

DOCKET NO. 027

RAILROAD COMMISSION OF TEXAS

APPLICATION OF ANACONDA COPPER COMPANY
FOR SURFACE MINING AND RECLAMATION
PERMIT: RHODE RANCH PROJECT,
McMULLEN COUNTY, TEXAS.

TO THE HONORABLE RAILROAD COMMISSION OF TEXAS:

PREPARED TESTIMONY OF

CAMP DRESSER & MCKEE (CDM)

Robert Wilson
C. Morris Davis

ATTORNEYS FOR APPLICANT

8007110459

PREPARED TESTIMONY OF CAMP DRESSER & MCKEE (CDM)

1. Q. Please state your name, title and your affiliation.
A. E. Douglas Sethness, Jr., Manager, Austin office, Camp Dresser & McKee, Inc.
2. Q. Please state your professional qualifications and experience.
A. See resume annexed as Exhibit A.
3. Q. Did your company perform work for Anaconda Copper Company for use by Anaconda in developing its application, mining and reclamation plans for the Rhode Ranch project?
A. Yes.
4. Q. What did your firm do for Anaconda in connection with the project?
A. Camp Dresser & McKee, or CDM, was selected to develop environmental baseline data to characterize the environment of the proposed mine site before development. The data can be used both during mining and after reclamation to identify any significant or permanent ecological changes which might occur as a result of the mining process.

Our firm investigated the ecological characteristics of the project site within the framework of five scientific and engineering disciplines: air quality, surface water quality, vegetation, soils and wildlife ecology.
5. Q. Was the work done under your supervision.
A. Yes.
6. Q. Have you examined the results of the studies and formed some opinion with respect to the general characteristics of the site?
A. Yes.
7. Q. Did you use consulting laboratories or inhouse laboratories to do the analytical procedures?
A. All chemical and radiological data were developed to conform to applicable rules and requirements of the Railroad Commission in CDM laboratories. Within each of the disciplines I outlined above, data have been gathered and analyzed following accepted techniques.

8. Q. With respect to a description of the site, what did you find the vegetation at the site to be?
- A. The vegetation of the area is typical of the South Texas brush country. Uncleared areas generally consist of mesquite, lime prickly ash, and mescal upland shrubs. Herbaceous vegetation is generally restricted to small natural clearings. In contrast, some rangeland pasture can be found where frequent mowing is undertaken. Where mowing has stopped, the vegetation rapidly returns to brush land.
9. Q. Did you make a study with respect to wildlife?
- A. Yes. The wildlife study concentrated on deer and small mammals such as rodents and birds. The deer population for the entire study area was estimated to eighteen individuals per square mile. The highest density areas were rangeland pasture where up to 32 individuals per square mile were estimated; the lowest density areas were low brush habitats were 6 individuals per square mile were estimated.
- The small mammals study identified the typical varieties of rats and mice. Larger mammals included typical South Texas species including the armadillo. The birds are also typical of South Texas although some identified species appear to be at the northern extent of their normal range.
10. Q. What do you anticipate will happen to wildlife during mining?
- A. During mining, wildlife will relocate to an area outside the affected area. Large undisturbed areas adjacent to the pit will be available for wildlife use. After reclamation the area will be attractive to some forms of wildlife. Adjacent areas will provide ample, suitable habitat for wildlife during operations.
11. Q. Did your investigation cover the aspects of soils found at the site?
- A. Yes. The soils of the project were identified, mapped, tested, and evaluated for reclamation potential.
12. Q. How did you analyze the soils and what was the result?
- A. Thirty soil pits were dug to identify soils and nine soil types were identified and mapped. Soil samples were analyzed for the items specified in the application.
13. Q. Did your investigation of the site reveal any matters with respect to surface water?
- A. The streams are intermittent and consequently surface water analyses were completed on only two sets of grab samples. Three stock ponds on site have been sampled and no unusual conditions were found with respect to chemical and radiochemical content.

