Form 3160-3
(March 2012)

HOBBS OCD
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FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMLC061873B

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.:

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: COTTON DRAW 9L FEDERAL 4H (39462)

2. Name of Operator: CIMAREX ENERGY CO (215099)

9. API Well No.: 30-025-43836

3a. Address: 202 S. Cheyenne Ave., Ste 1000 Tulsa OK 74

3b. Phone No. *(include area code)*: (432)620-1936

10. Field and Pool, or Exploratory: WC-025 G-06 S253206M; BS (96715)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: SWSW / 459 FSL / 776 FWL / LAT 32.138911 / LONG -103.6861

At proposed prod. zone: NWNW / 330 FNL / 804 FWL / LAT 32.151264 / LONG -103.686036

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 9 / T25S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*: 28.9 miles

12. County or Parish: LEA

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 459 feet

16. No. of acres in lease: 1759.31

17. Spacing Unit dedicated to this well: 160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 416 feet

19. Proposed Depth: 10565 feet / 14855 feet

20. BLM/BIA Bond No. on file: FED: NMB001187

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3432 feet

22. Approximate date work will start*: 11/01/2016

23. Estimated duration: 35 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Aricka Easterling / Ph: (918)560-7060	08/31/2016

Title: Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	05/18/2017

Title	Office
Supervisor Multiple Resources	CARLSBAD

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

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

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

KZ
05/25/17

APD ID: 10400004477 **Submission Date:** 08/31/2016

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - General

APD ID: 10400004477 **Tie to previous NOS?** 10400002297 **Submission Date:** 08/31/2016

BLM Office: CARLSBAD **User:** Aricka Easterling **Title:** Regulatory Analyst

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMLC061873B **Lease Acres:** 1759.31

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** CIMAREX ENERGY CO

Operator letter of designation:

Keep application confidential? YES

Operator Info

Operator Organization Name: CIMAREX ENERGY CO

Operator Address: 202 S. Cheyenne Ave., Ste 1000 **Zip:** 74103

Operator PO Box:

Operator City: Tulsa **State:** OK

Operator Phone: (432)620-1936

Operator Internet Address: tstathem@cimarex.com

Section 2 - Well Information

Well in Master Development Plan? NO **Mater Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** BONE SPRING **Pool Name:** WC BONE SPRING

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: SINGLE WELL **Multiple Well Pad Name:** **Number:**

Well Class: HORIZONTAL **Number of Legs:**

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 28.9 Miles **Distance to nearest well:** 416 FT **Distance to lease line:** 459 FT

Reservoir well spacing assigned acres Measurement: 160 Acres

Well plat: C_102 Plat_11-18-2016.pdf

Well work start Date: 11/01/2016 **Duration:** 35 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 12446

	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.138911	**Longitude:** -103.6861	
SHL	**Elevation:** 3432	**MD:** 14855	**TVD:** 10565
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMLC061873B	
	NS-Foot: 459	**NS Indicator:** FSL	
	EW-Foot: 776	**EW Indicator:** FWL	
	Twsp: 25S	**Range:** 32E	**Section:** 9
	Aliquot: SWSW	**Lot:**	**Tract:**

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.138911	**Longitude:** -103.6861	
KOP	**Elevation:** -6648	**MD:** 10080	**TVD:** 10080
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMLC061873B	
	NS-Foot: 459	**NS Indicator:** FSL	
	EW-Foot: 776	**EW Indicator:** FWL	
	Twsp: 25S	**Range:** 32E	**Section:** 9
	Aliquot: SWSW	**Lot:**	**Tract:**

	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.1390438	**Longitude:** -103.68657	
PPP	**Elevation:** -6707	**MD:** 10139	**TVD:** 10139
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMLC061873B	
	NS-Foot: 462	**NS Indicator:** FSL	
	EW-Foot: 777	**EW Indicator:** FWL	
	Twsp: 25S	**Range:** 32E	**Section:** 9
	Aliquot: SWSW	**Lot:**	**Tract:**

	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.151264	**Longitude:** -103.686036	
EXIT	**Elevation:** -7133	**MD:** 14855	**TVD:** 10565
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMLC061873B	
	NS-Foot: 330	**NS Indicator:** FNL	
	EW-Foot: 804	**EW Indicator:** FWL	
	Twsp: 25S	**Range:** 32E	**Section:** 9
	Aliquot: NWNW	**Lot:**	**Tract:**

	STATE: NEW MEXICO	**Meridian:** NEW MEXICO PRINCIPAL	**County:** LEA
	Latitude: 32.151264	**Longitude:** -103.686036	
BHL	**Elevation:** -7133	**MD:** 14855	**TVD:** 10565
Leg #: 1	**Lease Type:** FEDERAL	**Lease #:** NMLC061873B	
	NS-Foot: 330	**NS Indicator:** FNL	
	EW-Foot: 804	**EW Indicator:** FWL	

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Twsp: 25S **Range:** 32E **Section:** 9

Aliquot: NWNW **Lot:** **Tract:**

APD ID: 10400004477 **Submission Date:** 08/31/2016

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - Geologic Formations

ID: Surface formation **Name:** RUSTLER

Lithology(ies):

Elevation: 2713 **True Vertical Depth:** 731 **Measured Depth:** 731

Mineral Resource(s):

USEABLE WATER

Is this a producing formation? N

ID: Formation 1 **Name:** TOP SALT

Lithology(ies):

Elevation: 1897 **True Vertical Depth:** 816 **Measured Depth:** 816

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 2 **Name:** BASE OF SALT

Lithology(ies):

Elevation: -1614 **True Vertical Depth:** 4327 **Measured Depth:** 4327

Mineral Resource(s):

NONE

Is this a producing formation? N

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

ID: Formation 3 **Name:** DELAWARE

Lithology(ies):

Elevation: -1842 **True Vertical Depth:** 4555 **Measured Depth:** 4555

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 4 **Name:** CHERRY CANYON

Lithology(ies):

Elevation: -2844 **True Vertical Depth:** 5557 **Measured Depth:** 5557

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 5 **Name:** BRUSHY CANYON

Lithology(ies):

Elevation: -4699 **True Vertical Depth:** 7412 **Measured Depth:** 7412

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 6 **Name:** BONE SPRING

Lithology(ies):

Elevation: -5766 **True Vertical Depth:** 8479 **Measured Depth:** 8479

Mineral Resource(s):

OIL

Is this a producing formation? N

ID: Formation 7 **Name:** BONE SPRING A ZONE

Lithology(ies):

Elevation: -5893 **True Vertical Depth:** 8606 **Measured Depth:** 8606

Mineral Resource(s):

OIL

Is this a producing formation? N

ID: Formation 8 **Name:** BONE SPRING B ZONE

Lithology(ies):

Elevation: -6074 **True Vertical Depth:** 8787 **Measured Depth:** 8787

Mineral Resource(s):

OIL

Is this a producing formation? N

ID: Formation 9 **Name:** BONE SPRING C ZONE

Lithology(ies):

Elevation: -6533 **True Vertical Depth:** 9246 **Measured Depth:** 9246

Mineral Resource(s):

OIL

Is this a producing formation? N

ID: Formation 10 **Name:** BONE SPRING 1ST

Lithology(ies):

Elevation: -6841 **True Vertical Depth:** 9554 **Measured Depth:** 9554

Mineral Resource(s):

OIL

Is this a producing formation? N

ID: Formation 11 **Name:** BONE SPRING 2ND

Lithology(ies):

Elevation: -7426 **True Vertical Depth:** 10139 **Measured Depth:** 10139

Mineral Resource(s):

OIL

Is this a producing formation? N

ID: Formation 12 **Name:** BONE SPRINGS

Lithology(ies):

Elevation: -7852 **True Vertical Depth:** 10565 **Measured Depth:** 10565

Mineral Resource(s):

OIL

Is this a producing formation? Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M **Rating Depth:** 4535

Equipment: Exhibit "E-1". A BOP consisting of three rams, including one blind ram and two pipe rams and one annular preventer. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A rotating head may be installed as needed. A Kelly clock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.
Requesting Variance? YES

Variance request: Co-flex line between the BOP & choke manifold. Certification for proposed co-flex hose is attached (Please see Exhibit F, F-1, F-2, F-3). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only.
Testing Procedure: BOP's will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: On the surface casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate casing, pressure tests will be made to 250 psi low and 3000 psi high. The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing and 250 psi low and 1500 psi high on the intermediate casing. The System may be upgraded to a higher pressure but still tested to the working pressures listed. If the system is upgraded all the components installed will be functional and tested.

