

November 5, 2018

14 Diamond View Road
Cody, Wyoming 82414-8815
307-587-7058

Administrator
Office of the Land Quality Division
Department of Environmental Quality
200 W. 17th Street
Suite 10
Cheyenne, WY 82002

Reference:

Wilson Brothers Construction, Inc., Regular Mining Permit Application. Mining permit area for the mining of bentonite located in: Section 28, Township 52 North, Range 102 West, Park County, Wyoming. The area is approximately 5 miles southwest of Cody, Wyoming near Park County road 6UU.

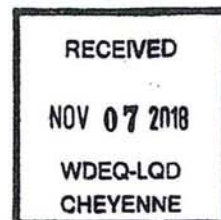
Dear Gentlepersons:

I object to the proposed mine and request a hearing due to the fact that the area directly across the road (6UU) from the proposed mine location is residential. There are several residential subdivisions plus many individual homes. My concern is the hazardous dust that will be present both on the ground in the residential areas and airborne throughout the area and the potential health problems it will produce especially for the older residents living across the road and near the proposed mining site.

According to the Public Notice, Wilson Brothers Construction, Inc. plan to mine bentonite until 2024. That will expose the residential areas across from the mine to the minute particles of silica quartz for at least six years. To exacerbate the silica quartz problem, this area experiences frequent 20 to 40 miles per hour winds, which change direction frequently. My Davis weather station which is located next to Road 6UU has recorded wind speeds in excess of 50 miles per hour numerous times per year.

I have reviewed 11 material safety data sheets from 11 different companies who either mine and/or handle bentonite. I have reviewed data from the Center for Disease Control and Prevention ¹, National Library of Medicine ¹⁸, International Programme on Chemical Safety (IPCS) ^{3a, 3b, 3c}, New Jersey Department of Health and Senior Services ^{2a, 2b}, Wyoming State Geological Survey ⁵, and Digital Fire.Com library ^{4a, 4b, 4c}.

The technical data supports the fact that putting a bentonite mine in a residential area, especially a windy one, will produce adverse health effects on the residents.



I have included the technical data and references in the addendum of this letter.

Hopefully, the health and safety of the residents is more important than any economical gain from the proposed mine.

Sincerely,



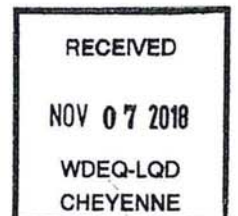
Stephen Freeman
(Retired Battalion Chief and Hazardous Material Specialist, San Francisco Fire Department)

Cc. Mr. Richard Powell
Field Manager
Bureau of Land Management, Cody Field Office
1002 Blackburn Street
Cody, Wyoming 82414

Cc. Ms. Gretchen Hurley
Geologist
Bureau of Land Management, Cody Field Office
1002 Blackburn Street
Cody, Wyoming 82414

Enclosures:

1. Technical Data
2. References



Technical Data

The Wyoming State Geological Survey ⁵ regarding montmorillonite states, “Bentonite is a montmorillonite-type clay (a hydrous silicate of alumina)

The Clay Minerals Society Safety Data Sheet ¹⁵ regarding montmorillonite, “ This product is a natural occurring mineral which contains crystalline silica in the form of quarts. Prolong or repeated inhalation of crystalline silica over an extended period of time may result in lung damage and may cause lung cancer.” The same MSDS states under, Carcinogen Statue: “ The International Agency for Research of Cancer has determined that respirable crystalline silica is a know human carcinogen (Group 1). The National Toxicology Program classifies respirable crystalline silica as a known human carcinogen.”

The New Jersey Department of Health and Senior Services, Hazard Substance Fact Sheet ^{2a} states under the section Health Hazard Information, subsection Acute Health Effects, “ The following acute (short-term) health effects may occur immediately or shortly after exposure to Silica, Quarts: Contact can irritate the eyes and nose. Exposure to high levels of Silica, Quartz can cause a serious lung disease called Silicosis with cough, shortness of breath, and changes in the chest x-ray.

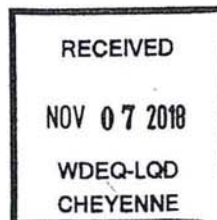
Under the subsection Cancer Hazard, “Silica, Quartz is a carcinogen in humans. There is evidence that Crystalline Silica caused lung cancer in animals. Many scientists believe there is no safe level of exposure to a carcinogen.”

Under the subsection Other Effects, “ Exposure to Silica, Quartz over a long period of time can cause a very serious lung disease call Silicosis. Simple Silicosis may only cause changes in the chest x-ray. Very high exposure can cause Silicosis to develop in a few weeks; with lower exposures it may occur over many years. Silicosis may cause death. If Silicosis develop, chances of getting Tuberculosis are increases.”

Referencing the International Programme on Chemical Safety (IPCS), Environmental Health Criteria 231-2005 ^{3c}, we could go into the listed studies of the effects of crystalline quartz on humans and animals. But in the summary of this 111 page report, Section 7.3 Summary of the Effect of Quartz states studies showed exposure to quarts dust produced silicosis, lung cancer, and pulmonary tuberculosis. In Section 9.1 Evaluation of Human Health Risks states crystalline silica causes various lung diseases, including silicosis and lung cancer.

IPCS INCHEM CAS# 1302-78-9 ^{3b} Bentonite, section Exposure and Health Effects, subsection Repeated Exposure, states’ “The substance may have effects on the lungs. This may result in fibrosis (see ICSC 0808).”

IPCS INCHEM CAS# 14808-60-7 & 1317-79-9 ^{3a} Crystalline Silica, Quartz, section Exposure and Health Effects, subsection Effects of Short-Term Exposure states, ‘May cause mechanical irritation to the eyes, respiratory tract and skin.’ Subsection Effects of Repeated Exposure states, “The substance may have effects on the lungs. This may result in silicosis. May cause autoimmune diseases. The substance may have effects on the kidneys. This substance is carcinogenic to humans.”



References

- ¹ Centers for Disease Control and Prevention, Bentonite, CAS# 1302-78-9, & ICSC: 0384
- ^{2a} New Jersey Department of Health and Senior Services, HSFS, Silica, Quartz, CAS# 14808-60-7
- ^{2b} New Jersey Department of Health and Senior Services, Mica, HSFS, Mica, CAS# 12001-26-2
- ^{3a} International Programme on Chemical Safety (INCHEM), Crystalline Silica, Quartz, CAS# 14808-60-7 & 1317-79-9, ICSC: 0808
- ^{3b} INCHEM, Bentonite (Montmorillonit), CAS# 1302-78-9, & ICSC: 0384
- ^{3c} INCHEM, Environmental Health Criteria 231 (2005), ISBN 92 4 157231 0, 111 pages
- ^{4a} DigitalFire.Com Library, Quartz, Crystalline Silica Toxicity
- ^{4b} DigitalFire.Com Library, Bentonite Toxicity
- ^{4c} DigitalFire.Com Library, Ball Clay
- ⁵ Wyoming State Geological Survey, Summer Report, September 2014
- ⁶ Wikipedia, Bentonite, External Links
- ⁷ Material Safety Data Sheet, Deluxe Testing Equipment Inc., Conroe, Texas
- ⁸ Material Safety Data Sheet, Spectrum Chemical Mfg. Corp., Gardena, CA
- ⁹ Material Safety Data Sheet, Halliburton/Baroid Pty. Ltd., Australia
- ¹⁰ Material Safety Data Sheet, Black Hills Bentonite Co., Casper, Wyoming
- ¹¹ Material Safety Data Sheet, Black Hills Bentonite, LLC, Mills, Wyoming
- ¹² Material Safety Data Sheet, Brenntag Canada, Inc., Toronto, ON
- ¹³ Material Safety Data Sheet, WYO-BEN, Billings, Montana
- ¹⁴ Material Safety Data Sheet, EPRO Services, Inc., Derby, KS
- ¹⁵ Material Safety Data Sheet, Clay Minerals Society, Aurora, Colorado
- ¹⁶ Material Safety Data Sheet, Gelest, Inc., Morrisville, PA
- ¹⁷ Material Safety Data Sheet, Ecological Laboratories Inc., Cape Coral, FL
- ¹⁸ National Library of Medicine, Bentonite, CASRN: 1302-78-9, 5/16/2013