14. Q. What did your investigation reveal with respect to air quality?
- A. The background air quality of the region is good. Throughout the air monitoring program there were no instances when the recorded particulate concentration values exceed national ambient air quality standards.
15. Q. Did your analysis of air quality monitoring include consideration of radiological parameters?
- A. Yes. We found that concentration values for the radiological parameters that were analyzed during the air quality monitoring program were all below the maximum permissible concentrations allowed by the Department of Health.
16. Q. Can you describe generally the location of the Rhode Ranch project?
- A. The Rhode Ranch uranium mining and milling operation is approximately 25 miles southwest of George West, Texas, and two miles north of State Highway 624 in McMullen County.
17. Q. What type of structures are in the vicinity of the project?
- A. There are no schools, churches, population centers or commercial activities within several miles of the project area. The closest residence is located approximately six to seven miles northeast of the permit area.
18. Q. Can you describe McMullen County and the vicinity of the project?
- A. McMullen County as a whole is sparsely populated. It has a land area of approximately 1,159 square miles and an estimated population of 800. The primary concentrations of population in McMullen County are in Tilden and Cross.
- Land use in McMullen County can be divided into three major types: dry crop land, forest land, and rangeland. Rangeland is by far the single largest land use in the county, accounting for approximately 78% of the land. Dry crop land farming is the second largest land use covering roughly 21% of the land area and forest makes up the remainder.
- The land in the permit area is used as pasture for cattle.
19. Q. Will the public have access to the permit site?
- A. No. Public access to the areas within the permit site is limited by means of locked gates and fencing.

20. Q. What did your vegetative biological study of the site reveal?
- A. Eight identifiable vegetative assemblages were found in the Rhode Ranch area. Upland Shrub, including the Cenizo-Black Bush-Guajillo Upland Shrub, and Mesquite-Lime Prickly Ash-Mescal Upland Shrub, and Native pastures and rights-of-way with predominant species of Gramma grasses, threeawn grass, and Buffalo grass account for 90% of the vegetative cover.
21. Q. In addition to the wild animals at the site, did your study identify the occurrence of domestic animals?
- A. Cattle are the only commercial domestic animals in the project area. Although cattle will be restricted from grazing in the mine area, grazing will occur in adjacent areas.
22. Q. What are the present topographical conditions at the site?
- A. The proposed mining areas have a very slight ground slope. The southwest mining area has a southwest to northeast slope of approximately 2% while the northeast mine area has a slope of approximately 1%. All drainage from the mine areas is presently natural.
23. Q. Did you investigate weather conditions at the site?
- A. Yes. Average annual rainfall is 27 inches at the national weather station in San Antonio, Texas, ninety miles north of the mill site. The ten year maximum 24-hour rainfall for McMullen County is seven inches, the 100 year 24-hour rainfall is approximately 11 inches.
24. Q. What type of radiological investigations did you make?
- A. Gamma dose rate survey measurements were made at the potential mill site mining area and other locations in the permit area; radiological profiles for subsurface soils at the tailings disposal area and other locations at the site were made.
25. Q. What were the results of your radiological investigations?
- A. The radiological determinations are reported in Table IIIA-1 and A-2 included in the application.
26. Q. In your opinion is the description of the premining and current land conditions described by Anaconda in its application accurate?
- A. Yes, in my opinion it is.
27. Q. In your opinion is Anaconda's description of the capability of the land prior to mining to support a variety of uses accurate and, does this description, in your opinion, give adequate consideration to soil and foundation characteristics, topography and vegetative cover?
- A. Yes. The description is accurate and does give adequate consideration to the required characteristics.

28. Q. In your opinion will the condition of the land following reclamation present any actual or probable hazard to public health or safety?
- A. No. The land condition after mining should not present any actual or probable hazard to the public health or safety.
29. Q. In your opinion is the revegetation program described by Anaconda desirable and will it restore the land to a substantially beneficial condition?
- A. Yes.

EXHIBIT A

RESUME - E. DOUGLAS SETHNESS, JR.

NAME: E. Douglas Sethness, Jr.

EDUCATION: B.S. in Civil Engineering w/honors, University of Texas at Austin M.S. in Civil Engineering University of Texas at Austin.

POSITION: Associate Manager, Austin office, Camp Dresser and McKee Inc. (CDM)

EXPERIENCE: Registered Professional Engineer in Texas. Four years with Gilbert Associates of Reading, PA. Four years with Radian Corporation of Austin, Texas. Three years with Camp Dresser and McKee Inc. Nuclear experience as Project Engineer at Gilbert Associates as Project Engineer nuclear power plant designs. Experience with uranium mining centered on the South Texas uranium mining

DUTIES: Responsible for all activities of CDM's Austin office.