HOBBS OCD

SEP 12 2019

RECEIVED

Form 3160-3
(June 2015)

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

RECEIVED

	5. Lease Serial No. NMNM126971
	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. RAIDER FEDERAL COM 704H (318010)
2. Name of Operator CENTENNIAL RESOURCE PRODUCTION LLC (372165)	9. API Well No. 30-025-46362
3a. Address 1001 17th Street, Suite 1800 Denver CO 80202 3b. Phone No. *(include area code)* (720)499-1400	10. Field and Pool, or Exploratory (2220) WOLFCAMP A / ~~WC-025 G-09 S243310P~~
4. Location of Well *(Report location clearly and in accordance with any State requirements. *)* At surface SESE / 300 FSL / 380 FEL / LAT 32.196614 / LONG -103.4676 At proposed prod. zone NENE / 100 FNL / 330 FEL / LAT 32.224525 / LONG -103.467445	11. Sec., T. R. M. or Blk. and Survey or Area SEC 21 / T24S / R34E / NMP

14. Distance in miles and direction from nearest town or post office* 19.8 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) 300 feet	16. No of acres in lease 240	17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet	19. Proposed Depth 12250 feet / 22407 feet	20. BLM/BIA Bond No. in file FED: NMB001471
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3500 feet	22. Approximate date work will start* 05/30/2020	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)* Kanicia Schlichting / Ph: (720)499-1537	Date 12/19/2018
Title Sr. Regulatory Analyst		
Approved by *(Signature)* (Electronic Submission)	Name *(Printed/Typed)* Cody Layton / Ph: (575)234-5959	Date 07/31/2019
Title Assistant Field Manager Lands & Minerals	Office 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.

DCP Rec 09/12/19

APPROVED WITH CONDITIONS

KZ 09/12/19

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 07/31/2019

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

1. SHL: SESE / 300 FSL / 380 FEL / TWSP: 24S / RANGE: 34E / SECTION: 21 / LAT: 32.196614 / LONG: -103.4676 (TVD: 0 feet, MD: 0 feet)
   PPP: SESE / 100 FSL / 330 FEL / TWSP: 24S / RANGE: 34E / SECTION: 21 / LAT: 32.196064 / LONG: -103.467438 (TVD: 12250 feet, MD: 12597 feet)
   PPP: SENE / 2639 FSL / 328 FEL / TWSP: 24S / RANGE: 34E / SECTION: 21 / LAT: 32.203042 / LONG: -103.46744 (TVD: 12200 feet, MD: 14498 feet)
   BHL: NENE / 100 FNL / 330 FEL / TWSP: 24S / RANGE: 34E / SECTION: 16 / LAT: 32.224525 / LONG: -103.467445 (TVD: 12250 feet, MD: 22407 feet)

BLM Point of Contact

Name: Priscilla Perez
Title: Legal Instruments Examiner
Phone: 5752345934
Email: pperez@blm.gov

Approval Date: 07/31/2019

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.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**CENTENNIAL RESOURCE PRODUCTION LLC**
LEASE NO.:	**NMNM126971**
WELL NAME & NO.:	**RAIDER FEDERAL COM 704H**
SURFACE HOLE FOOTAGE:	**300' FSL & 380' FEL**
BOTTOM HOLE FOOTAGE	**100' FNL & 330' FEL**
LOCATION:	**Section 21, T. 24 S., R 34 E., NMPM**
COUNTY:	**Lea County, New Mexico**

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
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

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1300 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.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

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

   - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** inch surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5M Annular which shall be tested to 5000 psi.**

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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.

JJP06202019

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)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ 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.

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.

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: 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.

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.

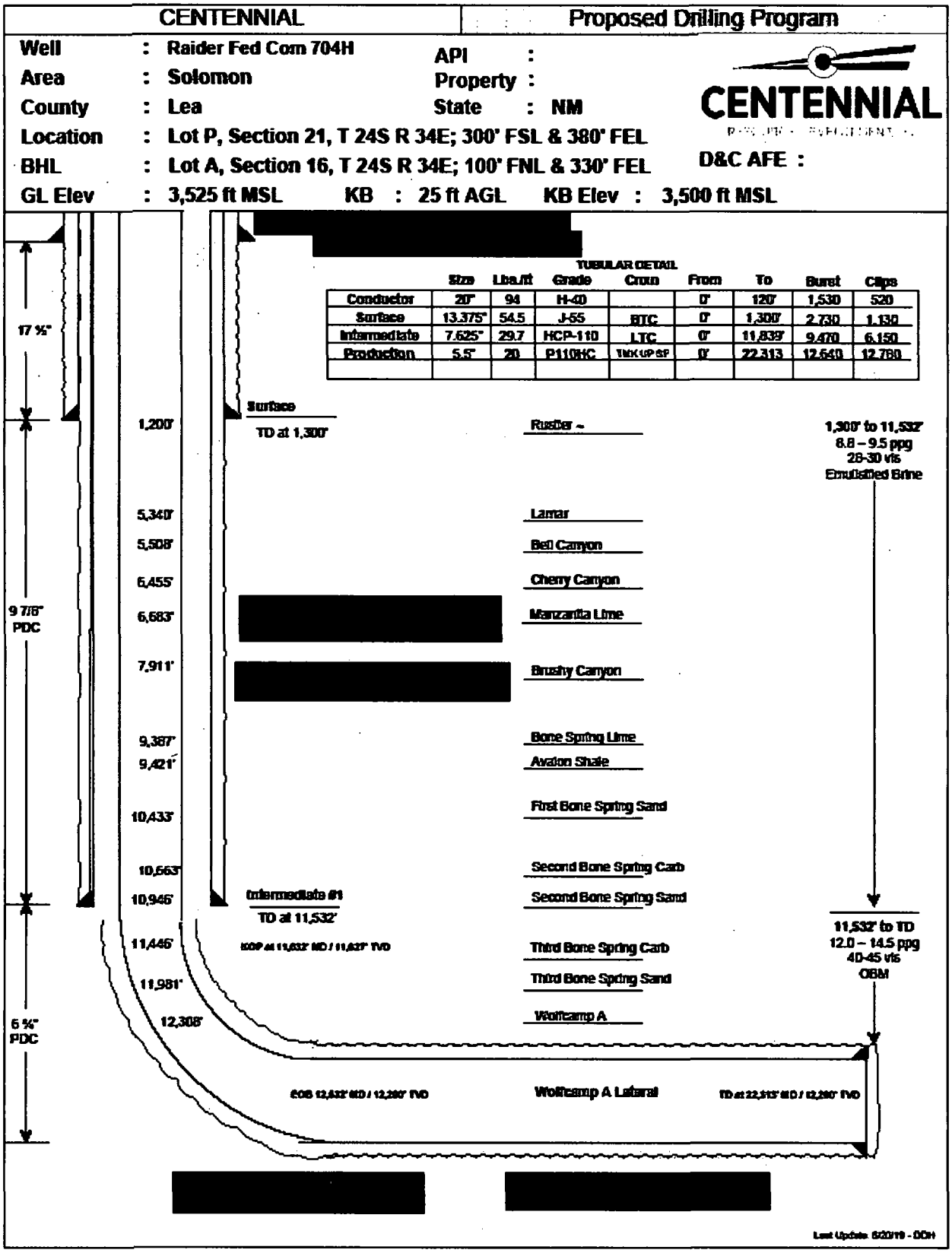
C. DRILLING MUD

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.



Approval Date: 07/31/2019

AFMSS

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

Operator Certification Data Report

09/10/2019

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: Kanicia Schlichting **Signed on:** 03/18/2019

Title: Sr. Regulatory Analyst

Street Address: 1001 17th Street, Suite 1800

City: Denver **State:** CO **Zip:** 80202

Phone: (720)499-1537

Email address: Kanicia.schlichting@cdevinc.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

AFMSS

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

Application Data Report

09/10/2019

APD ID: 10400037451 **Submission Date:** 12/19/2018

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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

[redacted]

Show Final Text

Section 1 - General

APD ID: 10400037451 **Tie to previous NOS?** **Submission Date:** 12/19/2018

BLM Office: CARLSBAD **User:** Kanicia Schlichting **Title:** Sr. Regulatory Analyst

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

Lease number: NMNM126971 **Lease Acres:** 240

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:** CENTENNIAL RESOURCE PRODUCTION LLC

Operator letter of designation:

Operator Info

Operator Organization Name: CENTENNIAL RESOURCE PRODUCTION LLC

Operator Address: 1001 17th Street, Suite 1800

Zip: 80202

Operator PO Box:

Operator City: Denver **State:** CO

Operator Phone: (720)499-1400

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? EXISTING **Master Development Plan name:** Raider Pad

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

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

Well Name: RAIDER FEDERAL COM **Well Number:** 704H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WOLFCAMP A **Pool Name:** WC-025 G-09 S243310P;UPPER WOLFCAMP

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

Is the proposed well in an area containing other mineral resources? USEABLE WATER

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:** RAIDER EAST **Number:** 703H

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 19.8 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 300 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: RAIDER_FEDERAL_COM_704H___C102_Revision_3.15.19_20190318110303.pdf

RAIDER_FEDERAL_COM_704H___Lease_C102_Revision_3.15.19_20190318110304.pdf

Well work start Date: 05/30/2020 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 23782 **Reference Datum:**

	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	300	FSL	380	FEL	24S	34E	21	Aliquot SESE	32.196614	-103.4676	LEA	NEW MEXICO	NEW MEXICO	F	FEE	3500	0	0
KOP Leg #1	100	FSL	990	FEL	24S	34E	21	Aliquot SESE	32.196066	-103.469571	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8177	11726	11677
PPP Leg #1	2639	FSL	328	FEL	24S	34E	21	Aliquot SENE	32.203042	-103.46744	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 126971	-8700	14498	12200

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

	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
PPP Leg #1	100	FSL	330	FEL	24S	34E	21	Aliquot SESE	32.196064	-103.467438	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8750	12597	12250
EXIT Leg #1	100	FNL	330	FEL	24S	34E	16	Aliquot NENE	32.224525	-103.467445	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-8750	22407	12250
BHL Leg #1	100	FNL	330	FEL	24S	34E	16	Aliquot NENE	32.224525	-103.467445	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-8750	22407	12250

APD ID: 10400037451 **Submission Date:** 12/19/2018

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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

[redacted]

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	3500	1160	1160	SANDSTONE	NONE	N
2	BELL CANYON	-1996	5496	5496	SANDSTONE	NONE	N
3	AVALON SAND	-5874	9374	9374	SHALE	OIL	N
4	FIRST BONE SPRING SAND	-6886	10386	10386	SANDSTONE	OIL	N
5	BONE SPRING 2ND	-7399	10899	10899	SANDSTONE	OIL	N
6	BONE SPRING 3RD	-8433	11933	12060	SANDSTONE	OIL	N
7	WOLFCAMP	-8713	12213	12753	SHALE,SANDSTONE	OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 12250

Equipment: The BOP and related equipment will meet or exceed the requirements of a 10M/5M-psi system as set forth in On Shore Order No. 2. See attached BOP Schematic. A. Casinghead: 13 5/8" – 10,000 psi SOW x 13" – 10,000 psi WP Intermediate Spool: 13" – 10,000 psi WP x 11" – 10,000 psi WP Tubinghead: 11" – 10,000 psi WP x 7 1/16" – 15,000 psi WP B. Minimum Specified Pressure Control Equipment • Annular preventer • One Pipe ram, One blind ram • Drilling spool, or blowout preventer with 2 side outlets. Choke side will be a 3-inch minimum diameter, kill line shall be at least 2-inch diameter • 3 inch diameter choke line • 2 – 3 inch choke line valves • 2 inch kill line • 2 chokes with 1 remotely controlled from rig floor (see Figure 2) • 2 – 2 inch kill line valves and a check valve • Upper kelly cock valve with handle available • When the expected pressures approach working pressure of the system, 1 remote kill line tested to stack pressure (which shall run to the outer edge of the substructure and be unobstructed) • Lower kelly cock valve with handle available • Safety valve(s) and subs to fit all drill string connections in use • Inside BOP or float sub available • Pressure gauge on choke manifold • All BOPE connections subjected to well pressure shall be flanged, welded, or clamped • Fill-up line above the uppermost preventer. C. Auxiliary Equipment • Audio and visual mud monitoring equipment shall be placed to detect volume changes indicating loss or gain of circulating fluid volume. (OOS 1, III.C.2) • Gas Buster will be used below intermediate casing setting depth. • Upper and lower kelly cocks with handles, safety valve and subs to fit all drill string connections and a pressure gauge installed on choke manifold.

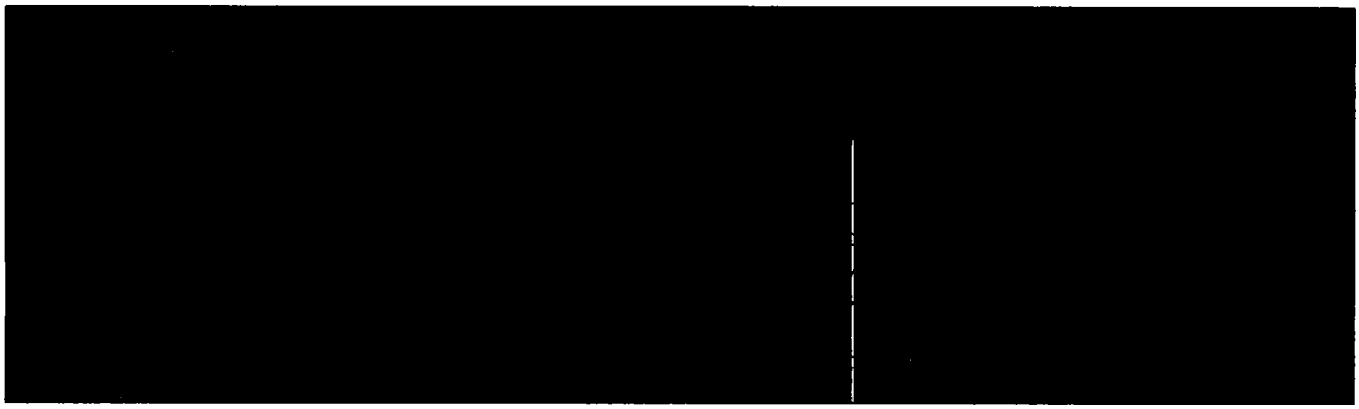
Requesting Variance? YES

Variance request: Centennial is requesting to use a flex hose on the choke manifold. Please see section 8 for hose specs attachment. We would also like to request a variance to use a 5M Annular Preventer.

[redacted]

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H



Choke Diagram Attachment:

HP650_10M_Choke_Manifold_20190307140417.pdf

BOP Diagram Attachment:

HP650_BOP_Schematic_CoFlex_Choke_10K_2019_1_29_20190307140432.pdf

CRD__Well_Control_Plan_for_Variance_20190501083304.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	CONDUCTOR	26	20.0	NEW	API	N	0	120	0	120	3500	3380	120	H-40	94	OTHER - Weld						
2	SURFACE	17.5	13.375	NEW	API	N	0	1300	0	1300	3500	2200	1300	J-55	54.5	OTHER - BTC	1.76	4.26	DRY	12.04	DRY	12.04
3	PRODUCTION	6.75	5.5	NEW	API	N	0	11482	0	11477	3500	-7977	11482	P-110	20	OTHER - TMK UP SF	1.48	1.66	DRY	2.87	DRY	2.87
4	INTERMEDIATE	9.875	7.625	NEW	API	N	0	11532	0	11527	3500	-8027	11532	HCP-110	29.7	LT&C	2.09	1.76	DRY	2.25	BUOY	2.75
5	PRODUCTION	6.75	5.0	NEW	API	N	11482	22313	11477	12200	-7977	-8700	10831	P-110	20	OTHER - TMK UP SF	1.39	1.56	DRY	45.57	DRY	45.57

Casing Attachments

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

Casing Attachments

Casing ID: 1 **String Type:** CONDUCTOR

Inspection Document:

Spec Document:

Tapered String Spec:

TMK_UP_DQX_5.5_x_20_P110_TAPERED_STRING_SPEC_20181213090406.pdf

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181213090542.pdf

Casing ID: 2 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181219134949.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181219135056.pdf

Technical_Data_Sheet_TMK_UP_SF_5.5_x_20_P110_CYHP_20190501083221.pdf

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

Casing Attachments

Casing ID: 4 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

TMK_UP_DQX_5.5_x_20_P110_TAPERED_STRING_SPEC_20181213090012.pdf

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181219135029.pdf

Casing ID: 5 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181219135120.pdf

Technical_Data_Sheet_TMK_UP_SF_5.5_x_20_P110_CYHP_20190501083239.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
PRODUCTION	Lead		0	0	0	0	0	0		0	0
CONDUCTOR	Lead		0	120	121	1.49	12.9	181	0	Grout	Bentonite 4% BWOC, Cellophane #/sx, CaCl2 2% BWOC.

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	800	639	1.74	13.5	1111	100	Class C Premium	Premium Gel Bentonite 4%, C-45 Econolite 0.25%, Phenoseal 0.25#/sk, CaCl 1%, Defoamer C-41P 0.75%
SURFACE	Tail		800	1300	518	1.34	14.8	695	100	Class C Premium	C-45 Econolite 0.10%, CaCl 1.0%
INTERMEDIATE	Lead		0	11032	1428	3.44	10.7	4911	75	TXI Lightweight	Salt 1.77/sk, C-45 Econolite 2.25%, STE 6.00%, Citric Acid 0.18%, C-19 0.10%, CSA-1000 0.20%, C-530P 0.30%, CTB-15 LCM 7#/sk, Gyp Seal 8#/sk
INTERMEDIATE	Tail		11032	11532	97	1.33	14.8	129	20	Class C Premium	C-45 Econolite 0.10%, Citric acid 0.05%, C503P 0.25%
PRODUCTION	Lead		0	11632	412	3.41	10.6	1406	30	TXI Lightweight	Salt 8.98#/sk, STE 6.00%, Citric acid 0.20%, CSA-1000 0.23%, C47B 0.10%, C-503P 0.30%
PRODUCTION	Tail		11632	22313	1207	1.24	14.2	1497	25	50:25:25 Class H: Poz: CPO18	Citric acid 0.03%, CSA-1000 0.05%, C47B 0.25%, C-503P 0.30%

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 quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a diesel emulsified brine fluid to inhibit salt washout and prevent severe fluid losses. The production hole will employ oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

Describe the mud monitoring system utilized: Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

Circulating Medium Table

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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
1300	11532	OTHER : Brine	9	9							
11532	22313	OIL-BASED MUD	8.8	14.5							
0	1300	OTHER : FW	8.6	9.5							

Section 6 - Test, Logging, Coring

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

Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.

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

OTH

Other log type(s):

GR

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 9237 **Anticipated Surface Pressure:** 6542

Anticipated Bottom Hole Temperature(F): 170

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Raider_704H_H2S_Plan_20181219135305.docx

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

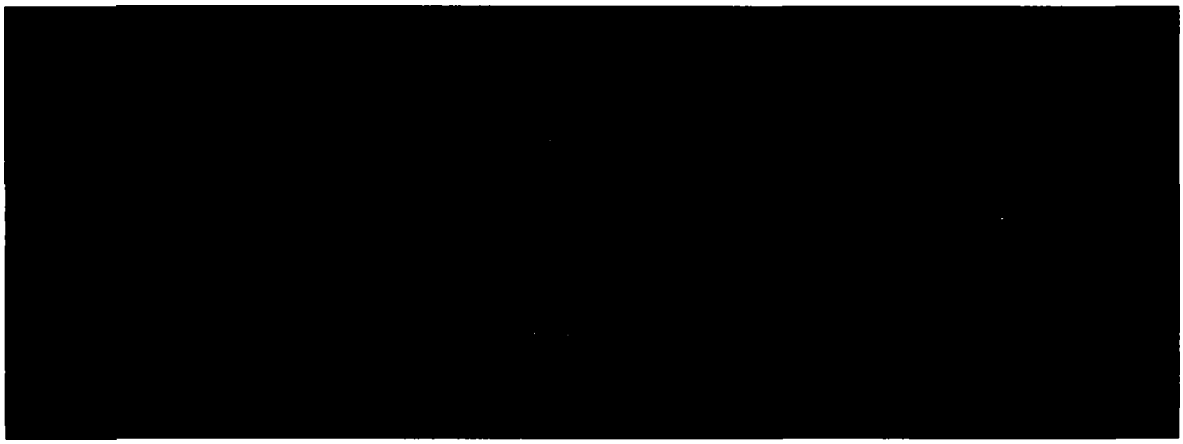
Well Name: RAIDER FEDERAL COM **Well Number:** 704H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Raider_Federal_Com_704H_Survey_20181219135334.pdf

Other proposed operations facets description:

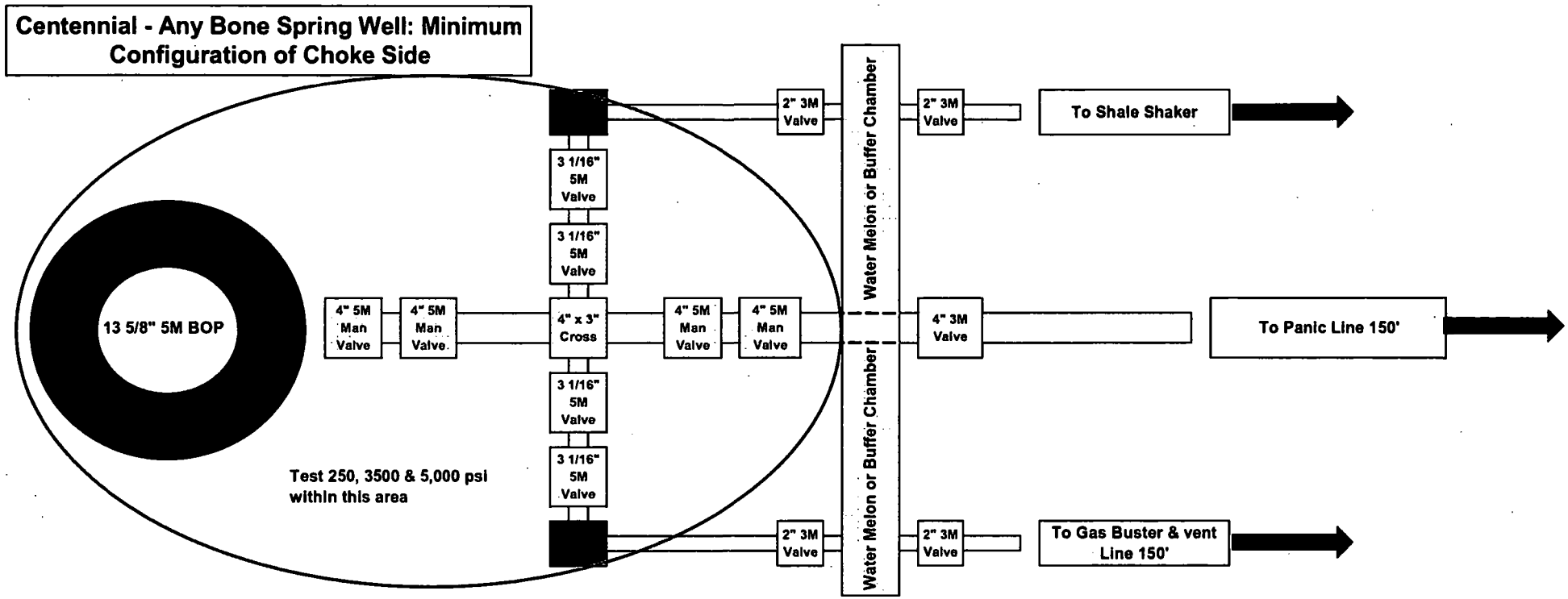


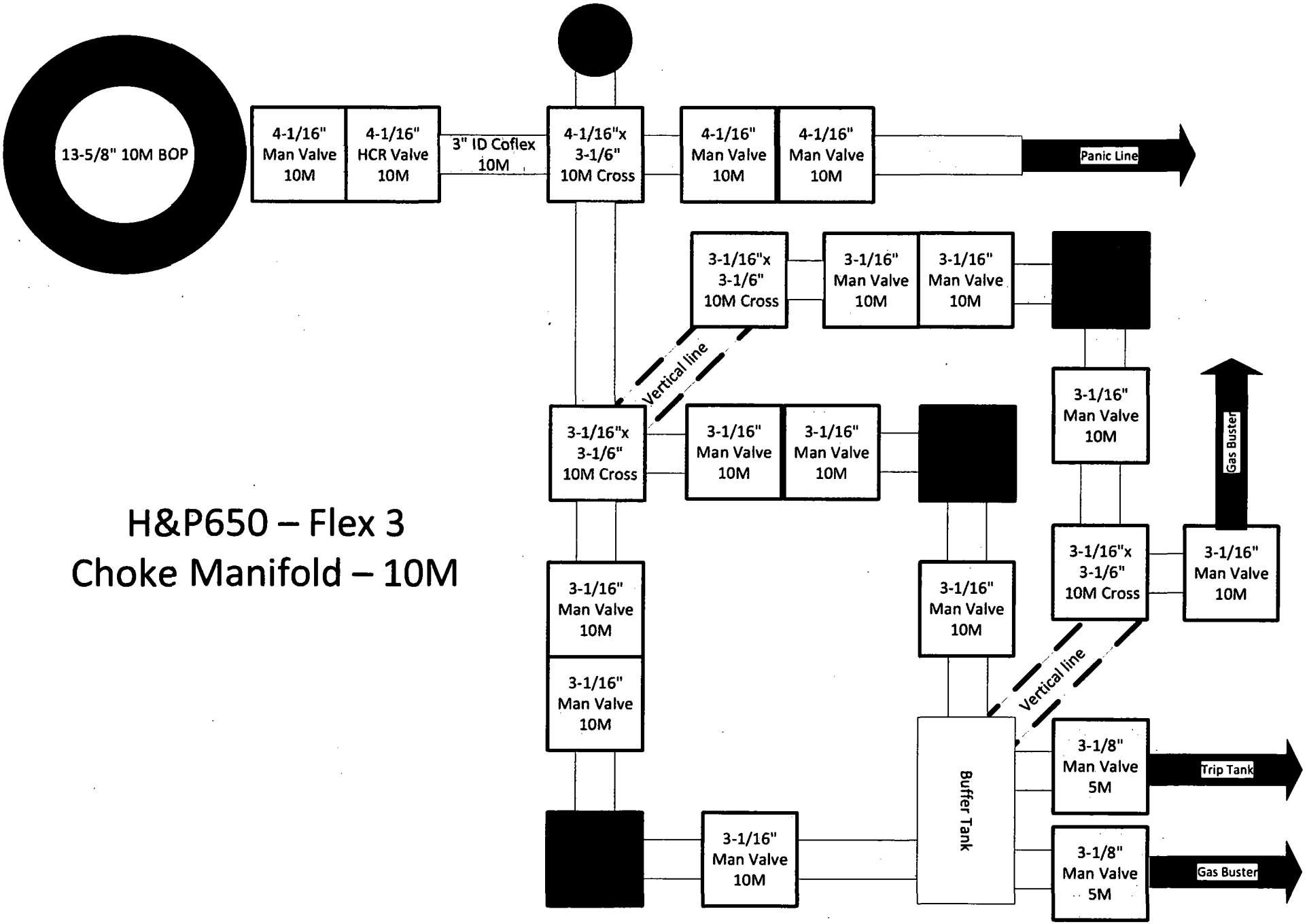
Other proposed operations facets attachment:

Raider_Federal_Com_703H_704H_Gas_Capture_Plan_20181219135421.docx

Other Variance attachment:

Flex_Hose_Specs_20181219135445.pdf


Centennial - Any Bone Spring Well: Minimum Configuration of Choke Side
13 5/8" 5M BOP
Test 250, 3500 & 5,000 psi within this area
3 1/16" 5M Valve
3 1/16" 5M Valve
3 1/16" 5M Valve
3 1/16" 5M Valve
4" 5M Man Valve
4" 5M Man Valve
4" x 3" Cross
4" 5M Man Valve
4" 5M Man Valve
2" 3M Valve
2" 3M Valve
2" 3M Valve
2" 3M Valve
4" 3M Valve
Water Melon or Buffer Chamber
Water Melon or Buffer Chamber
To Shale Shaker
To Panic Line 150'
To Gas Buster & vent Line 150'

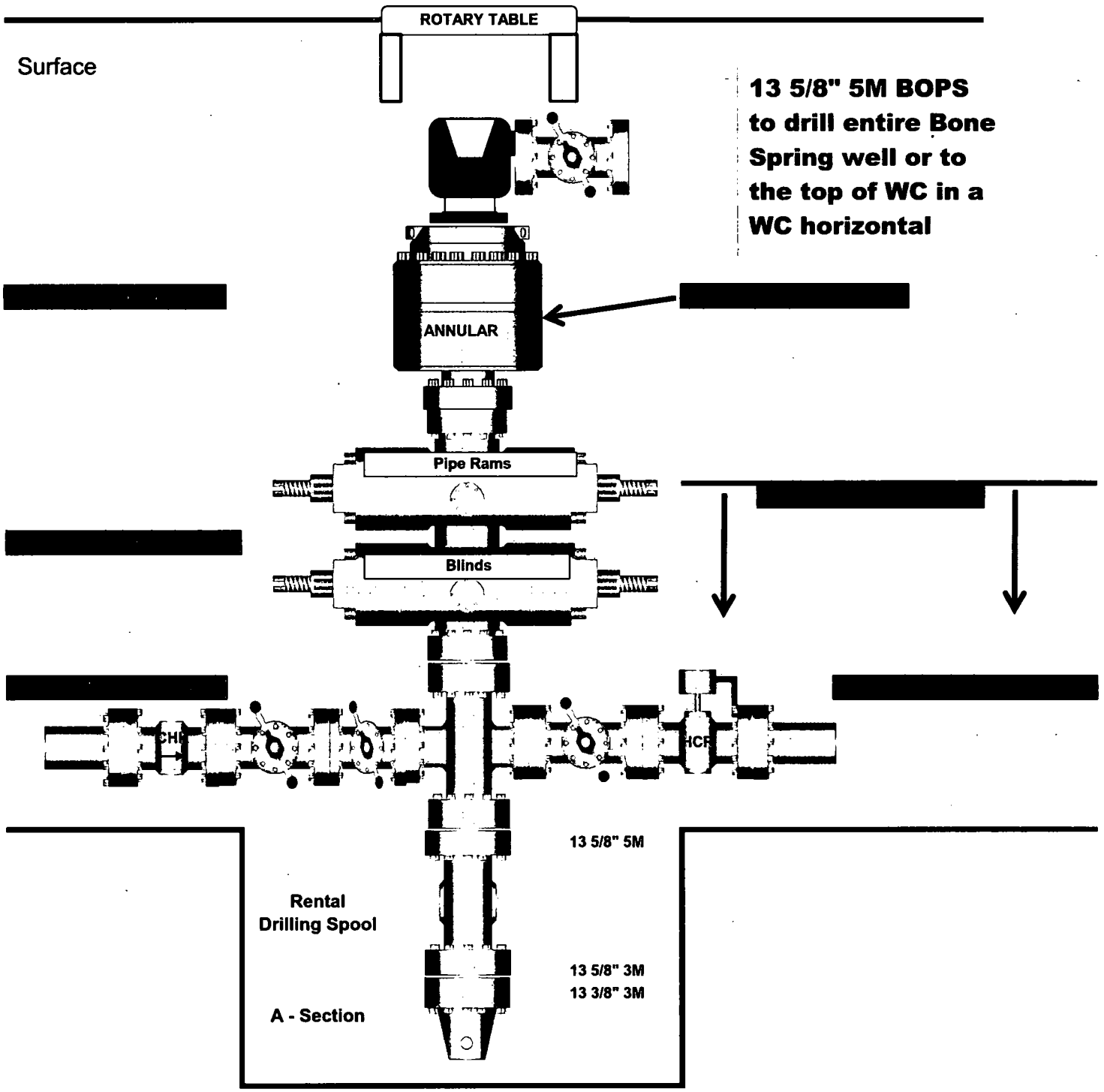


H&P650 – Flex 3
Choke Manifold – 10M

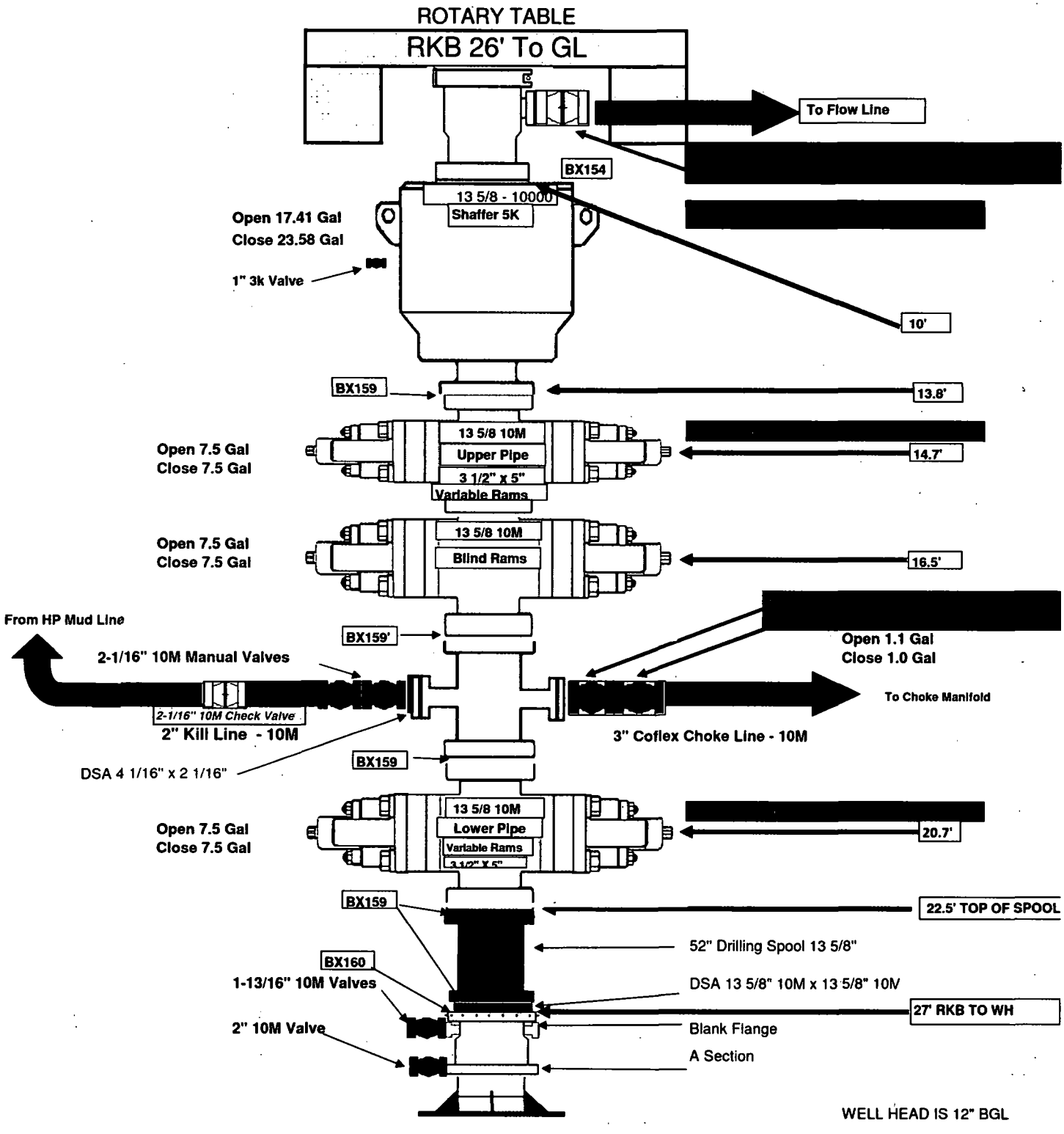
[redacted]

Well Name: Raider Federal 501H

[redacted]



H&P 650


ROTARY TABLE
RKB 26' To GL
To Flow Line
BX154
13 5/8 - 10000
Shaffer 5K
Open 17.41 Gal
Close 23.58 Gal
1" 3k Valve
10'
BX159
13.8'
13 5/8 10M
Upper Pipe
3 1/2" x 5"
Variable Rams
Open 7.5 Gal
Close 7.5 Gal
14.7'
13 5/8 10M
Blind Rams
Open 7.5 Gal
Close 7.5 Gal
16.5'
From HP Mud Line
BX159'
Open 1.1 Gal
Close 1.0 Gal
2-1/16" 10M Manual Valves
To Choke Manifold
2-1/16" 10M Check Valve
2" Kill Line - 10M
3" Coflex Choke Line - 10M
DSA 4 1/16" x 2 1/16"
BX159
13 5/8 10M
Lower Pipe
Variable Rams
Open 7.5 Gal
Close 7.5 Gal
20.7'
BX159
22.5' TOP OF SPOOL
52" Drilling Spool 13 5/8"
BX160
1-13/16" 10M Valves
DSA 13 5/8" 10M x 13 5/8" 10M
27' RKB TO WH
2" 10M Valve
Blank Flange
A Section
WELL HEAD IS 12" BGL

Centennial Resource Development - Well Control Plan

A. Component and Preventer Compatibility Table

Component	OD (inches)	Preventer	RWP
Drillpipe	4	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Heavyweight Drillpipe	4	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Drill collars and MWD tools	4 ¾	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Mud Motor	4 ¾	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Production Casing	5.5 & 5	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
All	0 – 13 5/8	Annular	5M
Open-hole	-	Blind rams	10M

VBR = Variable Bore Rams

RWP = Rated Working Pressure

MWD = Measurement While Drilling (directional tools)

B. Well Control Procedures

I. General Procedures While Drilling:

1. Sound alarm (alert crew).
2. Space out drill-string.
3. Shut down pumps and stop rotary.
4. Open HCR
5. Shut-in well – utilizing upper VBRs.
6. Close choke
7. Confirm shut-in.
8. Notify rig manager and Centennial company representative.
9. Call Centennial drilling engineer
10. Read and record
    - I. Shut-in drillpipe pressure (SIDPP) and shut-in casing pressure (SCIP).
    - II. Pit gain
    - III. Time
11. Regroup, identify forward plan

II. General Procedure While Tripping

1. Sound alarm (alert crew).
2. Stab full opening safety valve and close
3. Space out drillstring.
4. Open HCR
5. Shut-in well – utilizing upper VBRs
6. Close choke
7. Confirm shut-in.
8. Notify rig manager and Centennial company representative.
9. Call Centennial drilling engineer
10. Read and record:
    - I. SIDPP AND SICP
    - II. Pit gain
    - III. Time
11. Regroup and identify forward plan.

III. General Procedure While Running Casing

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close
3. Space out string.
4. Open HCR
5. Shut-in well – utilizing upper VBRs.
6. Close choke
7. Confirm shut-in.
8. Notify rig manager and Centennial company representative.
9. Call Centennial drilling engineer
10. Read and record:
    - I. SIDPP AND SICP
    - II. Pit gain
    - III. Time
11. Regroup and identify forward plan.

IV. General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Open HCR
3. Shut-in with blind rams
4. Close choke
5. Confirm shut-in
6. Notify rig manager and Centennial company representative.
7. Call Centennial drilling engineer
8. Read and record:
    - I. SIDPP AND SICP
    - II. Pit gain
    - III. Time
9. Regroup and identify forward plan.

V. General Procedures While Pulling BHA Thru BOP Stack

1. **Prior to pulling last joint of drillpipe thru stack:**
   - I. Perform flow check, if flowing
     - a. Sound alarm, alert crew
     - b. Stab full opening safety valve and close
     - c. Space out drillstring with tool joint just beneath the upper pipe ram.
     - d. Open HCR
     - e. Shut-in utilizing upper VBRs
     - f. Close choke
     - g. Confirm shut-in
     - h. Notify rig manager and Centennial company representative.
     - i. Call Centennial drilling engineer
     - j. Read and record:
       - i. SIDPP and SICP
       - ii. Pit gain
       - iii. Time
   - II. Regroup and identify forward plan

2. **With BHA in the BOP stack and compatible ram preventer and pipe combo immediately available:**
     - a. Sound alarm, alert crew
     - b. Stab full opening safety valve and close
     - c. Space out drillstring with tool joint just beneath the upper pipe ram.
     - d. Open HCR
     - e. Shut-in utilizing upper VBRs
     - f. Close choke
     - g. Confirm shut-in
     - h. Notify rig manager and Centennial company representative.
     - i. Call Centennial drilling engineer
     - j. Read and record:
       - i. SIDPP and SICP
       - ii. Pit gain
       - iii. Time
   - II. Regroup and identify forward plan

3. **With BHA in the BOP stack and no compatible ram preventer and pipe combo immediately availiable**:
    I. Sound alarm, alert crew.
    II. If possible to pick up high enough, pull string clear of the stack and follow Open Hole (III) scenario.
    III. If impossible to pick up high enough to pull the string clear of the stack:
        a. Stab crossover, make up one joint/stand of drill pipe and full opening safety valve and close.
        b. Space out drillstring with tool joint just beneath the upper pipe ram.
        c. Open HCR
        d. Shut-in utilizing upper VBRs.
        e. Close choke
        f. Confirm shut-in
        g. Notify rig manager and Centennial company representative.
        h. Call Centennial drilling engineer
        i. Read and record:
            i. SIDPP and SICP
            ii. Pit gain
            iii. Time
    IV. Regroup and identify forward plan.

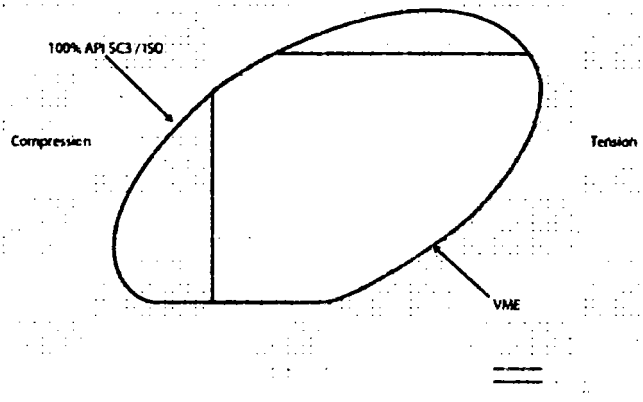
**** If annular is used to shut-in well and pressure builds to OR is expected to get to 50% of RWP, confirm space-out and swap to upper VBRs for shut-in.**

TECHNICAL DATA SHEET TMK UP DQX 5.5 X 20 P110 HC

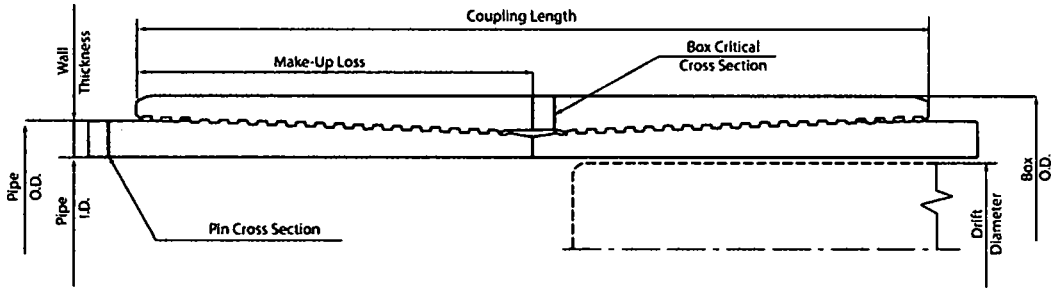
TUBULAR PARAMETERS	
Nominal OD, (inch)	5.500
Wall Thickness, (inch)	0.361
Pipe Grade	P110 HC
Coupling	Regular
Coupling Grade	P110 HC
Drift	Standard

PIPE BODY PROPERTIES	
PE Weight, (lbs/ft)	19.81
Nominal Weight, (lbs/ft)	20.00
Nominal ID, (inch)	4.778
Drift Diameter, (inch)	4.653
Nominal Pipe Body Area, (sq inch)	5.828
Yield Strength in Tension, (klbs)	641
Min. Internal Yield Pressure, (psi)	12 640
Collapse Pressure, (psi)	12 780

CONNECTION PARAMETERS	
Connection OD (inch)	6.05
Connection ID, (inch)	4.778
Make-Up Loss, (inch)	4.122
Connection Critical Area, (sq inch)	5.828
Yield Strength in Tension, (klbs)	641
Yeld Strength in Compression, (klbs)	641
Tension Efficiency	100%
Compression Efficiency	100%
Min. Internal Yield Pressure, (psi)	12 640
Collapse Pressure, (psi)	12 780
Uniaxial Bending (deg/100ft)	91.7



MAKE-UP TORQUES	
Yield Torque, (ft-lb)	20 600
Minimum Make-Up Torque, (ft-lb)	11 600
Optimum Make-Up Torque, (ft-lb)	12 900
Maximum Make-Up Torque, (ft-lb)	14 100



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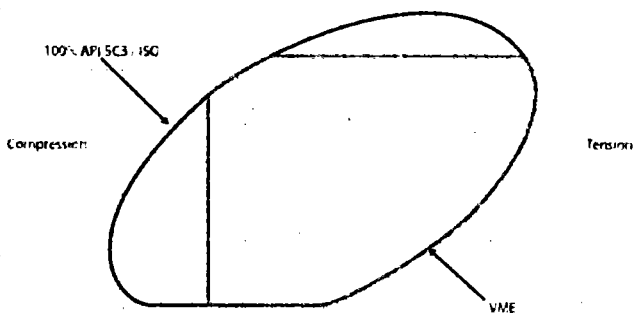
TECHNICAL DATA SHEET TMK UP DQX 5.5 X 20 P110 HC

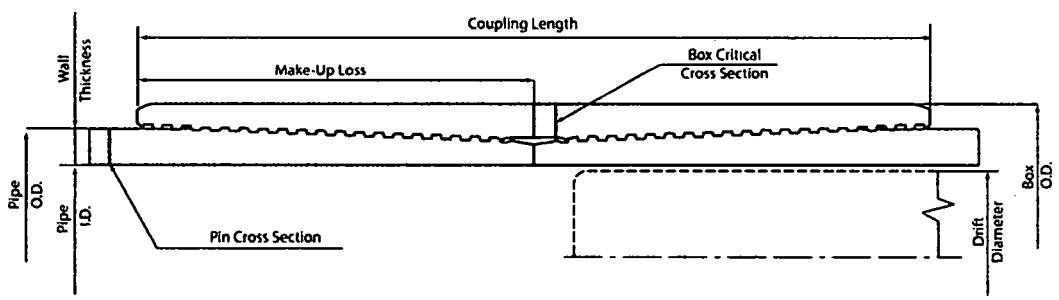
TUBULAR PARAMETERS	
Nominal OD, (inch)	5.500
Wall Thickness, (inch)	0.361
Pipe Grade	P110 HC
Coupling	Regular
Coupling Grade	P110 HC
Drift	Standard

CONNECTION PARAMETERS	
Connection OD (inch)	6.05
Connection ID, (inch)	4.778
Make-Up Loss, (inch)	4.122
Connection Critical Area, (sq inch)	5.828
Yield Strength in Tension, (klbs)	641
Yeld Strength in Compression, (klbs)	641
Tension Efficiency	100%
Compression Efficiency	100%
Min. Internal Yield Pressure, (psi)	12 640
Collapse Pressure, (psi)	12 780
Uniaxial Bending (deg/100ft)	91.7

PIPE BODY PROPERTIES	
PE Weight, (lbs/ft)	19.81
Nominal Weight, (lbs/ft)	20.00
Nominal ID, (inch)	4.778
Drift Diameter, (inch)	4.653
Nominal Pipe Body Area, (sq inch)	5.828
Yield Strength in Tension, (klbs)	641
Min. Internal Yield Pressure, (psi)	12 640
Collapse Pressure, (psi)	12 780



MAKE-UP TORQUES	
Yield Torque, (ft-lb)	20 600
Minimum Make-Up Torque, (ft-lb)	11 600
Optimum Make-Up Torque, (ft-lb)	12 900
Maximum Make-Up Torque, (ft-lb)	14 100



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CASING ASSUMPTIONS WORKSHEET:

Centralizer Program:

Surface: - 3 welded bow spring centralizers, one on each of the bottom 3 joints, plus one on the shoe joint (4 minimum)
- No Cement baskets will be run

Production: - 1 welded bow spring centralizer on a stop ring 6' above float shoe
- 1 centralizer every other joint to the top of the tail cement
- 1 centralizer every 4 joints to 500' below the top of the lead cement
- The actual number and placement of centralizers will be determined from hole deviation and potential production zones. Centralizers will be run for maximum practical standoff and through all potential productive zones.

