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December 15, 1999

Ms. Charlene Rainville
Regional Grassland Exchange Program Coordinator
Douglas Ranger District–Thunder Basin NG
2250 East Richards Street
Douglas, WY 82633

Dear Ms. Rainville:

This is in response to your November 29, 1999 (received December 3) request for information on locatable mineral resources in a land exchange proposal in which Donald Kelly of Wall, South Dakota, has offered certain non-Federal lands within the Nebraska National Forest in exchange for Federal lands also within the Nebraska National Forest.

In accordance with the working agreement under Public Law 86-509, we are providing you with a report on the locatable mineral resources on the lands described in “Exhibits A and B”, included with your request. These lands comprise 1184.32 acres in Pennington County, South Dakota.

Sincerely yours,

Anna B. Wilson, Geologist
Mineral Resources Program, Central Region

Copies: W.C. Day
 E.A. duBray

LOCATABLE MINERAL REPORT FOR THE
DONALD KELLY EXCHANGE OFFER,
BUFFALO GAP NATIONAL GRASSLAND,
NEBRASKA NATIONAL FOREST,
PENNINGTON COUNTY, SOUTH DAKOTA

By
Anna B. Wilson
U.S. Geological Survey

December 15, 1999

The following report is based on information contained in USGS mineral resource and commodity files, mineral information databases (MRDS and MAS), and on reports and maps available in the USGS library. These data are occasionally augmented with unpublished documents, personal communications, and professional experiences. No field studies or on-site visits were performed in preparing this report. Emphasis is primarily on locatable mineral resources. Leasable and salable resources are covered only if they appear in the above documents. Mineral resource assessments are subjective: the opinions expressed herein are entirely those of the author.

For the legal location description of lands considered for exchange, refer to Exhibits A and B in Attachment A. Attachment B is a map showing the location of parcels.

Donald Kelly Property

(Quinn Table 1:24,000 quadrangle, Wall 1:100,000 quadrangle)

The Kelly parcel is in Sage Creek immediately north of the area covered by detailed geologic mapping (Raymond and King, 1974a; 1976). A brand-new state geologic map (Martin and others, in press) depicts the area as Quaternary alluvium underlain by Cretaceous Pierre Shale.

No mines or prospects are known in the vicinity (USGS, 1999a, b). Pierre Shale is notoriously devoid of mineral resources but Quaternary alluvium can be a source of sand and gravel. Because detailed geologic mapping of this area is lacking, the area should be examined for resource potential.

Federal Property

(Wall and Quinn Table NE 1:24,000 quadrangles, Wall 1:100,000 quadrangle)

All of the Federal Property is entirely within Quaternary eolian sand (Raymond and King, 1976). The sand is predominantly stabilized sand dunes and yardangs and it may include minor lenticular beds of older alluvial gravel (Raymond and King, 1974b,c; 1976). Small lakes are present on both federal parcels and the southernmost boundary borders Badlands National Park.

No mines, prospects, or occurrences are known in the vicinity (USGS, 1999a, b). Sand has the potential to be a valuable commodity, depending on local markets. The parcel has high mineral resource potential for sand deposits.

REFERENCES CITED:

Martin, J.E., Sawyer, J.F., and Fahrenbach, M.D., compilers, in press, Geologic map of South Dakota: South Dakota Geological Survey Map, scale 1:500,000.

Raymond, W.H., and King, R.U., 1974a, Geologic map of the Quinn Table SW and parts of the Quinn Table and Imlay quadrangles, Pennington and Shannon Counties, South Dakota: U.S. Geological Survey Miscellaneous Field Studies Map MF-601, scale 1:24,000.

Raymond, W.H., and King, R.U., 1974b, Geologic map of the Quinn Table SE and parts of the Quinn Table NE and Bouquet Table quadrangles, Pennington and Shannon Counties, South Dakota: U.S. Geological Survey Miscellaneous Field Studies Map MF-602, scale 1:24,000.

Raymond, W.H., and King, R.U., 1974c, Geologic map of the Wall SW and parts of the Wall and Conata quadrangles, Pennington, Shannon, and Washabaugh Counties, South Dakota: U.S. Geological Survey Miscellaneous Field Studies Map MF-615, scale 1:24,000.

Raymond, W.H., and King, R.U., 1976, Geologic map of the Badlands National Monument and vicinity, west-central South Dakota: U.S. Geological Survey Miscellaneous Investigations Series Map I-934, scale 1:62,500.

U.S. Geological Survey, 1999a, Mineral Resource Data System [MRDS: active computer file; data available from U.S. Geological Survey, Mineral Resources Program, Building 20, Denver Federal Center, Denver CO 80225].

U.S. Geological Survey, 1999b, Minerals Availability System [MAS: active computer file; data available from U.S. Geological Survey, Minerals Information Team (formerly U.S. Bureau of Mines), Building 20, Denver Federal Center, Denver CO 80225].

LIST OF ATTACHMENTS:

- A. Exhibits A and B (provided by U.S. Forest Service)
- B. Location of land exchange parcels (provided by U.S. Forest Service)