Iron

Dmea 2964, E-578
E.C. Schroeder Co, Inc.

Contract Folder no 1

Code 400

DMEA-2964, Idm-E-578, amend #1, 2, #3,

402

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

RECEIVED
FEB - 9 1956

224 New Customhouse
Denver 2, Colorado

February 6, 1956

WSM

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 2964 (Iron) Contract Idm-8578, Schroeder Mining Co. Good Fortune and Nightingale Groups, Platte County, Wyoming

Enclosed are the Government's, Division and Docket copies of the "Termination Agreement" which was forwarded by your letter of December 1, 1955 for signature by the Operator.

W. M. TRAVER

W. M. Traver

Encls.

Termination by Mutual Agreement

Division copy

RECEIVED
FEB - 9 1956

TERMINATION AGREEMENT

It is agreed this 30th day of November, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Schroeder Mining Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-[illegible], Docket No. DMEA-[illegible], dated August 7, 1953, hereinafter called the "Contract," that:

1. Effective September 1, 1954, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government will contribute only to the fixed unit costs of work performed prior to said effective date, provided that the Government may deduct the sum of $500 from any money due the Operator in lieu of the Operator making and rendering the final report and final account required under the Contract.

3. All rights of the Government provided for in the Contract with respect to a certification of discovery or development and a percentage royalty and lien for its payment are preserved.

4. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this termination agreement.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By [signature] (Pro tem)
Administrator, Defense Minerals
Exploration Administration

"Appd. Sys. Off."
Chapman
Martin
Talbutt
Fewel
Selfridge

SCHROEDER MINING COMPANY

By [signature]
Asst. Secy. Treas.

402

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

RECEIVED
FEB - 9 1956

224 New Customhouse
Denver 2, Colorado

February 6, 1956

W34

Mr. C. A. Thompson, Ass't. Sec.-Treas.
Schroeder Mining Company
P. O. Box 487
Chatfield, Minnesota

Re: Docket DMEA-2964 (Iron)
Contract Idm-E578

Dear Mr. Thompson:

Enclosed is the "Operator's" copy of "Termination Agreement" which effects termination of Contract Idm-E578 by mutual agreement effective September 1, 1954.

Very truly yours,

W. M. Trevor
Executive Officer, DMEA
Field Team, Region III

Encl.

JWT:bh
cc-Chair. Op. Comm. (2)
Harshman
Shaw
Townsend
Brading
Corres. File E-578
Chron.

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

224 New Customhouse
Denver 2, Colorado

September 7, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2964 (Iron), Contract IDM-E578, Schroeder Mining Company, Platte County, Wyoming

Enclosed are the original and two copies of Amendment No. 3 to Contract IDM-E578 which has been executed to modify the description of the work to be performed under Phase B, Stage I, item 1 of the contract. Also enclosed are three sets of data relevant to the amendment.

Copies of the amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

W. H. King

Enclosures

Amend #3

No. 3

AMENDMENT OF CONTRACT: No. IDM-E578

Contract Docket No. DMEA 2964, dated August 7, 1953, between the United States of America and Schroeder Mining Company is hereby amended as follows, effective June 15, 1954:

> Referring to EXHIBIT "A" attached to Exploration Project Contract Form MF-200(A) (February 1952) caption "Description of the Work", second paragraph; and subheadings PHASE "B", Stage I, item "1", in lieu of drilling the three churn drill holes as described therein and as shown on "Figure 3" referred to therein, instead two of the holes will be drilled on the Nightingale claim at the approximate locations shown on the map titled "Schroeder Mining Co., Drill Hole Locations, Nightingale Group, Phase B, Stage I, Date: May 18, 1954" which is attached hereto and made a part of this amendment.
>
> The third hole will be drilled in the general locality of the first two holes, its exact location will be established by mutual agreement between the operator and the Defense Minerals Exploration Administration, depending upon results obtained from drilling the first two holes.

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "allowable maximum".

Dated SEP 7 1954

SCHROEDER MINING CO.

By Paul E Schroeder

UNITED STATES OF AMERICA

By W H King
W.H. King, Executive Officer
DMEA Field Team, Region IV

August 30, 1954

Memorandum

To: Mr. A. H. Kaschmann EMH for AHK

From: D. R. MacLaren

Subject: DMEA Docket 2363, 2364, Contract Idm-6378, Schroeder Mining Company, Nightengale - Good Fortune Groups, Platte County, Wyoming

In a letter dated June 3, 1954, R. G. Langsacher, superintendent for the subject operator requested authorization to begin churn drilling under Phase B of the subject contract. Accompanying the letter were five copies of a map showing the proposed location of two drill holes.

In the original geologic report, the recommendations were to drill three holes to find out whether or not the ore body in the Whalen formation, now being mined by the Colorado Fuel and Iron Company, extends beneath the Rustler, Nightengale, and Grigam claims of the subject operator. Additional drilling was recommended if this should prove to be the case. The contract was set up to provide for this drilling.

In the same report mention was made of the existence of localized deposits, some of excellent grade but usually too small to be of much economic importance, that have been found in a hematitic conglomerate at the base of the Guernsey formation. On the first visit to the property evidence of a conglomeratic deposit was found in a short tunnel and in the dump of an inaccessible shaft. Due to a lack of a suitable map, Mr. Schroeder estimated the workings to be about one quarter of a mile west of the Nightengale claim, but a subsequent survey showed that they are on that claim.

February 25, 1954, in anticipation of completion of Phase A and the start of Phase B, a second visit was made to the Nightengale claim

in company of Mr. Schroeder and M. H. Salsbury of the U. S. Bureau of Mines. This time suitable maps were available and Mr. Schroeder expressed a desire to test the shallow deposit indicated in the tunnel and winze by drilling two or three holes. The proposal was discussed and tentative drill sites were indicated by Mr. Schroeder. He was advised to prepare a map showing the exact location of the proposed holes and to submit it with an application for an amendment to the contract to allow this drilling before starting the holes provided for in the original contract.

It is therefore recommended that the holes requested in Mr. Langmacher's letter of June 3, 1954, be approved.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
August 25, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

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

Subject: DMEA 2964, Contract IDM-5578 (Iron) Schroeder Mining Co. (Nightingale and Good Fortune groups), Platte County, Wyo.

Transmitted herewith are the original and three copies of a letter with accompanying plat maps from the contractor on the captioned docket, stating that Phase "A" under Stage I has been completed and stating that he is prepared to start within 3 weeks of June 3, 1954, Phase "B" under Stage I. One copy is being retained in our files.

You will note from the date stamp on the original copy of the letter that we received it on June 8, 1954, and for some unknown reason the copies were not transmitted to you in the usual manner.

In the interim, the contractor started Phase "B", Stage I, on the assumption and with the assurance of this office through its representatives that it would receive Field Team approval.

There is transmitted also the original and eight copies of a memorandum prepared by M. H. Salsbury, recommending approval of the revised churn drill hole locations for the two holes requested and shown on the operator's sketch. The third hole was located and authorized subject to Field Team approval as shown on the operator's last or July progress report. It is also now recommended to the Field Team for approval. If it is your interpretation that an amendment is required to the contract, Salsbury's memorandum will also serve this purpose.

With regard to the possibility that these three holes, all located on the Nightingale claim, might be considered as in conflict with holes under Stage II of Phase "B"-- The results achieved so far on the project have not been encouraging, and anticipating that we

would be required to make a reappraisal of the outcome before authorization of Stage II of Phase "B" or potentially a revised proposal which the contractor indicated he might request, we decided upon the location of the three holes partly to facilitate our reappraisal of the matter with the intention of recommending elimination at least of Stage II of Phase "B" or possibly suggesting termination of the contract.

W. M. Trover

W. M. Trover

enclosures

WMT/hp

cc/8
2578
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
August 24, 1954

Memorandum

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

From: M. H. Salsbury

Subject: DMEA 2964, Contract IDM-8578 (Iron) Schroeder Mining Co. (Nightingale and Good Fortune groups), Platte County, Wyo.--Request of the operator for approval of or a contract amendment authorizing Stage I, Phase "B"

Under date of June 3, 1954, the Schroeder Mining Co. submitted a map and covering letter requesting a change in churn drill hole sites called for under Stage I, Phase "B", of the subject contract.

The new sites for the first two holes are near the center of the Nightingale claim and on an iron ore outcrop where a tunnel, shaft, and several pits have been dug some time in the past.

The original sites as shown on the map in the engineering report on the original application, and as used in the contract, were decided upon solely to form a pattern to cover the entire property as shown on a claim map, and not in relation to a known ore occurrence on the property. The location of the ore outcrop was uncertain at the time the examination was made, prior to a survey of the claims.

The purpose of the exploratory drilling is to determine if there is any commercial iron ore in the potential ore-bearing, pre-Cambrian Whalen formation which is capped by an estimated 75 to 200 feet of sediments of the Guernsey and Hartville formations. An occurrence similar to the nearby Sunrise ore deposit is sought.

However, there is some possibility of commercial ore in the capping formations. The contractor wishes to do the first work at a point where ore is exposed to investigate the possibility of worthwhile ore at surface as well as at depth.

A DMEA examining team made up of Bureau of Mines and Geological Survey members made a field inspection of the proposed drill sites in March 1954.

The DMRA team does not see any objection to locating holes under Stage I, Phase "B", of the contract as indicated by the two holes shown on the map submitted. There is a possibility that mineralization in the underlying Whalen Formation might be indicated by mineralization in the map rock immediately above, and a location where some mineralization is showing on surface appears to be a logical place to start drilling.

It is recommended that the contract be amended to permit drilling two of the holes in Stage I, Phase "B", at the locations shown on the map submitted by the contractor, with the third hole to be located depending on the results of drilling the first two.

F. W. Everett, for
M. H. Salsbury
Mining Engineer

MHS/kp

cc / 8
2378
Chron

June 1, 1954

Mr. W. M. Drever, Chief
Mineral Resources Branch
Mining Division, Region IV
Denver Federal Center
Denver, 14, Colorado,

Dear Sir:

Re: DMEA 2964, Contract IDM E 578
Schroeder Mining Company,
Platte County, Wyoming,

We wish to advise you that we have completed drilling on Phase A on the Hard Rock group of mining claims.

[illegible] be in position to commence drilling on Phase B on the Eighth [illegible] group of claims in about four weeks time only.

[illegible]

[illegible]

Yours [illegible]

[illegible]

Encl.

400

224 New Customhouse
Denver 2, Colorado

August 30, 1954

Memorandum

WSM

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2964 (Iron), Contract Idm-E578, Schroeder Mining Company, Platte County, Wyoming

Enclosed are the original and two copies of Amendment No. 2 to Contract Idm-E578 which has been executed to extend the period for completion of the project work from 12 months to 16 months. Also enclosed are three copies of the operator's letter requesting the amendment.

Copies of the amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

W H King

W. H. King

Enclosures

Copy 2

No. 2

AMENDMENT OF CONTRACT: No. IDM-8578

Contract Docket No. DMEA 2964, dated August 7, 1953, between the United States of America and Schroeder Mining Company is hereby amended as follows, effective as of the date of the contract:

> Referring to "Article 3. Exploration project" of Exploration Project Contract Form MF-200(A) (February 1952), following the words "and shall bring the project to completion within a period of", delete "twelve (12)" and in lieu thereof substitute "sixteen (16)".

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "allowable maximum".

Dated AUG 30 1954

SCHROEDER MINING COMPANY

By Paul E. Schroeder
President

UNITED STATES OF AMERICA

By W.H. King
W.H. King, Executive Officer
DMEA Field Team, Region IV

400

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

224 New Customhouse
Denver 2, Colorado

April 8, 1954

WSM

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2964 (Iron), Contract IDM-E578, Schroeder Mining Co., Platte County, Wyoming

Enclosed are the original and two copies of Amendment No. 1 to Contract IDM-E578 which has been executed to authorize a change in the location of drilling four holes under Phase "A", Stage I, item 1 of the contract. Also enclosed are three sets of data relevant to the amendment.

Copies of this amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

W H King
W. H. King

Enclosures

amend. #1

No. 1

AMENDMENT OF CONTRACT No. [illegible]-E578

Contract Docket No. [illegible] 2904, dated August 7, 1953, between the United States of America and Schroeder Mining Co., is hereby amended as follows, effective March 10, 1954:

> Referring to EXHIBIT "A" attached to Exploration Project Contract Form PF-200(A) (February 1952), caption "Description of the Work", heading PHASE "A", subheading "Stage I" item "1", in lieu of drilling twelve (12) holes east of the pit as cited at the locations shown on figure 2, referred to and attached to said Exhibit "A", eight (8) holes will be drilled east of the pit and the unexpended balance of the 2000 feet of drilling will be expended in drilling north of the pit in "Area A" shown on figure 2 which is attached hereto and made a part of this amendment.

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "allowable maximum".

Dated MAR 25 1954

SCHROEDER MINING CO.

Paul E. Schroeder
President

UNITED STATES OF AMERICA

By W. H. King
W. H. King, Executive Officer
Field Team, Region IV

March 8, 1954

Memorandum

To: Mr. A. N. Koechmann AHK by EMH

From: D. R. MacLaren

Subject: DMEA Docket 2964 (iron), Contract Idm-E578, Schroeder Mining Company, Platte County, Wyoming

WSM

In a letter dated February 23, 1954, Mr. Paul Schroeder, vice-president of the subject company, asked that a field examination be made to justify certain radical changes in the locations of the four holes remaining to be drilled under Phase A, Stage I of the subject contract. On February 24 and 25, 1954, accompanied by M. M. Salsbury of the U. S. Bureau of Mines and Paul Schroeder of the subject company, I visited the property, checked churn drill cuttings, and made a reappraisal of the geologic picture in the light of new exposures in cuts along roads for drill-rig access. It appears that the east end of the ore body in the main pit has been offset to the south a distance of about 110 feet. The offset portion has been well delineated by churn drilling and it is not likely that any more holes in the pattern originally laid out will result in the discovery of more ore. Mr. Schroeder requested that authorization be given to drill the remaining four holes north of the main pit to see if the ore extends in that direction or, if not, to look for another ore body to the north. Schroeder indicated three locations for drilling and asked that the fourth hole location be dependent upon the results in the first three, or that the footage of the fourth hole be made available for deepening one or more of the first three, depending on the results of the drilling. For purposes of reference, one site was marked by a double-jack hammer and the other two holes were located respectively about 150 feet southwesterly and 150 feet easterly from the [redacted] hammer.

It is recommended that authorization be given to drill these holes at the locations indicated by Schroeder and that the hole east of the jack hammer be drilled only after completion of the first two holes.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
March 5, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

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

Subject: Docket DMEA 2964, Contract Idm-E578 (Iron), Schroeder Mining Company, Platte County, Wyoming

Enclosed are the original and seven copies of M. E. Salsbury's memorandum recommending an amendment to the subject contract. The recommendation has my approval.

W. M. Traver

W. M. Traver

enclosure

WMT/kp

cc 7
E578
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 80, Room 137
Denver Federal Center
Denver 14, Colorado
March 3, 1954

Memorandum

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

From: M. E. Salsbury

Subject: Docket DMEA 2964, Contract Idm-E578 (Iron), Schroeder Mining Company, Platte County, Wyoming--Request for amendment

Schroeder Mining Company has requested an amendment to the subject contract to permit a change in the location of the remaining churn drill holes allowed under Phase A, Stage I.

The property was visited on February 24 and 25, 1954, by Region IV Defense Minerals Exploration Administration representatives to check the advisability of the proposed change. Phase A, Stage I drilling, 5 holes west of the open pits, has been completed. East of the open pits, 8 of 12 projected holes have been drilled. The possibility of finding more ore by drilling the remaining 4 designated holes here is remote. Hole No. 6 is the only one which has encountered worthwhile mineralization; holes Nos. 8 and 9 encountered mineralization at depth, but it is overlain by as much as 66 feet of overburden. Three holes, Nos. 7, 10, and 11, drilled to explore a possible eastward extension of the ore in the pits were all in barren material. The last 2 holes, Nos. 12 and 13, drilled to explore a possible extension of the ore encountered in hole No. 6, which was not in the projected ore trend, encountered a few feet of low-grade material at surface

and then entered barren limestone, probably in the footwall.

North of the eastern pit, the operators have stripped 20 to 30 feet of overburden, and mineralization extending to the north is indicated. The proposed holes, which were tentatively located by Paul Schroeder, in company with the examining team, would determine if there is a lens in the probably favorable schist structure paralleling the known ore body. While there is no surface evidence of such a lens of ore, it is possible that another ore body does occur here, and it could be determined at comparatively small cost.

It is recommended that the Region IV Field Team approve an amendment to permit churn drilling of 3 holes at locations approximating the sites shown the examining team by Schroeder on the north side of the east pit. No hole is to be deeper than 150 feet, unless in ore, and the aggregate footage is not to exceed the amount remaining in Phase A, Stage I, or 899 feet.

A 4th hole should be permitted if the results of the other 3 justify it. This would also apply to the 18 holes in Phase A, Stage II, which are not now advisable at the locations specified in the contract.

J. W. Everett, for
M. H. Salsbury
Mining Engineer

MHS/kp

cc 7
E578
Chron

COPY

E. C. SCHROEDER CO., INC.
Guernsey, Wyoming

Feb. 23, 1954

Mr. W.H.King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse
Denver 2, Colorado

Re: Exploration Project Contract
No. IDM-E 578, Docket No. DMEA 2964

Dear Sir:

As explained in our telephoned conversation this morning we have come to the conclusion that we will have to make some radical changes in our drilling program and believe that same should be inspected at your earliest convenience.

Very truly yours,

E.C. SCHROEDER COMPANY, INC.,

By /s/ Paul E. Schroeder
Paul E. Schroeder, Vice Pres.

PES/t

vision Copy

ASSIGNMENT OF CONTRACT
ASSIGNEE'S ACCEPTANCE
GOVERNMENT'S CONSENT

WHEREAS, the E. C. Schroeder Co., Inc., an Iowa corporation (hereinafter called the "Operator"), entered into an Exploration Project Contract dated August 7, 1953, Contract No. Idm-E578, Docket No. DMEA-2964, with the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration (hereinafter called the "Government"); and

WHEREAS, by an instrument dated December 26, 1952, the Operator leased from W. H. Collins 12 patented mining claims known as:

Nightingale	Good Fortune
Origan	Good Fortune Annex
O. K.	Appex
Rustler	Blue Bird
Columbia	Denver and Gulf
Black Cloud	Cottonwood

and

WHEREAS, the Operator by an instrument dated December 4, 1953, duly assigned all his right, title, and interest in and to the said claims to the Schroeder Mining Co., a corporation duly organized and existing under and by virtue of the laws of the State of Delaware (hereinafter called the "Assignee"), having an office located at 500 Wesley Temple Bldg., Minneapolis 3, Minnesota;

NOW THEREFORE, the Operator in consideration of the sum of One Dollar ($1.00) lawful money of the United States and other good and valuable consideration received from the Assignee, does hereby assign, transfer, and convey to the Assignee all its right, title, and interest in and to the aforesaid Exploration Project Contract including any and all property purchased for, and the right to use any and all property devoted to the exploration work under this Exploration Project Contract, and hereby consents to any and all future amendments to the said contract; Provided, however, That the Government shall pay to the Operator all monies which may be or become due and payable to the Operator before the first day of the second month following the month in which this Assignment is accepted in writing by the Assignee; and upon payment thereof, the Operator agrees

to release and hereby releases the Government from any and all claims, past, present, or future arising out of the said Exploration Project Contract.

This Assignment is subject (1) to the written consent of the Government; (2) to written acceptance by the Assignee; and (3) assumption by the Assignee of the terms, provisions, and conditions of said Exploration Project Contract binding upon the Operator.

Dated December 4, 1953.

E. C. SCHROEDER CO., INC.

By _____

On this 4th day of December, 1953, before me Jessie Ruff, the undersigned officer, personally appeared E. C. Schroeder, who acknowledged himself to be the President of the E. C. Schroeder Co., Inc., a corporation, and that he as President, being duly authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as President.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Jessie Ruff
Notary Public

The Assignee, this 4 day of December, 1953, hereby accepts the above Assignment, and assumes and agrees to be bound by the terms, provisions, and conditions of said Exploration Project Contract that are binding on the Operator.

SCHROEDER MINING CO.

By James R. Ritchay

On this 4 day of December, 1953, before me ROBERT P. WANDER, the undersigned officer, personally appeared James R. Ritchay, who acknowledged himself to be the Vice President of the Schroeder Mining Co., a corporation, and that he as Vice President, being duly authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Vice President.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

ROBERT P. WANDER
Notary Public in and for Lewis and Clark County, Mont.
My Commission Expires July 14, 1957

Robert P. Wander
Notary Public

The Government, this 28th day of January, 1953, without releasing the Operator from any of the terms, provisions, and conditions of the said Exploration Project Contract, hereby consents to the above Assignment.

THE UNITED STATES OF AMERICA

By C. Mittendorf
Acting Administrator, Defense
Minerals Exploration
Administration

MF-200 (A)
(February 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
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DOCKET NO. [illegible]EA [illegible]

COMMODITY [illegible]

Division Copy

IDM-E 578

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]

(Short Form)

IT IS AGREED this 7th day of August, 195[illegible]3, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] [illegible] Iowa [illegible] State of Iowa

hereinafter called the "Operator," as follows: [illegible]

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of [illegible], County of [illegible], described as follows:[3] [illegible] the Operator represents and undertakes:[4] [illegible]

(*a*) That the Operator is the owner in possession and entitled to possession, and that the property is subject only to the following claims, interests or encumbrances as to each of which the subordination agreement of the holder is attached: [illegible]

(*b*) That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to Lien is attached.

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within -90- days from the date of this contract shall commence work on a project of exploration for[5] [illegible] in or upon the described land; and shall bring the project to completion within a period of [illegible] from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided. The work shall be performed by the Operator or by independent contractor or contractors efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 4. *Costs of the project.*—The agreed, estimated costs of performing the work, expressed in terms of units of work to be performed (per foot of drifting, per foot of drilling, per cubic yard of material to be moved, etc.) are set forth in Exhibit "A," attached hereto. The Government will pay [illegible] percent of these agreed, estimated costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this contract, in an aggregate total amount not in excess of $[illegible], which is [illegible] percent of $[illegible], the agreed, estimated total cost of the project in which the Government will participate: *Provided,* That until the Operator's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract. The Government may, as it sees fit, make payments direct to the Operator's independent contractors, if any, for the account of the Operator, rather than to the Operator.

ARTICLE 5. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operator shall provide the Government with monthly reports of units of work performed under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of units of work performed on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) *Compliance with requirements.*—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of the units of work performed, which the Government may inspect and audit at any time. The Government may at any time require a check of the work performed and an audit of the Operator's records and accounts, by a certified public accountant or otherwise, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account and statement of work performed to accompany his final report.

ARTICLE 6. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows: [illegible] III, substitute for the part of 6(a) preceding the colon.

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales, or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be the gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 7. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. [illegible] Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 8. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if, in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified.

ARTICLE 9. *Changes and added provisions* _____

_____

_____

_____

_____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

[illegible] (Operator)

By Paul E. Schroeder
Vice President

By C. J. Mitteudorf
Acting Director
Defense Minerals Exploration Administration
Hoffman
Chamberlin

I, Violet M. Schroeder, certify that I am the secretary of the corporation named as Operator herein; that Paul E. Schroeder, who signed this contract on behalf of the Operator, was then Vice President of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

Violet M. Schroeder
Secretary.

[No CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66329-1

EXPLORATION PROJECT CONTRACT
E. C. SCHROEDER CO., INC.
DOCKET NO. DMEA-2964

EXHIBIT "A"

Description of the Work

The exploration work on this project is to be done in two concurrent phases on neighboring areas in the Hartville Mining District. Phase "A" on the Good Fortune group of claims shall consist of two (2) stages as indicated on the attached map entitled "Fig. 2 - Good Fortune group showing approximate location of open cut, holes drilled by E C. Schroeder Co., Inc. . ."

The second phase, Phase "B", is on the Nightingale group of claims and shall consist of three (3) stages; Stages I and II of Phase "B" are indicated on the attached map entitled "Fig. 3 - Nightingale group showing approximate location of recommended churn drill holes."

In each phase, the work in each successive stage shall be undertaken only upon completion of the prior stage and if in the opinion of the Government, the results thereof warrant it. The location of all roads shall be subject to the prior approval of the Government.

Representative samples shall be taken of all mineralized formations encountered. Each sample shall be divided into not less than two parts, one of which is to go to the Field Team and the other to the Operator. The samples are to be analyzed to the extent below indicated.

PHASE "A"

Stage I

Time Schedule: 0 - 3 months

1. Churn drill seventeen (17) holes with not less than a 6-inch bit for an aggregate length not to exceed 2,000 feet. Five (5) of the holes are to be west of the pit presently being mined and twelve (12) east of this pit as indicated on figure 2. Churn drill holes in barren or waste material shall not exceed 100 feet in length.

2. Construct a maximum of 1,000 feet of access roads to the drill sites.

Stage II

Time Schedule: 4 - 7 months

1. Churn drill eighteen (18) holes with not less than a 6-inch bit for an aggregate length not to exceed 3,000 feet.

2. Construct a maximum of 2,000 feet of access roads to the drill sites.

PHASE "B"

Stage I

Time Schedule: 0 - 2 months

1. Churn drill Holes 1, 2, and 3 as indicated on Fig. 3 with not less than a 6-inch bit for an aggregate length of 600 feet to explore for iron in the Guernsey and Hartville formations.

2. Construct a maximum of 1,000 feet of access roads to the drill sites.

Stage II

Time Schedule: 3 - 4 months

1. Churn drill Holes 4, 5, 6, 7, and 8 as indicated on Fig. 3 with not less than a 6-inch bit for an aggregate length of 1,000 feet to explore for iron in the Guernsey and Hartville formations. Drill holes in order listed.

2. Construct a maximum of 1,000 feet of access roads to the drill sites.

Stage III

Time Schedule: 5 - 6 months

1. Deepen by churn drilling one or two of the holes drilled under Stages I and II of Phase "B" for an aggregate length not to exceed 500 feet.

Estimated Costs of the Project

Agreed Unit Costs

Churn drill 7100 feet @ $6.00/ft. 1/	$42,600.00	
Construct access roads - 5000 feet @ $1.00/ft.	5,000.00	
Analyze 500 samples @ $1.00 per element determined	500.00	
Total Agreed Unit Costs		**$48,100.00**
Government Participation @ 50%		**$24,050.00**

1/ Includes all costs of supervision, sampling, drilling, and of hauling water.

DEPARTMENT OF THE INTERIOR
Bureau of Mines
RECEIVED
OCT - 4 1966

EXPLORATION PROJECT CONTRACT
E. C. SCHROEDER CO., INC.
DOCKET NO. BMM-2964

ANNEX I

Nightingale Group

The six patented mining claims Nightingale, Origan, O. K., Rustler, Columbia, and Black Cloud (Mineral Certificate 137) surveyed under U. S. Survey 193.

Good Fortune Group

The six patented mining claims Good Fortune, Good Fortune Annex, Appex, Blue Bird, Denver and Gulf, and Cottonwood (Mineral Certificate 140) surveyed under U. S. Survey 194.

EXPLORATION PROJECT CONTRACT
E. C. SCHROEDER CO., INC.
DOCKET NO. DMEA-2964

ANNEX II

G U A R A N T Y

In consideration of the waiver, by the United States of America of the requirement of the Owner's Consent to Lien, as set forth in paragraph 2(b) of the attached Exploration Project Contract between the undersigned and the United States of America, the undersigned hereby guarantees the payment to the United States of America of royalties, as specified in said Contract and any amendment thereof, upon any and all ore discovered or developed as a result of said Contract and any amendment thereof, which is mined within 10 years from the date of said Contract, whether or not the undersigned has any interest in the property, covered by the said Contract, or any part in the mining operations at the time said ore is mined. If for any reason the net smelter returns, or other net amounts, from operations that would be subject, under said Contract and any amendments thereof, to such payments to the United States of America, are not available as a means of measuring the amount of such payment, then the undersigned agrees and undertakes to make such payment according to the best estimates of the amount that can reasonably be made, and in the event of dispute as to such estimate, the undersigned agrees that the determination thereof by either the Administrator of Defense Minerals Exploration Administration, or his designee, shall be final and binding upon the undersigned.

Dated September 18, 1953.

E. C. SCHROEDER CO., INC.

By E. C. Schroeder
President

I, Violet M. Schroeder, certify that I am the secretary of the corporation named as Guarantor herein; that E. C. Schroeder, who signed this guaranty, was then President of said corporation; that said guaranty was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

Violet M. Schroeder

NO
CORPORATE
SEAL

EXPLORATION PROJECT CONTRACT
E. C. SCHROEDER CO., INC.
DOCKET NO. DMEA-2964

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 2 1956

ANNEX III

The following provisions are in lieu of all of paragraph (a) of Article 6 which precedes the colon:

If the Government considers that a discovery or development from which production may be made has resulted from the exploration work, the Government, at any time not later than six months after a sufficient, complete, final report and final account referred to in the contract has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development, The Operator, or his successor in interest, shall pay to the Government a royalty on all minerals mined or produced from the land described in Article 2, as follows: (1) Regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification of discovery or development, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first, unless the Government waives its right to a royalty; or (2) if the Government makes a certification of discovery or development, for a period of ten years from the date of the contract, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first. Said royalty shall be a percentage of the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production (including any bonuses), in whatever form disposed of, including ore, concentrates, or metal, as follows:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE ELECTRIC POWER ADMINISTRATION
WASHINGTON 25, D. C.

OFFICIAL BUSINESS

BELOW IS CORRESPONDENCE WHICH PRECEDED AND LEAD UP TO SIGNING OF CONTRACT WITH E. C. SCHROEDER CO.

224 New Customhouse
Denver 2, Colorado

September 29, 1953

E. C. Schroeder Co., Inc.
McGregor, Iowa

Gentlemen:

Enclosed herewith is your copy of Exploration Project Contract No. IDM-X578, Docket No. DMEA 2964.

Also enclosed are six copies of Form MF-104 "Operator's Monthly Report and Voucher" and six copies of Form MF-104A "Operator's Unit Cost and Progress Report." At the completion of the first full calendar month of operation and monthly thereafter, you are required to submit five copies of the forms to Mr. W. M. Traver, Jr., U. S. Bureau of Mines, Room 137, Building 20, Denver Federal Center, Denver 14, Colorado. The sixth form is for your records. Please note that the monthly report requires a narrative report which should be accompanied by maps or sketches. The narrative report must be signed by the operator. The monthly report will not be processed for payment unless accompanied by a narrative report. Additional copies of Forms MF-104 and 104A will be forwarded to you as required.

For your information and in reply to many questions that have been asked, after Forms MF-104 and 104A are received an engineer will check progress and approve your accounts, after which it will be sent to the Regional Office, Region IV, U. S. Bureau of Mines, 224 New Customhouse, Denver 2, Colorado, for auditing and vouchering. If the report is in order a check will be issued by the Treasury Department for the Government's portion of the costs.

Your attention is directed to the regulation that provides that reimbursement for the cost of work accomplished prior to the date of the contract will not be allowed. This contract is prepared on the short form under the terms of which the Government reimburses you for 50 percent of the agreed estimated costs as they accrue for units of work actually performed, therefore it is necessary that the starting point of the work be determined by a Bureau of Mines Engineer before you commence work under the terms of this contract. Please advise this office in writing the date work actually starts under the contract.

Very truly yours,

W. H. King

W. H. King, Executive Officer
DMEA Field Team, Region IV

Enclosures

JFS:es

cc: Traver/w copy of con.
Koschmann (2) w/2 copies con., Subject, Chron.

AUG 2 7 1953

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 2964 - Iron
E. C. Schroeder Co., Inc.
Good Fortune & Nightingale mines
Platte County, Wyoming

Dear Mr. King:

We are returning the original and five copies of the above referenced proposed contract signed by the Administrator for the Government, together with Exhibit "A" (3 pages), Annex I (1 page), Annex II (1 page), Annex III (1 page), and three maps.

If the terms and conditions of this proposed contract are satisfactory to you and the Operator, all six copies should be signed and the usual distribution made. Execution of the contract for the E. C. Schroeder Co., Inc., will be arranged through Mr. M. M. Cooney. Because of the delay due to the requested revisions it will be appreciated if you will expedite the delivery via air mail of the proposed contract to Mr. Cooney, % Clewell, Cooney and Pearson, 705 Roshek Building, Dubuque, Iowa.

In reviewing the docket, we are unable to determine the reasons behind the requested changes. Your letter of August 14, 1953, returning the proposed contract, requested that the statement qualifying the depth of holes under Stage I, Phase A, "holes to be drilled to footwall of ore zone" also be applied to the work under Stage II, Phase A. However, your teletype dated August 18, 1953, requested deletion of all references to bottoming holes in footwall of ore zone. This deletion has been made, but we believe that the Field Team should make sure all holes are carried through the ore zone where practicable.

To expedite the execution of the proposed contract, the reference 1/ at the end of Exhibit "A" has been amended to include supervision and sampling as you requested. This change was unnecessary as the contract is on the short form and, therefore, the unit costs reflect all costs except as otherwise shown. Our reason in having the footnote was to clarify the item, hauling water, as a part of the drilling costs.

Your suggested addition to the description of work, "The location of the drill holes should be at the approximate locations shown on the map" was not used as the description of work already included such reference.

Under Article 3, the starting date has been left blank and is to be filled in when the contract is executed.

Sincerely yours,

Ernest Wm. Ellis

ACTING Chairman, Operating Committee

APPROVED:

M. H. Kline

Member, Bureau of Mines

D. W. Larrabee

Member, Geological Survey

FARUTLEDGE:fec
8-25-53
cc: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. 4
J. M. Forbes, USBM
Mrs. Martha Carr, USGS

Enclosures

400

copy

DN 235 BUREAU MINES 8-18-53 11-07 AM

C O MITTENDORF

RE OUR MEMO AUGUST 14, 1953, DOCKET NUMBER DMEA 2964, CONTRACT IDM-E-578, E. C. SCHROEDER COMPANY /IRON/. A FURTHER REVIEW OF THE PROPOSED CONTRACT INDICATES ADDITIONAL CHANGES DESIRABLE -- UNDER STAGE I ALL REFERENCE TO BOTTOMING OF DRILL HOLES IN IMPERVIOUS LIMESTONE SHOULD BE ELIMINATED. SUGGEST SUBSTITUTING THE FOLLOWING -- CHURN DRILL HOLES IN BARREN WASTE MATERIAL SHALL NOT EXCEED 100 FEET IN DEPTH. UNDER STAGE II THERE SHOULD NOT BE ANY LIMITATION ON THE DEPTH OF THE HOLES. UNDER THE DESCRIPTION OF THE WORK, THE LOCATION OF THE DRILL HOLES SHOULD BE AT THE APPROXIMATE LOCATIONS SHOWN ON THE MAP.

W. H. KING

1-1027
(April 1946)

UNITED STATES
DEPARTMENT OF THE INTERIOR

AGENCY DEFENSE MINERALS EXPLORATION ADMINISTRATION

Originator: FARutledge/ls

TELETYPE

Ext.: 5285 Room: 3538

Appro.: 14X3923.970 - Working Fund - DMEA
Date: August 19, 1953
Time:
No.:
To: W. H. King, DMEA Executive Officer, Region 4, Denver, Colorado

Subject:

Reurtt August 18, 1953, E. C. Schreeder Company, Docket DMEA 2964. We are agreeable to elimination of reference to impervious limestone in description of work under Stages I and II of Phase "A" but new description of work must still require drill holes to be drilled to footwall of ore zone.

W. S. Martin

W. S. Martin, Acting Chairman
Operating Committee

Authorized:

Sign original message and transmit to Room ..... in duplicate

U. S. GOVERNMENT PRINTING OFFICE 16—50915-1

DEFENSE MINERALS EXPLORATION ADMINISTRATION

FAHutledge/ls

5285 3538

147.3923.970 - Working Fund - DMEA
August 19, 1953

. M. King, DMEA Executive Officer, Region 4, Denver, Colorado

Reurtt August 18, 1953, F. C. Schroeder Company, Docket DMEA 2964. We are agreeable to elimination of reference to impervious limestone in description of work under Stages I and II of Phase "A" but new description of work must still require drill holes to be drilled to footwall of ore zone.