- All casing strings below the conductor shall be tested, prior to drilling out the casing shoe, to 0.22 psi/ft of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the internal yield pressure of the casing. If pressure declines more than 10 percent in 30 minutes, corrective action will be taken.

No freshly hard banded pipe will be rotated in the surface casing

- CENTENNIAL RESOURCE DEVELOPOMENT will not employ an air-drill rig for the surface casing. The casing shoe will be tested by drilling 5'-10' out from under the shoe and pressure testing to the maximum expected mud weight equivalent as shown in the mud program listed in the drilling plan.

CASING ASSUMPTIONS WORKSHEET:

Centralizer Program:

Surface: - 3 welded bow spring centralizers, one on each of the bottom 3 joints, plus one on the shoe joint (4 minimum)
- No Cement baskets will be run

Production: - 1 welded bow spring centralizer on a stop ring 6' above float shoe
- 1 centralizer every other joint to the top of the tail cement
- 1 centralizer every 4 joints to 500' below the top of the lead cement
- The actual number and placement of centralizers will be determined from hole deviation and potential production zones. Centralizers will be run for maximum practical standoff and through all potential productive zones.

- All casing strings below the conductor shall be tested, prior to drilling out the casing shoe, to 0.22 psi/ft of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the internal yield pressure of the casing. If pressure declines more than 10 percent in 30 minutes, corrective action will be taken.

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CASING ASSUMPTIONS WORKSHEET:

Centralizer Program:

Surface: - 3 welded bow spring centralizers, one on each of the bottom 3 joints, plus one on the shoe joint (4 minimum)
- No Cement baskets will be run

Production: - 1 welded bow spring centralizer on a stop ring 6' above float shoe
- 1 centralizer every other joint to the top of the tail cement
- 1 centralizer every 4 joints to 500' below the top of the lead cement
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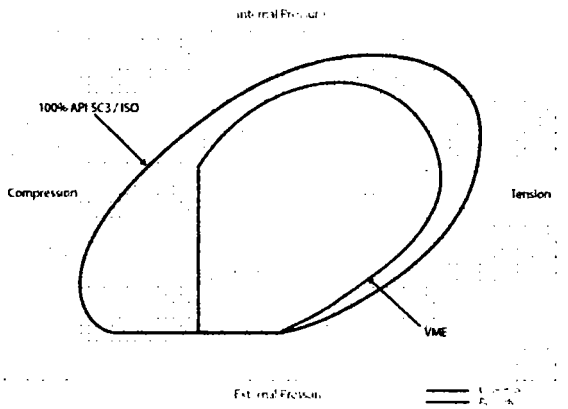
TECHNICAL DATA SHEET TMK UP SF 5.5 X 20 P110 CYHP

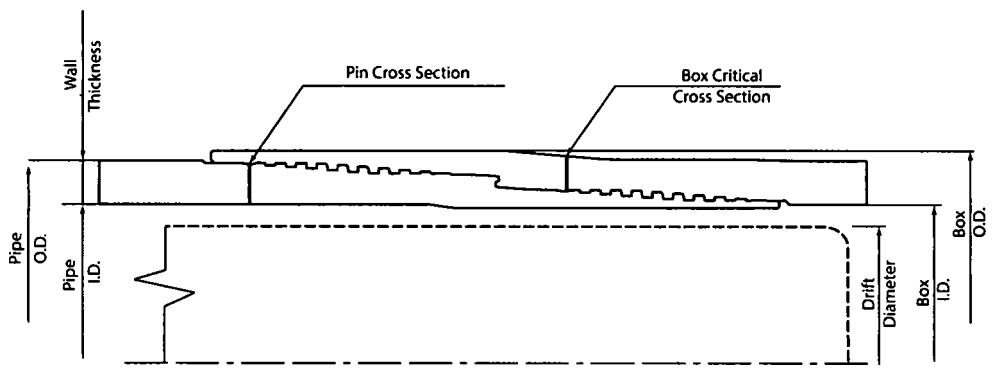
TUBULAR PARAMETERS	
Nominal OD, (inch)	5.500
Wall Thickness, (inch)	0.361
Pipe Grade	P110 CYHP
Drift	Standard

CONNECTION PARAMETERS	
Connection OD (inch)	5.646
Connection ID, (inch)	4.734
Make-Up Loss, (inch)	5.526
Connection Critical Area, (sq inch)	5.275
Yield Strength in Tension, (klbs)	659
Yeld Strength in Compression, (klbs)	659
Tension Efficiency	91%
Compression Efficiency	91%
Min. Internal Yield Pressure, (psi)	14 360
Collapse Pressure, (psi)	12 780
Uniaxial Bending (deg/100ft)	94.0

MAKE-UP TORQUES	
Minimum Make-Up Torque, (ft-lb)	11 500
Optimum Make-Up Torque, (ft-lb)	12 700
Maximum Make-Up Torque, (ft-lb)	14 000
Operating Torque, (ft-lb)	14 705
Yield Torque, (ft-lb)	17 300

PIPE BODY PROPERTIES	
PE Weight, (lbs/ft)	19.81
Nominal Weight, (lbs/ft)	20.00
Nominal ID, (inch)	4.778
Drift Diameter, (inch)	4.653
Nominal Pipe Body Area, (sq inch)	5.828
Yield Strength in Tension, (klbs)	728
Min. Internal Yield Pressure, (psi)	14 360
Collapse Pressure, (psi)	12 780
Minimum Yield Strength, (psi)	125 000
Minimum Tensile Strength, (psi)	135 000





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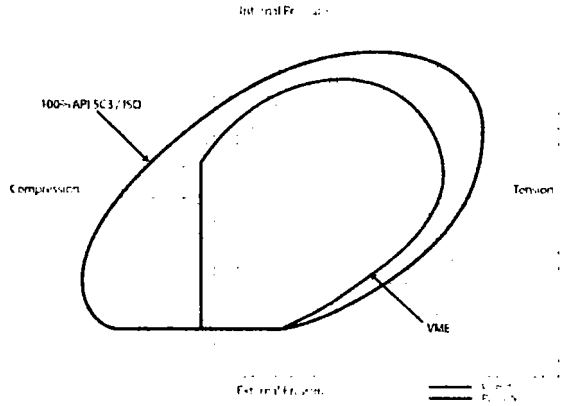

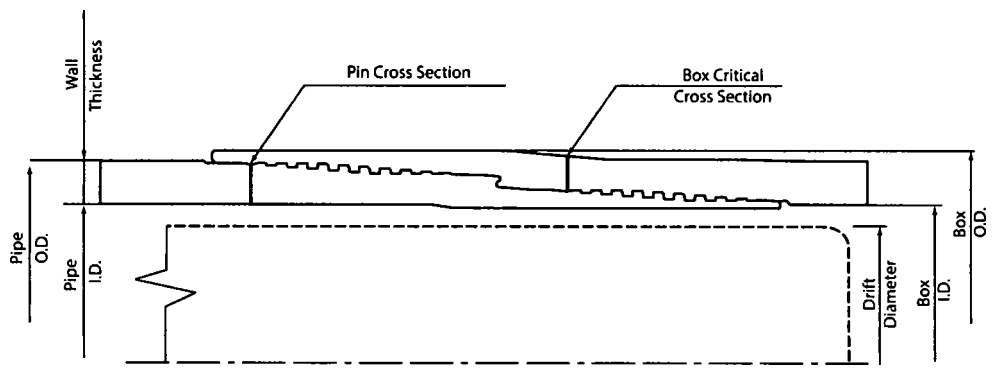

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CENTENNIAL

RESOURCE DEVELOPMENT, INC

HYDROGEN SULFIDE CONTINGENCY PLAN

[redacted]

Initial Date: 10/9/18

Revision Date:

Table of Contents

INTRODUCTION

This plan specifies precautionary measures, safety equipment, emergency procedures, responsibilities, duties, and the compliance status pertaining to the production operations of Hydrogen Sulfide producing wells on:

Centennial Resource Development, Inc.

This plan will be in full effect prior to and continuing with all drilling operations for all wells producing potential Hydrogen Sulfide on the

[redacted]

This plan was developed in response to the potential hazards involved when producing formations that may contain Hydrogen Sulfide (H_2S) It has been written in compliance with current **New Mexico Oil Conservation Division Rule 118 and Bureau of Land Management 43 CFR 3160 Onshore Order No. 6.**

All personnel shall receive proper H2S training in accordance with Onshore Order III.C.3.a

This plan shall require the full cooperation and efforts of all individuals participating in the production of potential H_2S wells.

Each individual is required to know their assigned responsibilities and duties in regard to normal production operations and emergency procedures.

Each person should thoroughly understand and be able to use all safety related equipment on the production facility.

Each person should become familiar with the location of all safety equipment and become involved in ensuring that all equipment is properly stored, easily accessible, and routinely maintained.

An ongoing training program will remain in effect with regular training, equipment inspections, and annual certifications for all personnel.

Centennial Resource Development, Inc. shall make every reasonable effort to provide all possible safeguards to protect all personnel, both on this location and in the immediate vicinity, from the harmful effects of H_2S exposure, if a release to the atmosphere should occur.

DIRECTIONS TO LOCATION

PROCEED IN A WESTERLY, THEN NORTHWESTERLY, THEN WESTERLY DIRECTION FROM JAL, NEW MEXICO ALONG NM-128 APPROXIMATELY 18.0 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.1 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD FOR THE SOLOMON FEDERAL COM 709H, 710H, 711H & SHEBA FEDERAL COM 506H, 507H TO THE SOUTH; FOLLOW ROAD FLAGS IN A SOUTHERLY, THEN SOUTHEASTERLY, THEN SOUTHERLY DIRECTION APPROXIMATELY 5,757' TO THE JUNCTION OF THIS ROAD AND THE BEGINNING OF THE PROPOSED ACCESS ROAD FOR THE RAIDER FEDERAL COM #701H & #702H TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY DIRECTION APPROXIMATELY 1,943' TO THE JUNCTION OF THIS ROAD AND THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE NORTH; FOLLOW ROAD FLAGS IN A NORTHERLY DIRECTION APPROXIMATELY 62' TO THE PROPOSED LOCATION.
TOTAL DISTANCE FROM JAL, NEW MEXICO TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 19.6 MILES.

SAFE BRIEFING AREAS

Two areas will be designated as "SAFE BRIEFING AREAS".

The Primary Safe Briefing Area

If the Primary Safe Briefing Area cannot be used due to wind conditions; the designated secondary safe briefing area will be used.

These two areas are so designated for accessibility reasons related to self-contained safe breathing air device locations, evacuation muster point utility, and for ease of overall communication, organizational support, as well as the all-important prevailing wind directions. Drawings of the facility denoting these locations are included on Page 15.

If H_2S is detected in concentrations equal to or in excess of 15 PPM, all personnel not assigned emergency duties are to assemble in the appropriate "SAFE BRIEFING AREA" for instructions.

Wind Direction Indicators: A windsock, shall be positioned, allowing the wind direction to be observed from anywhere on the charted facility location.

Warning-DANGER SIGNS for Approaching Traffic: All signs shall also be illuminated under conditions of poor visibility.

DANGER
POISONOUS GAS
HYDROGEN SULFIDE
DO NOT APPROACH IF AMBER LIGHTS ARE FLASHING

An amber strobe light system will be activated for H_2S concentrations of 10 PPM or greater and an audible alarm will sound when H_2S exceeds 15 ppm, and. This condition will exist until the all clear is given.

DRILL SITE LOCATION:

1. The drilling rig should be situated on location such that the prevailing winds blow across the rig toward the reserve pit or at right angles to a line from the rig to the reserve pit.

2. The entrance to the location should be designated so that it can be barricaded if Hydrogen Sulfide emergency conditions arise. An auxiliary exit (or entrance) should be available in case of a catastrophe; a shift in wind direction would not preclude escape from the location. Appropriate warning signs and flags should be placed at all location entrances.

3. Once H2S safety procedures are established on location, no beards or facial hair, which will interfere with face seal or mask, will be allowed on location.

4. A minimum of two BRIEFING AREAS will be established, no less than 250 feet from the wellhead and in such location that at least one area will be up-wind from the well at all times. Upon recognition of an emergency situation, all personnel should assemble at the designated briefing areas for instructions.

5. A safety equipment trailer will be station at one of the briefing areas.

6. Windsocks will be installed and wind streamers (6 to 8 feet above ground level) placed at the location entrance. Windsocks shall be illuminated for nighttime operations. Personnel should develop wind direction consciousness.

7. The mud-logging trailer will be located so as to minimize the danger from the gas that breaks out of the drilling fluid.

8. Shale shaker mud tanks will be located so as to minimize the danger from gas that breaks out of the drilling fluid.

9. Electric power plant(s) will be located as far from the well bore as practical so that it may be used under conditions where it otherwise would have to be shut down.

10. When approaching depth where Hydrogen Sulfide may be encountered, appropriate warning signs will be posted on all access roads to the location and at the foot of all stairways to the derrick floor.

11. Appropriate smoking areas will be designated, and smoking will be prohibited elsewhere.

The table below lists various poisonous gases and the concentrations at which they become dangerous.

TOXICITY OF VARIOUS GASES

TOXICITY OF GASES (Taken from API RP-49 September 1974 – Re-issued August 1978)					
Common Name	**Chemical Formula**	**Gravity (Air = 1)**	**Threshold 1 Limit**	**Hazardous 2 Limit**	**Lethal 3 Limit**
Hydrogen Sulfide	H_2S	1.18	10 ppm	250 ppm/1hr	600 ppm
Sulfur Dioxide	SO_2	2.21	20 ppm	---	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/1hr	1000 ppm
Carbon Dioxide	CO_2	1.52	5000 ppm	5%	10%
Methane	CH_4	0.55	90000 ppm	Combustible Above 5% in Air	

1. Threshold concentration at which it is believed that all workers may repeatedly be exposed day after day, without adverse effect	2. Hazardous concentration that may cause death	3. Lethal concentration that will cause death with short-term exposure

Properties of Gases

The produced gas will probably be a mixture of Carbon Dioxide, Hydrogen Sulfide, and Methane.

Carbon Dioxide

Carbon Dioxide (CO_2) is usually considered inert and is commonly used to extinguish fires.

It is heavier than air (1.52 times) and it will concentrate in low areas of still air.

Humans cannot breathe air containing more than 10% CO_2 without losing consciousness. Air containing 5% CO_2 will cause disorientation in a few minutes.

Continued exposures to CO_2 after being affected will cause convulsions, coma, and respiratory failure.

The threshold limit of CO_2 is 5000 ppm.

Short-term exposure to 50,000 PPM (5%) is reasonable. This gas is colorless and odorless and can be tolerated in relatively high concentrations.

Hydrogen Sulfide

Hydrogen Sulfide (H_2S) itself is a colorless, transparent gas and is flammable. It is heavier than air and, hence, may accumulate in low places.

Although the slightest presence of H_2S in the air is normally detectable by its characteristic "rotten egg" odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost, allowing lethal concentrations to be accumulated without warning. The following table indicates the poisonous nature of Hydrogen Sulfide.

HYDROGEN SULFIDE TOXICITY			
Concentration			Effects
$\%H_2S$	PPM	GR/100 SCF 1	
0.001	10	0.65	Safe for 8 hours without respirator. Obvious and unpleasant odor.
0.002	20	1.30	Burning in eyes and irritation of respiratory tract after on hour.
0.01	100	6.48	Kills smell in 3 to 15 minutes; may sting eyes and throat.
0.02	200	12.96	Kills smell shortly; stings eyes and throat.
0.05	500	32.96	Dizziness; breathing ceases in a few minutes; need prompt artificial respiration.
0.07	700	45.92	Unconscious quickly; death will result if not rescued promptly
0.10	1000	64.80	DEATH!
Note: 1 grain per 100 cubic feet			

Sulfur Dioxide

Sulfur Dioxide is a colorless, transparent gas and is non-flammable.

Sulfur Dioxide (SO_2) is produced during the burning of H_2S. Although SO_2 is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures. Since Sulfur Dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect. The following table indicates the toxic nature of the gas.

SULFUR DIOXIDE TOXICITY		
Concentration		Effects
$\%SO_2$	PPM	
0.0005	3 to 5	Pungent odor-normally a person can detect SO_2 in this range.
0.0012	12	Throat irritation, coughing, and constriction of the chest tearing and smarting of eyes.
0.15	150	So irritating that it can only be endured for a few minutes.
0.05	500	Causes a sense of suffocation, even with first breath.

H_2S REQUIRED EQUIPMENT LIST

RESPIRATORY SAFETY SYSTEMS

- Working cascade system available on rig floor and pit system & 750' of air line hose
- Four (4) breathing air manifolds
- Four (4) 30-minute rescue packs
- Five (5) work/Escape units
- Five (5) escape units
- One (1) filler hose for the work/escape/rescue units

DETECTION AND ALARM SYSTEM

- **4 channel H2S monitor**
- **4 wireless H2S monitors**
- **H2S alarm system (Audible/Red strobe)**
- **Personal gas monitor for each person on location**
- **Gas sample tubes**

WELL CONTROL EQUIPMENT

- **Flare line with remote ignitor and backup flare gun, placed 150' from wellhead**
- **Choke manifold with remotely operated choke**
- **Mud gas separator**

VISUAL WARNING SYSTEMS

- **One color code condition sign will be placed at each entrance reflecting possible conditions at the site**
- **A colored condition flag will be on display, reflecting current condition at the site at the time**
- **At least 4 wind socks placed on location, visible at all angles and locations**

MUD PROGRAM

- **Mud will contain sufficient weight and additives to control and minimize H2S**

METALLURGY

- **All drill strings, casing, tubing, wellhead, BOP, spools, kill lines, choke manifold and lines, and valves shall be suitable for anticipated H2S volume and pressure**

COMMUNICATION

- **Cell phones, intercoms, and satellite phones will be available on location**

ADDITIONAL SAFETY RELATED ITEMS

- **Stretcher**
- **2 OSHA full body harness**

- **20# class ABC fire extinguisher**

DETERMINATION OF RADIUS OF EXPOSURE

Potentially hazardous volume means a volume of gas of such H2S concentration and flow rate that it may result in radius of exposure-calculated ambient concentrations of 100 ppm H2S at any occupied residence, school, church, park, school bus stop, place of business or other area where the public could reasonably be expected to frequent, or 500 ppm H2S at any Federal, State, County or municipal road or highway.

Currently there are no residence located within the ROE

Radius of exposure means the calculation resulting from using the Pasquill -Gifford derived equation, or by such other method(s) that may be approved by the authorized officer. Advanced Fire and Safety has provided the Pasquill-Gifford formula in excel format for simple calculations.

NEW MEXICO OIL & GAS CONSERVATION DIVISION 118

[redacted]

H2S Concentration- [redacted] PPM (Block 13)

Maximum Escape Volume- [redacted] MCF/Day (Block 13)

100 PPM Radius of Exposure (Block 15)- [redacted]
(Formula= 1.589 x (B5/1000000) x (B6 x 1000) x .6258

500 PPM Radius of Exposure (Block 16)- [redacted]
Formula= .4546 x (B5/1000000) x (B6 x 1000) x .6258

EMERGENCY CONTACT LIST

911 is available in the area			
NAME	POSITION	COMPANY	NUMBER
Centennial Contacts			
Jeremy Ray	Drilling Engineer	CDEV	303-263-7872
Ricky Mills/John Helm	Superintendent	CDEV	432-305-1068
Mike Ponder/Wayne Miller	Field Superintendent	CDEV	432-287-3003
Brett Thompson	Drilling Manager	CDEV	720-656-7027
Reggie Phillips	HSE Manager	CDEV	432-638-3380
H&P 650 Drilling Office	Drilling Supervisor	CDEV	432-538-3343
Local Emergency Response			
Fire Department			575-395-2511
Jal Community Hospital			505-395-2511
State Police			505-827-9000
Lea County Sheriff			575-396-3611
Safety Contractor			
Advanced Safety	Office	Advanced Safety	833-296-3913
Joe Gadway	Permian Supervisor	Advanced Safety	318-446-3716
Clint Hudson	Operations Manager	Advanced Safety	337-552-8330
Well Control Company			
Wild Well Control			866-404-9564
Contractors			
Tommy E Lee	Pump Trucks		432-813-7140
Paul Smith	Drilling Fluids	Momentum	307-258-6254
Compass Coordinators	Cement	Compass	432-561-5970

CENTENNIAL
RESOURCE DEVELOPMENT INC

Centennial Resource Development, Inc.

