



Locatable Mineral Reports for South Dakota and Colorado, provided to the U.S. Forest Service in Fiscal Year 2002

by Anna B. Wilson¹

Open File Report 02-473

2002

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey (USGS) editorial standards or with the North American Stratigraphic Code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

¹Denver, Colorado

CONTENTS

	page
INTRODUCTION	1
COLORADO	7
Comanche National Grassland	
Higgins and Goodrich Exchanges (locmin64)	8
Pawnee National Grassland	
Hansen Exchange (locmin70)	17
Roosevelt National Forest	
Loveland Rural Fire Protection District Exchange (locmin71)	23
Routt National Forest	
Mann Exchange (locmin72)	29
San Juan National Forest	
Town of Dolores Exchange (locmin73)	35
Uncompahgre National Forest	
Wynne Exchange (locmin68)	41
Faraway Exchange (locmin69)	48
White River National Forest	
Levine Exchange (locmin74)	55
SOUTH DAKOTA	63
Nebraska National Forest	
Buffalo Gap National Grassland	
Sanders' Ranch Exchange (locmin 65)	64
Hunter Family Exchange (locmin67)	73
WYOMING	81
Medicine Bow National Forest	
d'Elia Exchange (locmin 66)	82

FIGURES

COLORADO

Comanche National Grassland

Higgins and Goodrich Exchanges (locmin64)

- Fig. 1. Attachment A
- Fig. 2. Attachment B
- Fig. 3. Attachment C
- Fig. 4. Attachment D
- Fig. 5. Attachment E

Pawnee National Grassland

Hansen Exchange (locmin70)

- Fig. 6. Attachment A
- Fig. 7. Attachment B
- Fig. 8. Attachment C

Roosevelt National Forest

Loveland Rural Fire Protection District Exchange (locmin71)

- Fig. 9. Attachment A
- Fig. 10. Attachment B
- Fig. 11. Attachment C

Routt National Forest

Mann Exchange (locmin72)

- Fig. 12. Attachment A
- Fig. 13. Attachment B
- Fig. 14. Attachment C

San Juan National Forest

Town of Dolores Exchange (locmin73)

- Fig. 15. Attachment A
- Fig. 16. Attachment B
- Fig. 17. Attachment C

Uncompahgre National Forest

Wynne Exchange (locmin68)

- Fig. 18. Attachment A
- Fig. 19. Attachment B
- Fig. 20. Attachment C

Faraway Exchange (locmin69)

- Fig. 21. Attachment A
- Fig. 22. Attachment B
- Fig. 23. Attachment C

White River National Forest

Levine Exchange (locmin74)

- Fig. 24. Attachment A
- Fig. 25. Attachment B
- Fig. 26. Attachment C

SOUTH DAKOTA

Nebraska National Forest

Buffalo Gap National Grassland

Sanders' Ranch Exchange (locmin65)

Fig. 27. Attachment A

Fig. 28. Attachment B

Fig. 29. Attachment C

Fig. 30. Attachment D

Fig. 31. Attachment E

Hunter Family Exchange (locmin67)

Fig. 32. Attachment A

Fig. 33. Attachment B

Fig. 34. Attachment C

Fig. 35. Attachment D

Fig. 36. Attachment E

WYOMING

Medicine Bow National Forest

d'Elia Exchange (locmin66)

Fig. 37. Attachment A

Fig. 38. Attachment B

Fig. 39. Attachment C

Fig. 40. Attachment D

INTRODUCTION

The U. S. Geological Survey is required by Congress (under Public Law 86-509) to provide Locatable Mineral Reports to the U. S. Forest Service whenever National Forest System lands are sold or exchanged. This volume is a compilation of the reports already provided to the Forest Service by the author in fiscal year 2002. Altogether, the reports describe the geology and resource potential of 66 properties covering considerably more than 15,544 acres in seven National Forests and three National Grasslands.

Locatable Mineral Reports provide a summary of geology and mineral resource information and a subjective appraisal of the mineral resource potential for land parcels considered for exchange. Information in each report is based on a review of library and file resources, the professional expertise of the writer, and interviews with other knowledgeable geoscientists. Site visits are conducted only where it is deemed necessary--only two days of field investigations support the reports included in this volume. The mineral resource information provided is used in making relative comparisons of the potential future mineral value of lands being offered in an exchange and in appraising the value of the land. Future mineral value is subjectively expressed in three-tier nomenclature of "high," "moderate," and "low." In general, "high" indicates that a proven mineral deposit is present on the property or adjacent to it, or it is strongly suspected that the area has been mineralized. "Moderate" is applied to lands where mineralization is only suspected or where the area shares some of the same geologic characteristics common to areas around proven deposits. "Low" applies to all remaining areas, with the understanding that the information necessary to confirm that there is no future mineral potential is rarely available. Copies of the reports reside in U.S. Geological Survey Mineral Resource Program and U.S. Forest Service files.

Most recent land exchanges are proposed for mutual convenience to gather both Federal and private lands into manageable blocks. Some are proposals by Towns,

Counties, and States to enhance the "common good". Others are motivated by ranchers to improve their grazing lands and efficiency of their operations. Many recent land exchange offers are directed toward acquisition of public lands in high-value recreation areas (such as ski areas). The potential for litigation, controversy, and politics is much higher when land exchanges involve "high-value real estate" than when exchanges involve common grazing lands. Hence, locatable mineral reports must be reliable enough to withstand scrutiny of litigants vying for "high-stakes" real estate.

Eleven reports are included in this volume. They are grouped by State, then alphabetically by Forest. Each starts with a cover letter and title page. Geologic descriptions of properties, their mineral potential, and references comprise the main body of each report. Legal descriptions (either verbatim or paraphrased from descriptions supplied by the Forest Service) of the property locations are given either before the main body of the report or as attachments designated Exhibits A and B; figures follow, and the final page is the report request from the U.S. Forest Service. Figures, normally photocopies of cited references, are provided only for the convenience of the Forest Service minerals examiner--they have not been redrafted.

COLORADO

LOCATABLE MINERAL REPORT FOR THE
GOODRICH AND HIGGINS EXCHANGE OFFERS,
COMANCHE NATIONAL GRASSLAND,
LAS ANIMAS AND BACA COUNTIES, COLORADO

By
Anna B. Wilson
U.S. Geological Survey

December 17, 2001

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.

(303) 236-5593
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awilson@usgs.gov

December 17, 2001

Charlene Rainville
National Grassland Exchange Program Coordinator
U.S. Forest Service - Rocky Mountain Region
P.O. Box 25127
Lakewood, CO 80225-0127

Dear Ms. Rainville:

This report is in response to your December 3, 2001 request for information on locatable mineral resources in a land exchange proposal in which the Goodriches and Higginses have offered certain non-Federal lands within the Comanche National Grassland in exchange for Federal lands also within the Comanche National Grassland.

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 "Goodrich Exchange Exhibits A and B", and "Higgins Exchange Exhibits A and B", which were included with your request. These lands comprise 800 acres, more or less, in Las Animas and Baca Counties, Colorado.

Sincerely yours,

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

Copies: W.C. Day
 E.A. duBray
 N. Hollenkamp
 J.S. Dersch

For the legal location description of lands considered for exchange, refer to Exhibits A and B in Attachments A and C, Goodrich and Higgins exchanges, respectively.

GOODRICH EXCHANGE

Kim North 1:24,000; Kim 1:100,000; and La Junta 1:250,000 quadrangles.

Both the federal and non-federal parcels are entirely within the westernmost part of an area mapped as Upper Miocene(?) and Pliocene Ogallala Formation (Scott, 1968; Attachment B). The Ogallala Formation is described as:

“chiefly sandy gravel composed of granitic rocks and sedimentary rocks; generally lacks volcanic rocks. Contains thin hard algal limestone at top. Firmly cemented by caliche. Gravel of Meade Group of Pleistocene age locally included at top of unit except beneath basalt flows. Volcanic rocks locally common in gravel of Meade Group.” (Scott, 1968; map unit “To”)

There are no known mineral deposits near the parcels involved in the Goodrich exchange (McFaul and others, 2000). The potential for locatable mineral resources is negligible.

HIGGINS EXCHANGE

Bisonte 1:24,000; Springfield 1:100,000; and La Junta 1:250,000 quadrangles.

Both the federal and non-federal parcels are in an area mapped as Ogallala Formation (map unit “To”) overlain by Pleistocene (Upper Wisconsin) dune sand (map unit “Qdso”) (McLaughlin, 1954; Attachment D). The dune sand is described as “yellowish-gray medium sand forming widespread dunes. Calichified layer locally exposed in blowouts.” (Scott, 1968).

There are no known mineral deposits near the parcels involved in the Higgins exchange (McFaul and others, 2000). The potential for locatable mineral resources is negligible. Sand and gravel deposits occur elsewhere in the region – it is possible for sand deposits to occur in the dune sands.

REFERENCES:

- McFaul, E.J., Mason, G.T., Jr., Ferguson, W.B., Lipin, B.R., 2000, U. S. Geological Survey mineral databases--MRDS and MAS/MILS: U.S. Geological Survey Digital Data Series DDS-0052, 2 CD-ROMs.
- McLaughlin, T.G., 1954, Geology and ground-water resources of Baca County, Colorado: U.S. Geological Survey Water-Supply Paper 1256, 232 p., pl. 1, approx. 1:126,720 scale.
- Scott, G.R., 1968, Geologic and structure contour map of the La Junta quadrangle, Colorado and Kansas: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-560, scale 1:250,000.

LIST OF ATTACHMENTS:

- A. Exhibits A and B for Goodrich Exchange (provided by U.S. Forest Service)
- B. Geology in the vicinity of Goodrich Exchange (from Scott, 1968)
- C. Exhibits A and B for Higgins Exchange (provided by U.S. Forest Service)
- D. Geology in the vicinity of the Higgins Exchange (from McLaughlin, 1954)
- E. U.S. Forest Service report request

Attachment A. Exhibits A and B for the Goodrich Exchange (provided by U.S. Forest Service)

EXHIBIT A

Goodrich

Property that the Non-Federal Party will consider exchanging:

Sixth Principal Meridian, Las Animas County, Colorado

<u>T. 32 S., R. 53 W.,</u>	<u>Acres</u>
Sec. 10, W $\frac{1}{2}$ NW $\frac{1}{4}$.	80
Total Acres	80

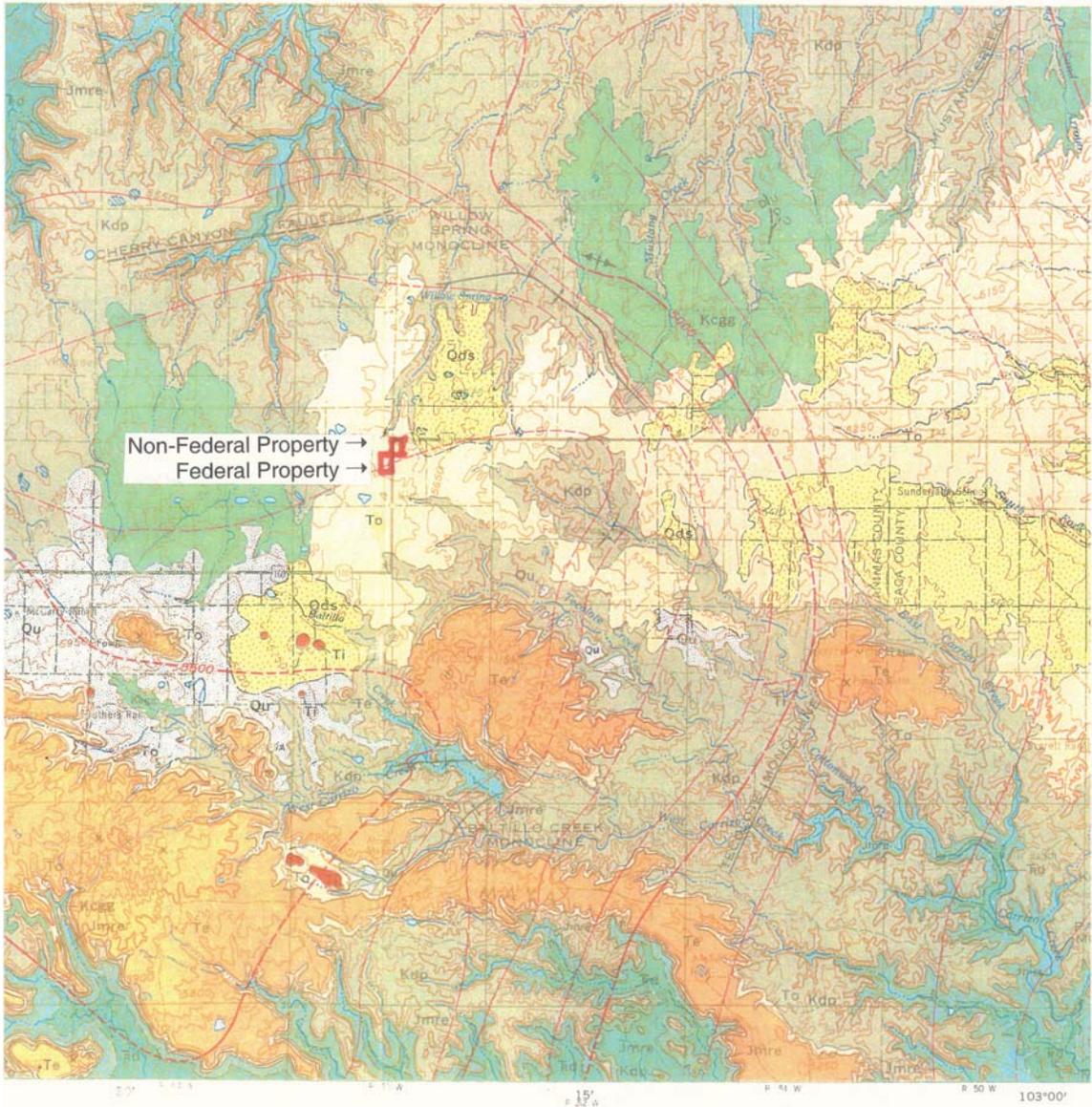
EXHIBIT B

Property that the Forest Service will consider exchanging:

Sixth Principal Meridian, Las Animas County, Colorado

<u>T. 32 S., R. 53 W.,</u>	<u>Acres</u>
Sec. 9, E $\frac{1}{2}$ SE $\frac{1}{4}$.	80
Total Acres	80

Attachment B. Geology in the vicinity of the Goodrich Exchange (Scott, 1968).



Attachment C. Exhibits A and B for the Higgins Exchange (provided by U.S. Forest Service)

EXHIBIT A

Higgins

Property that the Non-Federal Party will consider exchanging:

Sixth Principal Meridian, Baca County, Colorado

<u>T.32 S., R. 46 W.,</u>	<u>Acres</u>
Sec. 2, W½.	320
Total Acres	320

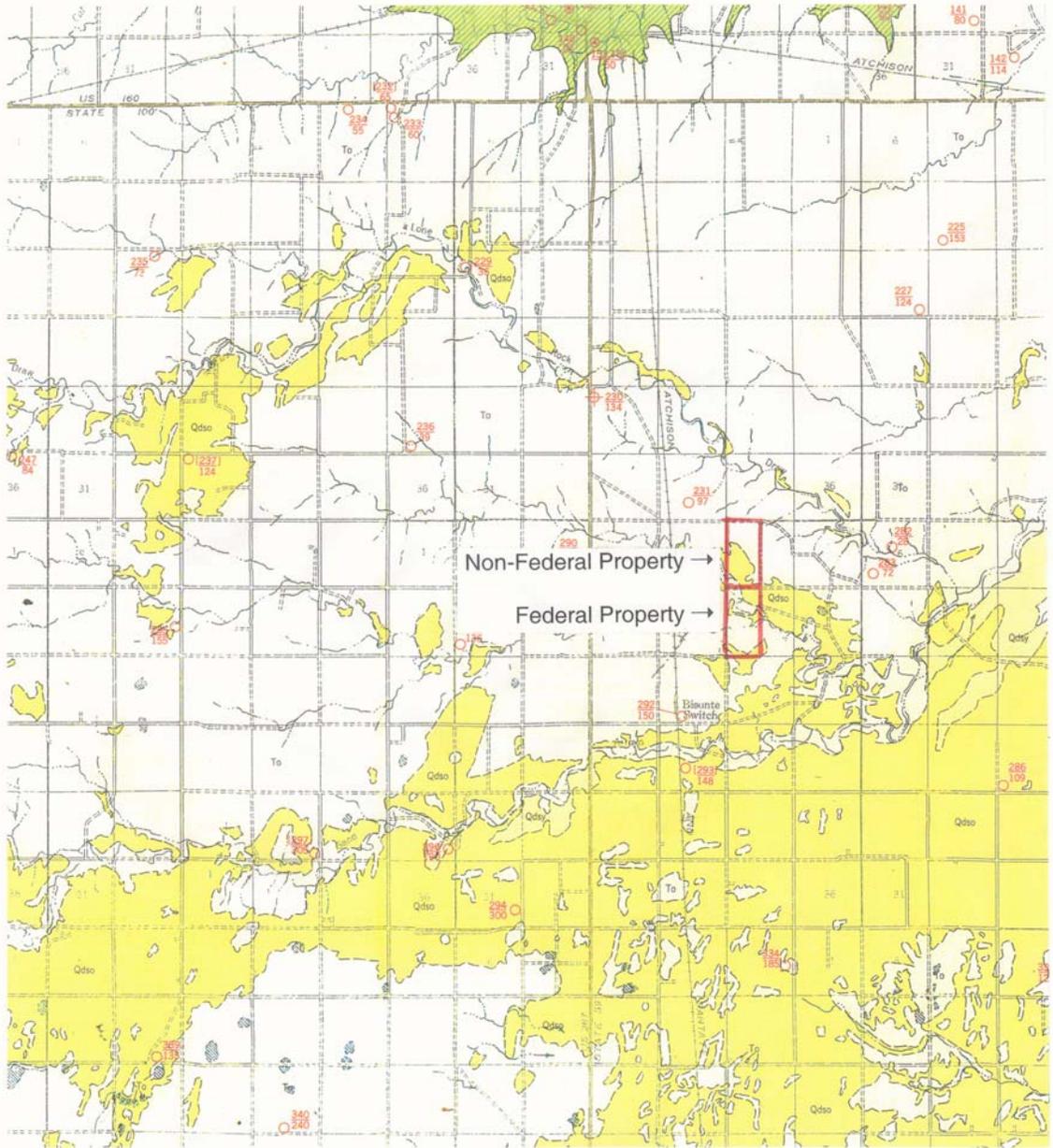
EXHIBIT B

Property that the Forest Service will consider exchanging:

Sixth Principal Meridian, Baca County, Colorado

<u>T.32 S., R. 46 W.,</u>	<u>Acres</u>
Sec. 11, W½.	320
Total Acres	320

Attachment D. Geology in the vicinity of the Higgins Exchange
(McLaughlin, 1954).