W. S. Martin

. S. Martin, Acting Chairman
Operating Committee

CC: DOCKET
FIELD TEAM, REG. IV, CONFIRMATION
CODE 400
ADM. READ. FILE
AUDITS DIVN., MR. MILLER
ADM. COMM.
J. H. FORBES, USBM
MATERIAL CALL, USGS

FAHutledge/ls
8/19/53

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

224 New Customhouse
Denver 2, Colorado

August 14, 1953

REGISTERED MAIL

Memorandum

To: Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 2964 (Iron), Contract Idm-E578, E. C. Schroeder Co.

Enclosed are the original and five copies of Contract Idm-E578, which were transmitted to this office on August 7, 1953.

We believe that certain changes that are not within our delegation of authority should be made in this contract. Under Exhibit "A", Description of the Work, Phase "A", Stage I, last sentence, page 1, the following is stated:

> "Drill holes are to be bottomed in the impervious limestone forming the footwall of the ore zone with the exception that holes in barren or waste material shall not exceed 100 feet in length."

We believe that the same statement should be included in paragraph 1, Stage II of Phase "A" on page 2. The following should be added to this paragraph:

> "with the exception that holes in barren or waste material shall not exceed 100 feet in length."

The transmittal of the Chairman of the Operating Committee dated August 7, 1953 states that the agreed unit costs for churn drilling includes supervision and sampling. We believe that the reference _/ at the end of Exhibit "A" should be as follows:

> "Includes all costs of supervision, sampling, drilling, and hauling water."

W. H. King
W. H. King

Enclosures

AUG 7 1952

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 2964 - Iron
L. C. Schroeder Co., Inc.
Good Fortune & Nightingale mines
Platte County, Wyoming

Dear Mr. King:

We are enclosing the original and five copies of the above referenced contract signed by the Administrator for the Government, together with Exhibit "A" (3 pages), Annex I (1 page), Annex II (1 page), Annex III (1 page), and three maps.

If the terms and conditions of this contract are satisfactory to you and the Operator, all six copies should be signed and the usual distribution made. Execution of the contract for the L. C. Schroeder Co., Inc., will be arranged through Mr. M. M. Cooney. It will be appreciated if you will expedite the delivery of the proposed contract to Mr. Cooney, % Clewell, Cooney and Fuerste, 705 Roshek Building, Dubuque, Iowa.

If any part of this contract does not have either your approval or that of the Operator and cannot be amended within your delegated authority, the original and all copies of the contract are to be returned to this office, together with the proposed changes for consideration.

Please note that the agreed unit cost for churn drilling now includes supervision and sampling, which has increased the unit cost from $5.00 a foot to $6.00 a foot. Total number of determinations has been increased to 500.

The above changes have increased the amount of the proposed contract from $47,415.00 to $48,100.00.

Under Article 3, the starting date has been left blank and is to be filled in when the contract is signed by the Operator.

Sincerely yours,

SIGNED

Chairman, Operating Committee

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

Enclosures

FARutledge:foc
8-5-53

cc: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. IV
J. M. Forbes, USBM
Martha Carr, USGS

P. S. If you have not already determined whether the proposed drilling is actually on the Nightingale claim, as questioned by W. M. Traver's memorandum to you of July 8, 1953, please have the applicant verify this to your satisfaction.

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

August 3, 1953

Memorandum

To: The Administrator

Through: W. S. Martin

From: Chief Counsel

Subject: E. C. Schroeder Co., Inc. - Docket No. DMEA-2964

There is attached, in satisfactory legal form for execution, a contract covering the above-described project.

There is a Guaranty by the operator attached as Annex II. This is really unnecessary because of the elimination of the "proviso" in Article 7 in the contract. However the Guaranty has been allowed to remain at the request of the Division mainly for psychological reasons because a similar Guaranty was previously required from the operator in an earlier exploration project contract made with it.

J. L. Hofflund

J. L. Hofflund
Chief Counsel

Attachment

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

400

TO : Mr. Robert E. Adams, Chief
Oper. Controls & Statistics Division

DATE: July 30, 1953

FROM : Iron and Ferro-Alloys Division

SUBJECT: Consolidation of Dockets Nos. DMEA 2963 and 2964 - Iron - Schroeder Company

The Field Team recommended that these two applications be consolidated and a single contract prepared covering both.

This Division concurs with the Field Team recommendation, and suggests that DMEA 2963 be consolidated into DMEA 2964.

W. S. Martin, Acting Chief
Iron and Ferro-Alloys Division

WSMartin/ls
7/30/53

July 27, 1953

MEMORANDUM

To: Chief Counsel, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Review and preparation of Exploration Project Contract
Dockets DMEA 2963 and 2964
E. C. Schroeder Co., Inc.
Good Fortune and Nightingale mines
Platte County, Wyoming

Transmitted herewith is the rough draft of a proposed exploration project contract for your use in preparing the contract in final form.

W. S. Martin, Acting Chief
Iron and Ferro-Alloys Division

Enclosures

FARutledge:foc
cc: Docket
Code 400

MF-200 (A)
(February 1952)

DOCKET NO. DMEA 2964 - 2963

COMMODITY Iron

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]
(Short Form)

IT IS AGREED this _____ day of _____, 195__, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] E. C. Schroeder Co., Inc., a Corporation organized and existing under the laws of the State of Iowa, McGregor, Iowa.

hereinafter called the "Operator," as follows:

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of Wyoming, County of Platte, described as follows:[3] Twelve (12) patented mining claims, six (6) in the Good Fortune Group and six in the Nightingale Group, more particularly described as set forth in Annex I and indicated on the following maps attached hereto: Fig. 1 - Location map, showing relative position of Nightingale and Good Fortune Groups, Fig. 2 - Good Fortune Group, and Fig. 3 - Nightingale Group.

the Operator represents and undertakes:[4]

(*a*) ~~That the Operator is the owner in possession and entitled to possession, and that the operator has delivered to the Government a copy of the Owner's Consent to Lien in the form attached hereto.~~

Guaranty of E. C. Schroeder Co., Inc., Annex II, in lieu of the

(*b*) That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to Lien is attached.

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within _____ days from the date of this contract shall commence work on a project of exploration for[5] iron ore

in or upon the described land; and shall bring the project to completion within a period of Twelve (12) months from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided. The work shall be performed by the Operator or by independent contractor or contractors efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 4. *Costs of the project.*—The agreed, estimated costs of performing the work, expressed in terms of units of work to be performed (per foot of drifting, per foot of drilling, per cubic yard of material to be moved, etc.) are set forth in Exhibit "A," attached hereto. The Government will pay 50 percent of these agreed, estimated costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this contract, in an aggregate total amount not in excess of $24,050.00, which is 50 percent of $48,100.00 the agreed, estimated total cost of the project in which the Government will participate: *Provided,* That until the Operator's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract. The Government may, as it sees fit, make payments direct to the Operator's independent contractors, if any, for the account of the Operator, rather than to the Operator.

ARTICLE 5. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operator shall provide the Government with monthly reports of units of work performed under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of units of work performed on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) *Compliance with requirements.*—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of the units of work performed, which the Government may inspect and audit at any time. The Government may at any time require a check of the work performed and an audit of the Operator's records and accounts, by a certified public accountant or otherwise, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account and statement of work performed to accompany his final report.

ARTICLE 6. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales, or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be the gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 7. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided*, that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 8. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if, in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified.

ARTICLE 9. *Changes and added provisions* _____

_____

_____

_____

_____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

_____
(Operator)

By _____

By _____

I, , certify that I am the secretary of the corporation named as Operator herein; that , who signed this contract on behalf of the Operator, was then of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____ [CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66329-1

EXPLORATION PROJECT CONTRACT
E. C. SCHROEDER CO., INC.
DOCKETS DEMA 2963 and 2964

NIGHTINGALE GROUP

The six following patented mining claims (Mineral Certificate 137) surveyed under U. S. Survey 196:

Nightingale, Origan, O. K., Rustler, Columbia, and Black Cloud.

GOOD FORTUNE GROUP

The six following patented mining claims (Mineral Certificate 140) surveyed under U. S. Survey 194:

Good Fortune, Good Fortune Annex, Appex, Blue Bird, Denver and Gulf, and Cottonwood.

Draft

EXPLORATION PROJECT CONTRACT
E. C. SCHROEDER CO., INC.
DOCKETS DEMA 2963 and 2964

ANNEX II

G U A R A N T Y

In consideration of the waiver, by the United States of America of the requirement of the Owner's Consent to Lien, as set forth in paragraph 2(b) of the attached Exploration Project Contract between the undersigned and the United States of America, the undersigned hereby guarantees the payment to the United States of America of royalties, as specified in said Contract and any amendment, thereof, upon any and all ore discovered or developed as a result of said Contract and any amendment thereof, which is mined within 10 years from the date of said Contract, whether or not the undersigned has any interest in the property, covered by the said Contract, or any part in the mining operations at the time said ore is mined. If for any reason the net smelter returns or other net amounts, from operations that would be subject, under said Contract and any amendments thereof, to such payments to the United States of America, are not available as a means of measuring the amount of such payment, then the undersigned agrees and undertakes to make such payment according to the best estimates of the amount that can reasonably be made, and in the event of dispute as to such estimate, the undersigned agrees that the determination thereof by either the Administrator or Defense Minerals Exploration Administration, or his designee, shall be final and binding upon the undersigned.

Dated this _____ day of _____, 1953.

E. C. SCHROEDER CO., INC.

By _____
President

EXPLORATION PROJECT CONTRACT
E. C. SCHROEDER CO., INC.
DOCKETS DEMA 2963 and 2964

EXHIBIT "A"

Description of the Work

The exploration work on this project is to be done as two concurrent phases on neighboring areas in the Hartville Mining District. Phase "A" on the Good Fortune group of claims shall consist of two (2) stages as indicated on Fig. 2 - Good Fortune group showing approximate location of open cut, holes drilled by E. C. Schroeder Co., Inc.

The second phase, Phase "B", is on the Nightingale group of claims and shall consist of three (3) stages; Stages I and II of Phase "B" are indicated on Fig. 3 - Nightingale group showing approximate location of recommended churn drill holes.

Representative samples shall be taken of all mineralized formations encountered. Each sample shall be divided into not less than two parts, one of which is to go to the Field Team and the other to the Operator.

PHASE "A"

Stage I

Time Schedule: 0 - 3 months

1. Churn drill seventeen (17) holes with not less than a 6-inch bit for an aggregate length not to exceed 2,000 feet. Five (5) of the holes are to be west of the pit

presently being mined and twelve (12) east of this pit as indicated on figure 2. Drill holes are to be bottomed in the impervious limestone forming the footwall of the ore zone with the exception that holes in barren or waste material shall not exceed 100 feet in length.

2. Construct a maximum of 1,000 feet of access roads to the drill sites. Location of all roads subject to the prior approval of the Government.

Stage II

Time Schedule: 4 - 7 months

Stage II is to be undertaken only after completion of Stage I to the satisfaction of and approval by the Government, dependent upon the results of Stage I.

1. Churn drill eighteen (18) holes with not less than a 6-inch bit for an aggregate length not to exceed 3,000 feet. Drill holes are to be bottomed in the impervious limestone forming the footwall of the ore zone.
2. Construct a maximum of 2,000 feet of access roads to the drill sites. Location of all roads subject to the prior approval of the Government.

Phase "B"

Stage I

Time Schedule: 0 - 2 months

1. Churn drill Holes 1, 2, and 3 as indicated on Fig. 3 with not less than a 6-inch bit for an aggregate length of 600 feet to explore for iron in the Guernsey and Hartville formations.

2. Construct a maximum of 1,000 feet of access roads to the drill sites. Location of all roads subject to the prior approval of the Government.

Stage II

Time Schedule: 3 - 4 months

Stage II of Phase "B" is to be undertaken only after completion of Stage I to the satisfaction of and approval by the Government, dependent upon the results of Stage I.

1. Churn drill Holes 4, 5, 6, 7, and 8 in the order listed as indicated on Fig. 3 with not less than a 6-inch bit for an aggregate length of 1,000 feet to explore for iron in the Guernsey and Hartville formations.
2. Construct a maximum of 1,000 feet of access roads to the drill sites. Location of all roads subject to the prior approval of the Government.

Stage III

Time Schedule: 5 - 6 months

Stage III of Phase "B" is to be undertaken only after the completion of Stages I and II of Phase "B" to the satisfaction of and approval by the Government.

1. Deepen by churn drilling one or two of the holes drilled under Stages I and II of Phase "B" for an aggregate length not to exceed 500 feet.

ESTIMATED COSTS OF PROJECT

AGREED UNIT COSTS

Phase "A"

Stage I

Churn drill 2,000 feet @ $6.00 per foot which includes all drilling costs and the hauling of water.	$12,000.00	
Construct 1,000 feet of access roads @ $1.00 per foot	1,000.00	
Analyze 140 samples @ $1.00 per element determined	140.00	$13,140.00

Stage II

Churn drill 3,000 feet @ $6.00 per foot which includes all drilling costs and hauling of water	$18,000.00	
Construct 2,000 feet of access roads @ $1.00 per foot	2,000.00	
Analyze 160 samples @ $1.00 per elements determined	160.00	$20,160.00

Phase "B"

Stage I

Churn drill 600 feet @ $6.00 per foot which includes all drilling costs and hauling of water.	$3,600.00	
Construct 1,000 feet of access roads at $1.00 per foot	1,000.00	
Analyze 60 samples @ $1.00 per element determined	60.00	$4,660.00

Stage II

Churn drill 1,000 feet @ $6.00 per foot which includes all drilling costs and the hauling of water.	$6,000.00	
Construct 1,000 feet of access roads @ $1.00 per foot	1,000.00	
Analyze 80 samples @ $1.00 per element determined	80.00	$7,080.00

Stage III

Churn drill 500 feet @ $6.00 per foot which includes all drilling costs and the hauling of water.	$3,000.00	
Analyze 60 samples @ $1.00 per element determined	60.00	$3,060.00
TOTAL AGREED UNIT COSTS	$48,100.00	
GOVERNMENT PARTICIPATION @ 50 PERCENT	24,050.00	

400

July 27, 1953

MEMORANDUM

To: Chief Counsel, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Review and preparation of Exploration Project Contract
Dockets DMEA 2963 and 2964
H. C. Schroeder Co., Inc.
Good Fortune and Nightingale mines
Platte County, Wyoming

Transmitted herewith is the rough draft of a proposed exploration project contract for your use in preparing the contract in final form.

W. S. Martin, Acting Chief
Iron and Ferro-Alloys Division

Enclosures

FARutledge:foc
cc: Docket
Code 400

2963

Defense Minerals Exploration Administration
F. A. Mutledge
5285 3538

1[illegible]3923.970 - Working Fund - DMEA
July 17, 1953

W. H. King, DMEA Field Team, Region 4, Denver, Colorado

Figure 2 from geologic report DMEA 2963 and figure 2 from geologic report DMEA 2964, E.G. Schroeder Co., Inc., not received with reports. Please airmail two copies of each with rest to follow by regular mail.

George C. Selfridge

G. C. Selfridge, Chairman
Operating Committee, DMEA

Copy to: Docket 2963

Docket 2964

Confirmation to RT, Reg. 4
Code 400
Adm. Reading File
Operating Committee
Audits Division, Bur. of Mines
J. H. Forbes, USBM
Martha Carr, USGS

FAMutledge/ls
7/17/53

SENT
JUL 17 1953
Clerical Service Section

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

224 New Customhouse
Denver 2, Colorado

July 9, 1953.

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2963 (Iron), E. C. Schroeder Company, Inc., Nightingale Group, Platte County, Wyoming.

Enclosed are the original and three copies of the report pertaining to the above application.

We recommend the modified exploration project as outlined in this report and also that it be combined into one contract with the Good Fortune group (DMEA-2964).

Because of the desirability of combining the two projects under one contract we recommend that the contract be made by the Washington office.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
7-17-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

July 9, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2963 (Iron), E. C. Schroeder Company, Inc., Nightingale Group, Platte County, Wyoming.

Enclosed are eight copies of the final engineering report on the subject docket.

The applicant proposed a churn drilling project which he estimated to cost $212,749.00. The field examiners recommend a modified drilling project to be combined with the applicant's Good Fortune Group (DMEA-2964).

We concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
7-17-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colo.
July 8, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

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

Subject: DMEA 2963, Nightingale group (Iron), Platte County, Wyo.

Please find enclosed the original and eight copies of the "Summary, Conclusions, and Recommendations", by F. B. Everett, Bureau of Mines, and D. H. McLaren, Geological Survey, and of Everett's engineering report on the subject docket.

Everett concludes the property has certain merit for developing a substantial iron reserve by judicious exploration. He suggests a modified project comprising three stages, the second stage dependent on the results of the first stage, and the third stage dependent on the results of the two preceding stages. Stage 1 includes drilling of three preliminary churn drill holes for a total of 600 feet, stage 2, if approved, would allow five additional holes for a total of 1,000 feet, and stage 3 would permit deepening any of the holes drilled in the first two stages a total of 300 feet as authorized by representatives of the Region IV Field Team. The total estimated cost if the entire project is completed will be $14,395.00--Government participation 50 percent, or $7,197.50.

The suggested project is in contrast with a much more elaborate one requested by the applicant, which is considered as development, and proposed churn drilling 365 holes with an average depth of 100 feet on a 100-foot grid pattern and a comparable road building program--total cost $212,749.00.

Everett recommends a short-form contract combining the Nightingale project with a similar program recommended on the Good Fortune group (DMEA 2964) in which he included the cost of supervision, bookkeeping, and office expense of both projects. If this is done, the combined cost will total $47,415.00--Government participation $23,707.50, or 50 percent.

I approve the recommendations.

Reviewed by
DMEA OPERATING COMMITTEE

7-17-53
(date)

There is apparently some question as to whether the mine openings around which the drilling is recommended are actually on the Nightingale claim, and you may consider it necessary to have the applicant verify this before a contract is drawn up.

W. M. Traver

W. M. Traver

enclosures

WMT:amh

cc: 8
DMMA 2963
Chron.

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

200 New Customhouse
Denver 2, Colorado

July 3, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2963, E. C. Schroeder & Company (The Nightingale Group), Platte County, Colorado

Attached are 3 copies of the geologic report by D. R. MacLaren covering DMEA Docket 2963, E. C. Schroeder & Company (The Nightingale Group), Platte County, Colorado.

The applicant proposes to explore for iron ore by churn drilling 328 holes to an average depth of 100 feet, or a total of 32,800 feet, at an estimated cost of $212,749.

The subject property lies in the Hartville mining district and adjoins the Sunrise mine of the Colorado Fuel and Iron Company on the northwest.

The most productive ore deposits occur as lenses in pre-Cambrian schist on a limestone footwall, but small and low grade iron ore deposits also occur in younger formations. MacLaren concludes that there is a possibility that the Sunrise ore body may extend laterally beneath the Nightingale claims at relatively shallow depths. He therefore recommends that a limited exploration program be approved, considerably modified, however, from that of the applicant.

I concur in his recommendation.

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

Enclosures (d)

Reviewed by
DMEA OPERATING COMMITTEE

7-17-53
(date)

8/6/53

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 2963, R. C. Schroeder Company, Inc.

Nightingale Group

Platte County, Wyo.

Iron

D. R. MacLaren, Geologist
Geological Survey

F. D. Everett, Mining Engineer
Bureau of Mines

July 7, 1953

Reviewed by
DMEA OPERATING COMMITTEE

7-17-53
(date)

DMEA 2963

E. C. SCHROEDER COMPANY, INC.
NIGHTINGALE GROUP
PLATTE COUNTY, WYO.

Summary, Conclusions, and Recommendations

By D. R. MacLaren
Geologist
Geological Survey

and

F. D. Everett
Mining Engineer
Bureau of Mines

DMEA 2963

E. C. SCHROEDER COMPANY, INC.
NIGHTINGALE GROUP
PLATTE COUNTY, WYO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By D. R. MacLaren and F. D. Everett

INTRODUCTION

E. C. Schroeder Company, Inc., of MacGregor, Iowa, has applied to the Defense Minerals Exploration Administration for financial assistance to explore the Nightingale group of claims, Platte County, Wyo., for iron (DMEA 2963). The applicant proposed to churn drill 328 holes for an average depth of 100 feet on five claims on a 100-foot grid pattern and to build 32,800 feet of road for transporting the churn drill and hauling water. The total cost of the program was estimated as $212,749.00—Government participation $106,374.50, or 50 percent.

An examination of the property revealed that soft and hard iron ore occurs in four small development workings on the Nightingale claim. In this area, schist of the Whalen formation, which contains most of the economic deposits, is capped by sandstone, limestone, and conglomerate of the Guernsey and Hartville formations. Small deposits of low-grade iron ore occur at the base of both the Guernsey and Hartville. The ore seen at the Nightingale claim is at the base of the Hartville formation. However, similar conditions existed at

the Sunrise mine, which is within a mile to the southeast. The Sunrise mine has produced about 25,000,000 tons of high-grade iron ore since 1900, and on the possibility that ore from this mine might extend onto the Nightingale property, a program of exploration is recommended.

The program suggested is to be performed in three stages, stage 2 being dependent upon stage 1, and stage 3 on both stage 1 and 2. Stage 1 consists of drilling three churn drill holes for a maximum aggregate length of 600 feet to penetrate the schist of the Whalen formation below the iron-bearing sandstone. Stage 2, if approved, would allow the churn drilling of five additional holes for a maximum aggregate length of 1,000 feet. Stage 3 would allow deepening any of the holes drilled in stages 1 and 2, if approved by a representative of the Region IV Field Team, for a maximum aggregate length of 500 feet. The expense of road building and a sampler would also be provided.

It is recommended that the program be set up as a short-form contract combined with a similar program of the same company on the Good Fortune group (DMEA 2964). Supervision, bookkeeping, and office expenses were provided in DMEA 2964 to cover both projects and should not be duplicated. The project should be completed in 7 months. The cost of the Nightingale group program is estimated as $14,395.00—Government participation 50 percent, or $7,197.50.

The cost of the combined projects will total $47,415.00—Government participation, $23,707.50.

THE NIGHTINGALE GROUP

PLATTE COUNTY, WYOMING

DMEA DOCKET 2963

Geologic Report

By D. R. MacLaren
U. S. Geological Survey

THE NIGHTINGALE GROUP
PLATTE COUNTY, WYOMING

INTRODUCTION

The E. C. Schroeder Company, Inc., of McGregor, Iowa, has applied to the Defense Minerals Exploration Administration for assistance to explore for iron ore on the Nightingale group of mining claims in Platte County (prior to 1911 a part of Laramie County) Wyoming. The applicant proposes to churn drill 328 holes to an average depth of 100 feet, or a total of 32,800 feet, at an estimated cost of $212,749 (Government's share 50 percent of $106,374.50).

The property was examined June 11, 1953, in the company of Mr. Floyd D. Everett of the U. S. Bureau of Mines and Mr. Paul E. Schroeder, vice-president of the applicant company. The claims are adjacent to the northwest boundary of the Sunrise mine of the Colorado Fuel and Iron Company in the Hartville mining district. They are easily accessible from the town of Gurnsey over 8½ miles of good State Highway and fair dirt road.

It is concluded that this is a fair prospect since the ore being mined at Sunrise may extend to the Nightingale group. The amount of drilling requested by the applicant is excessive. It is recommended that a modified program estimated by the U. S. Bureau of Mines to cost $14,395 (the Government's share 50 percent or $7,197.50) be approved.

GEOLOGY

The rocks of the area are steeply dipping quartzites, schists, and siliceous limestones of the Whalen group (pre-Cambrian) overlain by the

gently-dipping Gurnsey and Hartville formations of Carboniferous age. These rocks are encircled by the Arikaree formation (Miocene) and terrace gravels and alluvium (Pleistocene) that fill erosional depressions.

The main iron ore deposits are found in the Whalen group as lenses in schist on a limestone footwall. Localized deposits, some of excellent grade but too small to be of much economic importance, have been found in a hematitic conglomerate at the base of the Gurnsey formation. At the base of the Hartville formation is an iron-stained shale on which lies the typical Hartville sandstone. Where the shale has been folded into gentle synclines, iron from the sandstone has been redeposited forming blanket beds of low grade hematite.

On the Nightingale group, in the southern part of the Rustler claim and near the southeast boundary of the Origan and Nightingale claims, the Gurnsey formation is exposed. Its maximum thickness in this area is 150 feet. Above the Gurnsey and comprising most of the surface within the limits of the group, is the Hartville formation with a maximum thickness of about 100 feet. Thus, on these claims, the Whalen group is as much as 250 feet below the surface. About three quarters of a mile west of the Nightingale claim, two tunnels, two shallow pits, and a cribbed shaft, now inaccessible, expose a deposit of hematite at the base of the Hartville formation. This deposit appears to be small and rather low grade. Mr. Schroeder stated that this exposure was on the Nightingale claim, but a subsequent check of topographic and geologic maps show it to be in sec. 1, R. 66 W., while the Nightingale claim is in sec. 6, R. 65 W. The claims were also entered from the north and a traverse was made across most of the Origan claim. Here the surface is a broad flat area in the Hartville formation.

CONCLUSIONS

It is concluded that most of the commercial ore in the area comes from the Whalen group, and that on the Nightingale claims this formation is overlain by as much as 250 feet of the Gurnsey and Hartville formations. Although it is doubtful that any significant amount of ore will be found in either the Gurnsey or the Hartville formations, it is concluded that there is sufficient possibility of the Sunrise ore body extending laterally beneath the Nightingale claims at relatively shallow depths to justify limited exploratory drilling.

RECOMMENDATIONS

It is recommended that the following program, estimated by the Bureau of Mines to cost $14,395 (the Government's share 50 percent or $7,197.50) be approved.

1. Holes No. 1, 2, and 3 (figure 2) are to be drilled first. Due to lack of suitable topographic maps, it is impossible to give an exact depth for each hole but it is believed that about 75 feet for No. 1, 200 feet for No. 2, and 225 feet for No. 3 should be enough to penetrate the ore if it is present on the claims.

2. Contingent upon the Sunrise ore body extending laterally to the line of Holes No. 1, 2, and 3, Holes No. 4, 5, and 6 should be drilled to an estimated depth of 200 feet each. Should the Sunrise ore body be found to extend to these holes, then No. 7 and 8 should be drilled to a depth of 200 feet.

3. Allowance should be made for 500 feet of additional drilling to deepen one or two holes to test the thickness of the ore should the

drilling in steps 1 and 2 indicate the presence of ore over a sufficient area.

The approximate location of the proposed holes is shown in figure 2.

DMEA 2963

E. C. SCHROEDER COMPANY, INC.
NIGHTINGALE GROUP
PLATTE COUNTY, WYO.

Engineering Report

By E. D. Everett
Mining Engineer
Bureau of Mines

DMEA 2963

E. C. SCHROEDER COMPANY, INC.
NIGHTINGALE GROUP
PLATTE COUNTY, WYO.

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1. Location map, showing relative position of Nightingale iron claims, Platte County, Wyo.	2
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*See figure with geological report.

DMEA 2963

E. C. SCHROEDER COMPANY, INC.
NIGHTINGALE GROUP
PLATTE COUNTY, WYO.

ENGINEERING REPORT

By

F. B. Everett

INTRODUCTION

The Nightingale group of iron claims in Platte County, Wyo., has been proposed for a Defense Minerals Exploration Administration loan of $212,749.00 by E. C. Schroeder Company, Inc. (DMEA 2963). The exploration proposed was to churn drill 32,800 feet in 328 holes, construct 32,800 feet of access road to drill sites, and assay about 2,624 samples. Work, as originally proposed, consisted of exploring for an ore body by churn drilling on five claims at 100-foot intervals. These claims lie adjacent to the property of the Sunrise mine, which is owned and operated by the Colorado Fuel and Iron Corporation. Four small prospect holes, supposedly on the Nightingale claim, contained soft hematite ore.

E. C. Schroeder Company, Inc., plans to explore, develop, mine, and ship ore to Birmingham, Ala., for smelting.

The property is in an area which is known to be favorable for iron deposition. However, the program proposed by the applicant constitutes both exploration and development, and a program costing less appears feasible.

ACKNOWLEDGMENTS

Paul C. Schroeder, vice-president and manager of the Wyoming operation, accompanied the examining team over both the Nightingale and Good Fortune groups of iron claims on June 11, 1953, and furnished all data for the report. D. R. MacLaren, geologist, was the Geological Survey representative on the examining team.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Nightingale group of claims is in the SW1/4 and NW1/4 sec. 6 and a small part of the NW1/4 sec. 7, T. 27 N., R. 65 W., and part of SE1/4 sec. 1, T. 27 N., R. 66 W., Hartville Mining District, Platte County, Wyo. The property is northwest of Sunrise and about 8 to 9 miles north and a little east of the town of Guernsey (fig. 1).

The mineralized area of the Nightingale group of claims is on the side of a fairly steep hill, the top of which is flat tableland and the bottom terminating in a narrow creek valley. About 2 miles of graveled road have been constructed between the company crushing and loading plant and a black top road, which connects Guernsey, Hartville, and Sunrise. A rough dirt road extends from Sunrise for about 2 miles to the top of the tableland, from which access could readily be made to the Nightingale group of claims. The altitude at the claims is about 5,000 feet.

The crushing and loading plant is located on a siding of the Chicago, Burlington, and Quincy Railroad.

The climate is semiarid; summers are hot, and winter temperatures drop below zero for short periods. Water would have to be hauled from Sunrise or Hartville; Paul C. Schroeder stated a well might be drilled.

The E. C. Schroeder Company, Inc., operated a rock crushing plant 2 miles east of Guernsey prior to 1951 and thereby is familiar with labor and supply sources.

HISTORY AND PRODUCTION

Early history of the district started with the Indians using red hematite ore for war paint. The early history of these claims is not known to the writer, but Chance[1/] gives a description of the Nightingale group as of 1900.

There has been no production from the Nightingale group of claims. The group is northwest of, and within a mile of, the Sunrise mine of the Colorado Fuel and Iron Corporation. This mine has been worked continuously since 1900 and the past production is about 25,000,000 tons of iron ore, which has been shipped to iron and steel smelting facilities at Pueblo, Colo.

OWNERSHIP AND EXTENT

The property being considered, commonly referred to as the Nightingale group of iron claims, contains the following patented lode claims as listed, with specific exceptions, in exhibit "1" of the application.

1/ Chance, H. M., The Iron-Mines of Hartville, Wyoming: AIME Transactions Vol. 30, 1900, p. 998.

Certificate 137	Certificate 137	Certificate 136
Nightingale	El Paso	Terrible
Origan	Standard	
O. K.	Monsier	
Rustler	Clipper	
Columbia	Humbolt	
Black Cloud	Iron Clad	
Monitor		

On the claim map, exhibit "3" of the application, the Crown claim is indicated as being with the above group of claims, according to mineral survey 196. The Crown claim and description do not appear in exhibit "1".

The above mining claims are leased by E. C. Schroeder Company, Inc., of McGregor, Iowa, from W. H. Collins, according to exhibit "2" of the application. The lease, which contains several limiting provisions, is for 99 years starting December 26, 1952.

Exploration for iron would be conducted on the Nightingale, Origan, Black Cloud, Columbia, and Rustler, providing the adit, adit-pit, and shaft, all of which contained iron ore of fair quality, are on the Nightingale claim as indicated by Paul C. Schroeder, vice-president and manager of the Wyoming operation. (The reason for this provision is that the area containing these workings, as indicated by Schroeder, does not appear to be in the right location on the topographic map contained in Geological Survey Folio 91, the Hartville Folio, 1903).

Paul C. Schroeder stated that, if a lease is granted, any ore found or ore shipped from any of the claims in the lease would constitute a discovery and would be subject to loan repayment by royalties to the Government.

DESCRIPTION OF THE DEPOSITS

Iron deposits in the Hartville Mining District have been described in several publications, the principal one being by Ball.[2/]

The Bureau of Mines conducted geophysical surveys over a portion of the area in 1943-45 without finding any appreciable anomalies.[3/]

The ore deposits occur in lenticular masses, usually in schist, and apparently are controlled somewhat by folding and faulting of the schist immediately above the uppermost limestone of the pre-Cambrian complex. In places a near horizontal cap rock of sandstone or quartzite covers the older metamorphic rocks. This cap rock has been replaced, or partially replaced, by hematite ore in a few places, one of which is in the workings supposedly on the Nightingale claim.

Chance[4/] describes the workings as of 1900 on the Nightingale claim as follows:

> "About one-half mile northwest from No. 36 (just beyond the limits of the map) is the Nightingale claim. It consists of a drift into the hillside about 40 feet long, and high up on the hill. Limestone appears in the hill below the ore, with sandstone at the level of the ore openings. The dip is apparently 30° W. There is, here, apparently about 8 to 12 feet of ore, a little being of fair quality, but most of it looking like 30 percent stuff. It is exceedingly doubtful whether this is the outcrop of a vein or not. It looks like a replacement deposit. Besides the drift, there is a shaft nearby, about 40 feet deep, which passed through some good ore. There are about 4 tons of 62 percent ore on the dump."

2/ Ball, S. H., The Hartville Iron-Ore Range: Geol. Survey Bull. 315, 1907, pp. 190-205.

3/ Frey, Eugene, Hartville Iron District, Platte County, Wyo.: Bureau of Mines Report of Investigation 4086, June 1947, 3 pp.

4/ Reference cited in footnote 1.

The two drifts and shaft described here are probably two of the four workings observed by the examining team. The ore near the surface may or may not have much significance. However, the proximity of the claims to the Sunrise mine gives the possibility credence.

The ore observed in the workings on the Nightingale claim was soft and hard hematite, most of which would have to be beneficiated for profitable utilization.

MINEABLE ORE RESERVES

Some ore reserve estimate could probably be calculated for the Nightingale claim, but it would be small and insignificant.

PRESENT STATUS

Exploration and Development

The Nightingale group of claims has not been developed sufficiently to establish the occurrence of a worthwhile iron ore body.

There are four small workings on the Nightingale claim, one being an inaccessible shaft.

Roads would have to be built to the area, some of which would require considerable rock work.

Any ore produced as the result of a successful exploration program would probably be shipped to Birmingham, Ala., for utilization (see Good Fortune group, DMRA 2964, for present ore schedules and freight rates).

No estimate is possible at this time as to the most applicable mining method and cost of mining.

Mining and Milling Equipment and Facilities

The applicant company currently is engaged in surface pit mining at the Good Fortune mine in the same area in Wyoming, at a rock crushing quarry in Wisconsin, and a brown-iron mining operation in Alabama. It apparently has adequate equipment and finances to develop and mine any ore deposit found.

Paul C. Schroeder stated that if adequate reserves are developed, a heavy media beneficiation plant, similar to one used by the company in Alabama, would be constructed.

PROPOSED EXPLORATION AND DEVELOPMENT PROGRAM

The applicant proposed a program to explore the area covered by five claims at 100-foot intervals (exhibit "5" of the application). This type of project would be excellent for a development program, but could not be considered as exploration of the property, which can probably be accomplished to give a sufficient evaluation by a much less costly program involving fewer drill holes.

A modified program is suggested, which, if approved, should be combined with a program similar to one suggested in DMEA 2964 on the Good Fortune group in the same area by the same applicant.

The suggested program would be conducted in three stages, the second dependent upon the findings of the first, because if appreciable ore is not found in the first three holes drilled it would be improbable that any ore would be found by subsequent drilling.

Stage 1 of the suggested program would include drilling three churn drill holes for an aggregate length of 600 feet in a program similar to one illustrated on figure 2 with the geological report for proposed holes 1 to 3, inclusive. Access roads must be constructed to the drill sites for transporting the drilling equipment and water.