Lea Co., NM (NAD83)
Raider Federal
Com 704H

OH

Plan: Plan #1

Standard Planning Report

19 September, 2018

LATITUDE
ENERGY PARTNERS

CENTENNIAL

Project: Lea Co., NM (NAD83)
Site: Raider Federal
Well: Com 704H
Wellbore: OH
Design: Plan #1
Lat: 32.196614
Long: -103.467600
GL: 3498.00
KB: RKB=25' @ 3523.00usft (H&P 650)

LATITUDE ENERGY PARTNERS

Azimuths to True North
Magnetic North: 6.77°

Magnetic Field
Strength: 47802.9snT
Dip Angle: 60.04°
Date: 09/19/2018
Model: IGRF2015

WELL DETAILS: Com 704H

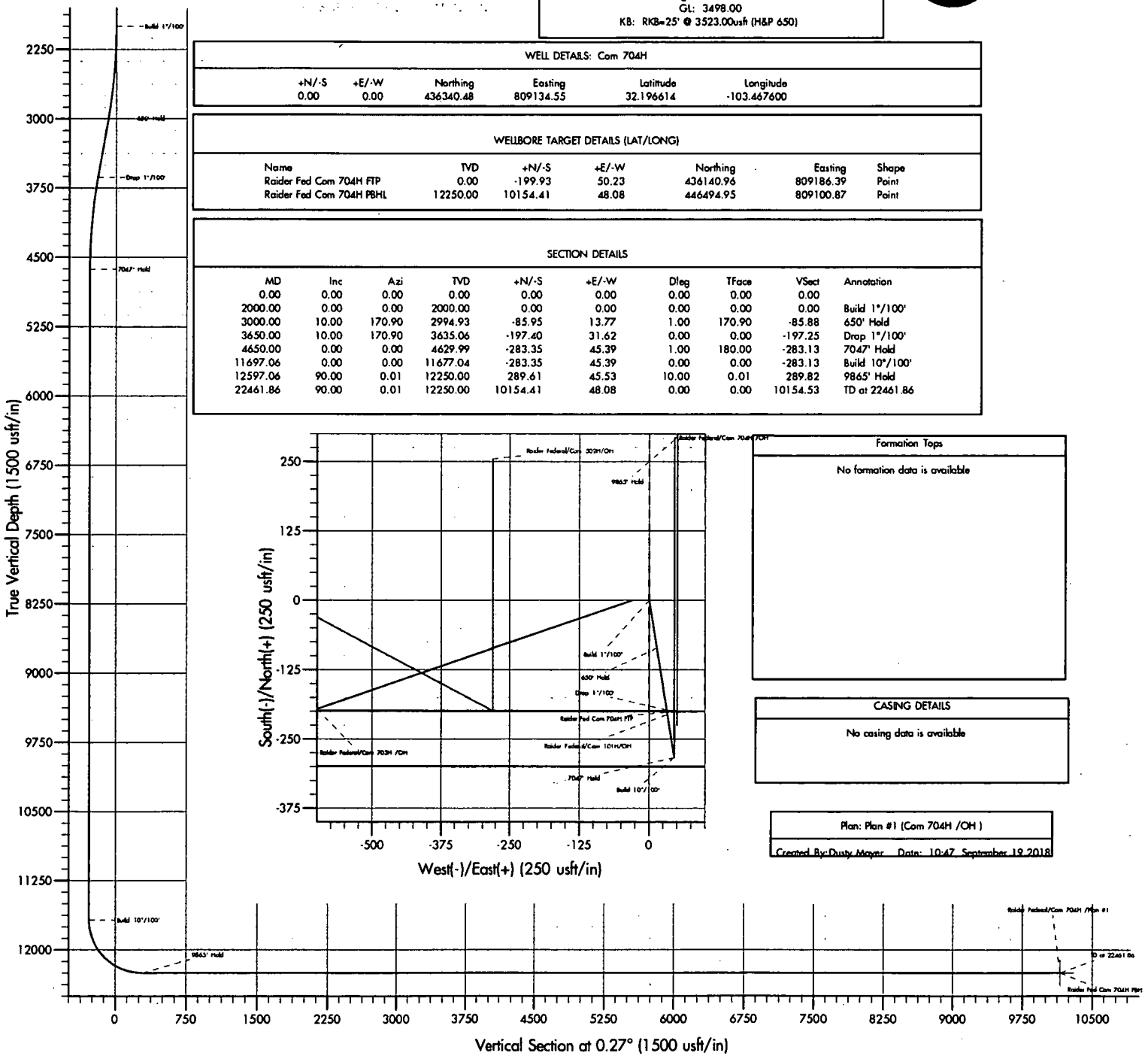
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	436340.48	809134.55	32.196614	-103.467600

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Raider Fed Com 704H FTP	0.00	-199.93	50.23	436140.96	809186.39	Point
Raider Fed Com 704H PBHL	12250.00	10154.41	48.08	446494.95	809100.87	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	Build 1°/100'
3000.00	10.00	170.90	2994.93	-85.95	13.77	1.00	170.90	-85.88	650' Hold
3650.00	10.00	170.90	3635.06	-197.40	31.62	0.00	0.00	-197.25	Drop 1°/100'
4650.00	0.00	0.00	4629.99	-283.35	45.39	1.00	180.00	-283.13	7047' Hold
11697.06	0.00	0.00	11677.04	-283.35	45.39	0.00	0.00	-283.13	Build 10°/100'
12597.06	90.00	0.01	12250.00	289.61	45.53	10.00	0.01	289.82	9865' Hold
22461.86	90.00	0.01	12250.00	10154.41	48.08	0.00	0.00	10154.53	TD at 22461.86



Formation Tops

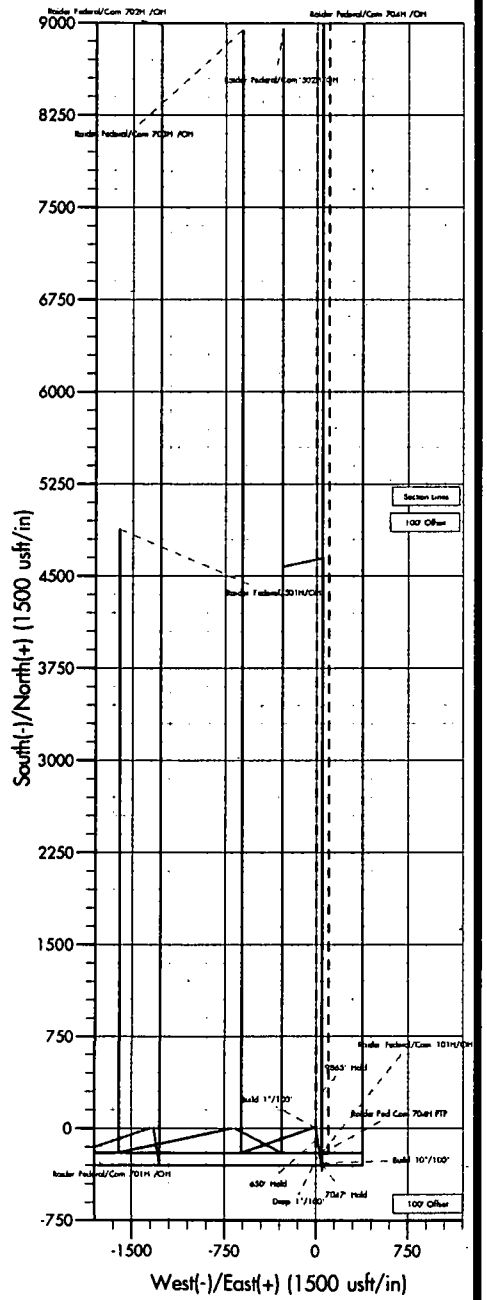
No formation data is available

CASING DETAILS

No casing data is available

Plan: Plan #1 (Com 704H /OH)

Created By: Dusty Mayer Date: 10:47, September 19 2018



Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Com 704H
Company:	Centennial Resource Development, Inc.	**TVD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Project:	Lea Co., NM (NAD83)	**MD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Site:	Raider Federal	**North Reference:**	True
Well:	Com 704H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Lea Co., NM (NAD83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Raider Federal				
Site Position:		**Northing:**	440,904.10 usft	**Latitude:**	32.209204
From:	Map	**Easting:**	807,020.00 usft	**Longitude:**	-103.474318
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.46 °

Well	Com 704H					
Well Position	**+N/-S**	-4,580.37 usft	**Northing:**	436,340.48 usft	**Latitude:**	32.196614
	+E/-W	2,078.01 usft	**Easting:**	809,134.55 usft	**Longitude:**	-103.467601
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,498.00 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	09/19/18	6.77	60.04	47,802.85624103

Design	Plan #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	0.27	

Plan Survey Tool Program **Date** 09/19/18

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,461.86	Plan #1 (OH)	MWD+IFR1+MS	
				OWSG MWD + IFR1 + Multi-St	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	10.00	170.90	2,994.93	-85.95	13.77	1.00	1.00	0.00	170.90	
3,650.00	10.00	170.90	3,635.06	-197.40	31.62	0.00	0.00	0.00	0.00	
4,650.00	0.00	0.00	4,629.99	-283.35	45.39	1.00	-1.00	0.00	180.00	
11,697.06	0.00	0.00	11,677.04	-283.35	45.39	0.00	0.00	0.00	0.00	
12,597.06	90.00	0.01	12,250.00	289.61	45.53	10.00	10.00	0.00	0.01	
22,461.86	90.00	0.01	12,250.00	10,154.41	48.08	0.00	0.00	0.00	0.00	Raider Fed Com 704H

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Com 704H
Company:	Centennial Resource Development, Inc.	**TVD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Project:	Lea Co., NM (NAD83)	**MD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Site:	Raider Federal	**North Reference:**	True
Well:	Com 704H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 1°/100'									
2,100.00	1.00	170.90	2,099.99	-0.86	0.14	-0.86	1.00	1.00	0.00
2,200.00	2.00	170.90	2,199.96	-3.45	0.55	-3.44	1.00	1.00	0.00
2,300.00	3.00	170.90	2,299.86	-7.75	1.24	-7.75	1.00	1.00	0.00
2,400.00	4.00	170.90	2,399.68	-13.78	2.21	-13.77	1.00	1.00	0.00
2,500.00	5.00	170.90	2,499.37	-21.53	3.45	-21.51	1.00	1.00	0.00
2,600.00	6.00	170.90	2,598.90	-30.99	4.96	-30.97	1.00	1.00	0.00
2,700.00	7.00	170.90	2,698.26	-42.17	6.75	-42.14	1.00	1.00	0.00
2,800.00	8.00	170.90	2,797.40	-55.06	8.82	-55.02	1.00	1.00	0.00
2,900.00	9.00	170.90	2,896.30	-69.65	11.16	-69.60	1.00	1.00	0.00
3,000.00	10.00	170.90	2,994.93	-85.95	13.77	-85.88	1.00	1.00	0.00
650' Hold									
3,100.00	10.00	170.90	3,093.41	-103.10	16.51	-103.02	0.00	0.00	0.00
3,200.00	10.00	170.90	3,191.89	-120.24	19.26	-120.15	0.00	0.00	0.00
3,300.00	10.00	170.90	3,290.37	-137.39	22.01	-137.28	0.00	0.00	0.00
3,400.00	10.00	170.90	3,388.85	-154.53	24.75	-154.42	0.00	0.00	0.00
3,500.00	10.00	170.90	3,487.33	-171.68	27.50	-171.55	0.00	0.00	0.00
3,600.00	10.00	170.90	3,585.82	-188.83	30.25	-188.68	0.00	0.00	0.00
3,650.00	10.00	170.90	3,635.06	-197.40	31.62	-197.25	0.00	0.00	0.00
Drop 1°/100'									
3,700.00	9.50	170.90	3,684.33	-205.76	32.96	-205.60	1.00	-1.00	0.00
3,800.00	8.50	170.90	3,783.10	-221.21	35.43	-221.04	1.00	-1.00	0.00
3,900.00	7.50	170.90	3,882.13	-234.95	37.63	-234.77	1.00	-1.00	0.00
4,000.00	6.50	170.90	3,981.38	-246.98	39.56	-246.79	1.00	-1.00	0.00
4,100.00	5.50	170.90	4,080.83	-257.30	41.21	-257.11	1.00	-1.00	0.00
4,200.00	4.50	170.90	4,180.45	-265.91	42.59	-265.71	1.00	-1.00	0.00
4,300.00	3.50	170.90	4,280.20	-272.80	43.70	-272.59	1.00	-1.00	0.00
4,400.00	2.50	170.90	4,380.07	-277.97	44.52	-277.75	1.00	-1.00	0.00
4,500.00	1.50	170.90	4,480.00	-281.41	45.07	-281.19	1.00	-1.00	0.00
4,600.00	0.50	170.90	4,579.99	-283.13	45.35	-282.92	1.00	-1.00	0.00
4,650.00	0.00	0.00	4,629.99	-283.35	45.39	-283.13	1.00	-1.00	0.00
7047' Hold									
4,700.00	0.00	0.00	4,679.99	-283.35	45.39	-283.13	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Com 704H
Company:	Centennial Resource Development, Inc.	**TVD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Project:	Lea Co., NM (NAD83)	**MD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Site:	Raider Federal	**North Reference:**	True
Well:	Com 704H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	0.00	0.00	4,779.99	-283.35	45.39	-283.13	0.00	0.00	0.00
4,900.00	0.00	0.00	4,879.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,000.00	0.00	0.00	4,979.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,100.00	0.00	0.00	5,079.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,200.00	0.00	0.00	5,179.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,300.00	0.00	0.00	5,279.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,400.00	0.00	0.00	5,379.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,500.00	0.00	0.00	5,479.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,600.00	0.00	0.00	5,579.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,700.00	0.00	0.00	5,679.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,800.00	0.00	0.00	5,779.99	-283.35	45.39	-283.13	0.00	0.00	0.00
5,900.00	0.00	0.00	5,879.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,000.00	0.00	0.00	5,979.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,100.00	0.00	0.00	6,079.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,200.00	0.00	0.00	6,179.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,300.00	0.00	0.00	6,279.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,400.00	0.00	0.00	6,379.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,500.00	0.00	0.00	6,479.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,600.00	0.00	0.00	6,579.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,700.00	0.00	0.00	6,679.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,800.00	0.00	0.00	6,779.99	-283.35	45.39	-283.13	0.00	0.00	0.00
6,900.00	0.00	0.00	6,879.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,000.00	0.00	0.00	6,979.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,100.00	0.00	0.00	7,079.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,200.00	0.00	0.00	7,179.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,300.00	0.00	0.00	7,279.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,400.00	0.00	0.00	7,379.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,500.00	0.00	0.00	7,479.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,600.00	0.00	0.00	7,579.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,700.00	0.00	0.00	7,679.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,800.00	0.00	0.00	7,779.99	-283.35	45.39	-283.13	0.00	0.00	0.00
7,900.00	0.00	0.00	7,879.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,000.00	0.00	0.00	7,979.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,100.00	0.00	0.00	8,079.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,200.00	0.00	0.00	8,179.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,300.00	0.00	0.00	8,279.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,400.00	0.00	0.00	8,379.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,500.00	0.00	0.00	8,479.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,600.00	0.00	0.00	8,579.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,700.00	0.00	0.00	8,679.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,800.00	0.00	0.00	8,779.99	-283.35	45.39	-283.13	0.00	0.00	0.00
8,900.00	0.00	0.00	8,879.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,000.00	0.00	0.00	8,979.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,100.00	0.00	0.00	9,079.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,200.00	0.00	0.00	9,179.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,300.00	0.00	0.00	9,279.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,400.00	0.00	0.00	9,379.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,500.00	0.00	0.00	9,479.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,600.00	0.00	0.00	9,579.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,700.00	0.00	0.00	9,679.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,800.00	0.00	0.00	9,779.99	-283.35	45.39	-283.13	0.00	0.00	0.00
9,900.00	0.00	0.00	9,879.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,000.00	0.00	0.00	9,979.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,100.00	0.00	0.00	10,079.99	-283.35	45.39	-283.13	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Com 704H
Company:	Centennial Resource Development, Inc.	**TVD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Project:	Lea Co., NM (NAD83)	**MD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Site:	Raider Federal	**North Reference:**	True
Well:	Com 704H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,200.00	0.00	0.00	10,179.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,300.00	0.00	0.00	10,279.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,400.00	0.00	0.00	10,379.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,500.00	0.00	0.00	10,479.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,600.00	0.00	0.00	10,579.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,700.00	0.00	0.00	10,679.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,800.00	0.00	0.00	10,779.99	-283.35	45.39	-283.13	0.00	0.00	0.00
10,900.00	0.00	0.00	10,879.99	-283.35	45.39	-283.13	0.00	0.00	0.00
11,000.00	0.00	0.00	10,979.99	-283.35	45.39	-283.13	0.00	0.00	0.00
11,100.00	0.00	0.00	11,079.99	-283.35	45.39	-283.13	0.00	0.00	0.00
11,200.00	0.00	0.00	11,179.99	-283.35	45.39	-283.13	0.00	0.00	0.00
11,300.00	0.00	0.00	11,279.99	-283.35	45.39	-283.13	0.00	0.00	0.00
11,400.00	0.00	0.00	11,379.99	-283.35	45.39	-283.13	0.00	0.00	0.00
11,500.00	0.00	0.00	11,479.99	-283.35	45.39	-283.13	0.00	0.00	0.00
11,600.00	0.00	0.00	11,579.99	-283.35	45.39	-283.13	0.00	0.00	0.00
11,697.06	0.00	0.00	11,677.04	-283.35	45.39	-283.13	0.00	0.00	0.00
Build 10°/100'									
11,700.00	0.29	0.01	11,679.99	-283.34	45.39	-283.12	10.00	10.00	0.00
11,750.00	5.29	0.01	11,729.91	-280.91	45.39	-280.69	10.00	10.00	0.00
11,800.00	10.29	0.01	11,779.43	-274.13	45.39	-273.91	10.00	10.00	0.00
11,850.00	15.29	0.01	11,828.18	-263.06	45.39	-262.84	10.00	10.00	0.00
11,900.00	20.29	0.01	11,875.77	-247.78	45.39	-247.56	10.00	10.00	0.00
11,950.00	25.29	0.01	11,921.85	-228.42	45.40	-228.20	10.00	10.00	0.00
12,000.00	30.29	0.01	11,966.07	-205.11	45.41	-204.89	10.00	10.00	0.00
12,050.00	35.29	0.01	12,008.09	-178.04	45.41	-177.82	10.00	10.00	0.00
12,100.00	40.29	0.01	12,047.58	-147.40	45.42	-147.19	10.00	10.00	0.00
12,150.00	45.29	0.01	12,084.26	-113.45	45.43	-113.23	10.00	10.00	0.00
12,200.00	50.29	0.01	12,117.84	-76.42	45.44	-76.21	10.00	10.00	0.00
12,250.00	55.29	0.01	12,148.06	-36.61	45.45	-36.40	10.00	10.00	0.00
12,300.00	60.29	0.01	12,174.70	5.68	45.46	5.90	10.00	10.00	0.00
12,350.00	65.29	0.01	12,197.56	50.14	45.47	50.35	10.00	10.00	0.00
12,400.00	70.29	0.01	12,216.45	96.41	45.48	96.63	10.00	10.00	0.00
12,450.00	75.29	0.01	12,231.23	144.16	45.50	144.38	10.00	10.00	0.00
12,500.00	80.29	0.01	12,241.80	193.02	45.51	193.23	10.00	10.00	0.00
12,550.00	85.29	0.01	12,248.07	242.61	45.52	242.82	10.00	10.00	0.00
12,597.06	90.00	0.01	12,250.00	289.61	45.53	289.82	10.00	10.00	0.00
9865' Hold									
12,600.00	90.00	0.01	12,250.00	292.55	45.53	292.76	0.00	0.00	0.00
12,700.00	90.00	0.01	12,250.00	392.55	45.56	392.76	0.00	0.00	0.00
12,800.00	90.00	0.01	12,250.00	492.55	45.59	492.76	0.00	0.00	0.00
12,900.00	90.00	0.01	12,250.00	592.55	45.61	592.76	0.00	0.00	0.00
13,000.00	90.00	0.01	12,250.00	692.55	45.64	692.76	0.00	0.00	0.00
13,100.00	90.00	0.01	12,250.00	792.55	45.66	792.76	0.00	0.00	0.00
13,200.00	90.00	0.01	12,250.00	892.55	45.69	892.76	0.00	0.00	0.00
13,300.00	90.00	0.01	12,250.00	992.55	45.72	992.76	0.00	0.00	0.00
13,400.00	90.00	0.01	12,250.00	1,092.55	45.74	1,092.76	0.00	0.00	0.00
13,500.00	90.00	0.01	12,250.00	1,192.55	45.77	1,192.76	0.00	0.00	0.00
13,600.00	90.00	0.01	12,250.00	1,292.55	45.79	1,292.75	0.00	0.00	0.00
13,700.00	90.00	0.01	12,250.00	1,392.55	45.82	1,392.75	0.00	0.00	0.00
13,800.00	90.00	0.01	12,250.00	1,492.55	45.84	1,492.75	0.00	0.00	0.00
13,900.00	90.00	0.01	12,250.00	1,592.55	45.87	1,592.75	0.00	0.00	0.00
14,000.00	90.00	0.01	12,250.00	1,692.55	45.90	1,692.75	0.00	0.00	0.00
14,100.00	90.00	0.01	12,250.00	1,792.55	45.92	1,792.75	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Com 704H
Company:	Centennial Resource Development, Inc.	**TVD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Project:	Lea Co., NM (NAD83)	**MD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Site:	Raider Federal	**North Reference:**	True
Well:	Com 704H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,200.00	90.00	0.01	12,250.00	1,892.55	45.95	1,892.75	0.00	0.00	0.00
14,300.00	90.00	0.01	12,250.00	1,992.55	45.97	1,992.75	0.00	0.00	0.00
14,400.00	90.00	0.01	12,250.00	2,092.55	46.00	2,092.75	0.00	0.00	0.00
14,500.00	90.00	0.01	12,250.00	2,192.55	46.03	2,192.75	0.00	0.00	0.00
14,600.00	90.00	0.01	12,250.00	2,292.55	46.05	2,292.74	0.00	0.00	0.00
14,700.00	90.00	0.01	12,250.00	2,392.55	46.08	2,392.74	0.00	0.00	0.00
14,800.00	90.00	0.01	12,250.00	2,492.55	46.10	2,492.74	0.00	0.00	0.00
14,900.00	90.00	0.01	12,250.00	2,592.55	46.13	2,592.74	0.00	0.00	0.00
15,000.00	90.00	0.01	12,250.00	2,692.55	46.15	2,692.74	0.00	0.00	0.00
15,100.00	90.00	0.01	12,250.00	2,792.55	46.18	2,792.74	0.00	0.00	0.00
15,200.00	90.00	0.01	12,250.00	2,892.55	46.21	2,892.74	0.00	0.00	0.00
15,300.00	90.00	0.01	12,250.00	2,992.55	46.23	2,992.74	0.00	0.00	0.00
15,400.00	90.00	0.01	12,250.00	3,092.55	46.26	3,092.74	0.00	0.00	0.00
15,500.00	90.00	0.01	12,250.00	3,192.55	46.28	3,192.74	0.00	0.00	0.00
15,600.00	90.00	0.01	12,250.00	3,292.55	46.31	3,292.73	0.00	0.00	0.00
15,700.00	90.00	0.01	12,250.00	3,392.55	46.34	3,392.73	0.00	0.00	0.00
15,800.00	90.00	0.01	12,250.00	3,492.55	46.36	3,492.73	0.00	0.00	0.00
15,900.00	90.00	0.01	12,250.00	3,592.55	46.39	3,592.73	0.00	0.00	0.00
16,000.00	90.00	0.01	12,250.00	3,692.55	46.41	3,692.73	0.00	0.00	0.00
16,100.00	90.00	0.01	12,250.00	3,792.55	46.44	3,792.73	0.00	0.00	0.00
16,200.00	90.00	0.01	12,250.00	3,892.55	46.47	3,892.73	0.00	0.00	0.00
16,300.00	90.00	0.01	12,250.00	3,992.55	46.49	3,992.73	0.00	0.00	0.00
16,400.00	90.00	0.01	12,250.00	4,092.55	46.52	4,092.73	0.00	0.00	0.00
16,500.00	90.00	0.01	12,250.00	4,192.55	46.54	4,192.73	0.00	0.00	0.00
16,600.00	90.00	0.01	12,250.00	4,292.55	46.57	4,292.72	0.00	0.00	0.00
16,700.00	90.00	0.01	12,250.00	4,392.55	46.59	4,392.72	0.00	0.00	0.00
16,800.00	90.00	0.01	12,250.00	4,492.55	46.62	4,492.72	0.00	0.00	0.00
16,900.00	90.00	0.01	12,250.00	4,592.55	46.65	4,592.72	0.00	0.00	0.00
17,000.00	90.00	0.01	12,250.00	4,692.55	46.67	4,692.72	0.00	0.00	0.00
17,100.00	90.00	0.01	12,250.00	4,792.55	46.70	4,792.72	0.00	0.00	0.00
17,200.00	90.00	0.01	12,250.00	4,892.55	46.72	4,892.72	0.00	0.00	0.00
17,300.00	90.00	0.01	12,250.00	4,992.55	46.75	4,992.72	0.00	0.00	0.00
17,400.00	90.00	0.01	12,250.00	5,092.55	46.78	5,092.72	0.00	0.00	0.00
17,500.00	90.00	0.01	12,250.00	5,192.55	46.80	5,192.72	0.00	0.00	0.00
17,600.00	90.00	0.01	12,250.00	5,292.55	46.83	5,292.71	0.00	0.00	0.00
17,700.00	90.00	0.01	12,250.00	5,392.55	46.85	5,392.71	0.00	0.00	0.00
17,800.00	90.00	0.01	12,250.00	5,492.55	46.88	5,492.71	0.00	0.00	0.00
17,900.00	90.00	0.01	12,250.00	5,592.55	46.90	5,592.71	0.00	0.00	0.00
18,000.00	90.00	0.01	12,250.00	5,692.55	46.93	5,692.71	0.00	0.00	0.00
18,100.00	90.00	0.01	12,250.00	5,792.55	46.96	5,792.71	0.00	0.00	0.00
18,200.00	90.00	0.01	12,250.00	5,892.55	46.98	5,892.71	0.00	0.00	0.00
18,300.00	90.00	0.01	12,250.00	5,992.55	47.01	5,992.71	0.00	0.00	0.00
18,400.00	90.00	0.01	12,250.00	6,092.55	47.03	6,092.71	0.00	0.00	0.00
18,500.00	90.00	0.01	12,250.00	6,192.55	47.06	6,192.71	0.00	0.00	0.00
18,600.00	90.00	0.01	12,250.00	6,292.55	47.09	6,292.70	0.00	0.00	0.00
18,700.00	90.00	0.01	12,250.00	6,392.55	47.11	6,392.70	0.00	0.00	0.00
18,800.00	90.00	0.01	12,250.00	6,492.55	47.14	6,492.70	0.00	0.00	0.00
18,900.00	90.00	0.01	12,250.00	6,592.55	47.16	6,592.70	0.00	0.00	0.00
19,000.00	90.00	0.01	12,250.00	6,692.55	47.19	6,692.70	0.00	0.00	0.00
19,100.00	90.00	0.01	12,250.00	6,792.55	47.21	6,792.70	0.00	0.00	0.00
19,200.00	90.00	0.01	12,250.00	6,892.55	47.24	6,892.70	0.00	0.00	0.00
19,300.00	90.00	0.01	12,250.00	6,992.55	47.27	6,992.70	0.00	0.00	0.00
19,400.00	90.00	0.01	12,250.00	7,092.55	47.29	7,092.70	0.00	0.00	0.00
19,500.00	90.00	0.01	12,250.00	7,192.55	47.32	7,192.70	0.00	0.00	0.00

