[illegible] New Customhouse
Denver 2, Colorado

August 26, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: ECC

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 3079 (Columbium), George Schweigert, Iron Mountain, Fremont County, Colorado.

Enclosed are four copies of the final Geologic report on the subject docket. The Bureau of Mines did not participate in the field examination. A copy of the letter of denial to the applicant and two copies of Form 3b are attached.

W. H. King
W. H. King

E. N. Hawkins
for A. H. Koschmann

Enclosures
HMC:cwm

cc: Docket
WMTraver w/copy of Final Report
AHKoschmann w/copy of Final Report
DMEA w/copy of Final Report
Mining Division w/copy of Final Report
AHKoschmann (2)
Chron.

224 New Customhouse
Denver 2, Colorado

August 26, 1953.

Mr. George D. Schweigert
780 Magnolia Street
Denver 20, Colorado

Re: Docket DMEA-3079

Dear Mr. Schweigert:

Reference is made to your application for Government aid on the Iron Mountain or Grape Creek Iron Deposit.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade, and in quantities that will significantly improve the mineral supply position for the National Defense Program.

A careful study of your property and data available to this agency reveals that the probability of disclosing minable reserves of columbium, titanium and rare metals by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

W. H. King
W. H. King
Field Team, Region IV

E. N. Hauchman
per A. H. Koschmann
Field Team, Region IV

HMC:cwm

cc: Docket
Administrator, DMEA
WMTraver
AHKoschmann (2)
Chron.

DMEA Form 3b
(Revised)

DEFENSE MINERALS EXPLORATION ADMINISTRATION

CONTROLLED DOCUMENT
Revised Abstract

DMEA Docket No. 3079

Name of Applicant George D. Schweigert

Change:	From		To	
	III 1	☐	III 1	☐
	III 2	☐	III 2	☒ 8-17-53
	III 3	☐	III 3	☐
	III 4	☒	III 4	☐
	III 5	☐	III 5	☐
			III 6	☐
			III 7	☐

Add:

II 7 $ 2,000.00

II 8 $ None

II 8a % _____

II 9 $ _____

Remarks:

Initials of person preparing sheet H.M.C.

Date sheet prepared 8-17-53

33978

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
July 28, 1953

Mining Division
Date Rec'd.
JUL 28 1953
BUREAU OF MINES
Denver, Colorado

3079

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3079 (Columbium) George Schweigert, secs. 2, 3, 4, 9, and 10, T. 20 S., R. 72 W., sixth principal meridian, Fremont County, Colorado

E. N. Harshman, USGS, examined the subject property and has advised that there is no columbium in evidence and, accordingly, he will submit a report recommending denial. We assume, under the circumstances, Mineral Resources Branch participation will be unnecessary.

Incidentally, the property is a titaniferous iron deposit containing some vanadium, situated about 26 miles along Copper Gulch below Parkdale in Fremont County. This office recommended a small core drilling project on the deposit in 1949 and, in my opinion, is entitled to a project proposal at the present time. Floyd Everett participated with me in the examination which included a dip needle survey.

I am returning herewith the brochure submitted with your memorandum of June 22, 1953, instructing us to make a field examination.

W. M. Traver

W. M. Traver

enclosures

WMT/cb

Cc: WHKing, w/original
3079
DMEA Chron.

Project proposal requested

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Room 137, Building 20
Denver Federal Center
Denver 14, Colorado
July 28, 1953

Memorandum

To: W. M. Traver, Chief, Mineral Resources Branch, Mining Division, Region IV

From: E. N. Harshman, Geologist

Subject: Schweigert Property (DMEA 3079)

Analyses show less than 0.02 percent columbium on the Fe-Ti ore. Unless the spectroscopic analyses show presence of significant amounts of other rare metals (not probable), I will turn down the request on geologic grounds.

/s/ E. N. Harshman

E. N. Harshman

Copy to: W. H. King (2)
DMEA 3079
DMEA Chron.

