Form 3160-3
(June 2015)

OCD – HOBBS
08/25/2020
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM128835

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.
LEA 7 FEDERAL COM [313878]
58H

2. Name of Operator
CIMAREX ENERGY COMPANY [215099]

9. API Well No.
30-025-47647

3a. Address
600 N. Marienfeld St., Suite 600, Midland, TX 79701

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

10. Field and Pool, or Exploratory [97983]
WOLFCAMP/WILDCAT BONE SPRING

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface LOT 4 / 776 FSL / 621 FWL / LAT 32.582507 / LONG -103.503148
At proposed prod. zone LOT 1 / 100 FNL / 660 FWL / LAT 32.59461 / LONG -103.503017

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 7/T20S/R35E/NMP

14. Distance in miles and direction from nearest town or post office*
22 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)
621 feet

16. No of acres in lease
319.67

17. Spacing Unit dedicated to this well
159.4

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

19. Proposed Depth
10580 feet / 14829 feet

20. BLM/BIA Bond No. in file
FED: NMB001188

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3671 feet

22. Approximate date work will start*
08/01/2020

23. Estimated duration
30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 requested by the BLM.

25. Signature
(Electronic Submission)

Name *(Printed/Typed)*
RHONDA SHELDON / Ph: (432) 620-1936

Date
10/02/2019

Title
Regulatory Technician

Approved by *(Signature)*
(Electronic Submission)

Name *(Printed/Typed)*
Cody Layton / Ph: (575) 234-5959

Date
07/22/2020

Title
Assistant Field Manager Lands & Minerals

Office
Carlsbad Field Office

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.

GCP Rec 08/25/2020

SL

APPROVED WITH CONDITIONS

KZ
09/08/2020

Approval Date: 07/22/2020

(Continued on page 2)

*(Instructions on page 2)

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

0. SHL: LOT 4 / 776 FSL / 621 FWL / TWSP: 20S / RANGE: 35E / SECTION: 7 / LAT: 32.582507 / LONG: -103.503148 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 2 / 2640 FSL / 660 FWL / TWSP: 20S / RANGE: 35E / SECTION: 7 / LAT: 32.587658 / LONG: -103.503019 (TVD: 10612 feet, MD: 12290 feet)

PPP: LOT 4 / 100 FSL / 660 FWL / TWSP: 20S / RANGE: 35E / SECTION: 7 / LAT: 32.58065 / LONG: -103.503023 (TVD: 10280 feet, MD: 10282 feet)

BHL: LOT 1 / 100 FNL / 660 FWL / TWSP: 20S / RANGE: 35E / SECTION: 7 / LAT: 32.59461 / LONG: -103.503017 (TVD: 10580 feet, MD: 14829 feet)

BLM Point of Contact

Name: Jordan Navarrette
Title: LIE
Phone: (575) 234-5972
Email: jnavarrette@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

BLM LEASE NUMBER: NMNM128835
COMPANY NAME: Cimarex Energy Company
ASSOCIATED WELL NAME: Lea 7 Federal Com 57H and 58H

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance,

and termination of the facility.

b. Activities of other parties including, but not limited to:
    (1) Land clearing.
    (2) Earth-disturbing and earth-moving work.
    (3) Blasting.
    (4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.

b. This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Cimarex Energy Company**
LEASE NO.:	**NMNM128835**
WELL NAME & NO.:	Lea 7 Federal Com 58H
SURFACE HOLE FOOTAGE:	776'/S & 621'/W
BOTTOM HOLE FOOTAGE	100'/N & 660'/W
LOCATION:	Section 7, T.20 S., R.35 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	◉ Yes	○ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Devonian and Pennsylvanian** Formations. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8 inch** surface casing shall be set at approximately **1,852 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8 inch** intermediate casing and shall be set at approximately **5,740 feet** is:

Option 1:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **5-1/2 inch** production casing is:

    - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. If cement does not circulate see B.1.a, c-d above.
      Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi**.

3. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **3000 (3M) psi**.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.

d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of **4** hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

YJ (07/15/2020)

1. Geological Formations

TVD of target 10,580
MD at TD 14,829

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1750	N/A	
Top Salt	1830	N/A	
Tansil (Base Salt)	3510	N/A	
Capitan	3760	N/A	
Base Capitan	4680	N/A	
Delaware Sand	5760	N/A	
Brushy Canyon	8066	Hydrocarbons	
Bone Spring	8235	Hydrocarbons	
1st Bone Spring	9635	Hydrocarbons	
2nd Bone Spring Sand	10280	Hydrocarbons	
2nd Bone Spring Target	10630	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1852	1852	13-3/8"	54.50	J-55	ST&C	1.33	3.23	5.09
12 1/4	0	5740	5740	9-5/8"	40.00	J-55	LT&C	1.37	1.30	2.26
8 3/4	0	10150	10150	5-1/2"	17.00	L-80	LT&C	1.32	1.63	1.88
8 3/4	10150	14829	10580	5-1/2"	17.00	L-80	BT&C	1.27	1.56	54.31
					BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N
Is AC Report included?	N

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	898	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	241	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate Stage 1	311	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	288	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Intermediate Stage 2	790	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
Production	580	10.30	3.64	22.18		Lead: Tuned Light + LCM
	1140	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

DV tool with possible annular casing packer as needed is proposed at a depth of +/- 3,500'.