Attachment E. U.S. Forest Service report request



United States
Department of
Agriculture

Forest
Service
Rocky
Mountain
Region

P.O. Box 25127
Lakewood, CO 80225-0127
Delivery: 740 Simms St.
Golden, CO 80401
Voice: 303-275-5350
TDD: 303-275-5367

File Code: 5430

Date: December 3, 2001

ANNA WILSON GEOLOGIST
US GEOLOGICAL SURVEY
CENTRAL MINERAL RESOURCES MS 905
BOX 25046 DENVER FEDERAL CENTER
DENVER CO 80225

Dear Ms. Wilson:

J. Marlon Higgins and Mary Higgins, 23574 U.S Hwy. 287, Springfield, Colorado 81073, and Thomas J. Goodrich, Doris Goodrich, Thomas R. Goodrich and Theresa Goodrich, 6819 U.S. Hwy 160, Kim, Colorado 81049, have offered certain non-Federal lands within the Comanche National Grassland, in exchange for Federal lands also within the Comanche National Grassland. These lands are generally described in Exhibits A and B enclosed herewith. Locations of the lands to be exchanged are also depicted on the maps provided.

In accordance with the working agreement under Public Law 86-509, please provide us with a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to the letterhead address.

If you have any questions, you may contact me at (307) 358-1613.

Sincerely,

CHARLENE RAINVILLE
National Grassland Exchange Program Coordinator
Rocky Mountain Region

Enclosures

cc: mburchard/R2/USDAFS (wo/encl)
cc: rgriffith/R2/USDAFS (wo/encl)
cc: nhollenkamp/R2/USDAFS (wo/encl)
cc: srinella/R2/USDAFS (wo/encl)



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LOCATABLE MINERAL REPORT FOR THE
HANSEN EXCHANGE OFFER,
PAWNEE NATIONAL GRASSLAND,
WELD COUNTY, COLORADO

By
Anna B. Wilson
U.S. Geological Survey

June 21, 2002

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.

(303) 236-5593
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awilson@usgs.gov

June 21, 2002

Ms. Charlene Rainville
National Grassland Exchange Program
U.S. Forest Service
2250 E. Richards
Douglas, WY 82633

Dear Ms. Rainville:

This report is in response to your May 22 request (received 6/18) for information on locatable mineral resources in a land exchange proposal in which Mr. Ed Hansen of Circle Ranches, Inc., has offered certain non-Federal lands within the Pawnee National Grassland in exchange for Federal lands also within the Pawnee National Grassland.

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, which were included with your request. These lands comprise approximately 320 acres in Weld County, Colorado.

Sincerely yours,

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

Copies: W.C. Day
 E.A. du Bray
 N. Hollenkamp
 J.S. Dersch

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

Hansen Exchange Non-Federal and Federal Lands

Keota and Keota NW 1:24,000, Eaton 1:100,000, Greeley 1:250,000 quadrangles.

Both parcels are mapped as ashy claystone and sandstone of the Tertiary White River Formation (Tweto, 1979; Green, 1992).

The only evidence of mineral development in the immediate area is several sand and gravel pits about 2 to 4 mi to the southwest and west, the Keota Uranium Project about 4 to 6 mi east, and the Pawnee Uranium Deposit about 6 to 10 miles south. The Keota Project, thought to be a roll-front type uranium prospect, was not developed (McFaul and others, 2000) for reasons unknown to this author. The Pawnee deposit (McFaul and others, 2000), a "small Wyoming sandstone type solution-front uranium deposit" was said (in 1978) to contain an "estimated reserve" of "1,060,000 lbs with an average grade of 0.07 percent eU₃O₈" in an upper sandstone bed of the Fox Hills Sandstone (Reade, 1978, p. 161). As with the Keota Project, this deposit was never developed for reasons unknown to this author. On the tracts considered for exchange, mineral resource potential for all commodities is considered to be low.

REFERENCES:

- Green, G.N., 1992, The digital geologic map of Colorado in ARC/INFO format: U.S. Geological Survey Open-File Report 92-507-A-O, 15 disks.
- McFaul, E.J., Mason, G.T., Jr., Ferguson, W.B., and Lipin, B.R., 2000, U.S. Geological Survey mineral databases--MRDS and MAS/MILS: U.S. Geological Survey Digital Data Series DDS-52.
- Reade, H.L., 1978, Uranium deposits--Northern Denver Julesburg Basin, Colorado *in* Pruit, J.D., and Coffin, P.E., eds., Energy Resources of the Denver Basin: Rocky Mountain Association of Geologists Field Conference Symposium, p. 161-
- Tweto, Ogden, compiler, 1979, Geologic map of Colorado: U.S. Geological Survey Special Geologic Map, scale 1:500,000.

LIST OF ATTACHMENTS:

- A. Exhibits A and B (provided by U.S. Forest Service).
- B. Map of lands to be conveyed in Circle Ranches Land Exchange (provided by U.S. Forest Service).
- C. U.S. Forest Service report request.

Attachment A. Exhibits A and B (provided by U.S. Forest Service)

EXHIBIT A

Property that the non-Federal Party will consider exchanging:

6th Principle Meridian, Weld County, Colorado

T. 8 N., R. 60 W.,

Sec. 10, NW¼.

All totaling 160 acres, more or less.

EXHIBIT B

Property that the U.S. Forest Service will consider exchanging:

6th P.M., Weld County, Colorado

T. 9 N., R. 60 W.,

Sec. 30, NE¼.

All totaling 160 acres, more or less.

Attachment B. Map of lands to be conveyed in Circle Ranches Land Exchange (provided by U.S. Forest Service)

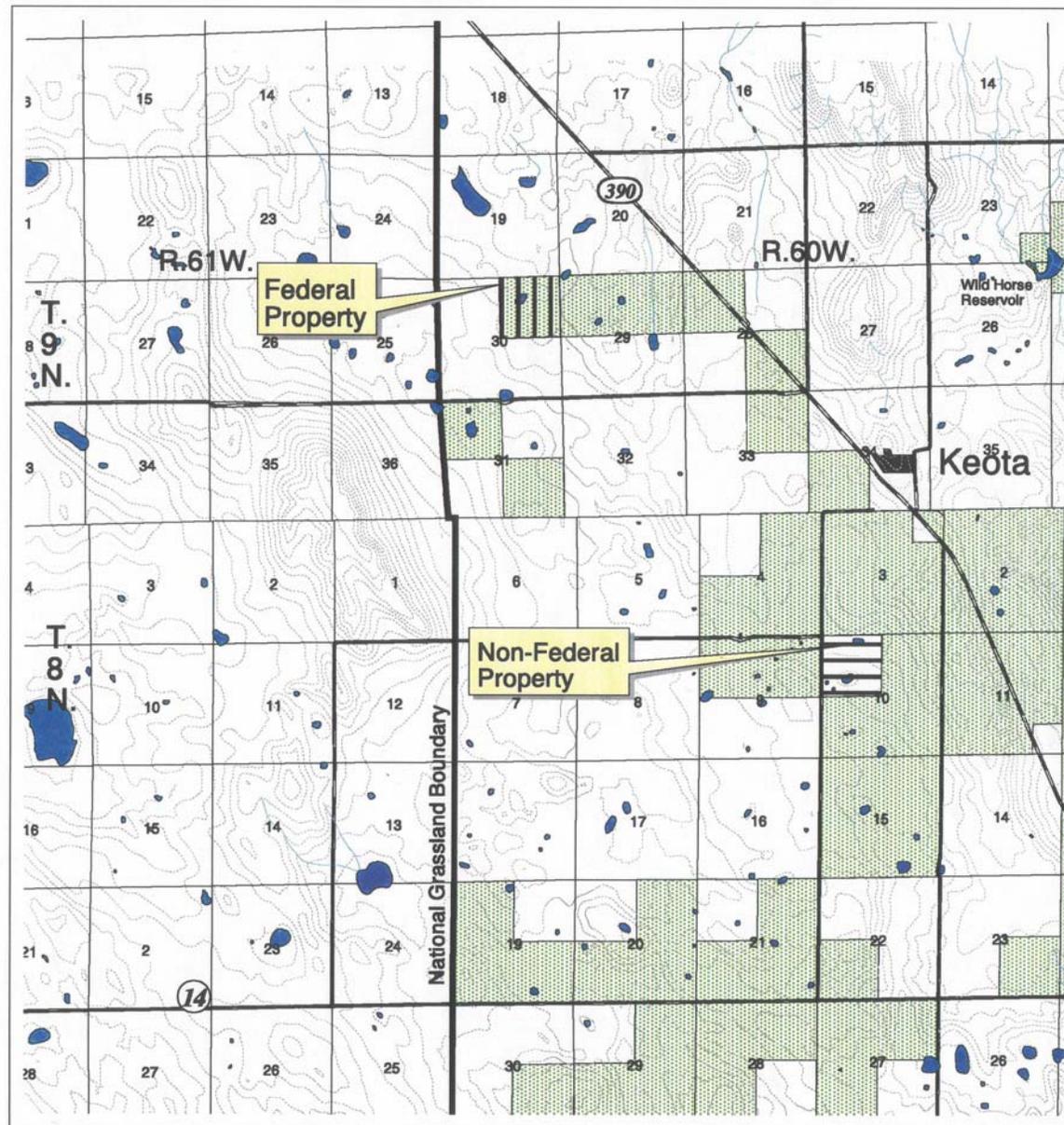
Attachment B

Map of Lands to Be Conveyed

Circle Ranches Land Exchange

LEGEND

-  Roads
-  Town
-  NFS Land
-  PVT Land
-  Federal Parcel
-  Non-Federal Parcel



Attachment C. U.S. Forest Service report request



United States
Department of
Agriculture

Forest
Service

Rocky
Mountain
Region

P.O. Box 25127
Lakewood, CO 80225-0127
Delivery: 740 Simms St.
Golden, CO 80401

File Code: 5430
Date: May 22, 2002

ANNA WILSON GEOLOGIST
US GEOLOGICAL SURVEY
CENTRAL MINERAL RESOURCES MS 905
BOX 25046 DENVER FEDERAL CENTER
DENVER CO 80225

Dear Ms. Wilson:

Mr. Ed Hansen of Circle Ranches, Inc., 4554 County Road 74E, Livermore, Colorado 80536, has offered certain non-Federal lands within the Pawnee National Grassland, in exchange for Federal lands also within the Pawnee National Grassland. These lands are generally described in Exhibits A and B enclosed herewith. Locations of the lands to be exchanged are also depicted on the map provided.

In accordance with the working agreement under Public Law 86-509, please provide us with a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to me at 2250 E. Richards, Douglas, Wyoming 82633.

If you have any questions, you may contact me at (307) 358-1613.

Sincerely,

CHARLENE RAINVILLE
National Grassland Exchange Program Coordinator
Rocky Mountain Region

Enclosures

cc: sleschnik/R2/USDAFS (w/o encl)
scurrey/R2/USDAFS (w/o encl)
nhollenkamp/R2/USDAFS (w/o encl)



LOCATABLE MINERAL REPORT FOR THE
LOVELAND RURAL FIRE PROTECTION DISTRICT EXCHANGE OFFER,
ROOSEVELT NATIONAL FOREST,
LARIMER COUNTY, COLORADO

By
Anna B. Wilson
U.S. Geological Survey

June 21, 2002

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.

(303) 236-5593
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awilson@usgs.gov

June 21, 2002

Mr. M. M. Underwood
Director, Physical Resources
U.S. Forest Service
PO Box 25127
Lakewood, CO 80225-0127

Dear Mr. Underwood:

This report is in response to your June 6 request (received 6/18) for information on locatable mineral resources in a land exchange proposal in which the Loveland Rural Fire Protection District has offered certain non-Federal lands within the Roosevelt National Forest in exchange for Federal lands also within the Roosevelt 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, which were included with your request. These lands comprise approximately 6.82 acres in Larimer County, Colorado.

Sincerely yours,

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

Copies: W.C. Day
 E.A. du Bray
 N. Hollenkamp
 J.S. Dersch

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

Loveland Rural Fire Protection District Exchange Non-Federal and Federal Lands

Drake 1:24,000, Estes Park 1:100,000, Greeley 1:250,000 quadrangles.

Both parcels are mapped as Precambrian metasedimentary rocks (Braddock, 1970; Tweto, 1979; Green, 1992). The unit contains interbedded quartzofeldspathic schist and gneiss and mica schist and gneiss. It may also contain thin beds of knotted mica schist and granule to pebble metaconglomerate (Braddock 1970).

Nearest mineral deposits are the Hyatt Ranch mine (containing feldspar, beryllium and mica), 2 1/2 mi to the NW; the Giant Crystal mine (containing mica and beryllium), 2 1/2 mi to the SW; and the Thompson Canyon scheelite occurrences (containing tungsten), approximately 4 mi to the east (McFaul and others, 2000; A. Wilson, USGS, unpublished data). Both the Hyatt Ranch and Giant Crystal mines appear to be located in mapped pegmatite bodies (Braddock and others, 1970). Thompson Canyon occurrences are vaguely located and information about them is sparse. As there are no mapped pegmatite bodies, mineral resource potential for all commodities on the tracts considered in this land exchange is low.

REFERENCES:

Braddock, W.A., Nutalaya, Prinya, Gawarecki, S.J., and Curtin, G.C., 1970, Geologic map of the Drake quadrangle, Larimer County, Colorado: U.S. Geological Survey Geologic Quadrangle Map GQ-829, scale 1:24,000.

Green, G.N., 1992, The digital geologic map of Colorado in ARC/INFO format: U.S. Geological Survey Open-File Report 92-507-A-O, 15 disks.

McFaul, E.J., Mason, G.T., Jr., Ferguson, W.B., and Lipin, B.R., 2000, U.S. Geological Survey mineral databases--MRDS and MAS/MILS: U.S. Geological Survey Digital Data Series DDS-52.

Tweto, Ogden, compiler, 1979, Geologic map of Colorado: U.S. Geological Survey Special Geologic Map, scale 1:500,000.

LIST OF ATTACHMENTS:

- A. Exhibits A and B (provided by U.S. Forest Service).
- B. Location map for proposed Loveland Rural Fire Protection District Land Exchange (provided by U.S. Forest Service).
- C. U.S. Forest Service report request.

Attachment A. Exhibits A and B (provided by U.S. Forest Service)

EXHIBIT A

Property that the Non-Federal Party will consider exchanging:

Sixth Principal Meridian, Larimer County, Colorado

T. 5 N., R. 71 W.

Sec. 2, a tract of land in the SW1/4NW1/4 more particularly described as:

The West 525 feet of Lot 12, Block 1 of Restu Subdivision EXCEPT that portion deeded as right-of-way in Book 171 at Page 268 recorded in County of Larimer, State of Colorado, and EXCEPT for that portion deeded to Mr. and Mrs. Peterson (as defined by survey by Van Horn Engineering, Estes Park, Colorado); AND

Sec. 3, That part of Lot 41 in Block 2 of the Restu Subdivision which lies north of Highway No. 34 and which is more particularly described as follows:

A tract of land situate in the Southeast ¼ of the Northeast ¼ of Section 3, Township 5 North, Range 71 West of the 6th P.M., Larimer County, Colorado, which begins at the Northeast Corner of said Southeast ¼ of the Northeast ¼ and runs thence along the North line of said Southeast ¼ of the Northeast ¼ North 89 Degree 16 Minutes West 758.91 feet to the northerly right-of-way line of Highway No. 34; thence again along said northerly right-of-way line South 70 Degrees 42 Minutes East 241.78 feet; thence again along said northerly right-of-way line on the arc of an 1850.00 foot radius curve to the left a distance of 241.09 feet, the long chord of which bears South 74 Degrees 26 Minutes East 240.92 feet; thence again along said northerly right-of-way South 78 Degrees 10 Minutes East 276.40 feet; thence again along said northerly right-of-way on the arc of a 696.70 foot radius curve to the right a distance of 36.89 feet, the long chord of which bears South 76 Degrees 39 Minutes East 36.89 feet to a point on the East line of said Southeast ¼ of the Northeast ¼; thence along said East line North 02 Degrees 08 Minutes West 209.03 feet to the Point of Beginning.

Containing an aggregate of 6.27 acres, more or less.

EXHIBIT B

Property that the U.S.D.A., Forest Service will consider exchanging:

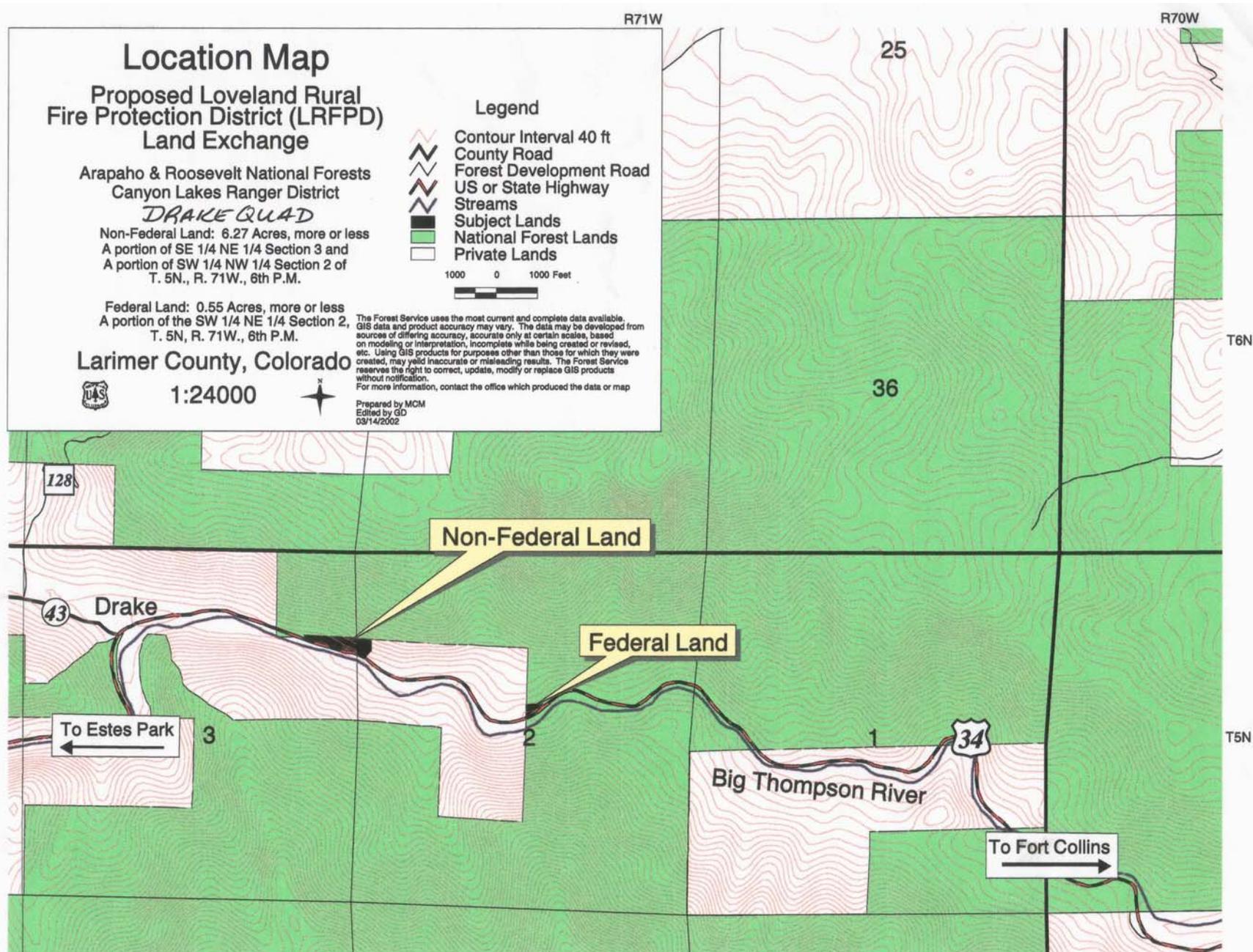
Sixth Principal Meridian, Larimer County, Colorado

T. 5 N., R. 71 W.

Sec. 2, Lot 16.

Containing 0.55 acres, more or less.

Attachment B. Location map of proposed Loveland Rural Fire Protection District Land Exchange (provided by U.S. Forest Service)



Attachment C. U.S. Forest Service report request



United States
Department of
Agriculture

Forest
Service

Rocky
Mountain
Region

P.O. Box 25127
Lakewood, CO 80225-0127
Delivery: 740 Simms Street
Golden, CO 80401
Voice: 303-575-5350
TDD: 303-275-5367

File Code: 5430-2-1

Date: JUN - 6 2002

Ms. Anna Wilson
Geologist
U.S. Geological Survey
Central Mineral Resources MS 905
Box 25046, Denver Federal Center
Denver, CO 80225

Dear Ms. Wilson:

The Loveland Rural Fire Protection District of 1423 West 29th Street, Loveland, Colorado 80538, has offered certain non-Federal lands within the Roosevelt National Forest, in exchange for Federal lands also within the Roosevelt National Forest. These lands are generally described in Exhibits A and B enclosed herewith. The lands to be exchanged are depicted on the maps also provided.

In accordance with the working agreement under Public Law 86-509, please provide a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to the letterhead address.

If you have any questions, you may contact Nancy Hollenkamp at (303) 275-5382.

Sincerely,


M. M. UNDERWOOD, JR.
Director, Physical Resources

Enclosures

cc: Paul Kaiser, Susan Leschnik, Virginia Deal



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LOCATABLE MINERAL REPORT FOR THE
MANN EXCHANGE OFFER,
ROUTT NATIONAL FOREST,
ROUTT COUNTY, COLORADO

By
Anna B. Wilson
U.S. Geological Survey

June 21, 2002

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.

(303) 236-5593
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awilson@usgs.gov

June 21, 2002

Mr. M. M. Underwood
Director, Physical Resources
U.S. Forest Service
PO Box 25127
Lakewood, CO 80225-0127

Dear Mr. Underwood:

This report is in response to your June 14 request (received 6/18) for information on locatable mineral resources in a land exchange proposal in which James and Lorraine Mann have offered certain non-Federal lands within the Routt National Forest in exchange for Federal lands also within the Routt 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, which were included with your request. These lands comprise approximately 165.27 acres in Routt County, Colorado.

Sincerely yours,

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

Copies: W.C. Day
 E.A. du Bray
 N. Hollenkamp
 J.S. Dersch

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

Mann Exchange Non-Federal and Federal Lands

Rocky Peak 1:24,000, Walden 1:100,000, Craig 1:250,000 quadrangles.

All three parcels are mapped as Early Proterozoic (1,700 Ma) interlayered felsic and hornblende gneisses, amphibolite, and calcsilicate gneisses (Bankey and others, 2000; Green, 1992; Tweto, 1979).

The area is within that outlined in the Routt National Forest as having moderate potential for undiscovered stratabound massive sulfide deposits with certainty level B (where A is a low level of certainty and D a high level) (Bankey and others, 2000).

Routt Hot Springs, also known as Strawberry Park Hot Springs, in the block of private land immediately north of and adjacent to the federal lands, is a popular tourist attraction. A gravel pit appears to be located 1/2 mi east of the Federal parcel on private land. Two copper prospects, Slate Creek and Copper Ridge, are located along Copper Ridge a little more than 1/4 and 2/3 of a mi, respectively, to the southeast of the Federal parcel (McFaul and others, 2000; A.B. Wilson, USGS, unpublished data). There is no further information about these prospects.

Mineral resource potential for all deposit types is low on these parcels.

REFERENCES:

Bankey, Viki, Soulliere, S.J., Toth, M.I., 2000, Mineral resource potential and geology of the Routt National Forest and the Middle Park Ranger District of the Arapaho National Forest, Colorado, *with a section on Salable minerals by J.S. Dersch*: U.S. Geological Survey Professional Paper 1610, 117 p.

Green, G.N., 1992, The digital geologic map of Colorado in ARC/INFO format: U.S. Geological Survey Open-File Report 92-507-A-O, 15 disks.

McFaul, E.J., Mason, G.T., Jr., Ferguson, W.B., and Lipin, B.R., 2000, U.S. Geological Survey mineral databases--MRDS and MAS/MILS: U.S. Geological Survey Digital Data Series DDS-52.

Tweto, Ogden, compiler, 1979, Geologic map of Colorado: U.S. Geological Survey Special Geologic Map, scale 1:500,000.

LIST OF ATTACHMENTS:

- A. Exhibits A and B (provided by U.S. Forest Service).
- B. Location map for proposed Mann Land Exchange (provided by U.S. Forest Service).
- C. U.S. Forest Service report request.

Attachment A. Exhibits A and B (provided by U.S. Forest Service)

EXHIBIT A

Property that the Non-Federal Party will consider exchanging:

Sixth Principal Meridian, Routt County, Colorado

T.7 N., R.85 W.

Section 13: NE1/4SE1/4

39.04 acres

T. 7 N., R.84 W.

Section 18: Lot 2

41.35 acres

Total

80.39 acres

Land Reservations of James L. Mann and exceptions to title:

Reservations:

Other: Term Permit issued to Bill and Cynthia May, Elk Park C&H, on June 29, 2000 for grazing purposes. That portion of the permit affected by the exchange will be waived prior to closing.

Outstanding Rights and Exceptions:

1. Reservations in patent of record, recorded in Book 49 at Page 16, and in Book 64 at Page 100 Routt County Records.
2. Right of the Proprietor of a Vein or Lode to extract and remove his ore therefrom, should the same be found to penetrate or intersect the premises hereby granted, as provided by law, and Right of way thereon for ditches or canals constructed by the authority of the United States, as reserved in United States Patent recorded in Book 49 at Page 16 and Book 64 at Page 100.
3. Lack of access from the land to any open public road, street or highway.
4. An easement for a right-of-way and incidental purposes granted to the United States of America by an instrument recorded February 26, 1948 in Book 229 at Page 337 upon the terms and conditions therein set forth.

Exhibit B

Property that the United States of America, U.S. Forest Service will consider exchanging:

Sixth Principal Meridian, Routt County, Colorado

T.7 N., R.84 W.

Section 19: Lots 5 and 6

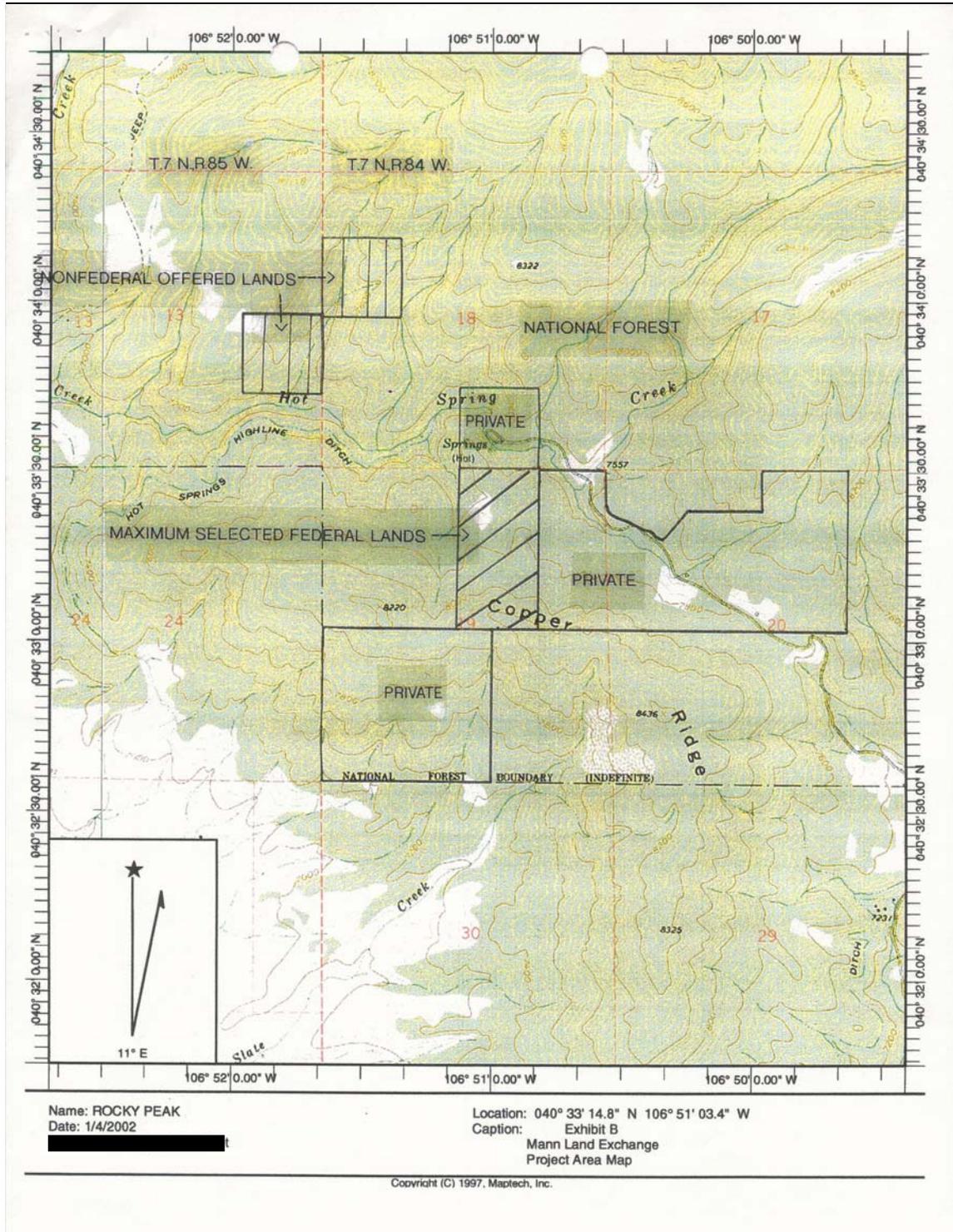
84.88 acres

Land Reservations to the United States of America, Forest Service, exceptions to title and uses to be recognized:

Reservations:

1. Reserving to the United States a right-of-way thereon for ditches or canals constructed by authority of the United States Act of August 30, 1890 (26 Stat.391; 43 U.S.C. 845).
2. If the United States determines it to be necessary, Reserving to the United States a 12 foot wide (six feet each side of centerline), public right-of-way to be managed for horse and foot travel along Copper Ridge.

Attachment B. Location map of proposed Mann Land Exchange (provided by U.S. Forest Service)



Attachment C. U.S. Forest Service report request



United States
Department of
Agriculture

Forest
Service

Rocky
Mountain
Region

P.O. Box 25127
Lakewood, CO 80225-0127
Delivery: 740 Simms Street
Golden, CO 80401
Voice: 303-575-5350
TDD: 303-275-5367

File Code: 5430-2-1

Date: JUN 14 2002

Ms. Anna Wilson
Geologist
U.S. Geological Survey
Central Mineral Resources MS 905
Box 25046, Denver Federal Center
Denver, CO 80225

Dear Ms. Wilson:

James L. Mann and Lorraine G. Mann, husband and wife, of 1285 Drummers Lane, Wayne, Pennsylvania 19087, have offered certain non-Federal land within the Routt National Forest, in exchange for Federal land also within the Routt National Forest. These lands are described in Exhibits A and B enclosed herewith. The lands to be exchanged are depicted on the enclosed maps.

In accordance with the working agreement under Public Law 86-509, please provide a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send me your report at the letterhead address.

If you have any questions, you may contact Nancy Hollenkamp at 303/275-5382.

Sincerely,

M. M. UNDERWOOD, JR.
Director, Physical Resources

Enclosures

cc: Cindy Hockelberg, Tom Florich



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LOCATABLE MINERAL REPORT FOR THE
TOWN OF DOLORES EXCHANGE OFFER,
SAN JUAN NATIONAL FOREST,
MONTEZUMA COUNTY, COLORADO

By
Anna B. Wilson
U.S. Geological Survey

September 4, 2002

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.

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September 3, 2002

Mr. M. M. Underwood
Director, Physical Resources
U.S. Forest Service
PO Box 25127
Lakewood, CO 80225-0127

Dear Mr. Underwood:

This report is in response to your August 8 request (received 8/14) for information on locatable mineral resources in a land exchange proposal in which the Town of Dolores has offered certain non-Federal lands outside the boundary of the San Juan National Forest in exchange for Federal lands also outside the boundaries of the San Juan National Forest.

In accordance with our long-term working agreement, we are providing you with a report on the locatable mineral resources on the lands described in Exhibits A and B, which were included with your request. These lands comprise approximately 58 acres in Montezuma County, Colorado.

Sincerely yours,

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

Copies: W.C. Day
 E.A. du Bray
 N. Hollenkamp
 J.S. Dersch

For the legal location description of lands considered for exchange, refer to Exhibits A and B in Attachments A and B. All lands are in the immediate vicinity of the town of Dolores, Colorado.

Non-Federal Lands

Dolores West 1:24,000, Cortez 1:100,000, Cortez 1:250,000 quadrangles.

At 1:250,000 scale, the area of the non-Federal land is mapped primarily as Upper Cretaceous Mancos Shale overlying Upper Cretaceous Dakota Sandstone and possibly sandstone, conglomerate, and shale of the Lower Cretaceous Burro Canyon Formation (Haynes and others, 1972; Van Loenen and Gibbons, 1997).

In a resource assessment of the San Juan National Forest, there are no areas identified as favorable for locatable minerals in the vicinity of Dolores (Van Loenen and Gibbons, 1997). The area around Dolores was identified as favorable for conventional oil and gas accumulations in porous carbonate mounds in equivalents of the Hermosa Group in the east marginal area of the Paradox Basin, termed the Carbonate Buildup Play (Van Loenen and Gibbons, 1997). By extrapolation, the area outlined as favorable would include the tracts considered in this exchange. In addition, the area around Dolores was classified as favorable for salable minerals such as dimension stone and aggregates from the sedimentary rocks, and for sand and gravel from the alluvium (Van Loenen and Gibbons, 1997).

Federal Lands

Dolores East 1:24,000, Cortez 1:100,000, Cortez 1:250,000 quadrangles.

At the scale of available geologic mapping (1:250,000; Haynes and others, 1972; Van Loenen and Gibbons, 1997), both Federal parcels are too small to be able to assess their mineral resource potential with any reasonable degree of certainty. Both parcels appear to be underlain by Jurassic to Cretaceous sedimentary rocks, although it is possible that they are also covered by Quaternary alluvial deposits (Haynes and others, 1972; Van Loenen and Gibbons, 1997). The resource assessment (at 1:250,000 scale) is the same as for the Non-Federal Lands, above.

REFERENCES:

Van Loenen, R.E., and Gibbons, A.B., 1997, Mineral resource potential and geology of the San Juan National Forest, Colorado, *with a section on Salable minerals by A.G. Raby and J.S. Dersch*: U.S. Geological Survey Bulletin 2127, 140 p.

Haynes, D.D., Vogel, J.D., and Wyant, D.G., compilers, 1972, Geology, structure, and uranium deposits of the Cortez quadrangle, Colorado and Utah: U.S. Geological Survey Miscellaneous Investigations Series Map I-629, scale 1:250,000.

LIST OF ATTACHMENTS:

- A. Exhibit A, Non-Federal land (provided by U.S. Forest Service).
- B. Exhibit B, Federal land (provided by U.S. Forest Service).
- C. Report request (provided by U.S. Forest Service)

Attachment A. Exhibit A (provided by U.S. Forest Service)

EXHIBIT A
Non-Federal Land

Property that the non-Federal Party will consider exchanging:

New Mexico Principal Meridian

A parcel of land in the SW1/4 NW1/4 and the W1/2SW1/4 of Section 16, T. 37 N., R. 15 W., N.M.P.M., Montezuma County, Colorado, between southerly ROW of Colo. HWY 145 and northerly ROW of Colo. HWY 184, less & except Parcel McDR-49b, described BK 545, PG 127-128, and also less & except a tract of land described in BK 600, PG 677, both recorded at Montezuma County Courthouse.

Containing 56.32 acres, more or less.

Land reservations of the non-Federal Party and exceptions to title:

Reservations:

1. None

Outstanding Rights and Exceptions:

1. All interest in oil, gas, coal and other mineral rights, being either express or implied associated with or incidental to the ownership or exercise of rights under any oil, gas, coal or mineral reservation, grant or lease, and all rights, privileges and easements with respect thereto, and any and all assignments thereof or interests therein.
2. All rights to any and all minerals, ore and metals of any kind and character, and all coal, asphaltum, oil, gas and other like substances in or under said land, the rights of ingress and egress for the purpose of mining, together with enough of the surface of the same as may be necessary for the proper and convenient working of such minerals and substances, as reserved in Patent from the State of Colorado.
3. Easement as described in instrument from the Town of Dolores to Colorado-Ute Electric Association, Inc. recorded July 7, 1958 in Book 257 at Page 28.
4. Easement as described in Deed from Town of Dolores to Empire Electric Association, Inc. recorded October 1, 1975 in Book 457 at Page 723.
5. Amendment of Easement as described from the Town of Dolores to Tri-State Generation and Transmission Association, Inc. recorded September 1, 2000 as Reception No. 490291.

Attachment B. Exhibit B (provided by U.S. Forest Service)

EXHIBIT B
Federal Land

Property that the U.S. Forest Service will consider exchanging:

New Mexico Principal Meridian

PARCEL 1-described in Book 182, Page 87, and recorded August 14, 1953 in the Clerk and Recorder's Office of Montezuma County, Colorado, to wit:

That part of the E1/2SW1/4 of Section 11, T. 37 N., R. 15 W., NMPM, described as follows: Beginning at a point on the South right-of-way line (fence) of Colorado Highway 145, which point bears South 38°47' West a distance of 4580.5 feet from the Northeast corner of said Section 11 (and which point is about 3570.8 feet South and approximately 2869.1 feet West of the Northeast corner of said Section 11), thence from said point of beginning on bearing South 5°46' West for a distance of 275.0 feet crossing the abandoned railroad right-of-way. Thence on a bearing of South 89°15' West for a distance of 218.2 feet. Thence on a bearing of North 5°59' East a distance of 289.0 feet, recrossing the abandoned railroad right-of-way to the South right-of-way of Colorado Highway 145. Thence along said right-of-way fence on a bearing of South 87°10' East a distance of 215.9 feet to the point of beginning: the property herein conveyed containing approximately 1.40 acres:

PARCEL 2-described in Book 406, Page 279 and recorded August 26, 1970 in the Clerk and Recorder's Office, Montezuma County, Colorado, to wit: Real property situate, lying and being in the County of Montezuma, State of Colorado; Lots 1, 2, 3, 9, 10, 11, and 12 of Block 2, Smith Addition to the Town of Dolores, Colorado, as per plat on file in the Office of the Clerk and Recorder of Montezuma County, Colorado.

Containing 0.541 acres, more or less.

Land reservations of the U.S. Forest Service, exceptions to title and uses to be recognized:

Reservations:

None

Outstanding Rights:

None

Other:

None

Attachment C. Report request (provided by U.S. Forest Service)



United States
Department of
Agriculture

Forest
Service

Rocky
Mountain
Region

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Lakewood, CO 80225-0127
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Voice: 303-575-5350
TDD: 303-275-5367

File Code: 5430

Date: AUG - 8 2002

Anna Wilson, Geologist
U.S. Geological Survey
Central Mineral Resources MS 905
Box 25046, Denver Federal Center
Denver, CO 80225

Dear Ms. Wilson:

The Town of Dolores, a municipal corporation, of 420 Central Avenue, P.O. Box 630, Dolores, Colorado 81323 has offered certain non-Federal lands outside the exterior boundary of the San Juan National Forest, in exchange for National Forest System lands also outside the exterior boundary of the San Juan National Forest. These lands are described in Exhibits A and B enclosed herewith. The lands to be exchanged are depicted on the maps also provided.

In accordance with the working agreement under Public Law 86-509, please provide a report on the locatable mineral resources described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to the letterhead address.

If you have any questions, feel free to contact Nancy Hollenkamp at 303-275-5382.

Sincerely,

M. M. UNDERWOOD, JR.
Director, Physical Resources

Enclosures



LOCATABLE MINERAL REPORT FOR THE
WYNNE EXCHANGE OFFER,
UNCOMPAHGRE NATIONAL FOREST,
SAN MIGUEL COUNTY, COLORADO

By
Anna B. Wilson
U.S. Geological Survey

April 16, 2002

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.

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April 16, 2002

Johnny Hodges
Acting Director, Physical Resources
U.S. Forest Service
PO Box 25127
Lakewood, CO 80225-0127

Dear Mr. Hodges:

This report is in response to your April 12 request (received 4/15/02) for information on locatable mineral resources in a land exchange proposal in which Lee and Camelia Wynne have offered certain non-Federal lands within the Uncompahgre National Forest in exchange for Federal lands also within the Uncompahgre 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, which were included with your request. These lands comprise 28.32 acres, more or less, in San Miguel County, Colorado.

Sincerely yours,

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

Copies: W.C. Day
 E.A. du Bray
 N. Hollenkamp
 J.S. Dersch

For the legal location description of lands considered for exchange, refer to Exhibit A in Attachment A.

Wynne Exchange Non-Federal and Federal Lands

Ophir 1:24,000, Silverton 1:100,000, Durango 1:250,000 quadrangles.

All three of the parcels considered in this exchange are located on the inside of the hairpin curve on Colorado State Highway 145 west of the turn-off to the town of Ophir and the valley of Howard Fork.

Calcareous or variegated mudstone, and sandstone of the Upper Jurassic Morrison Formation underlie the parcels considered in this exchange. Holocene and Pleistocene deposits of the Silver Mountain landslide are present immediately to the north. Oligocene granodiorite (approx. 26 Ma) of the Ophir stock is dark-gray coarse grained gabbro in the vicinity of Ophir Loop (Luedke, 1996; Attachment B).

The Ophir mining district (also known as the Iron Springs district) is centered nearly 2 miles to the east. Polymetallic veins containing copper, lead, zinc, silver, and gold in the Ophir district were exploited in the past (Wilson and others, 2000; Luedke, 1996). At the western end of the valley, and mostly parallel to it, steeply dipping veins contained gold, silver, and lead (Luedke, 1996). Tungsten was recovered from ore at the Silver Bell mine (Luedke, 1996) immediately east of the exchange parcels. Molybdenum has been reported in the eastern end of Ophir valley (Luedke, 1996). A compilation of the gold placers of Colorado makes no mention of placer deposits in the Howard Fork or the vicinity of Ophir (Parker, 1974, p. 172-189), although the survey plat suggests the presence of placers.

All three parcels have high potential for small polymetallic veins containing gold, silver, lead, copper, and zinc. Tungsten at the Silver Bell mine probably occurs in Oligocene granodiorite and molybdenum may be present. If the granodiorite is present beneath the parcels, there may be potential for tungsten and molybdenum mineralization. At the scale of the available information, there is no reason to suspect that any of the parcels have any more or less mineral potential than the others. Tailings, if there are any remaining on the site, should be investigated for potential re-mining and associated environmental issues.

REFERENCES:

Luedke, R.G., 1996, Geologic map of the Ophir quadrangle, San Juan, San Miguel, and Dolores Counties, Colorado: U.S. Geological Survey Geologic Quadrangle Series GQ-1760, scale 1:24,000.

Parker, B.H., Jr., 1974, Gold placers of Colorado: Colorado School of Mines Quarterly, v. 69, no. 4, p. 224 p.

Wilson, A.B., Spanski, G.T., Crane, M.J., and Woodard, M.D., 2000, Databases and spatial data model for mineralized areas, mines, and prospects in the Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forests, Colorado: U.S. Geological Survey Open-File Report 00-298.

LIST OF ATTACHMENTS:

- A. Exhibits A and B (provided by U.S. Forest Service).
- B. Geology of the Ophir Loop area (from Luedke, 1996).
- C. Report Request (provided by U.S. Forest Service).

Attachment A. Exhibits A and B (provided by U.S. Forest Service)

EXHIBIT A
Non-Federal Land

Property that the non-Federal Party will consider exchanging:

Tract C - Surface and subsurface mineral estate.

A tract of land in sections 32 and 33, Township 42 North, Range 9 West, NMPM, San Miguel County, CO., more specifically described on the attached plat of survey titled Plat of Survey for the Wynne Land Exchange.

All totaling 14.16 acres, more or less.

EXHIBIT B
Federal Land

Property that the U.S. Forest Service will consider exchanging:

Tract A - Surface and subsurface mineral estate.

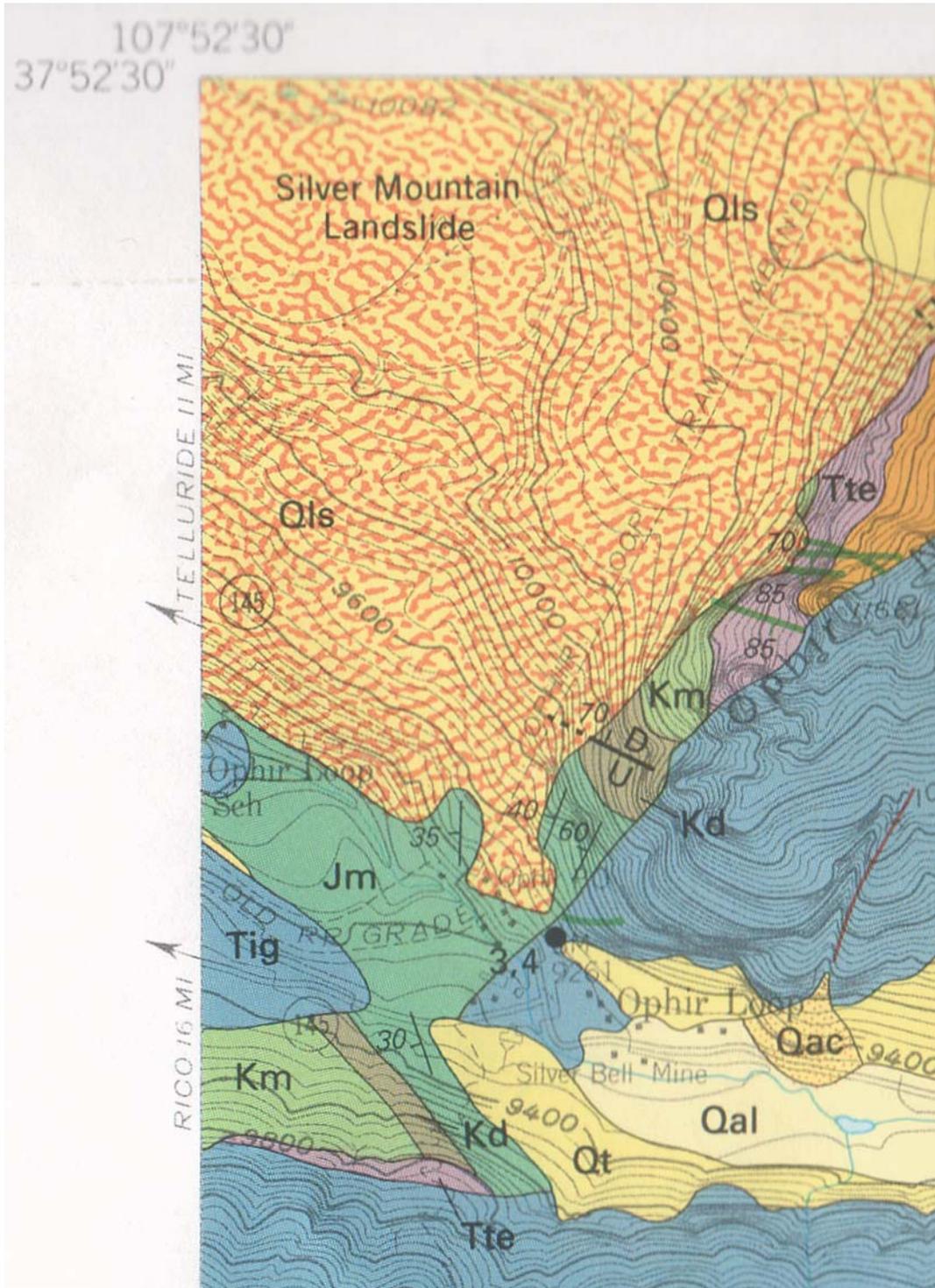
A tract of land in the NW $\frac{1}{4}$ of section 33, Township 42 North, Range 9 West, NMPM, San Miguel County, CO., more specifically described on the attached plat of survey titled Plat of Survey for the Wynne Land Exchange and containing 7.54 acres, more or less.

Tract B - Surface and subsurface mineral estate.

A tract of land in the NE $\frac{1}{4}$ sections 32, Township 42 North, Range 9 West, NMPM, San Miguel County, CO., more specifically described on the attached plat of survey titled Plat of Survey for the Wynne Land Exchange and containing 6.62 acres, more or less.

All totaling 14.16 acres, more or less.

Attachment B. Geology of Ophir Loop area (from Luedke, 1996)



Attachment C. Report Request (provided by U.S. Forest Service)



United States
Department of
Agriculture

Forest
Service

Rocky
Mountain
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TDD: 303-275-5367

File Code: 5430-2-1

Date: APR 12 2002

Anna Wilson
Geologist
U.S. Geological Survey
Central Mineral Resources MS 905
Box 25046, Denver Federal Center
Denver, CO 80225

Dear Ms. Wilson:

Lee and Camelia Wynne, husband and wife, of 4710 Kannah Creek Road, Whitewater, Colorado 81527 has offered certain non-Federal land within the Uncompahgre National Forest, in exchange for Federal land also within the Uncompahgre National Forest. These lands are described in Exhibits A and B enclosed herewith. The lands to be exchanged are depicted on the plat also provided.

In accordance with the working agreement under Public Law 86-509, please provide a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to the letterhead address.

If you have any questions, you may contact Nancy Hollenkamp at 303/275-5382.

Sincerely,

For
JOHNNY HODGES
Acting Director, Physical
Resources

Enclosures

cc: jdunn/R2/USDAFS@FSNOTES (w/o encl)
sewells/R2USDAFS@FSNOTES (w/o encl)



Caring for the Land and Serving People

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LOCATABLE MINERAL REPORT FOR THE
FARAWAY EXCHANGE OFFER,
UNCOMPAHGRE NATIONAL FOREST,
SAN MIGUEL COUNTY, COLORADO

By
Anna B. Wilson
U.S. Geological Survey

April 30, 2002

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.

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April 30, 2002

Mr. Johnny Hodges
Acting Director, Physical Resources
U.S. Forest Service
PO Box 25127
Lakewood, CO 80225-0127

Dear Mr. Hodges:

This report is in response to your April 18 request (received 4/23/02) for information on locatable mineral resources in a land exchange proposal in which the Faraway Foundation has offered certain non-Federal lands within the Uncompahgre National Forest in exchange for Federal lands also within the Uncompahgre 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, which were included with your request. These lands comprise approximately 280 acres in San Miguel County, Colorado.

Sincerely yours,

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

Copies: W.C. Day
 E.A. du Bray
 N. Hollenkamp
 J.S. Dersch

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

Wynne Exchange Non-Federal and Federal Lands

Dolores Peak 1:24,000, Little Cone 1:24,000, Dove Creek 1:100,000, Cortez 1:250,000 quadrangles.

All three of the parcels considered in this exchange are located in areas mapped as Cretaceous Mancos Shale northwest and north of the Wilson Peak stock (Bush and Bromfield, 1966; Bush and others, 1959, 1960). Mancos Shale is gray to black, with a few thin fossiliferous limestone beds, mostly near the base, and a thin fine-grained sandstone unit in places near the top of the formation. Shales are baked to hornfels in contact metamorphic aureoles around stocks. The entire unit is approximately 3000 ft. thick (Bush and Bromfield, 1966). The southeast corner of the Grove Placer claim, the non-federal parcel, includes part of the metamorphic aureole surrounding the stock, a thin dike of granogabbro or microgranogabbro, and a thin sill of rhyodacite-quartz latite (Bush and Bromfield, 1966). The federal parcels, more than a mile and a half to the north, are entirely within unmetamorphosed Mancos Shale, perhaps separated from each other by the inferred extension of the north-northwest striking Lou Hall normal fault (Bush and others, 1959, 1960).

The only evidence of mineral development in the immediate area is an unnamed adit at 11,185 ft elevation (Wilson and others, 2000; McFaul and others, 2000), labeled Special Session on the map by Bush and Bromfield (1966). The MAS database (McFaul and others, 2000) attributes gold to this unnamed property (MAS #81130885). Descriptions of the Special Session mine (Bromfield and others, 1972; Wilson and others, 2000; McFaul and others, 2000) place it one mile farther south and nearly 2,000 ft. higher than the location labeled on the geologic map (Bush and Bromfield, 1966). The Special Session consisted of 1,500 feet of crosscuts and drifts and produced about \$5,000 worth of ore, principally gold, but also containing silver, lead, and copper, by 1900 (Bromfield and Williams, 1972, p. A54).

The non-federal parcel is the patented Grove Placer mining claim (USMS 12924). No mention of the Grove Placer could be found in the literature. Although the Grove Placer claim is patented, it may never have produced. Mineral resource potential for placer gold is low to moderate. No other mineral resource potential is known or expected on the placer claim, nor on the two federal tracts.

REFERENCES:

- Bromfield, C.S., Williams, F.E., 1972, Mineral resources of the Wilson Mountains Primitive area, Colorado, *with a section on Geophysical interpretation* by Peter Poenoe,: U.S. Geological Survey Bulletin 1353-A, 79 p.
- Bush, A.L., and Bromfield, C.S., 1966, Geologic map of the Dolores Peak quadrangle, Dolores and San Miguel counties, Colorado: U.S. Geological Survey Geologic Quadrangle Map GQ-536, scale 1:24,000.
- Bush, A.L., Marsh, O.T., and Taylor, R.B., 1959, Preliminary geologic map of the Little Cone quadrangle, San Miguel county, Colorado: U.S. Geological Survey Mineral Investigations Field Studies Map MR-223, scale 1:24,000.
- Bush, A.L., Marsh, O.T., and Taylor, R.B., 1960, Areal geology of the Little Cone quadrangle, Colorado: U.S. Geological Survey Bulletin 1082-C, p. 419-492.
- McFaul E.J., Mason, G.T., Ferguson, W.B., and Lipin, B.R., 2000, U.S. Geological Survey Mineral Databases–MRDS and MAS/MILS: U.S. Geological Survey Digital Data Series DDS-52.
- Parker, B.H., Jr., 1974, Gold placers of Colorado: Colorado School of Mines Quarterly, v. 69, no. 4, 224 p.
- Wilson, A.B., Spanski, G.T., Crane, M.J., and Woodard, M.D., 2000, Databases and spatial data model for mineralized areas, mines, and prospects in the Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forests, Colorado: U.S. Geological Survey Open-File Report 00-298.

LIST OF ATTACHMENTS:

- A. Exhibits A and B (provided by U.S. Forest Service).
- B. Geology of the Elk Creek area (from Bush 1996).
- C. Report Request (provided by U.S. Forest Service).

Attachment A. Exhibits A and B (provided by U.S. Forest Service)

Exhibit A
Non-Federal Land

Property that the Non-Federal Party will consider exchanging:

New Mexico Principal Meridian

The Grove Place Mining Claim, USMS #12924, located within a portion of section 30, T. 42 N., R. 20 W., and within a portion of section 25, T. 42 N., R. 11 W., San Miguel Mining District.

Containing 160.0 acres, more or less, San Miguel County, Colorado.

Exhibit B
Federal Land

Property that the U.S. Forest Service will consider exchanging:

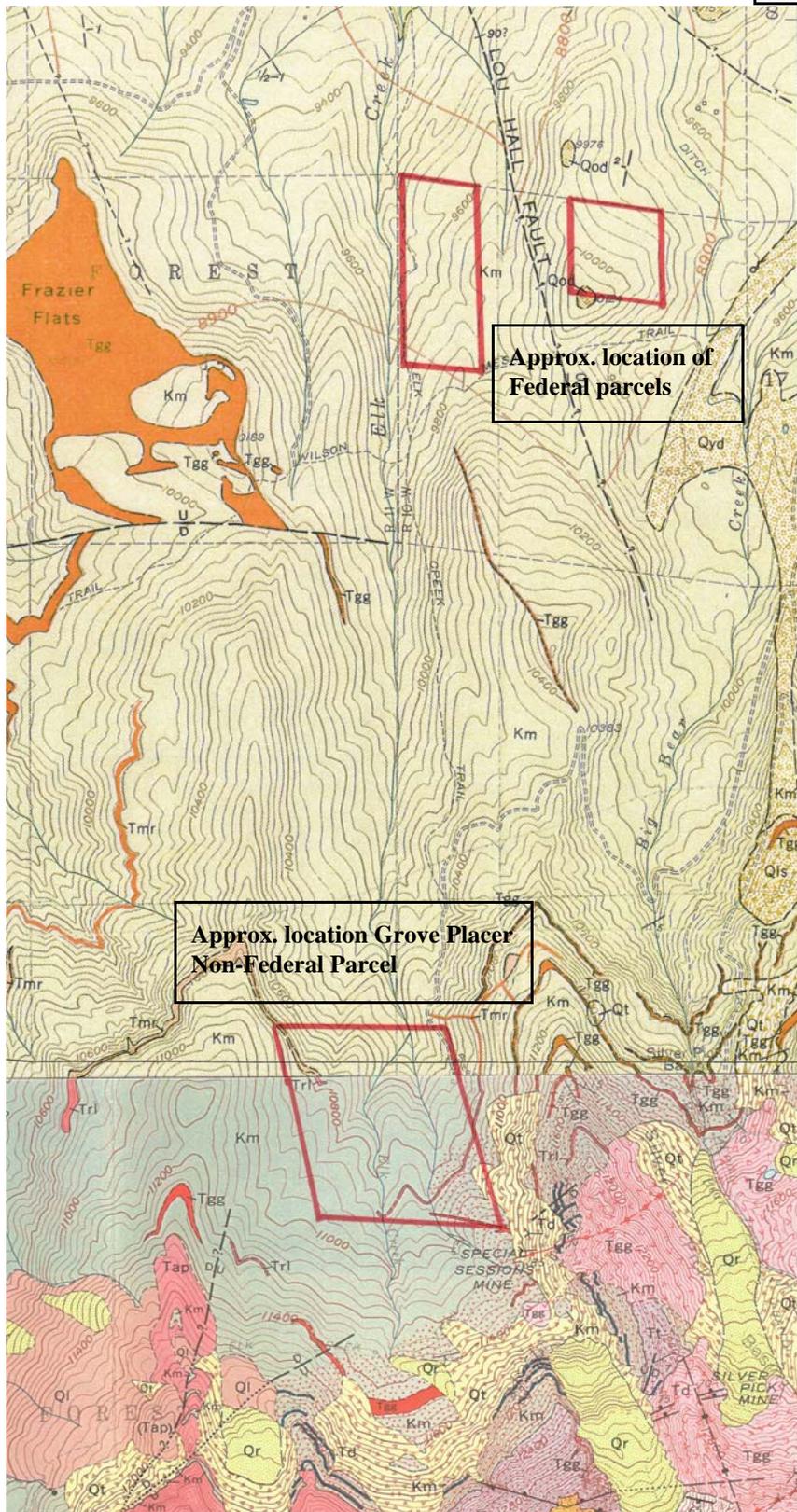
New Mexico Principal Meridian

T. 42 N., R. 10 W.,
Sec. 18, Lots 1 and 2 and the NW1/4NE1/4

Containing 120.0 acres, more or less, San Miguel County, Colorado.

Attachment B. Geology of Faraway Ranch area (from Bush and Bromfield, 1966; Bush and others, 1960).

108°



37°52'30"

Attachment C. Report Request (provided by U.S. Forest Service)



United States
Department of
Agriculture

Forest
Service

Rocky
Mountain
Region

P.O. Box 25127
Lakewood, CO 80225-0127
Delivery: 740 Simms Street
Golden, CO 80401
Voice: 303-575-5350
TDD: 303-275-5367

File Code: 5430-2-1

Date: APR 18 2002

Anna Wilson
Geologist
U.S. Geological Survey
Central Mineral Resources MS 905
Box 25046, Denver Federal Center
Denver, CO 80225

Dear Ms. Wilson:

The Faraway Foundation, a Colorado non-profit corporation, of P.O. Box 3415, Telluride, Colorado 81435, has offered certain non-Federal land within the Uncompahgre National Forest, in exchange for Federal land also within the Uncompahgre National Forest. These lands are described in Exhibits A and B enclosed herewith. The lands to be exchange are depicted on the enclosed maps.

In accordance with the working agreement under Public Law 86-509, please provide a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send me your report at the letterhead address.

If you have any questions, you may contact Nancy Hollenkamp at 303/275-5382.

Sincerely,


JOHNNY HODGES
Acting Director, Physical
Resources

Enclosures

cc: jdunn/R2/USDAFS@FSNOTES (w/o encl)
sewells/R2/USDAFS@FSNOTES (w/o encl)



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LOCATABLE MINERAL REPORT FOR THE
LEVINE EXCHANGE OFFER,
WHITE RIVER NATIONAL FOREST,
EAGLE AND PITKIN COUNTIES, COLORADO

By
Anna B. Wilson
U.S. Geological Survey
Administrative Report

September 27, 2002

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.

(303) 236-5593
FAX (303) 236-3200
awilson@usgs.gov

September 27, 2002

Mr. M. M. Underwood
Director, Physical Resources
U.S. Forest Service
PO Box 25127
Lakewood, CO 80225-0127

Dear Mr. Underwood:

This report is in response to your September 4 request (received 9/10) for information on locatable mineral resources in a land exchange proposal in which S. Robert and Tara J. Levine, in care of Dunn and Causey, LLC, have offered certain non-Federal lands within White River National Forest in exchange for Federal lands also within White River National Forest.

In accordance with our long-term 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, which were included with your request. These lands comprise approximately 301 acres in Eagle and Pitkin Counties, Colorado.

Sincerely yours,

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

Copies: W.C. Day
 E.A. du Bray
 N. Hollenkamp
 J.S. Dersch

For the legal location description of lands considered for exchange, refer to Exhibits A and B in Attachments A and B.

Non-Federal Lands

Parcel A “Card Creek”

Grouse Mountain 1:24,000, Vail 1:100,000, Leadville 1:250,000 quadrangles.

Mapped (Tweto and others, 1978) as Pennsylvanian Minturn Formation, described as “gray, pale-yellow, and red sandstone, grit, conglomerate, and shale, and scattered beds and reefs of carbonate rocks.” May be overlain, especially at the lower elevations, by “young glacial drift (Bull Lake and younger)” composed of “unsorted bouldery glacial deposits (till) and associated sand and gravel deposits.”

The Card Creek parcel is located 2 or 3 miles north of an area assigned high potential for the presence of high-calcium limestone (Toth and others, 1993, p. 81-83) which may have chemical and metallurgical uses. High-calcium limestone may occur in the Leadville Limestone. According to the geologic map (Tweto and others, 1978), the combined unit containing Mississippian, Devonian, Ordovician and Cambrian age rocks, in which the Mississippian Leadville Limestone may be present, occurs several miles south of the parcel. Toth and others (1993) did not outline any other areas in the immediate vicinity as having any mineral resource potential.

Parcel B “Pitkin Lake Mining Claims”

Vail East 1:24,000, Vail 1:100,000, Leadville 1:250,000 quadrangles

The Pitkin Lake Mining claims are located in fractured Proterozoic (1.7 Ga) granitic rocks and biotitic gneisses and migmatite in the Gore Range (Tweto and others, 1978). At larger scale, the area is mapped as biotite quartz diorite and hornblende diorite (Tweto and Lovering, 1977).

The claims are on the margin of an area assigned moderate potential for the presence of polymetallic vein deposits (Toth and others, 1993, p. 63-67). Although the claims are patented, there is no record of production from it, nor documentation of any workings (McFaul and others, 2000). Resource potential for lead, zinc, copper, silver, gold, manganese, antimony, arsenic, or tin in small (<10,000 short tons) veins on the claims is moderate (Toth and others, 1993).

Parcel C “Independence Town Site”

Independence Pass and New York Peak 1:24,000, Leadville 1:100,000, Leadville 1:250,000 quadrangles.

At 1:250,000 scale, the Independence parcels are on the margin of the Grizzly Peak cauldron complex (Tweto and others, 1978; Cruson, 1973). Recent mapping at 1:50,000 scale (Fridrich and others, 1998) shows the parcels north of the Roaring Fork, termed the Independence parcels in this report, are in Early Proterozoic metasedimentary gneiss. The unit is a “heterogeneous assemblage of quartzofeldspathic gneiss, micaceous gneiss, amphibolite, and minor granitic

intrusive rocks” (Fridrich and others, p. 25). The westernmost non-contiguous parcel straddles the caldera margin and besides being in the Early Proterozoic metasedimentary gneiss, may be partly in the Upper rhyolite subunit of the Grizzly Peak tuff and partly in Oligocene caldera-collapse megabreccia (Fridrich and others, 1998).

The Independence mining district produced gold and silver from veins in Proterozoic crystalline rocks (Ludington and Ellis, 1981). Mines were developed on veins that are nearly parallel to, but outside the northern edge of the collapse structure of the Grizzly Peak caldera.

Approximately 40,000 oz gold were recovered from the Independence vein (Ludington and Ellis, 1981) between 1879 and 1899 (Brown, 1990). Between 1900 and 1951, a total of about 230 oz gold, 320 oz silver, 1,940 lb copper, and 160 lb lead were produced intermittently (Brown, 1990). Mineralized veins contain abundant pyrite, minor chalcopyrite and galena in a gangue of quartz. Samples taken by the former Bureau of Mines averaged 0.175 oz/st gold and 0.29 oz/st silver (Ludington and Ellis, 1981; Brown, 1990). Both parts of the Independence Town Site parcel are in an area assigned high potential for medium-sized (10,000 - 200,000 short tons) polymetallic veins (Toth and others, 1993, p. 63-66). The potential for finding similar undiscovered deposits or extensions of known deposits containing lead, zinc, copper, silver, gold, manganese, antimony, arsenic, or tin remains high.

Federal Lands

Parcel 1 “West Lake Creek”

Grouse Mountain 1:24,000, Vail 1:100,000, Leadville 1:250,000 quadrangles.

According to the Leadville 1:250,000-scale map (Tweto and others, 1978), this parcel has very similar surficial geology to Parcel A. It is mapped as Pennsylvanian Minturn Formation. Described as “gray, pale-yellow, and red sandstone, grit, conglomerate, and shale, and scattered beds and reefs of carbonate rocks.” May be overlain, especially at the lower elevations, by “young glacial drift (Bull Lake and younger)” composed of “unsorted bouldery glacial deposits (till) and associated sand and gravel deposits.” The northern end of the parcel may extend into the overlying Pennsylvanian Eagle Valley Formation (gray and reddish-gray siltstone, shale, and sandstone with carbonate rocks and local lenses of gypsum), that is transitional between the Minturn Formation and overlying evaporitic rocks of the Eagle Valley Evaporite.

West Lake Creek parcel is located 2 or 3 miles south of an area assigned moderate potential for the presence of gypsum in evaporite deposits (Toth and others, 1993, p. 83-86). Eagle Valley Evaporite, which may contain gypsum deposits, does not occur as far south as the West Lake Creek parcel. There is no other mineral resource potential in the immediate vicinity.

REFERENCES:

- Brown, S.D., 1990, Mineral appraisal of the White River National Forest, Colorado: U.S. Bureau of Mines Mineral Land Assessment MLA 9-90.
- Cruson, M.G., 1973, Geology and ore deposits of the Grizzly Peak Cauldron complex, Sawatch Range, Colorado: Colorado School of Mines Ph.D. thesis, 181 p.
- Fridrich, C.J., DeWitt, E., Bryant, B., Richard, S., and Smith, R.P., 1998, Geologic map of the Collegiate Peaks Wilderness Area and the Grizzly Peak Caldera, Sawatch Range, central Colorado: U.S. Geological Survey Miscellaneous Investigations Series Map I-2565, scale 1:50,000.
- Ludington, S., and Ellis, C.E., 1981, Mineral resource potential of the Hunter-Fryingpan Wilderness Area and Porphyry Mountain Wilderness Study area, Pitkin County, Colorado: U.S. Geological Survey Miscellaneous Field Studies Map MF-1236-D, scale 1:50,000.
- McFaul, E.J., Mason, G.T., Jr., Ferguson, W.B., and Lipin, B.R., 2000, U.S. Geological Survey Mineral Databases—MRDS and MAS/MILS: U.S. Geological Survey Digital Data Series DDS-52.
- Toth, M.I., Wilson, A.B., Cookro, T.H., Bankey, V., Lee, G.K., and Case, J.E., 1993, Mineral Resource Potential and Geology of the White River National Forest and the Dillon Ranger District of the Arapaho National Forest, Colorado, *with a section on Salable Commodities by J.S. Dersch*: U.S. Geological Survey Bulletin 2035.
- Tweto, Ogden, and Lovering, T.S., 1977, Geology of the Minturn 15-minute quadrangle, Eagle and Summit Counties, Colorado: U.S. Geological Survey Professional Paper 956, 96 p., scale 1:62,500.
- Tweto, Ogden, Moench, R.H., and Reed, J.C., Jr., 1978, Geologic map of the Leadville 1 X2 quadrangle, northwestern Colorado: U.S. Geological Survey Miscellaneous Investigations Series Map I-999.

LIST OF ATTACHMENTS:

- A. Exhibit A, p. 1, Non-Federal land (provided by U.S. Forest Service).
- B. Exhibit A, p. 2, and Exhibit B, Federal land (provided by U.S. Forest Service).
- C. Report request (provided by U.S. Forest Service)

Attachment A. Exhibit A (provided by U.S. Forest Service)

EXHIBIT A

Property that the Non-Federal Party will consider exchanging:

Parcel A "Card Creek"

The W 1/2 of the NE 1/4, the SE 1/4 of the NW 1/4, and the NW 1/4 of SE 1/4 Section 31, Township 5 South Range 82 West of the 6th Principal Meridian, County of Eagle, State of Colorado.

Excepting therefrom, a parcel of land located in the Northwest 1/4 of the Northeast 1/4 of Section 31, beginning at the Northwest corner of the Northwest 1/4 of the Northeast 1/4 of Section 31, a BLM brass cap found in place; thence South 88 degrees 31 minutes 16 seconds East, 686.02 feet to BLM brass cap found in place; thence South 88 degrees 17 minutes 40 seconds East, 683.48 feet to a 3 -1/4" aluminium cap found in place; thence along the West line of the East 1/2 of the Northeast 1/4 of Section 31, South 03 degrees 35 minutes 29 seconds East, 1139.60 feet; thence departing said West line North 89 degrees 26 minutes 31 seconds West, 1375.47 feet to a point on the West line of the Northwest 1/4 of the Northeast 1/4 of Section 31; thence North 03 degrees 11 minutes 58 seconds West, 1163.83 feet to the point of beginning.

Legal description from a survey prepared by Alpine Engineering, Inc. P.O. Box 97, Edwards, CO 81632, dated October 1, 1993.

Together with easement reserved in warranty deed recorded november 10, 1993 in book 624 at page 493.

Totaling 122.3 acres, more or less, together with all mineral rights held by the Non-Federal Party.

Parcel B "Pitkin Lake Mining Claims"

Cascade, Lode Mining Claim, United States Mineral Survey No. 2363, Eliza Bolt, Lode Mining Claim, United States Mineral Survey No. 2363, Silver King, Lode Mining Claim, United States Mineral Survey No. 2363 situate within a portion of unsurveyed Township 4 South of Range 79 West as more particularly described in Patent recorded November 21, 2000, as reception No. 744793, County of Eagle, State of Colorado

Totaling 30.89 acres, more or less, together with the mineral rights which will be donated to the United States by separate donation deed.

Parcel C "Independence Town Site"

The Geld Placer MS#1235; Mt. Hope MS#1881-A; Golden Champion MS#1882-A; Dolly Varden MS#1423; Gatton MS#1422; Climax MS#1754; Legal Tender MS#1307; Minnie MS#1344; Last Dollar MS#1318; Independence MS#1421; Little Tillie MS#2038; County of Pitkin, State of Colorado

Totaling 148.216 acres, more or less. These patented mining claims are proposed for conveyance to the United States without mineral or development rights.

Attachment B. Exhibit B (provided by U.S. Forest Service)

EXHIBIT B

Property that the U.S.D.A. Forest Service will consider exchanging:

Parcel 1 "West Lake Creek"

Township 5 South, Range 82 West, 6th Principal Meridian, Eagle County, Colorado

Sec. 30, Lots 5, 6, 7, N1/2 N1/2 Lot 3, N1/2 N1/2 NE/14 SW1/4;
 N1/2N1/2 W1/2 NW1/4 SE1/4.

Totaling 118.65 acres, more or less, together with all mineral rights.

Attachment C. Report request (provided by U.S. Forest Service)



United States
Department of
Agriculture

Forest
Service

Rocky
Mountain
Region

P.O. Box 25127
Lakewood, CO 80225-0127
Delivery: 740 Simms Street
Golden, CO 80401
Voice: 303-275-5350
TDD: 303-275-5367

File Code: 5430-2-1

Date: SEP - 4 2002

Anna Wilson
Geologist
U.S. Geological Survey
Central Mineral Resources MS 905
Box 25046, Denver Federal Center
Denver, CO 80225

Dear Ms. Wilson:

S. Robert and Tara J. Levine, c/o Dunn & Causey, LLC, a Colorado limited liability company, of 90 Benchmark Road, P.O. Box 7717, Avon, Colorado 81620, has offered certain non-Federal lands within the White River National Forest, in exchange for Federal lands also within the White River National Forest. These lands are generally described in Exhibits A and B enclosed herewith. The lands to be exchanged are depicted on the maps also provided.

In accordance with the working agreement under Public Law 86-509, please provide a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to the letterhead address.

If you have any questions, you may contact Nancy Hollenkamp at (303) 275-5382.

Sincerely,

M. M. UNDERWOOD, JR.
Director, Physical Resources

Enclosures

cc: Barry Sheakley, Howard J Kahlow, Adam Poe



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SOUTH DAKOTA

LOCATABLE MINERAL REPORT FOR THE
SANDERS' RANCH EXCHANGE OFFER,
NEBRASKA NATIONAL FOREST,
PENNINGTON AND CUSTER COUNTIES, SOUTH DAKOTA

By
Anna B. Wilson
U.S. Geological Survey

February 11, 2002

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.

(303) 236-5593
FAX (303) 236-3200
awilson@usgs.gov

February 21, 2002

Charlene Rainville
National Grassland Exchange Program Coordinator
U.S. Forest Service
2250 East Richards Street
Douglas, WY 82633-8922

Dear Ms. Rainville:

This report is in response to your December 3, 2001 request (received 12/18/01, revisions received 2/5/02) for information on locatable mineral resources in a land exchange proposal in which Sanders' Ranch 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, which were included with your request. These lands comprise 3826.17 acres, more or less, in Pennington and Custer Counties, South Dakota.

Sincerely yours,

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

Copies: W.C. Day
 E.A. duBray
 N. Hollenkamp
 J.S. Dersch

For the legal location description of lands considered for exchange, refer to Exhibits A and B in Attachment A and location maps in Attachments B and C.

Non-Federal Land in Pennington Co.

Folsom and Scenic SW 1:24,000; Wall 1:100,000; and Hot Springs 1:250,000 quadrangles.

Almost the entire Non-Federal parcel is underlain by Upper Cretaceous Pierre Shale. Along Rapid Creek Quaternary alluvium is exposed (South Dakota Geological Survey, unpublished 1:250,000 scale map compilation).

There are no known locatable mineral deposits near the parcels involved in the exchange (McFaul and others, 2000). The potential for locatable mineral resources is negligible. There may be potential for sand and gravel deposits in the Quaternary alluvium along Rapid Creek.

Federal Land in Custer Co.

Folsom and Scenic SW 1:24,000; Wall 1:100,000; and Hot Springs 1:250,000 quadrangles.

The entire Federal parcel is underlain by Upper Cretaceous Pierre Shale (Kp), a “black shale containing layers with large calcareous concretions and marine fossils” (King and Raymond, 1971; Attachment D). Exposed on slopes at higher elevations, is a zone locally known as the “Interior Beds” of highly colored shale formed by Eocene (?) weathering and developed to a maximum depth of nearly 300 ft at the top of the shale (King and Raymond, 1971). Capping the Interior Beds is Oligocene Chadron Formation, a predominantly gray to pink sandstone and clay with locally prominent basal conglomerate and channel sandstones. Chadron Formation contains a conspicuous titanotherium (herbivorous mammals resembling the rhinoceros) fauna (King and Raymond, 1971).

There are no known locatable mineral deposits near the parcels involved in the exchange (McFaul and others, 2000). The potential for locatable mineral resources is negligible. If the titanotherium fauna are prevalent in this area, there may be potential for fossil collecting in the Chadron Formation.

REFERENCES:

King, R.U., and Raymond, W.H., 1971, Geologic map of the Scenic area, Pennington, Shannon, and Custer Counties, South Dakota: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-662, scale 1:31,680.

McFaul, E.J., Mason, G.T., Jr., Ferguson, W.B., and Lipin, B.R., 2000, U.S. Geological Survey Mineral Databases—MRDS and MAS/MILS: U.S. Geological Survey Digital Data Series DDS-52.

LIST OF ATTACHMENTS:

- A. Exhibits A and B (provided by U.S. Forest Service).
- B. Location map of property that the Non-Federal party will consider exchanging (provided by U.S. Forest Service).
- C. Location map of property that the USDA Forest Service will consider exchanging (provided by U.S. Forest Service).
- D. Geologic map in the vicinity of the Federal Parcel (from King and Raymond, 1971).
- E. Report request (provided by U.S. Forest Service)

Attachment A. Exhibits A and B (provided by U.S. Forest Service)

EXHIBIT A

Property that the Non-Federal Party will consider exchanging:

Black Hills Meridian, Pennington County, South Dakota

T. 1 S., R. 11 E.,

Sec. 33, SE $\frac{1}{4}$ NE $\frac{1}{4}$ and E $\frac{1}{2}$ SE $\frac{1}{4}$;

Sec. 34, S $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$, that part of the W $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ lying north of the railroad right-of-way, that part of the SW $\frac{1}{4}$ NE $\frac{1}{4}$ lying south of the railroad right-of-way, that part of the SE $\frac{1}{4}$ NE $\frac{1}{4}$ lying south of the railroad right-of-way, that part of the NE $\frac{1}{4}$ NW $\frac{1}{4}$ lying south of the railroad right-of-way, that part of the NW $\frac{1}{4}$ NW $\frac{1}{4}$ lying south of railroad right-of-way, SW $\frac{1}{4}$ NW $\frac{1}{4}$, that part of the SE $\frac{1}{4}$ NW $\frac{1}{4}$ lying south of the railroad right-of way, SW $\frac{1}{4}$, and that part of the SE $\frac{1}{4}$ lying south of the railroad right-of-way;

Sec. 35, SW $\frac{1}{4}$ SW $\frac{1}{4}$.

T. 2 S., R11 E.,

Sec. 2, Lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$ and SW $\frac{1}{4}$;

Sec. 3, Lots 1, 2, and 3, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$ and S $\frac{1}{2}$;

Sec. 10, N $\frac{1}{2}$ N $\frac{1}{2}$;

Sec. 11, N $\frac{1}{2}$ NW $\frac{1}{4}$.

Total non-Federal acres 1746.79

EXHIBIT B

Property that the U.S.D.A. Forest Service will consider exchanging:

Black Hills Meridian, Custer County, South Dakota

T.3 S., R 11 E.,

Sec. 1, Lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ and SW $\frac{1}{4}$;

Sec. 2, Lots 1, 2, 3, and 4, S $\frac{1}{2}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$ and SW $\frac{1}{4}$;

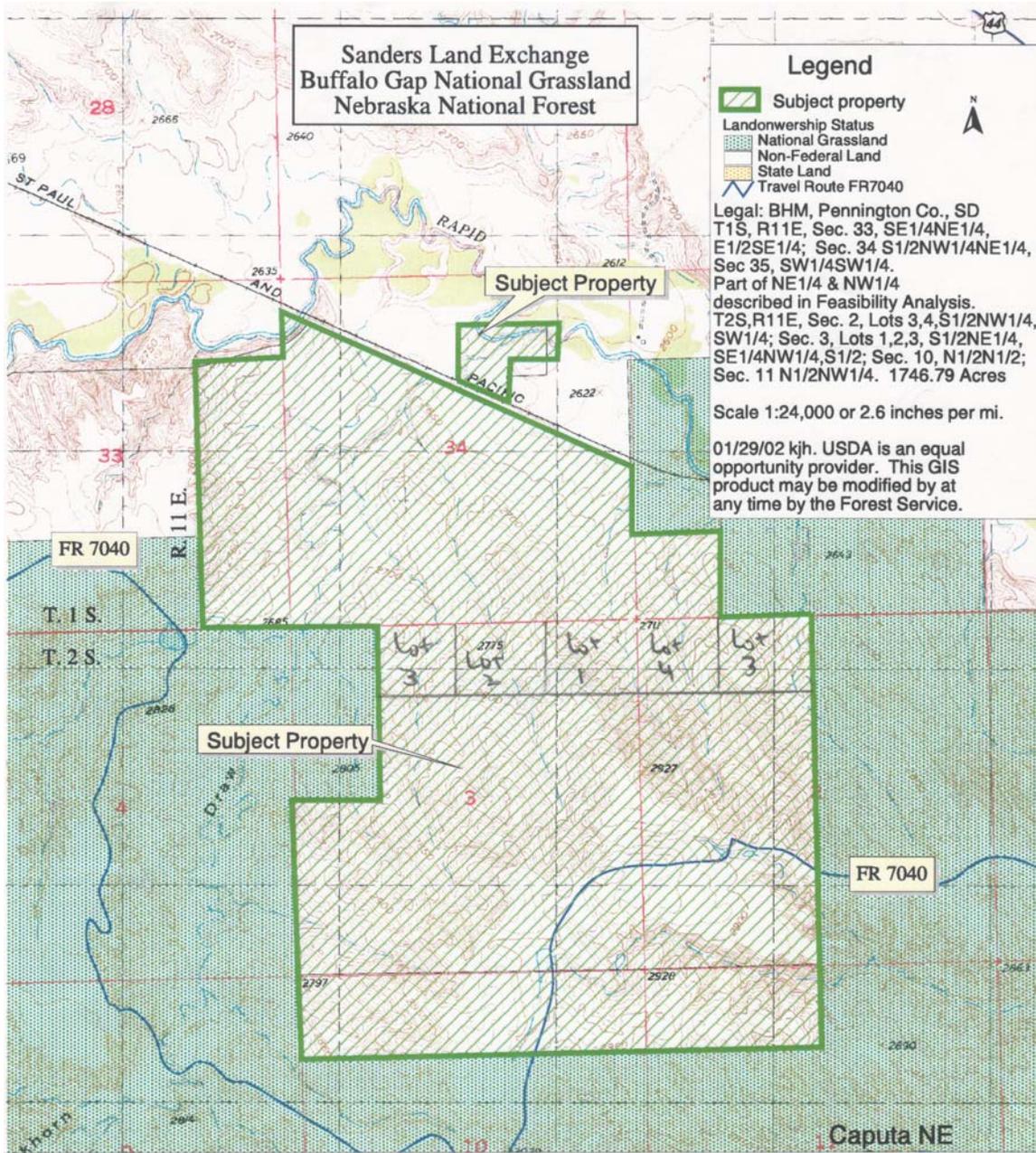
Sec. 3, Lot 1, SE $\frac{1}{4}$ NE $\frac{1}{4}$ and E $\frac{1}{2}$ SE $\frac{1}{4}$.

T. 2 S., R 11 E.,

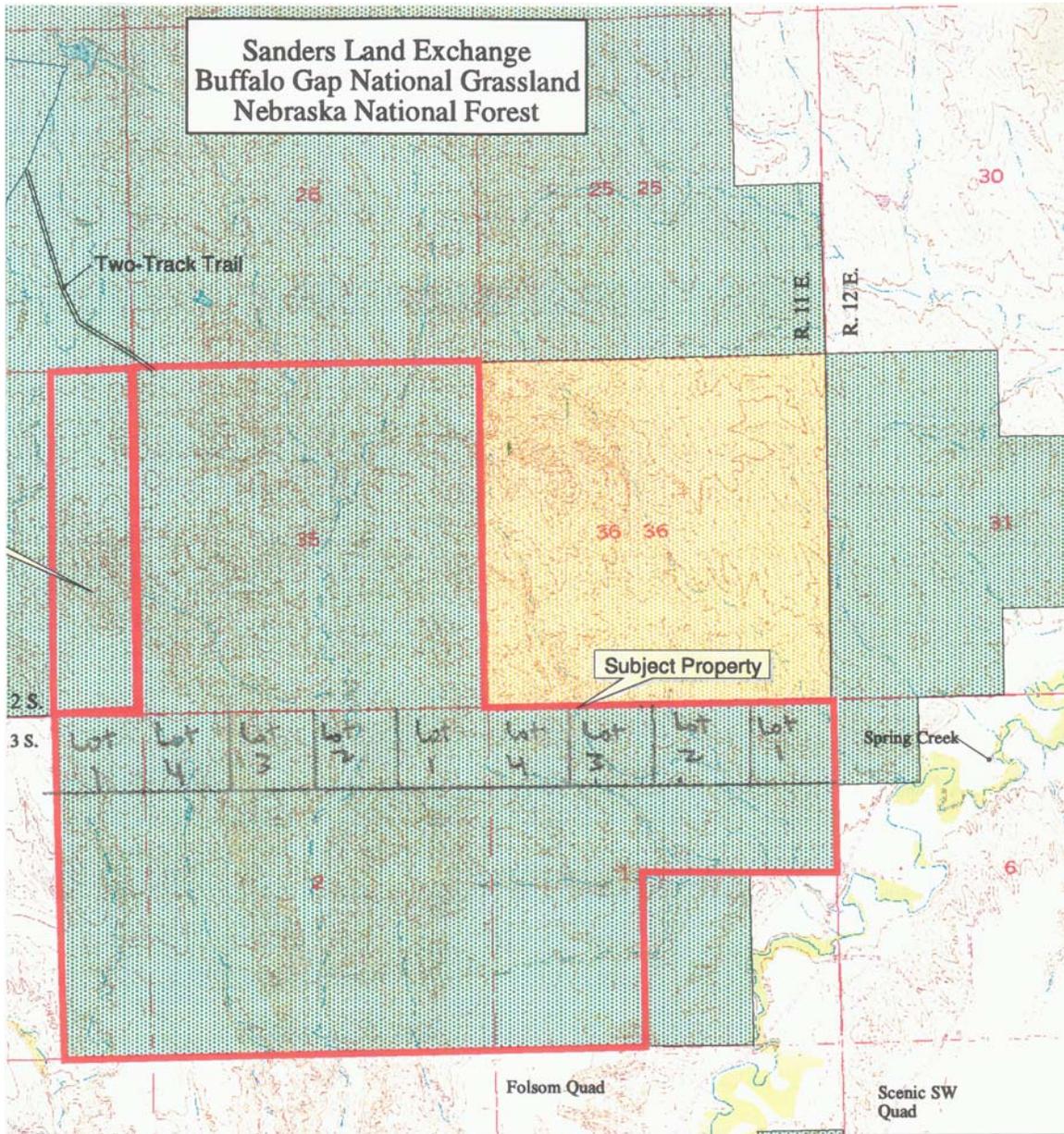
Sec. 34, E $\frac{1}{2}$ NE $\frac{1}{4}$ and E $\frac{1}{2}$ SE $\frac{1}{4}$.

Sec. 35, All.

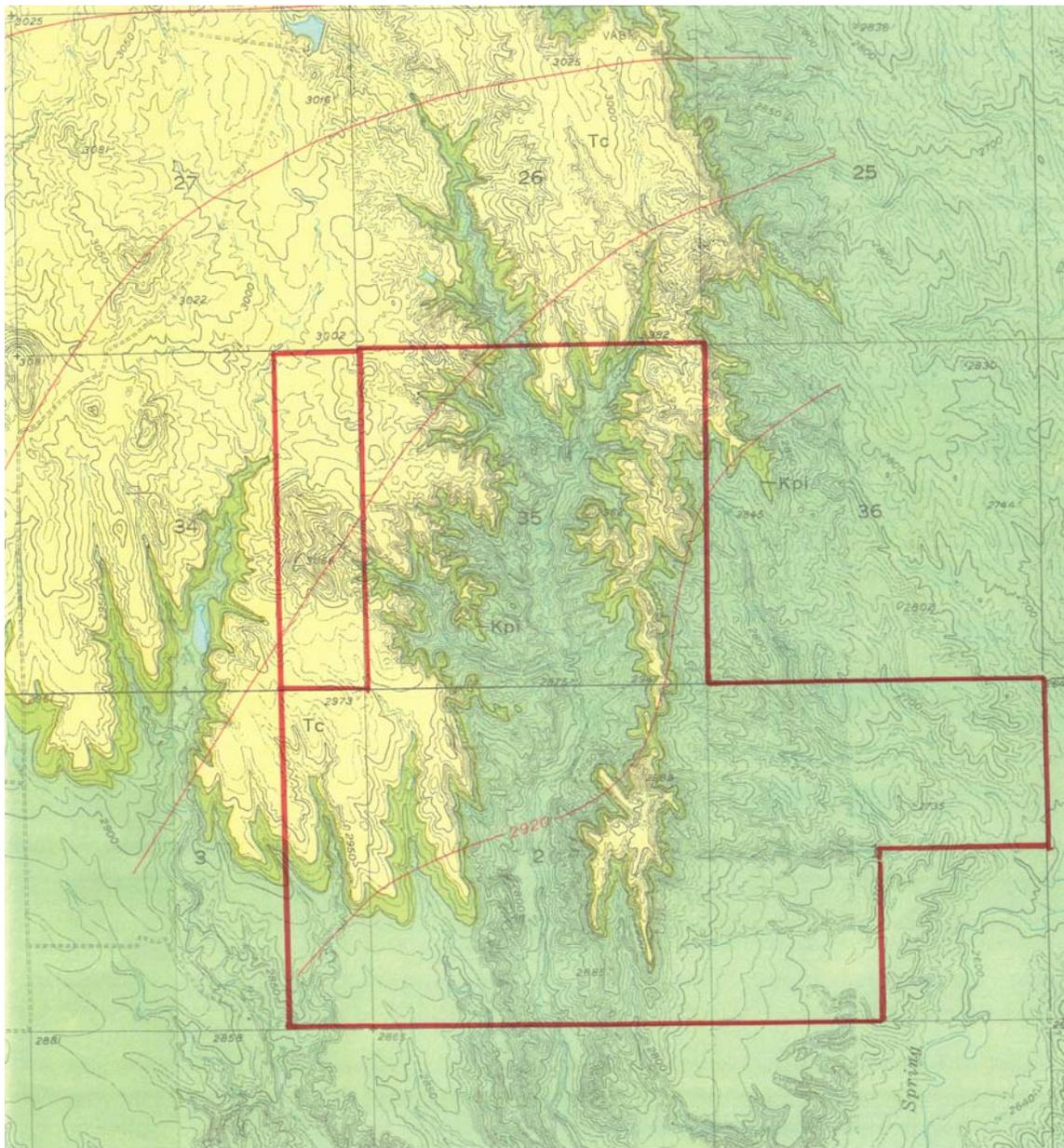
Total Federal acres 2079.38 acres.



Attachment B. Location map of property that the Non-Federal party will consider exchanging (provided by U.S. Forest Service)



Attachment C. Location map of property that the U.S. Forest Service will consider exchanging (provided by U.S. Forest Service)



Attachment D. Geologic map in the vicinity of the Federal parcel (from King and Raymond, 1971).

Attachment E. Report request (provided by U.S. Forest Service)



United States
Department of
Agriculture

Forest
Service

Medicine Bow –
Routt National
Forests

Douglas Ranger District –
Thunder Basin NG
2250 East Richards Street
Douglas, WY 82633-8922
<http://www.fs.fed.us/mrnf>

File Code: 5430

Date: December 3, 2001

ANNA WILSON GEOLOGIST
US GEOLOGICAL SURVEY
CENTRAL MINERAL RESOURCES MS 905
BOX 25046 DENVER FEDERAL CENTER
DENVER, CO 80225

Dear Ms. Wilson:

Sanders' Ranch, of 23264 Highway 385, Rapid City, South Dakota, has offered certain non-Federal lands within the Nebraska National Forest, in exchange for Federal lands also within the Nebraska National Forest. These lands are generally described in Exhibits A and B enclosed herewith. Locations of the lands to be exchanged are also depicted on the map provided.

In accordance with the working agreement under Public Law 86-509, please provide us with a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to the letterhead address.

If you have any questions, you may contact me at (307) 358-1613.

Sincerely,

CHARLENE RAINVILLE
Regional Grassland Exchange Coordinator

Enclosures

cc: nhollenkamp/R2/USDAFS (w/o encl)
kheikkila/R2/USDAFS (w/o encl)



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LOCATABLE MINERAL REPORT FOR THE
HUNTER FAMILY EXCHANGE OFFER,
BUFFALO GAP NATIONAL GRASSLAND,
NEBRASKA NATIONAL FOREST,
FALL RIVER COUNTY, SOUTH DAKOTA

By
Anna B. Wilson
U.S. Geological Survey

April 28, 2002

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.

(303) 236-5593
FAX (303) 236-3200
awilson@usgs.gov

April 28, 2002

Charlene Rainville
National Grassland Exchange Program Coordinator
U.S. Forest Service
2250 East Richards Street
Douglas, WY 82633-8922

Dear Ms. Rainville:

This report is in response to your March 28, 2002 request (received 4/4/02) for information on locatable mineral resources in a land exchange proposal in which the Hunter Family 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, which were included with your request. These lands comprise 5,747.52 acres in Fall River County, South Dakota.

Sincerely yours,

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

Copies: W.C. Day
 E.A. du Bray
 N. Hollenkamp
 J.S. Dersch

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

Hunter Exchange Non-Federal and Federal Lands

Ardmore and Ardmore SE 1:24,000; Hot Springs 1:100,000, 1:250,000 quadrangles.

All of the parcels considered in this exchange are underlain by Upper Cretaceous Pierre Shale (Darton and Smith, 1904), a dark-gray to black shale containing minor limestone lenses and large concretions (DeWitt and others, 1989). Pierre Shale conformably overlies Niobrara Formation (Darton and Smith, 1904), also Upper Cretaceous, a light-gray to yellowish-gray marl and shale (DeWitt and others, 1989), which may be exposed in the eastern-most part of the Federal tract in T. 11 S., R. 4 E., Sec. 17 and 20. This same tract may also be unconformably overlain with Pleistocene terrace deposits consisting of sand, gravel, and loam (Darton and Smith, 1904). The southwestern-most part of the Federal tract in T. 12 S., R. 4 E., Sec. 3 may be capped with Quaternary alluvium (Darton and Smith, 1904).

There are no known locatable mineral deposits near the parcels involved in the exchange (McFaul and others, 2000). The potential for locatable mineral resources is negligible. Sand and gravel in the alluvium and terrace deposits may be available for local use as aggregate.

REFERENCES:

- Darton, N.H., and Smith, W.S.T., 1904, Edgemont [quadrangle], South Dakota-Nebraska: U.S. Geological Survey Geologic Atlas of the United States, Folio 108, 10 p., scale 1:125,000.
- DeWitt, Ed, Redden, J.A., Buscher, David, and Wilson, A.B., 1989, Geologic map of the Black Hills area, South Dakota and Wyoming: U.S. Geological Survey Miscellaneous Investigations Series Map I-1910, scale 1:250,000.
- McFaul, E.J., Mason, G.T., Jr., Ferguson, W.B., and Lipin, B.R., 2000, U.S. Geological Survey Mineral Databases—MRDS and MAS/MILS: U.S. Geological Survey Digital Data Series DDS-52.

LIST OF ATTACHMENTS:

- A. Exhibit A (provided by U.S. Forest Service).
- B. Exhibit B (provided by U.S. Forest Service).
- C. Location map of Hunter Land Exchange area (provided by U.S. Forest Service).
- D. Geologic map (from Darton and Smith, 1904).

Attachment A. Exhibit A (provided by U.S. Forest Service)

EXHIBIT A

Property that the Non-Federal Party will consider exchanging:

N-1 John C. Hunter and Laurel Hunter, as joint tenants with right of survivorship and not as tenants in common.

Black Hills Meridian, Fall River County, South Dakota

T. 11 S., R. 5 E.,

Sec. 20, E $\frac{1}{2}$;

Sec. 21, All;

Sec. 29, E $\frac{1}{2}$.

T. 12 S., R. 5 E.,

Sec. 10, S $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$.

The areas described aggregate 1520.00 acres.

N-2 J L C Family Trust, Darrell D. Hunter & JoAnn M. Hunter, Trustees, UDT, dated November 2, 1994.

Black Hills Meridian, Fall River County, South Dakota

T. 11 S., R. 5 E.,

Sec. 32, E $\frac{1}{2}$ E $\frac{1}{2}$;

Sec. 33, All.

T. 12 S., R. 5 E.,

Sec. 6, Lot 6 and NE $\frac{1}{4}$ SW $\frac{1}{4}$;

Sec. 9, NW $\frac{1}{4}$;

Sec. 10, N $\frac{1}{2}$ NW $\frac{1}{4}$;

Sec. 16, Lots 1-2, N $\frac{1}{2}$ SW $\frac{1}{4}$ and NW $\frac{1}{4}$.

The areas described aggregate 1407.08 acres

TOTAL NON-FEDERAL ACRES 2927.08 ACRES.

Attachment B. Exhibit B (provided by U.S. Forest Service)

EXHIBIT B

The following is the legal description of the Federal parcels to be conveyed to:

F-1 J L C Family Trust, Darrell D. Hunter & JoAnn M. Hunter, Trustees, UDT, dated November 2, 1994.

BlackHills Meridian, Fall River County, South Dakota

T. 11 S., R. 3 E.,

Sec. 13: SE $\frac{1}{4}$.

T. 11 S., R. 4 E.,

Sec. 17: SW $\frac{1}{4}$ SW $\frac{1}{4}$;

Sec. 18: NW $\frac{1}{4}$ SE $\frac{1}{4}$ and S $\frac{1}{2}$ SE $\frac{1}{4}$;

Sec. 19: SE $\frac{1}{4}$;

Sec. 20: N $\frac{1}{2}$ NW $\frac{1}{4}$; SW $\frac{1}{4}$ NW $\frac{1}{4}$ and SW $\frac{1}{4}$;

Sec. 35: SE $\frac{1}{4}$.

T. 12 S., R. 4 E.,

Sec. 1: lots 1 to 4 inclusive, S $\frac{1}{2}$ NE $\frac{1}{4}$ and S $\frac{1}{2}$ NW $\frac{1}{4}$;

Sec. 2: lots 1 and 2 and S $\frac{1}{2}$ NE $\frac{1}{4}$.

The areas described aggregate 1400.26 acres

The following is the legal description of the Federal parcels to be conveyed to:

F-2 John C. Hunter and Laurel Hunter, as joint tenants with right of survivorship and not as tenants in common.

BlackHills Meridian, Fall River County, South Dakota

T. 11 S., R. 4 E.,

Sec. 25, SE $\frac{1}{4}$; SW $\frac{1}{4}$;

Sec. 34, E $\frac{1}{2}$ SE $\frac{1}{4}$ and Lot 8 to 11 inclusive;

Sec. 35, SW $\frac{1}{4}$.

T. 12 S., R. 4 E.,

Sec. 1: SE $\frac{1}{4}$ SE $\frac{1}{4}$;

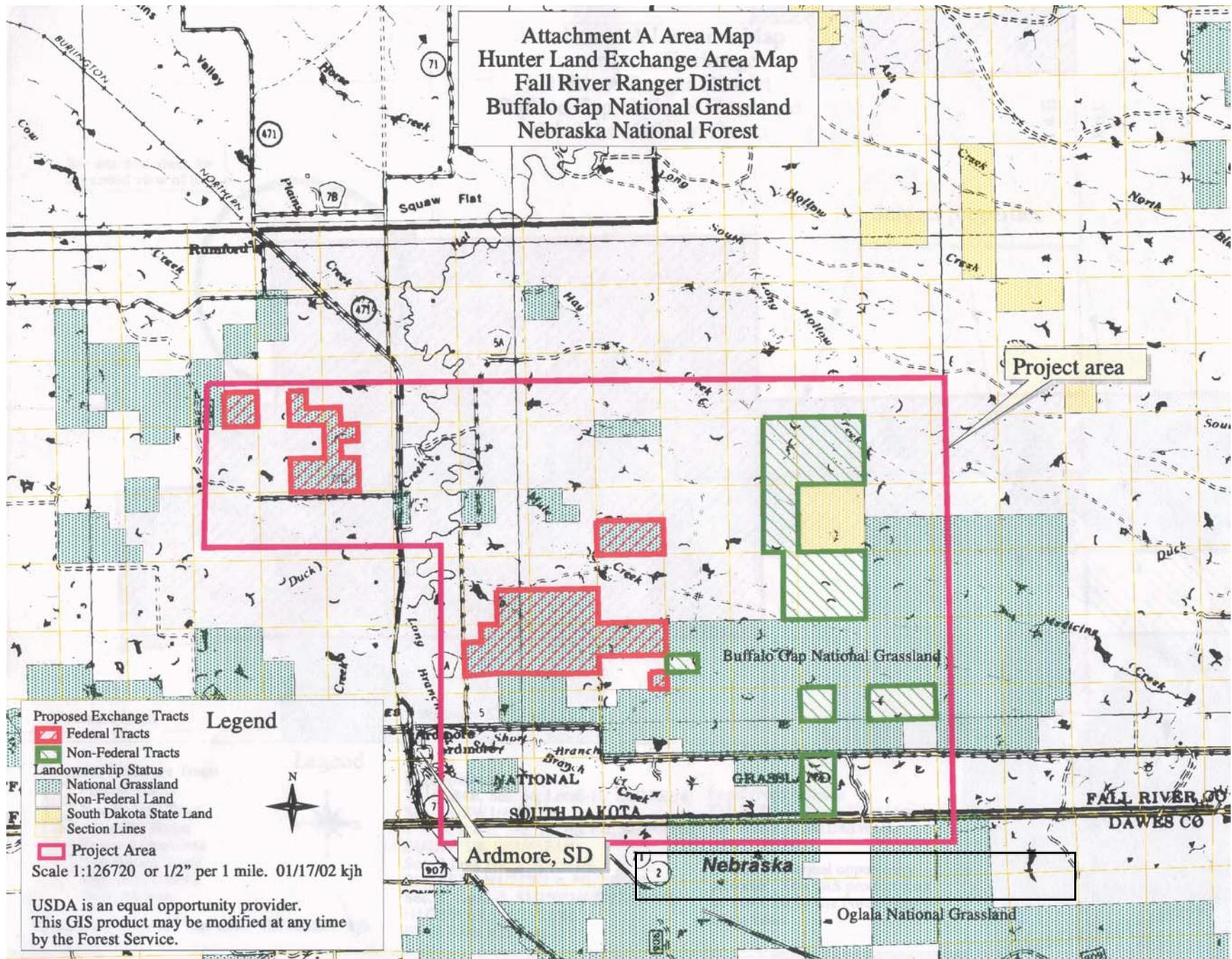
Sec. 2, N $\frac{1}{2}$ SW $\frac{1}{4}$; N $\frac{1}{2}$ SE $\frac{1}{4}$; S $\frac{1}{2}$ NW $\frac{1}{4}$; and Lots 3 and 4;

Sec. 3, N $\frac{1}{2}$ SE $\frac{1}{4}$; N $\frac{1}{2}$ SW $\frac{1}{4}$; S $\frac{1}{2}$ NW $\frac{1}{4}$; S $\frac{1}{2}$ NE $\frac{1}{4}$; and Lots 1,2,and 3.

The areas described aggregate 1420.18 acres

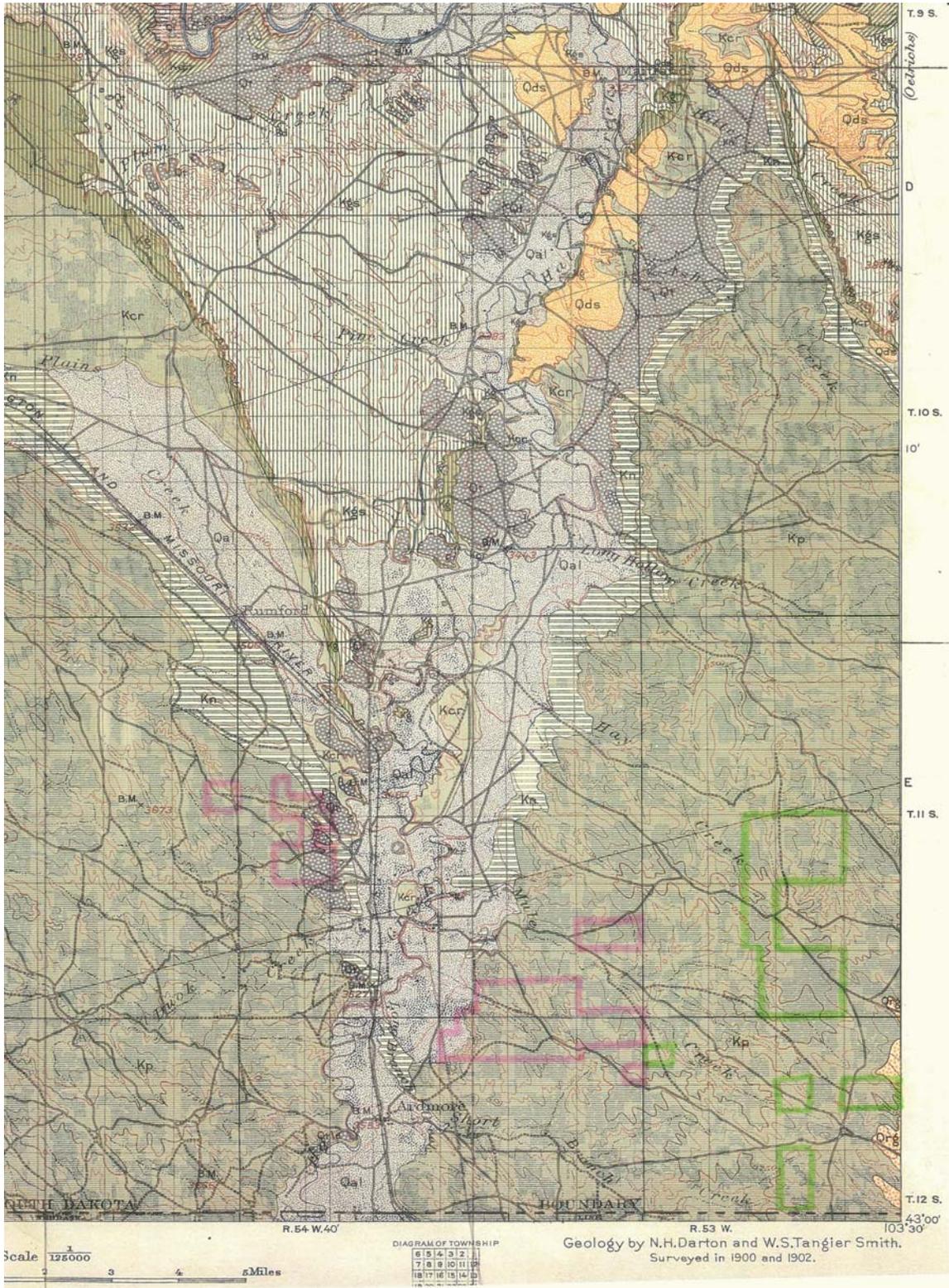
TOTAL FEDERAL ACRES

2820.44 acres



Attachment C. Location map of Hunter Land Exchange area (provided by U.S. Forest Service)

Attachment D. Geologic map (from Darton and Smith, 1904)



Attachment E. Report request (provided by U.S. Forest Service)



United States
Department of
Agriculture

Forest
Service

Medicine Bow -
Routt National
Forests

Douglas Ranger District -
Thunder Basin NG
2250 East Richards Street
Douglas, WY 82633-8922
<http://www.fs.fed.us/mrnf>

File Code: 5430

Date: March 28, 2002

ANNA WILSON GEOLOGIST
US GEOLOGICAL SURVEY
CENTRAL MINERAL RESOURCES MS 905
BOX 25046 DENVER FEDERAL CENTER
DENVER, CO 80225

Dear Ms. Wilson:

The Hunter family, of P.O. Box 317, Gordon Nebraska 69343 and HC 48, Box 235, Ardmore, South Dakota 57735, has offered certain non-Federal lands within the Nebraska National Forest, in exchange for Federal lands also within the Nebraska National Forest. These lands are generally described in Exhibits A and B enclosed herewith. Locations of the lands to be exchanged are also depicted on the map provided.

In accordance with the working agreement under Public Law 86-509, please provide us with a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to the letterhead address.

If you have any questions, you may contact me at (307) 358-1613.

Sincerely,

CHARLENE RAINVILLE
Regional Grassland Exchange Coordinator

Enclosures

cc: nhollenkamp/R2/USDAFS (w/o encl)
kheikkila/R2/USDAFS (w/o encl)



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WYOMING

LOCATABLE MINERAL REPORT FOR THE
D'ELIA FAMILY EXCHANGE OFFER,
MEDICINE BOW NATIONAL FOREST,
CONVERSE AND ALBANY COUNTIES, WYOMING

By
Anna B. Wilson
U.S. Geological Survey

January 22, 2002

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.

(303) 236-5593
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January 22, 2002

Charlene Rainville
National Grassland Exchange Program Coordinator
U.S. Forest Service –Douglas Ranger District
2250 E. Richards St.
Douglas, WY 82633-8922

Dear Ms. Rainville:

This report is in response to your December 12, 2001 request (received 12/18/01) for information on locatable mineral resources in a land exchange proposal in which the d'Elia Family Trust has offered certain non-Federal lands within the Medicine Bow National Forest in exchange for Federal lands also within the Medicine Bow 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, which were included with your request. These lands comprise 4010.92 acres, more or less, in Converse and Albany Counties, Wyoming.

Sincerely yours,

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

Copies: W.C. Day
 E.A. duBray
 N. Hollenkamp
 J.S. Dersch

For the legal location description of lands considered for exchange, refer to Exhibits A and B in Attachments A and B.

Federal and Non-Federal Land in Converse and Albany Counties.

Warbonnet Peak, Marshall, and Rock Creek 1:24,000; Laramie Peak 1:100,000; and Torrington 1:250,000 quadrangles

Hausel (1997, p. 100-101) sums up the geology of the Warbonnet district:

“The country rock is Archean granite with minor schist cut by northeast-trending diabase dikes with schistose texture. The schists are apparently older than the granite, and the diabase dikes are younger.

Mines and prospects in the district are found in both Albany and Converse Counties, and most are developed on quartz veins principally in the diabase dikes. No major copper occurrences have ever been reported in this district, and historic production was minimal.”

Of the mines in the district, only the Copper King shipped an estimated 50 tons of ore containing about 15% Cu and as much as 0.35 opt gold (Hausel, 1997, p. 101). The Oriole produced “several hundred tons of rock carrying as much as 3% Cu” (Hausel, 1997, p. 101).

Of the parcels under consideration for exchange, only the northernmost 120 acre optional parcel, is near any known mineralization (Wilson and others, 2001). This parcel is adjacent to a “small deposit of massive magnetite” (Hausel, 1997, 101). Hausel, however, cites Spencer (1916, p. 109) who describes the same deposit as:

“At one place about 2 mi. southwest of the Copper King Claim there is a small deposit of nearly clean massive magnetite. The outcrop is hidden, but an area nearly 100 ft. square is covered by boulders [sic] of iron ore, some of which measure 2 by 3 ft. From the appearance of these boulders[sic] they may be supposed to have come from a layer at least 2 ft. thick. The small area covered by the float suggests that the deposit has the form of a lens. The magnetite is accompanied by a little quartz. Exposures near by show a band of green diabase schist about 80 ft. wide, flanked by coarse granite. The magnetite layer probably occurs in the schist.”

The pegmatite deposit in the MRDS database that plots in section 34 (Wilson and others, 2001) is most likely mislocated. The database uses Osterwald and others (1966, p. 21) as a reference for this deposit, however, that beryl-bearing pegmatite is located in sec. 34, T29N, R71W (or 24 mi. to the east). The description of the deposit in hornblende schist also suggests that the MRDS location is wrong.

Mineral resource potential of all but the northernmost tract is considered low. There is a moderate chance that a small magnetite deposit could be concealed on that parcel.

REFERENCES CITED:

- Hausel, W. Dan, 1997, Copper, lead, zinc, and associated metal deposits of Wyoming: Wyoming State Geological Survey Bulletin 70, 229 p.
- Spencer, A.C., 1916, The Atlantic gold district and the North Laramie Mountains, Fremont, Converse, and Albany Counties: U.S. Geological Survey Bulletin 626, 85 p.
- Osterwald, F.W., Osterwald, D.B., Long, J.S., Jr., and Wilson, W.H., 1966, Mineral resources of Wyoming, Geological Survey of Wyoming Bulletin 50 [revised edition], 287 p.
- Wilson, A.B., Klein, T.L., and Heran, W.D., 2001, Databases and simplified geology for mineralized areas, claims, mines and prospects in Wyoming: U.S. Geological Survey Open-File Report 01-497.

ADDITIONAL INFORMATION SOURCES

- Beeler, H.C., 1904, The North Laramie Peak copper district in Converse, Albany and Laramie Counties, Wyoming: State Geologist report, Cheyenne, Wyoming, 16 p.
- Beeler, H.C., 1904, A brief report on the Oriole group: Geological Survey of Wyoming Mineral Report MR04-46, 5 p.
- Beeler, H.C., 1903, Report on the French Joe prospect: Geological Survey of Wyoming Mineral Report MR03-24, 3 p.
- Hausel, W. Dan, and Sutherland, Wayne M., 1998, Preliminary report on gemstones, semi-precious stones, lapidary materials, ornamental stones, and other unique minerals and rocks of Wyoming: Wyoming State Geological Survey Mineral Report 98-3, 170 p.
- Osterwald, F.W., and Dean, B.G., compilers, 1958, Preliminary tectonic map of Wyoming east of the overthrust belt, showing the distribution of uranium deposits: U.S. Geological Survey Mineral Investigations Field Studies Map MF-127.
- Sherer, R.L., 1969, Nephrite deposits of the Granite, Seminoe, and Laramie Mountains, Wyoming: University of Wyoming unpublished PhD dissertation, 194 p.
- Wyoming Industrial Journal, 1905, v. 6, no.10, p. 7.

LIST OF ATTACHMENTS:

- A. Exhibit A. Property that the Non-Federal Party will consider exchanging.
- B. Exhibit B. Property that the Forest Service will consider exchanging.
- C. Simplified geology, location of mines and tracts (modified from Wilson and others, 2001)
- D. Report request (provided by U.S. Forest Service).

Attachment A. Exhibit A (provided by U.S. Forest Service)

EXHIBIT A

Property that the Non-Federal Party will consider exchanging:

Sixth Principal Meridian, Converse and Albany County, Wyoming

T. 29 N., R. 75 W.,

Sec. 34, S $\frac{1}{2}$ SE $\frac{1}{4}$;	80.00 acres
Sec. 35, SW $\frac{1}{4}$ SW $\frac{1}{4}$.	40.00 acres

T. 28 N., R. 75 W.,

Sec. 5, Lot 3, SW $\frac{1}{4}$;	216.76 acres
Sec. 6, Lot 6;	37.30 acres
Sec. 7, Lot 1, N $\frac{1}{2}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$;	197.16 acres
Sec. 14, NE $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$;	80.00 acres
Sec. 15, N $\frac{1}{2}$ NE $\frac{1}{4}$;	80.00 acres
Sec. 17, E $\frac{1}{2}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$;	440.00 acres
Sec. 18, W $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$;	160.00 acres
Sec. 21, SW $\frac{1}{4}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$;	120.00 acres
Sec. 22, SE $\frac{1}{4}$ NW $\frac{1}{4}$;	40.00 acres
Sec. 23, NE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$;	280.00 acres
Sec. 24, E $\frac{1}{2}$ SW $\frac{1}{4}$;	80.00 acres
Sec. 27, NW $\frac{1}{4}$ NW $\frac{1}{4}$.	40.00 acres

Total 1891.22 Acres

please include optional acres in report

Optional Acres for inclusion if needed to equalize values**

T. 29 N., R. 75 W.,

Sec. 15, SW $\frac{1}{4}$ SE $\frac{1}{4}$;	** 40.00 acres
Sec. 22, NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$.	** 80.00 acres

T. 28 N., R. 75 W.,

Sec. 6, Lot 5, NE $\frac{1}{4}$ SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$.	** 157.68 acres
---	-----------------

Total Optional Acres 277.68

Attachment B. Exhibit B (provided by U.S. Forest Service)

EXHIBIT B

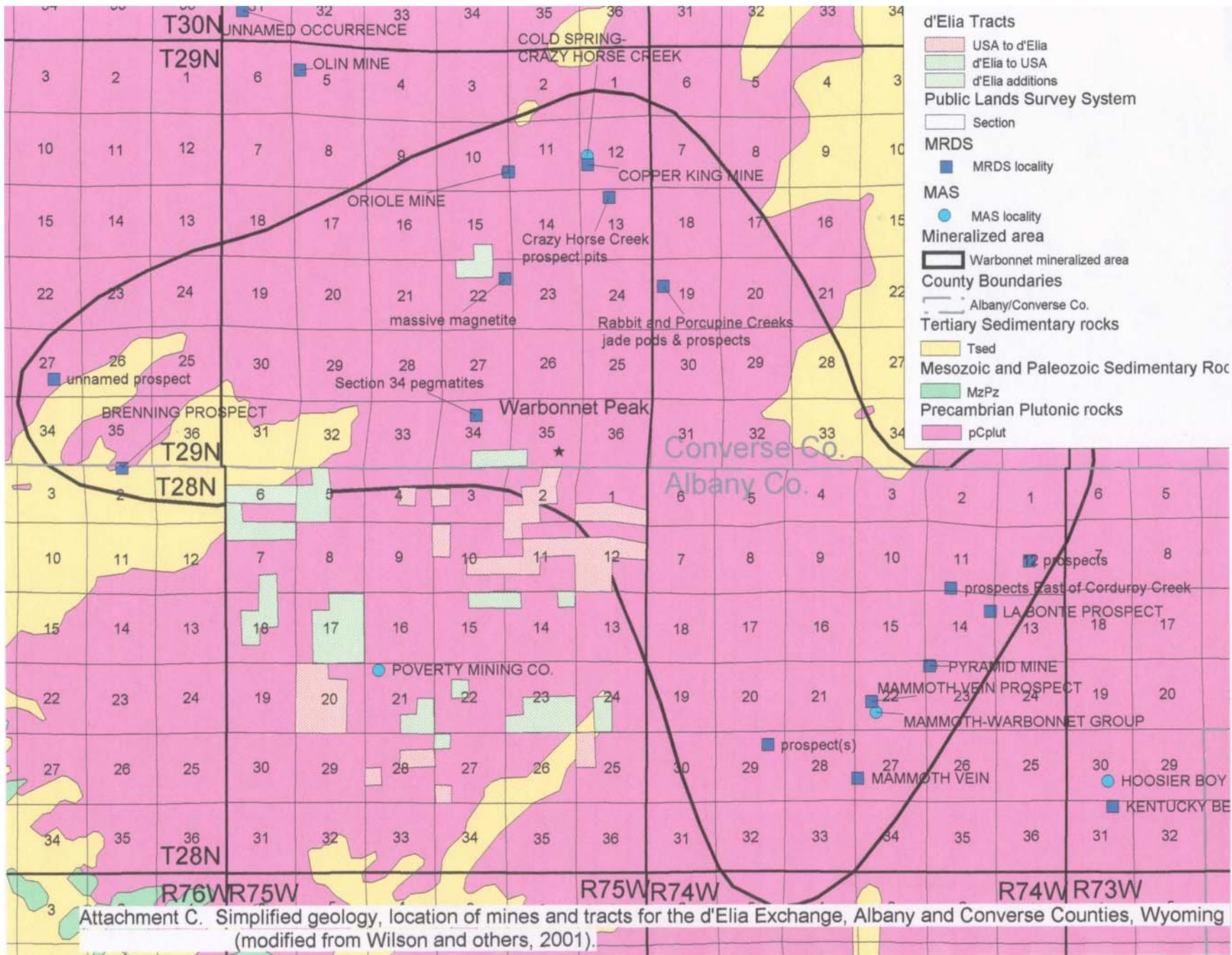
Property that the Forest Service will consider exchanging:

Sixth Principal Meridian, Converse and Albany County, Wyoming

T. 28 N., R. 75 W.,

Sec. 1, Lots 5, 6, 7 and 8;	152.76 acres
Sec. 2, Lots 5, 6, 7 and 8, NW $\frac{1}{4}$ SE $\frac{1}{4}$;	209.26 acres
Sec. 3, NW $\frac{1}{4}$ SW $\frac{1}{4}$;	40.00 acres
Sec. 4, NW $\frac{1}{4}$ SE $\frac{1}{4}$;	40.00 acres
Sec. 10, W $\frac{1}{2}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$;	160.00 acres
Sec. 11, S $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$;	240.00 acres
Sec. 12, S $\frac{1}{2}$ N $\frac{1}{2}$, SW $\frac{1}{4}$;	320.00 acres
Sec. 20, SW $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$, W $\frac{1}{2}$ SE $\frac{1}{4}$;	440.00 acres
Sec. 25, W $\frac{1}{2}$ NW $\frac{1}{4}$;	80.00 acres
Sec. 27, SW $\frac{1}{4}$ SW $\frac{1}{4}$;	40.00 acres
Sec. 28, S $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$.	120.00 acres

Total 1842.02 Acres



Attachment C. Simplified geology, location of mines and tracts for the d'Elia Exchange, Albany and Converse Counties, Wyoming (modified from Wilson and others, 2001).

Attachment D. Report request (provided by U.S. Forest Service)



United States
Department of
Agriculture

Forest
Service

Medicine Bow –
Routt National
Forests

Douglas Ranger District –
Thunder Basin NG
2250 East Richards Street
Douglas, WY 82633-8922
<http://www.fs.fed.us/mrnf>

File Code: 5430

Date: December 12, 2001

ANNA WILSON GEOLOGIST
US GEOLOGICAL SURVEY
CENTRAL MINERAL RESOURCES MS 905
BOX 25046 DENVER FEDERAL CENTER
DENVER, CO 80225

Dear Ms. Wilson:

Serge M. d'Elia and Lilian C.S.L. d'Elia, Trustees of the d'Elia Family Trust of P.O. Box 577, Casper, Wyoming 82602, have offered certain non-Federal lands within the Medicine Bow National Forest, in exchange for Federal lands also within the Medicine Bow National Forest. These lands are generally described in Exhibits A and B enclosed herewith. Locations of the lands to be exchanged are also depicted on the map provided.

In accordance with the working agreement under Public Law 86-509, please provide us with a report on the locatable mineral resources on the lands described in Exhibits A and B. Please specify in your report the mineral or minerals involved. Please send your report to the letterhead address.

If you have any questions, you may contact me at (307) 358-1613.

Sincerely,

CHARLENE RAINVILLE
Regional Grassland Exchange Coordinator

Enclosures

cc: nhollenkamp/R2/USDAFS (w/o encl)
tflorich/R2/USDAFS (w/o encl)
dgeer/R2/USDAFS (w/o encl)



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