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STATE OF MONTANA
ENVIRONMENTAL QUALITY
CAPITOL STATI

EQC ARCHIVES (-1980-7)

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February 28, 1980

TO: MEMBERS OF THE MONTANA LEGISLATURE
and INTERESTED PERSONS

RE: Final Report on House Joint Resolution 51

Enclosed for your review is a copy of our final report on "The
Problems and Benefits of Mining Bentonite in Montana - House
Joint Resolution 51."

If you have any questions concerning the contents of this report
or desire any additional information, please feel free to contact
our office.

Sincerely,

TERRENCE D. CARMODY
Executive Director

By 
G. WILLIAM HARBRECHT
Ecology Researcher

TDC:GWH:es

Enclosure

February, 1980

FINAL REPORT
THE PROBLEMS AND BENEFITS OF MINING
BENTONITE IN MONTANA
HOUSE JOINT RESOLUTION 51
PREPARED FOR THE ENVIRONMENTAL QUALITY COUNCIL

I. INTRODUCTION

Bentonite is the clay of 1,000 uses. It exists in many parts of the world in varying degrees of quality and quantity. The clay that exists in the states of Wyoming, Montana, and South Dakota is known as sodium, western, or swelling bentonite. This is because of the high percentage of sodium in the material. The three state area has between 90-95% of the world's known reserves of this type of bentonite. In the southern United States, there exists calcium or nonswelling bentonite.

Several sources claim that Wyoming and South Dakota have 78% of the sodium bentonite reserves, with Montana having only 22%. The U. S. Bureau of Mines in their July, 1979 publication on "Clays" estimates that Montana has 300 million short tons of identified resources while Wyoming has only 200 million short tons. The largest areas of reserves are located in the following areas:

- (1) Big Horn Basin
- (2) Northern Black Hills
- (3) Malta-Glasgow

The companies which have reserves in Montana and the percentage of the companies total reserves are estimated as follows:

(1) American Colloid	50%
(2) Federal Bentonite	30%
(3) N L Baroid	14%
(4) International Mineral and Chemicals	30%
(5) Wyo Ben	10%
(6) U. S. Steel	100%

Most bentonites contain a mixture of the two types described above, depending on quality. Wyoming reportedly has the highest quality of sodium bentonite. Montana's bentonite contains some calcium and is therefore not as high a quality as Wyoming's. With enough additives, most bentonites can be brought up to a satisfactory quality for some end uses.