If the results of stage 1 are encouraging, in the opinion of representatives of Region IV Field Team, stage 2 would be allowed, consisting of churn drilling five additional holes (4 to 8, inclusive, as shown on figure 2 with the geological report) for an aggregate length of 1,000 feet. Access roads would be constructed to the drill sites.

If the results of stage 1 and 2 are sufficiently encouraging, in the opinion of Region IV Field Team representatives, stage 3 would be allowed, consisting of an additional 500 feet of drilling to deepen one or two of the previously drilled holes, as desired by the applicant and approved by a Region IV Field Team representative.

This program should be conducted concurrently with a similar one on the Good Fortune group (DMRA 2964). The same time period of 7 months should be allowed for completion of both projects.

The road-building phase of the program cannot be specifically described, as suitable topographic maps of the area are not available. These roads can be laid out on the ground by a representative of the company with the approval of a representative of the Region IV Field Team.

A sampler is allowed to care for drill samples. Assay charges for samples are also included.

The proportionate share of bookkeeping and office expense is also included but is allowed in the Good Fortune report and is not duplicated in this project.

ESTIMATED COST OF PROJECT

The cost of the program for the Nightingale group of claims is estimated as follows:

Stage 1

Maximum of 600 feet of churn drilling (6-inch or larger bits) in three holes, including hauling water, at $5.00 per foot	$3,000.00	
Maximum of 1,000 feet of road building, as approved by a representative of the Region IV Field Team, at $1.00 per linear foot	1,000.00	
An engineer or geologist is provided for in the Good Fortune (DMEA 2964) recommendations and is not duplicated.	-	
One sampler at $1.35 per hour, or less, as worked, not to exceed 2 months at $70.20 per week including overtime	570.00	
Proportionate share of salary of bookkeeper and office expense is included in the Good Fortune (DMEA 2964) project.	-	
Assaying 60 samples for iron at $1.00 each	60.00	
Estimated cost, stage 1		$ 4,630.00

Stage 2

Maximum of 1,000 feet of churn drilling in five holes, including hauling water, at $5.00 per foot	$5,000.00	
Maximum of 1,000 feet of road building, as approved by a representative of the Region IV Field Team, at $1.00 per linear foot	1,000.00	
One sampler at $1.35 per hour, or less, as worked, not to exceed 2 months at $70.20 per week, including overtime	570.00	
Assaying 75 samples for iron at $1.00 each	75.00	
Estimated cost, stage 2		$ 6,645.00

Stage 3

Maximum of 500 feet of churn drilling, including hauling water at $5.00 per foot,	$2,500.00	
One sampler at $1.35 per hour, or less, as worked, or $70.20 per week including overtime, for 2 months	570.00	
Assaying 50 samples at $1.00 each	50.00	
Estimated cost, stage 3		3,120.00
Estimated cost of project		$14,395.00

PROPOSED FINANCING

The applicant has indicated the ability to participate financially in a much larger program than the one suggested.

CONCLUSIONS

The E. C. Schroeder Company, Inc., is currently producing iron ore from the Good Fortune group of claims in the same general area, which is also being considered for a Defense Minerals Exploration Administration loan.

The present plan of production is to ship the ore to Birmingham, Ala., for smelting. The ore is high in iron and low in silica and phosphorus. For shipping purposes, the grade must be maintained above 53 percent iron.

The applicant is operating other open-pit properties and has the necessary "know-how" for an iron mining operation.

The Nightingale group of claims is in an area favorable for iron deposition. The program suggested by the examining team has good possibilities for increasing the high-grade iron reserves in Wyoming.

RECOMMENDATIONS

It is recommended that a program of exploration by churn drilling be approved to be conducted in three stages, each successive stage depending on the results of the preceding stage, as suggested in the report.

The total cost of the program is estimated as $14,395.00--Government participation, $7,197.50.

This should be combined with a similar one on the Good Fortune group (DMEA 2964) and they should be carried on concurrently. It is suggested the two be incorporated in one short-form contract.

If this procedure is followed, the total cost of a combined program on the Good Fortune and Nightingale groups will be $47,415.00--Government participation 50 percent, or $23,707.50.

eb

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

224 New Customhouse
Denver 2, Colorado

July 9, 1953.

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2964 (Iron), E. C. Schroeder Company, Inc., Good Fortune Group, Platte County, Wyoming.

Enclosed are the original and three copies of the report pertaining to the above application.

We recommend approval of a two stage exploration program as outlined in the report. We also recommend that the work be done in conjunction with the work on the Nightingale group (DMEA-2963), and that all work be administered under one contract.

Because of the desirability of combining the two projects under one contract, we recommend that the contract be made by the Washington office.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
7-17-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

July 9, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2964 (Iron), E. C. Schroeder Company, Inc., Good Fortune Group, Platte County, Wyoming.

Enclosed are eight copies of the final engineering report on the subject docket. The applicant requested $223,085.00 for an elaborate drilling program.

The examining engineer believes that a modified drilling project is warranted and recommends that it be combined with DMEA-2963 under one contract.

We concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
7-17-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
July 6, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

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

Subject: DMEA 2964, Good Fortune group (Iron), Platte County, Wyoming

Please find enclosed the original and eight copies of the "Summary, Conclusions, and Recommendations," by F. D. Everett and D. R. MacLaren, and F. D. Everett's final engineering report on the subject docket.

The applicant requested $223,085.00 for an elaborate program of churn drilling on a closely spaced pattern and road building of a comparative magnitude, the whole involving complete development of the deposit as well as exploration.

Everett considers the area well worth exploration to determine extensions of the present-known ore body and recommends a modified program set up in two stages, the second stage contingent upon results of the first. Stage 1 comprises churn drilling 17 holes totaling 2,000 feet, including road building, supervision, and sampling, and stage 2, churn drilling 18 holes for a total of 3,000 feet with the same complementary work. The costs are estimated at $33,020.00, and a short-form contract is suggested.

I concur with his recommendations.

A report is in preparation recommending a project on the nearby Nightingale group submitted by the same applicant (DMEA 2963). The recommendations on both are for carrying them on concurrently and combining the contracts in one if possible.

W. M. Traver

W. M. Traver

enclosures

WMT/pam

cc 8
DMEA 2964
DMEA Chron.

Reviewed by
DMEA OPERATING COMMITTEE
7-17-53
(date)

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

200 New Customhouse
Denver 2, Colorado

July 3, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2964, E. C. Schroeder & Company (The Good Fortune Group), Platte County, Wyoming

Attached are 8 copies of the geologic report by D. R. MacLaren covering DMEA Docket 2964, E. C. Schroeder & Company (The Good Fortune Group), Platte County, Wyoming.

The applicant proposes to explore for iron ore by churn drilling 345 holes to an average depth of 100 feet, or a total of 34,500 feet, at an estimated cost of $223,085.

The claims are in the Hartville mining district, adjacent to the southeast boundary of the Sunrise property of the Colorado Fuel and Iron Company. The rocks in the area are quartzites, schists, and siliceous limestones of pre-Cambrian age. Ore occurs in lenses in the schist. MacLaren concludes that exploration for iron ore on subject property is warranted and recommends approval of an exploration loan, but the recommended program is considerably modified from that of the applicant and is estimated to cost $33,020.

I concur in his recommendation.

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

Enclosures (8)

Reviewed by
DMEA OPERATING COMMITTEE
7-17-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

8/5/53

DMEA 2964, E. C. Schroeder Company, Inc.

Good Fortune Group

Platte County, Wyoming

Iron

F. D. Everett
Bureau of Mines

July 6, 1953

Reviewed by
DMEA OPERATING COMMITTEE

7-17-53
(date)

DMEA 2964

E. C. SCHROEDER COMPANY, INC.
GOOD FORTUNE GROUP
PLATTE COUNTY, WYOMING

Summary, Conclusions, and Recommendations

By F. D. Everett
Mining Engineer
Bureau of Mines

and

D. R. MacLaren
Geologist
Geological Survey

DMEA 2964

E. C. SCHROEDER COMPANY, INC.
GOOD FORTUNE GROUP
PLATTE COUNTY, WYOMING

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By F. D. Everett and D. R. MacLaren

E. C. Schroeder Company, Inc., of McGregor, Iowa, has applied to the Defense Minerals Exploration Administration for financial assistance to explore the Good Fortune group of claims, Platte County, Wyo., for iron. The applicant proposed to churn drill 345 holes on six claims at 100-foot intervals for an average depth of 100 feet. The total cost of the program was estimated at $223,085.00--Government participation $111,542.50, or 50 percent.

An examination of the property revealed that the iron occurs in a series of connected pod-shaped bodies ranging in width from 25 to 75 feet. Ore has been mined in an open pit about 800 feet long which contained iron ore for 700 feet. The ore, comprising a hard, bluish hematite, occurs in schist and lies upon a well-defined footwall of siliceous limestone. The hanging wall consists of a zone about 10 to 15 feet wide in which low-grade hematite grades into fairly fresh schist. The ore zone appears to have a definite east-west trend and to dip 70° to 85° north. Therefore, drilling for new bodies or extensions on a 100-foot-square grid system, as proposed throughout the claims by the applicant, is considered unnecessary.

A program is suggested to be performed in two stages, the second dependent upon the results of the first, as approved by a representative

of the Region IV Field Team. Stage 1 consists of churn drilling 17 holes for a maximum aggregate length of 2,000 feet, and stage 2, if approved by the Region IV Field Team, consists of churn drilling 18 holes for a maximum aggregate length of 3,000 feet. The spacing and location of the holes are fully described in the engineering and geologic reports and are shown on accompanying maps. Necessary road building, sampling, assaying, supervision by an engineer or geologist, proportionate bookkeeping, and office expenses are allowed.

It is recommended that this program be carried on concurrently with a similar project recommended on the nearby Nightingale group (DMEA 2963). Short-form contracts are suggested for both. The total cost of the Good Fortune program is estimated as $33,020.00--Government participation 50 percent, or $16,510.00.

E. C. Schroeder Company, Inc., is currently shipping about 450 tons of ore containing over 53 percent iron, about 11 percent insoluble, and 0.075 percent phosphorus to Sloss-Sheffield Iron and Steel Company at Birmingham, Ala. Ore is mined for about $2.50 a ton, and freight charges are $8.30 a ton. A profit is indicated on ore shipped containing over 53 percent iron.

THE GOOD FORTUNE GROUP

PLATTE COUNTY, WYOMING

DMEA DOCKET 2964

Geologic Report

By D. R. MacLaren
U. S. Geological Survey

THE GOOD FORTUNE GROUP
PLATTE COUNTY, WYOMING

INTRODUCTION

E. C. Schroeder Company, Inc., of McGregor, Iowa, has applied to the Defense Minerals Exploration Administration for assistance to explore for iron on the Good Fortune group of mining claims in Platte County (prior to 1911 a part of Laramie County) Wyoming. The applicant proposes to churn drill 345 holes to an average depth of 100 feet, or a total of 34,500 feet, estimated to cost $223,085 (the Government's share 50 percent or $111,542.50).

The property was examined June 11, 1953, in the company of Mr. Floyd D. Everett of the U. S. Bureau of Mines, and Mr. Paul Schroeder, vice-president of the applicant company. The claims are in the Hartville mining district, about 9 miles north of the town of Gurnsey, and are adjacent to the southeast boundary of the Sunrise property of the Colorado Fuel and Iron Company. They are easily accessible from Gurnsey over paved State Highway and good gravel surfaced county road.

It is concluded that this is a good prospect, but that the amount of drilling requested by the applicant is excessive. It is recommended that a modified program, estimated by the Bureau of Mines to cost $33,020 (the Government's share 50 percent or $16,510) be approved.

GEOLOGY

The rocks of the area are steeply dipping quartzites, schists, and siliceous limestones of the Whalen group (pre-Cambrian) overlain by

the gently-dipping Gurnsey and Hartville formations of Carboniferous age. These rocks are encircled by the Arikaree formation of Miocene age, while Pleistocene alluvium and terrace gravels fill erosional depressions.

On the Good Fortune claims (Figure 2) the Whalen group comprises the economically important rocks. The ore lies in the schist from which it appears to have been derived, and has a well defined footwall of impervious limestone. The hangingwall is much less well defined, being a zone about 10 to 15 feet wide in which low grade hematite grades into fairly fresh schist. An open cut about 800 feet long, from which the applicant is now mining ore, indicates that the main ore zone is a series of pod-shaped bodies ranging in width from 10 to 75 feet. The ore consists of a high grade (60 percent iron or better) core of hard, bluish-black hematite flanked by zones of soft red hematite that decreases in iron content toward the walls. The ore zone, parallel to the foliation of the schist, strikes about N. 80° W. and dips 70° to 85° N. It appears to plunge 20° to 25° towards the east. Diamond drilling previously done by the applicant has disclosed two or more narrow ore zones, 2 to 5 feet thick, in the hangingwall either parallel to or branching from the main ore body. In general, the width of the ore zone appears to decrease upward from the floor of the open cut to a saddle in the north-south ridge to the west where it is not more than 10 feet wide. About 200 feet west of the saddle, the ore outcrops and is up to 50 feet wide. East of the open cut the ore cannot be traced as here the Whalen group is overlain by the Arikaree formation.

CONCLUSIONS

It is concluded that a zone up to 200 feet wide extending from the open cut to the east and west limits of the property is a good area in which to prospect. No other favorable area was indicated by Mr. Schroeder or seen by the examiners.

RECOMMENDATIONS

It is recommended that the following program, estimated by the Bureau of Mines to cost $33,020 (the Government's share 50 percent or $16,510) be approved.

1. Seventeen churn drill holes should be drilled to an average depth of 100 feet. As shown on figure 2, five holes are between the west end of the open cut and the area in which ore outcrops, and twelve are between the east end of the open cut and the east end line of the Blue Bird and Appex claims. An additional 300 feet of holes should be provided to allow for the deepening of one or two holes in this group should it be desirable.

2. Should the results of the drilling recommended in 1. be favorable, drilling should be continued, as shown in figure 2, from west to east either until no more ore is encountered or until a total of 18 holes averaging 100 feet in depth have been drilled. As it is not possible to determine the rate at which the Arikaree formation may thicken, it is recommended that an additional 1200 feet of drilling be authorized in this group to deepen two or three holes as conditions may warrant.

3. It should be permissible for the examiners to move any undrilled holes to more favorable locations within the claims as results of the drilling may indicate. The drilling recommended in 2. should not be allowed to start until authorized by a DMEA representative.

DMEA 2964

E. C. SCHROEDER COMPANY, INC.
GOOD FORTUNE GROUP
PLATTE COUNTY, WYOMING

Engineering Report

By F. D. Everett
Mining Engineer
Bureau of Mines

DMEA 2964

E. C. SCHROEDER COMPANY, INC.
GOOD FORTUNE GROUP
PLATTE COUNTY, WYOMING

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ILLUSTRATIONS

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1. Location map, showing relative position of Good Fortune iron claims, Platte County, Wyoming	2
2. Good Fortune group showing approximate location of open cut, holes drilled by E. C. Schroeder Company, Inc., and recommended churn drill holes	*

*See figure with geologic report.

DMEA 2964

E. C. SCHROEDER COMPANY, INC.
GOOD FORTUNE GROUP
PLATTE COUNTY, WYOMING

ENGINEERING REPORT

By F. D. Everett

INTRODUCTION

The Good Fortune group of iron claims in Platte County, Wyo., has been proposed for a Defense Minerals Exploration Administration loan of $223,085.00 by E. C. Schroeder Company, Inc. (DMEA 2964). The exploration proposed was to churn drill 34,500 feet in 345 holes, construct 34,500 feet of access road to drill sites, and assay about 2,760 samples. Work, as originally proposed, consisted of exploring extensions of a known ore body or finding new ore bodies by churn drilling at 100-foot intervals.

An ore body on the Good Fortune group of claims is presently being worked, with the current daily production of iron ore amounting to about 450 tons a day, which is shipped to Birmingham, Ala., for smelting.

The property is in an area favorable for iron deposition. However, the program proposed by the applicant constitutes both exploration and development, and a program costing less appears more feasible.

ACKNOWLEDGEMENTS

Paul C. Schroeder, vice-president and manager of the Wyoming operation, accompanied the examining team over both the Good Fortune and Nightingale group of iron claims on June 11, 1953, and furnished all

data for the report. Donald MacLaren, geologist, was the Geological Survey representative of the examining team.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Good Fortune group of claims is in secs. 4, 5, 7, and 8, T. 27 N., R. 65 W., sixth principal meridian in the Hartville Mining District, Platte County, Wyo. (fig. 1). Roughly, the property is 6 to 7 miles by road northeast of the town of Guernsey, Wyo.

Topography at the Good Fortune mine grades from plains to a rough but low range of hills. A good graveled road has been constructed between the company crushing and loading plant on a siding of the Chicago, Burlington, and Quincy Railroad. The altitude ranges between 4,800 and 5,000 feet.

The climate is semiarid; summers are hot, and winter temperatures drop below zero for short periods. Water is hauled from a well drilled in the plains about a mile from the main pit.

The E. C. Schroeder Company, Inc. operated a rock-crushing plant 2 miles east of Guernsey prior to 1951 and thereby are familiar with the labor and supply sources.

HISTORY AND PRODUCTION

Early history of the district started with the Indians using the red hematite ore for war paint. The Good Fortune group of claims is part of several claims located in 1857. From 1880 to 1887, copper was mined, but in 1888 attention was directed to iron ore.

Iron ore was first mined at the Good Fortune property in 1897 and 1898, when approximately 30,000 tons of ore were shipped to the iron smelter at Pueblo, Colo.[1/]

1/ Ball, S. H., Hartville Iron Ore Range, Wyo.; U. S. Geol. Survey Bulletin 315 D, 1907, p. 193.

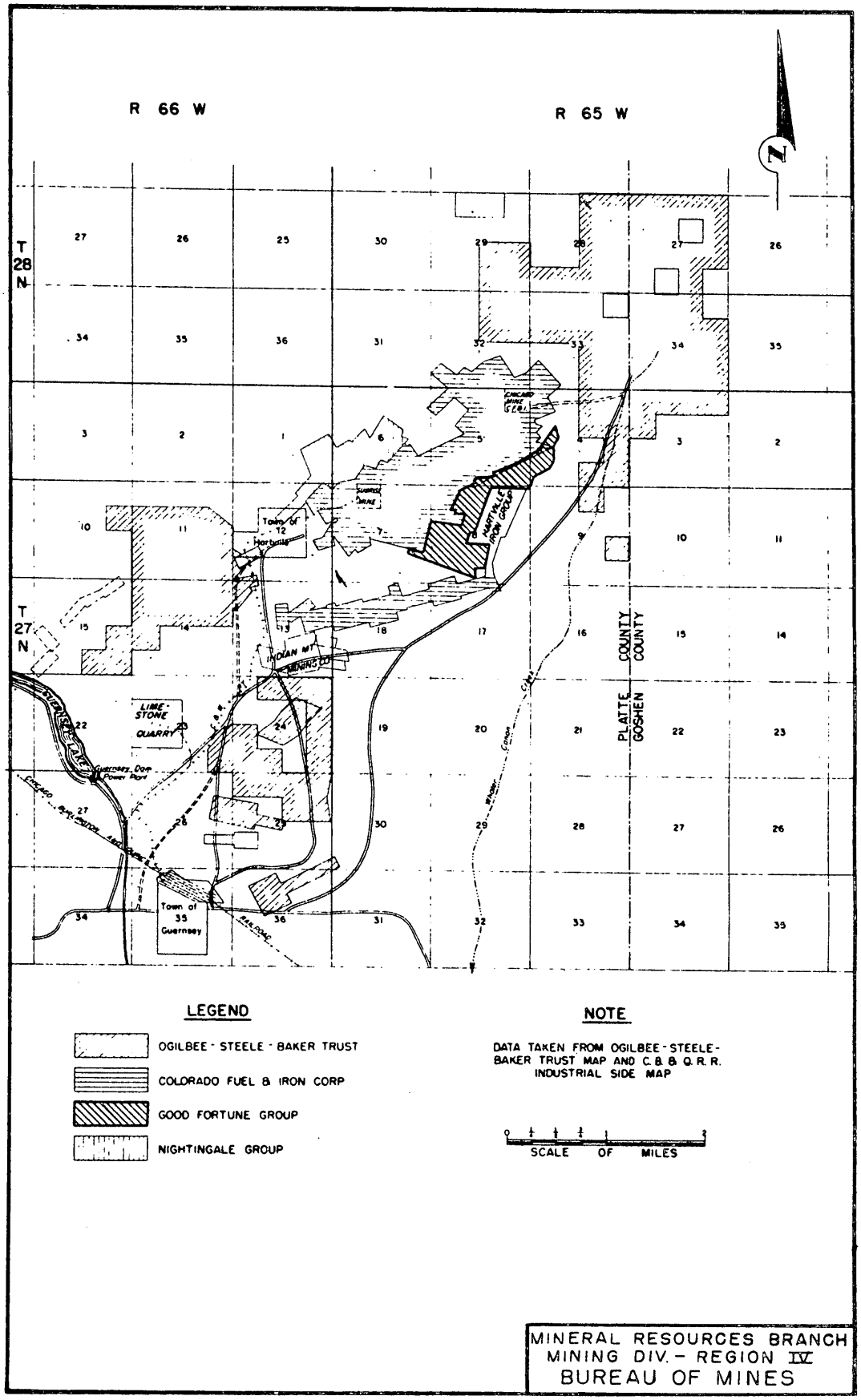

FIGURE 1. - LOCATION MAP, SHOWING RELATIVE POSITION OF GOOD FORTUNE IRON CLAIMS, PLATTE COUNTY, WYO. (DMEA 2964).

The Bureau of Mines investigated the Good Fortune property by mapping and sampling the accessible workings in June 1944.[2/] The E. C. Schroeder Company, Inc. became interested in 1952 and later made several shipments of iron ore to iron and steel plants in Birmingham, Ala., starting in January 1953.

Production during January and February 1953 was 144 cars of iron ore which averaged in excess of 60 percent iron, less than 10 percent silica, and less than 0.10 percent phosphorus.

Paul C. Schroeder, vice-president and manager of the property, stated that production through May and June 1953, would average about 450 tons a day. Assay returns from 4,390 tons shipped in May 1953, averaged, on a dry basis, 59.28 percent iron, 11.1 percent insoluble, 0.072 percent phosphorus, 0.107 percent manganese, and 1.67 percent lime.

The Good Fortune property is southeast of and within a mile of the Sunrise mine of the Colorado Fuel and Iron Corporation. This mine has been worked continuously since 1900, and the past production is about 25,000,000 tons of iron ore, which has been shipped to iron and steel smelting facilities at Pueblo, Colo.

OWNERSHIP AND EXTENT

The property being considered, commonly referred to as the Good Fortune group, contains the following patented lode claims as listed, with specific exceptions, in exhibit "1" of the application:

2/ Frey, Eugene, Hartville Iron District, Platte County, Wyo., Bureau of Mines Report of Investigation 4086, June 1947, 3 pp.

(Certificate 139)	(Certificate 140)
Summit	Bonded
Connection	Good Fortune
Moonlight	Good Fortune Annex
Rip Van Winkle	Golden Rule
Otto	Appex
Giant	Blue Bird
Pigmy	Denver and Gulf
Appendix	Cottonwood
Iron Spike	Whalen
Miners Luck	Anaconda
Hexagon	Valley
Reserve	Juneau
Iron Wheel	Rudy L.
Iron Slope	Gracia Ellen
	Blue Jay Fraction

The above lode mining claims are leased by E. C. Schroeder Company, Inc., of McGregor, Iowa, from W. H. Collins, according to exhibit "2" of the application. The lease, which contains several provisions, is for 99 years, starting December 26, 1952.

Exploration for iron would be conducted on the Good Fortune, Blue Bird, Cottonwood, Good Fortune Annex, Appex, and Denver and Gulf lode claims. Paul C. Schroeder stated that if the loan was granted any ore discovered or ore shipped from any of the claims in the lease would constitute a discovery and would be subject to repayment of loan by royalties to the Government.

DESCRIPTION OF THE DEPOSITS

Iron deposits in the Hartville Mining District have been described in several publications; a few, which in addition to those previously mentioned in footnotes, are: Smith, W. S. T., Hartville Folio, Wyoming, U. S. Geological Survey Folio 91, 1903, 12 pages; and Chance, H. M., The Iron Mines of Hartville, Wyoming; A. I. M. E. Transactions volume 30, 1900, pages 987-1003.

The ore deposits occur in lenticular masses, usually in schist, and apparently are controlled somewhat by folding and faulting of the schist immediately above the uppermost limestone of the pre-Cambrian complex.

The Good Fortune ore body can be traced across the Good Fortune and Blue Bird claims for about 800 feet, and in the place presently mined it averages 75 to 80 feet wide.

The ore is soft and hard hematite. Care is practiced in the mining not to include any unnecessary waste with the ore. The ore lenses apparently plunge into the hillside at about an 80° angle, and surface mining will be confined to about 200 feet of depth at the lower end, much less toward the upper end. It has not been ascertained whether the ore body constitutes one long or several disconnected lenses but as developed, appears to constitute separate pods all in a general linear zone.

The depth to which surface mining methods are applicable is limited to about 100 to 200 feet. Underground methods could be used to mine any ore below this surface zone.

MINEABLE ORE RESERVES

The Sunrise deposit, adjacent to the Good Fortune deposit, has been mined to about 700 feet below the surface. Eleven diamond drill holes have been drilled in or near the open pit being mined (fig. 2 with the geologic report), and logs of holes GF-5, -6, -7, and -10 were made available to the examining team. Hole GF-6 was drilled 40 feet, and samples assayed between 19 and 46 percent iron. The depth and range of iron assays are given in the following table:

Table 1. - Depth and range of iron assays from a few diamond drill holes drilled in the Good Fortune ore body.

Hole	Depth, feet	Range of iron assays percent low	Range of iron assays percent high
GF-5	55	19-22 (0 to 9 feet)	49-63 (9-55 feet)
GF-7	65	39	52
GF-10	115	40-44 (110-115 feet)	59-66 (0-105 feet)

Indicated ore reserves for 100 feet of depth in the pit currently being mined $\left(\frac{150 \text{ feet by } 75 \text{ feet by } 100 \text{ feet}}{9 \text{ cubic feet}}\right)$ are estimated as 125,000 tons. Indicated reserves in the area west of the pit being mined $\left(\frac{300 \text{ feet by } 20 \text{ feet by } 100 \text{ feet}}{9 \text{ cubic feet}}\right)$ are estimated as 66,600 tons for 100 feet of depth. Thus a total of 200,000 long tons, as given in the application, is probable. This tonnage would include ore averaging more than 50 percent iron. This estimate could be greatly increased with exploration at depth and probably by exploration along linear projections.

About 4,000 tons of ore is stockpiled at the mine, and a similar amount is stockpiled at the railroad loading site.

PRESENT STATUS

Exploration and Development

The ore body, or bodies, have been mined in two places, one being higher and narrower than the other. As known, the ore extends in depth at least 100 feet.

The company produced ore in January and February 1953, and more or less steadily since May 1, 1953. Eleven diamond drill holes aggregating 1,400 feet have been core drilled in the vicinity of the present open-pit mining operation.

Ore mined is transported in trucks to the railroad where it is crushed, screened, and loaded by conveyor into railroad cars. The

large size, plus 4 inch, is hand picked, the waste pieces being discarded.

The ore is shipped to Birmingham, Ala., where it is blended with brown ore having a lower iron content and ultimately is sold to Sloss-Sheffield Steel and Iron Company.

According to Paul E. Schroeder, the same railroad freight rate applies to iron ore shipments from Guernsey, Wyo., to Birmingham, Ala., as for iron ore shipped from Minnesota to Alabama and is $8.30 a long ton. The current purchase schedule of this Wyoming ore, as furnished by Schroeder, after railroad freight has been paid is as follows:

53 percent iron	$2.40
54	2.50
55	2.60
56	2.80
57	3.00
58	3.20
59	3.60
60	3.90
61	4.50
62	5.12

The E. C. Schroeder Company, Inc., anticipates mining costs to be between $2.40 and $2.50 a ton, and hence a profit is indicated on all ore shipped having an average iron content over 53 percent.

Mining and Milling Equipment and Other Facilities

The company contemplates mining and shipping about 100,000 long tons of ore a year. Equipment from their former rock mining and crushing operation at the railroad loading site is used. This equipment, consisting in part of two 1-3/4-cubic-yard diesel shovels, bulldozer, five dump trucks, crusher, screens, conveyors, electric motors, et cetera, is used in the present operation. Electric energy is obtained from Bureau of Reclamation facilities at Guernsey. Ore is

shipped over the Chicago, Burlington, and Quincy Railroad to St. Louis, where it is transferred to other lines.

Schroeder stated that if sufficient ore reserves can be developed, a heavy media benefication plant will be erected.

PROPOSED EXPLORATION AND DEVELOPMENT PROGRAM

The applicant proposed a program to explore the area covered by six claims at 100-foot intervals (exhibit "5" of the application). This type of project is thorough but appears excessive, especially as the ore deposits, as known, follow definite trends. A modified program is suggested, which, if approved, should be combined with the suggested program in DMEA 2963 on the Nightingale group of claims, in one Defense Minerals Exploration Administration contract. The modified program for the Good Fortune group will be accomplished in two stages according to a suggested plan illustrated on figure 2 with the geologic report and will consist of (1) churn drill 17 holes, 5 west of the pit presently being mined and 12 east of this pit for an aggregate length not to exceed 2,000 feet, and, depending upon the results found in these holes, and as approved by representatives of the Region IV Field Team, (2) churn drill 18 holes for an aggregate length not to exceed 3,000 feet. Total time for completion is estimated at 7 months.

Unspecified road building is allowed to drill sites for hauling water and moving the drill. An engineer or geologist is approved for general supervisor and a sampler to care for sludge samples. A bookkeeper is allowed on a proportionate basis.

ESTIMATED COST OF PROJECT

The cost of the program is estimated as follows:

Stage 1:

Maximum of 2,000 feet of churn drilling (6-inch bits or larger) in 17 holes, including hauling of water, at $5.00 a foot	$10,000.00
Maximum of 1,000 feet of road building, as approved by a representative of the Region IV Field Team, at $1.00 a linear foot	1,000.00
An engineer or geologist to supervise the project at $20.00 per day, or less, as worked not to exceed $500.00 a month for 2-1/2 months	1,250.00
A sampler at $1.35 an hour, or less, as worked and whose services are not to exceed 2 months at $70.20 a week, including overtime	570.00
Proportionate share of salary of bookkeeper and office expense at $50.00 a month for 2 months	100.00
Assaying 140 samples for iron at $1.00 each	140.00
Total stage 1	$13,060.00

Stage 2, if approved after results of stage 1 are known:

Maximum of 3,000 feet of churn drilling in 18 holes at $5.00 a foot, including hauling water	$15,000.00
Maximum of 2,000 feet of road building at $1.00 per linear foot, as approved by a representative of the Region IV Field Team	2,000.00
An engineer or geologist to supervise the project at $20.00 per day, or less, as worked not to exceed $500.00 a month for 3-1/2 months	1,750.00

A sampler at $1.35 an hour, or less, as worked whose services are not to exceed 3 months at $70.20 a week, including overtime	$ 900.00
Proportionate share of salary of bookkeeper and office expense at $50.00 a month for 3 months	150.00
Assaying 160 samples at $1.00 each	160.00
Total stage 2	$19,960.00
Total estimated cost of stage 1 and 2	$33,020.00

Churn drilling is preferred by the applicant to diamond drilling because of unsatisfactory experience with diamond drilling at this deposit in 1952.

Holes in barren or waste material drilled in stage 1 of the program are not to exceed 100 feet in length. Holes having good iron values at 100 feet below the surface may be deepened as desired but must be in accordance with the maximum limitation of aggregate length of drilling.

PROPOSED FINANCING

The applicant has indicated the ability to participate financially in a much larger program than the one proposed.

CONCLUSIONS

The E. C. Schroeder Company, Inc. has the facilities to produce 100,000 long tons of iron ore a year. Supposedly they have a reliable market for Wyoming low-phosphorus iron ore at Birmingham, Ala., and can make a profit if ore shipped can be maintained with an iron content above 53 percent. If the Alabama market should ever fail, this ore

might be shipped to iron and steel facilities at either Pueblo, Colo., or Geneva, Utah.

The suggested program has a very good possibility for increasing high-grade iron ore reserves in Wyoming.

About 7 months should be allowed for completion of the program.

RECOMMENDATIONS

It is recommended that a program of exploration by churn drilling be approved to be conducted in two stages, the second stage depending on the results of the first, as suggested in the report. The total cost of the program is estimated at $33,020.00, of which $16,510.00 would be the Government participation.

This program is to be combined with one recommended on the Nightingale group (DMEA 2963), the two projects to be conducted concurrently.

Amer 2963

DEFENSE MINERALS EXPLORATION
ADMINISTRATION

WSMartin/ls
5285 3538

July 8, 1953

W. H. King, DMEA Field Team, Region 4, Denver, Colorado

Reurtt July 3, Dockets DMEA 2963 and 2964, M. C. Schroeder.

Please airmail one page summary covering your field examination of subject property on June 10 - 11 in order to allow us to expedite contract. Should change in your work load allow you to send us complete report before July 15, we shall appreciate it.

George C. Selfridge

G. C. Selfridge, Chairman
Operating Committee

WSMartin/ls
7/7/53

Copy to: FT, Region 4 - Confirmation
Docket 2963
Docket 2964
Code 400
Audits Divn., Bur. Mines
Operating Committee
Adm. Read. File
J. M. Forbes, USBM
Martha Carr, USGS

SENT
JUL 8 1953
Clerical Service Section

400

copy

COPY

BUR MINES DN 235 7-3-53 4-08 PM

G. C. SELFRIDGE, CHAIRMAN OPERATING COMMITTEE DMEA

REURTT JULY 3, DOCKET DMEA 2964, E. C. SCHROEDER, IRON, ESTIMATED COST OF PROJECT $33,020. OWING TO INCREASE IN WORKLOAD WE WILL BE UNABLE TO COMPLETE FINAL REPORT BEFORE JULY 15, 1953.

W. H. KING

DENVER, COLORADO

[illegible]

[illegible]/la
[illegible] 3538

July 3, 1953

2964

[illegible]

[illegible] July 2, [illegible]

Can we still expect Field Team's report not later than July 10?

[illegible]
[illegible] Committee

Copy to: [illegible]
[illegible]
[illegible]
[illegible]
[illegible] Mending File
[illegible] to [illegible]

SENT
JUL 3 1953
Clerical Service Section

dmea 2963

BUR MINES DN 235 7-3-53 4-08 PM

G. C. SELFRIDGE, CHAIRMAN OPERATING COMMITTEE DEMA

REURTT JULY 3, DOCKET DEMA 2964, E. C. SCHROEDER, IRON, ESTIMATED COST OF PROJECT $33,020. OWING TO INCREASE IN WORKLOAD WE WILL BE UNABLE TO COMPLETE FINAL REPORT BEFORE JULY 15, 1953.

W. H. KING

DENVER, COLORADO

copy claim 2964

400

COPY

DN 235 Bureau Mines 7-2-53 11-15 AM

C O MITTENDORF

Re telephone call W. S. Martin July 2, Dockets Nos. DMEA 2963 and 2964, E. C. Schroeder, Iron, Laramie County, Wyoming.

Docket 2963 approved at estimated cost of $14,395. Recommended drilling in 3 stages, first stage consisting of 3 holes total depth 600 feet, second stage 5 holes total depth 1000 feet, third stage deepening any holes where necessary, total length 500 feet. Estimated cost of drilling $5.00 per foot. Remainder of money to be used in supervision, sampling, and road construction.

Application DMEA 2964 consists of 2 stages. First stage, 17 drill holes total depth 2000 feet, second stage 18 drill holes total depth 3000 feet, cost $5.00 per foot. Remainder of money to be used for supervision, sampling and road construction. All holes are to be drilled to test extension of the known deposit. It is recommended that one contract be prepared covering both applications.

JOHN F. SHAW FOR W. H. KING

Defense Minerals Exploration Administration
W. S. Martin
5204 3538

1413923.970 - Working Fund - DMEA
June 24, 1953

W. R. King, DMEA Executive Officer, Region 4, Denver, Colorado

Recent June 23, 1953, Dockets DMEA 2963 and 2964, E. C. Schroeder.

