DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 2918

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This document has been recorded as

EXPLORATION ASSISTANCE

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

One copy to USGS., ~~AND TO USBM~~. One copy retained in Region VIII.

Routing Slip

To:	Code 400, Room 3538	Date	3/5/53
To:	Oper Comm	Date	4-1-53
To:	Oper Comm	Date	4-17-53
To:	Oper Comm	Date	6-1-53
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CONTROLLED DOCUMENT

400

JUN 2 1953

(2918 + envelope)

Mr. Daniel Viscount, President
Standard Enterprises, Inc.
4956 Murray Road, Linwood Manor
Pittsburgh 27, Pennsylvania

Re: Docket No. [illegible] - Cobalt
and Manganese
Standard Enterprises, Inc.
Wolf-Montanyer Tract
(Pennington Mines)
Huntingdon and Centre Counties,
Pennsylvania

Dear Mr. Viscount:

Your application for aid for an exploration project and other data available to us in Washington concerning the project area have been reviewed.

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

Careful study of all our information, although noting a small amount of manganese and cobalt mineralization on your lease, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your lease to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

TMHutledge/ls
5/29/53

cc: Docket
Adm. Reading File
Code 400
Oper. Committee

cc: H. W. Davis, USBM
T. P. Thayer, USGS
Field Team, Region 8

400

May 29, 1953

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of exploration project in the amount of $[illegible],500.00
Docket No. DMEA 2918 - Cobalt and Manganese
Standard Enterprises, Inc.
Wolf-Entmayer tract (Pennington Mines)
Huntingdon & Centre Counties, Pennsylvania

The denial of the subject application by this Division is based on the following information:

(1) The applicant proposed a 2-stage project to explore a deposit of cobalt-bearing manganese near Tyrone, Pennsylvania. The ore occurs underneath clay, sand, and gravel. Diamond drilling of a deposit of this type is not recommended.

(2) An examination of the project area by members of the field team revealed that the area had been extensively mined for iron ore during the 19th century by both underground and open pit methods.

(3) The applicant's pit, #[illegible], lies just north of the old East Pennington mine. While the applicant stated that the deposit is indicated for about [illegible], [illegible] along the strike, there are no pits or other indications beyond a distance of 2,400 feet.

(4) This distance, 2,400 feet, represents the section covering the old East and old West Pennington mines. This section was included in the area covered by an exploratory program for iron by the Federal Bureau of Mines in 1942-43. The results of this program indicated that the occurrences of iron and, incidentally, manganese and cobalt, were not of sufficient importance to warrant additional investigation by the Government.

(5) The recovery of cobalt from a manganese ore of this type is presently uneconomical. In addition, metallurgical tests for improvement of grade [illegible], even in the production of a comparatively low grade cobalt and manganese concentrate, recovery of both cobalt and manganese is low.

(6) The field team recommends denial.

(7) The Commodity Division of the Geological Survey and Bureau of Mines concur with denial of the subject application.

W. S. Martin

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

FARutledge/ls 5/29/53

cc: Docket
Oper. Committee
400
Adm. Read. File

400

APR 20 1953

Mr. W. T. Millar
Executive Officer, DMEA Region VIII
Bureau of Mines
Eastern Experiment Station
College Park, Maryland

Re: Docket No. DMEA-2918 -(Cobalt - Manganese)
Standard Enterprises, Inc.
Herbert & George Wolf Tract
Huntingdon and Centre Counties, Pennsylvania

Dear Mr. Millar:

This will acknowledge receipt of your memorandum of April 15, 1953, giving us information regarding the subject application for which we thank you.

We note that while the metallurgical work by Pittsburgh and College Park laboratories of the Bureau of Mines is not complete, the research indicates that a separation of manganese and cobalt may be made by chemical methods the cost of which is probably prohibitive.

Standard Enterprises wrote to us on April 7, 1953 as follows:

"Information requested in your letter of March 19, 1953, is being prepared at the present time and will be sent you as soon as possible. In the event a field examination is required we will be glad to cooperate in every way possible with the examining engineers."

It will be appreciated, therefore, if you will keep us currently advised of the results of the metallurgical research for our guidance in taking appropriate action when Standard Enterprises furnishes the promised information.

Sincerely yours,

[illegible]

Chairman, Operating Committee

APPROVED:

[illegible]

Member, Bureau of Mines

A. B. [illegible]

Member, Geological Survey

WSMartin/foc 4-17-53

cc: Docket
Admr. Reading File
Code 400
FT. Reg. VIII
Oper. Comm.
Mr. Davis, USBM
Mr. Thayer, USGS

College Park, Maryland

April 20, 1953

DEPARTMENT OF THE ...
Defense Minerals ...
RECEIVED
APR 20 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region VIII

Subject: Docket No. DMEA-2918 - (Cobalt-Manganese)
Standard Enterprises, Inc., D. H. Viscount, President
Herbert & George Wolf Tracts
Huntingdon and Centre Counties, Pennsylvania

Attached herewith are three sets of additional information on subject docket with copies of letter of transmittal, dated April 18, from Mr. D. H. Viscount.

W. T. Millar

Enclosures - 3

copy for DMEA Files

C
O
P
Y

4956 Curry Road
Curwood Manor
Pittsburgh 27, Pa.
April 18, 1953

Mr. W. T. Millar, Acting Executive Officer
Bureau-Survey Field Team
Defense Minerals Exploration
College Park, Maryland

Dear Mr. Millar:

Confirming verbal conversation of even date we are herewith enclosing four copies of the following:

1. Topographic map on which we have outlined the properties and also the strike and dip of the deposit.

2. Geological Survey map.

3. Assay analysis and notes indicating where and how the samples were taken.

At the present time we cannot furnish information on the recovery of the minerals in our deposit as requested by Mr. C. O. Mittendorf. However we are still experimenting with the furnace that we have installed on our property and are also working with several other companies. As recovery methods are developed and cost data complied we will forward it to you. We trust that we have submitted the above data in accordance with your request.

Sincerely yours,

Standard Enterprises Inc.

/s/ D. H. Viscount
D. H. Viscount

COPY

SPECTRCHEMICAL LABORATORIES INC.
IOIO WOOD STREET
PITTSBURGH 2I, PENNA.

ANALYSIS REPORT

	"A"	"B"	"C"
	January 29,I952	October 9, I952	October29, I952
SiO_2	I5.o	Major	
Fe_2O_3	I.o	7.5	
MnO	Major	26.47 as Mn 20.52	
MgO	.Io	.o5 Chem	
Al_2O_3	5.o	5.o	
V_2O_5	-	-	
CuO	.o3	.ooI	
Na_2O	.o5	.35	
ZnO	.oo5	.oo5	
TiO_2	.Io	.Io	
NiO	.Io	.Io	
CoO	.Io	I.3o	Co .59) Chem
PbO	.oI	.oo2	CoO .75)
K_2O	.o5	I.o	
CaO	.3o	.Io	
Cr_2O_3	.ooI	.oo2	

Note: Item "A" Analysis of float taken along strike of vein for approximately 6500 feet.

Item "B" Analysis of ore taken at three foot intervals across length of present pit at approximate depth of 20 feet of surface.

Item "C" Analysis of ore taken from bottom of present pit floor.

C
O
P
Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
DMEA
College Park, Maryland

April 17, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region VIII

Subject: Docket No. DMEA 2918 - (Cobalt-Manganese)
Standard Enterprises, Inc., Daniel H. Viscount, Pres.
Herbert and George Wolf Tract, Huntingdon and Centre Counties, Pennsylvania

Mr. Viscount telephoned this morning from Pittsburgh, Pa., inquiring about the subject application.

I requested that additional information be supplied as requested in Mr. Mittendorf's letter to him of March 19. Mr. Viscount stated that a map has been made and some additional information obtained which will be submitted within a few days.

I asked other questions about the deposit which were answered as follows:

The overburden is about 3 feet deep, so trenching with a bulldozer is feasible.

The structure is solid rock and the mining he did required drill holes on 6-foot centers.

There are 2 or 3 test pits, 4 or 5 feet deep, along the trend of the formation which is about 6,500 feet long.

The structure is exposed in the opencut which now has some soil washed in by winter and rainy weather, but this could be cleaned out with very little work.

This information gives an impression different from what I had when my memorandum to you of April 15 was written. At this time, I would like to withdraw previous comments on the physical features of the property. It seems as if a field examination is necessary before any definite plan for exploration can be considered.

Signed: W. T. Millar

W. T. Millar

Copy retained 400

College Park, Maryland

April 15, 1953 TPY

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region VIII

Subject: Docket No. DMEA-2918 - (Cobalt-Manganese)
Standard Enterprises, Inc.
Herbert & George Wolf Tract
Huntingdon and Centre Counties, Pennsylvania

This memorandum is in reply to your letter of April 2, referring the subject application to this office.

The application was discussed with the Bureau of Mines engineer who visited the property in December as a routine check on mineral deposits within Region VIII. The area is covered with overburden estimated to be as much as 20 feet deep. The old test pits and the open cut are inaccessible, therefore, little additional information can be obtained without exposing the structure.

Today, I received assay results from the Metallurgical Branch on the sample of material obtained for metallurgical research by the Pittsburgh and College Park laboratories of the Bureau of Mines. The metallurgical work is not complete, but the advanced information received seems worthy of consideration for this application. Please bear in mind that the sample for metallurgical testing described in my memo to you on March 23 is not considered as representative of the deposit. The object of the sample was to obtain cobalt bearing manganese on which research on separation of cobalt and manganese could be made.

Assay results:

Mn	-	24.0%
Fe	-	8.27%
P	-	0.032%
Insol.	-	39.3%
Ignition Loss	-	8.23%
Co	-	0.21%
SiO_2	-	39.1%
Al_2O_3		2.98%

There is some variation in the assay results obtained in the Pittsburgh laboratory, which I do not have, but this may be expected because

the manganese is reported to occur in large blocks up to 1/2 ton. Weathering probably affected some parts more than others.

At this time, research indicates that a separation of manganese and cobalt may be made by chemical methods, the cost of which is probably prohibitive.

The following comments are offered for consideration:

(1) It seems that the cobalt content is too low to be considered as a cobalt application. Manganese is the chief constituent.

(2) Provided favorable action is taken on a manganese application, then set up a contract in two stages.

Stage I - Examination work by cleaning out the open cut and test pits to expose the structure, sampling and assaying mineralized areas.

Stage II - Provided results from Stage I justify further exploration, trenching and testpitting may be employed. This will necessarily be determined after some knowledge of the occurrence of the ore is obtained. If the deposit is a solid bed with a shallow overburden, a bulldozer would be useful. In deep overburden up to 20 or 30 feet, a clam shell for sinking test pits could be used advantageously; then blast through the mineralized bed. If the manganese occurs in scattered blocks up to 1/2 ton, my impression is that drilling of any kind would furnish unreliable information. Probably test pits on a definite pattern would supply more accurate results. Core drilling would be more economical if the structure is such that could be cored.

Before a definite plan for exploration can be made, it is necessary to obtain information on the structure which is not now available.

WTM

W. T. Millar

WTM:rwa

copies for RWStahl
JBHanley
GeoCSelfridge - 2
DMEA Files 2

Mr. Daniel Viscount, President
Standard Enterprises, Inc.
4956 Curry Road, Curwood Manor
Pittsburgh 27, Pennsylvania

APR 9 1953

Re: Docket No. DMEA 2918 - Cobalt
and Manganese
Standard Enterprises, Inc.
Herbert & George Wolf tract
Huntingdon & Centre Counties, Pa.

Dear Mr. Viscount:

Your application for assistance in exploring cobalt and manganese occurrences at the Huntingdon Furnace property has been reviewed by the Iron and Ferro-Alloys Division, Defense Minerals Exploration Administration, and has been referred to Mr. W. T. Millar, Executive Officer, DMEA Field Team, Region VIII, Bureau of Mines Eastern Experiment Station, College Park, Maryland, for further consideration and possibly a field examination. You should, however, furnish us with the information requested in our letter of March 19, 1953.

We have been advised that the Bureau of Mines' examination, referred to in your conversation with this Administration on March 23, 1953, was only a routine visit and that no samples were taken. In addition, the samples taken by you for metallurgical investigation were not representative of the deposit but were taken to obtain cobalt-bearing manganese material for metallurgical testing.

Should a field examination be required, any assistance that you can render the examining engineers will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

CC: DOCKET
FIELD TEAM, REG. 8
CODE 400
OPER. COMMITTEE
ADMN. READ. FILE
N. R. MELCHER, USBM
M. D. CRITTENDEN, USGS

FARutledge/ls
3/31/53

400

Mr. [illegible] Miller, Executive Officer
[illegible] Vialitz [illegible]
Bureau of Mines Research Development Station
College Park, Maryland

APR 2 1953

Re: Docket No. [illegible] - Cobalt
and Manganese
Standard Metallurgical, Inc.
Weirton & Oceanic Oil Tract
Huntington & Cabin Creek, Va.

Dear Mr. Miller:

Reference is made to the subject application for exploration assistance which is being submitted to your office for [illegible] action.

Since the benefit of the proposed program is adequately described in the application, the applicant has neglected to furnish analytical information [illegible]. However, though this information has not been received, the subject application is being referred to you for consideration because it [illegible] little additional data are likely to be obtained from Mr. Vincent.

In reviewing the application, it was noted that the exploration was to consist of [illegible] diamond drill holes [illegible]. The question has really been fully discussed by a program of this type. It is suggested that the respective merits of either a deep drilling program or an exploration program using a rotary bucket-drill be compared with those of the diamond drill program.

In [illegible] the project application under cobalt, the [illegible], further [illegible] tion. [illegible] at yet [illegible] so, should be referred to [illegible] cost data on his proposed treatment process.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

EAHutledge/ls 3/30/53

Approved:

S. E. Hodges

Member, Bureau of Mines

A. R. Kinkel, Jr.

Member, Geological Survey

cc: DOCKET
FT. REG. 8
ADMS. READ. FILE
CODE 400
OPER. COMMITTEE
N. B. MILCHER, USBM
M. D. GRITTENDEN, USGS

IN REPLY REFER TO:

G-MD-CP

400

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

March 25, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 25 1953

Memorandum

To: W. S. Martin

From: M. D. Crittenden, Jr.

Subject: DMEA-2918
Standard Enterprises, Inc.
Huntington and Centre Counties
Pennsylvania

The applicants are lessees of large acreages in Huntington and Centre Counties said to carry cobalt-bearing manganese ores. No assays or samples are reported. The property is opened by an open cut 40 x 60 x 20 feet on a deposit of manganese oxides in clay.

The Geological Survey apparently has no detailed information concerning these deposits. However, the Bureau of Mines, in 1942, carried out a bucket drilling program on a deposit in this vicinity, known as the Cretchfield manganese deposit (R2-4326). Careful comparison of details as to location and access suggest that the deposits are within a few miles of each other at the most, and may be identical.

The Cretchfield deposit is also in clay and was operated as a clay mine about 1942. The USBM completed 6 rotary bucket drill holes showing manganese content of 0.02 to 0.53 percent manganese. The average was less than 0.10 percent. No cobalt was reported.

The docket is held for further information.

M. D. Crittenden, Jr.

Copy retained 400

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

MAR 19 1953

Mr. Daniel Viscount, President
Standard Enterprises, Inc.,
2270 William Penn Highway
Pittsburgh 35, Pennsylvania

Re: Docket No. DMEA-2918
(Cobalt and Manganese)
Standard Enterprises, Inc.
Herbert & George Wolf tract,
Huntingdon & Centre Counties, Pa.

Dear Mr. Viscount:

This is with reference to your application for exploration assistance on the captioned property.

A review of this application does not reveal sufficient information to enable us to take further action on it. It will be necessary that we receive maps showing the local geology, the present workings, and the target of the proposed exploration work. It is also necessary that you furnish us with assay data to substantiate the occurrence of cobalt and manganese. The location and length of samples of the mineralization should be shown on the maps submitted.

The recovery of cobalt and manganese from low-grade ores presents metallurgical problems. Inasmuch as your application includes cobalt with manganese we are interested in your proposed plans for recovery of these metals. We will appreciate receiving any information from you in this connection, together with copies of the flow sheet for your proposed treatment process, if available. If you have any detailed estimated cost data for the recovery of these minerals we would also be interested in receiving this information.

Your application will be held in abeyance until we receive further word from you concerning the foregoing.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge/FEJohnson/hhb/bih
3/19/53
cc to: Docket
Admr. Reading File
Region VIII (2)
Messrs. N.B. Melcher, USBM
M.D.Crittenden, USGS
FARutledge
FEJohnson

dmea 2918

College Park, Maryland

March 4, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region VIII

Subject: Standard Enterprises, Inc., Daniel Viscount, President
Fentryer Tract and Herbert and George Wolf Tract
Huntingdon and Centre Counties, Pennsylvania
(Cobalt-Manganese)

Transmitted herewith is the original and two copies of subject application.

Mr. Viscount requested by telephone that he be permitted to give bond or guarantee for his portion of the estimated cost for exploration, rather than to obtain liens from the various property owners. A bank statement is attached to the application.

W. T. Millar

Enclosures - 3

WTM:rwa

copy for GeoCSelfridge - Orig. & 2
JBHanley, USGS
DMEA Files 2

dmea 2918

COPY

4956 Curry Road
Curwood Manor
Pittsburgh 27, Pa.

Mr. W. T. Millar, Acting Chief
Mining Development Branch
Bureau of Mines
College Park, Maryland

Dear Mr. Millar:

Enclosed herewith (4) copies of application for drilling project. Please note that we have included a quoted price of $8.00 per foot in our estimate submitted by Sprague & Henwood Inc. This is your authority to change the price if you feel that the Pennsylvania Drilling Co. quoted price is cheaper. If you will notice their bid is broken out and they would not quote on a lump sum basis per foot.

In line with our telephone conversation rather than submitting the owners consent to lien, we are submitting a bank statement of one of the officers of the corporation. We trust that the application as submitted is complete in every detail.

Incidentally, Mr. Sturges, President of Pennsylvania Drilling, and a registered engineer and geologist for the past 50 years considers this one of the best projects that he has seen.

Very truly yours,

STANDARD ENTERPRISES, INC.

/s/ Daniel H. Viscount
Daniel H. Viscount

encl. 4

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 5 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 2918
Metal or Mineral
Date Received 3-5-53
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: Standard Enterprises, Inc., a Pennsylvania corporation, 2270 William Penn Highway, Pgh. 35, Pa. - Daniel Viscount, Pres., 4956 Curry Rd., Pgh. 27, Pa. - Stephen Catarinella, Sec., 2270 William Penn Highway, Pgh. 35, Pa. - Felix Caste, Treas., 106 Hoodridge Dr., Pgh. 16, Pa.

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

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

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

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

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

(*b*) State any mine name by which the property is known. None

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Lessee of mineral lands, 20 acre plant and plant site owned by corporation.

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

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

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

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

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

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

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

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

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

(*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 90 days and be completed within 24 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

[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 Feb-27, 1953

ATTEST: Stephen Catarinella
Secretary

STANDARD ENTERPRISES, INC.
(Applicant)
By Daniel H. Viscount
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

3. Applicant's property rights.---(a) Approximately 4,000 acres in Huntingdon and Centre Counties, held by lease, 20 acres at plant site, owned by corporation, Morris Township, Huntingdon County, Pa., land to be explored comprises approximately 418 acres and known as the Pennington Ridge lands, Zentmyer tract partly in Township of Warriorsmark, Huntingdon County, and in the Townships of Half Moon and Ferguson, Centre County, Pa., more particularly described and referred to as Parcel No. 1 in lease agreement with Edna T. Zentmyer, attached hereto as Exhibit "A".

Herbert and George Wolf tract comprising approximately 400 acres, Warriorsmark Township, Huntingdon County, Pa., of record in the Recorder's Office of said County in Misc. Book No. 43, page 183, a copy of which lease is attached hereto and marked Exhibit "B".

4. Physical description.---(a) Previous mining operations, if any, unknown. Mine is located on hard surfaced road and is accessible at all times.

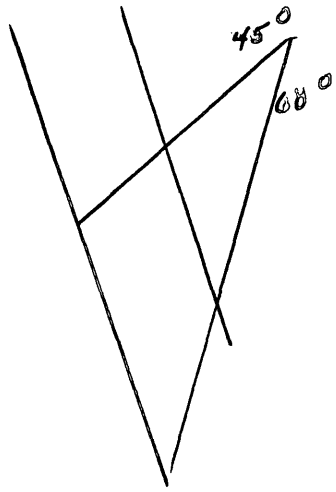
(b) Iron ore mined 1870. Production unknown. Kaolin clay mined in 1941. Production unknown.

(c) Standard Enterprises, Inc., operation consists of an open cut approximately 40 ft. wide, 60 ft. long and 20 ft. deep. The deposit is composed of block manganese oxide in clay. The ratio from the ground worked appears to be about 1 manganese equals 2 clay. Sketch of open cut is attached hereto. The reason for exploration is to determine the trend. Persistence along trend and also with depth, ratio of ore to waste, and grade of ore. The cobalt content appears to increase with the depth of the deposit. Deposit is indicated along strike for about 6,000 ft., apparent dip 80°, overburden 3 to 4 ft. at open cut.

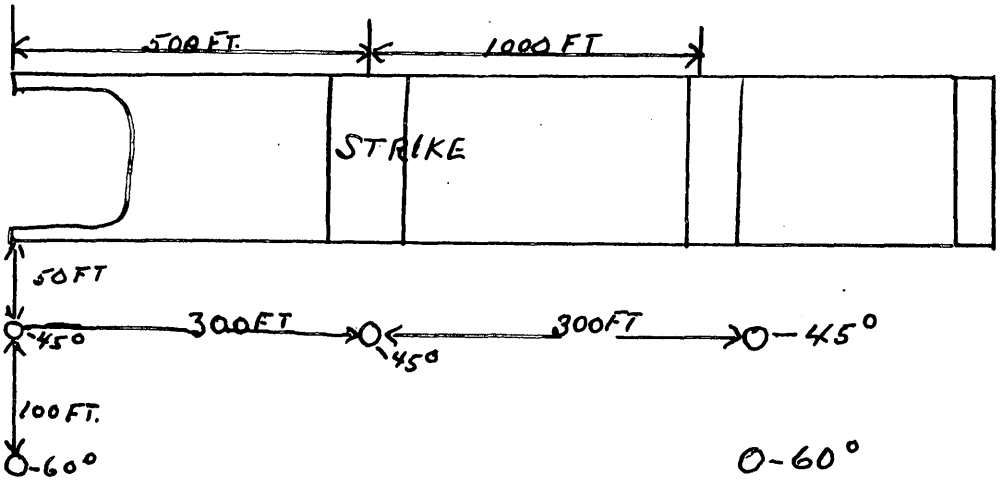
(d) Good hard surfaced all-weather highway to the property.

(e) High unemployment area, 6 miles to Tyrone and 14 miles to Altoona, Pa., where materials and supplies can be obtained. Plant is on railroad siding of the main line of the Pennsylvania Railroad. Water and water rights very adequate. Power available for large operation.

5. The exploration project.---(b) First stage---bull dozer trenches through overburden across apparent trend on 1,000 ft. intervals, starting 500 ft. from present pit. Second stage---diamond core drilling program to start at present pit and continue along strike on 300 ft. interval. Holes to be AX size minimum. Holes to be drilled at 45° and 60° at distances of 50 ft. and 150 ft. from edge of deposit.



20 holes at ~~40°~~ 45° - 125 ft. deep
10 holes at 60° - 400 ft. deep



6. Estimate of costs.---

Supervision	$ 6,000.00		$ .92
Diamond drilling 6,500 ft.	52,000.00		8.00 per ft.
Trenching 300 ft.	1,000.00		.16 per ft.
Sampling and analysis	1,000.00		.16 per ft.
Surveying and mapping	500.00		.08 per ft.
Total 6,500 units	$60,500.00	at	$9.32 per ft.

(b) All work to be performed on sub-contracts. Supervision to be handled by Mr. Daniel Viscount. All cores to be saved for logging, sampling and future reference.

SPRAGUE & HENWOOD, INC.
CONTRACTORS FOR
DIAMOND CORE DRILLING
SHOT CORE DRILLING - WASH BORINGS & SOUNDINGS - WATER WELLS & CHURN DRILLING

BUILDINGS,
BRIDGES,
MINERALS,
DAMS, ETC.

L. R. CASTATOR
DISTRICT MANAGER
ROOM 200
336 FOURTH AVE., MAGEE BLDG.
PITTSBURGH, PA.
PHONE: ATLANTIC 2265

PITTSBURGH, PA., February 20, 1953

Mr. D. H. Viscount, President
Standard Enterprises, Inc.
40956 Curry Road
Curwood Manor
Pittsburgh 27, Pa.

My dear Mr. Viscount:

Immediately after our trip to your manganese ore project, near Tyrone, Pa., on February 7th, 1943, I forwarded full information as to what you planned, to our main office at Scranton, Pa. I have been in contact with them today, and they have authorized me to quote you as follows upon the diamond core drilling you propose having done:

> We will put down for you a series of 20 diamond core drilled holes, on an angle of 20 degrees from the vertical, each hole to be approximately 125 feet in depth, and 10 diamond core drilled holes, on an angle of 60 degrees from the vertical, each hole to be approximately 400 feet in depth, using AX diamond bits and recovering a 1-1/8" core, whenever core can be obtained, for the price of EIGHT DOLLARS . . . . . $8.00 per ft.
>
> All cores from the ore body to be boxed, in the order of recovery.
>
> It is understood that the above holes are to be drilled in the vicinity of Tyrone, Pa., at points to be indicated by you, for the purpose of locating and testing a body of manganese ore.
>
> We to place one or more complete drilling outfits upon the job, operated by competent crews, and furnish everything necessary to complete the work to your entire satisfaction.

Trusting the above will meet with your approval, we are,

Yours very truly,
SPRAGUE & HENWOOD, INC.

L. R. Castator

L. R. Castator
Vice President

LRC/ef

PENNSYLVANIA DRILLING COMPANY

INCORPORATED 1900

Drilling Contractors-Engineers and Manufacturers

"WE LOOK INTO THE EARTH"

MINERAL PROSPECTING · FOUNDATION TESTING · WATER WELLS · PRESSURE GROUTING · "PENNDRILL" DIAMOND CORE DRILLS & SUPPLIES

MAIN OFFICE · 1201-15 CHARTIERS AVENUE
PITTSBURGH 20, PA.
PHONE · WALNUT 1-5816
CABLE ADDRESS "PENNDRILL"

February 16, 1953

Standard Enterprises, Inc.
Curry Road
Pittsburgh (27), Pa.

Subject: Core Drilling
Tyrone, Pa. Area

Gentlemen:

We are pleased to submit the following prices for above proposed work:

Drilling AX Size Cores - Price $6.30 per lineal ft.

Reaming and installing AX Size Casings where necessary - $1.50 per lineal ft. of AX Casing installed

Cementing, waiting for cement to set, and drilling out cement - Price $11.00 per hour

We understand that there will be 10 or more holes of approximately 125 ft. depths each and 8 or more holes of approximately 400 ft. depths each.

We are in a position to offer prompt service at this time.

Thanking you for the opportunity to be of service, we are

Very truly yours,

PENNSYLVANIA DRILLING COMPANY

J. A. Christopherson

J. A. Christopherson
Vice President-Operations

JAC:ef

ARTICLES OF AGREEMENT

THIS AGREEMENT, made and entered into this ____ day of _____, 1952, between EDNA T. ZENTMYER, Widow, of the Borough of Tyrone, County of Blair, State of Pennsylvania, party of the first part, and

STANDARD ENTERPRISES, INC., a corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania, with its principal office at 2270 William Penn Highway, Churchill Borough, Allegheny County, Pennsylvania, party of the second part.

WITNESSETH: That the party of the first part, for and in consideration of the sum of One ($1.00) Dollar, receipt of which is hereby acknowledged, and of the covenants and agreements hereinafter mentioned, has granted, bargained, demised and leased, and by these presents does grant, bargain, demise and lease unto Standard Enterprises, Inc., the second party, for the purposes hereinafter mentioned, all the following described property situate partly in the Township of Warriors Mark, County of Huntingdon, and in the Townships of Half Moon and Ferguson, County of Centre and State of Pennsylvania, bounded and descrbied as follows:

PARCEL No. 1, known as the "PENNINGTON RIDGE" lands.

"BEGINNING at a stone heap at the line of lands of the Estate of Henry Myers, deceased, which stone heap is also a corner of lands of the Tyrone Mining & Manufacturing Company, thence, along the last named, South 30½° East 71.4 P. to a stone heap, thence, along the same, North 59¼° East 26 P. to stones; thence, along the same, South 30½° East 80.2 P. to a post and stones; thence again, along the same, North 65° East 75 P. to a post at the line of lands formerly of Charles H. Fitzhugh et al, now owned by Clark Grazier; thence, along the said Grazier land, South 23¼° West 15.4 P. to a point in the public road leading from

EXHIBIT "A"

Warriors Mark to Birmingham; thence, along the said road, South 44½° West 56.6 P.; South 45° West 39.33 P.; South 43-3/4° West 26.72 P.; South 47° West 39.76 P.; South 50¼° West 32.24 P.; South 80-3/4° West 28 P.; South 77½° West 45.45 P.; and South 46½° West 60 P. to a post at the west side of the said road at the line of lands of Mingle Brothers; thence, along the last named lands, North 33° 50' West 24.44 P. to stones, also a corner of the said Mingle lands; thence, along the same and lands of George Dickson, South 54½° West 124.44 P. to stones, also a corner of lands of Robert S. Seeds; thence, along the last named, North 59° West 126 P. to stones at the line of lands of the George G. Guyer Estate; thence, along the latter and lands of Eli Grant, H. L. Harpster and others, North 35-3/4° East 266 P. to a post and stones, also a corner of the said H. L. Harpster; and thence, along land now or formerly of H. Myers Estate, North 54-3/4° East 160 P. to a stone heap, the place of beginning."

CONTAINING 418 Acres and 125 Perches, net measure, and being all or portions of surveys in the names of William Birdsall and Andrew Henderson.

For title to iron ore and mineral see deed from John Phillips, Master, dated July 22, 1908, and recorded in Huntingdon County Deed Book, No. "L"-57, Page 159.

PARCEL No. 2, known as the "DORSEY RIDGE" lands.

"BEGINNING at a post by a pine, also a corner of lands lately sold by the said Charles H. Fitzhugh et al to Abraham Hesley, which post is also a corner of the Israel Pennington survey; thence, along the said Hesley, North 82-3/4° West 63.76 P. to a post and stones at the line of the public road leading from Huntingdon Furnace to Birmingham; thence, along the said road, South 17° East 17.76 P. to a post at the line of lands of Hannah Smith; thence, along the latter, North 45° West 72.2 P. to a post and thence, along the same and lands now or formerly of Elizabeth Patterson and Thomas Smith, South 56½° West 75.1 P. to a post and

stones, also a corner of lands now or formerly of S. T. Isett; thence, along the latter, South 50½° West 77.6 P. to a post and stones, also a corner of lands of Daniel Waite's heirs; thence, along the latter, South 57½° West 106 P. to a point in the public road leading from Spruce Creek to Birmingham; thence, along the said road, North 43° West 18.75 P. and North 58½° West 14 P.; thence, along lands of Thomas Kooken's Heirs, North 13½° West 30.1 P. to a post, North 46¼° East 40.24 P. to a stone, also a corner of lands of the said Kooken heirs; thence, again along the latter, North 26½° East 52.1 P. to a white oak; North 1¼° East 9 P. to a hickory; North 43° 10' West 65.8 P. to a post and pointers; thence, along lands of the said Kooken heirs, George Dickson and Mingle Brothers, North 24° East 148.36 P. to a post and stones at the line of Uriah Gates, formerly the Allison Farm of the George K. Schoenberger Estate; thence, along the said farm, South 85½° East 15.76 P. to a post by a white oak; South 69½° East 18.18 P. to a post by a chestnut; South 31½° East 7.2 P. to a post by a black oak; North 88¼° East 21.4 P. to a post and stones; and South 87-3/4° East 56.23 P. to a post at the line of lands of Clark Grazier; and thence, along the last named, South 41½° East 261.27 P. to a post, the place of beginning."

CONTAINING 334 Acres and 106 Perches, net measure, and being composed of all or portions of surveys in the names of William Thompson, Richard Chaney and Sarah Massey and William Perry.

FOR title to iron ore and mineral see deed from John Phillips, Master, dated February 1, 1909, and recorded in Huntingdon County Deed Book, No. "L"-5, Page 488,

for and during the term of fifteen (15) years from the date hereof with an option to renew or extend this lease at the conclusion of the primary term for another fifteen (15) years, and so on from year to year, under the same terms and conditions as hereinafter set forth.

FIRST: It is hereby covenanted and agreed that Standard Enterprises, Inc., or its assignee shall have the sole and exclusive right and privilege to search, explore, dig, test, drill, quarry, process and to mine for iron ore and all other metallic ore and other minerals, including clay, during the continuance of this lease or any renewal thereof, in, upon and under the surface of the tract or piece of land hereinbefore described, and to take, remove and transport the same therefrom and for the purposes aforesaid to use so much of the water supply on said premises, so much of the land, surface or otherwise, as may be necessary to sink a shaft or shafts for hoisting, ventilation, to erect hoisting works, breakers, engines, machinery, office, weigh house, scales, processing equipment and such other buildings, erections and works as the party of the second part or its assignee may find necessary for the proper working, mining, exploring, processing and operation as aforesaid, and the right to dump spoilage on the premises or any debris accumulated as a result of said mining or processing operation, and to have free ingress and regress to and from, and over and across the said premises, and the right to transport under, through, upon and over said premises other minerals and clay belonging to or which may hereafter be acquired by the second party on adjoining tracts of land or which, while not actually adjoining said tract, may be in the general vicinity of the premises herein described, so long as mining and quarrying operations on this land are continued in conjunction therewith. It is understood and agreed that the appropriation of the surface for necessary construction, processing and operations of the second party shall interfere in the least possible manner with the operations of the lessor of the tract for farm or other purposes. It is further understood and agreed that the second party or its assigns shall have the right at any time to remove all tools, engines, machinery, buildings and all other equipment and property belonging to the second party or its agents or assignees, which may be placed upon, set up or erected upon said

premises and used in connection with the operations thereon, and the first party hereby releases the second party or its assignees of and from all and every claim or claims for damages to, in, under and upon the surface of said premises caused by any of the operations, constructions or communications aforesaid.

SECOND: The party of the second part agrees not to commit any damage to the said lands or suffer any damage to be done thereto other than such as may be necessary for the purposes hereinbefore mentioned nor to claim or hold possession of the same for any other purpose whatsoever.

THIRD: It is understood and agreed that the second party or its agents, employees or assigns shall have the right to enter possession of the premises at any time within eighteen (18) months from the date hereof for the purpose of prospecting, testing for the presence of minerals therein and the installation of any equipment that may be necessary for the proper mining operations aforesaid, after which period the second party shall pay to the first party a rental of Twenty-five ($25.00) Dollars per month. It is further understood and agreed that is production is started and minerals are produced in paying quantities at any time during the term of this lease or any renewal thereof, the second party agrees to pay to the first party a flat royalty of Twenty-five (25¢) Cents per ton upon each and every ton of iron ore or other metallic ore, minerals and clay which may be mined or processed, taken out and removed by the said second party or its assigns as aforesaid, the same to be paid to the first party at 1103 Lincoln Avenue, Tyrone Borough, Pennsylvania, on the 17th day of the month, upon so much thereof as may have been mined or processed, taken out and removed during the preceding month. A true account of the quantity mined, processed, taken out and removed from time to time shall be kept by the said second party, which shall at all times be open to the inspection of the first party. It is further understood and agreed that the

rental of Twenty-five ($25.00) Dollars per month, during the term of this lease or any renewal thereof, shall cease and determine and shall not be an additional charge as part of the consideration herein as and when mining operations begin and minerals are produced as aforesaid.

FOURTH: It is further understood and agreed, as part of the consideration herein, the first party hereby grants to the second party the free and uninterrupted use of and passage in and over any other lands of the first party, if any, and if such way or passage is required in the judgment of the party of the second part or its assignees in connection with the removal of minerals in the above described land or which may be required as a convenient loading and unloading point by railroad, trucks or other carriers for shipment of ores, minerals and clay, the party of the second part, its successors or assigns shall notify in writing the party of the first part, her heirs and assigns of the amount of land necessary for such purposes and the location thereof and, as soon as convenient after such notice, shall proceed to occupy such land for said purposes.

FIFTH: It is further understood and agreed that if the party of the second part, its successors or assigns shall at any time hereafter fail to pay the rental and royalty as aforesaid, and shall become in default for a period of two (2) months after the same shall become due hereunder, and after being notified in writing by registered letter sent to the business office of the said second party, by the first party, of said default, then and in such case the said party of the first part at her option may declare this entire lease null and void, and from thence and thereafter all of the rights in the agreement granted unto the party of the second part shall be forfeited, terminated and ended, saving only to the party of the second part a period of three (3) months thereafter within which it shall have the right to remove from the premises any machinery, tools, equipment, buildings, and

so forth, which it may have placed thereon and which have not been removed at the termination of this lease.

SIXTH: It is understood and agreed that all the covenants between the parties hereto shall extend to their respective heirs, executors, administrators, successors and assigns.

SEVENTH: It is further understood and agreed that if at any time during the term of this agreement or any renewal thereof, the second party shall find that there are no minerals or other metallic ores and clay, or that the minerals or other metallic ores and clay found on the premises cannot be mined, processed and produced in paying quantities, the second party shall have the right to terminate this agreement or any renewal thereof by giving ninety (90) days' notice in writing, sent by registered mail to the first party, and by paying all sums of money due the first party which may have accrued in accordance with the terms of this agreement, and all obligations and liability incurred under the terms of this contract shall be ended, and the second party or its successors or its assings forever discharged.

IN WITNESS WHEREOF the parties have hereunto set their hands and seals the day and year first above written and hereby intend to be legally bound.

WITNESS:

_____ _____(SEAL)

ATTEST: STANDARD ENTERPRISES, INC.

_____ by_____
Secretary President

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF BLAIR)

On this ___ day of _____ A.D., 1952, before me, a notary public, personally appeared Edna T. Zentmyer, Widow, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that she executed the same for the purposes therein contained.

Witness my hand and notarial seal the day and year aforesaid.

_____(SEAL)

My commission expires:

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

On this ___ day of _____ A.D., 1952, before me, a notary public, personally appeared Stephen Catarinella, Secretary of Standard Enterprises, Inc., who, being duly sworn according to law, says that he was personally present at the execution of this agreement and saw the corporate seal of Standard Enterprises, Inc., affixed thereto, that the seal so affixed thereto is the corporate seal of Standard Enterprises, Inc.; that the agreement was duly sealed and delivered by Daniel H. Viscount, President of Standard Enterprises, Inc., and Stephen Catarinella as Secretary, subscribed to the foregoing agreement, in attestation of its due execution and delivery, are of their, and each of their own respective handwriting.

_____
Secretary

Sworn and subscribed to
before me the day and year
aforesaid.

_____
Notary Public

ARTICLES OF AGREEMENT

THIS AGREEMENT, made and entered into this 19th day of August, 1952, between HERBERT T. WOLF and GEORGE A. WOLF, of 1501 Fifteenth Street, Altoona, Pennsylvania, parties of the first part, and

STANDARD ENTERPRISES, INC., a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, with its principal office at 2270 William Penn Highway, Churchill Borough, Allegheny County, Pennsylvania, part of the second part.

WITNESSETH: The said parties of the first part, for and in consideration of the sum of One ($1.00) Dollar, receipt of which is hereby acknowledged, and of the covenants and agreements hereinafter mentioned, have granted, bargained, demised and leased, and by these presents do grant, bargain, demise and lease unto Standard Enterprises, Inc., for the purposes hereinafter mentioned, all that certain tract of land situate in Warriorsmark Township, in the County of Huntingdon and State of Pennsylvania, bounded and described as follows:

BEGINNING at a point on the Bellefonte Central Railroad Company, Tyrone Branch of the Pennsylvania Railroad Company, and line of land now or formerly of H. W. Myers Estate; thence along line of said land 30-3/4° East 92 perches, more or less, to stones; thence along the same land South 50° East 92 perches, more or less, to stones; thence along same land South 54-3/4° West, 73 perches to stones; thence along land now or formerly of R. A. Zentmeyer, South 38-1/2° East 72-4/10° perches to stones; thence along said land North 59-1/2° East 26 perches to stones; thence North 65° East 75 perches to stones; thence along land now or formerly of C. Grazier North 23-1/4° East 43 perches to the line of land now or formerly of J. W. Miller; thence along said Miller land North 70-3/4° West 68 perches to stone; thence along the same North 43°, 7/10's perches to a point at a post; thence along same North 67-1/2° East 61-4/10 perches to stones; thence along land now or

EXHIBIT "B"

formerly of A. B. Henderson South 72-1/2° East 74-5/10 perches to a point in the center of a public road leading from Warriorsmark to Birmingham; thence along center of said road North 34-1/7° East 127 perches to a post on land now or formerly of James B. Irwin; thence along said Irwin land North 26-1/2° West 90 perches, more or less, to a public road leading from Warriorsmark to Tyrone; thence along said public road to the front of the intersection of said public road with the Bellefonte Central Railroad; thence West along said Bellefonte Central Railroad following the courses and curves of said railroad in a Western direction to the point and place of beginning.

For and during the term of fifteen (15) years from the date hereof, with an option to renew or extend this lease at the conclusion of the primary term for another fifteen (15) years, and so on from year to year, under the same terms and conditions as hereinafter set forth, as long as minerals may be found thereon and can be produced or extracted in paying quantities.

FIRST: It is hereby covenanted and agreed that Standard Enterprises, Inc., or its assignee shall have the sole and exclusive right and privilege to search, explore, test, drill, quarry, process and to mine for clay, iron ore and all other minerals, during the continuance of this lease or any renewal thereof, in, upon and under the surface of the tract or piece of land hereinbefore mentioned, and to take, remove and transport the same therefrom and for the purpose aforesaid to use so much of the water supply on said premises, so much of the land, surface or otherwise, as may be necessary to sink a shaft or shafts for hoisting, ventilation, to erect hoisting works, breakers, engines, machinery, office, weigh house, scales and such other buildings, erections and works as the party of the second

part or its assignee may find necessary for the proper working, mining, processing and operation as aforesaid, and the right to dump spoilage on the premises or any debris accumulated as a result of said mining or processing operations, and to have free ingress and regress to andfrom the said promises and the right to transport through, under, upon and over said premises other iron ore, minerals and clay belonging to or which may hereafter be acquired by the party of the second part. It being understood that the party of the second part shall follow all laws and regulations of the Commonwealth of Pennsylvania with regard to backfills in connection with mining operations. The party of the second part or its assigns shall have the right at any time to remove all tools, engines, machinery, buildings and all other property and equipment belonging to the second party or its agents or assignees, which may be placed upon, set up or erected upon said premises and used directly or indirectly in connection with the operations thereon, and the first parties hereby release the second party or its assignees of and from all and every claim or claims for damages to, in, under and upon the surface of said premises caused by any of the operations, constructions, processing or communications aforesaid.

SECOND: The party of the second part agrees not to commit any damage to the said lands or suffer any damage to be done thereto other than such as may be necessary for the purposes hereinbefore mentioned nor to claim or hold possession of the same for any other purpose whatsoever.

THIRD: It is understood and agreed that the second party or its assigns shall have the right to enter possession of the premises at any time within six (6) months from the date hereof for the purpose of prospecting, testing for the presence of minerals therein and the installation of any equipment that may be necessary for the proper mining and processing operation afore-

said, after which period the second party shall pay to the first parties, as rental for said premises, the sum of Twenty-five ($25.00) Dollars per month. It is further understood and agreed that if and when production is started and minerals are produced and processed in paying quantities at any time during the term of this lease or any renewal thereof, the second party agrees to pay to the first parties a flat royalty of Twenty-five (25¢) Cents per ton upon each and every ton of clay, iron ore or other minerals which may be mined or processed, taken out and removed by the second party or its assigns as aforesaid, the same to be paid to the first parties at their address, 1501 Fifteenth St., Altoona, Pa., on the 17th day of the month upon so much thereof as may have been mined or processed, taken out and removed during the preceding month. A true account of the quantity mined and processed, taken out and removed from time to time shall be kept by the said second party, which shall at all times be open to the inspection of the said first parties. It is further understood and agreed that the flat rental of Twenty-five ($25.00) Dollars per month during the term of this lease or any renewal thereof shall cease and determine and shall not be an additional charge as part of the consideration herein if and when mining and processing operations begin and minerals are produced as aforesaid.

FOURTH: It is further understood and agreed, as part of the consideration herein, the first parties hereby grant to the second party the free and uninterrupted use of and passage in and over the above described land at any point and on any other lands of the first parties, if any, and if such way or passage is required in the judgment of the party of the second part or its assignee hereof in connection with the removal of minerals in the above described land or which may be required as a convenient loading and unloading point by railroad or truck shipment of minerals, the party of the second part, its successors or assigns shall notify in writing the first parties of the amount of land

necessary for such purposes and the location thereof.

FIFTH: It is further understood and agreed that if the party of the second part shall at any time hereafter fail to pay the royalty as aforesaid and shall become in default for a period of two (2) months after the same shall become due hereunder, and after being notified in writing by registered letter sent to the business office of the said second party of said default, then and in such case the said parties of the first part at their option may declare this entire lease null and void, and from thence and thereafter all of the rights in the agreement granted unto the party of the second part shall be forfeited, terminated and ended, saving only to the party of the second part a period of three (3) months thereafter within which it shall have the right to remove from the premises any machinery, tools, equipment, buildings, and so forth, which it may have placed thereon and which have not been removed at the termination of this lease.

SIXTH: It is understood and agreed that all the covenants between the parties hereto shall extend to the respective heirs, executors, administrators, successors and assigns.

SEVENTH: It is further understood and agreed that if at any time during the term of this agreement or any renewal thereof, the second party shall find that there are no minerals or that the minerals found on the premises cannot be mined and produced in paying quantities, the second party shall have the right to terminate this agreement or any renewal thereof by giving ninety (90) days' notice in writing, sent by registered mail, to the first parties and by paying all sums of money due the first parties which may have accrued in accordance with the terms of this agreement, and all obligations and liability incurred under the terms of this contract shall be ended, and the second party or

its assigns forever discharged.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals the day and year first above written and hereby intend to be legally bound.

WITNESS:

Marion Staltz	George A. Wolf	(SEAL)
Zelia D. Reynold	Herbert T. Wolf	(SEAL)

ATTEST: STANDARD ENTERPRISES, INC.

Stephen Catarinella
Secretary

by Daniel H. Viscount
President

(SEAL)

COMMONWEALTH OF PENNSYLVANIA :
: SS:
COUNTY OF HUNTINGDON :

On this 19th day of August, A. D. 1952, before me, a notary public, an alderman personally appeared Herbert T. Wolf and George A. Wolf, known to me (Or satisfactorily proven) to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same for the purposes therein contained.

Witness my hand and notarial seal the day and year aforesaid.

Anthony O'Toole (SEAL)
Alderman

My commission expires: My Commission Expires on the First Monday in Jan. 1953

COMMONWEALTH OF PENNSYLVANIA :
: SS:
COUNTY OF ALLEGHENY :

On this 19th day of August A. D. 1952, before me, a notary public, personally appeared Stephen Catarinella, Secretary of Standard Enterprises, Inc., who, being duly sworn according to law, says that he was personally present at the execution of this agreement and saw the corporate seal of Standard Enterprises, Inc., affixed thereto, that the seal so affixed thereto is the corporate seal of Standard Enterprises, Inc., that the agreement was duly sealed and delivered by Daniel H. Viscount, President of Standard Enterprises, Inc., and Stephen Catarinella as Secretary, subscribed to the foregoing agreement, in attestation of its due execution and delivery, are of their, and each of their own respective handwriting.

Stephen Catarinella
Secretary

Sworn and subscribed to before me the day and year aforesaid

Ralph Spano
Notary Public

RALPH SPANO, Notary Public
My Commission Expires
February 9, 1953

CRD 12

FINANCIAL STATEMENT

INDIVIDUAL PROPRIETORSHIP

STATEMENT FORM SUGGESTED BY FEDERAL RESERVE BANK OF CLEVELAND

dmcc 2918

NAME STE EN CA A INE LA

ADDRESS 2270 ILLIAM PEN HIGHWAY, PITTSBURGH 35, PENNA.

BUSINESS 901 ELIZABETH STREET, PITTSBURGH 21, PENNA.