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Company:	Centennial Resource Development, Inc.	**TVD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Project:	Lea Co., NM (NAD83)	**MD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Site:	Raider Federal	**North Reference:**	True
Well:	Com 704H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,600.00	90.00	0.01	12,250.00	7,292.55	47.34	7,292.69	0.00	0.00	0.00
19,700.00	90.00	0.01	12,250.00	7,392.55	47.37	7,392.69	0.00	0.00	0.00
19,800.00	90.00	0.01	12,250.00	7,492.55	47.40	7,492.69	0.00	0.00	0.00
19,900.00	90.00	0.01	12,250.00	7,592.55	47.42	7,592.69	0.00	0.00	0.00
20,000.00	90.00	0.01	12,250.00	7,692.55	47.45	7,692.69	0.00	0.00	0.00
20,100.00	90.00	0.01	12,250.00	7,792.55	47.47	7,792.69	0.00	0.00	0.00
20,200.00	90.00	0.01	12,250.00	7,892.55	47.50	7,892.69	0.00	0.00	0.00
20,300.00	90.00	0.01	12,250.00	7,992.55	47.53	7,992.69	0.00	0.00	0.00
20,400.00	90.00	0.01	12,250.00	8,092.55	47.55	8,092.69	0.00	0.00	0.00
20,500.00	90.00	0.01	12,250.00	8,192.55	47.58	8,192.69	0.00	0.00	0.00
20,600.00	90.00	0.01	12,250.00	8,292.55	47.60	8,292.68	0.00	0.00	0.00
20,700.00	90.00	0.01	12,250.00	8,392.55	47.63	8,392.68	0.00	0.00	0.00
20,800.00	90.00	0.01	12,250.00	8,492.55	47.65	8,492.68	0.00	0.00	0.00
20,900.00	90.00	0.01	12,250.00	8,592.55	47.68	8,592.68	0.00	0.00	0.00
21,000.00	90.00	0.01	12,250.00	8,692.55	47.71	8,692.68	0.00	0.00	0.00
21,100.00	90.00	0.01	12,250.00	8,792.55	47.73	8,792.68	0.00	0.00	0.00
21,200.00	90.00	0.01	12,250.00	8,892.55	47.76	8,892.68	0.00	0.00	0.00
21,300.00	90.00	0.01	12,250.00	8,992.55	47.78	8,992.68	0.00	0.00	0.00
21,400.00	90.00	0.01	12,250.00	9,092.55	47.81	9,092.68	0.00	0.00	0.00
21,500.00	90.00	0.01	12,250.00	9,192.55	47.84	9,192.68	0.00	0.00	0.00
21,600.00	90.00	0.01	12,250.00	9,292.55	47.86	9,292.67	0.00	0.00	0.00
21,700.00	90.00	0.01	12,250.00	9,392.55	47.89	9,392.67	0.00	0.00	0.00
21,800.00	90.00	0.01	12,250.00	9,492.55	47.91	9,492.67	0.00	0.00	0.00
21,900.00	90.00	0.01	12,250.00	9,592.55	47.94	9,592.67	0.00	0.00	0.00
22,000.00	90.00	0.01	12,250.00	9,692.55	47.96	9,692.67	0.00	0.00	0.00
22,100.00	90.00	0.01	12,250.00	9,792.55	47.99	9,792.67	0.00	0.00	0.00
22,200.00	90.00	0.01	12,250.00	9,892.55	48.02	9,892.67	0.00	0.00	0.00
22,300.00	90.00	0.01	12,250.00	9,992.55	48.04	9,992.67	0.00	0.00	0.00
22,400.00	90.00	0.01	12,250.00	10,092.55	48.07	10,092.67	0.00	0.00	0.00
22,461.86	90.00	0.01	12,250.00	10,154.41	48.08	10,154.53	0.00	0.00	0.00

TD at 22461.86

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Raider Fed Com 704H F - plan misses target center by 206.14usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-199.93	50.23	436,140.96	809,186.39	32.196064	-103.467438
Raider Fed Com 704H F - plan hits target center - Point	0.00	0.00	12,250.00	10,154.41	48.08	446,494.95	809,100.87	32.224525	-103.467445

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Project:	Lea Co., NM (NAD83)	**MD Reference:**	RKB=25' @ 3523.00usft (H&P 650)
Site:	Raider Federal	**North Reference:**	True
Well:	Com 704H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
2,000.00	2,000.00	0.00	0.00	Build 1°/100'
3,000.00	2,994.93	-85.95	13.77	650' Hold
3,650.00	3,635.06	-197.40	31.62	Drop 1°/100'
4,650.00	4,629.99	-283.35	45.39	7047' Hold
11,697.06	11,677.04	-283.35	45.39	Build 10°/100'
12,597.06	12,250.00	289.61	45.53	9865' Hold
22,461.86	12,250.00	10,154.41	48.08	TD at 22461.86

APD ID: 10400037451 **Submission Date:** 12/19/2018

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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

[redacted]

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? NO

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Raider_Existing_wells_list_20181219135612.xlsx
RAIDER_FEDERAL_COM_703H___704H_EXISTING_WELLS_MAP_20181219135717.pdf

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Handles/Separates Gas, Oil, and Water Listed below are the lengths for the OHE for each pad and the main trunk line that starts in SE4 SW4 of Section 22 and goes to the east edge of BLM lands in SW4 SE4 Sec. 21 Fee Lands – trunk line = 3,073.88' or 186.30 rods 703/4 OHE = 94.51' or 5.73 rods (fee lands) 501/2/3 OHE = 94.89' or 5.75 rods (fee lands) 701/2 OHE = 348.88' or 21.14 rods (BLM lands) Total length = 3,612.16' or 218.92 rods
Production Facilities map:

Raider_Federal_703H_704H_502H_Facilities_Plan_20181219135749.pdf

Raider_Fed_3_pad_and_utility_overview_20190425115913.pdf

Raider_Fed_3_pads_OHE_20190425115914.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: OTHER **Water source type:** OTHER

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type: PRIVATE CONTRACT

Source land ownership: PRIVATE

Water source transport method: PIPELINE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 350000 **Source volume (acre-feet):** 45.112583

Source volume (gal): 14700000

Water source and transportation map:

Map___Raider_water_source_20181219135823.pdf

Water source comments: Temporary surface lines will be used to transport water for drilling and completion operations from the Calico Jack Pit to the Raider Pad.
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:

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

Well depth (ft):

Well casing type:

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Well Production type:

Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Caliche will be hauled from the existing "Madera Caliche" pit located in SENW, Section 6, T25S, R35E. Pit has been identified for use in the attached exhibit. Any native caliche on the proposed site can be used by "flipping" the location and using all native soils.

Construction Materials source location attachment:

Map___Raider_caliche_source_20181219135851.pdf

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drill cuttings

Amount of waste: 1500 barrels

Waste disposal frequency : Monthly

Safe containment description: Steel tanks

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Haul to commercial facility

Waste type: DRILLING

Waste content description: Brine water based drilling fluid

Amount of waste: 1500 barrels

Waste disposal frequency : Monthly

Safe containment description: Steel tanks with plastic-lined containment berms

Safe containmant attachment:

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

Disposal location description: Haul to commercial facility

Waste type: DRILLING

Waste content description: Fresh water based drilling fluid

Amount of waste: 1500 barrels

Waste disposal frequency : Weekly

Safe containment description: Steel tanks with plastic-lined containment berms

Safe containmant attachment:

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

Disposal location description: Haul to commercial facility

Waste type: SEWAGE

Waste content description: Grey Water/Human Waste

Amount of waste: 5000 gallons

Waste disposal frequency : Weekly

Safe containment description: Approved waste storage tanks with containment

Safe containmant attachment:

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

Disposal location description: Haul to commercial facility

Waste type: GARBAGE

Waste content description: General trash/garbage

Amount of waste: 5000 pounds

Waste disposal frequency : Weekly

Safe containment description: Enclosed trash trailer

Safe containmant attachment:

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

Disposal location description: Haul to commercial facility

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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? YES

Description of cuttings location Cuttings will be stored on site in steel tanks and hauled to an appropriate commercial facility when drilling operations are complete

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:

RAIDER_FEDERAL_COM_703H___704H_WELL_SITE_LAYOUT_PLATS_20181219135944.pdf

Comments:

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

Section 10 - Plans for Surface Reclamation

Type of disturbance: No New Surface Disturbance **Multiple Well Pad Name:** RAIDER EAST

Multiple Well Pad Number: 703H

Recontouring attachment:

RAIDER_FEDERAL_COM_703H___704H_IR_PLAT_20181219140025.pdf

Drainage/Erosion control construction: Drainage and erosion will be constantly monitored to prevent compromising the well site integrity, and to protect the surrounding native topography.

Drainage/Erosion control reclamation: Upon reclamation, well site will be returned to its native contour. Water breaks will be added if needed, to prevent unnatural erosion and loss of vegetation.

Well pad proposed disturbance (acres): 5.062

Road proposed disturbance (acres): 0.04

Powerline proposed disturbance (acres): 0

Pipeline proposed disturbance (acres): 0

Other proposed disturbance (acres): 0

Total proposed disturbance: 5.102

Well pad interim reclamation (acres):

Road interim reclamation (acres):

Powerline interim reclamation (acres): 0

Pipeline interim reclamation (acres):

Other interim reclamation (acres):

Total interim reclamation:

Well pad long term disturbance (acres):

Road long term disturbance (acres):

Powerline long term disturbance (acres): 0

Pipeline long term disturbance (acres):

Other long term disturbance (acres):

Total long term disturbance:

Disturbance Comments: Onsite done for this pad on 7/24/18 with Matthew Wirth.

Reconstruction method: Come back in with heavy equipment, remove caliche in the reclamation area, and replace with native topsoil. Reconstruction of pad will occur once all wells on location have been drilled and completed.

Topsoil redistribution: Surface disturbance will be limited to well site surveyed dimensions. Topsoil will be stored along the west edge of the pad site.

Soil treatment: Native caliche will be used in the initial construction of the well pad. Pad will be compacted using fresh water, dust control measures will be implemented as needed.

Existing Vegetation at the well pad:

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:

Non native seed used? NO

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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:**

Total pounds/Acre:

Seed Summary	
Seed Type	**Pounds/Acre**

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Coral **Last Name:** Richline

Phone: (432)315-0119 **Email:** Coral.Richline@cdevinc.com

Seedbed prep: Prepare a 3-5 inch deep seedbed, with the top 3-4 inches consisting of topsoil.

Seed BMP: Seeding will be done in the proper season, and monitored for the re-establishment of native vegetation.

Seed method: Broadcast

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Spray for noxious weeds and bare ground as needed.

Weed treatment plan attachment:

Monitoring plan description: All disturbed areas will be closely monitored for any primary or secondary noxious weeds. Should any be found, chemical spraying in accordance with state regulations will be implemented.
Monitoring plan attachment:

Success standards: No primary or secondary noxious weed will be allowed. Vegetation will be returned to its native standard.
Pit closure description: No open pits will be constructed.

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: EXISTING ACCESS ROAD

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:**

Disturbance type: PIPELINE

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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:**

Disturbance type: OTHER

Describe: Power Line

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: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

Section 12 - Other Information

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

ROW Type(s):

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? NO

Previous Onsite information:

Other SUPO Attachment

API	well_ty	wellname	section	township
30-025-08494	O	PRE-ONGARD WELL #001	21	24S
30-025-20817	G	FEDERAL 9 COM #001	9	24S
30-025-27026	O	PRE-ONGARD WELL #001	16	24S
30-025-27267	G	PRE-ONGARD WELL #002	17	24S
30-025-27572	O	BUCKEYE #001	15	24S
30-025-28235	O	PRE-ONGARD WELL #001	22	24S
30-025-28321	O	PRE-ONGARD WELL #001	27	24S
30-025-28488	G	PITCHFORK RANCH 28 FEDERAL COM #001	28	24S
30-025-28641	G	VACA RIDGE 21 FEDERAL COM #001	21	24S
30-025-29862	G	MADERA 28 FEDERAL COM #002	28	24S
30-025-29917	G	PRE-ONGARD WELL #001	27	24S
30-025-30179	O	PRE-ONGARD WELL #001	22	24S
30-025-40566	O	PIRATE STATE #001H	16	24S
30-025-40915	O	PIRATE BRY STATE #002C	16	24S
30-025-41065	O	SALVADOR FEE #002H	10	24S
30-025-41199	O	MADERA 17 FEDERAL #001H	17	24S
30-025-41514	O	PICASSO FEDERAL COM #001H	9	24S
30-025-41538	O	SALVADOR FEE #004H	10	24S
30-025-41545	O	SALVADOR FEE #003C	10	24S
30-025-41665	O	JOLLY ROGER 16 STATE #001H	16	24S
30-025-41733	O	PICASSO FEDERAL COM #003H	9	24S
30-025-41734	O	PICASSO FEDERAL COM #004H	9	24S
30-025-41905	O	PICASSO FEDERAL #002H	9	24S
30-025-42100	O	MEDLIN WIDOW 15 24 34 #001C	15	24S
30-025-42158	O	JOLLY ROGER 16 STATE #502H	16	24S
30-025-42159	O	JOLLY ROGER 16 STATE #503H	16	24S
30-025-42160	O	JOLLY ROGER 16 STATE #504H	16	24S
30-025-42999	O	ROMEO FEDERAL COM #001H	22	24S
30-025-43385	O	JULIET FEDERAL COM #001H	22	24S
30-025-43401	O	RAIDER FEDERAL #301H	21	24S
30-025-43408	O	RAIDER FEDERAL COM #101H	21	24S
30-025-43414	O	SOLOMON FEDERAL COM #001H	22	24S
30-025-43666	O	FLOWMASTER 24 34 15 SB #004H	15	24S
30-025-43667	O	FLOWMASTER 24 34 15 SB #008H	15	24S
30-025-43917	O	PIRATE STATE #101H	16	24S
30-025-43925	O	JOLLY ROGER 16 STATE #301H	16	24S
30-025-44164	O	FLOWMASTER FEE 24 34 15 TBU #005H	15	24S
30-025-44424	O	PIRATE STATE #102H	16	24S
30-025-44425	O	PIRATE STATE #103H	16	24S
30-025-44426	O	PIRATE STATE #301H	16	24S
30-025-44622	O	JOLLY ROGER 16 STATE #302H	16	24S
30-025-44623	O	JOLLY ROGER 16 STATE #303H	16	24S
30-025-44683	O	FLOWMASTER FEE 24 34 15 WA #006H	15	24S
30-025-44684	O	FLOWMASTER FEE 24 34 15 TB #010H	15	24S
30-025-44685	O	FLOWMASTER FEE 24 34 15 TB #007H	15	24S
30-025-44686	O	FLOWMASTER FEE 24 34 15 TBU #009H	15	24S
30-025-44687	O	FLOWMASTER FEE 24 34 15 WA #014H	15	24S
30-025-44688	O	FLOWMASTER FEE 24 34 15 WD #003H	15	24S
30-025-44689	O	FLOWMASTER FEE 24 34 15 WXY #002H	15	24S
30-025-44866	O	STONEWALL 28 FEDERAL COM #301H	28	24S
30-025-44867	O	STONEWALL 28 FEDERAL COM #302H	28	24S
30-025-44868	O	STONEWALL 28 FEDERAL COM #703H	28	24S
30-025-44869	O	STONEWALL 28 FEDERAL COM #704H	28	24S
30-025-44870	O	STONEWALL 28 FEDERAL COM #705H	28	24S
30-025-44871	O	STONEWALL 28 FEDERAL COM #706H	28	24S

30-025-44872	O	STONEWALL 28 FEDERAL COM #707H	28 24S
30-025-44873	O	STONEWALL 28 FEDERAL COM #708H	28 24S
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30-025-45313	O	JOLLY ROGER 16 STATE #701H	16 24S
30-025-45314	O	JOLLY ROGER 16 STATE #702H	16 24S
30-025-45315	O	JOLLY ROGER 16 STATE #703H	16 24S
30-025-45316	O	JOLLY ROGER 16 STATE #704H	16 24S
30-025-45374	O	SHEBA FEDERAL COM #711H	22 24S
30-025-45375	O	SOLOMON FEDERAL COM #709H	22 24S
30-025-45376	O	SOLOMON FEDERAL COM #710H	22 24S
30-025-45377	O	JOLLY ROGER 16 STATE #705H	16 24S
30-025-45378	O	JOLLY ROGER 16 STATE #706H	16 24S
30-025-45379	O	JOLLY ROGER 16 STATE #707H	16 24S
30-025-45380	O	JOLLY ROGER 16 STATE #708H	16 24S

range	unit_ltr	ogrid_name
34E	B	PRE-ONGARD WELL OPERATOR
34E	B	COG OPERATING LLC
34E	C	PRE-ONGARD WELL OPERATOR
34E	H	PRE-ONGARD WELL OPERATOR
34E	C	STRATA PRODUCTION CO
34E	K	PRE-ONGARD WELL OPERATOR
34E	K	PRE-ONGARD WELL OPERATOR
34E	G	EOG RESOURCES INC
34E	O	CIMAREX ENERGY CO. OF COLORADO
34E	N	EOG RESOURCES INC
34E	E	PRE-ONGARD WELL OPERATOR
34E	N	PRE-ONGARD WELL OPERATOR
34E	O	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	P	EOG Y RESOURCES, INC.
34E	O	COG PRODUCTION, LLC
34E	A	CHEVRON MIDCONTINENT, L.P.
34E	P	COG OPERATING LLC
34E	M	COG PRODUCTION, LLC
34E	N	COG PRODUCTION, LLC
34E	C	EOG RESOURCES INC
34E	N	COG OPERATING LLC
34E	M	COG OPERATING LLC
34E	O	COG OPERATING LLC
34E	C	CHEVRON U S A INC
34E	D	EOG RESOURCES INC
34E	D	EOG RESOURCES INC
34E	D	EOG RESOURCES INC
34E	D	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	C	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	B	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	A	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	B	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	D	MARATHON OIL PERMIAN LLC
34E	D	MARATHON OIL PERMIAN LLC
34E	P	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	D	EOG RESOURCES INC
34E	D	MARATHON OIL PERMIAN LLC
34E	P	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	P	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	P	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	C	EOG RESOURCES INC
34E	C	EOG RESOURCES INC
34E	D	MARATHON OIL PERMIAN LLC
34E	N	MARATHON OIL PERMIAN LLC
34E	D	MARATHON OIL PERMIAN LLC
34E	N	MARATHON OIL PERMIAN LLC
34E	N	MARATHON OIL PERMIAN LLC
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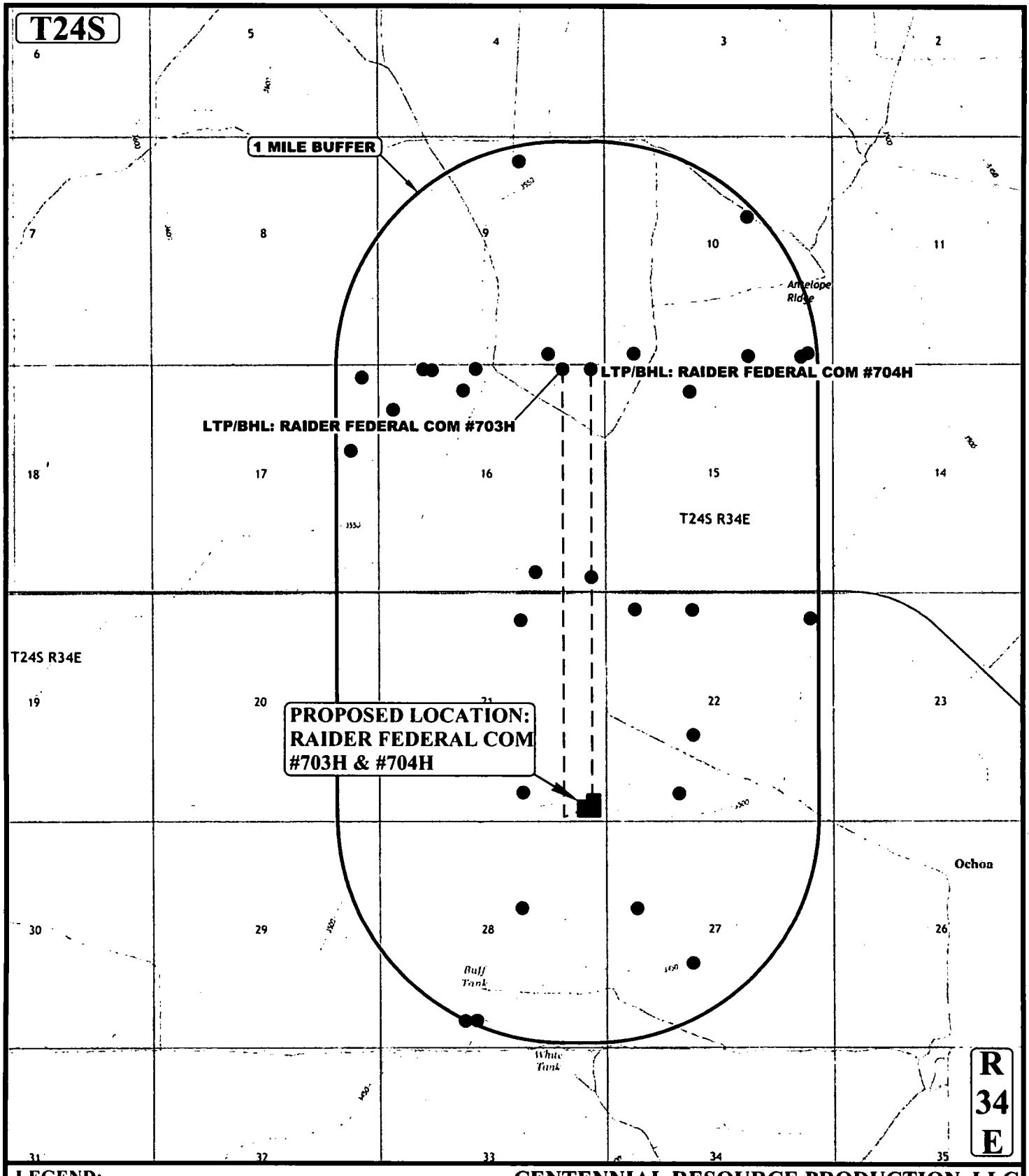
34E	D	EOG RESOURCES INC
34E	C	EOG RESOURCES INC
34E	C	EOG RESOURCES INC
34E	C	EOG RESOURCES INC

