

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



DEPT OF ENVIRONMENT & NATURAL RESOURCES - APRIL CITY

Type of work:  Drill New Work:  Other:	Reenter Well	Drill Directio	nal Well	Type of well: ☑ Oil Well ☐ Other:	☐Gas Well	☐ Injection
D. L. K. D						Telephone: 303-825-8606
Name and Address of Surface Owner:  Barker Ranch LLP P.O. Box 55, Edgemont, SD 57735						
Name and Address of Drilling Contractor and Rig Number: To Be Determined						
Surface Location of well: Qtr-Qtr, Sec, Twp, Rge, County, feet from nearest lines of section, and latitude and longitude (if available):  SWNE Sec. 25, T9S, R2E, Fall River 2080' FNL, 1986' FEL Lat: 43.240337; Lon: 103.825743						
If Directional, top of pay and bottom hole location from nearest lines of section:  NA						
Acres in Spacing (Drilling) Unit:  Description of Spacing Unit:  SWNE Sec. 25						
Well Name and	Number:	Elevation:	Field and Pool, or Wildcat:		Proposed Depth and Formation:	
7-25-1x Barker		3801.1	3801.1 wildcat		3375' Leo	
Size of Hole: Size of Casing:		Weight per Foot: Depth: Cementing Program		Cementing Program (a	mount, type, yiel	d, additives) Top of Cement:
1) 12 1/2" 2) 7 7/8" 3) 4)	8 5/8" 5 1/2"	24# 14#	176' 3375'	140sks class g (already in the hole) surface sufficient to cover the Inyan Kara @ 1060' 1000'		
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.						
1. Re-enter 7-25 Barker drilling out the plugs and deepening to 3375' TD 2. Log & evaluate Leo 3. Run 5 1/2" Production casing if warranted						
4. Pits will be lined w/12ml liner 5. Date of proposed work will be in the fall of 2016						
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.						
1.th.X	Someelt-	Peter K. Roose	velt Name (Print	Operator	Title	<u>July 22, 2016</u> Date
Signature Name (Print) Title Date  FOR OFFICE USE ONLY						
Approved By: Oht Tomas Title: Administrator Muncles Mining try.						
Permit No.:	2069	API No.: 40	047 2033	9.01 Date I	ssued:	3/1/2016
Conditions, if any, on attached page.						



## DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING 523 EAST CAPITOL PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

## PERMIT CONDITIONS

PKR: 7-25-1x Barker 9S-2E-25 SWNE, Fall River County

Permit: #2069 API: 40 047 20339.01

Approval has been granted to reenter 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. The operator shall provide the department with the name of the drilling contractor before drilling commences.
- 3. 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.
- 5. The surface hole must be drilled with fresh water.
- 6. Cement must be circulated to the ground surface on the surface casing.
- 7. 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 (estimate 364 sacks).
  - B. A cement bond log must be run and filed with the department within 60 days of completion of the well.
- 8. Please notify this office prior to plugging so a witness can be on location. If plugging will occur after regular business hours, call Jeff Klenner at 605-929-1414.
- 9. 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 rule 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 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: Minnelusa, Minnekahta, Canyon Springs, 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: Minnelusa, Minnekahta, Canyon Springs, 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.
- 10. Surface reclamation of the site must be completed within one year of plugging and abandoning the well.
- 11. 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.
- 12. A washed set of sample cuttings (and 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