Please wire summary of modifications recommended.

George C. Selfridge

George C. Selfridge
Chairman, Operating Committee

cc: Docket
Code 400
Admr Reading File
Operating Committee
FT Reg. 4 - CONFIRMATION
J. M. Forbes, USBM
Mrs. Martha Carr
Audits Div. Bureau of Mines

SENT
JUN 25 1953
Clerical Service Section

COPY

WSMartin/osf

June 24, 1953

W. H. King, DMEA Executive Officer, Region 4, Denver, Colorado

Reurtt June 23, 1953, Dockets DMEA 2963 and 2964, E.C. Schroeder.

Please wire summary of modifications recommended.

Signed: Geo. C. Selfridge

Chairman, Operating Committee

(400)

Defense Minerals Exploration
Administration

WSMartin/foc

5284 3538

14 X 3923.970 - Working Fund - DMEA
June 22, 1953

W. H. King, DMEA Executive Officer, Region 4, Denver, Colorado

Please wire date we may expect to receive field reports and your recommendations DMEA Dockets 2963 and 2964, Iron, E. C. Schroeder Company, Inc. Laramie County, Wyoming.

George C. Selfridge

George C. Selfridge
Chairman, Operating Committee

cc: Docket
Code 400
Adm. Reading File
Oper. Comm.
FT. Reg. 4 - CONFIRMATION
J. M. Forbes, USBM
Mrs. Martha Carr, USGS
Audits Div. Bu. Mines

SENT
JUN 23 1953
Clerical Service Section

JUN 5 1953

E. C. Schroeder Co., Inc.
% Mr. M. M. Cooney
705 Roshek Building
Dubuque, Iowa

Gentlemen:

According to our telephone conversation of June 3, 1953, you will not be submitting an application covering your iron project in Minnesota. We are, therefore, returning under separate cover the following maps which were unofficially left with us:

3 copies Fillmore County, Minn., Highway Maps

8 copies Zumbra Falls, Minn., Operations

8 copies Chatfield, Minn., Operations

We were pleased to hear that you have been able to make other arrangements to complete your proposed work.

Very truly yours,

SIGNED

W. S. Martin, Acting Chief
Iron and Ferro-Alloys Division

WSMartin/foc
6-4-53

cc: Docket
Code 400

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P
Y

1953 JUN 3 AM 10 44

WP 021 PD- DUGUQUE IOWA 3 921 A-

C O MITTENDORF, ADMINISTRATOR DEFENSE MINERALS
EXPLORATION ADMN - UNITED STATES DEPT OF INTERIOR -

IN ACCORDANCE WITH YOUR TELEGRAM OF JUNE SECOND WE RESPECTFULLY REQUEST THAT OUR APPLICATIONS DOCKET NUMBERS 2963 AND 2964 IRON BE REACTIVATED -

E C SCHROEDER CO INC BY M M COONEY ITS ATTORNEY

2963 2964 ITS -

W. S[illegible]artin, Ext.5284

Interi[illegible] Department

Defense Minerals Exploration
Administration
14X 3923.970 - Working Fund
DMEA

Martin

~~NIGHT LETTER~~

JUNE 2, 1953

E.C. SCHROEDER CO., INC.
CARE OF M. M. COONEY
705 ROSHEK BUILDING
DUBUQUE, IOWA

REOURTEL MAY 15 DENYING YOUR APPLICATIONS DOCKET NUMBERS 2963 AND 2964, IRON. THIS IS TO ADVISE YOU THAT RESTRICTED PROGRAM DIRECTIVE DATED APRIL 15 MODIFIED ON JUNE 1 GIVING DMEA AUTHORITY TO CONTINUE PROCESSING YOUR APPLICATIONSWHICH WERE PENDING PRIOR TO DATE REFTEL. KINDLY ADVISE THIS OFFICE AND EXECUTIVE OFFICER AT DENVER WHETHER OR NOT YOU DESIRE SUBJECT APPLICATIONS TO BE REACTIVATED.

C. O. Mittendorf (for

C. O. MITTENDORF
ADMINISTRATOR,
DEFENSE MINERALS EXPLORATION
ADMINISTRATION

S.H.
6-2-53

WSMartin/foc 6-2-53

Copy to: Mr. Cooney - CONFIRMATION
Docket 2963
Docket 2964
Code 400
Operating Committee
Adm. Reading File
Martha Carr- USGS
J. M. Frobes - USBM
Audits Div., Bur. Mines
Field Team, Reg. IV

Interior Department

Defense Minerals Exploration
Administration

14X 3923.970 - Working Fund -
DMEA

May 15, 1953

NIGHT LETTER

E. C. Schroeder Co., Inc.
Care of M. M. Cooney
705 Roshek Building
Dubuque, Iowa

RE YOUR EXPLORATION APPLICATIONS DOCKET NUMBERS 2963 AND 2964, IRON. THIS IS TO ADVISE YOU THAT EFFECTIVE APRIL 15, 1953, EXPLORATION FUNDS RESTRICTED TO ASSISTANCE ONLY FOR SPECIFIED MINERALS STILL IN SHORT SUPPLY. IRON NO LONGER INCLUDED. CONSEQUENTLY WE DO NOT HAVE AUTHORITY OR FUNDS TO EXECUTE CONTRACTS FOR EXPLORATION PROJECTS ON YOUR PROPERTY AND YOUR APPLICATIONS THEREFORE ARE DENIED. THIS IS WITHOUT PREJUDICE TO THE MERITS OF YOUR PROPOSED PROJECTS. WE REGRET THE NECESSITY OF THIS ACTION AND EXPRESS APPRECIATION FOR YOUR INTEREST IN THE EXPLORATION PROGRAM AND COOPERATION DURING PERIOD YOUR APPLICATIONS UNDER CONSIDERATION.

C. O. Mittendorf
Administrator, DMEA

WSMartin/ls 5/15/53

Copy to: Docket 2963
Docket 2964
Field Team, Region 4
Code 400
Operating Committee
Adm. Reading File
Audits Division, Bur. of Mines
Martha Carr, USGS
J. M. Forbes, USBM

S. Martin, ext. 5284

Interior Department

Domestic Minerals Exploration
Administration
14X 3923.970 - Working Fund -
DMEA

NIGHT LETTER

E. C. Schroeder Co., Inc.
Care of M. M. Cooney
705 Roshek Building
Dubuque, Iowa

May 15, 1953

RE YOUR EXPLORATION APPLICATIONS DOCKET NUMBERS 2963 and 2964, IRON. THIS IS TO ADVISE YOU THAT EFFECTIVE APRIL 15, 1953, EXPLORATION FUNDS RESTRICTED TO ASSISTANCE ONLY FOR SPECIFIED MINERALS STILL IN SHORT SUPPLY. IRON NO LONGER INCLUDED. CONSEQUENTLY WE DO NOT HAVE AUTHORITY OR FUNDS TO ASSIST UNDER EXISTING FOR EXPLORATION PROJECTS ON YOUR PROPERTY AND YOUR APPLICATIONS THEREFORE ARE DENIED. THIS IS WITHOUT PREJUDICE TO THE MERITS OF YOUR PROPOSED PROJECTS. WE REGRET THE NECESSITY OF THIS ACTION AND EXPRESS APPRECIATION FOR YOUR INTEREST IN THE EXPLORATION PROGRAM AND COOPERATION DURING PERIOD YOUR APPLICATIONS UNDER CONSIDERATION.

C. O. Mittendorf

C. O. Mittendorf
Administrator, DMEA

WSMartin/foc 5-15-53

Copy to: Mr. Cooney - CONFIRMATION
Docket 2963
Docket 2964
Code 400
Operating Committee
Adm. Reading File
Martha Carr- USGS
J. M. Forbes - USBM
Audits Div., Bur. Mines
Field Team, Reg. IV

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

400

224 New Customhouse
Denver 2, Colorado

April 17, 1953

Memorandum

To: C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Dockets 2963 and 2964, E. C. Schroeder Company, Inc., Laramie County, Wyoming (Iron)

The subject dockets were received from your office yesterday, April 16.

Mr. Paul Schroeder called from Douglas, Wyoming this morning and indicated that he was expecting the field examiners to visit the property on Monday. When he was advised that this would not be possible he intimated in a more or less threatening way that he would telephone the Washington office.

When we took stock of our committments we found that it would not be possible for examiners to visit the property before May 4. We informed Mr. Schroeder of this by telegram, copy of which is enclosed.

W. H. King
W. H. King

Enclosure

WHK:ld

cc: Koschmann
Traver
DMEA 2963
DMEA 2964
Chron

Copy retained 400

400

Air Mail

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

APR 13 1953

Re: Docket No. DMEA-2963 - Iron
E. C. Schroeder Co.
Nightingale Group
Laramie County, Wyoming (?)

Dear Mr. King:

Reference is made to the subject application for exploration assistance which is being referred to your office for review and field examination. The E. C. Schroeder Co. has applied for similar exploration assistance on the Good Fortune Group of claims under Docket No. DMEA-2964.

Under item 5(b) of the application (Form-MF-103), you will note that it is proposed to churn drill on 100-foot centers throughout the area, except the area adjoining mining operations. It is our belief that spacing drill holes so closely does not actually constitute exploration work but in reality approaches what might be termed development work. We suggest that in your field examination, consideration be given to the spacing of drill holes on 200-foot centers. If this is found to be feasible and will accomplish the desired purpose, the number of drill holes and ultimate cost of the project will be materially reduced.

In a letter from the attorneys for the applicant, it is stated that this group of claims is located in Platte County, Wyoming, while the mineral certificate shows Laramie County. We believe this discrepancy should be checked.

Sincerely yours,

George C. Schroeder

Chairman, Operating Committee

APPROVED:

W. W. Hodges

Member, Bureau of Mines

L. R. Kimball, Jr.

Member, Geological Survey

Copy to: Docket
Field Team, Reg. 4
Code 400
Oper. Comm.
Admr. Read. File
Martha Carr - USGS
J. M. Forbes - USBM

JHopkins/ls
4/9/53

Air Mail

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

APR 13 1953

Re: Docket No. DMEA-2964 - Iron
E. C. Schroeder Co.
Good Fortune group
Laramie County, Wyoming (?)

Dear Mr. King:

Reference is made to the subject application for exploration assistance which is being referred to your office for review and field examination.

The applicant, E. C. Schroeder Co., is presently mining iron ore from a deposit on this group, and to date of the application has shipped 144 cars of ore which had an average iron analysis in excess of 60 percent and a silica content below 10 percent. It is not stated that this is approximately the average analysis of the estimated 200,000 tons in this deposit or if it is the average analysis of selectively mined or beneficiated ore. We believe this should be checked during field examination.

Under item 5(b) of the application form MF-103 you will note that it is proposed to churn drill on 100-foot centers throughout the area, except the area immediately adjoining present mining operations. It is our belief that spacing holes so closely does not actually constitute exploration work but in reality approaches what might be termed development work. We suggest that in your field examination consideration be given to the spacing of drill holes on 200-foot centers. If this is found to be feasible and will accomplish the desired purpose, the number of drill holes and ultimate cost of the project will be materially reduced.

In a letter from the attorneys for the applicant, it is stated that this group of claims is located in Platte County, Wyoming, while the mineral certificate shows Laramie County. We believe this discrepancy should be checked.

Sincerely yours,

Carson C. Selfridge

Chairman, Operating Committee

Copy to: Docket
Field Team, Reg. 4
Admr. Read. File
Code 400
Oper. Comm.
Martha Carr - USGS
J. M. Forbes - USBM

JHopkins/lc
4/9/53

APPROVED:

W. R. Hodges

Member, Bureau of Mines

C. Kinkel, Jr.

Member, Geological Survey

C
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P
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400

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Washington 25, D. C.

April 9, 1953

Memorandum

To: W. S. Martin, DMEA

From: Jachin M. Forbes, Ferrous Metals and Alloys Branch

Subject: Application for Exploration Assistance: E. C. Schroeder Inc. DMEA 2963 - Iron Ore

The subject application has been reviewed together with an analytical statement by Miss Martha Carr, United States Geological Survey. I concur with the recommendation to submit the proposal to the field team and suggest clarification of one or two particular points in order to obtain a realistic perspective of the entire project.

The Schroeder Co. is an established iron ore producer in Wyoming and Alabama and enjoys a good reputation as to reliability and competent management. However, the current market for a substantial portion of the output from Wyoming is in Alabama where consumers contemplate ample supplies of high-grade imported ore within the next few years. Although approval of the exploration proposal need not be contingent upon a firm market for the output, some understanding of economic prospects should be obtained. Obviously, transportation costs for Wyoming ore going to Alabama permit only the narrowest of operating margins.

The application lists several analyses indicating ore of high iron content, and the accuracy of these cannot be doubted. However, it is interesting to note that Colorado Fuel and Iron Corp. has been mining ore of substantially lower iron content from the nearby Sunrise mine. The field team should find out why C.F.&I. has not chosen to acquire the ore properties concerned.

I am informed that buyers in Alabama place a rejection limit of 55 percent content iron on this ore, and it seems probable that current mining is highly selective.

/s/ JMF
Jachin M. Forbes

Enclosure

Copy retained 400

STANDARD FORM No. 14
APPROVED BY THE PRESIDENT
MARCH 10, 1926

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

J. Hopkins, Ext. 5285

FROM Interior Department

BUREAU Defense Minerals Exploration Administration

CHG. APPROPRIATION

14X3923.970 - Working Fund - DMEA

U. S. GOVERNMENT PRINTING OFFICE 10—1723

DAY LETTER

April 9, 1953

M. M. COONEY
CLEWELL, COONEY AND FUERSTE
705 ROSMEK BUILDING
DUBUQUE, IOWA

DOCKETS NO. DMEA 2963 AND NO. DMEA 2964 - E. C. SCHROEDER CO., MC GREGOR, IOWA. APPLICATIONS BEING REFERRED ~~SOON~~ TO FIELD TEAM, DENVER, COLORADO, FOR EXAMINATION.

C. O. Mittendorf

C. O. MITTENDORF
ADMINISTRATOR, DMEA

Interior Department

Defense Minerals Exploration
Administration

14X3923.970 - Working Fund - DMEA

DAY LETTER

APR 9 1953

M. M. COONEY
CLEWELL, COONEY AND FUERSTE
705 ROSHEK BUILDING
DUBUQUE, IOWA

DOCKETS NO. DMEA 2963 AND NO. DMEA 2964 - E. C. SCHRONDER CO., MC GREGOR, IOWA. APPLICATIONS BEING REFERRED ~~TODAY~~ TO FIELD TEAM, DENVER, COLORADO, FOR EXAMINATIONS.

C. O. Mittendorf

C. O. MITTENDORF
ADMINISTRATOR, DMEA

cc: Docket
Field Team, Reg. 4
Code 400
Admr. Read. File
Oper. Committee
Audits Divn., Bur. of Mines
Martha Carr, USGS
J. M. Forbes, USBM
Confirmation Copy to M. M. Cooney

JHopkins/ls
4/8/53

407

IN REPLY REFER TO:

J-MD-MC

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 10 1953

April 7, 1953

To: W. S. Martin, DMEA.

From: Martha Carr, USGS.

Subject: Exploration Application $212,749 DMEA 2963 (Soft and hard hematite)

E. C. Schroeder Co., Inc.,
McGregor, Iowa

Property: Nightingale, Origan, Columbia, Rustler, and Black Cloud Mining Claims, known as the Nightingale group, embracing parts of the SW¼ and NW¼, sec. 6, and a very small part of the NW¼ sec. 7, T. 27 N., R. 65 W.; and a part of the SE¼ sec. 1, T. 27 N., R. 66 W., Platte Valley Mining District, Platte County, Wyoming. The property, which has good access roads, is approximately 8½ miles from its railroad supply and shipping point and 7 miles from Guernsey, Wyo., the resident point. It is adjacent to the Colorado Fuel and Iron Co.'s Sunrise Iron Mine; and is 7-8 miles from the Good Fortune Group (DMEA 2964) by the nearest access road.

Proposal: It is proposed that churn drilling be done on 100-foot centers throughout the property included in this application, except the area immediately adjoining present mining operations. Exploration would start on the Nightingale mining claim in the proposed area shown in Exhibit 5, and approximately 328 holes with an average depth of 100 feet would be drilled. The depth of the holes is to be determined as drilling and geological investigations proceed; some will be shallow while others will exceed the 100-foot average. Also as work progresses, the claims to be explored next will be determined, and maps of the proposed drilling and exploration will be furnished. The work would start within 60 days and be completed within 22 months from the date of an exploration project contract.

Copy printed on

Geology: The rocks of the area comprise the steeply dipping pre-Cambrian rocks of the Hartville Range which are overlain by the flat-lying or gently dipping Carboniferous and Mesozoic rocks. Rocks of Tertiary and Recent age encircling the older rocks fill depressions of erosion.

The main iron ore deposits are lenses that occur in the Whalen group (pre-Cambrian) in schist on a limestone foot wall. The ore largely replaces schist although it partially fills cavities in the schist which are due to jointing, faulting, and brecciation. Less important deposits occur in the limestone. The conditions that apparently determine the presence of large ore bodies along the limestone-schist contact appear to be (1) the folding to which the rocks have been subjected and (2) the presence of a thick body of schist--to serve as a source of ore--above an impervious body of limestone. Small local deposits of hematitic conglomerate occur at the base of the Guernsey formation (Carboniferous) resting on the Whalen group.

The ore bodies that occur as lenses range in width from 100 feet or more, and some are over 1,000 feet long. One ore body is reported to have reached a depth of 900 feet.

The chief ore is high-grade hematite which is either a hard bluish gray ore known as "blue ore" or a soft greasy ore of brownish-red color known as "paint ore." The "blue ore" is more valuable. Minor amounts of siderite and limonite are associated with the hematite. Magnetite is present in very minor amounts. The ore as a whole may average about 60 percent iron. In some ore the phosphorus and silica are detrimental constituents.

Only the southeastern most part of the Nightingale group of claims appears to be immediately underlain by the rocks of the Whalen group, which contains the main iron ore bodies. The areas to the north and northwest are underlain by the Guernsey and Hartville formations, which overlie the Whalen rocks. Important ore bodies in this area would therefore probably lie at greater depth than those in the Good Fortune Group.

Publications:

Smith, W. S. T., Hartville folio, Wyo.: U. S. Geol. Survey Geologic Folio 91, 12 pp., 1903.
Ball, S. H., The Hartville iron-ore range: U. S. Geol. Survey Bull. 315, pp. 190-205, 1907.

Frey, Eugene, Hartville iron district, Platte County, Wyo.: U. S. Bureau of Mines R. I. 4086, 3 pp., June 1947.
Condra, G. E. and Reed, E. C., Permo-Pennsylvanian section of the Hartville area of Wyoming: Nebraska Geological Survey Paper No. 9, 46 pp., 1935.

Recommendations: The southeasternmost part of the property described appears to be immediately underlain by the Whalen group (which contains the main ore bodies) and therefore seems to have most promise. The remainder of the property appears to be underlain by the Guernsey and Hartville formations in which no important bodies can be expected. The economic possibilities of this part of the property therefore depends largely upon the depth of the Guernsey and Hartville formations to the Whalen group. (See Folio 91)

As the Geological Survey has made no recent examinations in the area, it is suggested that this application, together with DMEA 2964, be referred to the field team for advice.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

G-MD-MC

402

April 7, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 10 1953

To: W. S. Martin, DMEA.

From: Martha Carr, USGS.

Subject: Exploration Application $223,085 DMEA 296 (Soft and hard hematite)

E. C. Schroeder Co., Inc.
McGregor, Iowa.

Property: Parts of the Good Fortune and Bluebird Mining Claims, the Good Fortune Annex, Apex, Cottonwood, and Denver & Gulf Mining Claims, known as the Good Fortune group, embracing parts of the SE¼ sec. 7 and SW¼ sec. 8 (as well as a very small part of the SE¼ sec. 8), T. 27 N., R. 65 W., Platte Valley Mining District, Platte County, Wyoming. The property has good access roads and is located approximately 8 miles from its railroad supply and shipping point and about 9 miles from Guernsey, Wyo., the resident point. This group of claims is 7-8 miles from the Nightingale group (DMEA 2963).

Proposal: It is proposed that churn drilling be done on 100-foot centers throughout the property included in this application, except the area immediately adjoining present mining operations. The proposed area of exploration is shown in Exhibit "5", and approximately 345 holes with an average depth of 100 feet would be drilled. Some of the holes will be shallow while others will exceed the 100-foot average. The depth of drilling each hole will be determined as the drilling and geological investigation proceed. The applicant, who is mining the Good Fortune and Bluebird Mining Claims, proposes to start exploration on the portions of these claims that are not included in the present mining operations. As the drilling and geological exploration proceed, it will be determined which claim will be explored next, and maps of the proposed drilling and exploration will be furnished. The work would start within 30 days and be completed within 22 months from the date of an exploration project contract.

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Geology: The rocks of the area comprise the steeply dipping pre-Cambrian rocks of the Hartville Range which are overlain by the flat-lying or gently dipping Carboniferous and Mesozoic rocks. Rocks of Tertiary and Recent age encircling the older rocks fill depressions of erosion.

The main iron ore deposits are lenses that occur in the Whalen group (pre-Cambrian) in schist on a limestone foot wall. The ore largely replaces schist although it partially fills cavities in the schist which are due to jointing, faulting, and brecciation. Less important deposits occur in the limestone. The conditions that apparently determine the presence of large ore bodies along the limestone-schist contact appear to be (1) the folding to which the rocks have been subjected and (2) the presence of a thick body of schist—to serve as a source of ore—above an impervious body of limestone. Small local deposits of hematitic conglomerate occur at the base of the Guernsey formation (Carboniferous) resting on the Whalen group.

The ore bodies that occur as lenses range in width from 100 feet or more, and some are over 1,000 feet long. One ore body is reported to have reached a depth of 900 feet. One of the principal deposits of this type is said to be the Good Fortune.

The chief ore is high-grade hematite which is either a hard bluish gray ore known as "blue ore" or a soft greasy ore of brownish-red color known as "paint ore." The "blue ore" is more valuable. Minor amounts of siderite and limonite are associated with the hematite. Magnetite is present in very minor amounts. The ore as a whole may average about 60 percent iron. In some ore the phosphorus and silica are detrimental constituents.

The property described in this application appears to be immediately underlain by rocks of the Whalen group (which contains the main iron ore bodies), and is more promising than the property outlined in DMEA 2963.

Publications:

Smith, W. S. T., Hartville folio, Wyo.: U. S. Geol. Survey Geol. Folio 91, 12 pp., 1903.

Ball, S. H., The Hartville iron-ore range: U. S. Geol. Survey Bull. 315, pp. 190-205, 1907.

Frey, Eugene, Hartville iron district, Platte County, Wyo.: U. S. Bureau of Mines R. I. 4086, 3 pp., June 1947.

——————— Good Fortune iron mine, Platte County, Wyo.: U. S. Bureau of Mines R. I. 4089, 7 pp., August 1947.

Condra, G. E. and Reed, E. C., Permo-Pennsylvanian section of the Hartville area of Wyoming: Nebraska Geological Survey Paper No. 9, 46 pp., 1935.

Recommendations: The property described as the Good Fortune group appears to be promising, but inasmuch as the Geological Survey has made no recent examinations of the area, it is suggested that the application, together with DMEA 2963, be referred to the field team for advice.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1025.2

400

Defense Minerals Administration
RECEIVED
MAR 30 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-2963
Metal or Mineral
Date Received 3-30-53
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: E. C. Schroeder Co., Inc., McGregor, Iowa, an Iowa corporation
Mining operations at Guernsey, Wyoming

(*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. The property involved in the proposed exploration consists of the Nightingale, Origan, Columbia, Rustler and Black Cloud mining claims. The legal description of each of said claims is set out in Exhibit "1" hereto attached.

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

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

(*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. See Exhibit "2" hereto attached.

(*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. Claims are patented

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[illegible]ate the mineral or minerals for which you [illegible] to explore

Iron ore

(*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 60 days and be completed within 22 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)? Yes

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

[x] 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 March 28, 1953

E. C. SCHRODER CO., INC.
(Applicant)

By [signature]
President

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

Form MF-103
E. C. Schroeder Co.,Inc., McGregor, Iowa.
Mining Operations, Guernsey, Wyoming.

1. (c) President - E. C. Schroeder, McGregor, Iowa.
Vice President - Paul E. Schroeder, Douglas, Wyoming.
Secretary & Treasurer - Violet M. Schroeder, McGregor, Iowa.

4.(a) The Nightingale group of mining claims is adjacent to the Colorado Fuel and Iron Company's Sunrise Iron Mine which is presently being mined. The claims in question are approximately two and one-half to three miles, as the crow flies, from the Good Fortune Iron Mine and between seven and eight miles by the nearest access road. The Colorado Fuel and Iron Company mine separates the two properties as shown by Exhibit "3" attached hereto.

The Good Fortune Iron Mine was investigated by Mr. Eugene Frey of the Bureau of Mines and a Report of Investigation was made in August, 1947, and is contained in R.I. 4089. The applicant is presently mining by open pit method, parts of the Good Fortune and Bluebird mining claims which is the site of the old Good Fortune Iron Mine. The production facilities consist of power shovels, trucks, drills, crushers and railroad loading facilities. The applicant is the owner of the mining facilities and the mine is readily accessible for examination purposes. The Nightingale claim of the Nightingale group which the applicant desires to explore was formerly mined. The records of the ore removed are not accessible to this applicant. The applicant has sampled the ore found in the abandoned shaft and the analysis shows an average better than 60% Fe and was low in both silica and phosphorous. The property is readily accessible for examination purposes.

(b) The Good Fortune Iron Mine is a part of the Good Fortune group of claims which were located in 1857. In the winter of 1897-98, five thousand tons of ore were shipped from the Good Fortune deposit to the Colorado smelters. The average rate of smelter analysis on the shipments was 62.4% iron and 6.2% silica. As shown by Mr. Frey's report in 1947, R.I. 4089, the property was explored and sampled at that time by the Bureau of Mines. The applicant commenced production from said mine during December, 1952, after exploring an area of approximately four acres. It is estimated that the reserves from the area explored are in excess of two hundred thousand tons of iron ore. During December and January the applicant shipped 144 cars of iron ore which had an average Fe analysis in excess of 60% and a silica content below 10%.

Form NF-103
E. C. Schroeder Co.,Inc., McGregor, Iowa.
Mining Operations, Guernsey, Wyoming.

4. (c) The property proposed for prospecting lies in the Hartville iron range. The rocks of the range are usually steeply dipping pre-Cambrian rocks overlain by flat-line or gently dipping carboniferous and Mesozoic rocks and rocks of Tertiary and Recent age. The country rock of the ore is schist and impure flint which is stained by either limonite or hematite, evidently a relatively shallow alteration product of the schist.

The red ore deposits of the area occur in lenticular bodies of varying thickness enclosed in a slate formation. The iron ore lenses lie in schist immediately above the uppermost limestone of the older pre-Cambrian series. A thin shell of siliceous iron-stained schist separates the ore from the underlying limestone. All indications show that the deposit is but a replacement of the schist, since no hard and fast line can be drawn between unaltered schist, iron-stained schist, siliceous ore, and high-grade ore.

The ore consists of two varieties of hematite, one soft and the other hard. The soft ore is generally a schistose, fine-grained, light red ore. This variety is commonly known as "paint ore". The harder variety is a dark bluish-gray. It is fine-grained and compact, with a rather smooth, even fracture.

The Colorado Fuel and Iron Company has been mining iron ore on the property adjoining the applicant's for many years, their mines being known as the Sunrise and the Chicago Mines which have produced thousands of tons of high grade ore.

Attached hereto marked Exhibit "3" is a map of the area showing the applicant's property as related to the Colorado Fuel and Iron Company property.

The applicant does not have a geologic report on the property but does have a report on the Good Fortune property which it will submit to the field team. As heretofore stated the samples taken from the shaft on the Nightingale claim had an average analysis of 60% Fe and were low in silica and phosphorous. The iron ore presently being mined from the Good Fortune Iron Mine is similar to that contained on the Nightingale and for that reason the applicant is attaching hereto marked Exhibit"4", the assaying report on the ore mined and shipped from the Good Fortune Iron Mine for the period from January 28, 1953 to February 20, 1953.

(d) The property has good access roads and is located approximately eight and one-half miles from its railroad supply and shipping point and about seven miles from Guernsey, Wyoming, the resident point.

(e) The necessary manpower, materials, supplies, equipment, water and power are available to the applicant. The ore from this property will be transported in trucks to the processing plant which is situated at its railroad supply and shipping point and is the same

Form MF-103
E. C. Schroeder Co., Inc., McGregor, Iowa.
Mining Operations, Guernsey, Wyoming.

4.(e) continued.

point to which the ore from the Good Fortune mine is transported and processed. The Good Fortune mine is located approximately eight miles from this point.

5. (b) It is proposed that churn drilling be done on 100 ft. centers throughout the property included in this application, except the area immediately adjoining present mining operations. The proposed area of exploration is shown in Exhibit "5" attached hereto. It is proposed to start exploration in the area shown in Exhibit "5". It is proposed to drill approximately 328 holes with an average depth of 100 ft. Some of the holes will be shallow while others will exceed the 100 ft. average. This will be determined as the drilling and geological investigation proceeds.

(d) The E. C. Schroeder Co.,Inc., is an Iowa corporation, which has been mining and quarrying stone products for several years. The Schroeder Co. which is a wholly owned subsidiary of the applicant herein is engaged in the mining of brown iron ore in the Russellville area of Franklin County, Alabama. The officers of both companies are the same. The president, E. C. Schroeder, has had several years experience in iron ore mining on the Mesabi Range in Northern Minnesota and in the rock mining business in Iowa, Wisconsin, Alabama, and various other places. The vice president, Paul E. Schroeder, has had several years experience in the rock mining business, and is in charge of the Wyoming operation. He was in charge of erection of the Russellville beneficiation plant. An engineer-geologist is available and will be in charge of the proposed exploration work. The supervisory help and plant operators are experienced in their field.

6. The applicant proposes that if this application is approved that it be set up on the short form contract and the estimated costs of the project are as follows:

32,800 ft. of churn drilling @ $6.48 per ft..... $212,749.00

The breakdown on the costs of the project is as follows:

Churn Drilling (including water hauling)
$5.00 per ft.....$164,000.00

Form MF-103
E. C. Schroeder Co.,Inc., McGregor, Iowa.
Mining Operations, Guernsey, Wyoming.

6. (continued)

The applicant arrived at the price per ft. by securing bids from three drilling contractors as follows:

R. L. Mills, P.O. Box 1109, Casper, Wyoming, 6" hole, $6.25 per ft.

Al Herman, Windover, Wyoming, 6" hole, $5.00 per ft. and $10.00 per ft. for drilling quartzite.

McChesney Drilling Co., 1214 S. David St., Casper, Wyoming, 6" hole $5.00 per ft.

(The applicant to furnish roads and access in connection with all three bids.)

Bulldozing and road building including blasting, $1.00 per ft.....	$32,800.00
One- half salary of exploratory engineer or $275.00 per month for 22 months.....	6,050.00
Assaying, 8 samples per hold at $1.00 per element; 328 holes or 2624 samples at $1.00 per sample..... (Majority of samples will be assayed for Fe only.)	2,624.00
One Sampler at $65.00 per week for 95 weeks.....	6,175.00
Proportionate share of salary of bookkeeper and office expense, $50.00 per month for 22 months....	1,100.00
Total	$212,749.00

It is to be noted that only one-half the salary of the exploratory engineer is included in the cost. This is for the reason that the Company is making application for exploratory aid on the Good Fortune Group of mining claims which is between seven and eight miles from the Nightingale group of mining claims and it is the thought of the applicant that the exploratory engineer can look after both projects.

Form MP-103
L. C. Schroeder Co., Inc., McGregor, Iowa.
Mining Operations, Guernsey, Wyoming.

The exploration map Exhibit "5" shows the mining claims that are proposed to be explored but does not show the sequence of drilling. The applicant proposes to start exploration on the Nightingale mining claim and as the drilling and geological exploration proceed it will determine which claim will be explored next and will furnish maps of the proposed drilling and exploration.

The applicant will furnish a statement of guaranty in lieu of subordination agreement from owner in a form acceptable to the United States of America.

The applicant herewith states and certifies that the lease, Exhibit "2" under which it is operating is a valid lease and in full force and effect.

[illegible] LEASE

THIS AGREEMENT, made and entered into on this 26th day of December, A.D. 1952, by and between W. H. Collins, hereinafter designated as "Lessor", and E. C. Schroeder Co., Inc., a corporation, hereinafter designated as "Lessee", WITNESSETH:

WHEREAS, Lessor is the owner of certain real estate situated in Platte County, State of Wyoming, described in Exhibit "1" hereto attached and by this reference made a part hereof, together with the minerals, mineral interests, mining rights and privileges, in and under the above described real estate, and

WHEREAS the Lessee desires to mine and remove the minerals, if any, on and under said real estate.

NOW THEREFORE, it is agreed by and between the parties hereto as follows:

1. In consideration of the sum of One Dollar ($1.00) paid to Lessor by Lessee, receipt whereof is hereby acknowledged, of the royalties herein provided, and of the covenants of Lessee herein contained, hereby grants and leases exclusively unto Lessee the above described real estate and mining rights for the purpose of
A.H.C. prospecting, drilling, mining for and removing minerals by stripping
E.C.S. operations, or any other process which Lessee may elect, building roads, power lines and stations, telephone lines, slush ponds, and the maintenance thereof, building other structures thereon to mine, wash, process, treat, transport and stock pile minerals, house employees, and all other necessary purposes incidental to the mining and selling of minerals.

2. Except as herein provided this lease shall continue for a period of ninety nine years after the date hereof, except that Lessee shall have the right to terminate the lease at any time when in the opinion of Lessee the mining operations are not profitable, provided that, Lessee shall not have a right to terminate this lease until the Lessee has paid to or credited Lessor with the sum of $67,900.00 in royalties from the sale of iron ore mined from the premises described herein.

3. Lessor hereby warrants and agrees to defend the title of said lands. The Lessee at its option may discharge any tax, mortgage or other lien upon the premises, either in whole or in part, and in the event Lessee does so, it shall be subrogated to such lien with right to enforce same and apply royalties accruing hereunder toward satisfying same. Without impairment of Lessee's rights under the warranty in event of failure of title, it is agreed that if Lessor owns an interest in said land, less than the entire fee simple estate, then the royalties to be paid Lessor shall be reduced proportionately.

4. Should Lessee be prevented from complying with any of the covenants of this lease by reason of scarcity or inability to obtain or to use equipment or materials or be prevented or delayed due to strikes, slow-downs or other labor trouble, and/or by any statute, regulation or directive of the federal, state or municipal government or any agency or division thereof, and/or conditions beyond the control of Lessee, then while so prevented, Lessee's obligation to comply with such covenants shall be suspended, while and so long as the Lessee is prevented by such cause from performing the terms and covenants hereof; and the time while Lessee is so prevented shall not be counted against Lessee, anything in this lease to the contrary notwithstanding, except that Lessee shall pay, in any event, the minimum royalties as set forth in paragraph eight hereof.

5. All machinery, tracks, buildings, structures, improvements and other property of every kind whatsoever placed by the Lessee on or under said lands shall remain the property of Lessee, and Lessee shall have and is hereby granted the right and privilege of entering upon and removing from said lands within ninety days following the expiration or termination of said lease all of said property of every kind whatsoever; and failing to do so, the title thereto shall vest in Lessor.

6. Lessee shall have the right to mine and remove such iron ore, or other minerals, from the lands above described as Lessee may elect, and at such time or times, within the term of this agreement, as Lessee may elect, Lessee being the sole judge of what iron ore shall be mined or removed, and when the same shall be mined or removed, except as provided herein, and for each ton of
W.N.C. iron ore produced by the ore plant of Lessee from ore mined and
E.C.S. removed by Lessee from the lands above described, Lessee shall pay to Lessor twenty-five cents (25¢) per long ton of 2,240 lbs. each, the furnace weights of ore as delivered to the purchaser thereof, as evidenced by the invoices received from said purchaser by the Lessee, to govern, all payments of royalty herein provided. All payments of royalty herein provided shall be made to the Lessor at the place designated by the Lessor, in monthly installments, on or before the last day of each month for all royalty due for ore so mined during the preceding calendar month. Lessee shall keep accurate records showing true and correct statements of account of all ore so mined and removed and shall render to Lessor monthly, on or before the last day of each month, a statement showing the amount of ore so mined, and removed during the preceding calendar month. Lessor shall have the right to examine the invoices received from the purchaser of ore for the purpose of determining whether Lessor has received the proper amount of royalty.

7. Lessee shall have the right to mine and remove all minerals that are on or under the land described herein, and the Lessee shall pay to Lessor such royalties for said minerals that are mined and removed from said premises as shall be agreed upon by the parties hereto.

8. It is stipulated and agreed that the Lessee shall not pay to Lessor any royalty for any months during which no ore is removed from said land by Lessee, except that commencing with January 1, 1953 Lessee shall pay to Lessor a minimum royalty of $5,000.00 per year. If the royalties from the ore mined by Lessee on said premises do not exceed the minimum provided for herein, then the minimum royalty shall become due and payable within thirty (30) days after the end of the year.

It is agreed that Lessee has heretofore advanced the sum of Ten Thousand Nine Hundred Dollars ($10,900.00) to Lessor and will advance to Lessor upon his request a further sum for the purpose of paying to Helen A. Sackett a sum sufficient to pay the balance of the purchase price with interest due from the sale of the property described herein to Lessor by the said Helen A. Sackett. All of said sums of money so advanced or any other sums of money that may be advanced by Lessee to Lessor shall be first deducted from any and all royalties due Lessor from Lessee before payment of any royalty is made to Lessor or his assigns.

9. If for five successive years from and after the date of this contract, Lessee shall not conduct active mining operations, as defined herein, on said land, Lessor at his option may then declare this lease forfeited and terminated as provided herein. "Active mining operations" within the meaning of this lease shall mean the mining and shipping of a minimum of 20,000 long tons of ore or the payment of a minimum royalty of $5,000.00 per year on a calendar year basis.

10. Lessee agrees that it will indemnify and hold harmless Helen A. Sackett, seller in a certain contract between her and Lessor, and Lessor from and against all damages to or destruction of property, and injury to or death of any person or persons caused by or arising out of any act or thing done, or omitted to be done, in, about or incidental to the preparation for mining and the mining and removal of said minerals and shall carry all necessary compensation and/or liability insurance in connection therewith in such amounts as shall be agreed upon by the parties hereto.

11. Lessor hereby waives all claims for injuries or damages done to said land, timber, or improvements by reason of the mining and removal of the minerals and/or in the washing and/or processing
W.H.C. thereof, except as provided otherwise herein. Fences that are
K.C.S. damaged or removed by Lessee shall be replaced by Lessee.

12. This lease shall be assignable by either party without consent of the other.

13. The Lessor and Lessee agree to perform in all things the covenants, conditions and agreements herein set forth to be performed by each of them, and agree that in event of default by either of them in the performance of any of the covenants, conditions and agreements herein contained, and such default shallcontinue for a period of sixty days after written notice of such default is

given by one to the other (such notice setting out the particulars of such default and making demand upon the other to make good the alleged default), then and in that event it shall be lawful for the party giving the notice of his or its election, to terminate and forfeit this contract.

14. All notices, requests, demands and other communications hereunder shall be in writing and shall be delivered or mailed first class postage prepaid; if to the Lessor at his present address, or at such other address as Lessor may specify to Lessee in writing; if to Lessee at McGregor, Iowa, or at such other address as Lessee may specify to Lessor in writing.

15. Should there be any difference of opinion or controversy between the parties hereto as to the amount of royalty to be paid hereunder or regarding any other question of fact that may arise, the Lessor shall appoint a mining engineer or other qualified person and the Lessee shall likewise appoint a mining engineer or other competent person, which two persons so appointed, shall arbitrate said matter of difference, and if the two shall not be able to agree then they shall name a third person and the decision of any two of the said persons on the question raised by said difference of opinion or controversy, shall be final and binding upon the parties hereto. The expense of such arbitration shall be paid one-half by the Lessor and one-half by the Lessee.

16. The covenants, terms and conditions of this lease shall run with the land and shall inure to benefit of and be binding upon the successors, assigns, administrators, executors and heirs of the parties hereto.

IN WITNESS WHEREOF, the parties hereunto have set their hands and seals, the day and year first above written.

Witness to signature of
Lessor.

M. E. Mooney

W. W. Collins, Jr.
Lessor

Witness to signature of
Lessee

D. K. Sherard

S. C. SCHROEDER CO., INC.

By S. C. Schroeder
Lessee President

STATE OF WYOMING,)
ss:
COUNTY OF LARAMIE)

W.M.C. On this 26th day of December, 1952, before me personally
E.C.S. appeared W. M. Collins, to me personally known to be the person described in and who executed the foregoing instrument, and acknowledged that he executed the same as his free act and deed thereby relinquishing any and all rights thereunto under and by virtue of the Homestead Exemption Laws of Wyoming.

Mary Lou Phillips Shepherd
Notary Public

(SEAL)

My commission expires December 15, 1954.

STATE OF WYOMING)
ss:
COUNTY OF LARAMIE)

On this 26th day of December, 1952, before me appeared E. C. Schroeder to me personally known who, being by me duly sworn did say that he is President of E. C. Schroeder Co., Inc., a corporation; that said corporation has no corporate seal and that said instrument was signed in behalf of said corporation by authority of its board of directors; and the said E. C. Schroeder as such President acknowledged said instrument to be the free act and deed of said corporation.

Mary Lou Phillips Shepherd
Notary Public

(SEAL)

My commission expires December 15, 1954.

Assaying Report on Ore Mined and
Shipped from the Good Fortune Iron Mine
for the period from Jan. 28, 1953 to Feb. 20, 1953

Gross Tons	Moist.	Mang.	Iron	Comb.	Moist.	Insol.	Phos.
53,750	2,688	.06	63.63	63.69	5.00	8.60	.08
50,000	3,400	.10	60.02	60.12	6.80	8.85	.08
55,491	3,773	.08	60.92	61.00	6.80	8.65	.12
52,545	3,573	.11	60.32	60.43	6.80	8.70	.08
50,536	3,639	.12	61.42	61.54	7.20	8.74	.09
49,643	3,376	.13	61.22	61.35	6.80	9.25	.10
56,607	3,849	.11	59.72	59.83	6.80	8.20	.11
50,045	3,403	.14	59.32	59.46	6.80	9.00	.10
50,848	3,458	.11	60.62	60.73	6.80	9.14	.09
101,607	6,096	.10	60.02	60.12	6.00	8.52	.08
99,955	5,997	.10	59.82	59.92	6.00	10.80	.08
99,018	5,941	.11	59.22	59.33	6.00	10.20	.10
109,509	6,571	.12	61.81	61.93	6.00	6.65	.10
90,223	6,767	.09	58.82	58.91	7.50	12.50	.09
93,080	6,981	.10	57.23	57.33	7.50	13.10	.08
105,134	7,885	.08	60.42	60.50	7.50	8.10	.10
97,812	5,869	.09	62.41	62.50	6.00	9.24	.09
105,446	7,908	.09	60.82	60.91	7.50	8.00	.11
103,080	6,185	.11	60.12	60.23	6.00	8.60	.09
68,661	4,669	.10	60.42	60.52	6.80	8.72	.12
66,429	4,517	.08	59.62	59.70	6.80	9.86	.15
98,929	5,738	.10	60.82	60.92	5.80	9.00	.11
108,571	6,297	.10	60.32	60.42	5.80	8.94	.10
53,571	3,107	.09	59.22	59.31	5.80	8.96	.08
51,161	3,070	.07	54.24	54.31	6.00	16.84	.08
44,598	2,676	.07	54.24	54.31	6.00	16.84	.08
103,661	5,183	.11	62.41	62.52	5.00	6.40	.11
109,598	6,576	.09	62.41	62.50	6.00	6.30	.10
55,312	3,319	.10	62.41	62.51	6.00	7.00	.09
113,482	6,809	.12	61.61	61.73	6.00	8.00	.11
102,679	5,134	.09	62.01	62.10	5.00	6.26	.09
98,527	4,926	.12	62.21	62.33	5.00	6.32	.10
114,018	5,701	.08	62.81	62.89	5.00	7.84	.07
118,616	5,931	.11	60.62	60.73	5.00	7.00	.10
102,991	5,253	.08	62.61	62.69	5.10	5.65	.07
104,687	5,339	.10	62.21	62.31	5.10	9.56	.08
103,080	5,257	.08	63.21	63.29	5.10	6.08	.07
92,634	4,632	.11	62.41	62.52	5.00	6.00	.09
101,607	5,080	.08	61.81	61.89	5.00	8.90	.10
103,304	5,165	.10	62.81	62.91	5.00	8.35	.10

Exhibit "4"

Gross Tons	Moist.	Mang.	Iron	Comb.	Moist.	Insol.	Phos.
55,357	3,321	.10	61.32	61.42	6.00	8.10	.08
97,545	4,097	.09	59.62	59.71	4.20	9.20	.10
111,071	6,664	.10	63.21	63.31	6.00	6.35	.10
108,795	6,528	.10	60.42	60.52	6.00	7.36	.11
111,116	6,667	.09	60.22	60.31	6.00	8.50	.10
107,902	6,474	.11	60.20	60.31	6.00	7.60	.11
51,518	3,091	.10	60.40	60.50	6.00	7.00	.11
100,000	5,800	.12	60.00	60.12	5.80	8.14	.10
98,036	3,921	.10	63.80	63.90	4.00	5.76	.11
98,125	3,925	.08	62.20	62.28	4.00	6.59	.08
103,482	4,139	.10	61.80	61.90	4.00	6.94	.09
122,545	4,902	.08	62.80	62.88	4.00	6.16	.11
99,732	3,989	.10	61.60	61.70	4.00	7.30	.10
95,982	3,839	.10	62.80	62.90	4.00	6.10	.10
102,054	4,082	.08	62.20	62.28	4.00	5.62	.12
102,277	4,091	.09	62.00	62.09	4.00	6.04	.07
106,696	4,268	.11	62.00	62.11	4.00	6.16	.08
98,036	3,921	.10	63.80	63.90	4.00	5.76	.11
98,125	3,925	.08	62.20	62.28	4.00	6.59	.08
103,482	4,139	.10	61.80	61.90	4.00	6.94	.09
122,545	4,902	.08	62.80	62.88	4.00	6.16	.11
99,732	3,989	.10	61.60	61.70	4.00	7.30	.10
95,982	3,839	.10	62.80	62.90	4.00	6.10	.10
102,054	4,082	.08	62.20	62.28	4.00	5.62	.12
102,277	4,091	.09	62.00	62.09	4.00	6.04	.07
106,696	4,268	.11	62.00	62.11	4.00	6.16	.08
54,598	3,276	.10	62.40	62.50	6.00	7.40	.10
99,152	4,958	.08	62.60	62.68	5.00	7.50	.10
95,045	4,752	.10	62.00	62.10	5.00	6.14	.07
105,134	5,257	.11	58.80	58.91	5.00	10.00	.10
92,589	4,629	.10	59.60	59.70	5.00	8.66	.10
93,884	4,694	.12	61.80	61.92	5.00	6.50	.10

UNITED STATES OF AMERICA PATENT
General Land Office No. 36487 Mineral Certificate 137
Dated March 17, 1903
Recorded in Book 124, Page 558, Laramie County, Wyoming

From The United States of America to Charles A. Guernsey.

Certain mining claim or premises known as the Nightingale, Origan, O. K., Rustler, El Paso, Standard, Hoosier, Clipper, Humboldt, Iron Clad, Columbia, Black Cloud and Monitor No. 2, lode mining claims designated by the Surveyor-General as Lot No. 196, embracing a portion of sections six and seven in township 27 north of range 65 west, and sections 1 and 12, in township 27 north of range 66 west Sixth Principal meridian in the Platte Canon Mining District, in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and bounded, described, and platted as follows, with magnetic variation 14° and 58' east.

Beginning for the description of the Nightingale lode claim at corner No. 1, a quartzite stone 28x10x8 inches, chiseled 1-1-196, with mound of stone, from which a pine 14" in diameter blazed and marked B.T. 1-196 bears north 28° and 30' east 61' distant, a pine 12" in diameter blazed and marked B.T. 1-1-196 bears south 88° and 5' west 36.5' distant and the south quarter corner of section 6, in township 27 north of range 65 west, Sixth Principal meridian, bears south 49° east 1,202.3' distant.

Thence, first course, south 45° and 24' west 300' to a point from which discovery cut bears north 49° and 12' west 1,200' distant; 600' to corner No. 2.

Thence, second course, north 49° and 12' west 1,500' to corner No. 3.

Thence, third course, north 45° and 24' east 600' to corner No. 4.

Thence, fourth course, south 49° and 12' east 1,500' to corner No. 1, the place of beginning, the survey of the lode claim as above described extending 1,500' in length along said Nightingale vein or lode.

Beginning for the description of the Origan lode claim at corner No. 1, identical with corner No. 1 of said Nightingale lode claim, situate on line 3-4 of said Crown lode claim.

Thence, first course, north 45° and 24' east 600' to corner No. 2, situate on line 3-4 of said Crown lode claim.

Thence, second course, north 49° and 12' west 1,500' to corner No. 3.

Thence, third course, south 45° and 24' west 300' to a point from which discovery shaft bears south 49° and 12' east 400' distant; 600' to corner No. 4, identical with corner No. 4 of said Nightingale lode claim.

Thence, fourth course, south 49° and 12' east 1,500' to corner No. 1, the place of beginning, the survey of the lode claim as above described extending 1,500' in length along said Origan vein or lode.

Beginning for the description of the O. K. lode claim at corner No. 1, a limestone 24x12x8 inches, chiseled 2-1-196, with mound of stone, identical with corner No. 2 of said Origan lode claim situate on line 3-4 of said Crown lode claim, from which said quarter section corner bears south 21° and 38' east 1,302' distant.

Thence, first course, north 45° and 24' east 154' to corner No. 3 of said Crown lode claim; 600' to corner No. 2.

Thence, second course, north 49° and 12' west 1,500' to corner No. 3.

Thence, third course, south 45° and 24' west 300' to a point from which discovery cut bears south 49° and 12' east 400' distant; 600' to corner No. 4, identical with corner No. 3 of said Origan lode claim.

Thence, fourth course, south 49° and 12' east 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said O. K. vein or lode.

Beginning for the description of the Rustler lode claim at corner No. 1, a quartzite stone 24x12x8 inches, chiseled 1-196, with mound of stone, from which the southwest corner of said section 6 bears south 89° and 11' west 172.1' distant.

Thence, first course, south 66° and 8' east 135.68' intersect line 54-55 of the Alaska lode claim survey No. 49, at south 80° west 496.5' from corner No. 55; 160.95' intersect line 60-57 of the Old Sledge lode claim survey No. 49, at south 59° and 10' west 839.66' from corner No. 60; 215.47' to corner No. 2.

Thence, second course, north 80° and 22' east 448.6' intersect line 8-5 of the Moore lode claim survey No. 53, at south 37° and 48' east 62.96' from corner No. 8; 455.24' intersect line 55-56 of said Alaska lode claim at south 37° and 48' east 53.56' from corner No. 55; 1,091.6' to corner No. 3.

Thence, third course, north 56° and 55' east 31.8' intersect line 6-7 of said Moore lode claim and 12-9 of said Maine lode claim at south 37° and 48' east 25.8' from corners Nos. 7 and 9 of said claims respectively; 200' to corner No. 4, identical with corner No. 1 of said Crown lode claim.

Thence, third course, south 25° east 1,500' to corner No. 4, situate on line 3-4 of said Hoosier lode claim.

Thence, fourth course, south 59° and 10' west 300' to a point from which discovery cut bears north 25° west 100' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Iron Clad vein or lode.

Beginning for the description of the Columbia lode claim at corner No. 1, a quartzite stone 28-10-7 inches, chiseled 4-1-196, with mound of stone, identical with corner No. 4 of said Iron Clad lode claim, from which said section corner bears south 5° and 16' west 893.12' distant; a pine 12" in diameter blazed and marked B.T. 4-1-196 bears north 1° and 21' west 48' distant and a pine 6" in diameter blazed and marked B.T. 4-1-196 bears south 52° and 7' east 43' distant.

Thence, first course, north 25° west 1,500' to corner No. 2, identical with corner No. 3 of said Iron Clad lode claim.

Thence, second course, north 59° and 10' east 300' to a point from which discovery cut bears south 25° east 700' distant; 600' to corner No. 3.

Thence, third course, south 25° east 1,500' to corner No. 4.

Thence, fourth course, south 59° and 10' west 315.24' to corner No. 3 of said Hoosier lode claim; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Columbia vein or lode.

Beginning for the description of the Black Cloud lode claim at corner No. 1, a quartzite stone 24x14x7 inches, chiseled 1-196, with mound of stone situate on line 3-4 of said Columbia lode claim, from which said section corner bears south 12° and 18' west 1,727.98' distant.

Thence, first course, north 45° and 24' east 76.89' to corners Nos. 4 of said Nightingale and Origan lode claims; 676.89' to corner No. 3 of said Origan, and corner No. 4 of said O. K. lode claims; 1,276.89' to corner No. 2, identical with corner No. 3 of said O. K. and corner No. 2 of said Standard lode claims.

Thence, second course, north 29° and 8' east 259.36' to corner No. 3, situate on line 2-3 of said Standard lode claim.

Thence, third course, north 25° west 559.78' to corner No. 4.

Thence, fourth course, south 45° and 24' west 1,500' to corner No. 5, situate on line 3-4 of said Columbia lode claim.

Thence, fifth course, south 25° east 318.45' to a point from which discovery cut bears north 45° and 24' east 1,400' distant; 636.9' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Black Cloud vein or lode.

Beginning for the description of the Monitor No. 2 lode claim at corner No. 1, a quartzite stone 24x12x10 inches, chiseled 1-196, with mound of stone situate on line 2-3 of said Clipper lode claim, from which said section corner bears north 67° and 6' east 2,091.9' distant.

Thence, first course, south 49° and 12' east 300' to corner No. 2 of said Clipper lode claim from which discovery cut bears south 48° and 43' west 180' distant; 600' to corner No. 2.

Thence, second course, south 48° and 43' west 1,498' to corner No. 3.

Thence, third course, north 49° and 12' west 600' to corner No. 4.

Thence, fourth course, north 48° and 43' east 1,498' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,498' in length along said Monitor No. 2 vein or lode. Expressly excepting and excluding from these presents all that portion of the ground hereinbefore described embraced in said mining claim or survey No. 121; said Old Sledge and Alaska lode claims survey No. 49; said Moore, Maine and Lone Jack lode claims survey No. 53, and said Pacific lode claim survey No. 53 Am, and also all veins, lodes and ledges throughout their entire depth, the tops or apexes of which lie inside of such excluded ground; the granted premises in said lot No. 196 containing 289 acres and .094 of an acre of land, more or less.

Thence, fourth course, north 66° and 8' west 95.14' intersect line 9-10 of said Maine lode claim at north 32° and 24' east 130.25' from corner No. 9; 366.905' to a point from which discovery shaft bears south 68° and 36' west 25' distant; 733.81' to corner No. 5, situate on line 2-3 of said Nightingale lode claim.

Thence, fifth course, south 56° and 55' west 71.71' intersect line 59-60 of said Old Sledge lode claim at north 58° and 30' west 185.86' from corner No. 60, 918.73' to corner No. 1, the place of beginning; the survey of the lode claims above described extending 1,011.8' in length along said Rustler vein or lode.

Beginning for the description of the El Paso lode claim at corner No. 1, a quartzite stone 30x14x6 inches, chiseled 1-1-196, with mound of stone, situate on line 2-3 of said O. K. lode claim, from which a pine 12" in diameter blazed and marked B.T. 1-196 bears south 87° and 54' west 51' distant; a pine 18" in diameter blazed and marked B.T. 1-196 bears south 80° and 27' west 48' distant and said quarter section corner bears south 19° and 4' east 2,392.62' distant.

Thence, first course, south 49° and 12' east 300' to a point from which the face of discovery cut bears north 29° and 8' east 700' distant; 600' to corner No. 2, situate on line 2-3 of said O. K. and Mollie Gibson lode claims respectively,

Thence, second course, north 29° and 8' east 942.8' to corner No. 3 of said Mollie Gibson lode claim; 1,500' to corner No. 3.

Thence, third course, north 49° and 12' west 600' to corner No. 4.

Thence, fourth course, south 29° and 8' west 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said El Paso vein or lode.

Beginning for the description of the Standard lode claim at corner No. 1, identical with corner No. 1 of said El Paso lode claim, from which the center of face of discovery cut bears north 11° and 14' west 467 and 100' distant.

Thence, first course, north 49° and 12' west 537.73' to corner No. 2, identical with corner No. 3 of said O. K. lode claim.

Thence, second course, north 29° and 8' east 1,500' to corner No. 3.

Thence, third course, south 49° and 12' east 537.73' to corner No. 4, identical with corner No. 4 of said El Paso lode claim.

Thence, fourth course, south 29° and 8' west 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Standard vein or lode.

Beginning for the description of the Hoosier lode claim at corner No. 1, a limestone 25x12x10 inches, chiseled 1-196, with mound of stone, from which a pine 8" in diameter blazed and marked B.T. 1-196 bears north 33° and 30' west 26' distant and said section corner bears north 76° and 35' east 507.97' distant.

Thence, first course, north 59° and 10' east 1,484.7' to corner No. 2, situate on line 2-3 of said Nightingale lode claim.

Thence, second course, north 49° and 12' west 600' to corner No. 3, situate on line 2-3 of said Nightingale lode claim.

Thence, third course, south 59° and 10' west 1,484.7' to corner No. 4.

Thence, fourth course, south 49° and 12' east 300' to a point from which the face of discovery cut bears north 59° and 10' east 300' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,484.7' in length along said Hoosier vein or lode.

Beginning for the description of the Clipper lode claim at corner No. 1, identical with corner No. 1 of said Hoosier lode claim.

Thence, first course, south 53° and 30' west 1,500' to corner No. 2.

Thence, second course, north 49° and 12' west 300' to a point from which discovery cut bears north 53° and 30' east 300' distant; 600' to corner No. 3.

Thence, third course, north 53° and 30' east 1,500' to corner No. 4.

Thence, fourth course, south 49° and 12' east 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Clipper vein or lode.

Beginning for the description of the Humboldt lode claim at corner No. 1, a red quartzite stone 28x10x7 inches chiseled 1-1-196, with mound of stone, situate on line 3-4 of said Hoosier lode claim, from which said section corner bears south 36° and 40' east 725.35' distant.

Thence, first course, north 25° west 1,500' to corner No. 2.

Thence, second course, south 59° and 10' west 600' to corner No. 3.

Thence, third course, south 25° east 1,500' to corner No. 4, identical with corners Nos. 4 of said Hoosier and Clipper lode claims, respectively.

Thence, fourth course, north 59° and 10' east 300' to a point from which discovery cut bears north 25° west 300' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Humboldt vein or lode.

Beginning for the description of the Iron Clad lode claim at corner No. 1, identical with corner No. 1 of said Humboldt lode claim.

Thence, first course, north 25° west 1,500' to corner No. 2, identical with corner No. 2, of said Humboldt lode claim.

Thence, second course, north 59° and 10' east 600' to corner No. 3.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36492
Dated March 21, 1903
Recorded in Book 44, Page 608, Laramie County

Mineral Certificate No. 138

From The United States of America to Charles A. Guernsey.

Certain mining claim or premises, known as the Terrible lode mining claim, designated by the Surveyor-General as Lot No. 199, embracing a portion of section 13 in township 27 north of range 66 west and of section 18 in township 27 north of range 65 west, Sixth Principal meridian, in the Platte Canon Mining District, in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and bounded, described, and platted as follows, with magnetic variation 14° and 55' east.

Beginning at corner No. 1, a quartzite rock 30x12x10 inches, chiseled 1-199, with mound of stone, from which the east quarter corner of section 13, in township 27 north of range 66 west, Sixth Principal meridian bears north 59° and 55' east 926' distant.

Thence, first course, south 82° east 1,200' to corner No. 2.

Thence, second course, south 2° and 23' east 600' to corner No. 3.

Thence, third course, north 82° west 1,200' to corner No. 4.

Thence, fourth course, north 2° and 23' west 300' to a point from which discovery cut bears south 82° east 750' distant; 600' to corner No. 1, the place of beginning; said lot No. 199 extending 1,200' in length along said Terrible vein or lode, and containing 16 acres, and .258 of an acre of land, more or less.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36488
Dated March 17, 1903
Recorded in Book 44, Page 611

Mineral Certificate 139

From The United States of America to Charles A. Guernsey.

Certain mining claim or premises, known as the Summit, Connection, Moonlight, Rip Van Winkle, Otto, Giant, Pigmy, Appendix, Iron Spike, Miners Luck, Hexagon, Reserve, Iron Wheel and Iron Slope lode mining claims, designated by the Surveyor-General as Lot No. 197, embracing a portion of sections 4, 5 and 8, in township 27 north of range 65 and west Sixth Principal meridian, in the Platte Canon Mining District, in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and bounded, described, and platted as follows, with magnetic variation 14° and 58' east.

Beginning for the description of the Summit lode claim at corner No. 1, a quartzite rock, 24x12x10 inches, chiseled 1-1-197, with a mound of stone, situate on line 1-2 of the Juneau lode claim survey No. 194, from which a pine six inches in diameter blazed and marked B.T. 1-197 bears north 79° and 10' west 49' distant; a pine 5" in diameter blazed and marked B.T. 1-197 bears south 82° and 30' west 29' distant, and the west quarter corner of section 8, in township 27 north of range 65 west, Sixth Principal meridian bears north 83° and 23' west 1,312.89' distant.

Thence, first course, north 26° and 5' east 1,261.43' to corner No. 2.

Thence, second course, north 83° west 539.88' to corner No. 3.

Thence, third course, south 27° and 55' west 1,339' to corner No. 4.

Thence, fourth course, south 83° east 280' to a point from which the entrance of discovery tunnel bears north 27° and 55' east 1,219' distant; 300' to corner No. 5.

Thence, fifth course, north 66° and 13' east 88.5' to corner No. 6.

Thence, sixth course, south 86° and 20' east 230' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,339' in length along said Summit vein or lode.

Beginning for the description of the Connection lode claim at corner No. 1, identical with corner No. 1 of said Summit lode claim.

Thence, first course, north 26° and 5' east 1,261.43' to corner No. 2 of said Summit lode claim; 1,379.49' to corner No. 2.

Thence, second course, south 86° and 20' east 531.81' to corner No. 3, situate on line 1-2 of the Central No. 1 lode claim survey No. 107; from a point on line 2-3 discovery on lode line bears south 20° and 50' west 200' distant.

Thence, third course, south 20° and 50' west 958.65' to corner No. 4, situate on line 1-2 of said Central No. 1 lode claim.

Thence, fourth course, north 87° and 35' west 235.2' to corner No. 5.

Thence, fifth course, south 20° and 50' west 201.4' to corner No. 6.

Thence, sixth course, south 59° and 44' west 289.8' to corner No. 7.

Thence, seventh course, north 86° and 20' west 240' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,411.05' in length along said Connection vein or lode.

Beginning for the description of the Moonlight lode claim at corner No. 1, a slate stone 28x14x8 inches, chiseled 1-197, with mound of stone, situate on line 4-1 of the Iron Tiger lode claim survey No. 107, from which a pine 7" in diameter blazed and marked B.T. 1-197 bears south 21° and 42' west 14' distant, and the north quarter corner of said section 8 bears north 3° and 19' west 1,456.43' distant.

Thence, first course, south 14° and 35' west 94.78' intersect lines 3-4 and 4-1 of said Iron Tiger and Central No. 1 lode claims, at south 87° and 35' east 10.88' from corners Nos. 4 and 1 of said claims, respectively; 503.26' to corner No. 2.

Thence, second course, north 86° and 20' west 57.34' to corner No. 3 of said Connection lode claim; also intersect line 1-2 of said Central No. 1 lode claim, at south 20° and 50' west 419.55' from corner No. 1; 589.15' to corner No. 3, identical with corner No. 2 of said Connection lode claim.

Thence, third course, south 26° and 5' west 118.06' to corner No. 4, identical with corner No. 2 of said Summit lode claim, and situate on line 1-2 of said Connection lode claim.

Thence, fourth course, north 83° west 244.62' to corner No. 5, situate on line 2-3 of said Summit lode claim.

Thence, fifth course, north 14° and 35' east 300' to a point from which the face of discovery cut bears south 86° and 20' east 100' distant; 600' to corner No. 6.

Thence, sixth course, south 86° and 20' east 860.08' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 860.08' in length along said Moonlight vein or lode.

Beginning for the description of the Rip Van Winkle lode claim at corner No. 1, a quartzite rock 24x14x10 inches, chiseled 1-1-197, with mound of stone, situate on line 4-1 of said Iron Tiger lode claim, from which the north quarter corner of said section 8 bears north 15° and 31' west 1,005.1' distant.

Thence, first course, north 50° and 50' east 883' to corner No. 1 of said Iron Tiger lode claim; 1,344' to corner No. 2.

Thence, second course, north 14° and 42' west 152.5' to corner No. 3, identical with the southwest corner of the Champion lode claim unsurveyed.

Thence, third course, north 86° and 20' west 520.13' to corner No. 4.

Thence, fourth course, south 21° and 23' west 110.04' intersect the south side line of said Champion lode claim, at south 82° and 33' west 567.1' from the southeast corner of said claim; 1,500' to corner No. 5.

Thence, fifth course, south 86° and 20' east 314' to a point from which the center of north end of discovery cut bears north 20° and 50' east 350' distant; 628' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,5[illegible]' in length along said Rip Van Winkle vein or lode.

Beginning for the description of the Otto lode claim at corner No. 1, a sandstone 26x11x8 inches, chiseled 1-197, with mound of stone, situate on line 4-5 of said Rip Van Winkle lode claim and on the south side line of said Champion lode claim, from which the north quarter corner of said section 8 bears south 22° and 9' west 3[illegible].26' distant.

Thence, first course, south 82° and 33' west 300' to a point from which the breast of discovery tunnel bears south 21° and 23' west 750' distant; 482' to corner No. 2, identical with the southwest corner of said Champion lode claim.

Thence, second course, south 37° and 52' east 135' to corner No. 3.

Thence, third course, south 26° and 24' west 1,325.67' to corner No. 4.

Thence, fourth course, north 82° and 33' east 482' to corner No. 5, identical with corner No. 5 of said Rip Van Winkle lode claim.

Thence, fifth course, north 21° and 23' east 1,389.6' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,389.6' in length along said Otto vein or lode.

Beginning for the description of the Giant lode claim at corner No. 1, a sandstone 30x14x8 inches chiseled 3-197 and 1-197, with mound of stone, identical with corner No. 3 of said Otto lode claim, from which the north quarter corner of said section 8 bears south 51° and 24' east 315.05' distant.

Thence, first course, south 26° and 24' west 1,325.67' to corner No. 2, identical with corner No. 4 of said Otto lode claim.

Thence, second course, south 66° and 53' west 402.19' to a point from which the center of face of discovery cut bears north 26° and 24' east 200' distant, also intersect line 7-8 of the Black Bill lode claim survey No. 55, at south 18° west 55.45' from corner No. 7; 783' to corner No. 3.

Thence, third course, north 26° and 24' east 289.58' intersect line 6-7 of said Black Bill lode claim, and line 12-9 of the Silver Steele lode claim survey No. 5[illegible] am., at north 76° and 32' west 245.36' from corners No. 7 and 12 of said claims, respectively; [illegible] 6.16' intersect line 11-12 of said Silver Steele lode claim, at north [illegible] and 11' west [illegible].67' from corner No. 12; 993.09' intersect line 16-13 of the Red Bill lode claim survey No. 5[illegible], at north 76° and 32' west 315.26' from corner No. 16; 1,325.67' to corner No. 4.

Thence, fourth course, north 66° and 53' east 168.91' intersect line 15-16 of said Red Bill lode claim, at north 3° and 40' east 529.86' from corner No. 16; 783' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,325.67' in length along said Giant vein or lode.

Beginning for the description of the Pigmy lode claim at corner No. 1, identical with corner No. 1 of said Rip Van Winkle lode claim, and situate on line 4-1 of said Iron Tiger lode claim.

Thence, first course, south 18° west 512.26' to corner No. 2.

Thence, second course, north 86° and 20' west 26.5' to corner No. 1 of said Moonlight lode claim, situate on line 4-1 of said Iron Tiger lode claim; 886.58' to corner No. 3, identical with corner No. 6 of said Moonlight lode claim.

Thence, third course, south 88° west 518.97' to corner No. 4, situate on line 7-8 of said Black Bill lode claim.

Thence, fourth course, north 18° east 210' to a point from which the breast of discovery tunnel bears south 89° and 18' east 710.46' distant; 282.12' to corner No. 5, situate on line 2-3 of said Giant lode claim.

Thence, fifth course, north 66° and 53' east 402.19' to corner No. 6, identical with corners Nos. 2 and 4 of said Giant and Otto lode claims, respectively.

Thence, sixth course, north 82° and 33' east 482' to corner No. 7, identical with corners Nos. 5 of said Otto and Rip Van Winkle lode claims.

Thence, seventh course, south 86° and 20' east 628' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,410.46' in length along said Pigmy vein or lode.

Beginning for the description of the Appendix lode claim at corner No. 1, a granite rock 30x14x8 inches chiseled 1-197 and 5-197, with mound of stone, from which the north quarter corner of said section 8 bears south 85° and 33' west 808.1' distant.

Thence, first course, north 14° and 42' west 232.5' to corner No. 2 of said Rip Van Winkle lode claim; 385' to corner No. 3 of said Rip Van Winkle lode claim; 600' to corner No. 2.

Thence, second course, north 66° and 53' east 1,300' to corner No. 3.

Thence, third course, south 14° and 42' east 300' to a point from which discovery shaft bears south 66° and 53' west 350' distant; 600' to corner No. 4.

Thence, fourth course, south 66° and 55' west 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Appendix vein or lode.

Beginning for the description of the Iron Spike lode claim at corner No. 1, a quartzite rock 26x12x10 inches, chiseled 1-197 and 1-107, with mound of stone, identical with corner No. 1 of said Iron Tiger lode claim and situate on line 1-2 of said Rip Van Winkle lode claim, from which the north quarter corner of said section 8 bears north 76° and 12' west 600' distant.

Thence, first course, south 87° and 35' east 632.4' to corner No. 2 of said Iron Tiger lode claim; 900' to corner No. 2.

Thence, second course, north 20° and 50' east 302' to corner No. 3.

Thence, third course, north 14° and 42' west 274.92' to corner No. 4, situate on line 4-1 of said Appendix lode claim.

Thence, fourth course, south 66° and 55' west 776.02' to corner No. 5, identical with corner No. 1 of said Appendix lode claim.

Thence, fifth course, north 14° and 42' west 232.5' to corner No. 6, identical with corner No. 2 of said Rip Van Winkle lode claim, and situate on line 1-2 of said Appendix lode claim.

Thence, sixth course, south 20° and 50' west 461' to corner No. 1, the place of beginning; from a point on line 6-1 discovery shaft on lode line bears south 87° and 35' east 600' distant; the survey of the lode claim as above described extending 900' in length along said Iron Spike vein or lode.

Beginning for the description of the Miners Luck lode claim at corner No. 1, a quartzite rock 24x12x10 inches, chiseled 1-197 - 1-197 and 5-197, with mound of stone, from which the southeast corner of section five, said township and range, bears south 35° and 35' west 473.37' distant.

Thence, first course, south 77° and 52' west ~~1,365.6'~~ 956.6' to corner No. 2, identical with corner No. 3 of said Iron Spike lode claim.

Thence, second course, north 14° and 42' west 274.92' to corner No. 3, identical with corner No. 4 of said Iron Spike lode claim, and situate on line 4-1 of said Appendix lode claim.

Thence, third course, north 66° and 55' east 723.98' to corner No. 4, identical with corner No. 4 of said Appendix lode claim.

Thence, fourth course, north 61° and 20' east 659' to corner No. 5.

Thence, fifth course, south 14° and 42' east 300' to a point from which the center of discovery shaft bears south 70° and 53' west 735.75' distant; 600' to corner No. 1, the place of beginning; thesurvey of the lode claim as above described extending 1,359.75' in length along said Miners Luck vein or lode.

Beginning for the description of the Hexagon lode claim at corner No. 1, a slate stone 30x12x6 inches, chiseled 1-197, with mound of stone, identical with the south-east corner of said section 5.

Thence, first course, south 231.33' to corner No. 2.

Thence, second course, north 87° and 35' west 1,159.64' to corner No. 3, identical with corner No. 2 of said Iron Spike lode claim.

Thence, third course, north 20° and 50' east 2' to a point from which the face of discovery cut bears north 79° and 40' east 630.2' distant; 302'to corner No. 4 identical with corners Nos. 2 and 3 of said Miners Luck and Iron Spike lode claim, respectively.

Thence, fourth course, north 77° and 52' east 1,356.6' to corner No. 5, identical with corner No. 1 of said Miners Luck lode claim.

Thence, fifth course, south 20° and 50' west 413.31' to corner No. 6.

Thence, sixth course, north 89° and 25' west 130.08' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,330.2' in length along said Hexagon vein or lode.

Beginning for the description of the Reserve lode claim at corner No. 1, a quartzite rock 24x14x8 inches, chiseled 4-4-197 and 1-197, with mound of stone, identical with corner No. 4 of said Appendix lode claim, from which the southeast corner of said section 5 bears south 35° and 2' east 792.86' distant.

Thence, first course, north 14° and 42' west 600' to corner No. 2, identical with corner No. 3 of said Appendix lode claim.

Thence, second course, north 61° and 20' east 1,500' to corner No. 3.

Thence, third course, south 14° and 42' east 300' to a point from which discovery shaft bears south 61° and 20' west 300' distant; 600' to corner No. 4.

Thence, fourth course, south 61° and 20' west 841' to corner No. 5 of said Miners Luck lode claim; 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Reserve vein or lode.

Beginning for the description of the Iron Wheel lode claim at corner No. 1, identical with corner No. 1 of said Miners Luck lode claim.

Thence, first course, north 14° and 42' west 300' to a point from which discovery shaft bears north 61° and 20' east 50' distant; 600' to corner No. 2, identical with corner No. 5 of said Miners Luck lode claim, and situate on line 4-1 of said Reserve lode claim.

Thence, second course, north 61° and 20' east 841' to corner No. 3, identical with corner No. 4 of said Reserve lode claim.

Thence, third course, north 32° and 58' east 659' to corner No. 4.
Thence, fourth course, south 14° and 42' east 600' to corner No. 5.
Thence, fifth course, south 32° and 58' west 659' to corner No. 6.
Thence, sixth course, south 61° and 20' west 841' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Iron Wheel vein or lode.

Beginning for the description of the Iron Slope lode claim at corner No. 1, a slate stone 28x10x8 inches chiseled 4-197, 1-197 and 3-197, with mound of stone, identical with corner No. 4 of said Reserve lode claim, from which the southwest corner of section 4, said township and range, bears south 32° and 11' west 1,617.3' distant.

Thence, first course, north 32° and 58' east 659' to corner No. 4 of said Iron Wheel lode claim; 1,500' to corner No. 2.
Thence, second course, north 14° and 42' west 811' to corner No. 3.
Thence, third course, south 32° and 58' west 1,500' to corner No. 4.
Thence, fourth course, south 14° and 42' east 211' to corner No. 3 of said Reserve lode claim; 405.5' to a point from which discovery shaft bears north 32° and 58' east 100' distant; 811' to corner No. 1, the place of beginning the survey of the lode claim as above described extending 1,500' in length along said Iron Slope vein or lode. Expressly excepting and excluding from these presents all that portion of the ground, hereinbefore described, embraced in said Iron Tiger and Central No. 1 lode claims survey No. 107; said Black Bill and Red Bill lode claims survey No. 55; said Silver Steele lode claim survey No. 55 am., and said Champion lode claim unsurveyed, and also all veins, lodes and ledges throughout their entire depth, the tops or apexes of which lie inside of each excluded ground; the granted premises in said lot No. 197 containing 209 acres and .052 of an acre of land, more or less.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36489
Dated March 17, 1903
Recorded in Book 106, Page 436

Mineral Certificate 140

From The United States of America to Charles A. Guernsey

Certain mining claims or premises known as the Bonded, Good Fortune, Good Fortune Annex, Golden Rule, Appex, Blue Bird, Denver & Gulf Cottonwood, Whalen, Anaconda, Valley, Juneau, Rudy L, Gracia Ellen, and Blue Jay Fraction lode mining claims. Designated by the Surveyor-General as Lot No. 194, embracing a portion of sections seven and eight in township twenty-seven north of range sixty-five west, Sixth Principal meridian, in the Platte Canon Mining District in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and bounded, described, and platted as follows, with magnetic variation fourteen degrees and fifty-five minutes east.

Beginning for the description of the Bonded lode claim at corner No. 1, a sandstone 25x8x6 inches, chiseled 1-194 and 3-3-194, with mound of stone from which the quarter corner between sections seven and eight in township 27 north of range 65 west, Sixth Principal meridian, bears north 55° and 47' east 1,445' distant.

Thence, first course, north 74° west 742.3' intersect line 13-14 of the Republic lode claim survey No. 49, and line 17-18 of the Douglas lode claim survey No. 49, at north 21° and 30' east 35.2' from corners Nos. 14 and 18 respectively; 792' to corner No. 2.

Thence, second course, north 66° and 10' west 282' to corner No. 3.

Thence, third course south 10° and 40' west 29.2' intersect lines 14-15 of said Republic lode claim and 24-21 of the Fairview lode claim survey No. 49, at North 66° and 10' west 326' from corner No. 14 of said Republic lode claim and 44' from corner No. 24 of said Fairview lode claim 480.7' to corner No. 4, from which the east end of discovery cut bears north 66° and 37' east 481.7' distant.

Thence, fourth course, south 83° and 35' east 43' intersect line 23-24 of said Fairview lode claims at south 10° and 40' west 438.3' from corner No. 24; 1,066.1' to corner No. 5.

Thence, fifth course, north 10° and 40' east 228.5' intersect line 18-19 of said Douglas lode claim at south 74° east 749' from corner No. 18; 263.7' to corner No. 1, the place of beginning, the survey of the lode claim as above described extending 1,066.1' in length along said Bonded vein or lode.

Beginning for the description of the Good Fortune lode claim at corner No. 1, a red quartzite rock 26x14x6 inches, chiseled 1-194, 1-194, 4-194 and 7-194, with mound of stone, from which said quarter section corner bears north 1° and 32' west 516.93' distant, a cross (x) and B.R. 1-194, chiseled on a red quartzsite rock in place 4x4x2 feet, above ground bears north 22° and 50' east 30' distant, and a cross (x) and B.R. 1-194 chiseled on a red quartzite rock in place 3x3x2 feet above ground bears south 5° west 10' distant.

Thence, first course, north 74° and 56' west ~~1,025'~~ 1023' to corner No. 2.

Thence, second course, south 21° and 30' west 134.3' intersect line 20-17 of said Douglas lode claim at north 68° and 34' west 49.5' from corner No. 20; 603.8' to corner No. 3, identical with corner No. 1 of said Bonded lode claim.

Thence, third course, south 74° and 56' east 49.8' intersect line 19-20 of said Douglas lode claim at south 21° and 30' west 463.95' from corner No. 20; 1,023' to corner No. 4.

Thence, fourth course, north 21° and 30' east 301.9' to a point from which the center of east side of discovery cut bears north 74° and 56' west 98' distant; 603.8' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,023' in length along said Good Fortune vein or lode.

Beginning for the description of the Good Fortune Annex lode claim at corner No. 1, a quartz te rock 28x10x8 inches, chiseled 1-194, with mound of stone, from which the southwest corner of said section eight, bears south 20° and 41' east 950.32' distant; a pine 6" in diameter blazed and marked B.T. 1-194, bears south 49° and 2' west 8' distant; a pine 18" in diameter blazed and marked B.T. 1-194 bears north 55° east 29.5' distant and a pine 9" in diameter blazed and marked B.T. 1-194 bears north 14° and 26' west 32.8' distant.

Thence, first course, north 74° and 56' west 1,023' to corner No.2, from which the face of discovery cut bears north 72° and 52' east 561.3' distant

Thence, second course, north 10° and 40' east 247.3' to corner No. 5 of said Bonded lode claim; 475.8' intersect line 18-19 of said Douglas lode claim at north 74° west 43' from CORNER No. 19; 511' to corner No. 3, identical with corners Nos. 1 and 3 of said Bonded and Good Fortune lode claims, respectively.

Thence, third course, south 74° and 56' east 49.8' intersect line 19-20 of said Douglas lode claim at north 21° and 30' east 36.05' from corner No. 19; 1,023' to corner No. 4, identical with corner No. 4 of said Good Fortune lode claim.

Thence, fourth course, south 10° and 40' west 511' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,023' in length along said Good Fortune Annex vein or lode.

Beginning for the description of the Golden Rule lode claim at corner No. 1, a red sandstone 26x16x8 inches, chiseled 1-194 and 8-194, with mound of stone, from which the west quarter corner of said section eight, bears north 14° and 45' west 341.94' distant; a cross (x) and B.R. 1-194, chiseled on a red sandstone rock in place 4x3x1 feet above ground, bears north 78° west 28' distant, and a cross (x) and B.R. 1-194, chiseled on a quartzite rock in place 4x4x2 feet above ground bears north 39° and 40' west 14.5' distant.

Thence, first course, north 74° and 56' west 1,023' to corner No. 2, from which discovery tunnel bears south 44° and 56' east 357.8' distant.

Thence, second course, south 21° and 30' west 200' to corner No. 3, identical with corner No. 2 of said Good Fortune lode claim.

Thence, third course, south 74° and 56' east 1,023' to corner No. 4, identical with corner No. 1 of said Good Fortune lode claim.

Thence, fourth course, north 21° and 30' east 200' to corner No. 1, the place of beginning; the survey of the lode claims as above described extending 1,023' in length along said Golden Rule vein or lode.

Beginning for the description of the Appex lode claim at corner No. 1, a quartzite rock 30x16x8 inches, chiseled 1-194 with mound of stone from which the southeast corner of said section seven, bears south 23° and 43' east 875.55' distant.

Thence, first course, south 86° and 37' east 1,500' to corner No. 2.

Thence, second course, north 10° and 40' east 600' to corner No. 3.

Thence, third course, north 86° and 37' west 1,500' to corner No. 4, identical with corners Nos. 4 of said Good Fortune and Good Fortune Annex lode claims.

Thence, fourth course, south 10° and 40' west 300' to a point from which discovery shaft bears south 86° and 37' east 515' distant; 511' to corner No. 1 of said Good Fortune Annex lode claim; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Appex vein or lode.

Beginning for the description of the Blue Bird lode claim at corner No. 1, identical with corner No. 1 of said Good Fortune, and corner No. 4 of said Golden Rule lode claims.

Thence, first course, south 86° and 29' east 1,498.8' to corner No. 2.

Thence, second course, south 21° and 30' west 600' to corner No. 3.

Thence, third course, north 86° and 37' west 1,500' to corner No. 4, identical with corners Nos. 4 of said Good Fortune, Good Fortune Annex and Appex lode claims.

Thence, fourth course, north 21° and 30' east 301.9' to a point from which discovery shaft bears south 86° and 37' east 120' distant; 603.8' to corner No. 1 the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Blue Bird vein or lode.

Beginning for the description of the Denver & Gulf lode claims at corner No. 1, a quartzite rock 24x10x6 inches, chiseled 3-194 and 1-194, with mound of stone identical with corners Nos. 3 of said Appex and Blue Bird lode claims, from which the west quarter corner of said section eight, bears north 47° and 52' west 1,739.4' distant.

Thence, first course, south 69° and 39' east 1,500' to corner No. 2.

Thence, second course, south 10° and 40' west 600' to corner No. 3.

Thence, third course, north 69° and 39' west 1,500' to corner No. 4, identical with corner No. 2 of said Appex lode claim.

Thence, fourth course, north 10° and 40' east 300' to a point from which discovery shaft bears south 69° and 39' east 43' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Denver & Gulf vein or lode.

Beginning for the description of the Cottonwood lode claim at corner No. 1, identical with corner No. 1 of said Denver & Gulf, and corners Nos. 3 of said Appex and Blue Bird lode claims.

Thence, first course, north 21° and 30' east 300' to a point from which discovery shaft bears south 69° and 39' east 300' distant; 600' to corner No. 2, identical with corner No. 2 of said Blue Bird lode claim.

Thence, second course, south 69° and 39' east 1,500' to corner No. 3.

Thence, third course, south 21° and 30' west 600' to corner No. 4, identical with corner No. 2 of said Denver & Gulf lode claim.

Thence, fourth course, north 69° and 39' west 1,500' to corner No. 1, the place of beginning the survey of the lode claim as above described extending 1,500' in length along said Cottonwood vein or lode.

Beginning for the description of the Whalen lode claim at corner No. 1, a sandstone 24x10x10 inches, chiseled 1-194 and 2-194 with mound of stone, situate on line 3-4 of survey No. 107, the Central No. 2 lode claim, from which said quarter section corner bears north 79° and 58' west 2,677.1' distant.

Thence, first course, south 87° and 35' east 249.25' to a point from which discovery shaft bears south 13° west 500' distant; 498.5' to corner No. 2.

Thence, second course, south 13° west 1,500' to corner No. 3.

Thence, third course, north 87° and 35' west 498.5' to corner No. 4, from which corners Nos. 2 and 4 of said Denver & Gulf and Cottonwood lode claims, respectively, bear north 59° and 15' east 462.12' distant.

Thence, fourth course, north 13° east 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Whalen vein or lode.

Beginning for the description of the Anaconda lode claim at corner No. 1, a quartzite stone 30x10x6 inches, chiseled 1-194, with mound of stone situate on line 3-4 of said survey No. 107 from which a cross (x) and B.R. 1-194, chiseled on a quartzite rock in place 12x10x8 feet, above ground bears north 13° east 31' distant, and said quarter section corner bears north seventy-six degrees and 52' west 1,907.8' distant.

Thence, first course, south 87° and 35' east 779' to corner No. 2, identical with corner No. 1, of said Whalen lode claim.

Thence, second course, south 13° west 266.25' to a point from which discovery cut bears north 87° and 35' west 100' distant; 532.5' to corner No. 3, situate on line 4-1 of said Whalen lode claim.

Thence, third course, north 69° and 39' west 772' to corner No. 4, situate on line 2-3 of said Cottonwood lode claim.

Thence, fourth course, north 13° east 288' to corner No. 1, the place of beginning; the survey lode claim as above described extending 779' in length along said Anaconda vein or lode.

Beginning for the description of the Valley lode claim at corner No. 1, a quartzite rock 24x12x8 inches chiseled 1-194 and 3-194 with mound of stone situate on line 1-2 of said Blue Bird lode claim, from which a pine eight inches in diameter blazed and marked B.T. 1-194, bears south 21° and 30' east 28' distant, and said quarter section corner bears north 56° and 22' west 1,026.9' distant.

Thence, first course, north 59° and 44' east 1,086.8' to corner No. 2, situate on line 2-3 of said survey No. 107, at north 20° and 50' east 431.3' from corner No. 3.

Thence, second course, south 25° and 45' east 464.2' intersect line 3-4 of said survey No. 107 at south 87° and 35' east 355.4' from corner No. 3; 600' to corner No. 3.

Thence, third course, south 59° and 44' west 302.6' to corner No. 4 of said Anaconda lode claim; 1,086.8' to corner No. 4.

Thence, fourth course, north 25° and 45' west 300' to a point from which discovery cut bears north 59° and 44' east 525' distant; 600' to corner No. 1, the place of beginning the survey of the lode claim as above described extending 1,086.8' in length along said Valley vein or lode.

Beginning for the description of the Juneau lode claim at corner No. 1, a red quartzite rock 26x10x8 inches, chiseled 1-194 and 5-194, with mound of stone from which a pine ten inches in diameter blazed and marked B.T. 5-194, bears south 55° and 6' west 28.9' distant, and said quarter section corner bears north 82° and 44' west 1,083.3' distant.

Thence, first course, south 86° and 20' east 235' to a point from which discovery cut bears south 48° and 30' west 160' distant; 470' to corner No. 2, situate on line 1-2 of said Valley lode claim.

Thence, second course south 59° and 44' west 797' to corner No. 3, identical with corner No. 1 of said Valley lode claim.

Thence, third course, north 86° and 20' west 61.5' to corner No. 4.

Thence, fourth course, north 33° and 15' east 511.84' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 627.52' in length along said Juneau vein or lode.

Beginning for the description of the Rudy L. lode claim at corner No. 1, a red quartzite rock 28x10x9 inches, chiseled 1-194, on the northeast and northwest faces, from which a pine six inches in diameter blazed and marked B.T. 1-194 bears north 29° and 10' east 61' distant, and said quarter section corner bears north 19° and 30' west 160.5' distant.

Thence, first course, north 27° and 55' east 1,439' to corner No. 2.

Thence, second course, south 83° east 600' to corner No. 3.

Thence, third course, south 27° and 55' west 1,439' to corner No. 4.

Thence, fourth course, north 83° west 300' to a point from which discovery shaft bears north 27° and 55' east 1,039' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,439' in length along said Rudy L. vein or lode.

Beginning for the description of the Gracia Ellen lode claim at corner No. 1, identical with corner No. 1, of said Rudy L. lode claim, from which discovery tunnel bears north 4° and 51' west 208.9' distant.

Thence, first course, north 27° and 55' east 1,439' to corner No. 2, identical with corner No. 2 of said Rudy L. lode claim.

Thence, second course, north 83° west 555' to corner No. 3.

Thence, third course, south 19° and 35' west 600' to corner No. 4.

Thence, fourth course, south 18° and 22' west 296.86' to corner No. 5.

Thence, fifth course, south 8° west 352' to corner No. 6.

Thence, sixth course, west 114.8' to corner No. 7.

Thence, seventh course, south 35° and 15' west 135.5' to corner No. 8.

Thence, eighth course, south 83° east 410' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,393.8' in length along said Gracia Ellen vein or lode.

Beginning for the description of the Blue Jay Fraction lode claim at corner No. 1, a quartzite rock 30x10x10 inches, chiseled 1-194 and 8-194, with mound of stone identical with corner No. 8 of said Gracia Ellen lode claim from which a pine 12 inches in diameter blazed and marked B.T. 8-194, bears north 30° and 32' east 54' distant; a pine 10" in diameter blazed and marked 1-194 bears south 5° and 37' east 47' distant, and said quarter section corner bears north 74° east 367.6' distant.

Thence, first course, south 83° east 410' to corners Nos. 1 of said Gracia Ellen and Rudy L. Lode claims; 1,010' to corner No. 2, identical with corner No. 4 of said Rudy L. lode claim.

Thence, second course, north 27° and 55' east 100' to corner No. 3, situate on line 3-4 of said Rudy L. lode claim.

Thence, third course, south 83° east 300' to corner No. 4.

Thence, fourth course, north 66° and 13' east 88.5' to corner No. 5, identical with corner No. 1 of said Juneau lode claim.

Thence, fifth course, south 33° and 15' west 256' to a point from which discovery shaft bears north 82° and 2' west 600' distant; 511.84' to corner No. 4 of said Juneau lode claim; 512' to corner No. 6, situate on line 1-2 of said Blue Bird lode claim.

Thence, sixth course, north 86° and 29' west 781.08' to corner No. 7, identical with corners Nos. 1, of said Good Fortune and Blue Bird lode claims.

Thence, seventh course, north 21° and 30' east 200' to corner No. 8, identical with corner No. 1 of said Golden Rule lode claim.

Thence, eighth course, north 74° and 56' west 520' to corner No. 9.

Thence, ninth course, north 33° and 15' east 112.6' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,342.33' in length along said Blue Jay Fraction vein or lode. Expressly excepting and excluding from these presents all that portion of the ground hereinbefore described embraced said mining claim or survey No. 107 and said Douglas, Republic and Fairview lode claims survey No. 49, and also all veins, lodes and ledges throughout their entire depth, the tops or apexes of which lie inside of such excluded ground; the granted premises in said lot No. 194 containing 185 acres and .175 of an acre of land more or less.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36441 Mineral Certificate No. 142
Dated March 10, 1903
Recorded in Book 106, Page 433, Laramie County, Wyoming

From The United States of America to Charles A. Guernsey.

Certain mining claim or premises, known as the Celtic lode mining claim designated by the Surveyor-General as Lot No. 201, embracing a portion of sections 12 and 13, in township 27 north of range 66 west, Sixth Principal meridian, in the Platte Canon Mining district, in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and Bounded, described, and platted as follows, with magnetic variation 15° and 55' east.

Beginning at corner No. 1, a quartzite rock 30x14x7 inches, chiseled 1-201, with mound of stone, identical with the south quarter corner of section 12, in township 27 north of range 66 west, Sixth Principal meridian.

Thence, first course, south 87° and 59' west 273.04' to corner No. 2.

Thence, second course, south 21° and 39' west 282.86' to corner No. 3.

Thence, third course, south 54° and 55' east 1,205' to corner No. 4.

Thence, fourth course, north 21° and 39' east 282' to a point from which the entrance of discovery tunnel bears north 54° and 55' west 200' distant; 584' to corner No. 5.

Thence, fifth course, north 54° and 55' west 1,007.32' to corner No. 6.

Thence, sixth course, south 156.67' to corner No. 1, the place of beginning; said lot No. 201 extending 1,205' in length along said Celtic vein or lode and containing 14 acres and .~~565~~ .556 of an acre of land, more or less.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

402

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 30 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-2964
Metal or Mineral
Date Received 3-30-53
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: E. C. SCHROEDER CO., INC., McGregor, Iowa, an Iowa corporation
Mining operations at Guernsey, Wyoming

(*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 The property involved in the proposed exploration consists of parts of the Good Fortune and Bluebird mining claims, the Good Fortune Annex, Apex, Cottonwood and Denver & Gulf mining claims. The legal description of each of said claims is set out in Exhibit "1" hereto attached.

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

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

(*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. See Exhibit "2" hereto attached.

(*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. Claims are patented

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 Iron Ore

(*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 30 days and be completed within 22 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)? Yes

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

[x] 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 March 28, 1953.

E. C. SCHROEDER CO., INC.
(Applicant)

By E. C. Schroeder
President

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

Form MF-103
E. C. Schroeder Co.,Inc., McGregor, Iowa.
Mining Operations, Guernsey, Wyoming.

1. (c) President - E. C. Schroeder, McGregor, Iowa.
Vice President - Paul E. Schroeder, Douglas, Wyoming.
Secretary & Treasurer - Violet M. Schroeder, McGregor, Iowa.

4. (a) The Good Fortune Iron Mine was investigated by Mr. Eugene Frey of the Bureau of Mines and a Report of Investigation was made in August, 1947, and is contained in R.I. 4089. The applicant is presently mining by open pit method, parts of the Good Fortune and Bluebird mining claims which is the site of the old Good Fortune Iron Mine. The production facilities consist of power shovels, trucks, drills, crusher and railroad loading facilities. The applicant is the owner of the mining facilities. The mine is readily accessible for examination purposes.

(b) The Good Fortune Iron Mine is a part of the Good Fortune group of claims which were located in 1857. In the winter of 1897-98, five thousand tons of ore were shipped from the Good Fortune deposit to the Colorado smelters. The average rate of smelter analysis on the shipments was 62.4% iron and 6.2% silica. As shown by Mr. Frey's report in 1947, R.I. 4089, the property was explored and sampled at that time by the Bureau of Mines. The applicant commenced production from said mine during December, 1952, after exploring an area of approximately four acres. It is estimated that the reserves from the area explored are in excess of two hundred thousand tons of iron ore. During December and January the applicant shipped 144 cars of iron ore which had an average Fe analysis in excess of 60% and a silica content below 10%.

(c) The property proposed for prospecting lies in the Hartville iron range. The rocks of the range are usually steeply dipping pre-Cambrian rocks overlain by flat-line or gently dipping carboniferous and Mesozoic rocks and rocks of Tertiary and Recent age. The country rock of the ore is schist and impure flint which is stained by either limonite or hematite, evidently a relatively shallow alteration product of the schist.

The red ore deposits of the area occur in lenticular bodies of varying thickness enclosed in a slate formation. The iron ore lenses lie in schist immediately above the uppermost limestone of the older pre-Cambrian series. A thin shell of siliceous iron-stained schist separates the ore from the underlying limestone. All indications show that the deposit is but a replacement of the schist,

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Mining Operations, Guernsey, Wyoming.

4.(c) continued.

since no hard and fast line can be drawn between unaltered schist, iron-stained schist, siliceous ore, and high-grade ore.

The ore consists of two varieties of hematite, one soft and the other hard. The soft ore is generally a schistose, fine-grained, light red ore. This variety is commonly known as "paint ore". The harder variety is a dark bluish-gray. It is fine-grained and compact, with a rather smooth, even fracture.

The Colorado Fuel and Iron Company has been mining iron ore on the property adjoining the applicant's for many years, their mines being known as the Sunrise and the Chicago Mines which have produced thousands of tons of high grade ore.

Attached hereto marked Exhibit "3" is a map of the area showing the applicant's property as related to the Colorado Fuel and Iron Company property.

The applicant has a geologic report on the property explored to date which it will submit to the field team. Attached hereto marked Exhibit "4" is the assaying report on the ore mined and shipped from the Good Fortune Iron Mine for the period from January 28, 1953 to February 20, 1953.

(d) The property has good access roads and the mine is located approximately eight miles from its railroad supply and shipping point and about nine miles from Guernsey, Wyoming, the resident point.

(e) The necessary manpower, materials, supplies, equipment, water and power are available to the applicant.

5. (b) It is proposed that churn drilling be done on 100 ft. centers throughout the property included in this application, except the area immediately adjoining present mining operations. The proposed area of exploration is shown in Exhibit "5" attached hereto. It is proposed to start exploration in the area shown in Exhibit "5". It is proposed to drill approximately 345 holes with an average depth of 100 ft. Some of the holes will be shallow while others will exceed the 100 ft. average. This will be determined as the drilling and geological investigation proceeds.

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E. C. Schroeder Co.,Inc., McGregor, Iowa.
Mining Operations, Guernsey, Wyoming.

5. (d) The E. C. Schroeder Co.,Inc., is an Iowa corporation, which has been mining and quarrying stone products for several years. The Schroeder Co. which is a wholly owned subsidiary of the applicant herein is engaged in the mining of brown iron ore in the Russellville area of Franklin County, Alabama. The officers of both companies are the same. The president, E. C. Schroeder, has had several years experience in iron ore mining on the Mesabi Range in northern Minnesota and in the rock mining business in Iowa, Wisconsin, Alabama, and various other places. The vice president, Paul E. Schroeder, has had several years experience in the rock mining business, and is in charge of the Wyoming operation, He was in charge of erection of the Russellville beneficiation plant. An engineer-geologist is available and will be in charge of the proposed exploration work. The supervisory help and plant operators are experienced in their field.

6. The applicant proposes that if this application is approved that it be set up on the short form contract and the estimated costs of the project are as follows:

34,500 ft. of churn drilling @ $6.47 per ft..... $223,085.00

The breakdown on the costs of the project is as follows:

Churn Drilling (including water hauling)
$5.00 per ft..... $172,500.00

The applicant arrived at the price per ft. by securing bids from three drilling contractors as follows:

R. L. Mills, P.O. Box 1109, Casper, Wyoming, 6" hole, $6.25 per ft.

Al Herman, Windover, Wyoming, 6" hole, $5.00 per ft. and $10.00 per ft. for drilling quartzite.

McChesney Drilling Co., 1214 S. David St., Casper, Wyoming, 6" hole, $5.00 per ft.

The applicant to furnish roads and access in connection with all three bids.

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6. (continued)

Bulldozing and road building including blasting, $1.00 per ft.....	$34,500.00
One-half salary of exploratory engineer or $275.00 per month for 22 months.....	6,050.00
Assaying, 8 samples per hole at $1.00 per element; 345 holes or 2760 samples at $1.00 per sample.. (Majority of samples will be assayed for Fe only.)	2,760.00
One Sampler at $65.00 per week for 95 weeks.....	6,175.00
Proportionate share of salary of bookkeeper and office expense, $50.00 per month for 22 months....	1,100.00
Total	$223,085.00

It is to be noted that only one-half the salary of the exploratory engineer is included in the cost. This is for the reason that the Company is making application for exploratory aid on the Nightingale group of mining claims which is between seven and eight miles from the Good Fortune group of mining claims and it is the thought of the applicant that the exploratory engineer can look after both projects.

The exploration map Exhibit "5" shows the mining claims that are proposed to be explored but does not show the sequence of drilling. The applicant proposes to start exploration on the portions of the Good Fortune and Bluebird mining claims which are not included in the present mining operations. As the drilling and geological exploration proceed, it will determine which claim will be explored next and will furnish maps of the proposed drilling and exploration.

The applicant will furnish a statement of guaranty in lieu of subordination agreement from owner in a form acceptable to the United States of America.

The applicant herewith states and certifies that the lease, Exhibit "2" under which it is operating is a valid lease and in full force and effect.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36487 Mineral Certificate 137
Dated March 17, 1903
Recorded in Book 124, Page 558, Laramie County, Wyoming

From The United States of America to Charles A. Guernsey.

Certain mining claim or premises known as the Nightingale, Origan, O. K., Rustler, El Paso, Standard, Hoosier, Clipper, Humboldt, Iron Clad, Columbia, Black Cloud and Monitor No. 2, lode mining claims designated by the Surveyor-General as Lot No. 196, embracing a portion of sections six and seven in township 27 north of range 65 west, and sections 1 and 12, in township 27 north of range 66 west Sixth Principal meridian in the Platte Canon Mining District, in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and bounded, described, and platted as follows, with magnetic variation 14° and 58' east.

Beginning for the description of the Nightingale lode claim at corner No. 1, a quartzite stone 28x10x8 inches, chiseled 1-1-196, with mound of stone, from which a pine 14" in diameter blazed and marked B.T. 1-196 bears north 28° and 30' east 61' distant, a pine 12" in diameter blazed and marked B.T. 1-1-196 bears south 88° and 5' west 36.5' distant and the south quarter corner of section 6, in township 27 north of range 65 west, Sixth Principal meridian, bears south 49° east 1,202.3' distant.

Thence, first course, south 45° and 24' west 300' to a point from which discovery cut bears north 49° and 12' west 1,200' distant; 600' to corner No. 2.

Thence, second course, north 49° and 12' west 1,500' to corner No. 3.

Thence, third course, north 45° and 24' east 600' to corner No. 4.

Thence, fourth course, south 49° and 12' east 1,500' to corner No. 1, the place of beginning, the survey of the lode claim as above described extending 1,500' in length along said Nightingale vein or lode.

Beginning for the description of the Origan lode claim at corner No. 1, identical with corner No. 1 of said Nightingale lode claim, situate on line 3-4 of said Crown lode claim.

Thence, first course, north 45° and 24' east 600' to corner No. 2, situate on line 3-4 of said Crown lode claim.

Thence, second course, north 49° and 12' west 1,500' to corner No. 3.

Thence, third course, south 45° and 24' west 300' to a point from which discovery shaft bears south 49° and 12' east 400' distant; 600' to corner No. 4, identical with corner No. 4 of said Nightingale lode claim.

Thence, fourth course, south 49° and 12' east 1,500' to corner No. 1, the place of beginning, the survey of the lode claim as above described extending 1,500' in length along said Origan vein or lode.

Beginning for the description of the O. K. lode claim at corner No. 1, a limestone 24x12x8 inches, chiseled 2-1-196, with mound of stone, identical with corner No. 2 of said Origan lode claim situate on line 3-4 of said Crown lode claim, from which said quarter section corner bears south 21° and 38' east 1,302' distant.

Thence, first course, north 45° and 24' east 154' to corner No. 3 of said Crown lode claim; 600' to corner No. 2.

Thence, second course, north 49° and 12' west 1,500' to corner No. 3.

Thence, third course, south 45° and 24' west 300' to a point from which discovery cut bears south 49° and 12' east 400' distant; 600' to corner No. 4, identical with corner No. 3 of said Origan lode claim.

Thence, fourth course, south 49° and 12' east 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said O. K. vein or lode.

Beginning for the description of the Rustler lode claim at corner No. 1, a quartzite stone 24x12x8 inches, chiseled 1-196, with mound of stone, from which the southwest corner of said section 6 bears south 89° and 11' west 172.1' distant.

Thence, first course, south 66° and 8' east 135.68' intersect line 54-55 of the Alaska lode claim survey No. 49, at south 80° west 496.5' from corner No. 55; 160.95' intersect line 60-57 of the Old Sledge lode claim survey No. 49, at south 59° and 10' west 839.66' from corner No. 60; 215.47' to corner No. 2.

Thence, second course, north 80° and 22' east 448.6' intersect line 8-5 of the Moore lode claim survey No. 53, at south 37° and 48' east 62.96' from corner No. 8; 455.24' intersect line 55-56 of said Alaska lode claim at south 37° and 48' east 53.56' from corner No. 55; 1,091.6' to corner No. 3.

Thence, third course, north 56° and 55' east 31.8' intersect line 6-7 of said Moore lode claim and 12-9 of said Maine lode claim at south 37° and 48' east 25.8' from corners Nos. 7 and 9 of said claims respectively; 200' to corner No. 4, identical with corner No. 1 of said Crown lode claim.

Thence, third course, south 25° east 1,500' to corner No. 4, situate on line 3-4 of said Hoosier lode claim.

Thence, fourth course, south 59° and 10' west 300' to a point from which discovery cut bears north 25° west 100' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Iron Clad vein or lode.

Beginning for the description of the Columbia lode claim at corner No. 1, a quartzite stone 28-10-7 inches, chiseled 4-1-196, with mound of stone, identical with corner No. 4 of said Iron Clad lode claim, from which said section corner bears south 9° and 16' west 893.12' distant; a pine 12" in diameter blazed and marked B.T. 4-1-196 bears north 1° and 21' west 48' distant and a pine 6" in diameter blazed and marked B.T. 4-1-196 bears south 52° and 7' east 43' distant.

Thence, first course, north 25° west 1,500' to corner No. 2, identical with corner No. 3 of said Iron Clad lode claim.

Thence, second course, north 59° and 10' east 300' to a point from which discovery cut bears south 25° east 700' distant; 600' to corner No. 3.

Thence, third course, south 25° east 1,500' to corner No. 4.

Thence, fourth course, south 59° and 10' west 315.24' to corner No. 3 of said Hoosier lode claim; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Columbia vein or lode.

Beginning for the description of the Black Cloud lode claim at corner No. 1, a quartzite stone 24x14x7 inches, chiseled 1-196, with mound of stone situate on line 3-4 of said Columbia lode claim, from which said section corner bears south 12° and 18' west 1,727.98' distant.

Thence, first course, north 45° and 24' east 76.89' to corners Nos. 4 of said Nightingale and Origan lode claims; 676.89' to corner No. 3 of said Origan, and corner No. 4 of said O. K. lode claims; 1,276.89' to corner No. 2, identical with corner No. 3 of said O. K. and corner No. 2 of said Standard lode claims.

Thence, second course, north 29° and 8' east 259.36' to corner No. 3, situate on line 2-3 of said Standard lode claim.

Thence, third course, north 25° west 559.78' to corner No. 4.

Thence, fourth course, south 45° and 24' west 1,500' to corner No. 5, situate on line 3-4 of said Columbia lode claim.

Thence, fifth course, south 25° east 318.45' to a point from which discovery cut bears north 45° and 24' east 1,400' distant; 636.9' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Black Cloud vein or lode.

Beginning for the description of the Monitor No. 2 lode claim at corner No. 1, a quartzite stone 24x12x10 inches, chiseled 1-196, with mound of stone situate on line 2-3 of said Clipper lode claim, from which said section corner bears north 67° and 6' east 2,091.9' distant.

Thence, first course, south 49° and 12' east 300' to corner No. 2 of said Clipper lode claim from which discovery cut bears south 48° and 43' west 180' distant; 600' to corner No. 2.

Thence, second course, south 48° and 43' west 1,498' to corner No. 3.

Thence, third course, north 49° and 12' west 600' to corner No. 4.

Thence, fourth course, north 48° and 43' east 1,498' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,498' in length along said Monitor No. 2 vein or lode. Expressly excepting and excluding from these presents all that portion of the ground hereinbefore described embraced in said mining claim or survey No. 121; said Old Sledge and Alaska lode claims survey No. 49; said Moore, Maine and Lone Jack lode claims survey No. 53, and said Pacific lode claim survey No. 53 Am, and also all veins, lodes and ledges throughout their entire depth, the tops or apexes of which lie inside of such excluded ground; the granted premises in said lot No. 196 containing 289 acres and .094 of an acre of land, more or less.

Thence, fourth course north 66° and 8' west 95.14' intersect line 9-10 of said Maine lode claim at north 32° and 24' east 130.25' from corner No. 9; 366.905' to a point from which discovery shaft bears south 68° and 36' west 25' distant; 733.81' to corner No. 5, situate on line 2-3 of said Nightingale lode claim.

Thence, fifth course, south 56° and 55' west 71.71' intersect line 59-60 of said Old Sledge lode claim at north 58° and 30' west 185.86' from corner No. 60, 918.73' to corner No. 1, the place of beginning; the survey of the lode claims above described extending 1,011.8' in length along said Rustler vein or lode.

Beginning for the description of the El Paso lode claim at corner No. 1, a quartzite stone 30x14x6 inches, chiseled 1-1-196, with mound of stone, situate on line 2-3 of said O. K. lode claim, from which a pine 12" in diameter blazed and marked B.T. 1-196 bears south 87° and 54' west 51' distant; a pine 18" in diameter blazed and marked B.T. 1-196 bears south 80° and 27' west 48' distant and said quarter section corner bears south 19° and 4' east 2,392.62' distant.

Thence, first course, south 49° and 12' east 300' to a point from which the face of discovery cut bears north 29° and 8' east 700' distant; 600' to corner No. 2, situate on line 2-3 of said O. K. and Mollie Gibson lode claims respectively,

Thence, second course, north 29° and 8' east 942.8' to corner No. 3 of said Mollie Gibson lode claim; 1,500' to corner No. 3.

Thence, third course, north 49° and 12' west 600' to corner No. 4.

Thence, fourth course, south 29° and 8' west 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said El Paso vein or lode.

Beginning for the description of the Standard lode claim at corner No. 1, identical with corner No. 1 of said El Paso lode claim, from which the center of face of discovery cut bears north 11° and 14' west 467 and 100' distant.

Thence, first course, north 49° and 12' west 537.73' to corner No. 2, identical with corner No. 3 of said O. K. lode claim.

Thence, second course, north 29° and 8' east 1,500' to corner No. 3.

Thence, third course, south 49° and 12' east 537.73' to corner No. 4, identical with corner No. 4 of said El Paso lode claim.

Thence, fourth course, south 29° and 8' west 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Standard vein or lode.

Beginning for the description of the Hoosier lode claim at corner No. 1, a limestone 25x12x10 inches, chiseled 1-196, with mound of stone, from which a pine 8" in diameter blazed and marked B.T. 1-196 bears north 33° and 30' west 26' distant and said section corner bears north 76° and 35' east 507.97' distant.

Thence, first course, north 59° and 10' east 1,484.7' to corner No. 2, situate on line 2-3 of said Nightingale lode claim.

Thence, second course, north 49° and 12' west 600' to corner No. 3, situate on line 2-3 of said Nightingale lode claim.

Thence, third course, south 59° and 10' west 1,484.7' to corner No. 4.

Thence, fourth course, south 49° and 12' east 300' to a point from which the face of discovery cut bears north 59° and 10' east 300' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,484.7' in length along said Hoosier vein or lode.

Beginning for the description of the Clipper lode claim at corner No. 1, identical with corner No. 1 of said Hoosier lode claim.

Thence, first course, south 53° and 30' west 1,500' to corner No. 2.

Thence, second course, north 49° and 12' west 300' to a point from which discovery cut bears north 53° and 30' east 300' distant; 600' to corner No. 3.

Thence, third course, north 53° and 30' east 1,500' to corner No. 4.

Thence, fourth course, south 49° and 12' east 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Clipper vein or lode.

Beginning for the description of the Humboldt lode claim at corner No. 1, a red quartzite stone 28x10x7 inches chiseled 1-1-196, with mound of stone, situate on line 3-4 of said Hoosier lode claim, from which said section corner bears south 36° and 40' east 725.35' distant.

Thence, first course, north 25° west 1,500' to corner No. 2.

Thence, second course, south 59° and 10' west 600' to corner No. 3.

Thence, third course, south 25° east 1,500' to corner No. 4, identical with corners Nos. 4 of said Hoosier and Clipper lode claims, respectively.

Thence, fourth course, north 59° and 10' east 300' to a point from which discovery cut bears north 25° west 300' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Humboldt vein or lode.

Beginning for the description of the Iron Clad lode claim at corner No. 1, identical with corner No. 1 of said Humboldt lode claim.

Thence, first course, north 25° west 1,500' to corner No. 2, identical with corner No. 2, of said Humboldt lode claim.

Thence, second course, north 59° and 10' east 600' to corner No. 3.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36492
Dated March 21, 1903
Recorded in Book 44, Page 608, Laramie County

Mineral Certificate No. 138

From The United States of America to Charles A. Guernsey.

Certain mining claim or premises, known as the Terrible lode mining claim, designated by the Surveyor-General as Lot No. 199, embracing a portion of section 13 in township 27 north of range 66 west and of section 18 in township 27 north of range 65 west, Sixth Principal meridian, in the Platte Canon Mining District, in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and bounded, described, and platted as follows, with magnetic variation 14° and 5' east.

Beginning at corner No. 1, a quartzite rock 30x12x10 inches, chiseled 1-199, with mound of stone, from which the east quarter corner of section 13, in township 27 north of range 66 west, Sixth Principal meridian bears north 59° and 55' east 926' distant.

Thence, first course, south 82° east 1,200' to corner No. 2.

Thence, second course, south 2° and 23' east 600' to corner No. 3.

Thence, third course, north 82° west 1,200' to corner No. 4.

Thence, fourth course, north 2° and 23' west 300' to a point from which discovery cut bears south 82° east 750' distant; 600' to corner No. 1, the place of beginning said lot No. 199 extending 1,200' in length along said Terrible vein or lode, and containing 16 acres, and .258 of an acre of land, more or less.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36488
Dated March 17, 1903
Recorded in Book 44, Page 611

Mineral Certificate 139

From The United States of America to Charles A. Guernsey.

Certain mining claim or premises, known as the Summit, Connection, Moonlight, Rip Van Winkle, Otto, Giant, Pigmy, Appendix, Iron Spike, Miners Luck, Hexagon, Reserve, Iron Wheel and Iron Slope lode mining claims, designated by the Surveyor-General as Lot No. 197, embracing a portion of sections 4, 5 and 8, in township 27 north of range 65 and west Sixth Principal meridian, in the Platte Canon Mining District, in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and bounded, described, and platted as follows, with magnetic variation 14° and 58' east.

Beginning for the description of the Summit lode claim at corner No. 1, a quartzite rock, 24x12x10 inches, chiseled 1-1-197, with a mound of stone, situate on line 1-2 of the Juneau lode claim survey No. 194, from which a pine six inches in diameter blazed and marked B.T. 1-197 bears north 79° and 10' west 49' distant; a pine 5" in diameter blazed and marked B.T. 1-197 bears south 82° and 30' west 29' distant, and the west quarter corner of section 8, in township 27 north of range 65 west, Sixth Principal meridian, bears north 83° and 23' west 1,312.89' distant.

Thence, first course, north 26° and 5' east 1,261.43' to corner No. 2.

Thence, second course, north 83° west 539.88' to corner No. 3.

Thence, third course, south 27° and 55' west 1,339' to corner No. 4.

Thence, fourth course, south 83° east 280' to a point from which the entrance of discovery tunnel bears north 27° and 55' east 1,219' distant; 300' to corner No. 5.

Thence, fifth course, north 66° and 13' east 88.5' to corner No. 6.

Thence, sixth course, south 86° and 20' east 230' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,339' in length along said Summit vein or lode.

Beginning for the description of the Connection lode claim at corner No. 1, identical with corner No. 1 of said Summit lode claim.

Thence, first course, north 26° and 5' east 1,261.43' to corner No. 2 of said Summit lode claim; 1,379.49' to corner No. 2.

Thence, second course, south 86° and 20' east 531.81' to corner No. 3, situate on line 1-2 of the Central No. 1 lode claim survey No. 107; from a point on line 2-3 discovery on lode line bears south 20° and 50' west 200' distant.

Thence, third course, south 20° and 50' west 958.65' to corner No. 4, situate on line 1-2 of said Central No. 1 lode claim.

Thence, fourth course, north 87° and 35' west 235.2' to corner No. 5.

Thence, fifth course, south 20° and 50' west 201.4' to corner No. 6.

Thence, sixth course, south 59° and 44' west 289.8' to corner No. 7.

Thence, seventh course, north 86° and 20' west 240' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,411.05' in length along said Connection vein or lode.

Beginning for the description of the Moonlight lode claim at corner No. 1, a slate stone 18x14x8 inches, chiseled 1-197, with mound of stone, situate on line 4-1 of the Iron Tiger lode claim survey No. 107, from which a pine 7" in diameter blazed and marked B.T. 1-197 bears south 21° and 42' west 14' distant, and the north quarter corner of said section 8 bears north 3° and 19' west 1,456.43' distant.

Thence, first course, south 14° and 35' west 94.78' intersect lines 3-4 and 4-1 of said Iron Tiger and Central No. 1 lode claims, at south 87° and 35' east 10.88' from corners Nos. 4 and 1 of said claims, respectively; 503.26' to corner No. 2.

Thence, second course, north 86° and 20' west 57.34' to corner No. 3 of said Connection lode claim; also intersect line 1-2 of said Central No. 1 lode claim, at south [illegible] and 50' west 419.55' from corner No. 1; 589.15' to corner No. 3, identical with corner No. [illegible] of said Connection lode claim.

Thence, third course, south 26° and 5' west 118.06' to corner No. 4, identical with corner No. [illegible] of said Summit lode claim, and situate on line 1-2 of said Connection lode claim.

Thence, fourth course, north 83° west 244.62' to corner No. 5, situate on line 2-3 of said Summit lode claim.

Thence, fifth course, north 14° and 35' east 300' to a point from which the face of discovery tunnel bears south 86° and 20' east 100' distant; 600' to corner No. 6.

Thence, sixth course, south 86° and 20' east 860.08' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 860.08' in length along said Moonlight vein or lode.

Beginning for the description of the Rip Van Winkle lode claim at corner No. 1, a quartzite rock 24x14x[illegible] inches, chiseled 1-1-197, with mound of stone, situate on line 4-1 of said Iron Tiger lode claim, from which the north quarter corner of said section 8 bears north 1[illegible] and 31' west 1,005.1' distant.

Thence, first course, north [illegible] and 50' east 883' to corner No. 1 of said Iron Tiger lode claim; [illegible] to corner No. 2.

Thence, [illegible] course, north 14° and 42' west 152.[illegible] to corner No. 3, identical with the southeast corner of the Champion lode claim unsurveyed.

Thence, third course, north 86° and 20' west 520.13' to corner No. 4.

Thence, fourth course, south 21° and 23' west 110.04' intersect the south side line of said Champion lode claim, at south 82° and 33' west 567.1' from the southeast corner of said claim; 1,[illegible]00' to corner No. 5.

Thence, fifth course, south 86° and 20' east 314' to a point from which the center of north end of discovery cut bears north 20° and 50' east 350' distant; 628' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,5[illegible]0' in length along said Rip Van Winkle vein or lode.

Beginning for the description of the Otto lode claim at corner No. 1, a sandstone [illegible]x8 inches, chiseled 1-197, with mound of stone, situate on line 4-5 of said Rip Van Winkle lode claim and on the south side line of said Champion lode claim, from which the north quarter corner of said section 8 bears south 22° and 9' west [illegible] distant.

Thence, first course, south 82° and 33' west 300' to a point from which the breast of discovery tunnel bears south 21° and 23' west 750' distant; 482' to corner No. 2, identical with the southwest corner of said Champion lode claim.

Thence, second course, south 37° and 52' east 135' to corner No. 3.

Thence, third course, south 26° and 24' west 1,325.67' to corner No. 4.

Thence, fourth course, north 82° and 33' east 482' to corner No. 5, identical with corner No. 5 of said Rip Van Winkle lode claim.

Thence, fifth course, north 21° and 23' east 1,389.6' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,389.6' in length along said Otto vein or lode.

Beginning for the description of the Giant lode claim at corner No. 1, a sandstone 30x14x8 inches chiseled 3-197 and 1-197, with mound of stone, identical with corner No. 3 of said Otto lode claim, from which the north quarter corner of said section 8 bears south 51° and 24' east 315.05' distant.

Thence, first course, south 26° and 24' west 1,325.67' to corner No. 2, identical with corner No. 4 of said Otto lode claim.

Thence, second course, south 66° and 53' west 402.19' to a point from which the center of face of discovery cut bears north 26° and 24' east 200' distant, also intersect line 7-8 of the Black Bill lode claim survey No. 55, at south 18° west 55.45' from corner No. 7; 783' to corner No. 3.

Thence, third course, north 26° and 24' east 289.58' intersect line 6-7 of said Black Bill lode claim, and line 12-9 of the Silver Steele lode claim survey No. 9[illegible], at north 76° and 32' west 245.36' from corners No. 7 and 12 of said claims, respectively; [illegible] intersect line 11-12 of said Silver Steele lode claim, at north [illegible] and [illegible] west [illegible] from corner No. 12; 903.09' intersect line 16-13 of the Red Bill lode claim survey No. 55, at north 76° and 32' west 315.26' from corner No. 16; 1,3[illegible].67' to corner No. 4.

Thence, fourth course, north 66° and 53' east 168.91' intersect line 15-16 of said Red Bill lode claim, at north 3° and 40' east 529.86' from corner No. 16; 783' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,325.67' in length along said Giant vein or lode.

Beginning for the description of the Pigmy lode claim at corner No. 1, identical with corner No. 1 of said Rip Van Winkle lode claim, and situate on line 4-1 of said Iron Tiger lode claim.

Thence, first course, south 18° west 512.26' to corner No. 2.

Thence, second course, north 86° and 20' west 26.5' to corner No. 1 of said Moonlight lode claim, situate on line 4-1 of said Iron Tiger lode claim; 886.58' to corner No. 3, identical with corner No. 6 of said Moonlight lode claim.

Thence, third course, south 88° west 518.97' to corner No. 4, situate on line 7-8 of said Black Bill lode claim.

Thence, fourth course, north 18° east 210' to a point from which the breast of discovery tunnel bears south 89° and 18' east 710.46' distant; 282.12' to corner No. 5, situate on line 2-3 of said Giant lode claim.

Thence, fifth course, north 66° and 53' east 402.19' to corner No. 6, identical with corners Nos. 2 and 4 of said Giant and Otto lode claims, respectively.

Thence, sixth course, north 82° and 33' east 482' to corner No. 7, identical with corners Nos. 5 of said Otto and Rip Van Winkle lode claims.

Thence, seventh course, south 86° and 20' east 628' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,410.46' in length along said Pigmy vein or lode.

Beginning for the description of the Appendix lode claim at corner No. 1, a granite rock 30x14x8 inches chiseled 1-197 and 5-197, with mound of stone, from which the north quarter corner of said section 8 bears south 85° and 33' west 808.1' distant.

Thence, first course, north 14° and 42' west 232.5' to corner No. 2 of said Rip Van Winkle lode claim; 383' to corner No. 3 of said Rip Van Winkle lode claim; 600' to corner No. 2.

Thence, second course, north 66° and 55' east 1,300' to corner No. 3.

Thence, third course, south 14° and 42' east 300' to a point from which discovery shaft bears south 66° and 55' west 350' distant; 600' to corner No. 4.

Thence, fourth course, south 66° and 55' west 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Appendix vein or lode.

Beginning for the description of the Iron Spike lode claim at corner No. 1, a quartzite rock 26x12x10 inches, chiseled 1-197 and 1-107, with mound of stone, identical with corner No. 1 of said Iron Tiger lode claim and situate on line 1-2 of said Rip Van Winkle lode claim, from which the north quarter corner of said section 8 bears north 76° and 12' west 600' distant.

Thence, first course, south 87° and 35' east 632.4' to corner No. 2 of said Iron Tiger lode claim; 900' to corner No. 2.

Thence, second course, north 20° and 50' east 302' to corner No. 3.

Thence, third course, north 14° and 42' west 274.92' to corner No. 4, situate on line 4-1 of said Appendix lode claim.

Thence, fourth course, south 66° and 55' west 776.02' to corner No. 5, identical with corner No. 1 of said Appendix lode claim.

Thence, fifth course, north 14° and 42' west 232.5' to corner No. 6, identical with corner No. 2 of said Rip Van Winkle lode claim, and situate on line 1-2 of said Appendix lode claim.

Thence, sixth course, south 20° and 50' west 461' to corner No. 1, the place of beginning; from a point on line 6-1 discovery shaft on lode line bears south 87° and 35' east 600' distant; the survey of the lode claim as above described extending 900' in length along said Iron Spike vein or lode.

Beginning for the description of the Miners Luck lode claim at corner No. 1, a quartzite rock 24x12x10 inches, chiseled 1-197 - 1-197 and 5-197, with mound of stone, from which the southeast corner of section five, said township and range, bears south 35° and 35' west 473.37' distant.

Thence, first course, south 77° and 52' west ~~1,365.6'~~ 1,356.6' to corner No. 2, identical with corner No. 3 of said Iron Spike lode claim.

Thence, second course, north 14° and 42' west 274.92' to corner No. 3, identical with corner No. 4 of said Iron Spike lode claim, and situate on line 4-1 of said Appendix lode claim.

Thence, third course, north 66° and 55' east 723.98' to corner No. 4, identical with corner No. 4 of said Appendix lode claim.

Thence, fourth course, north 61° and 20' east 659' to corner No. 5.

Thence, fifth course, south 14° and 42' east 300' to a point from which the center of discovery shaft bears south 70° and 53' west 735.75' distant; 600' to corner No. 1, the place of beginning; thesurvey of the lode claim as above described extending 1,359.75' in length along said Miners Luck vein or lode.

Beginning for the description of the Hexagon lode claim at corner No. 1, a slate stone 30x12x6 inches, chiseled 1-197, with mound of stone, identical with the southeast corner of said section 5.

Thence, first course, south 231.33' to corner No. 2.

Thence, second course, north 87° and 35' west 1,159.64' to corner No. 3, identical with corner No. 2 of said Iron Spike lode claim.

Thence, third course, north 20° and 50' east 2' to a point from which the face of discovery cut bears north 79° and 40' east 630.2' distant; 302' to corner No. 4 identical with corners Nos. 2 and 3 of said Miners Luck and Iron Spike lode claim, respectively.

Thence, fourth course, north 77° and 52' east 1,356.6' to corner No. 5, identical with corner No. 1 of said Miners Luck lode claim.

Thence, fifth course, south 20° and 50' west 413.31' to corner No. 6.

Thence, sixth course, north 89° and 25' west 130.08' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,330.2' in length along said Hexagon vein or lode.

Beginning for the description of the Reserve lode claim at corner No. 1, a quartzite rock 24x14x8 inches, chiseled 4-4-197 and 1-197, with mound of stone, identical with corner No. 4 of said Appendix lode claim, from which the southeast corner of said section 5 bears south 35° and 2' east 792.86' distant.

Thence, first course, north 14° and 42' west 600' to corner No. 2, identical with corner No. 3 of said Appendix lode claim.

Thence, second course, north 61° and 20' east 1,500' to corner No. 3.

Thence, third course, south 14° and 42' east 300' to a point from which discovery shaft bears south 61° and 20' west 300' distant; 600' to corner No. 4.

Thence, fourth course, south 61° and 20' west 841' to corner No. 5 of said Miners Luck lode claim; 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Reserve vein or lode.

Beginning for the description of the Iron Wheel lode claim at corner No. 1, identical with corner No. 1 of said Miners Luck lode claim.

Thence, first course, north 14° and 42' west 300' to a point from which discovery shaft bears north 61° and 20' east 50' distant; 600' to corner No. 2, identical with corner No. 5 of said Miners Luck lode claim, and situate on line 4-1 of said Reserve lode claim.

Thence, second course, north 61° and 20' east 841' to corner No. 3, identical with corner No. 4 of said Reserve lode claim.

Thence, third course, north 32° and 58' east 659' to corner No. 4.

Thence, fourth course, south 14° and 42' east 600' to corner No. 5.

Thence, fifth course, south 32° and 58' west 659' to corner No. 6.

Thence, sixth course, south 61° and 20' west 841' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Iron Wheel vein or lode.

Beginning for the description of the Iron Slope lode claim at corner No. 1, a slate stone 28x10x8 inches chiseled 4-197, 1-197 and 3-197, with mound of stone, identical with corner No. 4 of said Reserve lode claim, from which the southwest corner of section 4, said township and range, bears south 32° and 11' west 1,617.3' distant.

Thence, first course, north 32° and 58' east 659' to corner No. 4 of said Iron Wheel lode claim; 1,500' to corner No. 2.

Thence, second course, north 14° and 42' west 811' to corner No. 3.

Thence, third course, south 32° and 58' west 1,500' to corner No. 4.

Thence, fourth course, south 14° and 42' east 211' to corner No. 3 of said Reserve lode claim; 405.5' to a point from which discovery shaft bears north 32° and 58' east 100' distant; 811' to corner No. 1, the place of beginning the survey of the lode claim as above described extending 1,500' in length along said Iron Slope vein or lode. Expressly excepting and excluding from these presents all that portion of the ground, hereinbefore described, embraced in said Iron Tiger and Central No. 1 lode claims survey No. 107; said Black Bill and Red Bill lode claims survey No. 55; said Silver Steele lode claim survey No. 55 am., and said Champion lode claim unsurveyed, and also all veins, lodes and ledges throughout their entire depth, the tops or apexes of which lie inside of each excluded ground; the granted premises in said lot No. 197 containing 209 acres and .052 of an acre of land, more or less.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36489
Dated March 17, 1903
Recorded in Book 106, Page 436

Mineral Certificate 140

From The United States of America to Charles A. Guernsey

Certain mining claims or premises known as the Bonded, Good Fortune, Good Fortune Annex, Golden Rule, Appex, Blue Bird, Denver & Gulf Cottonwood, Whalen, Anaconda, Valley, Juneau, Rudy L, Gracia Ellen, and Blue Jay Fraction lode mining claims. Designated by the Surveyor-General as Lot No. 194, embracing a portion of sections seven and eight in township twenty-seven north of range sixty-five west, Sixth Principal meridian, in the Platte Canon Mining District in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and bounded, described, and platted as follows, with magnetic variation fourteen degrees and fifty-five minutes east.

Beginning for the description of the Bonded lode claim at corner No. 1, a sandstone 25x8x6 inches, chiseled 1-194 and 3-3-194, with mound of stone from which the quarter corner between sections seven and eight in township 27 north of range 65 west, Sixth Principal meridian, bears north 55° and 47' east 1,445' distant.

Thence, first course, north 74° west 742.3' intersect line 13-14 of the Republic lode claim survey No. 49, and line 17-18 of the Douglas lode claim survey No. 49, at north 21° and 30' east 35.2' from corners Nos. 14 and 18 respectively; 792' to corner No. 2.

Thence, second course, north 66° and 10' west 282' to corner No. 3.

Thence, third course south 10° and 40' west 29.2' intersect lines 14-15 of said Republic lode claim and 24-21 of the Fairview lode claim survey No. 49, at North 66° and 10' west 326' from corner No. 14 of said Republic lode claim and 44' from corner No. 24 of said Fairview lode claim 480.7' to corner No. 4, from which the east end of discovery cut bears north 66° and 37' east 481.7' distant.

Thence, fourth course, south 83° and 35' east 43' intersect line 23-24 of said Fairview lode claims at south 10° and 40' west 438.3' from corner No. 24; 1,066.1' to corner No. 5.

Thence, fifth course, north 10° and 40' east 228.5' intersect line 18-19 of said Douglas lode claim at south 74° east 749' from corner No. 18; 263.7' to corner No. 1, the place of beginning, the survey of the lode claim as above described extending 1,066.1' in length along said Bonded vein or lode.

Beginning for the description of the Good Fortune lode claim at corner No. 1, a red quartzite rock 26x14x6 inches, chiseled 1-194, 1-194, 4-194 and 7-194, with mound of stone, from which said quarter section corner bears north 1° and 32' west 516.93' distant, a cross (x) and B.R. 1-194, chiseled on a red quartzsite rock in place 4x4x2 feet, above ground bears north 22° and 50' east 30' distant, and a cross (x) and B.R. 1-194 chiseled on a red quartzite rock in place 3x3x2 feet above ground bears south 5° west 10' distant.

Thence, first course, north 74° and 56' west ~~1,025'~~ 1023' to corner No. 2.

Thence, second course, south 21° and 30' west 134.3' intersect line 20-17 of said Douglas lode claim at north 68° and 34' west 49.5' from corner No. 20; 603.8' to corner No. 3, identical with corner No. 1 of said Bonded lode claim.

Thence, third course, south 74° and 56' east 49.8' intersect line 19-20 of said Douglas lode claim at south 21° and 30' west 463.95' from corner No. 20; 1,023' to corner No. 4.

Thence, fourth course, north 21° and 30' east 301.9' to a point from which the center of east side of discovery cut bears north 74° and 56' west 98' distant; 603.8' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,023' in length along said Good Fortune vein or lode.

Beginning for the description of the Good Fortune Annex lode claim at corner No. 1, a quartz te rock 28x10x8 inches, chiseled 1-194, with mound of stone, from which the southwest corner of said section eight, bears south 20° and 41' east 950.32' distant; a pine 6" in diameter blazed and marked B.T. 1-194, bears south 49° and 2' west 8' distant; a pine 18" in diameter blazed and marked B.T. 1-194 bears north 55° east 29.5' distant and a pine 9" in diameter blazed and marked B.T. 1-194 bears north 14° and 26' west 32.8' distant.

Thence, first course, north 74° and 56' west 1,023' to corner No.2, from which the face of discovery cut bears north 72° and 52' east 561.3' distant

Thence, second course, north 10° and 40' east 247.3' to corner No. 5 of said Bonded lode claim; 475.8' intersect line 18-19 of said Douglas lode claim at north 74° west 43' from CORNER No. 19; 511' to corner No. 3, identical with corners Nos. 1 and 3 of said Bonded and Good Fortune lode claims, respectively.

Thence, third course, south 74° and 56' east 49.8' intersect line 19-20 of said Douglas lode claim at north 21° and 30' east 36.05' from corner No. 19; 1,023' to corner No. 4, identical with corner No. 4 of said Good Fortune lode claim.

Thence, fourth course, south 10° and 40' west 511' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,023' in length along said Good Fortune Annex vein or lode.

Beginning for the description of the Golden Rule lode claim at corner No. 1, a red sandstone 26x16x8 inches, chiseled 1-194 and 8-194, with mound of stone, from which the west quarter corner of said section eight, bears north 14° and 45' west 341.94' distant; a cross (x) and B.R. 1-194, chiseled on a red sandstone rock in place 4x3x1 feet above ground, bears north 78° west 28' distant, and a cross (x) and B.R. 1-194, chiseled on a quartzite rock in place 4x4x2 feet above ground bears north 39° and 40' west 14.5' distant.

Thence, first course, north 74° and 56' west 1,023' to corner No. 2, from which discovery tunnel bears south 44° and 56' east 357.8' distant.

Thence, second course, south 21° and 30' west 200' to corner No. 3, identical with corner No. 2 of said Good Fortune lode claim.

Thence, third course, south 74° and 56' east 1,023' to corner No. 4, identical with corner No. 1 of said Good Fortune lode claim.

Thence, fourth course, north 21° and 30' east 200' to corner No. 1, the place of beginning; the survey of the lode claims as above described extending 1,023' in length along said Golden Rule vein or lode.

Beginning for the description of the Appex lode claim at corner No. 1, a quartzite rock 30x16x8 inches, chiseled 1-194 with mound of stone from which the southeast corner of said section seven, bears south 23° and 43' east 875.55' distant.

Thence, first course, south 86° and 37' east 1,500' to corner No. 2.

Thence, second course, north 10° and 40' east 600' to corner No. 3.

Thence, third course, north 86° and 37' west 1,500' to corner No. 4, identical with corners Nos. 4 of said Good Fortune and Good Fortune Annex lode claims.

Thence, fourth course, south 10° and 40' west 300' to a point from which discovery shaft bears south 86° and 37' east 515' distant; 511' to corner No. 1 of said Good Fortune Annex lode claim; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Appex vein or lode.

Beginning for the description of the Blue Bird lode claim at corner No. 1, identical with corner No. 1 of said Good Fortune, and corner No. 4 of said Golden Rule lode claims.

Thence, first course, south 86° and 29' east 1,498.8' to corner No. 2.

Thence, second course, south 21° and 30' west 600' to corner No. 3.

Thence, third course, north 86° and 37' west 1,500' to corner No. 4, identical with corners Nos. 4 of said Good Fortune, Good Fortune Annex and Appex lode claims.

Thence, fourth course, north 21° and 30' east 301.9' to a point from which discovery shaft bears south 86° and 37' east 120' distant; 603.8' to corner No. 1 the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Blue Bird vein or lode.

Beginning for the description of the Denver & Gulf lode claims at corner No. 1, a quartzite rock 24x10x6 inches, chiseled 3-194 and 1-194, with mound of stone identical with corners Nos. 3 of said Appex and Blue Bird lode claims, from which the west quarter corner of said section eight, bears north 47° and 52' west 1,739.4' distant.

Thence, first course, south 69° and 39' east 1,500' to corner No. 2.

Thence, second course, south 10° and 40' west 600' to corner No. 3.

Thence, third course, north 69° and 39' west 1,500' to corner No. 4, identical with corner No. 2 of said Appex lode claim.

Thence, fourth course, north 10° and 40' east 300' to a point from which discovery shaft bears south 69° and 39' east 43' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Denver & Gulf vein or lode.

Beginning for the description of the Cottonwood lode claim at corner No. 1, identical with corner No. 1 of said Denver & Gulf, and corners Nos. 3 of said Appex and Blue Bird lode claims.

Thence, first course, north 21° and 30' east 300' to a point from which discovery shaft bears south 69° and 39' east 300' distant; 600' to corner No. 2, identical with corner No. 2 of said Blue Bird lode claim.

Thence, second course, south 69° and 39' east 1,500' to corner No. 3.

Thence, third course, south 21° and 30' west 600' to corner No. 4, identical with corner No. 2 of said Denver & Gulf lode claim.

Thence, fourth course, north 69° and 39' west 1,500' to corner No. 1, the place of beginning the survey of the lode claim as above described extending 1,500' in length along said Cottonwood vein or lode.

Beginning for the description of the Whalen lode claim at corner No. 1, a sandstone 24x10x10 inches, chiseled 1-194 and 2-194 with mound of stone, situate on line 3-4 of survey No. 107, the Central No. 2 lode claim, from which said quarter section corner bears north 79° and 58' west 2,677.1' distant.

Thence, first course, south 87° and 35' east 249.25' to a point from which discovery shaft bears south 13° west 500' distant; 498.5' to corner No. 2.

Thence, second course, south 13° west 1,500' to corner No. 3.

Thence, third course, north 87° and 35' west 498.5' to corner No. 4, from which corners Nos. 2 and 4 of said Denver & Gulf and Cottonwood lode claims, respectively, bear north 59° and 15' east 462.12' distant.

Thence, fourth course, north 13° east 1,500' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,500' in length along said Whalen vein or lode.

Beginning for the description of the Anaconda lode claim at corner No. 1, a quartzite stone 30x10x6 inches, chiseled 1-194, with mound of stone situate on line 3-4 of said survey No. 107 from which a cross (x) and B.R. 1-194, chiseled on a quartzite rock in place 12x10x8 feet, above ground bears north 13° east 31' distant, and said quarter section corner bears north seventy-six degrees and 52' west 1,907.8' distant.

Thence, first course, south 87° and 35' east 779' to corner No. 2, identical with corner No. 1, of said Whalen lode claim.

Thence, second course, south 13° west 266.25' to a point from which discovery cut bears north 87° and 35' west 100' distant; 532.5' to corner No. 3, situate on line 4-1 of said Whalen lode claim.

Thence, third course, north 69° and 39' west 772' to corner No. 4, situate on line 2-3 of said Cottonwood lode claim.

Thence, fourth course, north 13° east 288' to corner No. 1, the place of beginning; the survey lode claim as above described extending 779' in length along said Anaconda vein or lode.

Beginning for the description of the Valley lode claim at corner No. 1, a quartzite rock 24x12x8 inches chiseled 1-194 and 3-194 with mound of stone situate on line 1-2 of said Blue Bird lode claim, from which a pine eight inches in diameter blazed and marked B.T. 1-194, bears south 21° and 30' east 28' distant, and said quarter section corner bears north 56° and 22' west 1,026.9' distant.

Thence, first course, north 59° and 44' east 1,086.8' to corner No. 2, situate on line 2-3 of said survey No. 107, at north 20° and 50' east 431.3' from corner No. 3.

Thence, second course, south 25° and 45' east 464.2' intersect line 3-4 of said survey No. 107 at south 87° and 35' east 355.4' from corner No. 3; 600' to corner No. 3.

Thence, third course, south 59° and 44' west 302.6' to corner No. 4 of said Anaconda lode claim; 1,086.8' to corner No. 4.

Thence, fourth course, north 25° and 45' west 300' to a point from which discovery cut bears north 59° and 44' east 525' distant; 600' to corner No. 1, the place of beginning the survey of the lode claim as above described extending 1,086.8' in length along said Valley vein or lode.

Beginning for the description of the Juneau lode claim at corner No. 1, a red quartzite rock 26x10x8 inches, chiseled 1-194 and 5-194, with mound of stone from which a pine ten inches in diameter blazed and marked B.T. 5-194, bears south 55° and 6' west 28.9' distant, and said quarter section corner bears north 82° and 44' west 1,083.3' distant.

Thence, first course, south 86° and 20' east 235' to a point from which discovery cut bears south 48° and 30' west 160' distant; 470' to corner No. 2, situate on line 1-2 of said Valley lode claim.

Thence, second course south 59° and 44' west 797' to corner No. 3, identical with corner No. 1 of said Valley lode claim.

Thence, third course, north 86° and 20' west 61.5' to corner No. 4.

Thence, fourth course, north 33° and 15' east 511.84' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 627.52' in length along said Juneau vein or lode.

Beginning for the description of the Rudy L. lode claim at corner No. 1, a red quartzite rock 28x10x9 inches, chiseled 1-194, on the northeast and northwest faces, from which a pine six inches in diameter blazed and marked B.T. 1-194 bears north 29° and 10' east 61' distant, and said quarter section corner bears north 19° and 30' west 160.5' distant.

Thence, first course, north 27° and 55' east 1,439' to corner No. 2.

Thence, second course, south 83° east 600' to corner No. 3.

Thence, third course, south 27° and 55' west 1,439' to corner No. 4.

Thence, fourth course, north 83° west 300' to a point from which discovery shaft bears north 27° and 55' east 1,039' distant; 600' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,439' in length along said Rudy L. vein or lode.

Beginning for the description of the Gracia Ellen lode claim at corner No. 1, identical with corner No. 1, of said Rudy L. lode claim, from which discovery tunnel bears north 4° and 51' west 208.9' distant.

Thence, first course, north 27° and 55' east 1,439' to corner No. 2, identical with corner No. 2 of said Rudy L. lode claim.

Thence, second course, north 83° west 555' to corner No. 3.

Thence, third course, south 19° and 35' west 600' to corner No. 4.

Thence, fourth course, south 18° and 22' west 296.86' to corner No. 5.

Thence, fifth course, south 8° west 332' to corner No. 6.

Thence, sixth course, west 114.8' to corner No. 7.

Thence, seventh course, south 35° and 15" west 135.5' to corner No. 8.

Thence, eighth course, south 83° east 410' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,393.8' in length along said Gracia Ellen vein or lode.

Beginning for the description of the Blue Jay Fraction lode claim at corner No. 1, a quartzite rock 30x10x10 inches, chiseled 1-194 and 8-194, with mound of stone identical with corner No. 8 of said Gracia Ellen lode claim from which a pine 12 inches in diameter blazed and marked B.T. 8-194, bears north 30° and 32' east 54' distant; a pine 10" in diameter blazed and marked 1-194 bears south 5° and 37' east 47' distant, and said quarter section corner bears north 74° east 367.6' distant.

Thence, first course, south 83° east 410' to corners Nos. 1 of said Gracia Ellen and Rudy L. Lode claims; 1,010' to corner No. 2, identical with corner No. 4 of said Rudy L. lode claim.

Thence, second course, north 27° and 55' east 100' to corner No. 3, situate on line 3-4 of said Rudy L. lode claim.

Thence, third course, south 83° east 300' to corner No. 4.

Thence, fourth course, north 66° and 13' east 88.5' to corner No. 5, identical with corner No. 1 of said Juneau lode claim.

Thence, fifth course, south 33° and 15' west 256' to a point from which discovery shaft bears north 82° and 2' west 600' distant; 511.84' to corner No. 4 of said Juneau lode claim; 512' to corner No. 6, situate on line 1-2 of said Blue Bird lode claim.

Thence, sixth course, north 86° and 29' west 781.08' to corner No. 7, identical with corners Nos. 1, of said Good Fortune and Blue Bird lode claims.

Thence, seventh course, north 21° and 30' east 200' to corner No. 8, identical with corner No. 1 of said Golden Rule lode claim.

Thence, eighth course, north 74° and 56' west 520' to corner No. 9.

Thence, ninth course, north 33° and 15' east 112.6' to corner No. 1, the place of beginning; the survey of the lode claim as above described extending 1,342.33' in length along said Blue Jay Fraction vein or lode. Expressly excepting and excluding from these presents all that portion of the ground hereinbefore described embraced said mining claim or survey No. 107 and said Douglas, Republic and Fairview lode claims survey No. 49, and also all veins, lodes and ledges throughout their entire depth, the tops or apexes of which lie inside of such excluded ground; the granted premises in said lot No. 194 containing 185 acres and .175 of an acre of land more or less.

UNITED STATES OF AMERICA PATENT
General Land Office No. 36441
Dated March 10, 1903
Recorded in Book 106, Page 433, Laramie County, Wyoming

Mineral Certificate No. 142

From The United States of America to Charles A. Guernsey.

Certain mining claim or premises, known as the Celtic lode mining claim designated by the Surveyor-General as Lot No. 201, embracing a portion of sections 12 and 13, in township 27 north of range 66 west, Sixth Principal meridian, in the Platte Canon Mining district, in the County of Laramie and State of Wyoming, in the District of Lands subject to sale at Cheyenne and Bounded, described, and platted as follows, with magnetic variation 15° and 55' east.

Beginning at corner No. 1, a quartzite rock 30x14x7 inches, chiseled 1-201, with mound of stone, identical with the south quarter corner of section 12, in township 27 north of range 66 west, Sixth Principal meridian.

Thence, first course, south 87° and 59' west 273.04' to corner No. 2.

Thence, second course, south 21° and 39' west 282.86' to corner No. 3.

Thence, third course, south 54° and 55' east 1,205' to corner No. 4.

Thence, fourth course, north 21° and 39' east 282' to a point from which the entrance of discovery tunnel bears north 54° and 55' west 200' distant; 584' to corner No. 5.

Thence, fifth course, north 54° and 55' west 1,007.32' to corner No. 6.

Thence, sixth course, south 156.67' to corner No. 1, the place of beginning; said lot No. 201 extending 1,205' in length along said Celtic vein or lode and containing 14 acres and ~~.565~~ .556 of an acre of land, more or less.

ORE LEASE

THIS AGREEMENT, made and entered into on this 26th day of December, A.D. 1952, by and between W. H. Collins, hereinafter designated as "Lessor", and E. C. Schroeder Co., Inc., a corporation, hereinafter designated as "Lessee", WITNESSETH:

WHEREAS, Lessor is the owner of certain real estate situated in Platte County, State of Wyoming, described in Exhibit "1" hereto attached and by this reference made a part hereof, together with the minerals, mineral interests, mining rights and privileges, in and under the above described real estate, and

WHEREAS the Lessee desires to mine and remove the minerals, if any, on and under said real estate.

NOW THEREFORE, it is agreed by and between the parties hereto as follows:

1. In consideration of the sum of One Dollar ($1.00) paid to Lessor by Lessee, receipt whereof is hereby acknowledged, of the royalties herein provided, and of the covenants of Lessee herein contained, hereby grants and leases exclusively unto Lessee the above described real estate and mining rights for the purpose of
W.H.C. prospecting, drilling, mining for and removing minerals by stripping
E.C.S. operations, or any other process which Lessee may elect, building roads, power lines and stations, telephone lines, slush ponds, and the maintenance thereof, building other structures thereon to mine, wash, process, treat, transport and stock pile minerals, house employees, and all other necessary purposes incidental to the mining and selling of minerals.

2. Except as herein provided this lease shall continue for a period of ninety nine years after the date hereof, except that Lessee shall have the right to terminate the lease at any time when in the opinion of Lessee the mining operations are not profitable, provided that, Lessee shall not have a right to terminate this lease until the Lessee has paid to or credited Lessor with the sum of $67,900.00 in royalties from the sale of iron ore mined from the premises described herein.

3. Lessor hereby warrants and agrees to defend the title of said lands. The Lessee at its option may discharge any tax, mortgage or other lien upon the premises, either in whole or in part, and in the event Lessee does so, it shall be subrogated to such lien with right to enforce same and apply royalties accruing hereunder toward satisfying same. Without impairment of Lessee's rights under the warranty in event of failure of title, it is agreed that if Lessor owns an interest in said land, less than the entire fee simple estate, then the royalties to be paid Lessor shall be reduced proportionately.

4. Should Lessee be prevented from complying with any of the covenants of this lease by reason of scarcity or inability to obtain or to use equipment or materials or be prevented or delayed due to strikes, slow-downs or other labor trouble, and/or by any statute, regulation or directive of the federal, state or municipal government or any agency or division thereof, and/or conditions beyond the control of Lessee, then while so prevented, Lessee's obligation to comply with such covenants shall be suspended, while and so long as the Lessee is prevented by such cause from performing the terms and covenants hereof; and the time while Lessee is so prevented shall not be counted against Lessee, anything in this lease to the contrary notwithstanding, except that Lessee shall pay, in any event, the minimum royalties as set forth in paragraph eight hereof.

5. All machinery, tracks, buildings, structures, improvements and other property of every kind whatsoever placed by the Lessee on or under said lands shall remain the property of Lessee, and Lessee shall have and is hereby granted the right and privilege of entering upon and removing from said lands within ninety days following the expiration or termination of said lease all of said property of every kind whatsoever; and failing to do so, the title thereto shall vest in Lessor.

6. Lessee shall have the right to mine and remove such iron ore, or other minerals, from the lands above described as Lessee may elect, and at such time or times, within the term of this agreement, as Lessee may elect, Lessee being the sole judge of what iron ore shall be mined or removed, and when the same shall be mined or removed, except as provided herein, and for each ton of iron ore produced by the ore plant of Lessee from ore mined and removed by Lessee from the lands above described, Lessee shall pay to Lessor twenty-five cents (25¢) per long ton of 2,240 lbs. each, the furnace weights of ore as delivered to the purchaser thereof, as evidenced by the invoices received from said purchaser by the Lessee, to govern, all payments of royalty herein provided. All payments of royalty herein provided shall be made to the Lessor at the place designated by the Lessor, in monthly installments, on or before the last day of each month for all royalty due for ore so mined during the preceding calendar month. Lessee shall keep accurate records showing true and correct statements of account of all ore so mined and removed and shall render to Lessor monthly, on or before the last day of each month, a statement showing the amount of ore so mined, and removed during the preceding calendar month. Lessor shall have the right to examine the invoices received from the purchaser of ore for the purpose of determining whether Lessor has received the proper amount of royalty.

W.H.C.
E.C.S.

7. Lessee shall have the right to mine and remove all minerals that are on or under the land described herein, and the Lessee shall pay to Lessor such royalties for said minerals that are mined and removed from said premises as shall be agreed upon by the parties hereto.

8. It is stipulated and agreed that the Lessee shall not pay to Lessor any royalty for any months during which no ore is removed from said land by Lessee, except that commencing with January 1, 1953 Lessee shall pay to Lessor a minimum royalty of $5,000.00 per year. If the royalties from the ore mined by Lessee on said premises do not exceed the minimum provided for herein, then the minimum royalty shall become due and payable within thirty (30) days after the end of the year.

It is agreed that Lessee has heretofore advanced the sum of Ten Thousand Nine Hundred Dollars ($10,900.00) to Lessor and will advance to Lessor upon his request a further sum for the purpose of paying to Helen A. Sackett a sum sufficient to pay the balance of the purchase price with interest due from the sale of the property described herein to Lessor by the said Helen A. Sackett. All of said sums of money so advanced or any other sums of money that may be advanced by Lessee to Lessor shall be first deducted from any and all royalties due Lessor from Lessee before payment of any royalty is made to Lessor or his assigns.

9. If for five successive years from and after the date of this contract, Lessee shall not conduct active mining operations, as defined herein, on said land, Lessor at his option may then declare this lease forfeited and terminated as provided herein. "Active mining operations" within the meaning of this lease shall mean the mining and shipping of a minimum of 20,000 long tons of ore or the payment of a minimum royalty of $5,000.00 per year on a calendar year basis.

10. Lessee agrees that it will indemnify and hold harmless Helen A. Sackett, seller in a certain contract between her and Lessor, and Lessor from and against all damages to or destruction of property, and injury to or death of any person or persons caused by or arising out of any act or thing done, or omitted to be done, in, about or incidental to the preparation for mining and the mining and removal of said minerals and shall carry all necessary compensation and/or liability insurance in connection therewith in such amounts as shall be agreed upon by the parties hereto.

11. Lessor hereby waives all claims for injuries or damages done to said land, timber, or improvements by reason of the mining and removal of the minerals and/or in the washing and/or processing thereof, except as provided otherwise herein. Fences that are damaged or removed by Lessee shall be replaced by Lessee.

W.H.C.
E.C.S.

12. This lease shall be assignable by either party without consent of the other.

13. The Lessor and Lessee agree to perform in all things the covenants, conditions and agreements herein set forth to be performed by each of them, and agree that in event of default by either of them in the performance of any of the covenants, conditions and agreements herein contained, and such default shallcontinue for a period of sixty days after written notice of such default is

given by one to the other (such notice setting out the particulars of such default and making demand upon the other to make good the alleged default), then and in that event it shall be lawful for the party giving the notice of his or its election, to terminate and forfeit this contract.

14. All notices, requests, demands and other communications hereunder shall be in writing and shall be delivered or mailed first class postage prepaid; if to the Lessor at his present address, or at such other address as Lessor may specify to Lessee in writing; if to Lessee at McGregor, Iowa, or at such other address as Lessee may specify to Lessor in writing.

15. Should there be any difference of opinion or controversy between the parties hereto as to the amount of royalty to be paid hereunder or regarding any other question of fact that may arise, the Lessor shall appoint a mining engineer or other qualified person and the Lessee shall likewise appoint a mining engineer or other competent person, which two persons so appointed, shall arbitrate said matter of difference, and if the two shall not be able to agree then they shall name a third person and the decision of any two of the said persons on the question raised by said difference of opinion or controversy, shall be final and binding upon the parties hereto. The expense of such arbitration shall be paid one-half by the Lessor and one-half by the Lessee.

16. The covenants, terms and conditions of this lease shall run with the land and shall inure to benefit of and be binding upon the successors, assigns, administrators, executors and heirs of the parties hereto.

IN WITNESS WHEREOF, the parties hereunto have set their hands and seals, the day and year first above written.

Witness to signature of
Lessor.

M. M. Cooney

W. H. Collins, M.D.
Lessor

Witness to signature of
Lessee

D. N. Sherard

E. C. SCHROEDER CO., INC.

By E. C. Schroeder
Lessee President

STATE OF WYOMING,)
SS:
COUNTY OF LARAMIE)

W.H.C.
E.C.S. On this 26th day of December, 1952, before me personally appeared W. H. Collins, to me personally known to be the person described in and who executed the foregoing instrument, and acknowledged that he executed the same as his free act and deed thereby relinquishing any and all rights thereunto under and by virtue of the Homestead Exemption Laws of Wyoming.

Mary Lou Phillips Shepherd
Notary Public

(SEAL)

My commission expires December 15, 1954.

STATE OF WYOMING)
SS:
COUNTY OF LARAMIE)

On this 26th day of December, 1952, before me appeared E. C. Schroeder to me personally known who, being by me duly sworn did say that he is President of E. C. Schroeder Co., Inc., a corporation; that said corporation has no corporate seal and that said instrument was signed in behalf of said corporation by authority of its board of directors; and the said E. C. Schroeder as such President acknowledged said instrument to be the free act and deed of said corporation.

Mary Lou Phillips Shepherd
Notary Public

(SEAL)

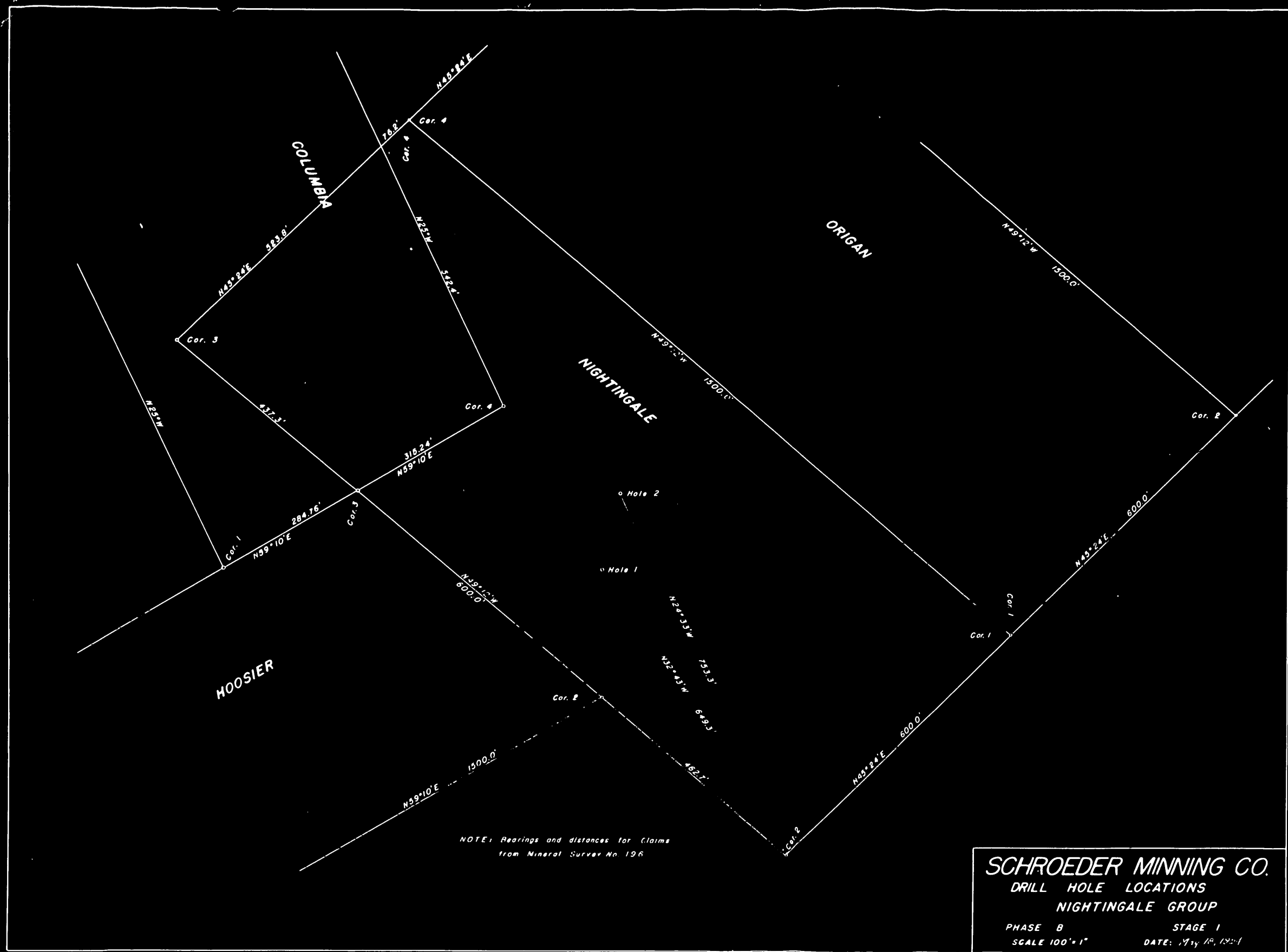
My commission expires December 15, 1954.

Assaying Report on Ore Mined and
Shipped from the Good Fortune Iron Mine
for the period from Jan. 28, 1953 to Feb. 20, 1953

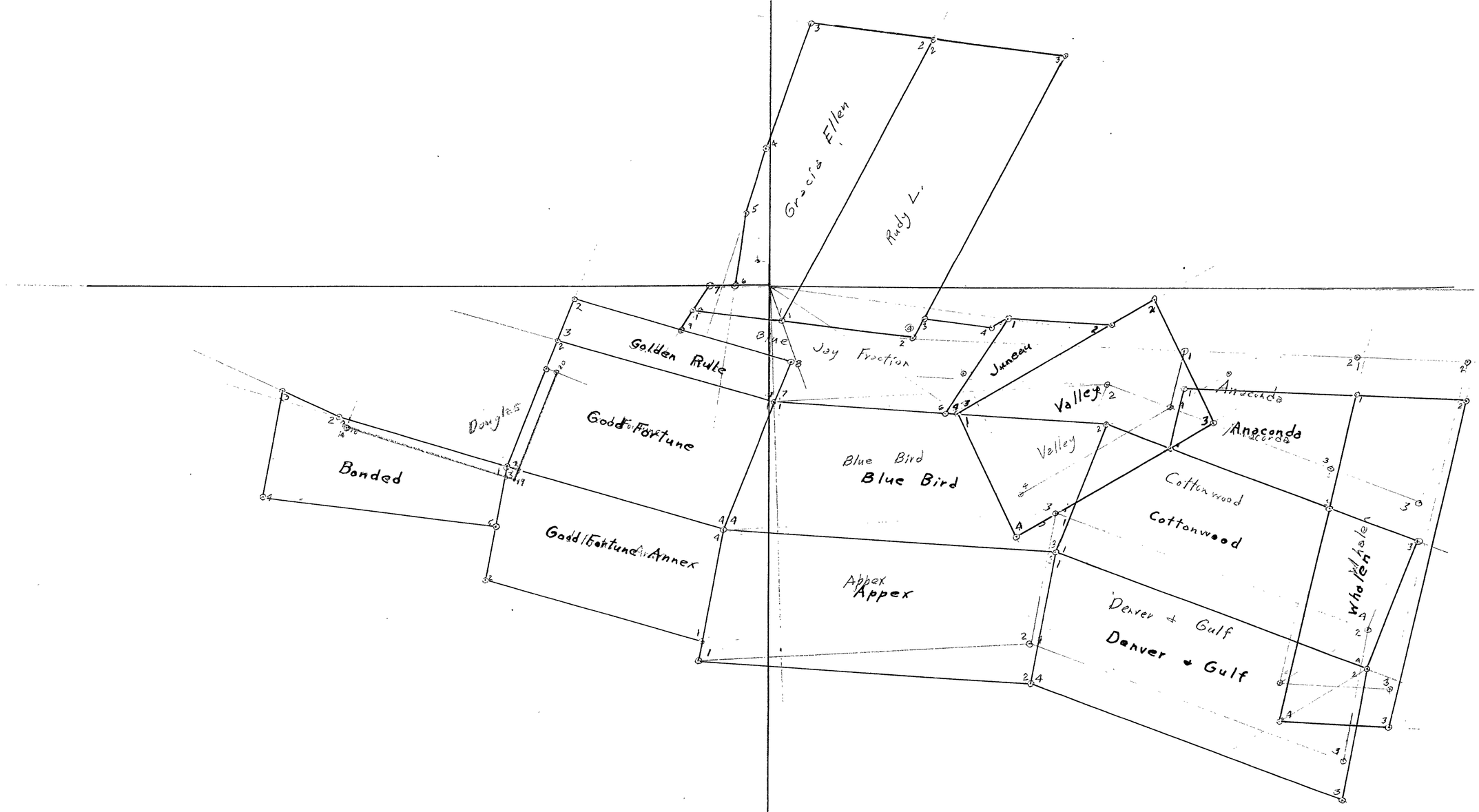
Gross Tons	Moist.	Mang.	Iron	Comb.	Moist.	Insol.	Phos.
53,750	2,688	.06	63.63	63.69	5.00	8.60	.08
50,000	3,400	.10	60.02	60.12	6.80	8.85	.08
55,491	3,773	.08	60.92	61.00	6.80	8.65	.12
52,545	3,573	.11	60.32	60.43	6.80	8.70	.08
50,536	3,639	.12	61.42	61.54	7.20	8.74	.09
49,643	3,376	.13	61.22	61.35	6.80	9.25	.10
56,607	3,849	.11	59.72	59.83	6.80	8.20	.11
50,045	3,403	.14	59.32	59.46	6.80	9.00	.10
50,848	3,458	.11	60.62	60.73	6.80	9.14	.09
101,607	6,096	.10	60.02	60.12	6.00	8.52	.08
99,955	5,997	.10	59.82	59.92	6.00	10.80	.08
99,018	5,941	.11	59.22	59.33	6.00	10.20	.10
109,509	6,571	.12	61.81	61.93	6.00	6.65	.10
90,223	6,767	.09	58.82	58.91	7.50	12.50	.09
93,080	6,981	.10	57.23	57.33	7.50	13.10	.08
105,134	7,885	.08	60.42	60.50	7.50	8.10	.10
97,812	5,869	.09	62.41	62.50	6.00	9.24	.09
105,446	7,908	.09	60.82	60.91	7.50	8.00	.11
103,080	6,185	.11	60.12	60.23	6.00	8.60	.09
68,661	4,669	.10	60.42	60.52	6.80	8.72	.12
66,429	4,517	.08	59.62	59.70	6.80	9.86	.15
98,929	5,738	.10	60.82	60.92	5.80	9.00	.11
108,571	6,297	.10	60.32	60.42	5.80	8.94	.10
53,571	3,107	.09	59.22	59.31	5.80	8.96	.08
51,161	3,070	.07	54.24	54.31	6.00	16.84	.08
44,598	2,676	.07	54.24	54.31	6.00	16.84	.08
103,661	5,183	.11	62.41	62.52	5.00	6.40	.11
109,598	6,576	.09	62.41	62.50	6.00	6.30	.10
55,312	3,319	.10	62.41	62.51	6.00	7.00	.09
113,482	6,809	.12	61.61	61.73	6.00	8.00	.11
102,679	5,134	.09	62.01	62.10	5.00	6.26	.09
98,527	4,926	.12	62.21	62.33	5.00	6.32	.10
114,018	5,701	.08	62.81	62.89	5.00	7.84	.07
118,616	5,931	.11	60.62	60.73	5.00	7.00	.10
102,991	5,253	.08	62.61	62.69	5.10	5.65	.07
104,687	5,339	.10	62.21	62.31	5.10	9.56	.08
103,080	5,257	.08	63.21	63.29	5.10	6.08	.07
92,634	4,632	.11	62.41	62.52	5.00	6.00	.09
101,607	5,080	.08	61.81	61.89	5.00	8.90	.10
103,304	5,165	.10	62.81	62.91	5.00	8.35	.10

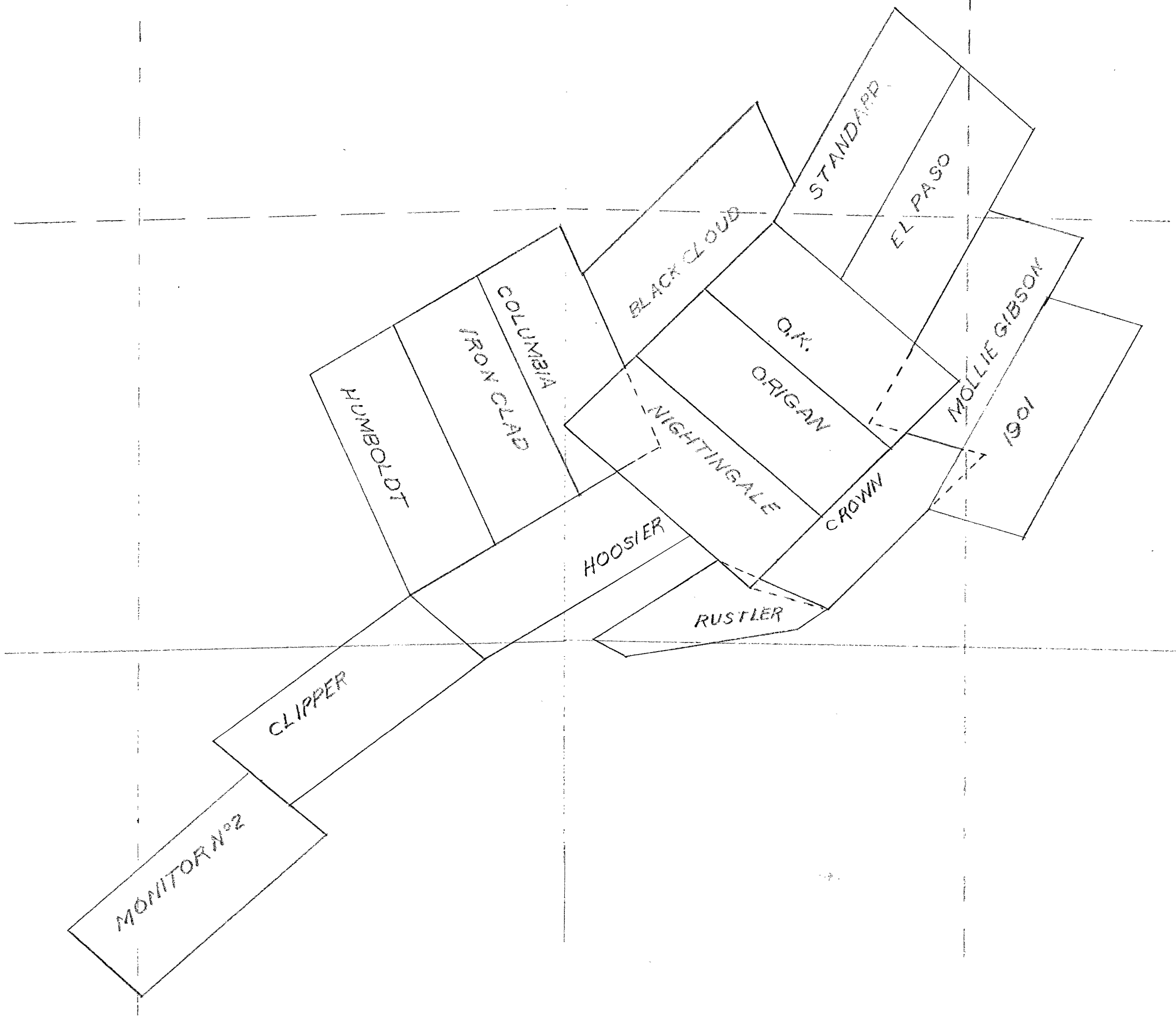
Exhibit "4"

Gross Tons	Moist.	Mang.	Iron	Comb.	Moist.	Insol.	Phos.
55,357	3,321	.10	61.32	61.42	6.00	8.10	.08
97,545	4,097	.09	59.62	59.71	4.20	9.20	.10
111,071	6,664	.10	63.21	63.31	6.00	6.35	.10
108,795	6,528	.10	60.42	60.52	6.00	7.36	.11
111,116	6,667	.09	60.22	60.31	6.00	8.50	.10
107,902	6,474	.11	60.20	60.31	6.00	7.60	.11
51,518	3,091	.10	60.40	60.50	6.00	7.00	.11
100,000	5,800	.12	60.00	60.12	5.80	8.14	.10
98,036	3,921	.10	63.80	63.90	4.00	5.76	.11
98,125	3,925	.08	62.20	62.28	4.00	6.59	.08
103,482	4,139	.10	61.80	61.90	4.00	6.94	.09
122,545	4,902	.08	62.80	62.88	4.00	6.16	.11
99,732	3,989	.10	61.60	61.70	4.00	7.30	.10
95,982	3,839	.10	62.80	62.90	4.00	6.10	.10
102,054	4,082	.08	62.20	62.28	4.00	5.62	.12
102,277	4,091	.09	62.00	62.09	4.00	6.04	.07
106,696	4,268	.11	62.00	62.11	4.00	6.16	.08
98,036	3,921	.10	63.80	63.90	4.00	5.76	.11
98,125	3,925	.08	62.20	62.28	4.00	6.59	.08
103,482	4,139	.10	61.80	61.90	4.00	6.94	.09
122,545	4,902	.08	62.80	62.88	4.00	6.16	.11
99,732	3,989	.10	61.60	61.70	4.00	7.30	.10
95,982	3,839	.10	62.80	62.90	4.00	6.10	.10
102,054	4,082	.08	62.20	62.28	4.00	5.62	.12
102,277	4,091	.09	62.00	62.09	4.00	6.04	.07
106,696	4,268	.11	62.00	62.11	4.00	6.16	.08
54,598	3,276	.10	62.40	62.50	6.00	7.40	.10
99,152	4,958	.08	62.60	62.68	5.00	7.50	.10
95,045	4,752	.10	62.00	62.10	5.00	6.14	.07
105,134	5,257	.11	58.80	58.91	5.00	10.00	.10
92,589	4,629	.10	59.60	59.70	5.00	8.66	.10
93,884	4,694	.12	61.80	61.92	5.00	6.50	.10


COLUMBIA
ORIGAN
NIGHTINGALE
HOOSIER
Cor. 1
Cor. 2
Cor. 3
Cor. 4
N45°24'E
323.0'
N25°W
542.4'
437.3'
316.24'
N59°10'E
284.76'
N29°W
N49°12'W
1500.0'
600.0'
Hole 1
Hole 2
N24°33'W
753.3'
N32°43'W
649.3'
462.7'
NOTE: Bearings and distances for Claims from Mineral Survey No. 196
SCHROEDER MINNING CO.
DRILL HOLE LOCATIONS
NIGHTINGALE GROUP
PHASE B
STAGE 1
SCALE 100' = 1"
DATE: May 18, 1971

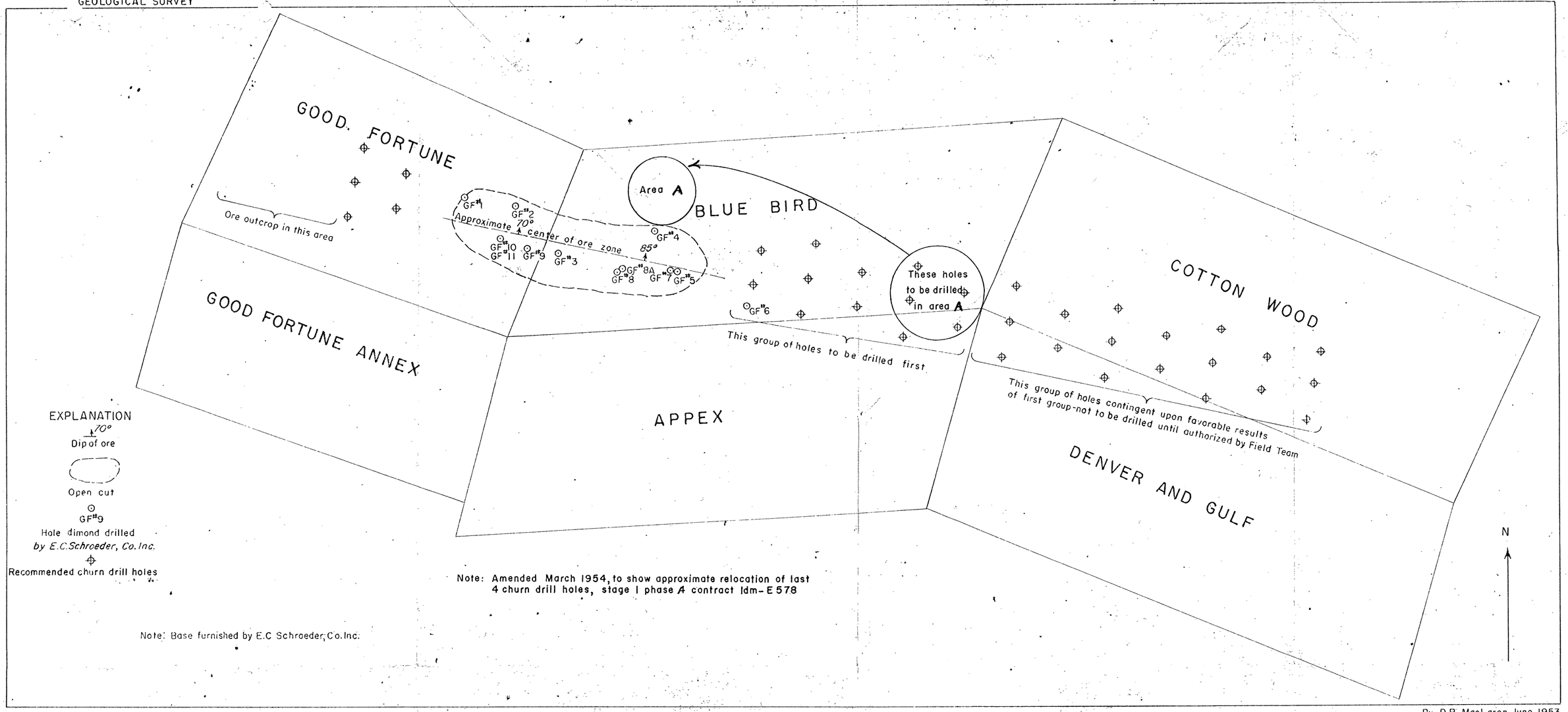
1" = 400


Gracie Ellen
Rudy L.
Golden Rule
Blue Jay Fraction
Juneau
Valley
Anaconda
Anaconda
Douglas
Bonded
Gold Fortune
Blue Bird
Blue Bird
Valley
Cottonwood
Cottonwood
Gold Fortune Annex
Appex
Appex
Denver + Gulf
Denver + Gulf
Whalen


STANDARD
EL PASO
BLACK CLOUD
COLUMBIA
IRON CLAD
HUMBOLDT
O.K.
ORIGAN
MOLLIE GIBSON
1901
NIGHTINGALE
CROWN
HOOSIER
RUSTLER
CLIPPER
MONITOR Nº2

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

D.M.E.A. DOCKET 2964



By D.R. MacLaren June, 1953

FIGURE 2.— GOOD FORTUNE GROUP SHOWING APPROXIMATE LOCATION OF OPEN CUT, HOLES DRILLED BY E.C. SCHRODER CO. INC., AND RECOMMENDED CHURN DRILL HOLES.