ENH:amh

Region IV

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
July 28, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3079 (Columbium) George Schweigert, secs 2, 3, 4, 9, and 10, T. 20 S., R. 72 W., sixth principal meridian, Fremont County, Colorado

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W. M. TRAVER

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WMT/cb

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3079
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Region IV

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July 28, 1953

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Copy to: W. H. King (2)
DMEA 3079
DMEA Chron.

ENH:amh

Region IV

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Room 137, Building 20
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Denver 14, Colorado
July 28, 1953

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/s/ E. N. Harshman

E. N. Harshman

Copy to: W. H. King (2)
DMEA 3079
DMEA Chron.

ENH:amh

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

JUN 15 1953

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. DMEA-3079
Metal or Mineral
Date Received 6/15/53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: George D. Schweigert, 780 Magnolia Street, Denver 20, Colorado. Answers to all following questions attached hereto and made part hereof, because of insufficient room for answers on these blanks.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

(*b*) State any mine name by which the property is known.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated June 10, 1953

X Scott Schweizer
(Applicant)

By .....

.....

.....

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

ANSWERS TO QUESTIONS, ATTACHED TO AND MADE PART OF APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED.

1. Name of applicant: (a) George D. Schweigert, 780 Magnolia Street, Denver 20, Colorado.

(b) and (d) Joint venture in which the applicant above named and Pete Cowan, address Westcliffe, Colorado, are associated.

(c) Not applicable.

2. General (Instructions)

Re Well

3. Applicant's property rights: Applicant and associate have a contract for lease of approximately 1,200 acres of land owned by Allan C. Ellison of Hillside, Colorado, homestead lands in which he owns all mineral rights, in Sections 2, 3, 4, 9 and 10, Township 20 South, Range 72 West of 6th P.M. in Fremont County, Colorado, and the outcroppings to be explored cover about 160 acres in the center of the tract. Copy of contract attached as Exhibit "A", and lease will be obtained under it if discovery warrants.

(b) Not applicable. No name.

(c) and (d) See copy of contract attached.

(e) Not applicable.

(f) Not applicable.

4. Physical description: (a) There are a few shallow pits which were dug on outcroppings years and years ago. The property is readily accessible for examination purposes by road bordering the deposit.

(b) No past or current production.

(c) Deposit is shown by outcroppings at many places over many acres of land lying near the base of a large mountain, on a slope toward a dry or flood creek. The slope is from north to south and it appears that there is a dyke along the west side of it. Its geology was determined in 1913. See Bulletin 64, Department of Interior, Bureau of Mines, "The Titaniferous Iron Ores in the United States" (1913). Reasons for desiring to explore the deposit result from assays at or near the surface, particularly for columbium. Report on a sample sent to U. S. Bureau of Mines, 1600 East First South, Salt Lake City, Utah, dated February 27, 1953, is that the ore "is high in columbium". Assay by Herbert M. Ochs of Denver, Colorado, February 25, 1953, reports 12.8% titanium. Field tests also show presence of some of the rare metals group, besides columbium.

(d) Property is accessible by road from Westcliffe, about 16 miles south of it, and by road from Parkdale about 10 miles north of it. Parkdale is on the main line of the Denver & Rio Grande Western Railroad.

(e) There is no power near the property, the power line being several miles away. There is no water, but some water could probably be obtained by digging or boring wells on the property, or might be pumped from nearby gulches. Manpower, materials, supplies and equipment are available.

5. The exploration project: (a) Principally for columbium, titanium and metals of the rare metals group. Thus far assays and field tests have been made on only those minerals, but some radio activity is shown by Geiger counter.

(b) Opening the outcroppings at one or more places chosen by surface indications, by cuts, tunnels, adits or inclines, or by bulldozer, total length of probably 60 feet, divided as to places according to showings, thus prospecting at various places in the deposit.

(c) The work will start within 30 days after approval of the application, and be completed within one year, and sooner if not delayed by assay return and weather.