Choke Diagram Attachment:

APD ID No. 1040004477- Exhibit E Choke Manifold_08-19-2016.pdf

BOP Diagram Attachment:

APD ID No. 1040004477- Exhibit E 2M BOP_08-19-2016.pdf

APD ID No. 1040004477- Exhibit E Choke Manifold_08-19-2016.pdf

APD ID No. 1040004477- Exhibit E 2M BOP_08-19-2016.pdf

Pressure Rating (PSI): 3M **Rating Depth:** 10080

Equipment: Exhibit "E-1". A BOP consisting of three rams, including one blind ram and two pipe rams and one annular preventer. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A rotating head may be installed as needed. A Kelly clock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.
Requesting Variance? YES

Variance request: Co-flex line between the BOP & choke manifold. Certification for proposed co-flex hose is attached (Please see Exhibit F, F-1, F-2, F-3). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only.
Testing Procedure: BOP's will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: On the surface casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate casing, pressure tests will be made to 250 psi low and 3000 psi high. The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing and 250 psi low and 1500 psi high on the intermediate casing. The System may be upgraded to a higher pressure but still tested to the working pressures listed. If the system is upgraded all the components installed will be functional and tested.

Choke Diagram Attachment:

APD ID No. 1040004477- Exhibit E Choke Manifold_08-19-2016.pdf

BOP Diagram Attachment:

APD ID No. 1040004477- Exhibit E 3M BOP_08-19-2016.pdf

Section 3 - Casing

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

String Type: SURFACE **Other String Type:**

Hole Size: 17.5

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: -6648

Bottom setting depth MD: 781 **Bottom setting depth TVD:** 781

Bottom setting depth MSL: -7429

Calculated casing length MD: 781

Casing Size: 13.375 **Other Size**

Grade: OTHER **Other Grade:** H-40/J-55 Hybrid

Weight: 48

Joint Type: STC **Other Joint Type:**

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 2.07 **Burst Design Safety Factor:** 4.84

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 8.59

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 8.59

Casing Design Assumptions and Worksheet(s):

Casing Assumptions table_08-22-2016.pdf

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

String Type: INTERMEDIATE **Other String Type:**

Hole Size: 12.25

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: 3432

Bottom setting depth MD: 4535 **Bottom setting depth TVD:** 4535

Bottom setting depth MSL: -1103

Calculated casing length MD: 4535

Casing Size: 9.625 **Other Size**

Grade: J-55 **Other Grade:**

Weight: 40

Joint Type: LTC **Other Joint Type:**

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.38 **Burst Design Safety Factor:** 1.64

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 2.87

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 2.87

Casing Design Assumptions and Worksheet(s):

Casing Assumptions table_08-22-2016.pdf

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

String Type: PRODUCTION **Other String Type:**

Hole Size: 8.75

Top setting depth MD: 0 **Top setting depth TVD:** 0

Top setting depth MSL: 3432

Bottom setting depth MD: 10080 **Bottom setting depth TVD:** 10080

Bottom setting depth MSL: -6648

Calculated casing length MD: 10080

Casing Size: 5.5 **Other Size**

Grade: L-80 **Other Grade:**

Weight: 17

Joint Type: LTC **Other Joint Type:**

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.3 **Burst Design Safety Factor:** 1.61

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 1.88

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 1.88

Casing Design Assumptions and Worksheet(s):

Casing Assumptions table_08-22-2016.pdf

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

String Type: PRODUCTION **Other String Type:**

Hole Size: 8.75

Top setting depth MD: 10080 **Top setting depth TVD:** 10080

Top setting depth MSL: -6648

Bottom setting depth MD: 14855 **Bottom setting depth TVD:** 14855

Bottom setting depth MSL: -11423

Calculated casing length MD: 4775

Casing Size: 5.5 **Other Size**

Grade: L-80 **Other Grade:**

Weight: 17

Joint Type: BUTT **Other Joint Type:**

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.24 **Burst Design Safety Factor:** 1.53

Joint Tensile Design Safety Factor type: BUOYANT **Joint Tensile Design Safety Factor:** 48.15

Body Tensile Design Safety Factor type: BUOYANT **Body Tensile Design Safety Factor:** 48.15

Casing Design Assumptions and Worksheet(s):

Casing Assumptions table_08-22-2016.pdf

Section 4 - Cement

Casing String Type: SURFACE

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 781 **Cement Type:** Class C

Additives: Bentonite **Quantity (sks):** 292 **Yield (cu.ff./sk):** 1.72

Density: 13.5 **Volume (cu.ft.):** 501 **Percent Excess:** 50

Tail

Top MD of Segment: **Bottom MD Segment:** **Cement Type:** Class C+ LCM

Additives: **Quantity (sks):** 195 **Yield (cu.ff./sk):** 1.34

Density: 14.8 **Volume (cu.ft.):** 260 **Percent Excess:** 25

Casing String Type: INTERMEDIATE

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 4535 **Cement Type:** 35:65(Poz:C)

Additives: Salt + Bentonite **Quantity (sks):** 869 **Yield (cu.ff./sk):** 1.88

Density: 12.9 **Volume (cu.ft.):** 1632 **Percent Excess:** 50

Tail

Top MD of Segment: **Bottom MD Segment:** **Cement Type:** Class C+ LCM

Additives: **Quantity (sks):** 265 **Yield (cu.ff./sk):** 1.34

Density: 14.8 **Volume (cu.ft.):** 355 **Percent Excess:** 25

Casing String Type: PRODUCTION

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 10080 **Cement Type:** Turned Light 1 Class H

Additives: none **Quantity (sks):** 768 **Yield (cu.ff./sk):** 2.35

Density: 10.8 **Volume (cu.ft.):** 1803 **Percent Excess:** 25

Tail

Top MD of Segment: 10080 **Bottom MD Segment:** 14855 **Cement Type:** 50:50 (Poz:H)

Additives: Salt + Bentonite + Fluid Loss + Dispersant + SMS **Quantity (sks):** 1021 **Yield (cu.ff./sk):** 1.3

Density: 14.2 **Volume (cu.ft.):** 1327 **Percent Excess:** 10

Stage Tool Depth:

Lead

Top MD of Segment: 0 **Bottom MD Segment:** 10080 **Cement Type:** Turned Light 1 class H

Additives: None **Quantity (sks):** 768 **Yield (cu.ff./sk):** 2.35

Density: 10.8 **Volume (cu.ft.):** 1803 **Percent Excess:** 25

Tail

Top MD of Segment: 10080 **Bottom MD Segment:** 14855 **Cement Type:** 50:50 (Poz:H)

Additives: Salt + Bentonite + Fluid Loss + Dispersant + SMS **Quantity (sks):** 1021 **Yield (cu.ff./sk):** 1.3

Density: 14.2 **Volume (cu.ft.):** 1327 **Percent Excess:** 10

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth: 0 **Bottom Depth:** 781

Mud Type: SPUD MUD

Min Weight (lbs./gal.): 8.3 **Max Weight (lbs./gal.):** 8.8

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Top Depth: 781 **Bottom Depth:** 7535

Mud Type: SALT SATURATED

Min Weight (lbs./gal.): 9.7 **Max Weight (lbs./gal.):** 10.2

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Top Depth: 4535 **Bottom Depth:** 14855

Mud Type: OTHER FW/Cut Brine

Min Weight (lbs./gal.): 8.7 **Max Weight (lbs./gal.):** 9.2

Density (lbs/cu.ft.): **Gel Strength (lbs/100 sq.ft.):**

PH: **Viscosity (CP):**

Filtration (cc): **Salinity (ppm):**

Additional Characteristics:

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

No DST planned

List of open and cased hole logs run in the well:

CNL,DS,GR

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5054 **Anticipated Surface Pressure:** 2729.7

Anticipated Bottom Hole Temperature(F): 175

Anticipated abnormal proessures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

APD ID No. 1040004477- H2S Plan_08-22-2016.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Directional Prelims_08-22-2016.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

APD ID No. 1040004477 - Drlg Plan_08-22-2016.pdf

Other Variance attachment:

APD ID No. 1040004477- Exhibit F Flex Hose_08-22-2016.pdf

APD ID: 10400004477 **Submission Date:** 08/31/2016

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - Existing Roads

Will existing roads be used? NO

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

APD ID No. 1040004477- Exhibit C-2 Road ROW Plat_08-22-2016.pdf

New road type: COLLECTOR

Length: 39.77 Feet **Width (ft.):** 20

Max slope (%): 2 **Max grade (%):** 26

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: The side slopes of any drainage channels or swales that are crossed will be re-contoured to original grade and compacted and mulched as necessary to avoid erosion. Where steeper slopes cannot be avoided, water bars or silt fence will be constructed, mulch/rip-rap applied, or other measures employed as necessary to control erosion. Hay bales, straw waddles or silt fence may also be installed to control erosion as needed. All disturbed areas will be seeded with a mix appropriate for the area unless specified otherwise by the landowner.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: GRAVEL

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Push off and stockpile alongside the location

Access other construction information: The operator will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations or other events.
Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: To control and prevent potentially contaminated precipitation from leaving the pad site, a perimeter berm and settlement pond will be installed. Contaminated water will be removed from pond, stored in waste tanks, and disposed of at a state approved facility. Standing water or puddles will not be allowed. Drainage ditches would be established and maintained on the pad and along access roads to divert water away from operations. Natural drainage areas disturbed during construction would be re-contoured to near original condition prior to construction. Erosion Control Best Management Practices would be used where necessary and consist of seeding, fiber rolls, water bars, silt fences, and temporary diversion dikes. Areas disturbed during construction that are no longer needed for operations would be obliterated, re-contoured to near original condition prior to construction. Erosion Control Best Management Practices would be used where necessary and consist of seeding, fiber rolls, water bars, silt fences, and temporary diversion dikes. Areas disturbed during construction that are no longer needed for operations would be obliterated, re-contoured, and reclaimed to near original condition to re-establish natural drainage.
Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

1 mile radius and existing wells_11-18-2016.pdf

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: If upon completion the well is a producer, a production facility battery will be constructed and production equipment installed at the wellsite.

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING, SURFACE CASING **Water source type:** MUNICIPAL

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type: WATER RIGHT

Permit Number:

Source land ownership: FEDERAL

Water source transport method: PIPELINE,TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 5000 **Source volume (acre-feet):** 0.6444655

Source volume (gal): 210000

Water source use type: SURFACE CASING **Water source type:** OTHER

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type:

Source land ownership:

Water source transport method:

Source transportation land ownership:

Water source volume (barrels): 1 **Source volume (acre-feet):** 0.00012889

Source volume (gal): 42

Water source and transportation map:

APD ID No. 1040004477 - Water Route_08-31-2016.pdf

Water source comments:

New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: The drilling and testing operations will be conducted on a watered and compacted native soil grade. Soft spots will be covered with scoria, free of large rocks (3" diameter). Upon completion as a commercial producer the location will be covered with scoria, free of large rocks (3" dia.) from an existing privately owned gravel pit.
Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: Garbage and trash produced during drilling and completion operations

Amount of waste: 32500 pounds

Waste disposal frequency : Weekly

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

Disposal location description: Windmill Spraying Service hauls trash to Lea County Landfill.

Waste type: DRILLING

Waste content description: Drilling Fluids, drill cuttings, water and other waste produced from the well during drilling operations.
Amount of waste: 15000 barrels

Waste disposal frequency : One Time Only

Safe containment description: N/A

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Haul to R360 commercial disposal

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Section 9 - Well Site Layout

Well Site Layout Diagram:

APD ID No. 1040004477- Exhibit D Wellsite layout_08-23-2016.pdf

APD ID No. 1040004477-C-102 Plat_08-23-2016.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

Recontouring attachment:

APD ID No. 1040004477- Exhibit D-1 Reclamation_08-23-2016.pdf

Drainage/Erosion control construction: To control and prevent potentially contaminated precipitation from leaving the pad site, a perimeter berm and settlement pond will be installed. Contaminated water will be removed from pond, stored in waste tanks, and disposed of at a state approved facility. Standing water or puddles will not be allowed. Drainage ditches would be established and maintained on the pad and along access roads to divert water away from operations. Natural drainage areas disturbed during construction would be re-contoured to near original condition prior to construction. Erosion Control Best Management Practices would be used where necessary and consist of seeding, fiber rolls, water bars, silt fences, and temporary diversion dikes. Areas disturbed during construction that are no longer needed for operations would be obliterated, re-contoured to near original condition prior to construction. Erosion Control Best Management Practices would be used where necessary and consist of seeding, fiber rolls, water bars, silt fences, and temporary diversion dikes. Areas disturbed during construction that are no longer needed for operations would be obliterated, re-contoured, and reclaimed to near original condition to re-establish natural drainage.

Drainage/Erosion control reclamation: All disturbed and re-contoured areas would be reseeded according to specifications. Approved seed mixtures would be certified weed free and consist of grasses, forbs, or shrubs similar to the surrounding area. Compacted soil areas may need to be obliterated and reclaimed to near natural conditions by re-contouring all slopes to facilitate and re-establish natural drainage.

Wellpad long term disturbance (acres): 3.063

Wellpad short term disturbance (acres): 3.063

Access road long term disturbance (acres): 0.027

Access road short term disturbance (acres): 0.027

Pipeline long term disturbance (acres): 1.1363155

Pipeline short term disturbance (acres): 1.1363155

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 4.2263155

Total short term disturbance: 4.2263155

Reconstruction method: After well plugging, all disturbed areas would be returned to the original contour or a contour that blends with the surrounding landform including roads unless the surface owner requests that they be left intact.• In consultation with the surface owners it will be determined if any gravel or similar materials used to reinforce an area are to be removed, buried, or left in place during final reclamation. Salvaged topsoil, if any, would be re-spread evenly over the surfaces to be re-vegetated. As necessary, the soil surface would be prepared to provide a seedbed for re-establishment of desirable vegetation. Site preparation may include gouging, scarifying, dozer track-walking, mulching, or fertilizing. Reclamation, Re-vegetation, and Drainage: All disturbed and recontoured areas would be reseeded using techniques outlined under Phase I and II of this plan or as specified by the land owner. Approved seed mixtures would be certified weed free and consist of grasses, forbs, or shrubs similar to the surrounding area. Compacted soil areas may need to be obliterated and reclaimed to near natural conditions by re-contouring all slopes to facilitate and re-establish natural drainage.
Topsoil redistribution: Salvaged topsoil, if any, would be re-spread evenly over the surfaces to be re-vegetated.

Soil treatment: As necessary, the soil surface would be prepared to provide a seedbed for re-establishment of desirable vegetation. Site preparation may include gouging, scarifying, dozer track-walking, mulching or fertilizing.
Existing Vegetation at the well pad: N/A

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: N/A

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: N/A

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: N/A

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type: **Seed source:**

Seed name:

Source name: **Source address:**

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre: **Proposed seeding season:**

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Phone: **Email:**

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: N/A

Weed treatment plan attachment:

Monitoring plan description: N/A

Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: CIMAREX ENERGY CO

Well Name: COTTON DRAW 9L FEDERAL **Well Number:** 4H

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: Cimarex Energy Co (Barry Hunt) & BLM (Jeff Robertson) On July 20, 2016 met on Cotton Draw 9L Federal 4H & 5H.

Other SUPO Attachment

APD ID No. 1040004477 - SUPO_08-23-2016.pdf
APD ID No. 1040004477- Exhibit G Flow Line ROW_08-24-2016.pdf
APD ID No. 1040004477- Exhibit H Power Line ROW_08-24-2016.pdf
APD ID No. 1040004477- Exhibit J Road Description_08-24-2016.pdf
APD ID No. 1040004477- Exhibit B Public Access Road_08-24-2016.pdf
APD ID No. 1040004477- Exhibit C-1 Topo Map_08-24-2016.pdf
Cotton Draw 9L Fed 4H- Operator letter_12-19-2016.pdf

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

05/19/2017

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001187

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

05/19/2017

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Aricka Easterling **Signed on:** 08/31/2016

Title: Regulatory Analyst

Street Address: 202 S. Cheyenne Ave, Ste 1000

City: Tulsa **State:** OK **Zip:** 74103

Phone: (918)560-7060

Email address: aeasterling@cimarex.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address: