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Form 3160-3
(March 2012)

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.: NMNM0392082A

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. (38778): HALLERTAU 5 FEDERAL 7H

2. Name of Operator: CIMAREX ENERGY COMPANY OF COLORADO (162683)

9. API Well No.: 30-025-43911

3a. Address: 202 S. Cheyenne Ave, Ste 1000 Tulsa OK 741

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

10. Field and Pool, or Exploratory (98035): WILDCAT WOLFCAMP / WILDCAT WOI

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

At surface: SESW / 318 FSL / 1802 FWL / LAT 32.065817 / LONG -103.7

At proposed prod. zone: NENW / 330 FNL / 2140 FWL / LAT 32.078689 / LONG -103.698972

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 5 / T26S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*: 29.9 miles

12. County or Parish: ~~EDDY~~ Lea

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 318 feet

16. No. of acres in lease: 1400.49

17. Spacing Unit dedicated to this well: 160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 20 feet

19. Proposed Depth: 11890 feet / 16355 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3271 feet

22. Approximate date work will start*: 07/31/2017

23. Estimated duration: 30 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	03/13/2017

Title: Regulatory Analyst

Approved by (Signature)	Name (Printed/Typed)	Date
(Electronic Submission)	Bobby Ballard / Ph: (575)234-2235	07/21/2017

Title	Office
Natural Resource Specialist	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 8/01/17

AFMSS

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

APD Print Report
07/24/2017

APD ID: 10400012293 **Submission Date:** 03/13/2017 Highlight All Changes

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO **Federal/Indian APD:** FED

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Application

Section 1 - General

APD ID: 10400012293 **Tie to previous NOS?** **Submission Date:** 03/13/2017

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: NMNM0392082A **Lease Acres:** 1400.49

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 COMPANY OF COLORADO

Operator letter of designation:

Keep application confidential? YES

Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY OF COLORADO

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:**

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WILDCAT WOLFCAMP **Pool Name:** WILDCAT WOLFCAMP

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: MULTIPLE WELL **Multiple Well Pad Name:** HALLERTAU 5 FEDERAL **Number:** 7H, 9H, 10H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 29.9 Miles **Distance to nearest well:** 20 FT **Distance to lease line:** 318 FT

Reservoir well spacing assigned acres Measurement: 160 Acres

Well plat: Hallertau_5_Fed_7H_C102_Plat.pdf_03-13-2017.pdf

Well work start Date: 07/31/2017 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	318	FSL	1802	FWL	26S	32E	5	Aliquot SESW	32.065817	-103.7	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 039208 2A	3271	0	0
KOP Leg #1	318	FSL	1802	FWL	26S	32E	5	Aliquot SESW	32.065817	-103.7	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 039208 2A	3271	0	0
PPP Leg #1	496	FSL	1892	FWL	26S	32E	5	Aliquot SESW	32.066305 6	-103.6997139	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 039208 2A	-8444	11780	11715

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	330	FNL	2140	FWL	26S	32E	5	Aliquot NENW	32.078689	-103.698972	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 039208 2A	-8619	16355	11890
BHL Leg #1	330	FNL	2140	FWL	26S	32E	5	Aliquot NENW	32.078689	-103.698972	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 039208 2A	-8619	16355	11890

Drilling Plan

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
17746	RUSTLER	3271	1019	1019		USEABLE WATER	No
17718	TOP SALT	1926	1345	1345		NONE	No
17762	CASTILE	471	2800	2800		NONE	No
17722	BASE OF SALT	-888	4159	4159		NONE	No
17719	LAMAR	-1164	4435	4435		NONE	No
15332	BELL CANYON	-1184	4455	4455		NATURAL GAS,OIL	No
15316	CHERRY CANYON	-2140	5411	5411		NATURAL GAS,OIL	No
17713	BRUSHY CANYON	-3459	6730	6730		NATURAL GAS,OIL	No
17688	BONE SPRING	-5190	8461	8461		NATURAL GAS,OIL	No
17709	WOLFCAMP	-8444	11715	11715		NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Pressure Rating (PSI): 10M **Rating Depth:** 12724

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 and 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. On the Production casing, pressure tests will be made to 250 psi low and 5000 psi high. The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, 250 psi low and 1500 psi high on the intermediate casing and 250 psi low and 2500 psi high on the production 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:

Hallertau_5_Fed_7H_Choke_10M_05-24-2017.pdf

BOP Diagram Attachment:

Hallertau_5_Fed_7H_BOP_10M_05-24-2017.pdf

Pressure Rating (PSI): 2M **Rating Depth:** 1069

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 and 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. On the Production casing, pressure tests will be made to 250 psi low and 5000 psi high. The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, 250 psi low and 1500 psi high on the intermediate casing and 250 psi low and 2500 psi high on the production 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:

Hallertau_5_Fed_7H_Choke_2M3M_03-13-2017.pdf

BOP Diagram Attachment:

Hallertau_5_Fed_7H_BOP_2M_03-13-2017.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Pressure Rating (PSI): 5M **Rating Depth:** 4435

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 and 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. On the Production casing, pressure tests will be made to 250 psi low and 5000 psi high. The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, 250 psi low and 1500 psi high on the intermediate casing and 250 psi low and 2500 psi high on the production 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:

Hallertau_5_Fed_7H_Choke_5M_05-24-2017.pdf

BOP Diagram Attachment:

Hallertau_5_Fed_7H_BOP_5M_05-24-2017.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1069	0	1069	0	1069	1069	OTHER	48	STC	1.51	3.54	BUOY	6.28	BUOY	6.
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4435	0	4435	0	4435	4435	J-55	40	LTC	1.22	1.68	BUOY	2.93	BUOY	2.
3	PRODUCTION	8.75	7.0	NEW	API	N	0	11326	0	11326	0	11326	11326	L-80	32	LTC	1.62	1.7	BUOY	1.77	BUOY	1.
4	PRODUCTION	8.75	7.0	NEW	API	N	11326	12724	11326	12724	11326	12724	1398	L-80	32	BUTT	1.55	1.52	BUOY	41.28	BUOY	41 8
5	COMPLETION	6	4.5	NEW	API	N	11326	16355	11326	16355	11326	16355	5029	HCP-110	13.5	BUTT	1.33	1.55	BUOY	55.42	BUOY	55 2

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

Hallertau_5_Fed_7H_Casing_Assumptions_05-25-2017.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

Hallertau_5_Fed_7H_Casing_Assumptions_05-25-2017.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

Hallertau_5_Fed_7H_Casing_Assumptions_05-25-2017.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

Hallertau_5_Fed_7H_Casing_Assumptions_05-25-2017.pdf

Casing ID: 5 **String Type:** COMPLETION SYSTEM

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

Hallertau_5_Fed_7H_Casing_Assumptions_05-25-2017.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1069	518	1.72	13.5	890	50	Class C	Bentonite
SURFACE	Tail		0	1069	139	1.34	14.8	185	25	Class C	LCM
INTERMEDIATE	Lead		0	4435	835	1.88	12.9	1568		35:65 (Poz:C)	Salt & Bentonite
INTERMEDIATE	Tail		0	4435	256	1.36	14.8	347	25	Class C	Retarder

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	11326	215	6.18	9.2	1327	25	Class C	Extender, Salt, Strength Enhancement, LCM,
PRODUCTION	Tail		0	11326	179	1.3	14.2	232	10	50:50 (Poz:H)	Salt, Bentonite, fluid Loss, Dispersant, SMS
PRODUCTION	Lead		11326	12724	215	6.18	9.2	1327		Class C	Extender, Salt, Strength Enhancement, LCM,
PRODUCTION	Tail		11326	12724	179	1.3	14.2	232	10	50:50 (poz;H)	Salt, Bentonite, Fluid Loss, Dispersant, SMS
COMPLETION SYSTEM	Lead		11326	16355	264	1.3	14.2	343	10	50:50 (poz;H)	Salt, Bentonite, Fluid Loss, Dispersant, SMS

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 will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.
Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1069	SPUD MUD	8.3	8.8							
12642	16332	OIL-BASED MUD	10.5	11							
1069	4435	SALT SATURATED	9.7	10.2							
4435	11993	OTHER : FW/Cut Brine	8.5	9							

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:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8037 **Anticipated Surface Pressure:** 5421.2

Anticipated Bottom Hole Temperature(F): 188

Anticipated abnormal proessures, temperatures, or potential geologic hazards? YES

Describe:

Lost circulation may be encountered in the Delaware mountain group. Abnormal pressure as well as hole stability issues may be encountered in the Wolfcamp.

Contingency Plans geoharzards description:

Lost circulation material will be available, as well as additional drilling fluid along with the fluid volume in the drilling rig pit system. Drilling fluid can be mixed on location or mixed in vendor mud plant and trucked to location if needed. Sufficient barite will be available to maintain appropriate mud weight for the Wolfcamp interval

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Hallertau_5_Fed_7H_H2s_Plan_03-13-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Hallertau_5_Fed_7H_Directional_Plan_03-13-2017.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Hallertau_5_Fed_7H_Drilling_Plan_03-13-2017.pdf

Hallertau_5_Fed_7H_Gas_Capture_plan_05-25-2017.pdf

Other Variance attachment:

Hallertau_5_Fed_7H_Flex_Hose_03-13-2017.pdf

SUPO

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Hallertau_5_Fed_7H_Existing_Road_from_Hallertau_5___3_Well_pad_03-13-2017.pdf

Existing Road Purpose: ACCESS **Row(s) Exist?** YES

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Hallertau_5_Fed_CTB_West_Access_Road_ROW_03-13-2017.pdf

New road type: COLLECTOR,TWO-TRACK

Length: 1389.86 Feet **Width (ft.):** 30

Max slope (%): 2 **Max grade (%):** 6

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 15

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: CULVERT,LOW WATER

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:

Hallertau_5_Fed_7H_Mile_Radius_Existing_Wells_03-13-2017.pdf

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Estimated Production Facilities description:

Production Facilities description:

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Production Facilities map:

Hallertau_5_Fed_CTB_West_Battery_Layout_03-13-2017.pdf

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 and transportation map:

Hallertau_5_Fed_7H_Drlg_water_route_03-13-2017.pdf

Water source comments:

New water well? NO

New Water Well Info

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

Well target aquifer:

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.):**

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

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 : 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: 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:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Hallertau_5_Fed_7H_Wellsite_Layout_03-13-2017.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

Recontouring attachment:

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): 5.933

Wellpad short term disturbance (acres): 5.933

Access road long term disturbance (acres): 0.957

Access road short term disturbance (acres): 0.957

Pipeline long term disturbance (acres): 10.779614

Pipeline short term disturbance (acres): 0.90909094

Other long term disturbance (acres): 1.257

Other short term disturbance (acres): 1.257

Total long term disturbance: 18.926615

Total short term disturbance: 9.056091

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

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

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:**

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: PRIVATE OWNERSHIP

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 COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Fee Owner: Bill Patterson **Fee Owner Address:** 6851 NE Loop 820, Suite 200

Phone: (817)577-1131 **Email:**

Surface use plan certification:

Surface use plan certification document:

Surface access agreement or bond:

Surface Access Agreement Need description:

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Section 12 - Other Information

Right of Way needed? YES **Use APD as ROW?** YES

ROW Type(s): 281001 ROW - ROADS,288100 ROW – O&G Pipeline,288101 ROW – O&G Facility Sites,288103 ROW – Salt Water Disposal Pipeline/Facility,289001 ROW- O&G Well Pad,FLPMA (Powerline),Other

ROW Applications

SUPO Additional Information: Access road for well pad will be an existing access road on the Hallertau 5 Federal 3H well pad.

Use a previously conducted onsite? YES

Previous Onsite information: Onsite with BLM (Jeff Robertson) & Cimarex (Barry Hunt) on 2/9/17. V-Door East. Frac pad NW corner (West). Top soil west. Interim reclamation: All sides. Hallertau 5 Federal CTB West: 400' x 400'. Center stake at 900 FSL & 1031 FWL. BLM will require an off location berm constructed along the entire east side of battery. Battery site moved much closer to the 4H due to playa area to east of original requested area.

Other SUPO Attachment

Hallertau_5_Fed_7H_Gas_lift_Flow_line_ROW_03-13-2017.pdf

Hallertau_5_Fed_7H_Powerline_ROW_03-13-2017.pdf

Hallertau_5_Fed_7H_Public_Access_Road_03-13-2017.pdf

Hallertau_5_Fed_7H_Road_Description_03-13-2017.pdf

Hallertau_5_Fed_7H_Temp_fresh_water_route_03-13-2017.pdf

Hallertau_5_Fed_CTB_West_Gas_Sales_ROW_03-13-2017.pdf

Hallertau_5_Fed_CTB_West_Powerline_ROW_03-13-2017.pdf

Hallertau_5_Fed_CTB_West_SWD_ROW_03-13-2017.pdf

Hallertau_5_Fed_7H_SUPO_03-13-2017.pdf

PWD

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:

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Bond Info

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:

Operator Certification

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:** 03/13/2017

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:

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: HALLERTAU 5 FEDERAL **Well Number:** 7H

Street Address:

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

Phone:

Email address:

Payment Info

Payment

APD Fee Payment Method: PAY.GOV

pay.gov Tracking ID: 26167KRT