(d) Applicant was born in Custer County, Colorado, has lived in Denver many years, and is at present a substantial businessman who can furnish high reference if required. He has employed his spare time the past 3 years prospecting mineral formations in the region of the property here involved. His associate, Pete Cowan of Westcliffe, Colorado, has spent many years of his life in underground mining, having directed work and worked in several mines, and he will locally supervise this operation. He is in charge of road maintenance in Custer County, Colorado.

6. Estimate of costs:

(a) Independent contracts: None

(b) Labor, supervision, consultants: Two miners, each at $1.75 an hour. Part time supervision by associate Pete Cowan at $20. a week. Transportation for the 2 miners, 32 miles round trip from Westcliffe each day at 8 cents a mile, $2.56 a day. Supervisor transportation 3 times a week, same mileage and rate, $7.68 a week. Applicant's transportation twice a month for examinations and reports, Denver to property and return, 350 miles at 8 cents a mile, $28.00 each trip.

(c) Operating materials and supplies: Applicant owns air-compressor and air-drill now located about 15 miles away from property and also necessary hand tools. There is sufficient timber on or near the property, but a little rough lumber might be needed. It will cost about $15. to move and install the air-compressor and air-drill, and reasonable cost or allowance for use of same would be $3. an hour when actually working, plus gasoline and oil. Total estimated machinery use cost $200. Powder and fuse, estimate $75.

(d) Operating equipment: See (c) above.

(e) Rehabilitation and repairs: None, except in case of breakage in operation.

(f) New buildings, improvements and installations: None, except installation as noted above.

(g) Miscellaneous: ~~None~~ ASSAYING.

(h) Contingencies: $25. for necessary but unforeseen incidentals.

7. (a) Applicant requests aid of $2,000., and is prepared to furnish his 10% share of costs by use of implements and tools above mentioned and any differnce in cash.

The undersigned certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated..June 10.....1953.

Fred L. Lovegrove

Applicant

EXHIBIT "A"

MEMORANDA OF AGREEMENT (COPY)

In consideration of one dollar and other good and valuable considerations received from the undersigned George D. Schweigert and Pete Cowan, the undersigned Ellison, first party, agrees to and does hereby grant unto them the exclusive right and privilege of prospecting, mining and developing any and all mineral or mineral deposits contained in approximately 1,200 acres of land owned by first party and located south of Iron Mountain in Fremont County, Colorado, for a term of one year from date hereof, and second parties agree that in prospecting, mining or developing the same they will keep and maintain any and all pits, shafts or other excavations made by them in such manner and condition as not to endanger the safety or freedom of cattle or other livestock on said lands or any part thereof; and in event that during the one-year term of this grant and right second parties shall discover or develop on any of said lands any mineral or minerals of commercial value, they shall have first and superior right to mine, produce and market same, and first party will thereupon make and execute to them a lease on said lands upon reasonable terms and conditions to be agreed upon by the parties as to term, royalties, options and such other related matters as customary in mining leases.

This agreement shall bind the heirs, successors and assigns of all parties to it.

Dated and signed at Hillside, Colorado, this 31 day of Jan., 1953, in duplicate.

(Signed) Allan C. Ellison
First Party

(Signed) Geo. D. Schweigert

(Signed) Pete Cowan
Second Parties

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

June 22, 1953

3079

Memorandum

To: W. M. Traver, Jr. (with brochure)

A. H. Koschmann (with brochure)/

From: Field Team, Region IV

Subject: Docket DMEA 3079 (Columbium), George Schweigert, Fremont County, Colorado

Enclosed herewith is the subject application for Government assistance in exploration work estimated to cost $2,000.00.

A field examination is required.

W. H. King
W. H. King

E. M. Harshman
for A. H. Koschmann

Enclosure

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

3

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. DMEA - 3099
Metal or Mineral
Date Received
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: George D. Schweigert, 710 Magnolia Street, Denver 20, Colorado. Answers to all following questions attached hereto and made part hereof, because of insufficient room for answers on these blanks.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

(*b*) State any mine name by which the property is known.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

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(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

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(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated June 10, 1953

Geo H Schweigert
(Applicant)

By .....

.....

.....

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

(c) The work will start within 30 days after approval of the application, and be completed within one year, and sooner if not delayed by assay return and weather.

(d) Applicant was born in Custer County, Colorado, has lived in Denver many years, and is at present a substantial businessman who can furnish high reference if required. He has employed his spare time the past 3 years prospecting mineral formations in the region of the property here involved. His associate, Pete Cowan of Westcliffe, Colorado, has spent many years of his life in underground mining, having directed work and worked in several mines, and he will locally supervise this operation. He is in charge of road maintenance in Custer County, Colorado.

6. Estimate of costs:

(a) Independent contracts: None

(b) Labor, supervision, consultants: Two miners, each at $1.75 an hour. Part time supervision by associate Pete Cowan at $20. a week. Transportation for the 2 miners, 32 miles round trip from Westcliffe each day at 8 cents a mile, $2.56 a day. Supervisor transportation 3 times a week, same mileage and rate, $7.68 a week. Applicant's transportation twice a month for examinations and reports, Denver to property and return, 350 miles at 8 cents a mile, $28.00 each trip.

(c) Operating materials and supplies: Applicant owns air-compressor and air-drill now located about 15 miles away from property and also necessary hand tools. There is sufficient timber on or near the property, but a little rough lumber might be needed. It will cost about $15. to move and install the air-compressor and air-drill, and reasonable cost or allowance for use of same would be $3. an hour when actually working, plus gasoline and oil. Total estimated machinery use cost $200. Powder and fuse, estimate $75.

(d) Operating equipment: See (c) above.

(e) Rehabilitation and repairs: None, except in case of breakage in operation.

(f) New buildings, improvements and installations: None, except installation as noted above.

(g) Miscellaneous: ~~None~~ ASSAYING

(h) Contingencies: $25. for necessary but unforeseen incidentals.

7. (a) Applicant requests aid of $2,000., and is prepared to furnish his 10% share of costs by use of implements and tools above mentioned and any difference in cash.

The undersigned certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated.....June 10..... ..1953.

Fred Schweigert

Applicant

ANSWERS TO QUESTIONS, ATTACHED TO AND MADE PART OF APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED.

1. Name of applicant: (a) George D. Schweigert, 760 Magnolia Street, Denver 20, Colorado.

(b) and (d) Joint venture in which the applicant above named and Pete Cowan, address Westcliffe, Colorado, are associated.

(c) Not applicable.

2. General (Instructions)

3. Applicant's property rights: Applicant and associate have a contract for lease of approximately 1,200 acres of land owned by Allan C. Ellison of Hillside, Colorado, homestead lands in which he owns all mineral rights, in Sections 2, 3, 4, 9 and 10, Township 20 South, Range 72 West of 6th P.M. in Fremont County, Colorado, and the outcroppings to be explored cover about 160 acres in the center of the tract. Copy of contract attached as Exhibit "A", and lease will be obtained under it if discovery warrants.

(b) Not applicable. No name.

(c) and (d) See copy of contract attached.

(e) Not applicable.

(f) Not applicable.

4. Physical description: (a) There are a few shallow pits which were dug on outcroppings years and years ago. The property is readily accessible for examination purposes by road bordering the deposit.

(b) No past or current production.

(c) Deposit is shown by outcroppings at many places over many acres of land lying near the base of a large mountain, on a slope toward a dry or flood creek. The slope is from north to south and it appears that there is a dyke along the west side of it. Its geology was determined in 1913. See Bulletin 64, Department of Interior, Bureau of Mines, "The Titaniferous Iron Ores in the United States" (1913). Reasons for desiring to explore the deposit result from assays at or near the surface, particularly for columbium. Report on a sample sent to U. S. Bureau of Mines, 1600 East First South, Salt Lake City, Utah, dated February 27, 1953, is that the ore "is high in columbium". Assay by Herbert M. Ochs of Denver, Colorado, February 23, 1953, reports 12.8% titanium. Field tests also show presence of some of the rare metals group, besides columbium.

(d) Property is accessible by road from Westcliffe, about 16 miles south of it, and by road from Parkdale about 10 miles north of it. Parkdale is on the main line of the Denver & Rio Grande Western Railroad.

(e) There is no power near the property, the power line being several miles away. There is no water, but some water could probably be obtained by digging or boring wells on the property, or might be pumped from nearby gulches. Manpower, materials, supplies and equipment are available.

5. The exploration project: (a) Principally for columbium, titanium and metals of the rare metals group. Thus far assays and field tests have been made on only those minerals, but some radio activity is shown by Geiger counter.

(b) Opening the outcroppings at one or more places chosen by surface indications, by cuts, tunnels, adits or inclines, or by bulldozer, total length of probably 60 feet, divided as to places according to showings, thus prospecting at various places in the deposit.

EXHIBIT "A"

MEMORANDA OF AGREEMENT (COPY)

In consideration of one dollar and other good and valuable considerations received from the undersigned George D. Schweigert and Pete Cowan, the undersigned Ellison, first party, agrees to and does hereby grant unto them the exclusive right and privilege of prospecting, mining and developing any and all mineral or mineral deposits contained in approximately 1,200 acres of land owned by first party and located south of Iron Mountain in Fremont County, Colorado, for a term of one year from date hereof, and second parties agree that in prospecting, mining or developing the same they will keep and maintain any and all pits, shafts or other excavations made by them in such manner and condition as not to endanger the safety or freedom of cattle or other livestock on said lands or any part thereof; and in event that during the one-year term of this grant and right second parties shall discover or develop on any of said lands any mineral or minerals of commercial value, they shall have first and superior right to mine, produce and market same, and first party will thereupon make and execute to them a lease on said lands upon reasonable terms and conditions to be agreed upon by the parties as to term, royalties, options and such other related matters as customary in mining leases.

This agreement shall bind the heirs, successors and assigns of all parties to it.

Dated and signed at Hillside, Colorado, this 31 day of Jan., 1953, in duplicate.

(Signed) Allan C. Ellison
First Party

(Signed) Geo. D. Schweigert

(Signed) Pete Cowan
Second Parties

224 New Customhouse
Denver 2, Colorado

June 22, 1953

Memorandum

To: W. M. Traver, Jr. (with brochure)

A. H. Koschmann (with brochure)

From: Field Team, Region IV

Subject: Docket DMRA 3079 (Columbium), George Schweigert, Fremont County, Colorado

Enclosed herewith is the subject application for Government assistance in exploration work estimated to cost $2,000.00.

A field examination is required.

W. H. King
W. H. King

E. M. Hauchman
for A. H. Koschmann

Enclosure

HMC:fwo

cc Subject
Chron

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 6/16/53

REFERRED TO:

1. Region IV
2.
3.
4.

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
..... Comment	
..... Conference	..... Referring to .....
..... Consideration	
..... Filing	..... Reply for signature of .....
..... Instructions	
..... Investigation	..... Rewriting
..... Initials	..... Signature
..... Mailing	..... Suggestions
..... Previous correspondence	..... Your information

Mining Division
Date Rec'd
JUN 22 1953
BUREAU OF MINES
Denver, Colorado

REMARKS: .....

Check (X) before the items needing attention.

ROBERT E. ADAMS
Initials of sender.

GPO 16—63815-1

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

June 12, 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

JUN 15 1953

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: Code 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMA Form 3a and MF-103 and supporting data pertaining to the following applications for Government assistance in exploration work:

George D. Schweigert (Columbium)
780 Magnolia Street
Denver 20, Colorado
dmea 3079

George D. Schweigert (Thorium)
780 Magnolia Street
Denver 20, Colorado
dmea 3078

W. H. King
W. H. King

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

4

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. DMEA-3077
Metal or Mineral
Date Received
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: George R. Brindlgate, 700 Magnolia Street, Denver 20, Colorado. Answer to all following questions attached hereto and made part hereof, because of insufficient room for answers on these blanks.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

(*b*) State any mine name by which the property is known.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated June 10, 1953

X Geo H Schwergert
(Applicant)

By .....

.....

.....

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

(c) The work will start within 30 days after approval of the application, and be completed within one year, and sooner if not delayed by assay return and weather.

(d) Applicant was born in Custer County, Colorado, has lived in Denver many years, and is at present a substantial businessman who can furnish high reference if required. He has employed his spare time the past 3 years prospecting mineral formations in the region of the property here involved. His associate, Pete Cowan of Westcliffe, Colorado, has spent many years of his life in underground mining, having directed work and worked in several mines, and he will locally supervise this operation. He is in charge of road maintenance in Custer County, Colorado.

6. Estimate of costs:

(a) Independent contracts: None

(b) Labor, supervision, consultants: Two miners, each at $1.75 an hour. Part time supervision by associate Pete Cowan at $20. a week. Transportation for the 2 miners, 32 miles round trip from Westcliffe each day at 8 cents a mile, $2.56 a day. Supervisor transportation 3 times a week, same mileage and rate, $7.68 a week. Applicant's transportation twice a month for examinations and reports, Denver to property and return, 350 miles at 8 cents a mile, $28.00 each trip.

(c) Operating materials and supplies: Applicant owns air-compressor and air-drill now located about 15 miles away from property and also necessary hand tools. There is sufficient timber on or near the property, but a little rough lumber might be needed. It will cost about $15. to move and install the air-compressor and air-drill, and reasonable cost or allowance for use of same would be $3. an hour when actually working, plus gasoline and oil. Total estimated machinery use cost $200. Powder and fuse, estimate $75.

(d) Operating equipment: See (c) above.

(e) Rehabilitation and repairs: None, except in case of breakage in operation.

(f) New buildings, improvements and installations: None, except installation as noted above.

(g) Miscellaneous: ~~None~~ ASSAYING

(h) Contingencies: $25. for necessary but unforeseen incidentals.

7. (a) Applicant requests aid of $2,000., and is prepared to furnish his 10% share of costs by use of implements and tools above mentioned and any difference in cash.

The undersigned certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated.....June 10.....1953.

Geo H. Schweigert

Applicant

ANSWERS TO QUESTIONS, ATTACHED TO AND MADE PART OF APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED.

1. Name of applicant: (a) George D. Schweigert, 780 Magnolia Street, Denver 20, Colorado.

(b) and (d) Joint venture in which the applicant above named and Pete Cowan, address Westcliffe, Colorado, are associated.

(c) Not applicable.

2. General (Instructions)

3. Applicant's property rights: Applicant and associate have a contract for lease of approximately 1,200 acres of land owned by Allan C. Ellison of Hillside, Colorado, homestead lands in which he owns all mineral rights, in Sections 2, 3, 4, 9 and 10, Township 20 South, Range 72 West of 6th P.M. in Fremont County, Colorado, and the outcroppings to be explored cover about 160 acres in the center of the tract. Copy of contract attached as Exhibit "A", and lease will be obtained under it if discovery warrants.

(b) Not applicable. No name.

(c) and (d) See copy of contract attached.

(e) Not applicable.

(f) Not applicable.

4. Physical description: (a) There are a few shallow pits which were dug on outcroppings years and years ago. The property is readily accessible for examination purposes by road bordering the deposit.

(b) No past or current production.

(c) Deposit is shown by outcroppings at many places over many acres of land lying near the base of a large mountain, on a slope toward a dry or flood creek. The slope is from north to south and it appears that there is a dyke along the west side of it. Its geology was determined in 1913. See Bulletin 64, Department of Interior, Bureau of Mines, "The Titaniferous Iron Ores in the United States" (1913). Reasons for desiring to explore the deposit result from assays at or near the surface, particularly for columbium. Report on a sample sent to U. S. Bureau of Mines, 1600 East First South, Salt Lake City, Utah, dated February 27, 1953, is that the ore "is high in columbium". Assay by Herbert M. Cohn of Denver, Colorado, February 25, 1953, reports 12.8% titanium. Field tests also show presence of some of the rare metals group, besides columbium.

(d) Property is accessible by road from Westcliffe, about 16 miles south of it, and by road from Parkdale about 10 miles north of it. Parkdale is on the main line of the Denver & Rio Grande Western Railroad.

(e) There is no power near the property, the power line being several miles away. There is no water, but some water could probably be obtained by digging or boring wells on the property, or might be pumped from nearby gulches. Manpower, materials, supplies and equipment are available.

5. The exploration project: (a) Principally for columbium, titanium and metals of the rare metals group. Thus far assays and field tests have been made on only those minerals, but some radio activity is shown by Geiger counter.

(b) Opening the outcroppings at one or more places chosen by surface indications, by cuts, tunnels, adits or inclines, or by bulldozer, total length of probably 60 feet, divided as to places according to showings, thus prospecting at various places in the deposit.

EXHIBIT "A"

MEMORANDA OF AGREEMENT (COPY)

In consideration of one dollar and other good and valuable considerations received from the undersigned George D. Schweigert and Pete Gowan, the undersigned Ellison, first party, agrees to and does hereby grant unto them the exclusive right and privilege of prospecting, mining and developing any and all mineral or mineral deposits contained in approximately 1,200 acres of land owned by first party and located south of Iron Mountain in Fremont County, Colorado, for a term of one year from date hereof, and second parties agree that in prospecting, mining or developing the same they will keep and maintain any and all pits, shafts or other excavations made by them in such manner and condition as not to endanger the safety or freedom of cattle or other livestock on said lands or any part thereof; and in event that during the one-year term of this grant and right second parties shall discover or develop on any of said lands any mineral or minerals of commercial value, they shall have first and superior right to mine, produce and market same, and first party will thereupon make and execute to them a lease on said lands upon reasonable terms and conditions to be agreed upon by the parties as to term, royalties, options and such other related matters as customary in mining leases.

This agreement shall bind the heirs, successors and assigns of all parties to it.

Dated and signed at Hillside, Colorado, this 31 day of Jan., 1953, in duplicate.

(Signed) Allan C. Ellison
First Party

(Signed) Geo. D. Schweigert

(Signed) Pete Gowan
Second Parties

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

August 26, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 3079 (Columbium), George Schweigert, Iron Mountain, Fremont County, Colorado.

Enclosed are four copies of the final Geologic report on the subject docket. The Bureau of Mines did not participate in the field examination. A copy of the letter of denial to the applicant and two copies of Form 3b are attached.

W. H. King
W. H. King

E. N. Harshman
for A. H. Koschmann

Enclosures

HMC:cwm

cc: Docket
WMTraver w/copy of Final Report
AHKoschmann w/copy of Final Report
DMEA w/copy of Final Report
Mining Division w/copy of Final Report
AHKoschmann (2)
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

August 11, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3079, Iron Mountain or Grape Creek Iron Deposit, Freemont County, Colorado

Attached are 8 copies of the geological report by E. N. Harshman covering DMEA Docket 3079, Iron Mountain or Grape Creek Iron Deposit, Freemont County, Colorado.

The applicant proposes to explore the Iron Mountain titaniferous iron ore deposit for columbium, titanium, and rare metals by trenching and test pitting at an estimated cost of $2,000.00.

The iron deposit occurs in a mass of gabbro intrusive into pre-Cambrian gneiss and granite. Chemical analyses of the ore show the ore to be high in iron, titanium, and vanadium, but all other metals, including columbium, are present in insignificant amounts. Harshman therefore recommends that the exploration loan be denied.

I concur in this recommendation.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (8)

GEORGE SCHWEIGERT

IRON MOUNTAIN OR GRAPE CREEK IRON DEPOSIT

FREEMONT COUNTY, COLORADO

DMEA DOCKET 3079

Geologic Report

By E. N. Hershman
U. S. Geological Survey

GEORGE SCHWEIGERT
IRON MOUNTAIN OR GRAPE CREEK IRON DEPOSIT
FREEMONT COUNTY, COLORADO

INTRODUCTION

George Schweigert, 780 Magnolia Street, Denver 20, Colorado, has applied for Government assistance, DMEA Docket 3079, to explore the Iron Mountain (Grape Creek) titaniferous iron ore deposit for columbium, titanium, and rare metals. The applicant proposes to expose the known deposits by trenches, adits or test pits and to sample thoroughly all exposures. He estimates the cost of the project to be $2,000.00.

The property consists of 1200 acres of land owned by Allan C. Ellison of Hillside, Colorado. Schweigert and Pete Cowan, his partner, have the exclusive right to explore, develop, and mine all mineral deposits on the property. The memorandum of agreement setting forth this right expires January 31, 1954.

Although the property occupies a portion of sections 2, 3, 4, 9, and 10, T. 20 S., R 72 W., 6th P. M., Freemont County, Colorado, the known deposits of iron ore are limited to the western half of section 3.

The deposit was examined on July 2, 1953, in company with the applicant. It lies about 15 miles (airline) north of Westcliffe, Colorado, from which point it is reached by 23 miles of public and private dirt road.

GEOLOGY

The known iron ore deposit occurs in a large mass of gabbro which intrudes pre-Cambrian gneiss and granite. The gabbro is medium to coarse-grained and ranges in composition from an olivine gabbro containing

abundant pyroxene to an anorthosite with abundant labradorite feldspar. Minor constituents of the gabbro are spinel, magnetite, and olivine.

Numerous dikes cut the gabbro and in one locality they cut the iron ore contained in the gabbro. They range in composition from acidic to basic and are predominantly fine grained, often porphyritic.

The titaniferous iron ore occurs on several promininant low hills which form a southerly trending spur from Iron Mountain. The deposits occupy an elliptical area 800 to 1000 feet wide and 3000 to 4000 feet long. The ore appears to have resulted from magmatic segregation with subsequent intrusion of a portion of the segregated product.

Outcrops are infrequent, but from a study of a few open cuts and frequent areas of magnetite float, it appears that the ore occurs in a number of lenticular, vein-like, ore bodies 300 to 400 feet long and 5 to 25 feet wide. Isolated irregular masses of magnetite, completely surrounded by gabbro, are noted in some exposures. Although the individual ore lenses are of short strike length, the aggregate strike length of the lenses in any one zone may be as much as 3000 feet. Several traverses across the strike of the ore lenses indicate the presence of 5 or more ore zones separated by relatively barren gabbro. It is estimated that as much as 10 percent of the 800x4000 foot area may contain magnetite. The depth of the deposit is not known but it is probable that it will not extend to a great depth below the present ground surface.

The high grade ore is dense black magnetite containing about 10 percent ilmenite; lower grade ore contains considerable feldspar in many places in a parallel arrangement.

Contacts between the magnetite and the enclosing gabbro are always sharp although individual lenses may grade from high grade ore

in the center to low grade ore in the outer margins.

A brief description of the deposit is given by Joseph T. Sinewald Jr. in U. S. Bureau of Mines Bulletin No. 64, 1913, titled "The Titaniferous Iron Ores of the United States."

SAMPLES AND ANALYSES

Ten samples were taken from cuts and natural exposures. Three samples were taken along each of three traverses across the ore bearing zone and one sample was taken at the extreme north end of the deposit.

Analyses of the 10 samples, made by the Denver Geochemical Prospecting Laboratory of the U. S. Geological Survey, indicate a columbium content of less than 0.02 percent. Spectroscopic analyses made by the Geochemistry and Petrology Branch laboratories in Denver show the presence of considerable iron, titanium, and vanadium, but indicate that other metals are present in insignificant amounts.

Assays of 5 samples collected by the U. S. Bureau of Mines during a previous examination indicate the average grade of the deposit is 49.1% Fe, 13.8% TiO_2, and 0.43% V_2O_5.

CONCLUSIONS AND RECOMMENDATIONS

The results of chemical and spectroscopic analyses of the Iron Mountain ore show the presence of considerable iron, titanium, and vanadium but indicate that all other metals, including columbium, are present in insignificant amounts. Denial of the application for exploration assistance is therefore recommended.