



DEPARTMENT of AGRICULTURE and NATURAL RESOURCES
 Minerals & Mining Program
 2050 West Main, Suite #1, Rapid City, SD 57702-2493
 Telephone: 605-773-4201, FAX: 605-394-5317

FORM 2

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 OCT 07 2021

APPLICATION FOR PERMIT TO DRILL

DEPT OF AGRICULTURE & NATURAL RESOURCES - RAPID CITY

Type of work: Drill New Well Reenter Well Drill Directional Well Other: _____

Type of well: Oil Well Gas Well Injection Other: _____

Name and Address of Operator: Citation Oil & Gas Corp., 14077 Cutten Road, Houston, TX 77069 Telephone: 307-685-7900

Name and Address of Surface Owner: Roger Gunderson, 11909 SD Hwy 20, Buffalo, SD 57720

Name and Address of Drilling Contractor and Rig Number: True Drilling, 455 N. Poplar Street 3rd Floor, Casper, WY 82601, Rig #26

Surface Location of well: Qtr-Qtr, Sec, Twp, Rge, County, feet from nearest lines of section, and latitude and longitude (if available): SWNW, Sec. 27, T21N, R3E, Harding Co., 1330' FNL, 426' FWL, Lat: 45° 45' 31.247" N, Long: 103° 44' 48.849" W

If Directional, top of pay and bottom hole location from nearest lines of section: _____

Acres in Spacing (Drilling) Unit: 3,360 Description of Spacing Unit: West Buffalo "B" Unit

Well Name and Number:	Elevation:	Field and Pool, or Wildcat:	Proposed Depth and Formation:		
WBBU #12-27	3,184.4 (GR)	Red River	8600' TD, Red River		
Size of Hole:	Size of Casing:	Weight per Foot:	Depth:	Cementing Program (amount, type, yield, additives)	Top of Cement:
1) 12 1/4"	8 5/8"	24#	2000'	425 sx Control Set, Tail w/ 240 sx Control Set	Surface
2) 7 7/8"	5 1/2"	17# & 23#	8600'	Stage 1: 160 sx RH-PROCem	7406'
3)				Stage 2: 275 sx RHC-Lite, Tail w/ 45 sx Glass G	4000'
4)					

Describe Proposed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). Use additional page(s) if appropriate.

Drill a vertical well to the Red River formation at estimated 8600'. The 12-1/4" surface hole will be drilled to ± 2000', then cased with 8-5/8" 24# pipe. Plans are to cement the surface casing to surface. The 7-7/8" production hole will be cased primarily with 5-1/2" 17 # casing, but with heavy-weight 23# casing across salt sections.

The surface hole to ± 2000' will be drilled with fresh water using viscouse sweeps to clean the hole. The 7-7/8" production hole will be drilled out from surface to ± 8600' (TD) with an oil-based (invert) mud. Anticipated start date is 12/1/2021.

Pit Liner Specifications:

I hereby certify that the foregoing as to any work or operation performed is a true and correct report of such work or operation.

Heather Wichert Signature Name (Print) Heather Wichert Operations Technician II Title 10/6/2021 Date

FOR OFFICE USE ONLY

Approved By: [Signature] Title: ADMINISTRATOR, MINERALS & MINING PROG

Permit No.: 2093 API No.: 40 063 20789 Date Issued: 11-4-21

Conditions, if any, on attached page. SEE ATTACHED



DEPARTMENT of AGRICULTURE and NATURAL RESOURCES

JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

PERMIT CONDITIONS

Citation: WBBU 12-27
21N-03E-27 SWNW, Harding County

Permit: # 2093
API: 40 063 20789

Approval has been granted to drill this location as detailed on the attached Application for Permit to Drill (Form #2) with the following additional conditions:

1. This permit is conditioned on compliance with all applicable requirements of South Dakota Codified Laws 45-9 and Administrative Rules of South Dakota 74:12.
2. If drilling does not commence within one year from the issuance date, this permit will expire.
3. At minimum a 12-mil woven, reinforced high-density polyethylene liner must be used on all pits.
4. Surface runoff must be diverted around the drill site.
6. The surface hole must be drilled with fresh water.
7. If oil-based mud is used during drilling, the pit must be reclaimed with the following requirements:
 - A. Fly ash must be thoroughly mixed with any cuttings to ensure adequate solidification of all pit contents. Hay bales or other organic substances may not be used for solidification.
 - B. A sundry notice describing the source and approximate quantity of the fly ash to be used must be provided to the department.
 - C. An additional synthetic liner must be placed over the encapsulated pit prior to restoring the location to ground level.
 - D. Please notify this office at least 72 hours prior to pit burial so a witness can confirm solidification.
8. Cement must be circulated to the ground surface on the surface casing.
9. If production casing (long string) is set:
 - A. Cement must be circulated on the long string from TD to the top of the Inyan Kara formation plus 50 feet.
 - B. A cement bond log must be run and filed with the department within 60 days of completion of the well.
10. Please notify this office at least 72 hours prior to plugging so a witness can be on location. If plugging will occur after regular business hours, call Jeff Klenner at 605-394-6866.
11. If abandoned: Either a plugging plan must be submitted at least 7 days prior to plugging for the department's review and approval or the following plan must be followed:
 - A. If the entire production casing is left in the wellbore:
 1. A mechanical integrity test must be conducted to verify the integrity of the casing as required by ARSD 74:12:03:02(4)(b)(ii).
 - a. If the test is unsuccessful, the well must be plugged as though no production casing is present or the leak must be located and isolated by squeeze cementing.
 2. All perforations must be isolated, either by squeeze cementing or placing a cast iron bridge plug, with a minimum of 20 feet of cement, above the perforations.
 3. A 100-foot plug, half in and half out of the base of the surface casing must be installed.
 4. A 25-foot cement plug at the top of the surface casing must be installed.
 5. Heavy, mud-laden fluid or corrosion inhibitor must be placed between all plugs.
 - B. If a portion of the production casing is removed:
 1. All perforations must be isolated, either by squeeze cementing or placing a cast iron bridge plug, with a minimum of 20 feet of cement, above the perforations.
 2. A 100-foot cement plug, half in and half out of the top of the casing stub must be installed after the retrievable part of the production casing has been removed.

3. A 100-foot cement plug, half in and half out of the top of any fluid bearing formations or salt zone encountered between the top of the casing stub and the base of the surface casing must be installed. Fluid bearing formations at this site include: Red River, Interlake, Madison, Minnelusa, Minnekahta, and Inyan Kara.
 4. A 100-foot plug, half in and half out of the base of the surface casing must be installed.
 5. A 25-foot cement plug at the top of the surface casing must be installed.
 6. Heavy, mud-laden fluid must be placed between all plugs.
- C. Without production casing:
1. 100-foot cement plugs, half in and half out of the top of any salt zones encountered and the following formations must be installed: Red River, Interlake, Madison, Minnelusa, Minnekahta, and Inyan Kara.
 2. A 100-foot cement plug, half in and half out of the base of the surface casing must be installed.
 3. A 25-foot cement plug at the top of the surface casing must be installed.
 4. Heavy, mud-laden fluid must be placed between all plugs.
- D. The casing string must be cut off at least three feet below the final ground surface contour. A plate with the name of the operator, well name and number, and legal location by quarter-quarter section, township and range must be welded to the casing stub. The location of the abandoned well must be surveyed with high resolution global positioning system equipment or other appropriate survey methods sufficient to accurately locate the well. Survey coordinates must be included in the final abandonment report.
12. Surface reclamation of the site must be completed within one year of plugging and abandoning the well.
 13. Interim reclamation must be conducted on all areas disturbed by a well drilling operation and not needed for production operations within 12 months after the well is completed in accordance with Administrative Rules of South Dakota 74:12:03:07.
 14. A washed and dried set of sample cuttings (and cores, if cut) must be shipped, free of charge, to:

Tim Cowman
Geological Survey Program
Akeley-Lawrence Science Center
University of South Dakota
414 E. Clark Street
Vermillion, SD 57069-2390