Casing String	TOC	% Excess
Surface	0	45
Intermediate Stage 1	3500	39
Intermediate Stage 2	0	25
Production	3600	25

Cimarex request the ability to perform casing integrity tests after plug bump of cement job.

4. Pressure Control Equipment

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	**13 5/8**	**2M**	Annular	X	50% of working pressure
			Blind Ram		2M
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	**13 5/8**	**3M**	Annular	X	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	X	
			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.	
X	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
	N	Are anchors required by manufacturer?

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1852'	FW Spud Mud	8.30 - 8.80	30-32	N/C
1852' to 5740'	Brine Diesel Emulsion	9.70 - 10.20	30-35	N/C
5740' to 14829'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

The Brine Emulsion is completely saturated brine fluid that ties diesel into itself to lower the weight of the fluid. The drilling fluid is completely salt saturated.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing	
	Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test?
	Coring?

Additional Logs Planned	Interval

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	4951 psi
Abnormal Temperature	No

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
X	H2S is present
X	H2S plan is attached

8. Other Facets of Operation

9. Wellhead

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 3000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

The multi-bowl wellhead will be installed by vendor's representative. A copy of the installation instructions has been sent to the BLM field office.

The wellhead will be installed by a third-party welder while being monitored by the wellhead vendor representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 3000 psi.

All casing strings will be tested as per Onshore Order No.2 to atleast 0.22 psi/ft or 1,500 whichever is greater and not to exceed 70% of casing burst.

If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Hydrogen Sulfide Drilling Operations Plan

Lea 7 Federal Com 58H

Cimarex Energy Co.

UL: 4, Sec. 7, 20S, 35E

Lea Co., NM

1 All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:

A. Characteristics of H_2S
B. Physical effects and hazards
C. Principal and operation of H2S detectors, warning system and briefing areas.
D. Evacuation procedure, routes and first aid.
E. Proper use of safety equipment & life support systems
F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

H_2S Detection and Alarm Systems:

A. H2S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may play placed as deemed necessary.

B. An audio alarm system will be installed on the derrick floor and in the top doghouse.

3 Windsock and/or wind streamers:

A. Windsock at mudpit area should be high enough to be visible.

B. Windsock on the rig floor and / or top doghouse should be high enough to be visible.

4 Condition Flags and Signs

A. Warning sign on access road to location.
B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H_2S present in dangerous concentration). Only H2S trained and certified personnel admitted to location.

5 Well control equipment:

A. See exhibit "E-1"

6 Communication:

A. While working under masks chalkboards will be used for communication.
B. Hand signals will be used where chalk board is inappropriate.
C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

7 Drillstem Testing:

No DSTs r cores are planned at this time.

8 Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

H_2S Contingency Plan
Lea 7 Federal Com 58H
Cimarex Energy Co.
UL: 4, Sec. 7, 20S, 35E
Lea Co., NM

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must:

« Isolate the area and prevent entry by other persons into the 100 ppm ROE.
« Evacuate any public places encompassed by the 100 ppm ROE.
« Be equipped with H_2S monitors and air packs in order to control the release.
« Use the "buddy system" to ensure no injuries occur during the 432-620-1975
« Take precautions to avoid personal injury during this operation.
« Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
« Have received training in the:
  · Detection of H_2S, and
  · Measures for protection against the gas,
  · Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H_2S and SO_2

Please see attached International Chemical Safety Cards.

Contacting Authorities

Cimarex Energy Co. of Colorado's personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Cimarex Energy Co. of Colorado's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

H_2S Contingency Plan Emergency Contacts

Lea 7 Federal Com 58H

Cimarex Energy Co.

UL: 4, Sec. 7, 20S, 35E

Lea Co., NM

Company Office			
Cimarex Energy Co. of Colorado		800-969-4789	
Co. Office and After-Hours Menu			

Key Personnel

Name	**Title**	**Office**	**Mobile**
Larry Seigrist	Drilling Manager	432-620-1934	580-243-8485
Charlie Pritchard	Drilling Superintendent	432-620-1975	432-238-7084
Roy Shirley	Construction Superintendent		432-634-2136

Artesia			
Ambulance		911	
State Police		575-746-2703	
City Police		575-746-2703	
Sheriff's Office		575-746-9888	
Fire Department		**575-746-2701**	
Local Emergency Planning Committee		575-746-2122	
New Mexico Oil Conservation Division		575-748-1283	

Carlsbad			
Ambulance		911	
State Police		575-885-3137	
City Police		575-885-2111	
Sheriff's Office		575-887-7551	
Fire Department		**575-887-3798**	
Local Emergency Planning Committee		575-887-6544	
US Bureau of Land Management		575-887-6544	

Santa Fe			
New Mexico Emergency Response Commission (Santa Fe)		505-476-9600	
New Mexico Emergency Response Commission (Santa Fe) 24 Hrs		505-827-9126	
New Mexico State Emergency Operations Center		505-476-9635	

National			
National Emergency Response Center (Washington, D.C.)		800-424-8802	

Medical			
Flight for Life - 4000 24th St.; Lubbock, TX		806-743-9911	
Aerocare - R3, Box 49F; Lubbock, TX		806-747-8923	
Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM		505-842-4433	
SB Air Med Service - 2505 Clark Carr Loop S.E.; Albuquerque, NM		505-842-4949	

Other			
Boots & Coots IWC		800-256-9688	or 281-931-8884
Cudd Pressure Control		432-699-0139	or 432-563-3356
Halliburton		575-746-2757	
B.J. Services		575-746-3569	

Schlumberger

Cimarex Lea 7 Federal Com 58H Rev0 RM 17Sept19 Proposal Geodetic Report

(Non-Def Plan)

CIMAREX

Report Date:	September 17, 2019 - 01:28 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex Energy	**Vertical Section Azimuth:**	359.574 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Lea 7 Federal Com 58H / New Slot	**TVD Reference Datum:**	RKB
Well:	Lea 7 Federal Com 58H	**TVD Reference Elevation:**	3697.400 ft above MSL
Borehole:	Lea 7 Federal Com 58H	**Seabed / Ground Elevation:**	3671.400 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.500 °
Survey Name:	Cimarex Lea 7 Federal Com 58H Rev0 RM 17Sept19	**Total Gravity Field Strength:**	998.5061mgn (9.80665 Based)
Survey Date:	September 17, 2019	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	91.288 ° / 4405.576 ft / 5.749 / 0.414	**Total Magnetic Field Strength:**	48049.554 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.466 °
Location Lat / Long:	N 32° 34' 57.02639", W 103° 30' 11.33372"	**Declination Date:**	September 17, 2019
Location Grid N/E Y/X:	N 576644.540 ftUS, E 797048.470 ftUS	**Magnetic Declination Model:**	HDGM 2019
CRS Grid Convergence Angle:	0.4471 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99998397	**Grid Convergence Used:**	0.4471 °
Version / Patch:	2.10.782.0	**Total Corr Mag North->Grid North:**	6.0533 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [776' FSL, 621' FWL]	0.00	0.00	0.08	0.00	0.00	0.00	0.00	N/A	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	100.00	0.00	9.19	100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	200.00	0.00	9.19	200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	300.00	0.00	9.19	300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	400.00	0.00	9.19	400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	500.00	0.00	9.19	500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	600.00	0.00	9.19	600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	700.00	0.00	9.19	700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	800.00	0.00	9.19	800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	900.00	0.00	9.19	900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	1000.00	0.00	9.19	1000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	1100.00	0.00	9.19	1100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	1200.00	0.00	9.19	1200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	1300.00	0.00	9.19	1300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	1400.00	0.00	9.19	1400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	1500.00	0.00	9.19	1500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	1600.00	0.00	9.19	1600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	1700.00	0.00	9.19	1700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
Rustler	*1750.00*	*0.00*	*9.19*	*1750.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	1800.00	0.00	9.19	1800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
Top Salt	*1830.00*	*0.00*	*9.19*	*1830.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	1900.00	0.00	9.19	1900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2000.00	0.00	9.19	2000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2100.00	0.00	9.19	2100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2200.00	0.00	9.19	2200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2300.00	0.00	9.19	2300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2400.00	0.00	9.19	2400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2500.00	0.00	9.19	2500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2600.00	0.00	9.19	2600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2700.00	0.00	9.19	2700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2800.00	0.00	9.19	2800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	2900.00	0.00	9.19	2900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	3000.00	0.00	9.19	3000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	3100.00	0.00	9.19	3100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	3200.00	0.00	9.19	3200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	3300.00	0.00	9.19	3300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	3400.00	0.00	9.19	3400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	3500.00	0.00	9.19	3500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
Base Salt (Tansil)	*3510.00*	*0.00*	*9.19*	*3510.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	3600.00	0.00	9.19	3600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	3700.00	0.00	9.19	3700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
Capitan	*3760.00*	*0.00*	*9.19*	*3760.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	3800.00	0.00	9.19	3800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	3900.00	0.00	9.19	3900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4000.00	0.00	9.19	4000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4100.00	0.00	9.19	4100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4200.00	0.00	9.19	4200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4300.00	0.00	9.19	4300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4400.00	0.00	9.19	4400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4500.00	0.00	9.19	4500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4600.00	0.00	9.19	4600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
Base Capitan	*4680.00*	*0.00*	*9.19*	*4680.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	4700.00	0.00	9.19	4700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4800.00	0.00	9.19	4800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	4900.00	0.00	9.19	4900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5000.00	0.00	9.19	5000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5100.00	0.00	9.19	5100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5200.00	0.00	9.19	5200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5300.00	0.00	9.19	5300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5400.00	0.00	9.19	5400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5500.00	0.00	9.19	5500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5600.00	0.00	9.19	5600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5700.00	0.00	9.19	5700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
Delaware Sands	*5760.00*	*0.00*	*9.19*	*5760.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	5800.00	0.00	9.19	5800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	5900.00	0.00	9.19	5900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6000.00	0.00	9.19	6000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6100.00	0.00	9.19	6100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6200.00	0.00	9.19	6200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6300.00	0.00	9.19	6300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6400.00	0.00	9.19	6400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6500.00	0.00	9.19	6500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6600.00	0.00	9.19	6600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6700.00	0.00	9.19	6700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	6800.00	0.00	9.19	6800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	6900.00	0.00	9.19	6900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7000.00	0.00	9.19	7000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7100.00	0.00	9.19	7100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7200.00	0.00	9.19	7200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7300.00	0.00	9.19	7300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7400.00	0.00	9.19	7400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7500.00	0.00	9.19	7500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7600.00	0.00	9.19	7600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7700.00	0.00	9.19	7700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7800.00	0.00	9.19	7800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	7900.00	0.00	9.19	7900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	8000.00	0.00	9.19	8000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
Brushy Canyon	*8066.00*	*0.00*	*9.19*	*8066.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	8100.00	0.00	9.19	8100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	8200.00	0.00	9.19	8200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
Bone Spring	*8235.00*	*0.00*	*9.19*	*8235.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	8300.00	0.00	9.19	8300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	8400.00	0.00	9.19	8400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	8500.00	0.00	9.19	8500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	8600.00	0.00	9.19	8600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	8700.00	0.00	9.19	8700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	8800.00	0.00	9.19	8800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	8900.00	0.00	9.19	8900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9000.00	0.00	9.19	9000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9100.00	0.00	9.19	9100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9200.00	0.00	9.19	9200.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9300.00	0.00	9.19	9300.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9400.00	0.00	9.19	9400.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9500.00	0.00	9.19	9500.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9600.00	0.00	9.19	9600.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
1st BS Sand	*9635.00*	*0.00*	*9.19*	*9635.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	9700.00	0.00	9.19	9700.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9800.00	0.00	9.19	9800.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	9900.00	0.00	9.19	9900.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
2nd Bone Spring Carb	*9980.00*	*0.00*	*9.19*	*9980.00*	*0.00*	*0.00*	*0.00*	*0.00*	*576644.54*	*797048.47*	*N 32 34 57.03*	*W 103 30 11.33*
	10000.00	0.00	9.19	10000.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	10100.00	0.00	9.19	10100.00	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
KOP - Build 12°/100' DLS	10150.17	0.00	9.19	10150.17	0.00	0.00	0.00	0.00	576644.54	797048.47	N 32 34 57.03	W 103 30 11.33
	10200.00	5.98	9.19	10199.91	2.56	2.56	0.42	12.00	576647.10	797048.89	N 32 34 57.05	W 103 30 11.33
2nd Bone Spring Sand	*10281.66*	*15.78*	*9.19*	*10280.00*	*17.74*	*17.76*	*2.87*	*12.00*	*576662.30*	*797051.34*	*N 32 34 57.20*	*W 103 30 11.30*
	10300.00	17.98	9.19	10297.55	22.99	23.02	3.73	12.00	576667.56	797052.20	N 32 34 57.25	W 103 30 11.29
	10400.00	29.98	9.19	10388.76	62.98	63.06	10.21	12.00	576707.60	797058.68	N 32 34 57.65	W 103 30 11.21
Build & Turn 12°/100' DLS	10441.84	35.00	9.19	10424.03	85.13	85.24	13.80	12.00	576729.78	797062.27	N 32 34 57.87	W 103 30 11.16
	10500.00	41.86	7.10	10469.57	120.86	121.01	18.87	12.00	576765.54	797067.34	N 32 34 58.22	W 103 30 11.10
	10600.00	53.71	4.54	10536.65	194.36	194.56	26.21	12.00	576839.09	797074.68	N 32 34 58.95	W 103 30 11.01
	10700.00	65.60	2.67	10587.08	280.29	280.53	31.55	12.00	576925.07	797080.02	N 32 34 59.80	W 103 30 10.94
	10800.00	77.51	1.13	10618.67	374.90	375.17	34.65	12.00	577019.70	797083.12	N 32 35 0.74	W 103 30 10.89
	10900.00	89.43	359.72	10630.02	474.06	474.34	35.37	12.00	577118.87	797083.84	N 32 35 1.72	W 103 30 10.88
Landing Point	10910.91	90.73	359.57	10630.00	484.97	485.25	35.31	12.00	577129.78	797083.77	N 32 35 1.82	W 103 30 10.88
	11000.00	90.73	359.57	10628.86	574.05	574.33	34.64	0.00	577218.86	797083.11	N 32 35 2.71	W 103 30 10.88
	11100.00	90.73	359.57	10627.59	674.05	674.32	33.90	0.00	577318.84	797082.37	N 32 35 3.70	W 103 30 10.88
	11200.00	90.73	359.57	10626.31	774.04	774.31	33.16	0.00	577418.83	797081.63	N 32 35 4.69	W 103 30 10.88
	11300.00	90.73	359.57	10625.04	874.03	874.30	32.41	0.00	577518.82	797080.88	N 32 35 5.67	W 103 30 10.88
	11400.00	90.73	359.57	10623.76	974.02	974.28	31.67	0.00	577618.81	797080.14	N 32 35 6.66	W 103 30 10.87
	11500.00	90.73	359.57	10622.48	1074.01	1074.27	30.93	0.00	577718.79	797079.39	N 32 35 7.65	W 103 30 10.87
	11600.00	90.73	359.57	10621.21	1174.01	1174.26	30.18	0.00	577818.78	797078.65	N 32 35 8.64	W 103 30 10.87
	11700.00	90.73	359.57	10619.93	1274.00	1274.25	29.44	0.00	577918.77	797077.91	N 32 35 9.63	W 103 30 10.87
	11800.00	90.73	359.57	10618.66	1373.99	1374.24	28.69	0.00	578018.76	797077.16	N 32 35 10.62	W 103 30 10.87
	11900.00	90.73	359.57	10617.38	1473.98	1474.23	27.95	0.00	578118.74	797076.42	N 32 35 11.61	W 103 30 10.87
	12000.00	90.73	359.57	10616.10	1573.97	1574.22	27.21	0.00	578218.73	797075.68	N 32 35 12.60	W 103 30 10.87
	12100.00	90.73	359.57	10614.83	1673.96	1674.21	26.46	0.00	578318.72	797074.93	N 32 35 13.59	W 103 30 10.87
	12200.00	90.73	359.57	10613.55	1773.96	1774.20	25.72	0.00	578418.70	797074.19	N 32 35 14.58	W 103 30 10.87
NMNM128835 - Private Minerals Crossing	*12289.80*	*90.73*	*359.57*	*10612.41*	*1863.75*	*1863.99*	*25.05*	*0.00*	*578508.49*	*797073.52*	*N 32 35 15.47*	*W 103 30 10.87*
	12300.00	90.73	359.57	10612.28	1873.95	1874.19	24.98	0.00	578518.69	797073.45	N 32 35 15.57	W 103 30 10.87
	12400.00	90.73	359.57	10611.00	1973.94	1974.18	24.23	0.00	578618.68	797072.70	N 32 35 16.56	W 103 30 10.87
	12500.00	90.73	359.57	10609.72	2073.93	2074.16	23.49	0.00	578718.67	797071.96	N 32 35 17.55	W 103 30 10.87
	12600.00	90.73	359.57	10608.45	2173.92	2174.15	22.75	0.00	578818.65	797071.22	N 32 35 18.54	W 103 30 10.87
	12700.00	90.73	359.57	10607.17	2273.92	2274.14	22.00	0.00	578918.64	797070.47	N 32 35 19.53	W 103 30 10.87
	12800.00	90.73	359.57	10605.90	2373.91	2374.13	21.26	0.00	579018.63	797069.73	N 32 35 20.52	W 103 30 10.87
	12900.00	90.73	359.57	10604.62	2473.90	2474.12	20.52	0.00	579118.62	797068.99	N 32 35 21.50	W 103 30 10.87
	13000.00	90.73	359.57	10603.34	2573.89	2574.11	19.77	0.00	579218.60	797068.24	N 32 35 22.49	W 103 30 10.87
	13100.00	90.73	359.57	10602.07	2673.88	2674.10	19.03	0.00	579318.59	797067.50	N 32 35 23.48	W 103 30 10.87
	13200.00	90.73	359.57	10600.79	2773.88	2774.09	18.29	0.00	579418.58	797066.76	N 32 35 24.47	W 103 30 10.87
	13300.00	90.73	359.57	10599.52	2873.87	2874.08	17.54	0.00	579518.57	797066.01	N 32 35 25.46	W 103 30 10.87
	13400.00	90.73	359.57	10598.24	2973.86	2974.07	16.80	0.00	579618.55	797065.27	N 32 35 26.45	W 103 30 10.87
	13500.00	90.73	359.57	10596.96	3073.85	3074.06	16.05	0.00	579718.54	797064.52	N 32 35 27.44	W 103 30 10.87
	13600.00	90.73	359.57	10595.69	3173.84	3174.04	15.31	0.00	579818.53	797063.78	N 32 35 28.43	W 103 30 10.87
	13700.00	90.73	359.57	10594.41	3273.83	3274.03	14.57	0.00	579918.51	797063.04	N 32 35 29.42	W 103 30 10.86
	13800.00	90.73	359.57	10593.14	3373.83	3374.02	13.82	0.00	580018.50	797062.29	N 32 35 30.41	W 103 30 10.86
	13900.00	90.73	359.57	10591.86	3473.82	3474.01	13.08	0.00	580118.49	797061.55	N 32 35 31.40	W 103 30 10.86
	14000.00	90.73	359.57	10590.58	3573.81	3574.00	12.34	0.00	580218.48	797060.81	N 32 35 32.39	W 103 30 10.86
	14100.00	90.73	359.57	10589.31	3673.80	3673.99	11.59	0.00	580318.46	797060.06	N 32 35 33.38	W 103 30 10.86
	14200.00	90.73	359.57	10588.03	3773.79	3773.98	10.85	0.00	580418.45	797059.32	N 32 35 34.37	W 103 30 10.86
	14300.00	90.73	359.57	10586.76	3873.79	3873.97	10.11	0.00	580518.44	797058.58	N 32 35 35.36	W 103 30 10.86
	14400.00	90.73	359.57	10585.48	3973.78	3973.96	9.36	0.00	580618.43	797057.83	N 32 35 36.35	W 103 30 10.86
	14500.00	90.73	359.57	10584.20	4073.77	4073.95	8.62	0.00	580718.41	797057.09	N 32 35 37.33	W 103 30 10.86
	14600.00	90.73	359.57	10582.93	4173.76	4173.94	7.88	0.00	580818.40	797056.35	N 32 35 38.32	W 103 30 10.86
	14700.00	90.73	359.57	10581.65	4273.75	4273.92	7.13	0.00	580918.39	797055.60	N 32 35 39.31	W 103 30 10.86
	14800.00	90.73	359.57	10580.38	4373.74	4373.91	6.39	0.00	581018.37	797054.86	N 32 35 40.30	W 103 30 10.86
Cimarex Lea 7 Federal Com 58H - PBHL [100' FNL, 660' FWL]	14829.49	90.73	359.57	10580.00	4403.23	4403.40	6.17	0.00	581047.86	797054.64	N 32 35 40.59	W 103 30 10.86

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	26.000	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS-Depth Only	Lea 7 Federal Com 58H / Cimarex Lea 7 Federal Com 58H Rev0 RM 17Sept19
	1	26.000	14829.489	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS	Lea 7 Federal Com 58H / Cimarex Lea 7 Federal Com 58H Rev0 RM

Schlumberger

CIMAREX

Cimarex Lea 7 Federal Com 58H Rev0 RM 17Sept19 Anti-Collision Summary Report

Analysis Date-24hr Time:	September 17, 2019 - 13:12	**Analysis Method:**	3D Least Distance
Client:	Cimarex Energy	**Reference Trajectory:**	Cimarex Lea 7 Federal Com 58H Rev0 RM 17Sept19 (Non-Def Plan)
Field:	NM Lea County (NAD 83)	**Depth Interval:**	Every 10.00 Measured Depth (ft)
Structure:	Cimarex Lea 7 Federal Com 58H	**Rule Set:**	NAL Procedure: D&M AntiCollision Standard S002
Slot:	New Slot	**Min Pts:**	All local minima indicated.
Well:	Lea 7 Federal Com 58H	**Version / Patch:**	2.10.782.0
Borehole:	Lea 7 Federal Com 58H	**Database \ Project:**	US1153APP452.dir.slb.com\drilling-NM Lea County 2.10
Scan MD Range:	0.00ft ~ 14829.49ft		

Trajectory Error Model: ISCWSA0 3-D 95.000% Confidence 2.7955 sigma, for subject well. For offset wells, error model version is specified with each well respectively.

Offset Trajectories Summary

Offset Selection Criteria

Wellhead distance scan: Not performed!

Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
Sinclair Federal Lea 6025 #1 (Plugged Offset) (Def Survey)													Fail Major
	2527.87	32.81	2526.39	2495.06	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2527.83	32.81	2526.35	2495.03	831250.85	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	2527.83	32.81	2526.35	2495.02	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	2526.03	193.14	2396.77	2332.89	19.76	OSF1.50	5800.00	5800.00				MinPt-CtCt	
	2529.38	762.14	2020.79	1767.23	4.98	OSF1.50	10050.00	10050.00	OSF<5.00			Enter Alert	
	896.91	903.02	293.58	-6.11	1.49	OSF1.50	12080.00	10615.08		OSF<1.50		Enter Minor	
	596.80	902.17	-6.03	-305.37	0.99	OSF1.50	12400.00	10611.00			OSF<1.00	Enter Major	
	252.97	899.40	-347.12	-646.43	0.42	OSF1.50	12940.00	10604.11				MinPts	
	595.71	895.65	-1.88	-299.94	1.00	OSF1.50	13480.00	10597.22			OSF>1.00	Exit Major	
	886.17	894.19	289.55	-8.02	1.49	OSF1.50	13790.00	10593.26		OSF>1.50		Exit Minor	
	1905.52	889.98	1311.71	1015.54	3.21	OSF1.50	14829.49	10580.00				TD	
Cimarex Lea 7 Federal Com 1H XEM+MWD Surveys 0ft - 15433ft MD (Def Survey)													Warning Alert
	443.13	32.81	440.63	410.32	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	443.09	32.81	440.58	410.29	31362.33	MAS = 10.00 (m)	26.00	26.00				WRP	
	315.24	68.60	268.61	246.64	7.11	OSF1.50	8970.00	8970.00				MinPt-CtCt	
	315.37	69.00	268.47	246.37	7.07	OSF1.50	9040.00	9040.00				MINPT-O-EOU	
	315.57	69.23	268.51	246.34	7.05	OSF1.50	9080.00	9080.00				MinPt-O-ADP	
	316.82	70.33	269.04	246.50	6.97	OSF1.50	9250.00	9250.00				MinPt-O-ADP	
	334.94	76.01	283.38	258.92	6.79	OSF1.50	10160.00	10160.00				MinPt-O-SF	
	449.48	32.81	427.82	416.67	23.32	MAS = 10.00 (m)	10900.00	10630.02				MinPts	
	449.50	32.81	427.77	416.69	23.25	MAS = 10.00 (m)	10904.78	10630.04				MINPT-O-EOU	
	498.45	91.97	436.30	406.48	8.32	OSF1.50	12820.00	10605.64				MinPt-O-ADP	
	507.52	106.92	435.40	400.60	7.25	OSF1.50	13250.00	10600.15				MINPT-O-EOU	

Results highlighted: Sep-Factor separation <= 1.50 ft

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	534.13	162.00	425.30	372.13	5.00	OSF1.50	14490.00	10584.33	OSF<5.00			Enter Alert	
	536.74	182.20	414.44	354.54	4.46	OSF1.50	14610.00	10582.80				MINPT-O-EOU	
	537.07	182.66	414.47	354.41	4.45	OSF1.50	14620.00	10582.67				MinPt-O-ADP	
	539.18	183.75	415.85	355.43	4.44	OSF1.50	14650.00	10582.29				MinPt-O-SF	
	584.68	181.52	462.84	403.16	4.88	OSF1.50	14829.49	10580.00				TD	
Cimarex Lea 7 Federal Com 2H MWD Final(Surcon Corrected) (Def Survey)													Pass
	1011.41	32.81	1009.60	978.60	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	
	1011.42	32.81	1009.60	978.61	119150.49	MAS = 10.00 (m)	26.00	26.00				WRP	
	1012.66	32.81	1007.39	979.85	291.65	MAS = 10.00 (m)	840.00	840.00				MinPts	
	1012.59	32.81	1006.38	979.79	229.58	MAS = 10.00 (m)	1050.00	1050.00				MinPts	
	1001.19	32.81	986.69	968.38	78.77	MAS = 10.00 (m)	2910.00	2910.00				MinPts	
	1001.47	32.81	986.48	968.66	75.86	MAS = 10.00 (m)	3020.00	3020.00				MINPT-O-EOU	
	1019.46	39.01	992.85	980.45	41.03	OSF1.50	5630.00	5630.00				MINPT-O-EOU	
	1019.67	39.27	992.88	980.39	40.75	OSF1.50	5670.00	5670.00				MinPt-O-ADP	
	1253.07	70.40	1205.54	1182.68	27.36	OSF1.50	10290.00	10288.01				MinPt-O-SF	
	1419.48	68.80	1373.02	1350.69	31.74	OSF1.50	10780.00	10613.94				MinPts	
	1419.54	68.88	1373.02	1350.66	31.71	OSF1.50	10790.00	10616.40				MinPt-O-ADP	
	1428.00	69.72	1380.91	1358.28	31.50	OSF1.50	10904.78	10630.04				MinPt-O-SF	
	1426.41	88.14	1367.05	1338.27	24.75	OSF1.50	12020.00	10615.85				MinPt-CtCt	
	1426.83	89.54	1366.54	1337.29	24.36	OSF1.50	12090.00	10614.96				MINPT-O-EOU	
	1433.39	105.03	1362.77	1328.36	20.80	OSF1.50	12770.00	10606.28				MinPt-CtCt	
	1433.94	106.62	1362.26	1327.32	20.50	OSF1.50	12840.00	10605.39				MINPT-O-EOU	
	1437.91	111.01	1363.30	1326.90	19.73	OSF1.50	13020.00	10603.09				MinPt-O-ADP	
	1447.45	125.81	1362.98	1321.65	17.49	OSF1.50	13600.00	10595.69				MinPt-CtCt	
	1447.57	135.30	1356.77	1312.27	16.25	OSF1.50	13960.00	10591.09				MinPt-CtCt	
	1448.97	139.19	1355.57	1309.78	15.80	OSF1.50	14110.00	10589.18				MINPT-O-EOU	
	1452.49	143.49	1356.22	1309.00	15.36	OSF1.50	14270.00	10587.14				MinPt-O-ADP	
	1456.19	151.49	1354.60	1304.71	14.58	OSF1.50	14550.00	10583.57				MINPT-O-EOU	
	1457.83	153.76	1354.73	1304.08	14.37	OSF1.50	14630.00	10582.55				MinPt-O-ADP	
	1468.69	156.31	1363.88	1312.38	14.24	OSF1.50	14780.00	10580.63				MinPt-O-SF	
	1475.60	156.88	1370.41	1318.72	14.26	OSF1.50	14829.49	10580.00				TD	
Final Survey - Cimarex Lea 7 Federal Com 29H MWD 0ft to 16090ft (Surcon Corrected) (Def Survey)													Pass
	3540.81	32.81	3539.00	3508.00	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	
	3540.81	32.81	3538.99	3508.00	324819.82	MAS = 10.00 (m)	26.00	26.00				WRP	
	3455.74	32.81	3438.99	3422.93	229.35	MAS = 10.00 (m)	3360.00	3360.00				MinPts	
	3390.68	39.97	3363.50	3350.71	132.46	OSF1.50	5750.00	5750.00				MinPt-O-SF	
	2723.35	70.13	2675.63	2653.22	60.70	OSF1.50	9880.00	9880.00				MinPt-CtCt	
	2723.39	70.26	2675.59	2653.14	60.59	OSF1.50	9900.00	9900.00				MINPT-O-EOU	
	2723.78	70.72	2675.67	2653.06	60.18	OSF1.50	9970.00	9970.00				MinPt-O-ADP	
	2724.64	71.82	2675.79	2652.82	59.23	OSF1.50	10140.00	10140.00				MINPT-O-EOU	
	2724.79	72.01	2675.82	2652.78	59.07	OSF1.50	10170.00	10169.99				MinPt-O-ADP	
	2746.54	74.60	2695.87	2671.94	57.32	OSF1.50	10620.00	10548.15				MinPt-O-SF	
	2725.99	78.77	2672.64	2647.23	53.58	OSF1.50	10920.00	10629.88				MinPt-CtCt	
	2726.19	79.31	2672.47	2646.88	53.20	OSF1.50	10970.00	10629.25				MINPT-O-EOU	
	2726.46	79.64	2672.53	2646.83	52.99	OSF1.50	11000.00	10628.86				MinPt-O-ADP	
	2726.06	84.71	2668.75	2641.35	49.70	OSF1.50	11310.00	10624.91				MinPt-CtCt	
	2718.23	95.20	2653.92	2623.03	43.95	OSF1.50	11870.00	10617.76				MinPt-CtCt	
	2713.32	112.26	2637.64	2601.06	37.05	OSF1.50	12640.00	10607.94				MinPt-CtCt	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	2717.05	122.81	2634.34	2594.24	33.85	OSF1.50	13090.00	10602.20				MINPT-O-EOU	
	2707.54	144.39	2610.44	2563.16	28.60	OSF1.50	13900.00	10591.86				MinPt-CtCt	
	2708.15	146.29	2609.78	2561.86	28.23	OSF1.50	13990.00	10590.71				MINPT-O-EOU	
	2708.86	147.13	2609.92	2561.73	28.08	OSF1.50	14030.00	10590.20				MinPt-O-ADP	
	2708.35	170.13	2594.08	2538.22	24.22	OSF1.50	14829.49	10580.00				MinPts	
Final Surveys - Cimarex Lea 7 Federal Com 30H MWD 0ft-16076ft MD (Surcon Corrected) (Def Survey)													Pass
	3560.73	32.81	3558.92	3527.92	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	
	3560.74	32.81	3558.92	3527.93	403251.36	MAS = 10.00 (m)	26.00	26.00				WRP	
	3559.23	32.81	3555.52	3526.42	1864.11	MAS = 10.00 (m)	460.00	460.00				MinPts	
	3559.45	32.81	3555.31	3526.64	1522.77	MAS = 10.00 (m)	540.00	540.00				MINPT-O-EOU	
	3586.89	32.81	3572.22	3554.08	275.45	MAS = 10.00 (m)	2940.00	2940.00				MINPT-O-EOU	
	3591.50	32.81	3574.58	3558.69	235.02	MAS = 10.00 (m)	3440.00	3440.00				MinPts	
	3557.91	40.03	3530.70	3517.88	138.67	OSF1.50	5810.00	5810.00				MinPt-CtCt	
	3557.99	40.30	3530.60	3517.69	137.72	OSF1.50	5850.00	5850.00				MINPT-O-EOU	
	3558.16	40.50	3530.64	3517.66	137.01	OSF1.50	5880.00	5880.00				MinPt-O-ADP	
	3999.55	66.00	3955.04	3933.56	93.04	OSF1.50	9610.00	9610.00				MinPt-CtCt	
	3994.45	71.37	3946.35	3923.08	85.78	OSF1.50	10450.00	10430.68				MinPt-CtCt	
	3994.45	71.42	3946.32	3923.03	85.71	OSF1.50	10460.00	10438.71				MinPts	
	4001.57	93.69	3938.60	3907.88	65.11	OSF1.50	11940.00	10616.87				MinPt-CtCt	
	4005.24	102.88	3936.14	3902.36	59.26	OSF1.50	12390.00	10611.13				MINPT-O-EOU	
	4007.10	105.13	3936.50	3901.97	58.00	OSF1.50	12500.00	10609.72				MinPt-O-ADP	
	4012.27	116.48	3934.11	3895.79	52.34	OSF1.50	12950.00	10603.98				MinPt-CtCt	
	4004.43	148.96	3904.61	3855.47	40.73	OSF1.50	14200.00	10588.03				MinPt-CtCt	
	4004.53	154.68	3900.89	3849.85	39.21	OSF1.50	14410.00	10585.35				MinPt-CtCt	
	4005.50	157.60	3899.92	3847.90	38.49	OSF1.50	14540.00	10583.69				MINPT-O-EOU	
	4010.28	163.22	3900.95	3847.06	37.19	OSF1.50	14760.00	10580.89				MinPt-O-ADP	
	4012.21	164.94	3901.73	3847.27	36.82	OSF1.50	14829.49	10580.00				MinPt-O-SF	