

Before the Oil Conservation Division
Examiner Hearing October 4, 2018

Case No. 16437

Lea 7 Federal Com 29H

CIMAREX

**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. 16437

AFFIDAVIT

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

Riley Morris, being duly sworn, deposes and states:

1. I am over the age of 18, I am a landman 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") as an expert petroleum landman.
3. I attended Texas Tech University where I received a Bachelor of Business Administration with a focus in energy commerce. I graduated in the spring of 2010.
4. I have worked as a landman since June 2010. I have worked for Devon Energy, Shell, and Anadarko. I worked for Anadarko for 4 and a half years. I joined Cimarex after leaving Anadarko.
5. I am a member of the American Association of Professional Landmen and PBLA (Permian Basin Landmen's Association).
6. Pursuant to NMAC 19.15.4.12.A(1), the following information is submitted in support of the above referenced compulsory pooling application:



- a. The purpose of this application is to force pool working interest owners into the horizontal spacing unit described below, and in the well to be drilled in the unit.
- b. No opposition is expected because the interest owners being pooled have been contacted regarding the proposed well, but have failed or refused to voluntarily commit their interests in the well.
- c. Cimarex seeks an order pooling of all mineral interests in the Bone Spring formation underlying the W/2 E/2 of Section 7, Township 20 South, Range 35 East, N.M.P.M., Lea County, New Mexico. The unit will be dedicated to the Lea 7 Federal Com 29H well.
- d. A plat outlining the unit being pooled is attached hereto as **Exhibit A**. This exhibit identifies the proposed well's location within the unit. It also includes the ownership of each separate tract in the proposed unit and the nature and percent of their interests. The parties being pooled last known addresses are identified in Deana M. Bennett's affidavit, which will be submitted as Exhibit 3 in this matter.
- e. The interest ownership is the same for both the Wolfcamp and the Bone Spring formation.
- f. I have conducted a diligent search of the public records in the county where the well is located, and conducted computer searches to locate contact information for parties entitled to notification, and mailed all parties well proposals, including an Authorization for Expenditure and a form of Operating Agreement.
- g. Cimarex has made a good faith effort to obtain voluntary joinder of the working interest owners in the proposed well.
- h. There are no depth severances within the Bone Spring formation.

- i. Attached as **Exhibit B** is a proposed C-102 for the well. The well will develop the Wildcat Bone Spring pool, which is an oil pool.
 - j. The well will have a surface location in the W/2 E/2 of Section 7, Township 20 South, Range 35 East.
 - k. The well will have a TVD of approximately 11,060'.
 - l. The producing interval for the well will be orthodox and will comply with the Division's set back requirements.
 - m. **Exhibits C and D** are a sample proposal letter and the Authorization for Expenditure for the proposed well. The estimated cost of the well set forth therein is fair and reasonable, and is comparable to the costs of other wells of similar depths and length drilled in this area of New Mexico.
 - n. Cimarex requests overhead and administrative rates of \$7000.00/month for a drilling well and \$700.00/month for a producing well. 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. Cimarex requests that these rates be adjusted periodically as provided in the COPAS Accounting Procedure.
 - o. Cimarex requests the maximum cost plus 200% risk charge be assessed against non-consenting working interest owners.
 - p. Cimarex requests that it be designated operator of the well.
 - q. Cimarex requests an expedited order, because the spud date is set for December 1, 2018.
7. The attachments to this affidavit were prepared by me, or compiled from company business records.

8. I attest that the information provided herein is correct and complete to the best of my knowledge and belief.

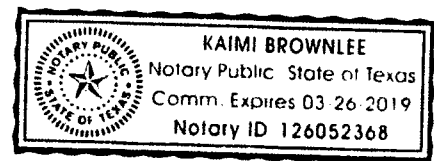
9. The granting of this application is in the interests of conservation and the prevention of waste.


Riley Morris

SUBSCRIBED AND SWORN to before me this 3rd day of October, 2018 by Riley Morris,
on behalf of Cimarex Energy Co.


Notary Public

My commission expires: 3/26/2019



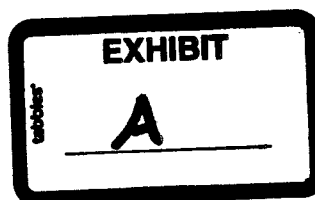
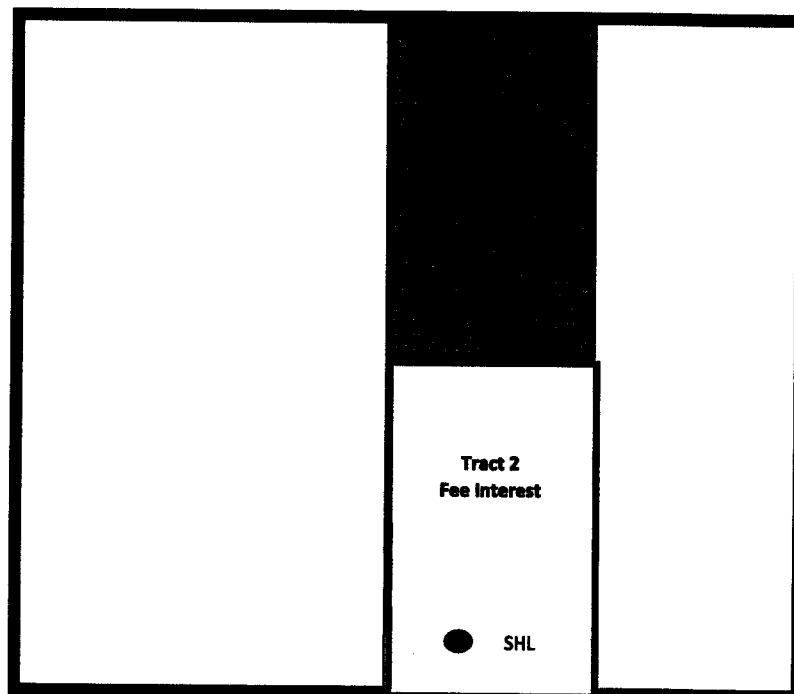
Section 7, Range 20 South, Township 35 East, Lea Co., New Mexico

Lea 7 Federal 29H Well (W/2E/2 – 160.00 acre unit)

Interests to Pool

OWNER	TYPE	NET ACRES
The Long Trusts, Larry P. Long, Managing Trustee	Unleased Minerals	.3595312
Lowe Family, Ltd.	Unleased Minerals	.0288064
Teddy L. Hartley & Roberta Thomas Hartley, as Trustees of the Vora Lowe Hartley Mineral Trust	Unleased Minerals	.0188352
M. Dion Lowe	Unleased Minerals	.0632512
Total		0.470424

Covering Tract 2



District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 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	² Pool Code	³ Pool Name
	97083	Wildcat
⁴ Property Code	⁵ Property Name	⁶ Well Number
	LEA 7 FEDERAL COM	29H
⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
	CIMAREX ENERGY CO.	3676.4'

¹⁰ Surface Location

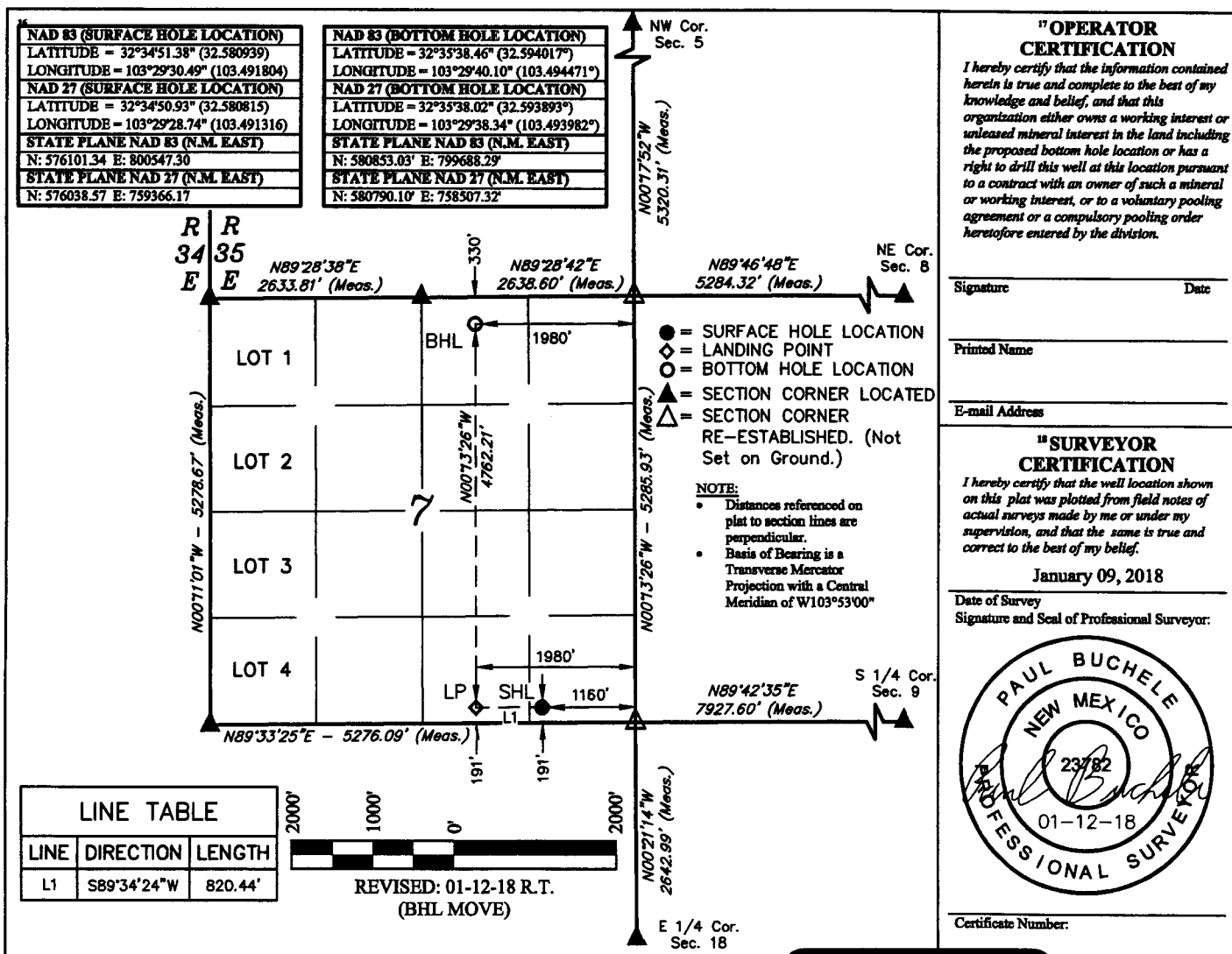
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	7	20S	35E		191	SOUTH	1160	EAST	LEA

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
B	7	20S	35E		330	NORTH	1980	EAST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
1.00 200-			

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.





August 6, 2018

The Long Trusts
118 S. Kilgore St.
Kilgore, Texas 75662

**Re: Proposal to Drill
Lea 7 Fed Com 29H
Section 7, Township 20 South, Range 35 East
Lea County, NM**

Dear Working Interest Owner,

Cimarex Energy Co. hereby proposes to drill the Lea 7 Fed Com 29H well at a legal location in the E/2 of Section 7, Township 20 South, Range 35 East, Lea County, New Mexico.

The intended surface hole location for the well is 191' FSL and 1,159' FEL of Section 7, Township 20 South, Range 35 East, and the intended bottom hole location is 330' FNL and 1,980' FEL of Section 7, Township 20 South, Range 35 East. The well is proposed to be drilled vertically to a depth of approximately 11,120' to the Third Bone Spring formation and laterally in a northerly direction within the formation to the referenced bottom hole location. Total measured depth of the well is proposed to be approximately 16,129' 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, and; (ii) our proposed form of Operating Agreement to govern operations of the Lea 7 Fed Com 29H. If you intend to participate, please approve and return one (1) original of the enclosed AFE, and one (1) original of the signature page to the Operating Agreement, 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.

If you elect not to participate, please so indicate on the attached election form and return it to the attention of the undersigned at the letterhead address. Failure to elect whether or not to participate within 30 days of your receipt of this proposal will, as provided in the Operating Agreement, will be considered an election not to participate.

Please call the undersigned with any questions or comments.

Respectfully,

A handwritten signature in black ink, appearing to be "Cody Elliott", written over a horizontal line.

Cody Elliott, Landman



ELECTION TO PARTICIPATE
Lea 7 Fed Com 29H

_____ The Long Trusts elects **TO** participate in the proposed Lea 7 Fed Com 29H

_____ The Long Trusts elects **NOT** to participate in the proposed Lea 7 Fed Com 29H.

Dated this _____ day of _____, 2018.

Signature: _____

Title: _____

If your election above is TO participate in the proposed Lea 7 Fed Com 29H well, then:

_____ The Long Trusts elects **TO** be covered by well control insurance procured by Cimarex Energy Co.

_____ The Long Trusts 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.



Authorization For Expenditure Drilling

Company Entity

Date Prepared
10/3/2018

Exploration Region Permian Basin	Well Name LEA 7 FEDERAL COM 29H	Prospect New Mexico Bone Spring Pros (Lea)	Property Number 301471-364.01	AFE 26718056
County, State Lea, NM	Location Sec 7-T20S-R35E		Estimated Spud 11/10/2018	Estimated Completion 2/28/2019
X New Supplement Revision	Formation Bone Spring 3 /Sd/	Well Type DEV	Ttl Measured Depth 16,129	Ttl Vertical Depth 11,120

Purpose **Drill and complete well**

Description

Drilling **Drill and complete a horizontal test. Drill to 1780 set surface casing. Drill to 5720' set intermediate casing. Drill to 10643' (KOP). Drill curve at 12"/100' initial build rate to +/- 90 degrees and 11120' TVD and drill a +/- 4280' long lateral in the bone spring formation. Run and cement production liner. Stage frac in stages. Drill out plugs. Run production packer, tubing and GLVs.**

Intangible	Dry Hole	After Casing Point	Completed Well Cost
Drilling Costs	\$2,188,000		\$2,188,000
Completion Costs		\$3,561,900	\$3,561,900
Total Intangible Cost	\$2,188,000	\$3,561,900	\$5,749,900
Tangible	Dry Hole	After Casing Point	Completed Well Cost
Well Equipment	\$279,000	\$484,000	\$763,000
Lease Equipment		\$485,000	\$485,000
Total Tangible Cost	\$279,000	\$969,000	\$1,248,000
Total Well Cost	\$2,467,000	\$4,530,900	\$6,997,900

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

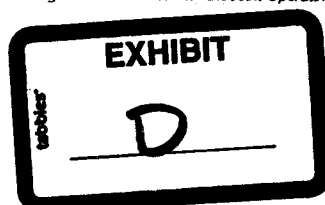
Approved By (Print Name)

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.

10/3/2018





Authorization For Expenditure - LEA 7 FEDERAL COM 29H

BCP - Drilling			ACP - Drilling			Comp/Stim	
Sub Ledger Description	Codes	Amount	Codes	Amount	Codes	Amount	Amount
Roads & Location	DIDC.100	100,000			STIM.100		5,000
Damages	DIDC.105	10,000					
Mud/Fluids Disposal	DIDC.255	125,000			STIM.255		20,000
Day Rate	DIDC.115 20 days at \$23,000/day	483,000	DICC.120 4 days at \$23,000/day	81,000			
Misc Preparation	DIDC.120	35,000					
Bits	DIDC.125	60,000	DICC.125	0	STIM.125		0
Fuel	DIDC.135 1,300 gal/day at \$2.25/gal	73,000	DICC.130	0			
Water for Drilling Rig (Not Frac Water)	DIDC.140	3,000	DICC.135	0	STIM.135		14,000
Mud & Additives	DIDC.145	140,000					
Surface Rentals	DIDC.150 Per Day (BCP)/day	74,000	DICC.140	0	STIM.140		98,000
Downhole Rentals	DIDC.155	162,000			STIM.145		0
Automation Labor							
Formation Evaluation (DST, Coring, etc.)	DIDC.160	0			STIM.150		0
Mud Logging	DIDC.170 17 days at \$1,200/day	25,000					
Open Hole Logging	DIDC.180	0					
Cementing & Float Equipment	DIDC.185	180,000	DICC.155	106,000			
Tubular Inspections	DIDC.190	30,000	DICC.160	5,000	STIM.160		2,000
Casing Crews	DIDC.195	10,000	DICC.165	18,000	STIM.165		0
Mechanical Labor	DIDC.200	15,000	DICC.170	3,000	STIM.170		0
Trucking/Transportation	DIDC.205	15,000	DICC.175	10,000	STIM.175		2,000
Supervision	DIDC.210	104,000	DICC.180	14,000	STIM.180		29,000
Trailer House/Camp/Catering	DIDC.280	13,000	DICC.255	2,000	STIM.280		12,500
Other Misc Expenses	DIDC.220	5,000	DICC.190	0	STIM.190		0
Overhead	DIDC.225	10,000	DICC.195	5,000			
Remedial Cementing	DIDC.231	0			STIM.215		0
MOB/DEMOB	DIDC.240	125,000					
Directional Drilling Services	DIDC.245	118,000					
Crane for Construction							
Solids Control	DIDC.260	71,000					
Well Control Equip (Snubbing Services)	DIDC.265	82,000	DICC.240	0	STIM.240		40,000
Fishing & Sidetrack Services	DIDC.270	0	DICC.245	0	STIM.245		0
Completion Rig					STIM.115		13,000
Coil Tubing Services					STIM.260		168,000
Completion Logging/Perforating/Wireline					STIM.200		176,000
Composite Plugs					STIM.390		41,000
Stimulation					STIM.210		1,552,000
Stimulation Water/Water Transfer/Water					STIM.395		372,000
Cimarex Owned Frac/Rental Equipment					STIM.305		42,000
Legal/Regulatory/Curative	DIDC.300	10,000					
Well Control Insurance	DIDC.285 \$0.35/ft	6,000					
FL/GL - Labor							
FL/GL - Supervision							
FL/GL - NDE(X-Ray)							
FL/GL - Survey							
FL/GL - Hydro Test							
FL/GL - Hydro Vac							
FL/GL - Trucking							
SWD Lines - Intangible							
Gas Sales Lines - Intangible							
Contingency	DIDC.435 500 % of Drilling Intangibles	104,000	DICC.220	12,000	STIM.220		129,000
Contingency							
Construction for Flow Lines							
Construction For Sales P/L							
P&A Costs	DIDC.295	0	DICC.275	0			
Total Intangible Cost		2,188,000		256,000			2,715,500
Drive Pipe	DWEB.150	0					
Conductor Pipe	DWEB.130	0					
Water String	DWEB.135	0					
Surface Casing	DWEB.140 13 3/8" - 1,780ft at \$33.00/ft	59,000					
Intermediate Casing 1	DWEB.145 9 5/8" - 5,720ft at \$35.00/ft	200,000					
Intermediate Casing 2	DWEB.155	0					
Drilling Liner	DWEB.160	0					
Production Casing or Liner			DWEA.100 5 1/2" - 16,129ft at \$18.00/ft	290,000			
Production Tie-Back			DWEA.165	0	STIMT.101		0
Tubing					STIMT.105 2 7/8" - 10,740ft at \$6.00/ft		64,000
Wellhead, Tree, Chokes	DWEB.115	20,000	DWEA.120	20,000	STIMT.120		25,000
Liner Hanger, Isolation Packer	DWEB.100	0	DWEA.125	0			
Packer, Nipples					STIMT.400		15,000
Pumping Unit, Engine					STIMT.405		0
Downhole Lift Equipment					STIMT.410		70,000
Surface Equipment							
Total Tangible - Well Equipment Cost		279,000		310,000			174,000
N/C Lease Equipment							
Tanks, Tanks Steps, Stairs							
Battery Equipment							
Secondary Containments							
Overhead Power Distribution							
Facility Electrical							
SWD Connection							
Flow Lines (Line Pipe From Wellhead To							
Pipeline to Sales							
Meters and Metering Equipment							
Facility Line Pipe							
Automation Materials							
FL/GL - Valves/Fittings							
FL/GL - Pipe							
SWD Lines - Tangible							
Gas Sales Lines - Tangible							
Total Tangible - Lease Equipment Cost							
Total Estimated Cost		2,467,000		566,000			2,889,500



Authorization For Expenditure - LEA 7 FEDERAL COM 29H

Production Equip			Post Completion			Total	
Sub Ledger Description	Codes	Amount	Codes		Amount	Cost	
Roads & Location	CON.100	3,000	PCOM.100	Road Repairs	8,000		116,000
Damages	CON.105	20,500					30,500
Mud/Fluids Disposal			PCOM.255	Water Disposal (\$0.75/bbl)	45,000		190,000
Day Rate							564,000
Misc Preparation							35,000
Bits			PCOM.125		0		60,000
Fuel			PCOM.130		0		73,000
Water for Drilling Rig (Not Frac Water)			PCOM.135		0		17,000
Mud & Additives							140,000
Surface Rentals	CON.140	9,750	PCOM.140	Sand Separator (\$450/day), Iron (\$300/day),	32,700		214,450
Downhole Rentals			PCOM.145		0		162,000
Automation Labor	CON.150	33,250	PCOM.150		0		33,250
Formation Evaluation (DST, Coring, etc.)							0
Mud Logging							25,000
Open Hole Logging							0
Cementing & Float Equipment							286,000
Tubular Inspections			PCOM.160		0		37,000
Casing Crews							28,000
Mechanical Labor	CON.170	80,000	PCOM.170	Flowback Hand	5,700		103,700
Trucking/Transportation	CON.175	9,500	PCOM.175	Frack Tank and Sand Separator Delivery	2,000		38,500
Supervision	CON.180	18,750	PCOM.180		0		165,750
Trailer House/Camp/Catering							27,500
Other Misc Expenses	CON.190	6,000	PCOM.190		0		11,000
Overhead							15,000
Remedial Cementing			PCOM.215		0		0
MOB/DEMOB							125,000
Directional Drilling Services							118,000
Crane for Construction	CON.230						0
Solids Control							71,000
Well Control Equip (Snubbing Services)			PCOM.240		0		122,000
Fishing & Sidetrack Services			PCOM.245		0		0
Completion Rig			PCOM.115		0		13,000
Coil Tubing Services			PCOM.260		0		168,000
Completion Logging/Perforating/Wireline			PCOM.200		0		176,000
Composite Plugs			PCOM.390		0		41,000
Stimulation Pumping/Chemicals/Additives/Sand			PCOM.210		0		1,552,000
Stimulation Water/Water Transfer/Water							372,000
Cimarex Owned Frac/Rental Equipment			PCOM.305		0		42,000
Legal/Regulatory/Curative	CON.300	0					10,000
Well Control Insurance							6,000
FL/GL - Labor	CON.500	91,250					91,250
FL/GL - Supervision	CON.505	38,750					38,750
FL/GL - NDE(X-Ray)	CON.510	1,750					1,750
FL/GL - Survey	CON.515	3,000					3,000
FL/GL - Hydro Test	CON.520	3,750					3,750
FL/GL - Hydro Vac	CON.525	2,500					2,500
FL/GL - Trucking	CON.530	1,500					1,500
SWD Lines - Intangible	CON.600	0					0
Gas Sales Lines - Intangible	CON.700	0					0
Contingency	CON.220	60,250	PCOM.220	10%	93,000		398,250
Contingency	CON.221	20,500					20,500
Construction for Flow Lines	CON.310						0
Construction For Sales P/L	CON.265						0
P&A Costs							0
Total Intangible Cost		404,000			186,400		5,749,900
Drive Pipe							0
Conductor Pipe							0
Water String							0
Surface Casing							59,000
Intermediate Casing 1							200,000
Intermediate Casing 2							0
Drilling Liner							0
Production Casing or Liner							290,000
Production Tie-Back							0
Tubing			PCOMT.105		0		64,000
Wellhead, Tree, Chokes			PCOMT.120		0		65,000
Liner Hanger, Isolation Packer							0
Packer, Nipples			PCOMT.400		0		15,000
Pumping Unit, Engine			PCOMT.405		0		0
Downhole Lift Equipment			PCOMT.410		0		70,000
Surface Equipment			PCOMT.420		0		0
Total Tangible - Well Equipment Cost					0		763,000
N/C Lease Equipment	CONT.400	45,000					45,000
Tanks, Tanks Steps, Stairs	CONT.405	47,500					47,500
Battery Equipment	CONT.410	154,000					154,000
Secondary Containments	CONT.415	13,750					13,750
Overhead Power Distribution	CONT.420	104,250					104,250
Facility Electrical	CONT.425	13,000					13,000
SWD Connection	CONT.430						0
Flow Lines (Line Pipe From Wellhead To Central	CONT.435						0
Pipeline to Sales	CONT.440						0
Meters and Metering Equipment	CONT.445	14,500					14,500
Facility Line Pipe	CONT.450	11,000					11,000
Automation Materials	CONT.455	40,250	PCOMT.455		0		40,250
FL/GL - Valves/Fittings	CONT.550	11,250					11,250
FL/GL - Pipe	CONT.555	30,500					30,500
SWD Lines - Tangible	CONT.650	0					0
Gas Sales Lines - Tangible	CONT.750	0					0
Total Tangible - Lease Equipment Cost		485,000			0		485,000
Total Estimated Cost		889,000			186,400		6,997,900

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. 16379

AFFIDAVIT

STATE OF Texas)
COUNTY OF Midland) ss.

Staci Mueller, being duly sworn, deposes and states:

1. I am over the age of 18, and have person knowledge of the matters stated herein.
2. I prepared an affidavit in Case No. 16379, which was accepted by the Division.
3. I am a petroleum geologist for Cimarex Energy Co. ("Cimarex").
4. My work for Cimarex involves Lea County, and I am familiar with the geological matters involved in this case, including the Bone Spring formation.
5. The following geological exhibits are attached hereto:
 - a. **Exhibit A** is a structure map on the base of the 3rd Bone Spring Sand. It identifies the proposed well location outlined by a purple dashed box and by a purple line. It also shows 3rd Bone Spring Sand wells in the vicinity of the proposed Lea 7 Fed Com 29H. It identifies a line of cross-section, running from A to A'. The structure map shows that the structure dips down to the southeast.



- b. **Exhibit B** is a 3rd Bone Spring Sand cross section. It is a stratigraphic cross-section hung on the base of the 3rd Bone Spring Sand. The well logs on the cross-section give a representative sample of the 3rd Bone Spring Sand formation in the area. The target zone for the well is the basal 3rd Bone Spring Sand, identified by the red line traversing the cross section, and that zone is continuous across the well unit.
- c. **Exhibit C** is a Net Pay Map of the 3rd Bone Spring Sand. The 3rd Bone Spring Sand is uniform across the proposed well unit.

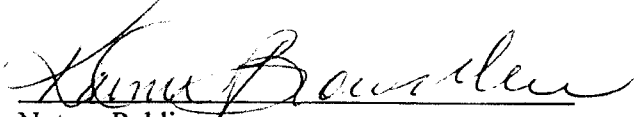
6. I conclude from the maps that:

- a. The horizontal spacing and proration 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.

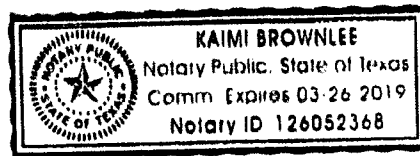
7. The preferred well orientation in this area is North-South. This is because of the maximum horizontal stress direction.


Staci Mueller

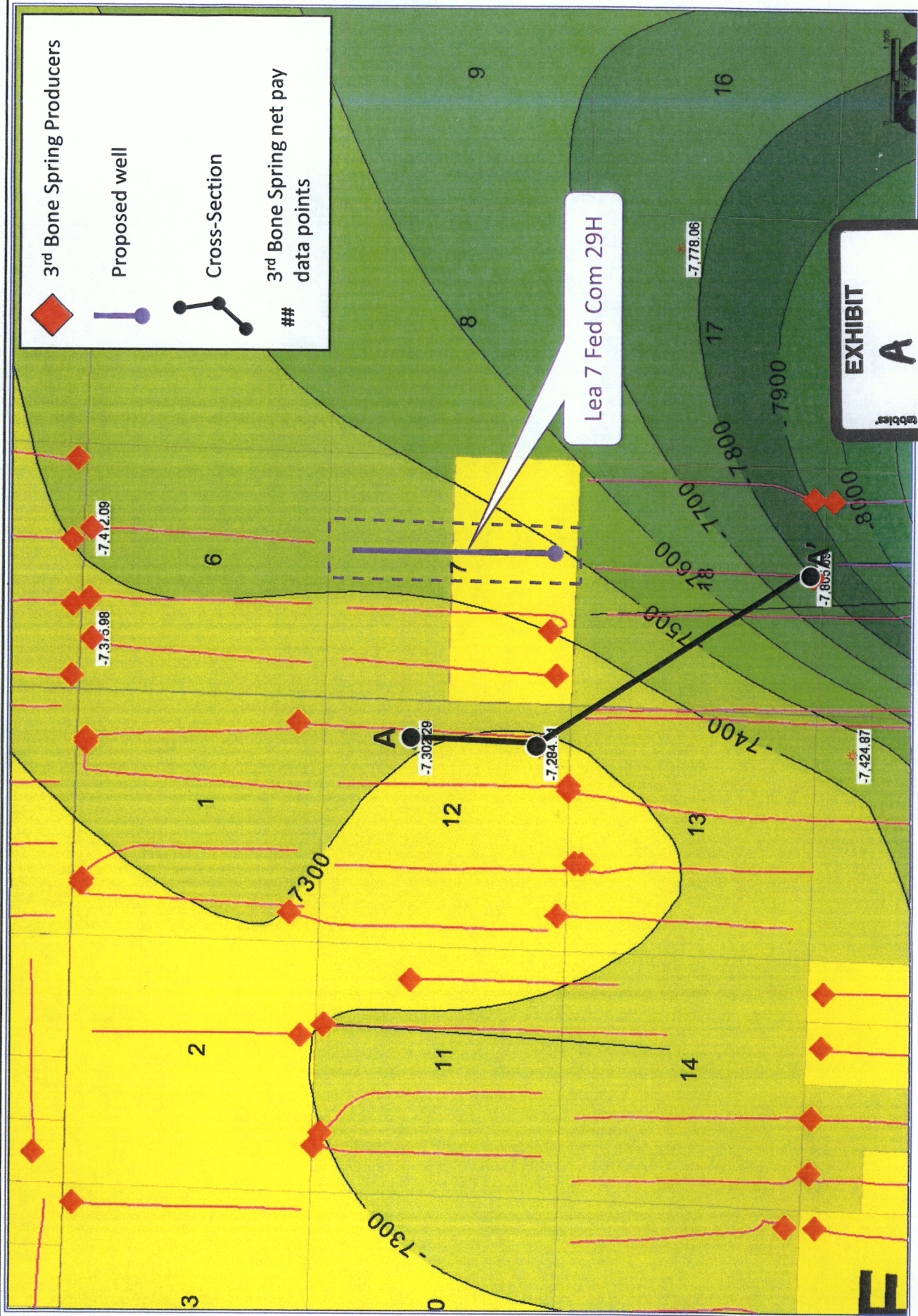
SUBSCRIBED AND SWORN to before me this 3rd day of October, 2018 by Staci Mueller, on behalf of Cimarex Energy Co.


Notary Public

My commission expires: 3/26/2019



Base of 3rd Bone Spring Sand Structure Map (SSTVD)



3rd Bone Spring Sand Stratigraphic Cross-Section

A

A'

LEGACY RESERVES OPERATING LP

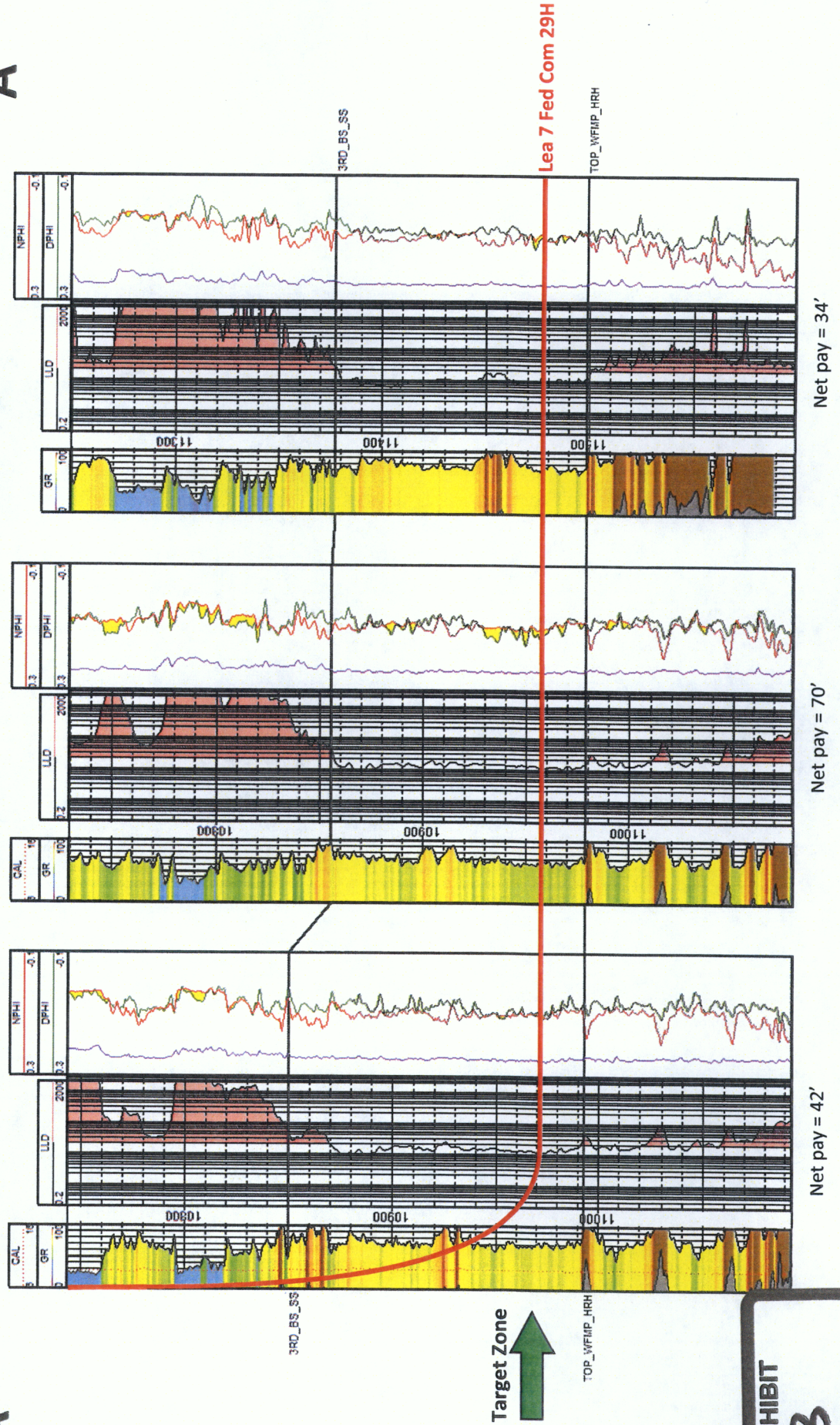
LEA FEDERAL UNIT
30025390100000
T20S R34E S12

SAMSON RESOURCES COMPANY

LEA FEDERAL UNIT
30025390500000
T20S R34E S12

COG OPERATING LLC

BLUE JAY FEDERAL
30025423380000
T20S R35E S18



Target Zone

EXHIBIT

B

3rd Bone Spring Sand Net Pay Map

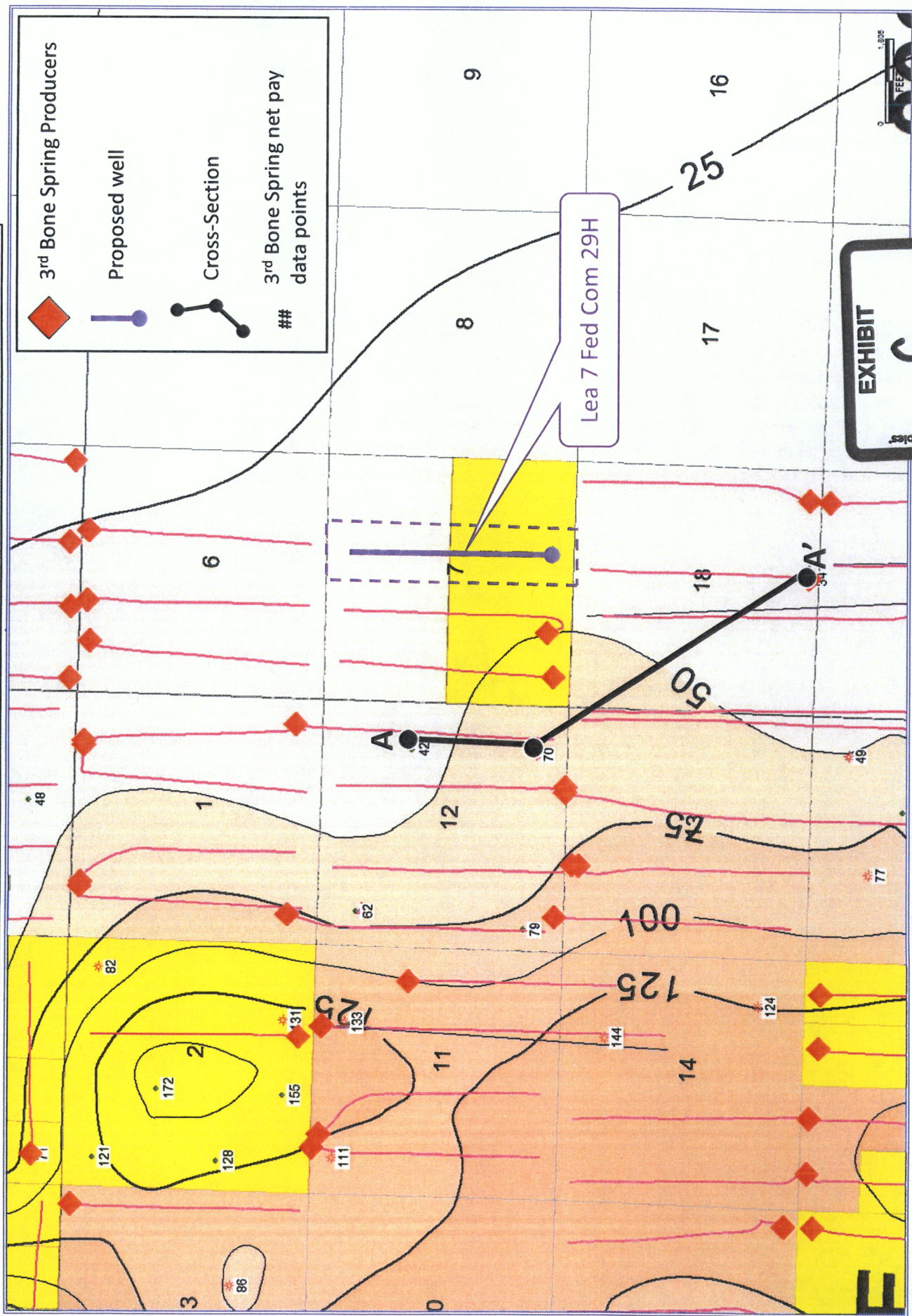


EXHIBIT
C

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

PS Form 3877

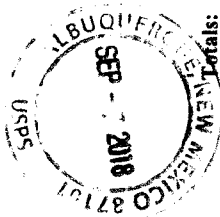
Type of Mailing: CERTIFIED
09/07/2018

C.W. 6x 2A No. 2



Firm Mailing Book ID: 150601

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0050 5344 43	Lowe Family, Ltd P.O. Box 53775 Lubbock TX 79453	\$0.68	\$3.45	\$1.50	82762-0168	\$0.00 Notice
2	9314 8699 0430 0050 5344 50	Vora Lowe Hartley Mineral Trust P.O. Box 1024 Clovis NM 88102	\$0.68	\$3.45	\$1.50	82762-0168	\$0.00 Notice
3	9314 8699 0430 0050 5344 67	The Long Trusts 118 S. Kilgore St. Kilgore TX 75662	\$0.68	\$3.45	\$1.50	82762-0168	\$0.00 Notice
4	9314 8699 0430 0050 5344 74	M. Dion Lowe 7801 Espanola Trail Austin TX 78737	\$0.68	\$3.45	\$1.50	82762-0168	\$0.00 Notice
Totals:			\$2.72	\$13.80	\$6.00		\$0.00
					Grand Total:		
					\$22.52		



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4





September 24, 2018

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9314 8699 0430 0050 5344 74.

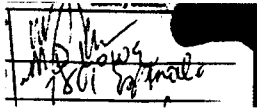
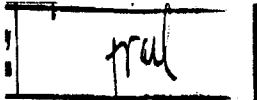
Item Details

Status:	Delivered
Status Date / Time:	September 17, 2018, 01:46 p.m.
Location:	AUSTIN, TX 78749
Postal Product:	First-Class Mail®
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Shipment Details

Weight: 2.0oz

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Original Recipient Information:

M. Dion Lowe
7801 Espanola Trail
Austin, TX 78737

Reference Number: 82762-0168



September 24, 2018

Dear WALZ GROUP:

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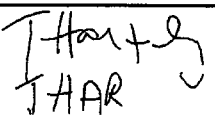
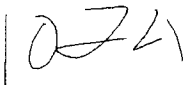
Item Details

Status:	Delivered
Status Date / Time:	September 18, 2018, 11:04 a.m.
Location:	CLOVIS, NM 88101
Postal Product:	First-Class Mail®
Extra Services:	Certified Mail™ Return Receipt Electronic

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Weight: 2.0oz

Recipient Signature

Signature of Recipient:	
Address of Recipient:	

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Vora Lowe Hartley Mineral Trust
P.O. Box 1024
Clovis, NM 88102

Reference Number: 82762-0168



Date Produced: 09/17/2018

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The following is the delivery information for Certified Mail™/RRE item number 9314 8699 0430 0050 5344 43. Our records indicate that this item was delivered on 09/13/2018 at 12:17 p.m. in GRANBURY, TX 76049. The scanned image of the recipient information is provided below.

Signature of Recipient :

A handwritten signature in black ink that reads "John Orine".

Address of Recipient :

A handwritten address in black ink that reads "5605 Equestrian Ct".

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Original Recipient Information:

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P.O. Box 53775
Lubbock, TX 79453

Reference Number: 82762-0168