



DEPARTMENT of ENVIRONMENT 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  
**RECEIVED**  
 JUN 26 2013

State of South Dakota  
 Department of Environment  
 and Natural Resources

**APPLICATION FOR PERMIT TO DRILL**

DEPT OF ENVIRONMENT & 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: Continental Resources, Inc., P.O. Box 268870, Oklahoma City, OK 73126 Telephone: 405-234-9000

Name and Address of Surface Owner: The Alfred Gunderson Family Trust - Roger Gunderson, Trustee, 11332 Ladner Road, Buffalo, SD 57720

Name and Address of Drilling Contractor and Rig Number: Cyclone Drilling, Inc., #1 P.O. Box 908, Gillette, WY 82717-0908

Surface Location of well: Qtr-Qtr, Sec, Twp, Rge, County, feet from nearest lines of section, and latitude and longitude (if available):  
 NWNE Sec 16 T22N R3E, Harding Co., 300' FNL & 1650' FEL; Lat: 45 52 37.79; Long: -103 45 19.01

If Directional, top of pay and bottom hole location from nearest lines of section:  
 Top of Pay: 8712' TVD; 722' FNL & 1426' FEL NWNE Sec 16 T22N R3E; BHL: SESE Sec 21 T22N R3E 530' FSL & 850' FEL

Acres in Spacing (Drilling) Unit: 1280 Description of Spacing Unit: Sec 16 & 21 T22N R3E

Well Name and Number:	Elevation:	Field and Pool, or Wildcat:	Proposed Depth and Formation:
Mitchell 31-16H	3144' FRGE	Table Mountain	18,411' MD; Red River "B"

Size of Hole:	Size of Casing:	Weight per Foot:	Depth:	Cementing Program (amount, type, yield, additives)	Depth:
1) 13 1/2"	9 5/8"	36#	1500'	678 sks Type III	1500'
2) 8 3/4"	7"	23, 26, 29#	8985'	536 sks 60/40 Type III/Pozz; Class G	8985'
3)					
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.

The Mitchell 31-16H is a horizontal Red River "B" well with a SHL located at 300' FNL and 1650' FEL of Sec 16 T22N R3E, Harding Co., S. Dakota. The well will be drilled vertically, approximately to the top of the Silurian Interlake formation. From this point, an 8 3/4" hole at 12 deg/100 ft BUR will be drilled to the south at an azimuth of 152 deg, through which the 7" casing will be set approximately at the top of the Red River "B" porosity zone. The lateral will then be drilled to a waypoint of 2200' FNL and 850' FEL of Sec 16 T22N R3E, and continue to a BHL of 530' FSL & 850' FEL of Sec 21 T22N R3E. Estimated date to begin dirt work is 7/5/2013.

Pit Liner Specifications: A 12-mil plastic liner will be used to line the cuttings pit during drilling operations.

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

Terry L. Olson Terry L. Olson Reg. Compliance Specialist 6/25/2013  
 Signature Name (Print) Title Date

**FOR OFFICE USE ONLY**

Approved By: Robert Townsend Title: Administrative Manager  
 Permit No.: 2039 API No.: 40 063 20753 Date Issued: 7/3/2013  
 Conditions, if any, on attached page.



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

**PERMIT CONDITIONS**

CRI: Mitchell 31-16H  
22N-3E-16 NWNE, Harding County

Permit: #2039  
API: 40 063 20753

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. A 12-mil woven, reinforced high-density polyethylene liner must be used on all pits.
3. Surface runoff must be diverted around the drill site.
4. The surface hole must be drilled with fresh water.
5. Cement must be circulated to the ground surface on the surface casing.
6. If horizontally drilled:
  - A. The coordinates of the production casing shoe and the well terminus must be filed with the department.
  - B. The azimuth of the horizontal segment of the well must be filed with the department along with the results of periodic down hole surveys.
7. If production casing (long string) is set:
  - A. The cement program as submitted with the application shall be followed.
  - B. A cement bond log must be run and filed with the department within 60 days after completion of the well as required by Administrative Rules of South Dakota 74:12:02:12.
8. If abandoned, a plugging plan must be submitted to the department for review and approval. The plugging plan should address all requirements found in Administrative Rules of South Dakota 74:12:03.
  - A. If production casing is left in the wellbore, a mechanical integrity test must be conducted to verify the integrity of the casing as required by rule 74:12:03:02(4)(b)(ii).
  - B. 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.
9. Surface reclamation of the site must be completed within one year of plugging and abandoning the well.
10. 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.
11. A washed set of sample cuttings (or cores, if cut) must be shipped, free of charge, to:

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

12. Please notify this office prior to plugging or MIT so a witness can be on location. If plugging or MIT will occur after regular business hours, call Jeff Klenner at (605) 929-1414.