34E	C	EOG RESOURCES INC
34E	B	EOG RESOURCES INC
34E	A	EOG RESOURCES INC
34E	A	EOG RESOURCES INC
34E	B	EOG RESOURCES INC
34E	B	EOG RESOURCES INC
34E	B	EOG RESOURCES INC
34E	B	EOG RESOURCES INC
34E	A	EOG RESOURCES INC
34E	D	EOG RESOURCES INC
34E	D	EOG RESOURCES INC
34E	C	EOG RESOURCES INC
34E	C	EOG RESOURCES INC
34E	O	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	O	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	O	CENTENNIAL RESOURCE PRODUCTION, LLC
34E	M	EOG RESOURCES INC
34E	M	EOG RESOURCES INC
34E	N	EOG RESOURCES INC
34E	N	EOG RESOURCES INC

pool_id_list	Well Type	Well Status
No Data	Oil	Plugged (Site Released
[70360] ANTELOPE RIDGE, ATOKA (GAS); [70	Gas	Active
No Data	Oil	Plugged (Site Released
[71960] BELL LAKE, MORROW, SOUTH (GAS)	Gas	Plugged (Site Released
[97187] WILDCAT G-04 S243415C, DELAWARI	Oil	Plugged (Site Released
No Data	Oil	Plugged (Site Released
No Data	Oil	Plugged (Site Released
[82930] PITCHFORK RANCH, MORROW (GAS,	Gas	Active
[82930] PITCHFORK RANCH, MORROW (GAS,	Gas	Plugged (Site Released
[82925] PITCHFORK RANCH, ATOKA (GAS)	Gas	Plugged (Site Released
[82930] PITCHFORK RANCH, MORROW (GAS,	Gas	Plugged (Site Released
No Data	Oil	Plugged (Site Released
[2220] ANTELOPE RIDGE, WOLFCAMP; [9643	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Cancelled APD
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Cancelled APD
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Cancelled APD
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Cancelled APD
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[2220] ANTELOPE RIDGE, WOLFCAMP; [9643	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP; [9643	Oil	Active
[2220] ANTELOPE RIDGE, WOLFCAMP; [9643	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH	Oil	Active
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH; [9	Oil	New (Not Drilled/Completed)
[96434] RED HILLS, BONE SPRING, NORTH; [9	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)

[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[98092] WC-025 G-09 S243336I, UPPER WOLF	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)
[2220] ANTELOPE RIDGE, WOLFCAMP	Oil	New (Not Drilled/Completed)



LEGEND:

● EXISTING WELLS

N

CENTENNIAL RESOURCE PRODUCTION, LLC

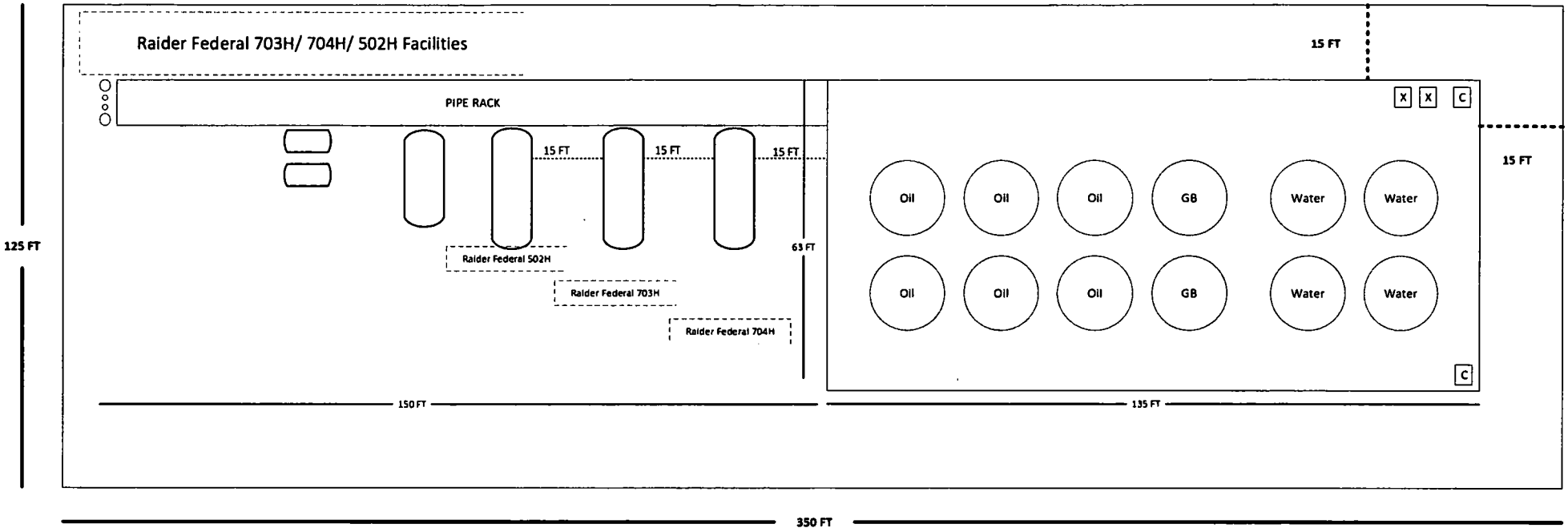
RAIDER FEDERAL COM #703H & #704H
SE 1/4 SE 1/4, SECTION 21, T24S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

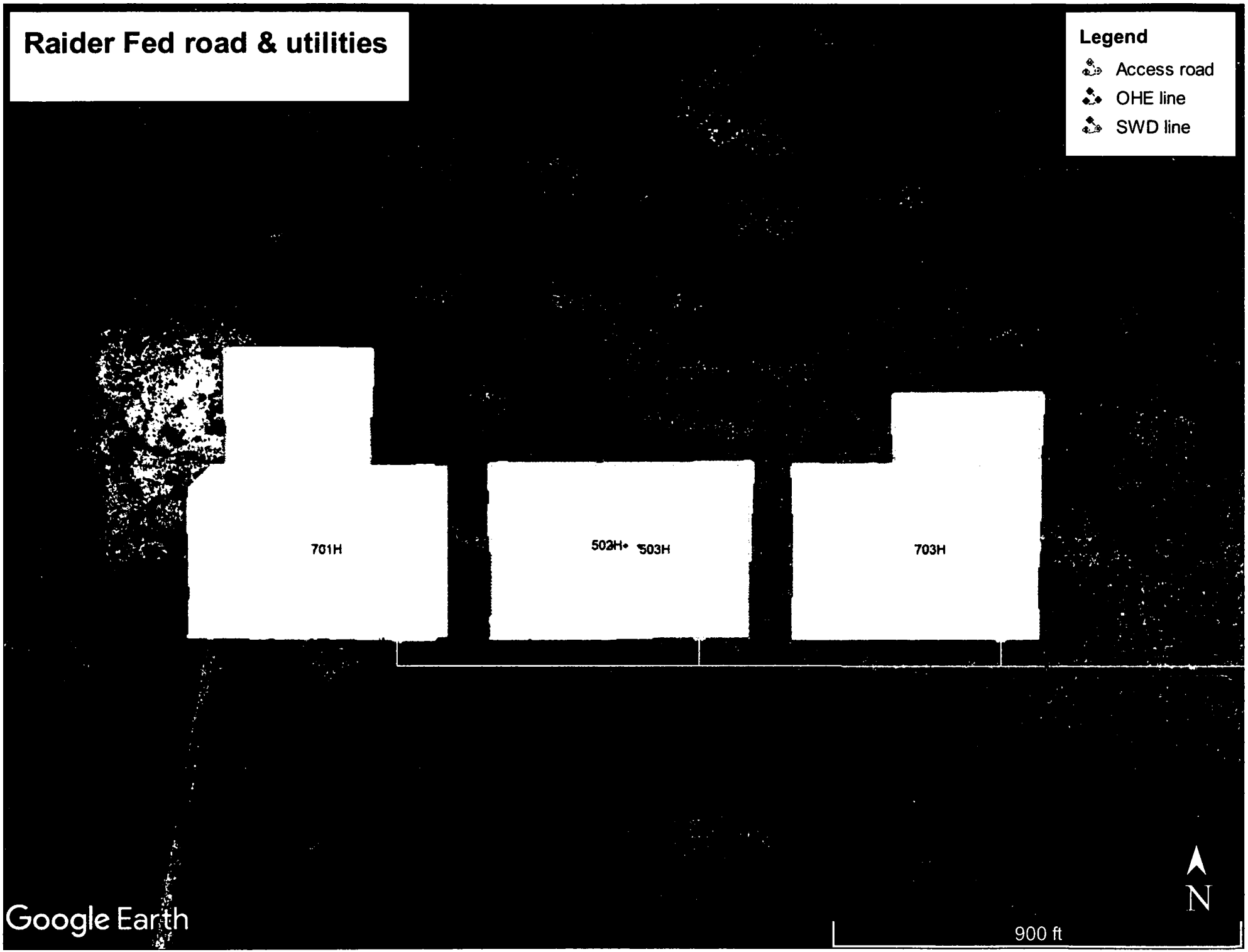
SURVEYED BY	R.C., M.D.	07-13-18	SCALE
DRAWN BY	J.A.	07-18-18	1 : 36,000

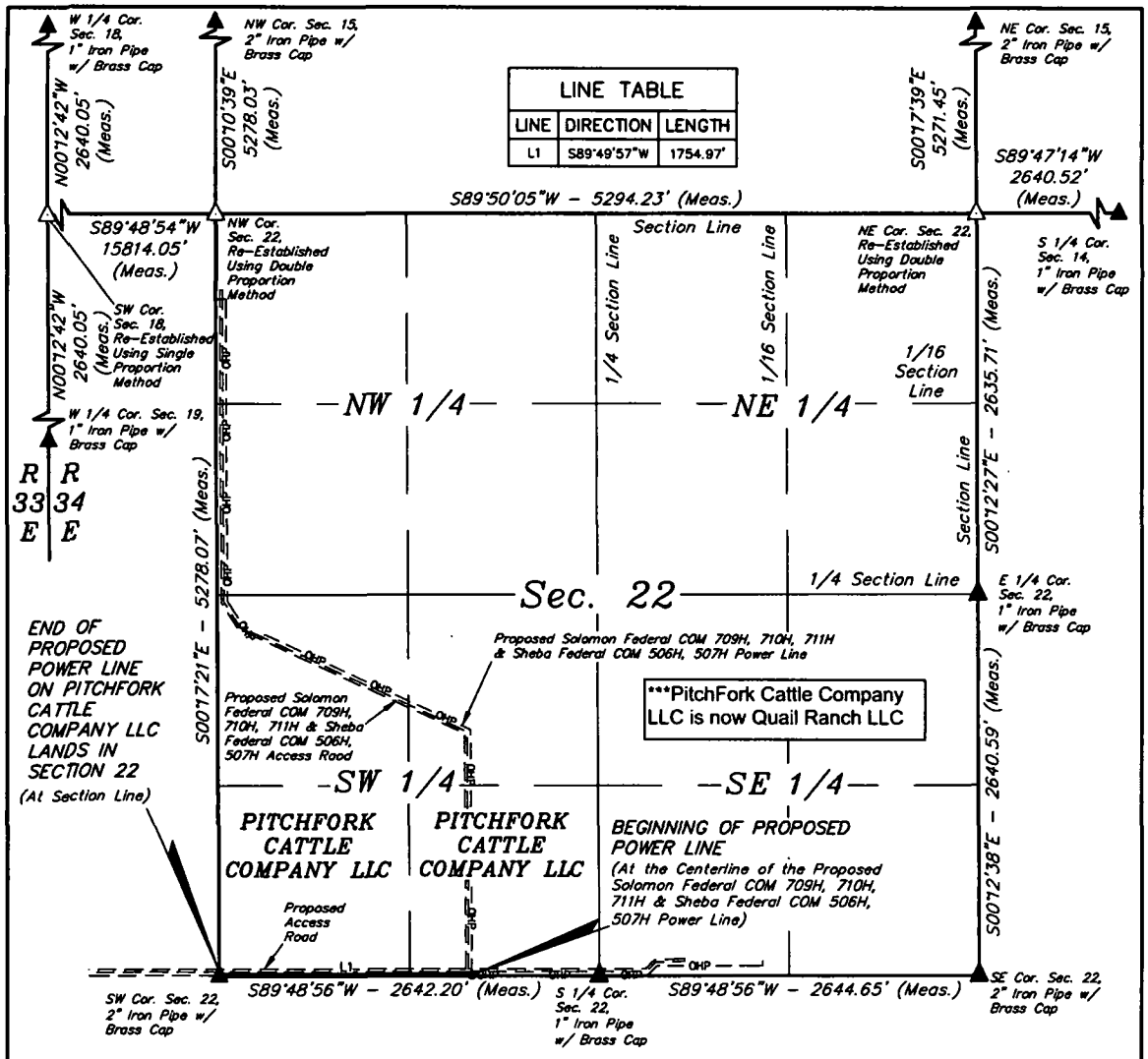
WELL PROXIMITY MAP **TOPO C**

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017


Raider Federal 703H/ 704H/ 502H Facilities
15 FT
PIPE RACK
X
X
C
15 FT
15 FT
15 FT
15 FT
Oil
Oil
Oil
GB
Water
Water
Oil
Oil
Oil
GB
Water
Water
125 FT
63 FT
Raider Federal 502H
Raider Federal 703H
Raider Federal 704H
C
150 FT
135 FT
350 FT


Raider Fed road & utilities
Legend
Access road
OHE line
SWD line
701H
502H
503H
703H
Google Earth
900 ft
N



POWER LINE DESCRIPTION ON PITCHFORK CATTLE COMPANY LLC LANDS IN SECTION 22

A 30' WIDE RIGHT-OF-WAY 25' ON THE RIGHT SIDE AND 5' ON THE LEFT SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE SE 1/4 SW 1/4 OF SECTION 22, T24S, R34E, N.M.P.M., WHICH BEARS N89°51'42"W 887.26' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 22, THENCE S89°49'57"W 1754.97' TO A POINT ON THE WEST LINE OF THE SW 1/4 SW 1/4 OF SAID SECTION 22, WHICH BEARS N00°17'21"W 5.52' FROM THE SOUTHWEST CORNER OF SAID SECTION 22. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A TRANSVERSE MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103°53'00". CONTAINS 1.209 ACRES MORE OR LESS.

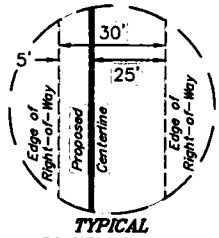
BEGINNING OF POWER LINE BEARS N89°51'42"W 887.26' FROM THE SOUTH 1/4 CORNER OF SECTION 22, T24S, R34E, N.M.P.M.

END OF POWER LINE ON PITCHFORK CATTLE COMPANY LLC LANDS IN SECTION 22 BEARS N00°17'21"W 5.52' FROM THE SOUTHWEST CORNER OF SECTION SECTION 22, T24S, R34E, N.M.P.M.

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE			
OWNERSHIP	FEET	RODS	ACRES
Pitchfork Cattle Company LLC	1754.97	106.36	1.209

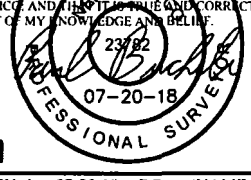
▲ = SECTION CORNERS LOCATED.
△ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

FILE: 67299-A

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



REV: 1 07-20-18 C.D. (NAME CHANGE)

NOTES:
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

N

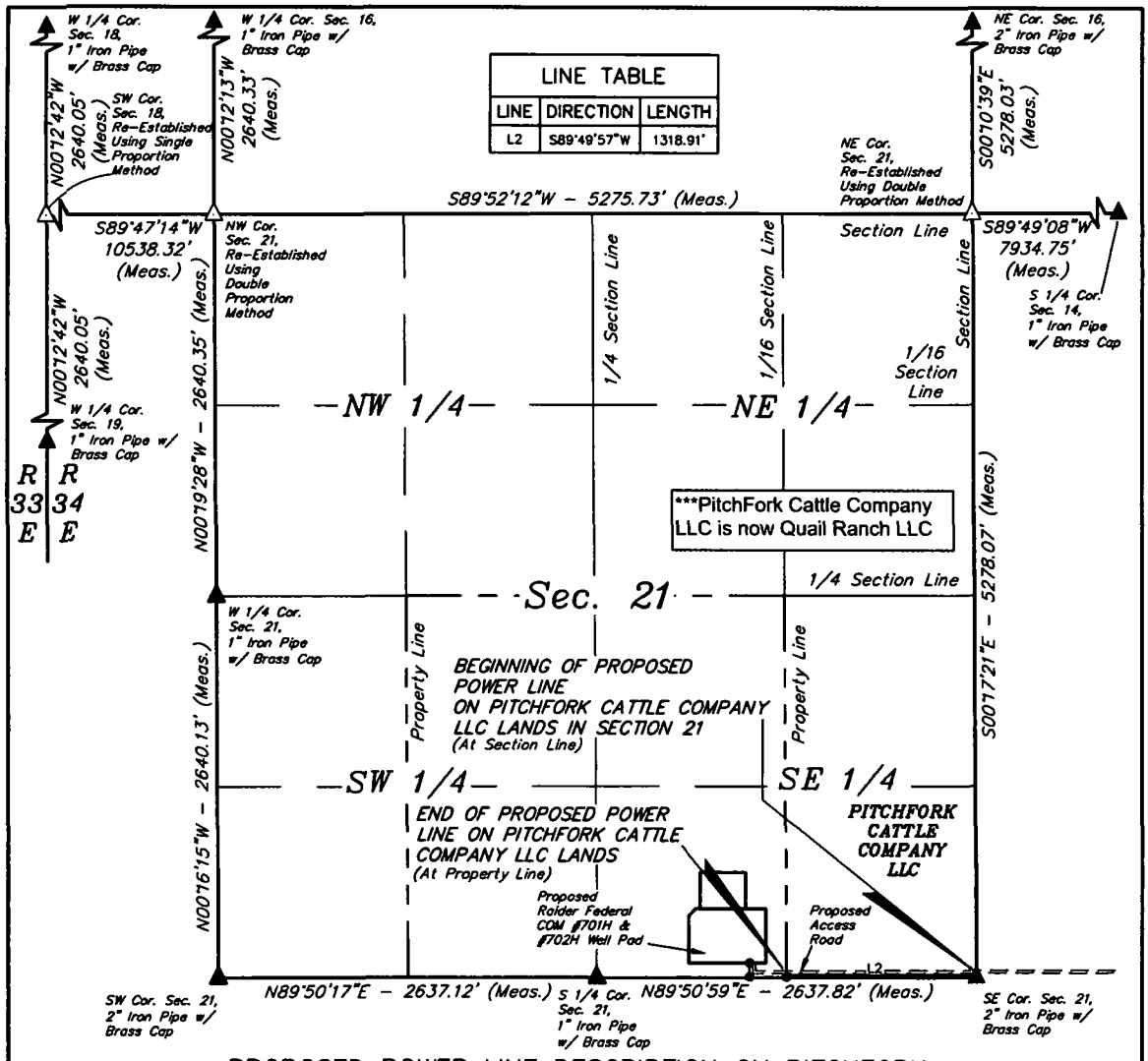
CENTENNIAL RESOURCE PRODUCTION, LLC

RAIDER FEDERAL COM #701H & #702H
ON PITCHFORK CATTLE COMPANY LLC LANDS IN SECTION 22, T24S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	B.B., M.W.	07-03-18	SCALE
DRAWN BY	C.D.	07-10-18	1" = 1000'

POWER LINE R-O-W

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



PROPOSED POWER LINE DESCRIPTION ON PITCHFORK CATTLE COMPANY LLC LANDS IN SECTION 21

A 30' WIDE RIGHT-OF-WAY 25' ON THE RIGHT SIDE AND 5' ON THE LEFT SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT ON THE EAST LINE OF THE SE 1/4 SE 1/4 OF SECTION 21, T24S, R34E, N.M.P.M., WHICH BEARS N00°17'21"W 5.52' FROM THE SOUTHEAST CORNER OF SAID SECTION 21, THENCE S89°49'57"W 1318.91' TO A POINT ON THE WEST LINE OF THE SE 1/4 SE 1/4 OF SAID SECTION 21, WHICH BEARS N89°55'40"W 1318.93' FROM THE SOUTHEAST CORNER OF SAID SECTION 21. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A TRANSVERSE MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103°53'00". CONTAINS 0.908 ACRES MORE OR LESS.

BEGINNING OF POWER LINE ON PITCHFORK CATTLE COMPANY LLC LANDS IN SECTION 21 BEARS N00°17'21"W 5.52' FROM THE SOUTHEAST CORNER OF SECTION 21, T24S, R34E, N.M.P.M.

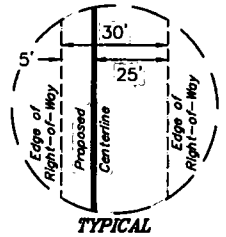
END OF POWER LINE ON PITCHFORK CATTLE COMPANY LLC LANDS BEARS N89°55'40"W 1318.93' FROM THE SOUTHEAST CORNER OF SECTION SECTION 21, T24S, R34E, N.M.P.M.

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE

OWNERSHIP	FEET	RODS	ACRES
Pitchfork Cattle Company LLC	1318.91	79.93	0.908

▲ = SECTION CORNERS LOCATED.
△ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

CERTIFICATE
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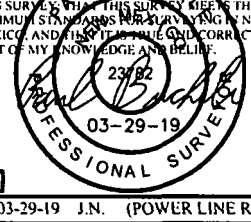


FILE: 67299-B

REV: 3 03-29-19 J.N. (POWER LINE RE-ROUTE)

NOTES:
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

N

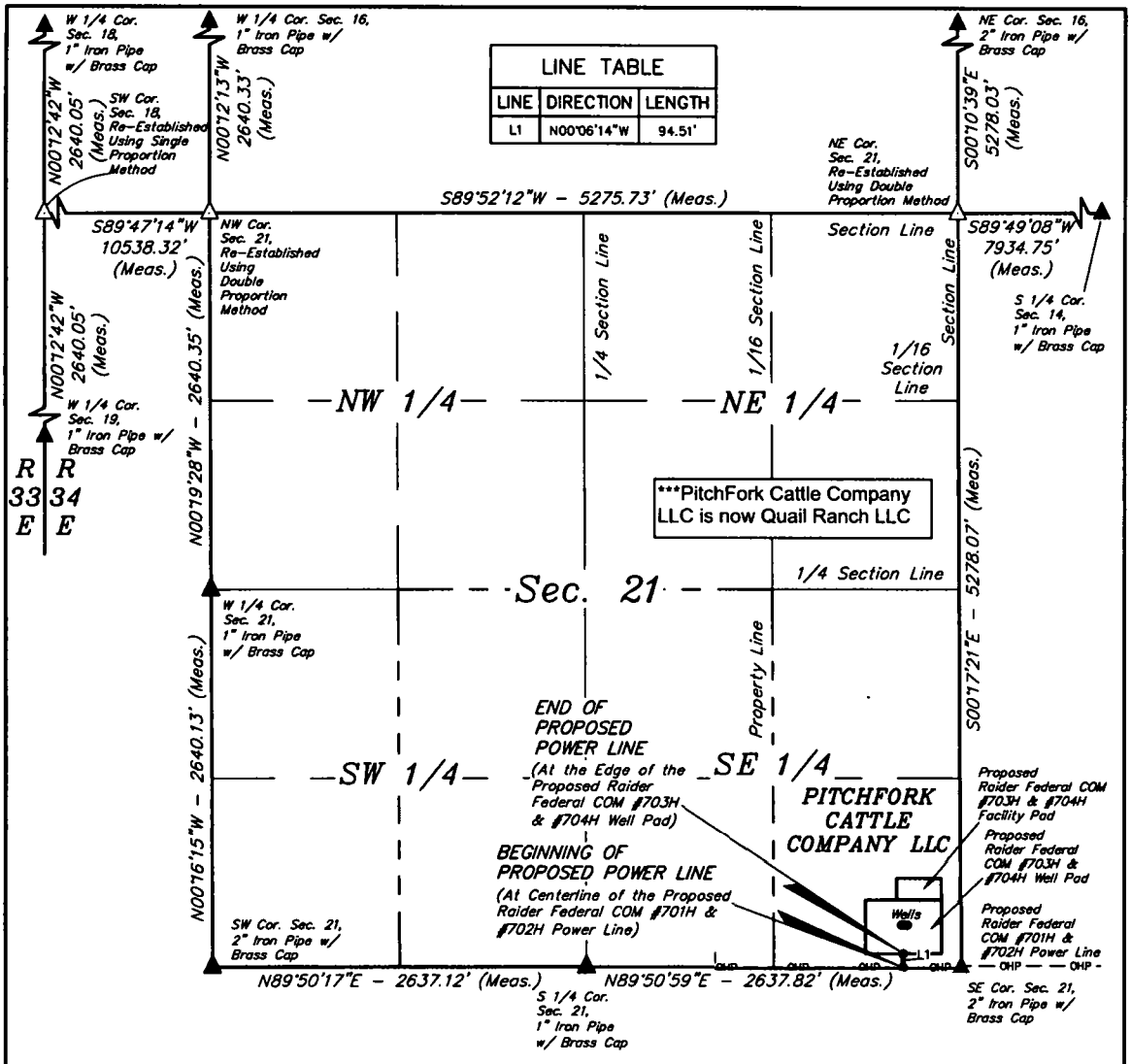
CENTENNIAL RESOURCE PRODUCTION, LLC

RAIDER FEDERAL COM #701H & #702H ON PITCHFORK CATTLE COMPANY LLC LANDS IN SECTION 21, T24S, R34E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	B.B., M.W.	07-03-18	SCALE
DRAWN BY	C.D.	07-10-18	1" = 1000'

POWER LINE R-O-W

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



PROPOSED POWER LINE DESCRIPTION ON PITCHFORK CATTLE COMPANY LLC LANDS

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE SE 1/4 SE 1/4 OF SECTION 21, T24S, R34E, N.M.P.M., WHICH BEARS N89°23'52"W 410.81' FROM THE SOUTHEAST CORNER OF SAID SECTION 21, THENCE N00°06'14"W 94.51' TO A POINT IN THE SE 1/4 SE 1/4 OF SAID SECTION 21, WHICH BEARS N76°28'41"W 422.67' FROM THE SOUTHEAST CORNER OF SAID SECTION 21. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A TRANSVERSE MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103°53'00". CONTAINS 0.065 ACRES MORE OR LESS.

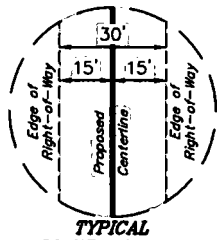
BEGINNING OF POWER LINE BEARS N89°23'52"W 410.81' FROM THE SOUTHEAST CORNER OF SECTION 21, T24S, R34E, N.M.P.M.

END OF POWER LINE BEARS N76°28'41"W 422.67' FROM THE SOUTHEAST CORNER OF SECTION SECTION 21, T24S, R34E, N.M.P.M.

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE			
OWNERSHIP	FEET	RODS	ACRES
Pitchfork Cattle Company LLC	94.51	5.73	0.065

▲ = SECTION CORNERS LOCATED.
△ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

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23782
07-16-18
PROFESSIONAL SURVEYOR

FILE: 64306

NOTES:
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

N

CENTENNIAL RESOURCE PRODUCTION, LLC

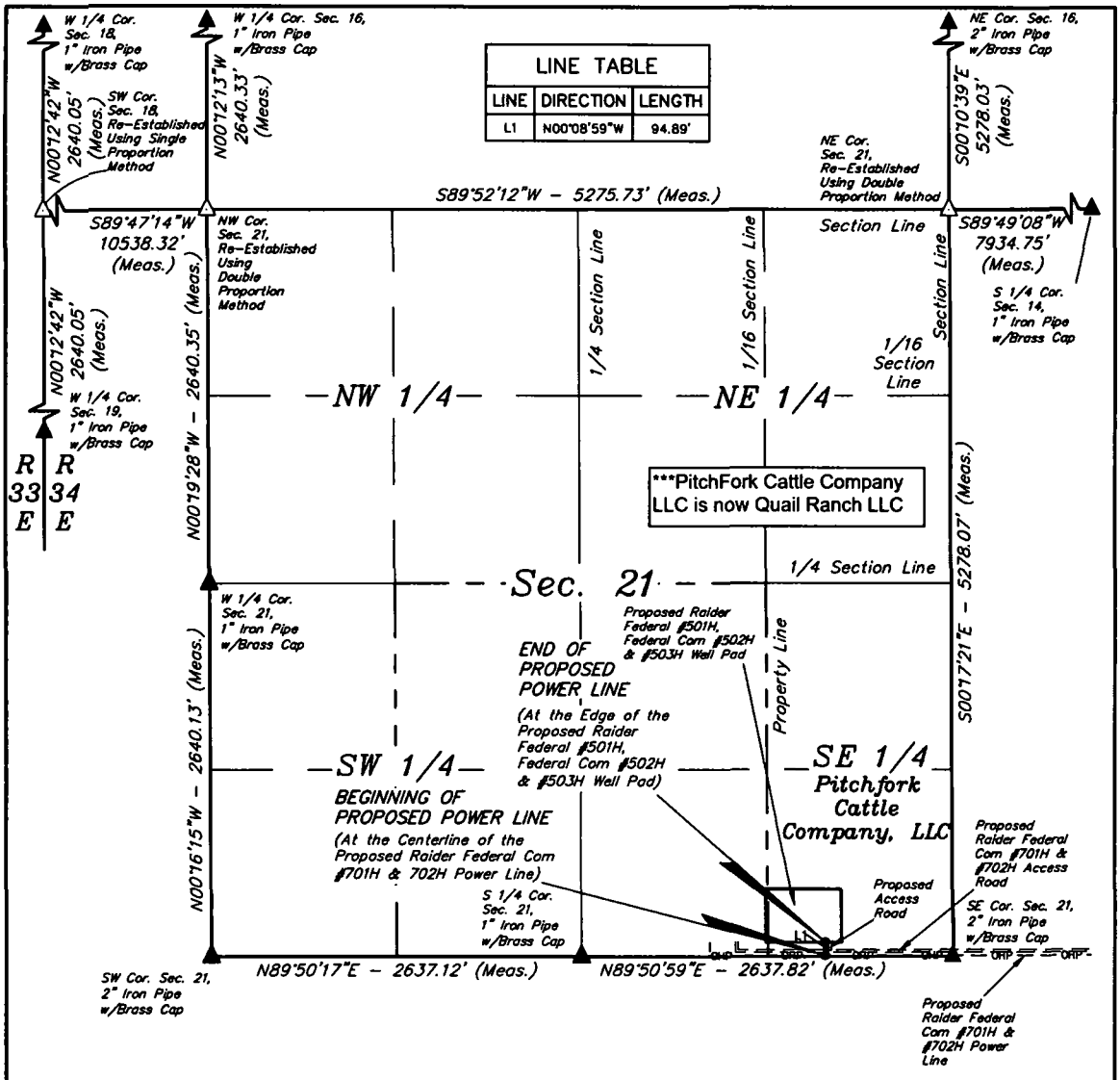
RAIDER FEDERAL COM #703H & #704H
ON PITCHFORK CATTLE COMPANY LLC LANDS IN
SECTION 21, T24S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	B.B., M.W.	07-03-18	SCALE
DRAWN BY	C.D.	07-16-18	1" = 1000'

POWER LINE R-O-W

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



POWER LINE RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE SE 1/4 SE 1/4 OF SECTION 21, T24S, R34E, N.M.P.M., WHICH BEARS N89°49'16"W 912.74' FROM THE SOUTHEAST CORNER OF SAID SECTION 21, THENCE N00°08'59"W 94.89' TO A POINT IN THE SE 1/4 SE 1/4 OF SAID SECTION 21, WHICH BEARS N83°53'22"W 918.20' FROM THE SOUTHEAST CORNER OF SAID SECTION 21. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A TRANSVERSE MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103°53'00". CONTAINS 0.065 ACRES MORE OR LESS.

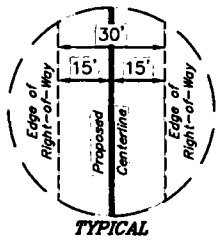
BEGINNING OF POWER LINE BEARS N89°49'16"W 912.74' FROM THE SOUTHEAST CORNER OF SECTION 21, T24S, R34E, N.M.P.M.

END OF POWER LINE BEARS N83°53'22"W 918.20' FROM THE SOUTHEAST CORNER OF SECTION 21, T24S, R34E, N.M.P.M.

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE			
OWNERSHIP	FEET	RODS	ACRES
Pitchfork Cattle Company, LLC	94.89	5.75	0.065

▲ = SECTION CORNERS LOCATED.
△ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)



TYPICAL RIGHT-OF-WAY DETAIL
NO SCALE

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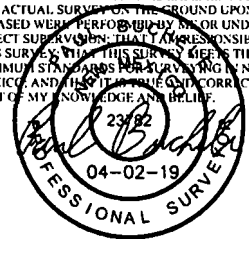


FILE: 64291

REV: 2 04-02-19 J.N. (POWER LINE RE-ROUTE)

NOTES:
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

N

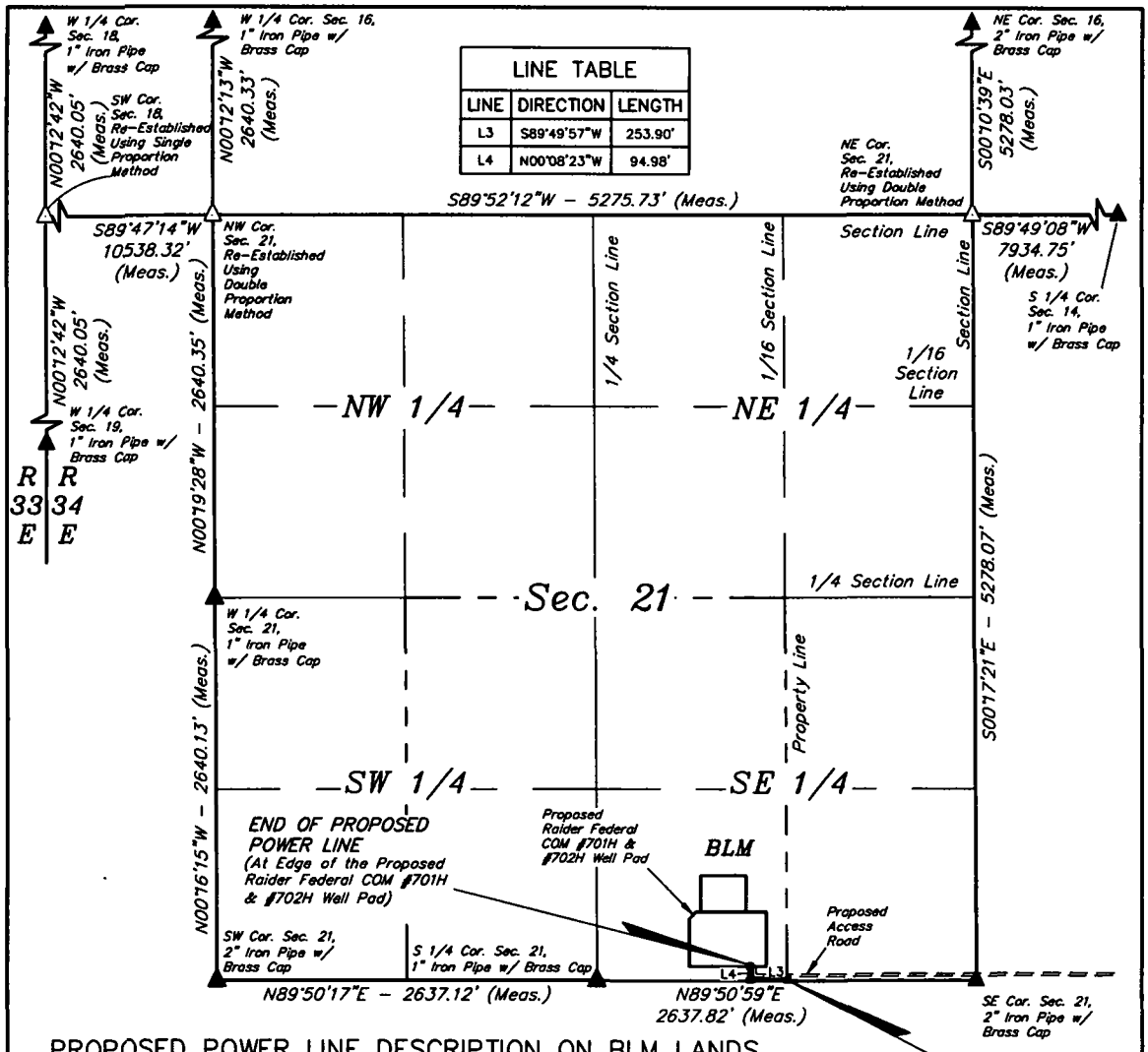
CENTENNIAL RESOURCE PRODUCTION, LLC

RAIDER FEDERAL #501H, FEDERAL COM #502H & #503H ON PITCHFORK CATTLE COMPANY, LLC LANDS IN SECTION 21, T24S, R34E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.C., M.D.	07-13-18	SCALE
DRAWN BY	J.N.	07-13-18	1" = 1000'

POWER LINE R-O-W

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



LINE TABLE		
LINE	DIRECTION	LENGTH
L3	S89°49'57"W	253.90'
L4	N00°08'23"W	94.98'

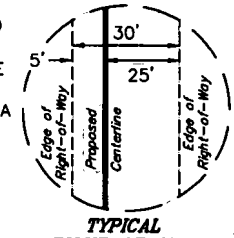
PROPOSED POWER LINE DESCRIPTION ON BLM LANDS

BEGINNING AT A POINT ON THE EAST LINE OF THE SW 1/4 SE 1/4 OF SECTION 21, T24S, R34E, N.M.P.M., WHICH BEARS N89°55'40"W 1318.93' FROM THE SOUTHEAST CORNER OF SAID SECTION 21, THENCE A 30' WIDE RIGHT-OF-WAY 25' ON THE RIGHT SIDE AND 5' ON THE LEFT SIDE OF THE FOLLOWING DESCRIBED RIGHT-OF-WAY, S89°49'57"W 253.90' TO A POINT IN THE SW 1/4 SE 1/4 OF SAID SECTION 21, WHICH BEARS N89°34'41"E 1065.01' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 21, THENCE A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED RIGHT-OF-WAY, N00°08'23"W 94.98' TO A POINT IN THE SW 1/4 SE 1/4 OF SAID SECTION 21, WHICH BEARS N84°29'03"E 1069.70' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 21. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A TRANSVERSE MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103°53'00". CONTAINS 0.240 ACRES MORE OR LESS.

BEGINNING OF POWER LINE ON BLM LANDS BEARS N89°55'40"W 1318.93' FROM THE SOUTHEAST CORNER OF SECTION 21, T24S, R34E, N.M.P.M.

R-O-W WIDTH CHANGE BEARS N89°34'41"E 1065.01' FROM THE SOUTH 1/4 CORNER OF SECTION SECTION 21, T24S, R34E, N.M.P.M.

END OF POWER LINE BEARS N84°29'03"E 1069.70' FROM THE SOUTH 1/4 CORNER OF SECTION SECTION 21, T24S, R34E, N.M.P.M.

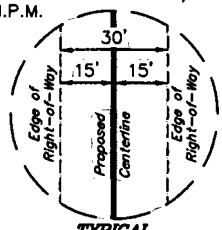


TYPICAL RIGHT-OF-WAY DETAIL FOR L3
NO SCALE

1000' 500' 0' 1000'

ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
SEC. 21 (SE 1/4)	BLM	348.88	21.14	0.240

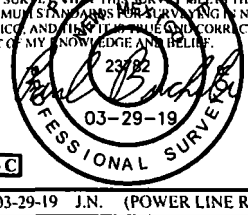
▲ = SECTION CORNERS LOCATED.
△ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)



TYPICAL RIGHT-OF-WAY DETAIL FOR L4
NO SCALE

CERTIFICATE

THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



FILE: 67299-C

REV: 3 03-29-19 J.N. (POWER LINE RE-ROUTE)

NOTES:
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

N

CENTENNIAL RESOURCE PRODUCTION, LLC

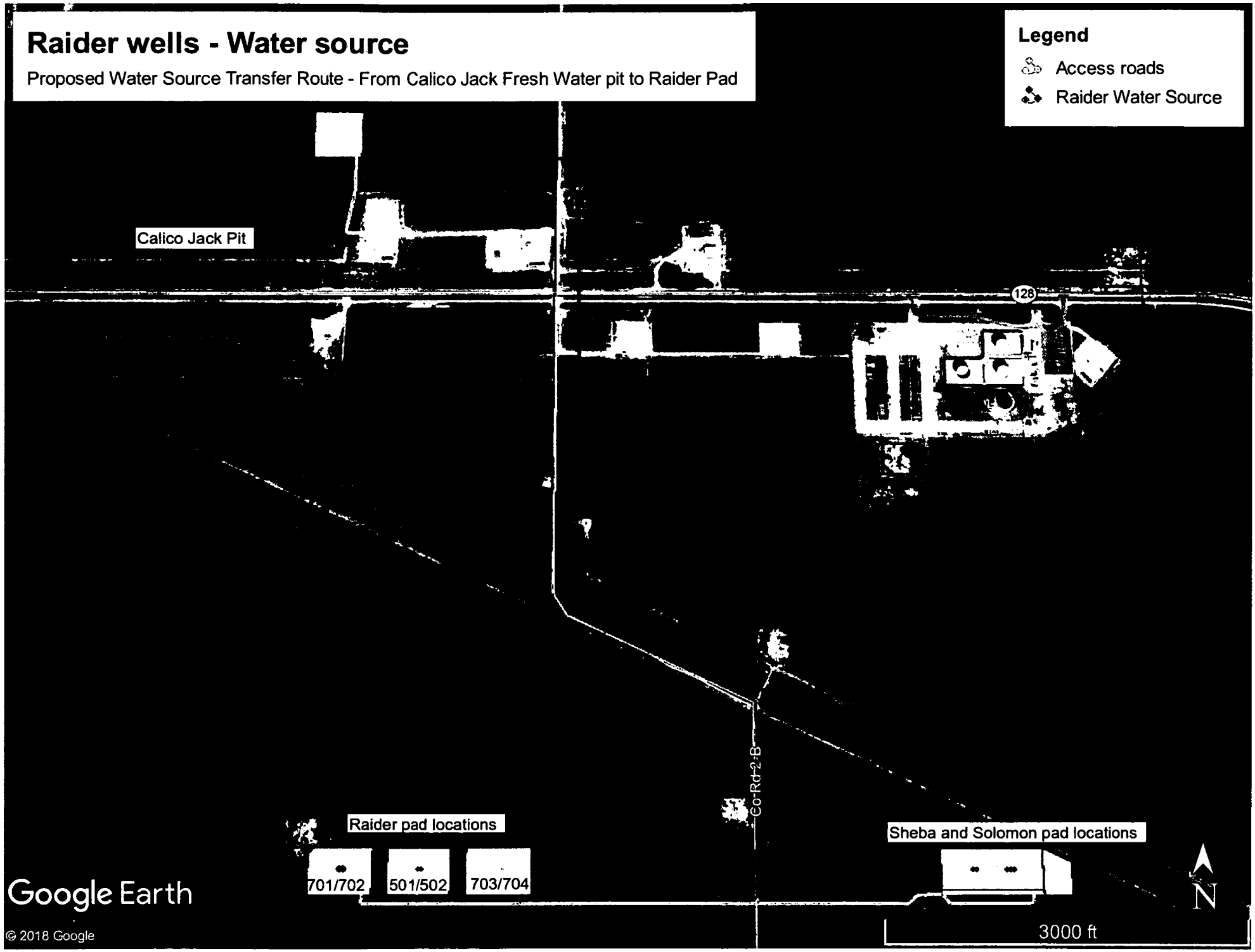
RAIDER FEDERAL COM #701H & #702H
ON BLM LANDS IN
SECTION 21, T24S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

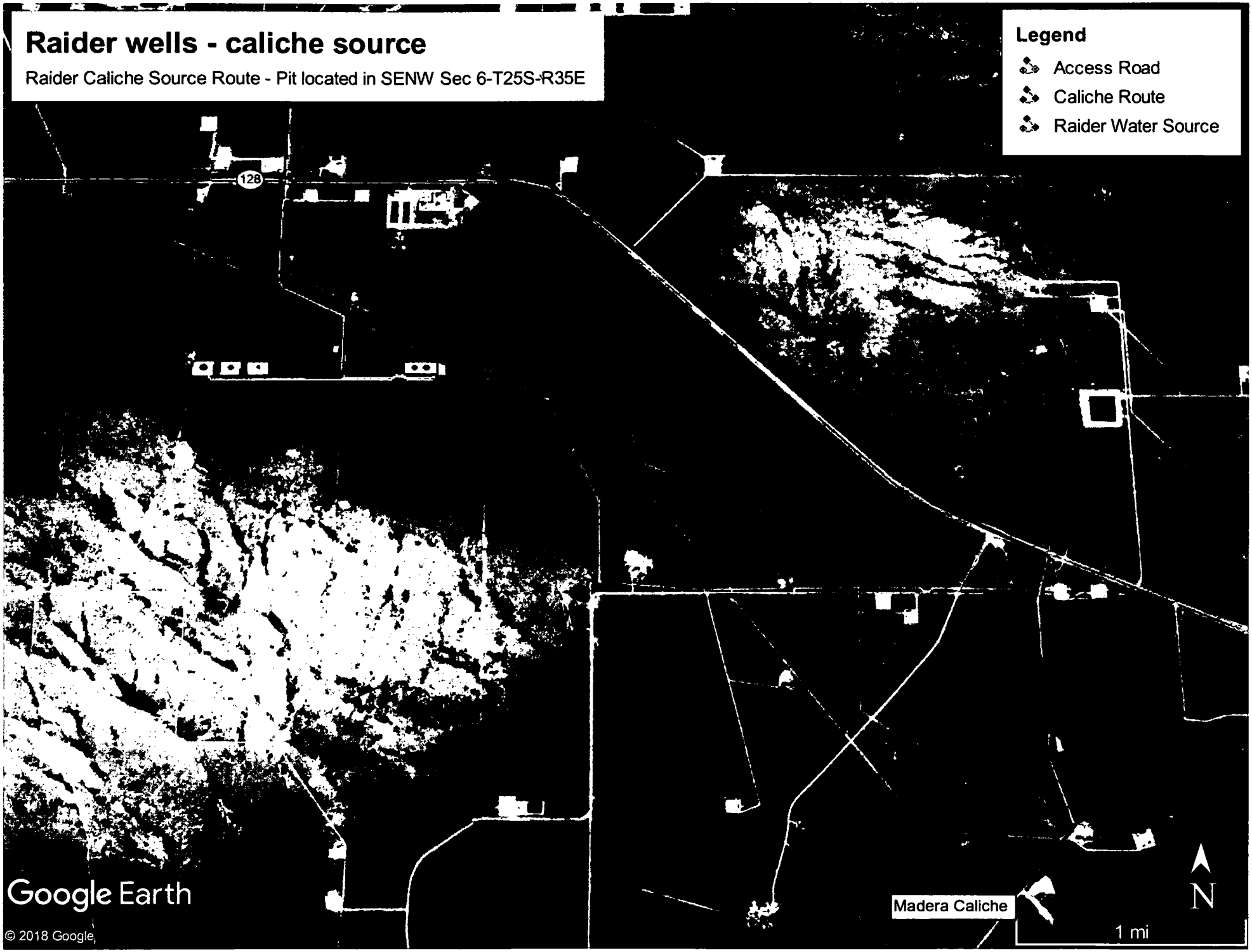
SURVEYED BY	B.B., M.W.	07-03-18	SCALE
DRAWN BY	C.D.	07-10-18	1" = 1000'

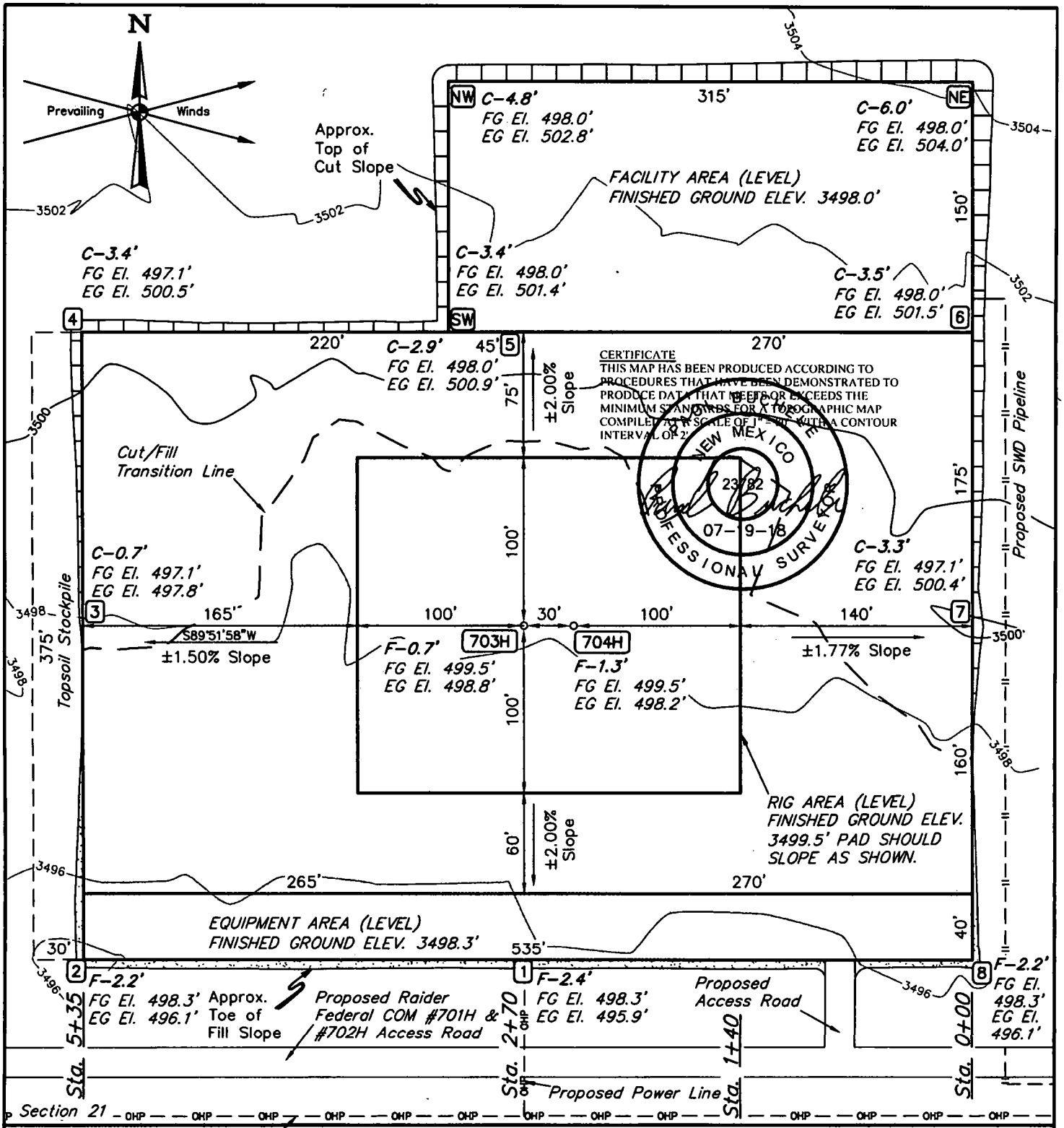
POWER LINE R-O-W

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017


Raider wells - Water source
Proposed Water Source Transfer Route - From Calico Jack Fresh Water pit to Raider Pad
Legend
Access roads
Raider Water Source
Calico Jack Pit
128
Co Rd 2 B
Raider pad locations
701/702
501/502
703/704
Sheba and Solomon pad locations
N
3000 ft
Google Earth
© 2018 Google


Raider wells - caliche source
Raider Caliche Source Route - Pit located in SENW Sec 6-T25S-R35E
Legend
Access Road
Caliche Route
Raider Water Source
128
Google Earth
© 2018 Google
Madera Caliche
N
1 mi



NOTE: Earthwork Calculations Require Fill @ the Location Stakes For Balance. All Fill is to be Compacted to a Minimum of 95% of the Maximum Dry Density Obtained by AASHTO Method t-99.

NOTES:

- Flare pit is to be located a min. of 100' from the wellhead.
- Contours shown at 2' intervals.
- Cut/Fill slopes 2:1 (Typ. except where noted)
- Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

CENTENNNIAL RESOURCE PRODUCTION, LLC

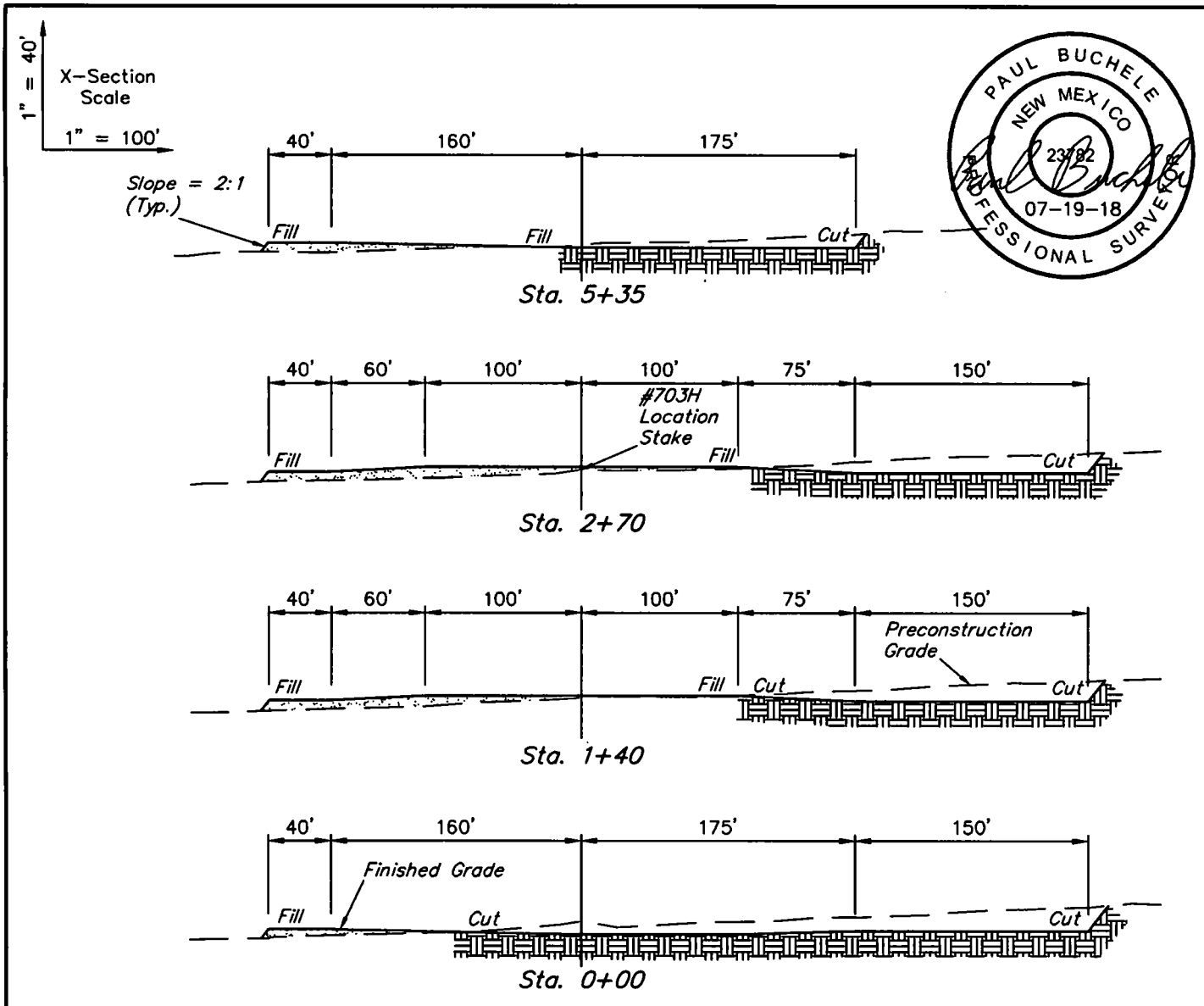
RAIDER FEDERAL COM #703H & #704H
SE 1/4 SE 1/4, SECTION 21, T24S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

SURVEYED BY	B.B., M.W.	07-03-18	SCALE
DRAWN BY	C.D.	07-18-18	1" = 80'

LOCATION LAYOUT **FIGURE #1**



PAUL BUCHELE
NEW MEXICO
23782
07-19-18
PROFESSIONAL SURVEYOR

APPROXIMATE EARTHWORK QUANTITIES	
(4") TOPSOIL STRIPPING	3,220 Cu. Yds.
REMAINING LOCATION	10,390 Cu. Yds.
TOTAL CUT	**13,610 Cu. Yds.**
FILL	**10,390 Cu. Yds.**
EXCESS MATERIAL	3,220 Cu. Yds.
TOPSOIL	3,220 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	**0 Cu. Yds.**

APPROXIMATE SURFACE DISTURBANCE AREAS		
	DISTANCE	**ACRES**
WELL SITE DISTURBANCE	NA	±6.224
30' WIDE ACCESS ROAD R-O-W DISTURBANCE	±61.94'	±0.043
30' WIDE SWD PIPELINE R-O-W DISTURBANCE	±2,346.42'	±1.616
30' WIDE POWER LINE R-O-W DISTURBANCE	±94.51'	±0.065
TOTAL SURFACE USE AREA		**±7.948**

NOTES:

- Fill quantity includes 5% for compaction.
- Cut/Fill slopes 2:1 (Typ. except where noted)

CENTENNNIAL RESOURCE PRODUCTION, LLC

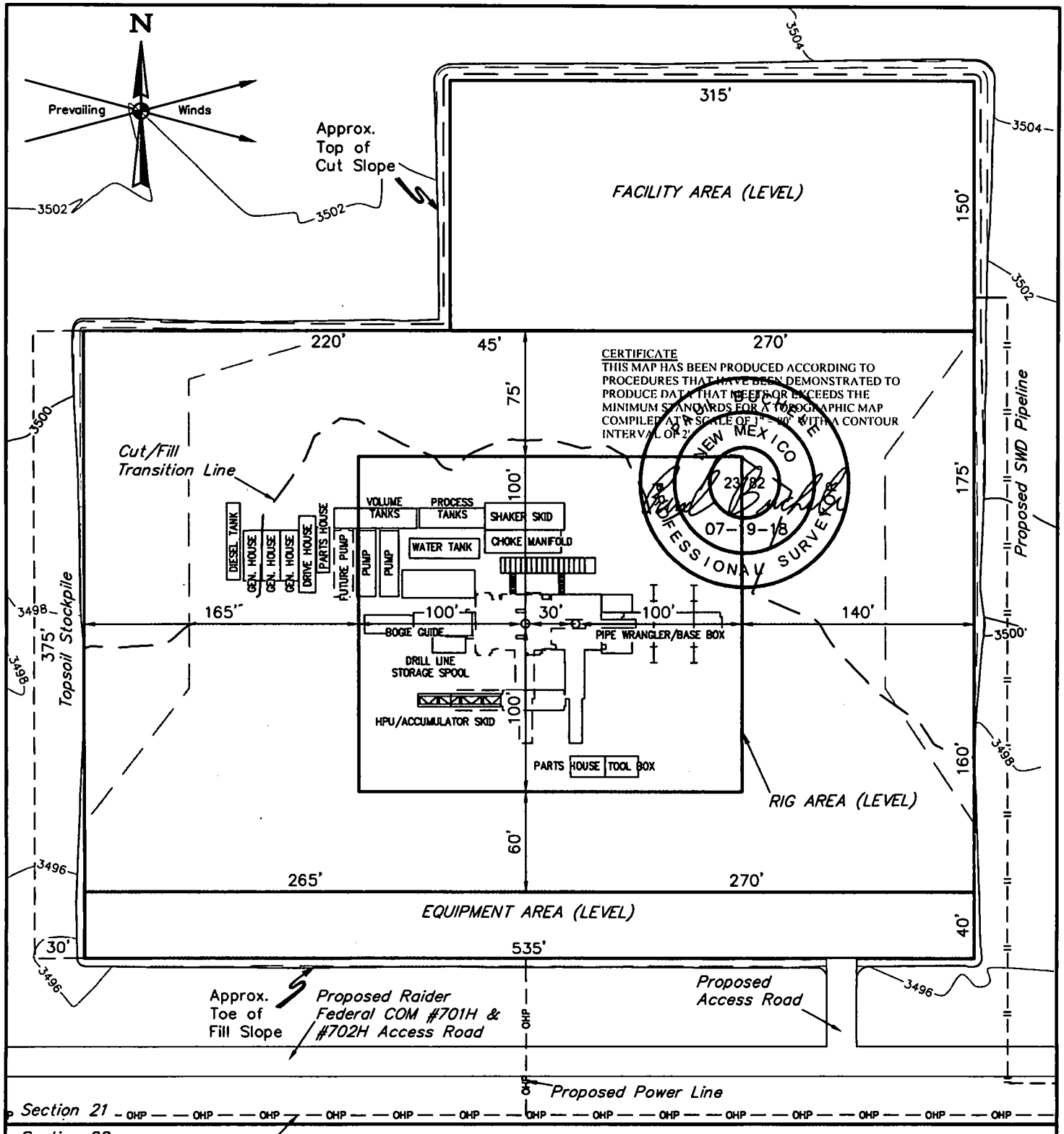
RAIDER FEDERAL COM #703H & #704H
SE 1/4 SE 1/4, SECTION 21, T24S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

SURVEYED BY	B.B., M.W.	07-03-18	SCALE
DRAWN BY	C.D.	07-18-18	AS SHOWN

TYPICAL CROSS SECTIONS FIGURE #2



NOTES:

- Contours shown at 2' intervals.

CENTENNNIAL RESOURCE PRODUCTION, LLC

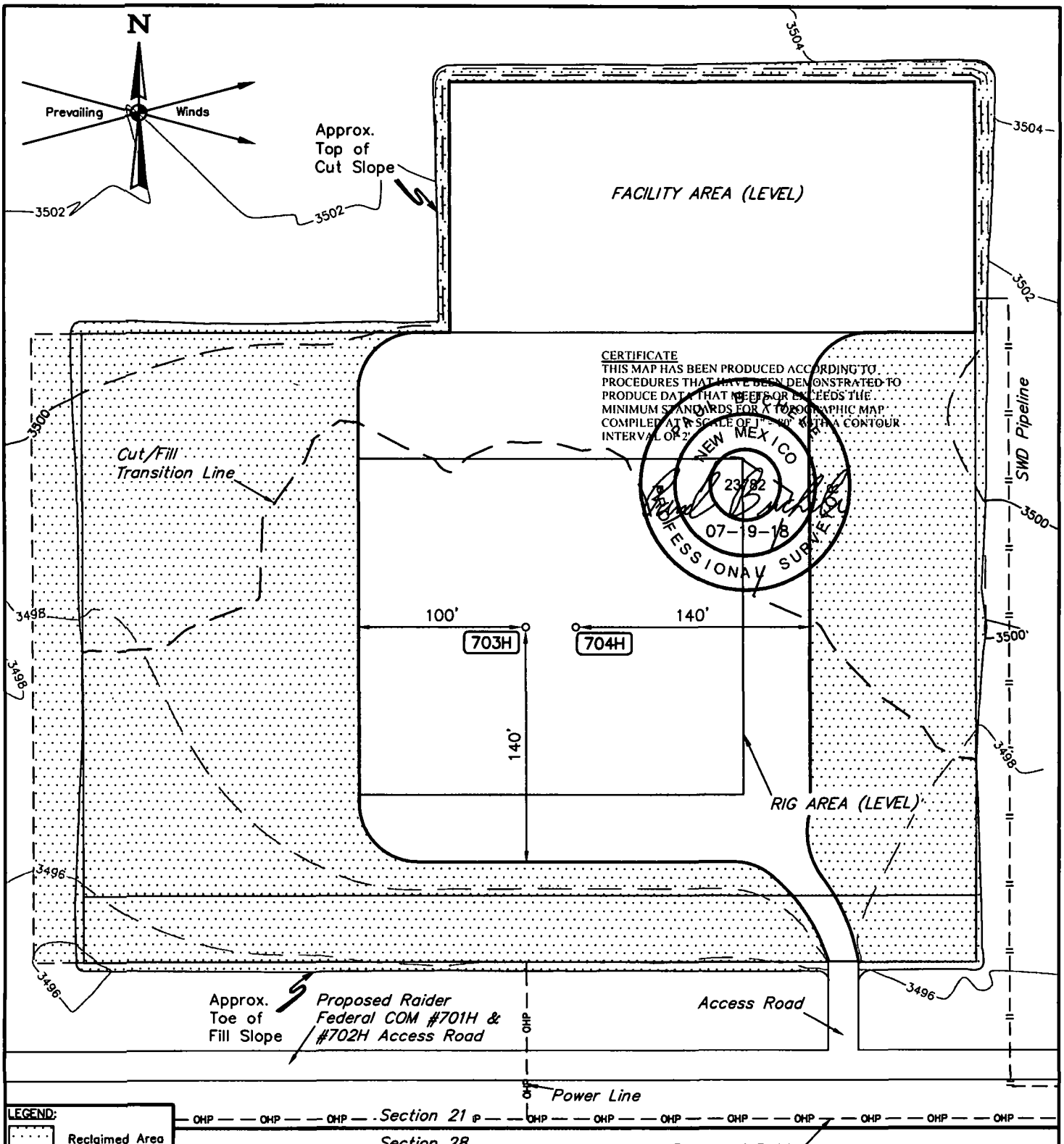
RAIDER FEDERAL COM #703H & #704H
SE 1/4 SE 1/4, SECTION 21, T24S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

SURVEYED BY	B.B., M.W.	07-03-18	SCALE
DRAWN BY	C.D.	07-18-18	1" = 80'

TYPICAL RIG LAYOUT **FIGURE #3**



LEGEND:

Reclaimed Area

APPROXIMATE PRODUCTION PAD ACREAGE = ±3.063 ACRES
APPROXIMATE RECLAIMED AREA ACREAGE = ±3.161 ACRES
TOTAL ACREAGE = ±6.224 ACRES

NOTES:

- Contours shown at 2' intervals.

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RECLAMATION DIAGRAM FIGURE #4

AFMSS

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

PWD Data Report
09/10/2019

APD ID: 10400037451 **Submission Date:** 12/19/2018

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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

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:

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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

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?

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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):

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

09/10/2019

APD ID: 10400037451 **Submission Date:** 12/19/2018

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: RAIDER FEDERAL COM **Well Number:** 704H

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

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001471

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: