventures, Ltd 808 West Wall Street Midland TX 79701	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
19	9314 8699 0430 0070 3445 03	Oak Valley Mineral and Land, LP 303 Veterans Airpark Ln., #6101 Midland TX 79705	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
20	9314 8699 0430 0070 3445 10	Stillwater Investments P.O. Box 50820 Midland TX 79701	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
21	9314 8699 0430 0070 3445 27	Tumbler Energy Partners, LLC P.O. Box 50938 Midland TX 79710	\$1.20	\$3.55	\$1.70	\$0.00	82762.0197 James Notice
Totals:			\$25.20	\$74.55	\$35.70	\$0.00	
				Grand Total:		\$135.45	

List Number of Pieces Listed by Sender: 21
Total Number of Pieces Received at Post Office: 21
Postmaster: Name of receiving employee: [Signature]
Dated: [Stamp]



Transaction Report Details - CertifiedPro.net
Firm Mail Book ID= 187457
Generated: 4/13/2020 7:45:27 AM

USPS Article Number	Date Created	Name 1	Name 2	Address1	City	State	Zip	Mailing Status	Service Options	Mail Delivery Date
9314869904300070344527	2020-03-27 10:23 AM	Tumbler Energy Partners, LLC		P.O. Box 50938	Midland	TX	79710	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344510	2020-03-27 10:23 AM	Stillwater Investments		P.O. Box 50820	Midland	TX	79701	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344503	2020-03-27 10:23 AM	Oak Valley Mineral and Land, LP		303 Veterans Airpark Ln., #6101	Midland	TX	79705	Undelivered - Forwarded	Return Receipt - Electronic, Certified Mail	03-30-2020
9314869904300070344497	2020-03-27 10:23 AM	Warren Ventures, Ltd		808 West Wall Street	Midland	TX	79701	Delivered	Return Receipt - Electronic, Certified Mail	03-30-2020
9314869904300070344480	2020-03-27 10:23 AM	TBO Oil & Gas, LLC		214 West Texas Ave., #1101	Midland	TX	79701	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300070344473	2020-03-27 10:23 AM	Tarpon Engineering Corporation		P.O. Box 60226	Midland	TX	79711	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300070344466	2020-03-27 10:23 AM	Devon Energy Production Company, LP	Attn: Outside Operated Properties	333 West Sheridan Avenue	Oklahoma City	OK	73102	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344459	2020-03-27 10:23 AM	Cump Family Partnership, Ltd		303 Veterans Airpark Ln., #6101	Midland	TX	79705	Delivered	Return Receipt - Electronic, Certified Mail	04-01-2020
9314869904300070344442	2020-03-27 10:23 AM	Charles D Ray		10 Delta Drive, #120	Midland	TX	79705	Undelivered - To Be Returned	Return Receipt - Electronic, Certified Mail	
9314869904300070344435	2020-03-27 10:23 AM	Patrick J.F. Gratton and wife, Jean M. Gratton		P.O. Box 200599	Dallas	TX	75220	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300070344428	2020-03-27 10:23 AM	Marker Petroleum Inc.		4637 E 91st St.	Tulsa	OK	74137	Delivered	Return Receipt - Electronic, Certified Mail	04-01-2020
9314869904300070344411	2020-03-27 10:23 AM	Kerry D. Hunter		P.O. Box 2631	Roswell	NM	88202	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344404	2020-03-27 10:23 AM	J 4 Family Limited Partnership		P.O. Box 936	Roswell	NM	88202	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344398	2020-03-27 10:23 AM	Har-Vest LLC		P.O. Box 936	Roswell	NM	88202	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344381	2020-03-27 10:23 AM	H. Lee Harvard and Jeffery L. Harvard, Co-Trustees	H. Lee and Joanne W. Harvard Trust	200 East 2nd St	Roswell	NM	88201	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344374	2020-03-27 10:23 AM	Harvard Petroleum Co., LLC		200 E Second Street	Roswell	NM	88201	Delivered	Return Receipt - Electronic, Certified Mail	03-30-2020
9314869904300070344367	2020-03-27 10:23 AM	EOG Y Resources, Inc.	Attn: Chuck Moran	5509 Champions Drive	Midland	TX	79706	Delivered	Return Receipt - Electronic, Certified Mail	03-30-2020
9314869904300070344350	2020-03-27 10:23 AM	Earl A. Latimer, III and wife, Kathryn S. Latimer		2008 W 27th St.	Roswell	NM	88201	Delivered	Return Receipt - Electronic, Certified Mail	03-30-2020
9314869904300070344343	2020-03-27 10:23 AM	Centennial LLC		P.O. Box 1837	Roswell	NM	88202	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344336	2020-03-27 10:23 AM	Captain Mountain Oil & Gas, LLC		P.O. Box 1401	Roswell	NM	88202	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020
9314869904300070344329	2020-03-27 10:23 AM	Ball Oil & Gas, LLC		P.O. Box 1401	Roswell	NM	88202	Delivered	Return Receipt - Electronic, Certified Mail	03-31-2020

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

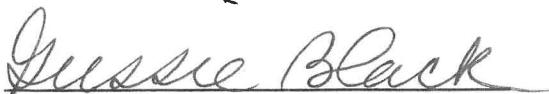
I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
March 17, 2020
and ending with the issue dated
March 17, 2020.

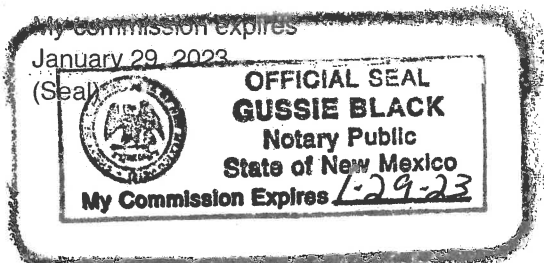


Publisher

Sworn and subscribed to before me this
17th day of March 2020.



Business Manager



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

LEGAL

LEGAL NOTICE MARCH 17, 2020

CASE NO. 21144: Notice to all affected parties, as well as their heirs and devisees, of **Charles D Ray; Crump Family Partnership, Ltd; Devon Energy Production Company, LP; EOG Y Resources, Inc.; Tarpon Engineering Corporation; TBO Oil & Gas, LLC; Warren Ventures, Ltd; Oak Valley Mineral and Land, LP; Stillwater Investments; Tumbler Energy Partners, LLC of Cimarex Energy Co.'s Application for compulsory pooling, Lea County, New Mexico.** The State of New Mexico through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on **April 2, 2020** to consider this application. The hearing will be held in Room 311 in the New Mexico State Capitol Building located at 490 Old Santa Fe Trail, Santa Fe, New Mexico 87501. Applicant seeks an order from the Division: (1) to the extent necessary, approving the creation of a 320-acre, more or less, Bone Spring horizontal spacing unit; and, (2) pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the E/2 W/2 of Sections 20 and 29, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. This spacing unit will be dedicated to the **James 20-29 Federal Com 38H and 39H** wells, to be horizontally drilled. The completed interval for the **James 20-29 Federal Com 38H** well will be orthodox; the completed interval for the **James 20-29 Federal Com 39H** well will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Cimarex as operator of the wells, and a 200% charge for risk involved in drilling said wells. Said area is located approximately 23.5 miles east of Loving, New Mexico.
#35313

01104570

00240684

DOLORES SERNA
MODRALL, SPERLING, ROEHL, HARRIS &
P. O. BOX 2168
ALBUQUERQUE, NM 87103-2168

EXHIBIT

D.3