TO THE FIRST NATIONAL BANK of MCKEESPORT

CONDITION AT CLOSE OF BUSINESS February 27, 1953 FILL IN DATE

ASSETS	DOLLARS		CENTS	LIABILITIES	DOLLARS		CENTS
CASH ON HAND AND IN BANK	7	734	12	NOTES PAYABLE FOR MERCHANDISE		-0-	
U. S. GOVT. OBLIGATIONS	7	000	00	NOTES OWING FOLLOWING BANKS:			
NOTES RECEIVABLE OF CUSTOMERS	1	500	00	First Nat'l Bank of McK	360	000	00
ACCOUNTS RECEIVABLE OF CUSTOMERS—NOT DUE		-0-					
ACCOUNTS RECEIVABLE OF CUSTOMERS—PAST DUE		-0-		NOTES PAYABLE—OTHER THAN TO BANKS		-0-	
MERCHANDISE—FINISHED		-0-		ACCOUNTS PAYABLE FOR MERCHANDISE—NOT DUE		-0-	
MERCHANDISE—IN PROCESS		-0-		ACCOUNTS PAYABLE FOR MERCHANDISE—PAST DUE		-0-	
MERCHANDISE—RAW MATERIAL				TAXES		-0-	
completed homes sold and				ANY OTHER INDEBTEDNESS—DUE WITHIN ONE YEAR		-0-	
not sold	193	300	00				
TOTAL CURRENT ASSETS	209	534	12	TOTAL CURRENT LIABILITIES	360	000	00
STOCKS, BONDS AND INVESTMENTS—ITEMIZE ON REVERSE SIDE	252	200	00	MORTGAGES OR LIENS ON REAL ESTATE	265	091	26
MORTGAGES OR LOANS DUE ME		-0-					
REAL ESTATE OWNED (SEE SCHEDULE)	805	100	00	ANY OTHER INDEBTEDNESS—DUE BEYOND ONE YEAR			
MACHINERY AND EQUIPMENT	5	000	00				
CASH VALUE LIFE INSURANCE	10	000	00				
OTHER ASSETS—ITEMIZE				TOTAL LIABILITIES	625	091	26
				NET WORTH	656	742	86
TOTAL	1,281	834	12	TOTAL	1,281	834	12

SCHEDULE OF REAL ESTATE OWNED

DESCRIPTION AND LOCATION	TITLE IN WHOSE NAME	IMPROVED OR UNIMPROVED	APPRAISED VALUE	MORTGAGES	TAX VALUE	INSURANCE
			$	$	$	$
	SEE SEPARATE SCHEDULE					

CONTINGENT LIABILITY OF ANY KIND (IF NONE, SO INDICATE)	DOLLARS		CENTS
UPON NOTES OR ACCOUNTS RECEIVABLE DISCOUNTED SOLD, OR ASSIGNED			
AS GUARANTOR FOR OTHERS ON NOTES, BONDS, CONTRACTS, ETC.			
ANY OTHER CONTINGENT LIABILITY—ITEMIZE			
TOTAL CONTINGENT LIABILITIES		-0-	

SEE OTHER SIDE

CONDENSED INCOME AND EXPENSE STATEMENT FOR FISCAL YEAR ENDED [illegible] 19 [illegible]

EXPENSE	DOLLARS	CENTS	INCOME	DOLLARS	CENTS
COST OF MERCHANDISE SOLD			NET SALES		
SELLING EXPENSE			FROM INVESTMENTS		
ADMINISTRATIVE AND GENERAL EXPENSE			FROM DISCOUNTS ON PURCHASES		
INTEREST ON BORROWED MONEY			FROM OTHER SOURCES—ITEMIZE		
BAD DEBTS CHARGED OFF			[illegible]		
DEPRECIATION			[illegible]		
NET PROFIT			[illegible]	[illegible]	[illegible]
TOTAL			TOTAL	[illegible]	[illegible]

SALARY BONUSES AND WITHDRAWALS OF PROPRIETOR DURING YEAR $

RECONCILEMENT OF NET WORTH

NET WORTH AT CLOSE OF PREVIOUS FISCAL YEAR ..... $

ITEMS NOT APPLICABLE TO CURRENT YEAR: VIZ. ..... $

..... $

..... $

NET ADDITION OR DEDUCTION ..... $

BALANCE ..... $

NET PROFIT OR LOSS AS PER STATEMENT ABOVE ..... $ $

LESS WITHDRAWALS (OTHER THAN AS ABOVE) ..... $

NET WORTH (SEE REVERSE SIDE) ..... $

SCHEDULE OF STOCKS AND BONDS OWNED [illegible]

DESCRIPTION	RATE	MATURITY	PAR VALUE	MARKET VALUE
[illegible]				[illegible]
[illegible]				[illegible]
				[illegible]

SCHEDULE OF NOTES PAYABLE ON DATE OF STATEMENT ON REVERSE HEREOF

NAME OF CREDITOR	AMOUNT	MATURITY	DESCRIPTION OF SECURITY	AMOUNT OF SECURITY
	$			$

[illegible]

MERCHANDISE VALUATION—BASIS [illegible] DATE OF INVENTORY [illegible]

FIRE INSURANCE CARRIED ON MERCHANDISE $ [illegible] ON MACHINERY AND EQUIPMENT $ [illegible]

LIFE INSURANCE CARRIED $ [illegible] CASH VALUE $ [illegible] BENEFICIARY [illegible]

ARE THERE ANY JUDGMENTS UNSATISFIED OR SUITS PENDING AGAINST YOU? [illegible] AMOUNT $ [illegible]

LIST ASSETS, OTHER THAN REAL ESTATE, PLEDGED OR HYPOTHECATED IN ANY WAY [illegible]

LIST ANY INDIVIDUAL ASSETS NOT INCLUDED IN STATEMENT [illegible]

LIST ANY INDIVIDUAL DEBTS NOT INCLUDED IN STATEMENT

STATE AMOUNT BORROWED FROM ALL SOURCES AT ANY ONE TIME DURING FISCAL YEAR [illegible]

MAXIMUM $ [illegible] DATE [illegible] MINIMUM $ [illegible] DATE [illegible]

THE UNDERSIGNED HEREBY CERTIFIES THAT THE FOREGOING STATEMENT HAS BEEN CAREFULLY READ BY THE UNDERSIGNED, THAT IT IS A TRUE AND CORRECT STATEMENT OF THE UNDERSIGNED'S FINANCIAL CONDITION, AND THAT IT IS DELIVERED TO YOU FOR THE PURPOSE OF PROCURING CREDIT FROM TIME TO TIME. IN THE EVENT OF ANY SUBSTANTIAL ADVERSE CHANGE IN THE UNDERSIGNED'S FINANCIAL CONDITION, THE UNDERSIGNED WILL GIVE YOU PROMPT NOTICE THEREOF.

THE FOREGOING IS A STATEMENT OF MY FINANCIAL CONDITION AT THE CLOSE OF BUSINESS ON [illegible] ,19

DATE SIGNED Feb-27-1953 SIGN HERE → Stephen Catanzaro

Annex - 2918

SCHEDULE of REAL ESTATE OWNED

Description & Location	Title in Whose Name	Imp. or Unimp.	App. Value	Mtges.	Tax Value	Ins.
20 developed lots in Gilmore Acres, Wilkins Twp.	Stephen Catarinella	Improved	35,100.00	-0-	18,000.00	-0-
50 acres, Wilkins Twp.	Stephen Catarinella	Unimproved	40,000.00	-0-	20,000.00	-0-
22 double houses Leetsdale, Penna.	Stephen Catarinella	Improved	374,000.00	227,356.64	154,000.00	264,000.0
2-8 family apts. Duquesne, Penna.	Stephen Catarinella	Improved	100,000.00	18,867.31	52,000.00	80,000.0
7 double houses Pittsburgh, Penna.	Stephen Catarinella	Improved	126,000.00	18,867.31	63,000.00	91,000.0
1-10 family apt. McKeesport, Penna.	Stephen Catarinella	Improved	95,000.00	-0-	35,000.00	80,000.0
Residence, Churchill Borough	Stephen Catarinella	Improved	35,000.00	-0-	13,500.00	20,000.0
			805,100.00	265,091.26		

METAL ECONOMICS DIVISION

R. I. 4326

AUGUST 1948

UNITED STATES
DEPARTMENT OF THE INTERIOR
J. A. KRUG, SECRETARY

BUREAU OF MINES
JAMES BOYD, DIRECTOR

REPORT OF INVESTIGATIONS

INVESTIGATION OF THE CRITCHFIELD MANGANESE DEPOSIT, HUNTINGDON COUNTY, PA.

BY

W. H. KERNS AND ROBERT S. SANFORD

R.I. 4326,
August 1948.

REPORT OF INVESTIGATIONS

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

INVESTIGATION OF THE CRITCHFIELD MANGANESE DEPOSIT, HUNTINGDON COUNTY, PA.[1]

By W. H. Kerns[2] and Robert S. Sanford[3]

CONTENTS

	Page
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Acknowledgments	1
Location and accessibility	2
Physical features and climate	2
History, production, and ownership	2
Description of the deposit	3
Character of ore	3
Mine workings	3
Work done by the Bureau of Mines	4
Sampling and analyses	4
Logs of holes and analyses of drill-hole samples	4

INTRODUCTION AND SUMMARY

The Critchfield manganese deposit, Huntingdon County, Pa., was investigated by the Bureau of Mines in October 1942.

Iron ore was mined from an open cut just southeast of the manganese deposit about 80 years ago. The Critchfield Sand & Feldspar Co. was operating (1942) a clay-mining and beneficiation plant northeast of the manganese deposit.

The Bureau completed six rotary bucket-drill holes and three hand-auger holes, aggregating 370 feet on the deposit. This report describes the work performed and presents the results obtained.

ACKNOWLEDGMENTS

The Bureau of Mines has been investigating deposits of critical and essential minerals in the United States and Alaska since 1939. A prelim-

1/ The Bureau of Mines will welcome reprinting of this paper, provided the following footnote acknowledgment is made: "Reprinted from Bureau of Mines Report of Investigations 4326."

2/ Mining engineer formerly with the Bureau of Mines.

3/ Mining engineer, Bureau of Mines, College Park, Md.

inary examination of the Critchfield manganese deposit was made by Leon W. Dupuy, an engineer of the Bureau of Mines, on July 5, 1942.

The chemical analyses included in this report were performed at the Eastern Experiment Station of the Bureau at College Park, Md., under the supervision of M. S. Sheftel.

The mineral exploration was under the supervision of G. D. Jermain, district engineer. The work was done under the immediate supervision of W. H. Kerns, project engineer.

LOCATION AND ACCESSIBILITY

Critchfield manganese deposit is 7 miles southeast of Tyrone, approximately on the line between Warriorsmark and Franklin Townships, Huntingdon County. It lies along the southern slope of Dry Hollow Ridge.

The deposit is reached from Tyrone, on the main line of the Pennsylvania Railroad, by going southeast over paved State Highway 350 for approximately 3 miles, then following State Highway 31069 to the northeast for 3 miles to the clay open cut of the Critchfield Sand & Feldspar Co. This highway is paved for 1½ miles. The remaining 1½ miles to the property is a rock-base gravel-surface road in good condition. The grades are not excessive. (See fig. 1.)

PHYSICAL FEATURES AND CLIMATE

The Critchfield manganese deposit is in the Ridge and Valley section of the Appalachian Valley province of Pennsylvania in a district of low rolling hills at an altitude of 1,320 feet.

The drilled area slopes from the road to a small reservoir 30 feet below. Along the shore, the bank is 10 to 15 feet high and consists of dumps from the old iron-ore mining operation. The old dumps are overgrown with timber and brush.

The climate is mild, the mean annual temperature being 49° F. and the mean annual precipitation 39.2 inches.

The timber has been logged in the district, leaving a secondary growth of small maple, birch, and oak trees.

HISTORY, PRODUCTION, AND OWNERSHIP

Prior to the discovery and exploitation of the high-grade Lake Superior iron ores, central Pennsylvania was the chief source of iron ore for the numerous small charcoal iron furnaces nearby.

The Huntingdon Furnace Banks, of which the Critchfield property

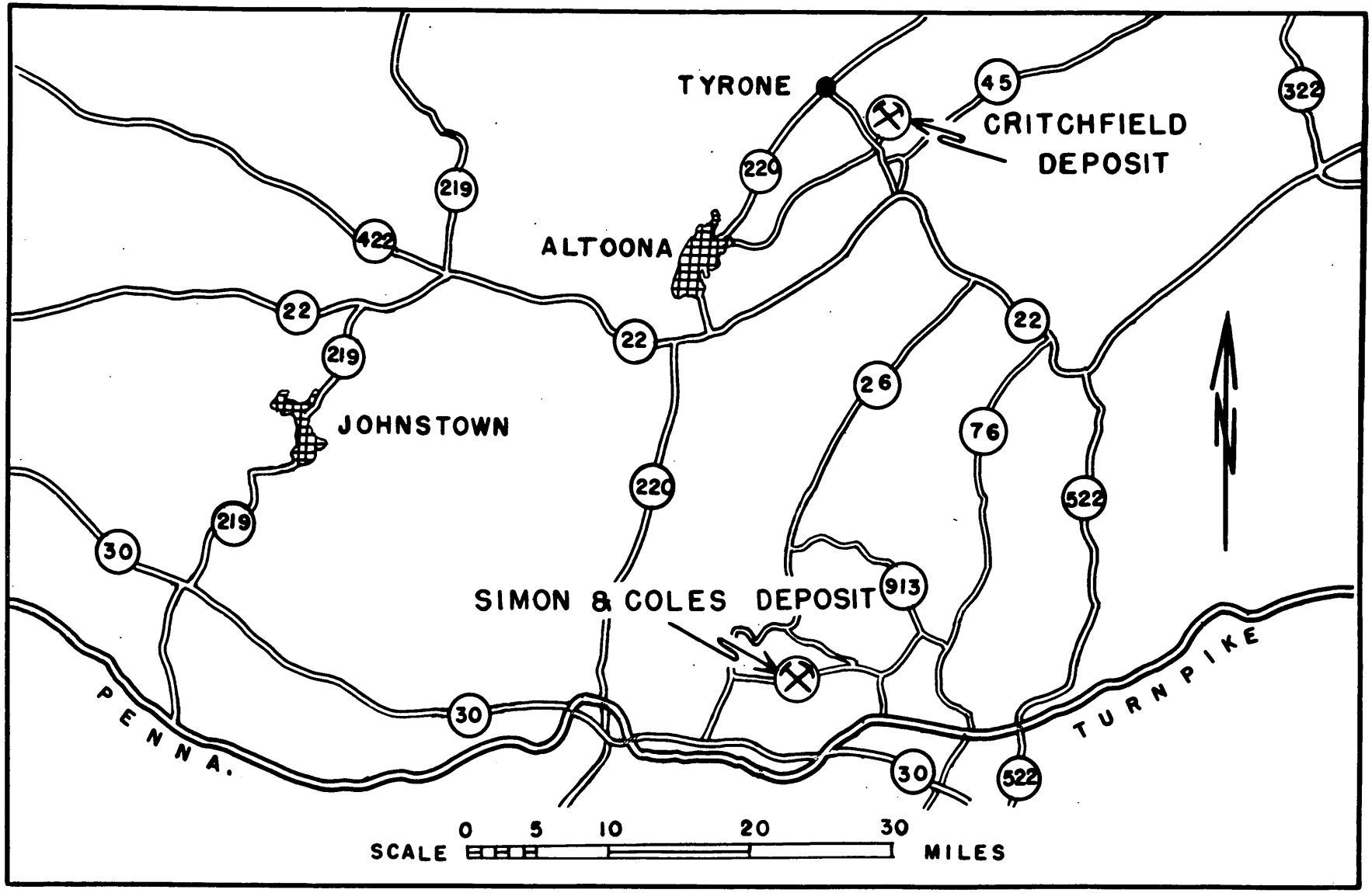

Figure 1. - Key map.

is now a part, was worked for a number of years by Andrew Carnegie during the middle of the nineteenth century. Production data are not available.

No manganese ore has been produced in this area. The property remained idle until the Critchfield Sand & Feldspar Co. began to mine the clay deposit. A clay beneficiation plant was installed and was in operation in 1942.

The holdings under lease to the Critchfield Sand & Feldspar Corp. comprise approximately 1,146 acres. H. N. Hanna, president, has offices at 618 Merchantile Trust Building, Baltimore, Maryland. These lands are owned as follows:

	Acres
William B. Hicks	90
First Blair County National Bank	240
A. L. Schoff	110
William H. Johnston	277
W. S. Marshall	192
H. M. & Mary Zumstein	237

DESCRIPTION OF THE DEPOSIT

Nodular manganese occurs in an altered sandy clay bank that is a weathered phase of the Gatesburg formation. This sandy clay contains many quartzite boulders and numerous silica seams as much as 2 inches thick.

The area investigated for manganese ranges from 150 to 200 feet in width and 1,000 feet in length.

CHARACTER OF ORE

The ore is a nodular, crudely bedded, psilomelane with some pyrolusite in residual sandy clay. Some of the nodules contain hematite and limonite. The size of the nodules varies from a few ounces to a few pounds.

MINE WORKINGS

No manganese ore has been mined from the deposit. The old iron-ore open cut is about 100 feet wide by 550 feet long.

The clay deposit is being mined from a circular open cut 120 feet in diameter and 30 feet deep.

WORK DONE BY THE BUREAU OF MINES

The Bureau of Mines completed six rotary bucket-drill holes and three hand-auger holes aggregating 370 feet. (See fig. 2.)

The rotary bucket drill usually drilled a 16-inch hole, but when rocks were found that could not be penetrated or that would not pass into the bucket through the opening in the bottom, the hole was reamed to 26 inches. The 26-inch auger bucket has larger openings in the bottom than the 16-inch auger bucket and will pick up larger rocks. The larger hole also permits a man to enter the hole and break up large boulders.

The rotary bucket drill operates nicely in soft ground that does not contain too many large boulders.

Constant rains and deep mud made it impracticable to move the rotary bucket drill to the lower drill-hole sites. Three hand-auger holes were completed to depths of 25 to 30 feet. No difficulties were met due to absence of boulders in these holes.

SAMPLING AND ANALYSES

The cuttings from each 5-foot section of the holes were dumped into a 6- by 8-foot flat-bottomed sample box. The samples were broken to minus $\frac{1}{2}$ inch and thoroughly mixed, then coned and quartered. The final samples weighing 50 to 60 pounds were shipped to the Bureau of Mines Eastern Experiment Station, College Park, Md., for analyses.

The logs of the holes and analyses of the samples are as follows:

LOGS OF HOLES AND ANALYSES OF DRILL HOLE SAMPLES

Rotary Bucket Drill

Sample	Depth, feet	Formation	Analyses, percent Mn
		Hole 1 (depth 20 ft.)	
8	0- 5	Yellow clay	0.16
	5-10	Yellow clay with silica seams	
9	10-15	do.	
	15-20	do.	.03
		Hole 2 (depth 65 ft.)	
10	0- 5	Yellow clay	.67
11	5-10	do.	.12
12	10-15	do.	.02
13	15-20	do.	.05

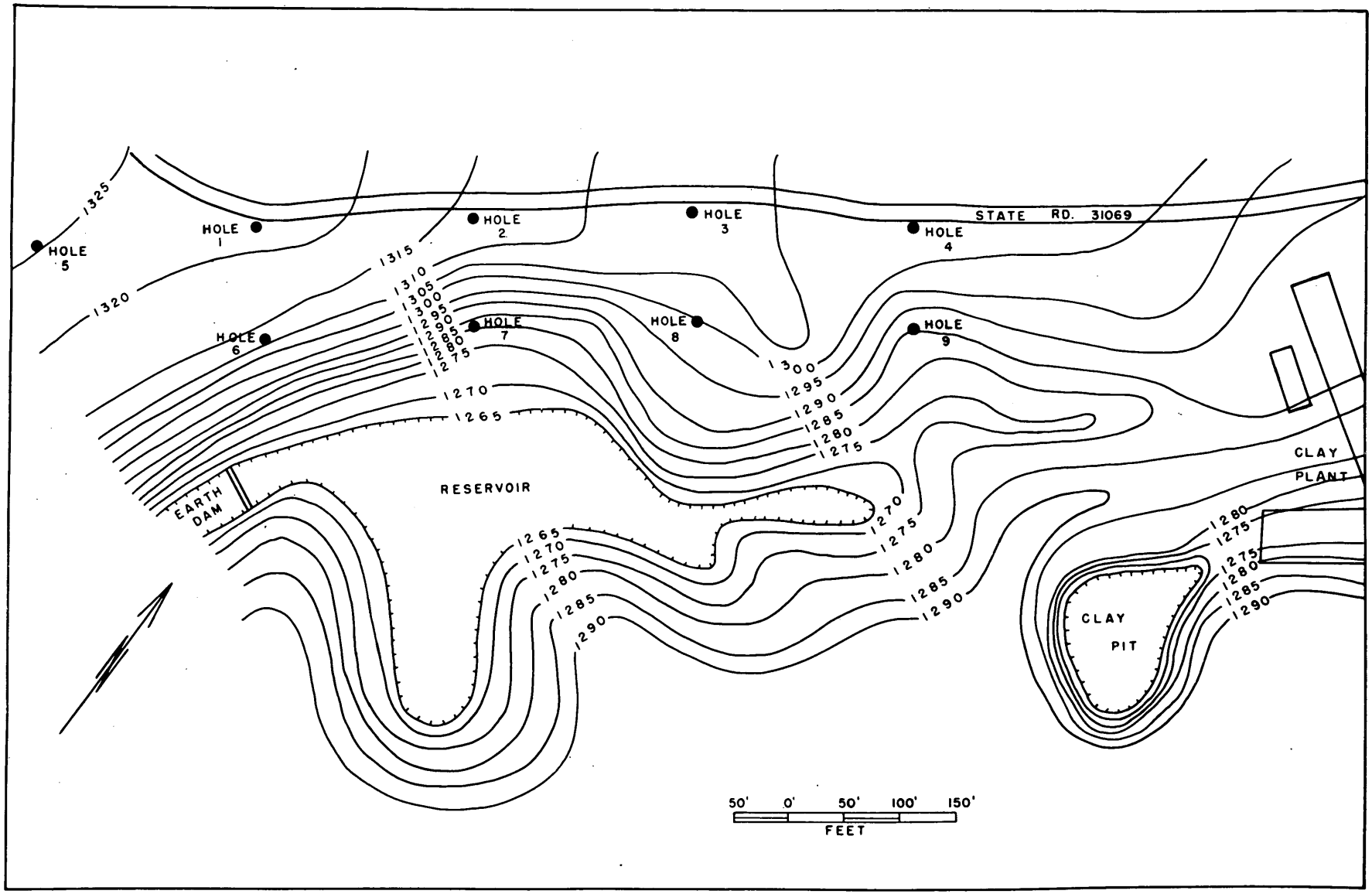

Figure 2. - Critchfield deposit, Huntington County, Pa.

14	20-25	Yellow clay	0.08
15	25-30	do.	.09
16	30-35	Brown clay and sand	.07
17	35-40	do.	.07
18	40-45	do.	.04
19	45-50	do.	.02
20	50-55	do.	.02
21	55-60	do.	.02
22	60-65	do.	.09

Hole 3 (depth, 20 ft.)

23	0- 5	Brown clay with scattered nodules of iron manganese, low-grade iron, and manganese	.53
24	5-10	Lighter-colored yellow-clay showing nodules of iron manganese	.12
25	10-15	Yellow clay-nodules of iron manganese-sandstone boulders unconsolidated-chert seams of dark color	.05
26	15-20	Yellow clay; no boulders	.05

Hole 4 (depth, 65 ft.)

27	0- 5	Yellow clay showing some small nodules of iron manganese of low grade	.16
28	5-10	Yellow clay-no nodules	.04
29	10-15	do.	.03
30	15-20	do.	.03
31	20-25	Darker-colored clay; no nodules	.03
32	25-30	do.	.13
33	30-35	do.	.05
34	35-40	do.	.04
35	40-45	Brown clay, very sandy-chert seam	.04
36	45-50	do.	.04
37	50-55	do.	.05
38	55-60	do.	.05
39	60-65	do.	.04

Hole 5 (depth, 60 ft.)

40	0- 5	Yellow clay	.05
41	5-10	Dark-yellow clay-yellow brown	.06
42	10-15	Brown clay	.03
43	15-20	Sandy brown clay with small chert seams of dark color	.05
44	20-25	do.	.03
45	25-30	do.	.03
46	30-35	do.	.05
47	35-40	Sandy brown clay with large chert boulders	.03

48	40-45	Sandy brown clay with large chert boulders	0.09
49	45-50	Yellow sandy clay; no rocks	.20
50	50-55	Sandy, dark-brown clay; large chert boulders	.02
51	55-60	do.	.03

Hole 6 (depth 60 ft.)

52	0- 5	Mixture subsoil and yellow clay	.06
53	5-10	Some subsoil, yellow clay; small chert boulders	.05
54	10-15	do.	.13
55	15-20	Sticky yellow clay	.04
56	20-25	do.	.02
57	25-30	do.	.02
58	30-35	do.	.02
59	35-40	do.	.03
60	40-45	do.	.05
61	45-50	do.	.04
62	50-55	Dark-yellow brown clay; some sand	.04
63	55-60	do.	.02

Hand-Auger Drill

Hole 7 (depth 25 ft.)

64	0- 5	1 ft. soil, 1-2 ft. pink clay, 2-2.5 ft. manganese wad, 2.5-3.5 ft. boulders of iron-stained sandstone, 3.5-5 ft. yellow clay	.22
65	5-10	Yellow-brown clay. Small silica chert seams.	.11
66	10-15	Brown clay. Small silica chert seams.	.07
67	15-20	do.	.00
76	20-25	do.	.47

Hole 8 (depth 25 ft.)

68	0- 5	0-6 inches loam soil, 6 inches-5 feet yellow clay	.34
69	5-10	Browner clay with small chert seams	.19
70	10-15	Yellow-brown clay with small chert seams	.07
71	15-20	do.	.06
72	20-25	do.	.06

Hole 9 (depth 30 ft.)

73	0-10	2-6 inches loam soil, 6 inches-5 feet yellow clay, 5-10 feet yellow-brown clay, small silica seams of dark-colored chert.	0.48
74	10-20	Browner clay-small seams of dark-colored chert and small seams of white clay	.12
75	20-30	do.	.12

WASHINGTON 25, D. C.

OFFICIAL BUSINESS

400

FILE COPY
SURNAME:

Rutledge
Wentling
Thayer
Kinsel
Hodges
Johnson

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

JUN 2 1953

Mr. Daniel Viscount, President
Standard Enterprises, Inc.
4956 Curry Road, Curwood Manor
Pittsburgh 27, Pennsylvania

Re: Docket No. DMEA 2918 - Cobalt and Manganese
Standard Enterprises, Inc.
Wolf-Zentmeyer tract
(Pennington mines)
Huntingdon and Centre Counties, Pennsylvania

Dear Mr. Viscount:

Your application for aid for an exploration project and other data available to us in Washington concerning the subject area have been reviewed.

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

Careful study of all our information, although noting a small amount of manganese and cobalt mineralization on your lease, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify overnment participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your lease to our attention.

Sincerely yours,

C. D. Mittendorf (for)

Administrator

6-2-53

FARutledge/ls
5/29/53

cc: Docket
Adm. Reading File
Code 400
~~Oper. Committee~~

cc: H. W. Davis, USBM
T. P. Thayer, USGS
Operating Committee
Field Team, Region 8

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

May 29, 1953

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of exploration project in the amount of $60,500.00
Docket No. DMEA 2918 - Cobalt and Manganese
Standard Enterprises, Inc.
Wolf-Zentmeyer tract (Pennington mines)
Huntingdon & Centre Counties, Pennsylvania

The denial of the subject application by this Division is based on the following information:

(1) The applicant proposed a 2-stage project to explore a deposit of cobalt-bearing manganese near Tyrone, Pennsylvania. The ore occurs mixed with clay, sand, and gravel. Diamond drilling of a deposit of this type is not recommended.

(2) An examination of the project area by members of the Field Team revealed that the area had been extensively mined for iron ore during the 19th Century by both underground and open pit methods.

(3) The applicant's pit, "A", lies just north of the old East Pennington mine. While the applicant stated that the deposit is indicated for about 6,000 feet along the strike, there are no pits or other indications beyond a distance of 3,400 feet.

(4) This distance, 3,400 feet, represents the section covering the old East and old West Pennington mines. This section was included in the area covered by an exploratory program for iron by the Federal Bureau of Mines in 1943-44. The results of this program indicated that the occurrences of iron and, incidentally, manganese and cobalt, were not of sufficient importance to warrant additional investigation by the Government.

(5) The recovery of cobalt from a manganese ore of this type is presently uneconomical. In addition, metallurgical tests for improvement of grade indicate that, even in the production of a comparatively low grade cobalt and manganese concentrate, recovery of both cobalt and manganese is low.

(6) The Field Team recommends denial.

(7) The Commodity Divisions of the Geological Survey and Bureau of Mines concur with denial of the subject application.

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

400

FILE COPY
SURNAME:

Rutledge
Martin
Dwyer
Dorr

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

May 29, 1953

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of exploration project in the amount of $60,500.00
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FARutledge/ls 5/29/53

W. S. Martin

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

cc: Docket
Oper. Committee
400
Adm. Read. File

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
College Park, Maryland

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 25 1953

May 22, 1953

WSM

Memorandum

To: George C. Selfridge, Chairman, DMEA Operating Committee

From: Executive Officer, DMEA Field Team, Region VIII

Subject: Docket No. DMEA-2918 - (Cobalt - Manganese)
Standard Enterprises, Inc.
Wolf-Zentmyer Tract
Huntingdon County, Pennsylvania

Transmitted herewith in quadruplicate is the report on examination of subject property, prepared by the Field Team, Region VIII.

W. T. Millar

W. T. Millar

Enclosures - 4

Reviewed by
DMEA OPERATING COMMITTEE
5-27-53
(date)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 25 1953

Field Team Report on Examination of

Wolf-Zentmyer Tract
Huntingdon County, Pennsylvania

DMEA Docket No. 2918

(Cobalt-Manganese)

by

H. L. Burmeister, Mining Engineer
U. S. Bureau of Mines

and

Louis Pavlides, Geologist
U. S. Geological Survey

May 20, 1953

Reviewed by
DMEA OPERATING COMMITTEE
5-27-53
(date)

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Illustrations
(In the back of Report)

Figure 1A - Sketch of part of Tyrone Quadrangle showing Pennington Ridge Area.

Figure 1B - Sketch of map of Pennington Ridge Property.

Figure 2 - Plan of Pennington ore banks showing location of U. S. Bureau of Mines churn drill holes (1943) and cross-section of Pit "A."

Figure 3 - Map of the Pennington ore banks showing the location of old test pits, shafts and open pits.

Figure 4 - Map showing position and extent of underground workings at East (Old) Pennington ore bank.

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FIELD TEAM REPORT ON EXAMINATION OF PROPERTY

1. DMEA Docket No. 2918 - (Cobalt-Manganese)

2. Standard Enterprises, Inc.
2270 William Penn Highway, Pittsburgh 35, Pa.

3. Summary, Conclusions and Recommendations:

(a) Summary -

This application was made primarily to explore for cobalt. As the cobalt occurs in association with manganese minerals, the examination was concerned largely with the amount of manganese ore that might be developed. This in conjunction with a record of the cobalt content of all samples available are the factors governing a conclusion.

Much work has been done prior to this examination in an effort to economically separate cobalt from manganese. In furtherance of this research, bulk samples from the applicant's stockpile were obtained by the Bureau of Mines for metallurgical tests in the laboratories in Pittsburgh, Pa., and College Park, Md. The concentration and assay results are a part of this report.

The face in the open cut made by the applicant was cleaned and sampled by the Field Team. Records of old iron ore mining on this deposit were investigated for their bearing on the presence of manganese and cobalt.

(b) Conclusions -

Past records as well as the present observation indicate that iron ore as well as the associated manganese mineralization was spotty in occurrence both along the strike and in old random underground workings around the East Pennington surface workings. Samples cut in the only available face show low grade iron and manganese-bearing quartzite beds, separated by clay areas. Assay results on the bulk samples are not ~~to be~~ indicative of the true grade of ore because the bulk

samples represent hand picked ore selected for its high cobalt content for metallurgical testing. Metallurgical processes applied to the higher grade bulk ore sample indicate a low recovery of both cobalt and manganese as well as a comparatively low grade cobalt and manganese concentrate.

(c) Recommendations -

It is the recommendation of the Field Team that this application be denied for the following reasons:

(1) Previous mining during the 19th century has removed all the "ore" minable by open pit methods.

(2) No underground ore reserves are believed to exist on this property. Even if ore existed as underground reserves it is doubtful if it could be mined profitably at the present market price for spiegeleisen, which is the product the applicant eventually hopes to market.

(3) No process is known whereby low grade cobalt can be economically extracted from manganiferous material of this type.

(4) Even if this application were revised solely to a manganese exploration program, the observations and results of sampling by the Field Team indicate that such exploration would not be recommended.

4. Time spent on Property and Persons Accompanying Examiner:

This property was examined on April 23, 1953 by H. L. Burmeister, Mining Engineer, U. S. Bureau of Mines; Louis Pavlides and Max D. Crittenden, Geologists, U. S. G. S. Seven hours were spent on the property in company with Mr. Daniel H. Viscount, president of the applicant corporation.

5. Name and Location of Property:

This property is presently known by the name of the lessees, "Standard Enterprises, Inc." It embraces the old East Pennington and West Pennington mines which were worked for iron 90 years ago. The area ~~(here concerned)~~ is in the Wolf-Zentmyer Tract, situated in the township of Warriors Mark, county of Huntingdon, Pa.

The application as originally submitted, (see item 3 of the application), is misleading in that it describes lands under lease that lie partly in the townships of Half Moon and Ferguson of Centre County, Pa. These lands are evidently not to be included in the request for exploration as Mr. Viscount in his letter to the Executive Officer, dated April 18, 1953, furnished a map on which he had outlined the properties and also the strike and dip of the deposit. Only the Wolf and Zentmyer tract is outlined on this map and the applicant stated to the Field Team that it was the property he intended to explore.

To reach the property proceed east from Tyrone, Pa. for one mile on highway 350. At this point turn north on highway 550 and continue for a distance of 4.0 miles. Pit "A" lies about 125 yards east of the highway on a rock-base mine road. The location of the property is also shown in Figs. 1A and 2.

6. Conditional and Seasonal Accessibility of Road to Property:

All roads leading to this property are excellent paved highways. The 125 yards of mine road is level and has a crushed rock surface.

7. Competency of Applicant and Operating Personnel:

Mr. Viscount, the president of the applicant company, is designated in the application to have charge of the exploration operations. Apparently Mr. Viscount has no previous experience in the contemplated work, but probably he could handle it if properly instructed by a competent engineer.

8. Applicant's Property Rights:

All land relative to this application is held by the applicant company under two leases which are a part of the application.

A company letter to the Executive Officer under date of February 27, 1953, submitted a request that the applicant's guarantee for royalties be accepted in lieu of "Owner's Consent to Lien." The bank statement for Mr. Stephen Catarinella, Secretary, is attached to the application.

9. Description of Property:

The Wolf-Zentmyer Tract is on a wooded hill locally called Pennington Ridge in Huntingdon County, Pa. The present prospect pit is on the northwest slope of the ridge. The surface along the deposit slopes gently to the southwest. The entire area has been burned over several times leaving a small amount of standing timber. If the burned-over small timber is removed a truck can, in dry weather, reach nearly any point in the area included in this application.

The applicant's workings consist of an open prospect pit near the north end of the property. The pit with its long dimension, approximating the strike of the deposit at this point, is about 200 feet long and 80 feet wide. A smaller pit, about 75 feet long and 20 to 25 feet wide, has been dug 12 feet below the floor of the larger pit. The walls of all old workings have caved, making them unavailable for sampling.

See sketch section of Pit "A," Fig. 2, for location of samples cut. The areas in the sketch marked "clay" are barren of any mineralization.

Table 6. Assay results of Pit "A" cut samples by the U.S.B.M.

Sample No.	Normal Width Feet	Mn Percent	Co Percent	Fe Percent	P_2O_5 Percent
6	4	2.79	0.10	13.1	0.14
7	2.5	1.03	0.07	25.6	0.08
8	6	1.72	0.09	19.7	0.08
9	2.5	0.51	0.04	23.7	0.16

The applicant has a blast furnace at Union Furnace for smelting spiegeleisen that he has rated at a capacity of 20 tons per hour. Union Furnace is about 3 miles southeast of Birmingham and can easily be reached over US highway 322.

To investigate the possibility of separating cobalt from manganese, the Bureau of Mines obtained two tons of ore to be used in Pittsburgh and one half ton to be used at College Park. In requesting this ore it was understood that Mr. Viscount would give the Bureau ore with the highest cobalt content available. The small pit (see fig. 1B) is the source of the 1500 tons of material stockpiled at the applicant's furnace from which the bulk sample used by the Bureau of Mines for their ore dressing and chemical tests was obtained. Part of this ore probably came from quartzite boulders, some of which are still around Pit "A".

Assay results on these bulk samples are listed below:

	College Park Percent	Pittsburgh Percent
Mn	24.0	17.0
Fe	8.27	17.0
P	0.032	
Co	0.21	0.15
SiO_2	39.1	
Al_2O_3	2.98	
Ignition Loss	8.23	

These bulk samples were taken from a stockpile at the company-owned blast furnace. This material is brecciated and more highly mineralized than the rock in the face of the present open pit "A".

Tabling, flotation, and heavy media tests were run at College Park on this material with the results cited in Tables 1, 2, 3, 4 and 5.

The Department of the Interior, Bureau of Mines, WMR, Project 945, is here referred to. This project covered the churn drilling of 16 holes around and between the East Pennington and the West Pennington open pits. Exploration for iron

ore was the object of the project, but it also is valuable in the examination of this property for the presence of manganese and cobalt, which is associated with the manganese. Fig. 2 shows the location of the churn drill holes. A cross section of the new open workings, Pit "A," made during this examination has been added to Fig. 2.

Fig. 2 shows drill holes 18, 27, and 29, approximately 400 feet in the hanging wall from the probable outcrop at the East Pennington pit. These holes have an average depth of 40 feet from the surface or 55 feet below the original outcrop at East Pennington. If the dip of the bed containing manganese is about 35° as indicated in Pit "A," these holes would have to be 200 feet deep to intercept the formation mined for iron.

Drill holes 19, 20, and 21 are either on or very near the line connecting the East and West Pennington pits and should be indicative of the mineral content of the material that was mined in the East Pennington pit. These holes show only a small amount of limonite, and only No. 19 shows the presence of any manganese. Holes 22 and 28 on the map appear to be in the footwall and the drill logs of these holes seem to confirm this. The width and depth of the East Pennington pit tend to bear out the belief that the dip of the mineralized structure was about 35° to the northwest.

10. Geology and Ore Reserves:

Geology -

The Pennington iron ore banks are on the northwest limb of an anticline, named the Sinking Valley Anticline by Butts 1/, and appear to be stratigraphically localized in a zone near the top of the Cambrian Gatesburg dolomite. See Fig. 1A.

1/ Butts, Charles, Swartz, F. M. & Willard, B., 1939, Tyrone Quadrangle, Pa.: Pa. Geol. Survey Bull., 4th Series, A96, Plate 1, In pocket.

This formation 2/ is about 1750 feet thick and is composed predominantly of thick bedded, coarsely crystalline dolomite of steel-blue color in freshly broken surface. Abundant interbeds of quartzite, some as much as 10 feet thick, are a prominant feature of the formation, imparting to the weathered Gatesburg dolomite a characteristic heavy residual mantle of quartz sand and quartzite boulders. Manganese oxides and nodules of goethite have been uncovered by the applicant in prospect pits and trenches at approximately the same stratigraphic horizon within the Gatesburg dolomite on the southeast limb of the anticline west of Huntingdon Furnace (idem). These latter prospects have not been included in the applicant's request for aid in exploration and will not be discussed in this report.

Butts 3/ describes the iron ores of the district as, "residual deposits on limestone of Cambrian and Ordovician age. The ore occurs as lump and wash ore mixed with clay, sand and gravel." The Pennington ore banks generally conform to this description, although these deposits also contain material that consists of iron and manganese oxides impregnating and veining quartzite beds that occur within the Gatesburg dolomite at this horizon. This latter siliceous variety of "ore" comprises the 1500 ton stockpile of material at the applicant's furnace and is claimed to be suitable for the making of spiegeleisen when blended with iron ore from another deposit.

The small pit from which the applicant obtained this stockpile was partially flooded andslumped at the time of the Field Team's examination and the only exposure available was in the partially slumped south face of the pit. This face contains a discontinuous exposure consisting of limonite and manganiferous impregnated and veined quartzite striking northeast and dipping 35° west. South of the pit, the strike of the ore horizon, as inferred from the trend of the old pits, gradually rotates to the southwest until it becomes conformable with the regional

2/ Butts, Charles, op. cit., p. 10
3/ Butts, Charles, op. cit., p. 89

strike. See Figs. 1A and 1B. The quartzite in the pit face is interbedded with a kaolinic clay, which is probably the residuum of weathered carbonate layers. It is visible at three places in this pit face, (see fig. 1B): (1) on the west end of the face immediately on strike with the pit from which the 1500 ton stockpile was earlier obtained, (2) on the east end of the face on strike with the terrace formed by the floor of the first large recent pit, and (3) in a small knob at the west edge of this terrace where it forms part of the east wall of the lower pit. The eastern and western exposures consist of a mineralized quartzite bed about 3 feet thick dipping 35° west. The attitude and thickness of the exposure at the terrace edge could not be determined.

The rocks in this pit are too poorly and discontinuously exposed for one to determine with any degree of certainty whether these 2 quartzite exposures represent 3 different layers interbedded with clay or whether they may be one unit that was broken up and slightly slumped. Regardless of the number of quartzite units present, the blocks as seen in the face probably are at present somewhat slumped. Some of the clay may be from the backs of old caved stopes, as this appears to have been an area that at one time was prospected by shafts and mined by underground methods. See Figs. 3 and 4. However, the moderate 35° dip to the west in these rocks appears to be within the right order of magnitude. Butts, (see Fig. 1A), shows dips of 25° and 30° to the northwest within the Mines dolomite, which overlies the Gatesburg dolomite immediately to the northwest of the Pennington ore banks.

The Field Team cut chip samples across the 3 quartzite exposures. The assays of these samples are given in Table 6. The hard material sampled consists of quartzite and quartzite breccia that has been impregnated and slightly replaced by iron and manganese deposited from solutions that worked along fractures and bedding planes. The iron is in the form of limonite and geothite and, the manganese occurs

as a wad-like manganese oxide. Manganese may also be present in small amounts as a variety of the psilomelane type. Foose 4/ states that manganese oxides occur both as bedded and nodular psilomelane type minerals at the East Pennington iron ore banks, but the Field Team did not find any nodular material at the time of its examination.

Cobalt staining was not observed in the mineral examined by the Field Team. It is assumed that the cobalt detected by chemical analyses is chemically combined with the manganese oxides.

Ore Reserves -

The information available on the Pennington Ore banks suggests that there is little if any material that could be classed as ore reserves on the applicant's property. It is evident from the literature and from the size and extent of the old pits on the property that all the near surface ore was completely mined out, mostly by open pit methods, during the 19th century. The low content of manganese and cobalt in the rocks sampled by the Field Team, (see Table 6), in the pit face, indicates that even if these rocks extended down dip to the northwest they are of no economic interest at present. Residual deposits of this type are generally shallow, being restricted to the weathered residuum of the formations in which they occur, and any extensive down dip continuation in this deposit is not likely. It should be pointed out that a wide discrepancy exists between the chemical analyses of the Field Team's samples and the analyses of the bulk samples obtained by the Bureau of Mines. The applicant's two samples also vary widely in their manganese and iron content. One explanation of the difference may be found in a comparison of the mineralization in the face of the pit with that in the blocks of material in the 1500 ton stockpile at the spiegeleisen plant at Union Furnace. The material in the stockpile is dominantly an impregnated and replaced quartzite breccia, but the rock sampled in the

4/ Foose, R. M., 1945, Manganese Minerals of Pa.: Pa. Geol. Survey, 4th Series, Bull. M 27, p. 94.

pit face is less brecciated, its appearance being more that of a quartzite bed with iron and manganese oxides staining and replacing it chiefly along bedding and jointing planes. It may be, that the material from the stockpile came from a local brecciated zone in the quartzite and because of its more porous nature, the solutions mineralized this zone more highly than the relatively less fractured and consequently less porous quartzite to the southwest. If this inference is correct, the extent of this brecciated zone may be local, possibly restricted to the pit from which the stockpiled ore was obtained.

11. Past Operations:

The mineralized zone of the Wolf-Zentmyer Tract lies on the northwest slope of Pennington Ridge and was extensively mined for iron during the 19th century. Both open pit and underground methods were used in mining. The deposits are referred to in the literature 5/ as the Pennington East and West iron ore banks or as the Old and New Pennington ore banks and analyses of the ore from this deposit are given in the reports of the state geologist for 1840 and 1841 6/. The main pit (see Fig. 3) of the Old Pennington bank is reported 7/ to have supplied the furnace at Old Bald Eagle for many years.

Some of the ore from the Old Pennington bank was mined by underground methods involving an irregular network of shafts, inclines, drifts, and stopes that presumably followed the thickest and highest grade ore, see Figure 4. These underground workings generally caved and were abandoned soon after removal of the high-grade ore. Water also caused the abandonment of many underground workings, some as shallow as 30 feet 8/. The workings were completely flooded out in 1857 and

5/ Lesley, J. P. in White, J. C., 1885, The Geology of Huntingdon Co., Pa. 2nd Geol. Survey Report, T3, pp. 388-399.
6/ Rogers, H. D., 1840, 4th Annual Report, Pa. Geol. Survey, p. 188
" " " 1841, 5th Annual Report, Pa. Geol. Survey, p. 96
7/ Lesley, J. P., op. cit., pp. 390-391
8/ Lesley, J. P., op. cit., p. 391

and were presumably not re-opened until 1865, when a 60-foot pump shaft was sunk below the ore zone. Subsequent drifting and raising to the west encountered the ore horizon (which dips to the west), but no mining was done. The West or New Pennington ore bank was discovered in 1857 8/ and was also mined by open pit and underground methods.

The Pennington deposits were probably abandoned due to exhaustion of easily accessible high grade ore. Economic factors that came into play at the time also may have contributed to the end of the mining operations. Butts 9/ attributes the end of the iron mining industry in the Tyrone Quadrangle about 1885 to, "small local demand for iron, superiority and cheapness of the Lake Superior and foreign iron ores, the general dullness of the iron trade and high royalties (50¢ per ton) demanded by the land owners."

Production data of iron ore for the Pennington deposits are not available but from the published mine maps (see fig. 3), it appears that the ore was mined out to a depth of at least 40 feet. The following analyses of the ores were obtained from the literature:

Table 7. Chemical Analyses of Ore from the Pennington Banks.

	A 10/	B 11/
Composition in 100 parts:		
Peroxide of iron	75.2	76.5
Alumina	0.5	None
Oxide of manganese	a trace	2.70
Silica & insoluble matter	8.8	7.50
Lime	a trace	
Water	15.0	12.50
Loss	0.5	0.80
	100.00	100.00

8/ See footnote 8/ on p. 10
9/ Butts, Charles, op. cit., p. 89
10/ Rogers, H. D., 1840, 4th Annual Report, Pa. Geol. Survey, p. 188; Old Pennington Bank Ore
11/ " " " 1841, 5th Annual Report, Pa. Geol. Survey, p. 96; Old Pennington Bank Ore

Table 7. Chemical Analyses of Ore from the Pennington Banks (continued).

	C[12] * East Pennington Bank	D[12] ** West Pennington Bank
Ferric Oxide	65.88 (= 44.77 Fe)	70.93 (= 49.65 Fe)
Manganic Oxide	6.00 (= 4.18 Mn)	0.39
Cobaltic Oxide	0.34 (= 0.24 Co)	a trace
Alumina	a trace	2.81
Magnesia	0.26	0.14
Lime	a trace	0.08
Phosphoric Acid	0.22 (= 0.097 P)	0.37 (= 0.16 P)
Silica Acid	6.38	4.38
Quartz	7.87	7.91
Water	13.05	13.00
	100.00	100.00

12. Availability of Manpower, Materials, etc.:

The town of Tyrone, which is about 5 miles southwest of the property, could probably furnish the manpower, equipment, and supplies necessary for operation. Electric power could be connected at a distance of about 3 miles. The nearest water supply for drilling would be the abandoned clay quarry west of the West Pennington pit.

13. Statement of Applicant's Proposal:

The applicant states that the deposit is indicated for about 6,000 feet on the strike from his Pit "A." Actually there are no pits or indications beyond a distance of 3,400 feet southwest on the strike from Pit "A."

Stage I of the applicant's proposal specified bulldozing trenches across

12/ Lesley, J. P., op. cit., pp. 427-428
* Average of 13 specimens of ore of variable character.
** Average of 5 specimens of ore of variable character.

the strike at 1,000-foot intervals to expose the deposit. A total of 300 linear feet of trenching is proposed.

Stage II specified that holes be diamond drilled at 300-foot intervals along the strike starting at the applicant's Pit "A." Each 300-foot interval to have two stations, one station at a distance of 50 feet and one station at a distance of 150 feet from the edge of the deposit. Each station to be the site of 2 holes, one at 45° and one at 60°. This would result in a total of 520 feet of drilling on each interval. A total of 6,500 feet of drilling is specified. This would allow 12 intervals of 300 feet each in the distance of 3,600 feet between Pit "A" and "Old Pit," see Fig. 2, south of West Pennington pit.

If the 80° dip stated in the application is correct, the 4 holes on each interval would intercept the deposit at 46, 69, 136 and 206 feet on the dip.

The estimate of $1,000.00 for sampling and analysis is probably less than would be required if ore were encountered. Supervision in the amount of $6,000.00 is excessive.

After examination of this property certain revisions in the original application were suggested to the applicant as indicated below:

Stage I - Bulldozer trenches are neither necessary nor advisable. The trend of the deposit is as clearly indicated by old pits extending between the East and West Pennington Pits as it would be by trenches at 1,000-foot intervals. Observation indicates that overburden in the area to be bulldozed, might well be too deep for a bulldozer to be effective. Eliminating bulldozer trenches was suggested.

Stage II - Because of the alternation of clay, and harder material, and of the vuggy nature of some of the material, it is considered that satisfactory results cannot be obtained by diamond drilling. The advisability of drilling to an intercept approximately 200 feet below the surface on the assumed dip in this type

of mineralization is questioned. In any case it is believed that the more shallow holes should be completed first if drilling is approved.

The following points were discussed at length with Mr. Viscount: The inadvisability of diamond drilling this formation, the necessity for a method of separating cobalt from manganese, and the high cost submitted for supervision. No satisfactory answer has been found for the applicant's submission to the engineer that the face of Pit "A" showed 30 feet of solid manganese ore. The applicant states that he has people working on cobalt-manganese separation but that he hesitates to go further as the method would then be available to everyone.

H. L. B. by W. T. M.
H. L. Burmeister, Mining Engineer
U. S. Bureau of Mines

W. T. Millar
W. T. Millar, Executive Officer
Bureau-Survey Field Team
Defense Minerals Exploration
Administration, Region VIII

Louis Pavlides
Louis Pavlides, Geologist
U. S. Geological Survey

Austin F. Rogers, U.S.G.S.
John B. Henley, U. S. Geological Survey
Member, Bureau-Survey Field Team
Defense Minerals Exploration
Administration, Region VIII

College Park, Md.
May 20, 1953

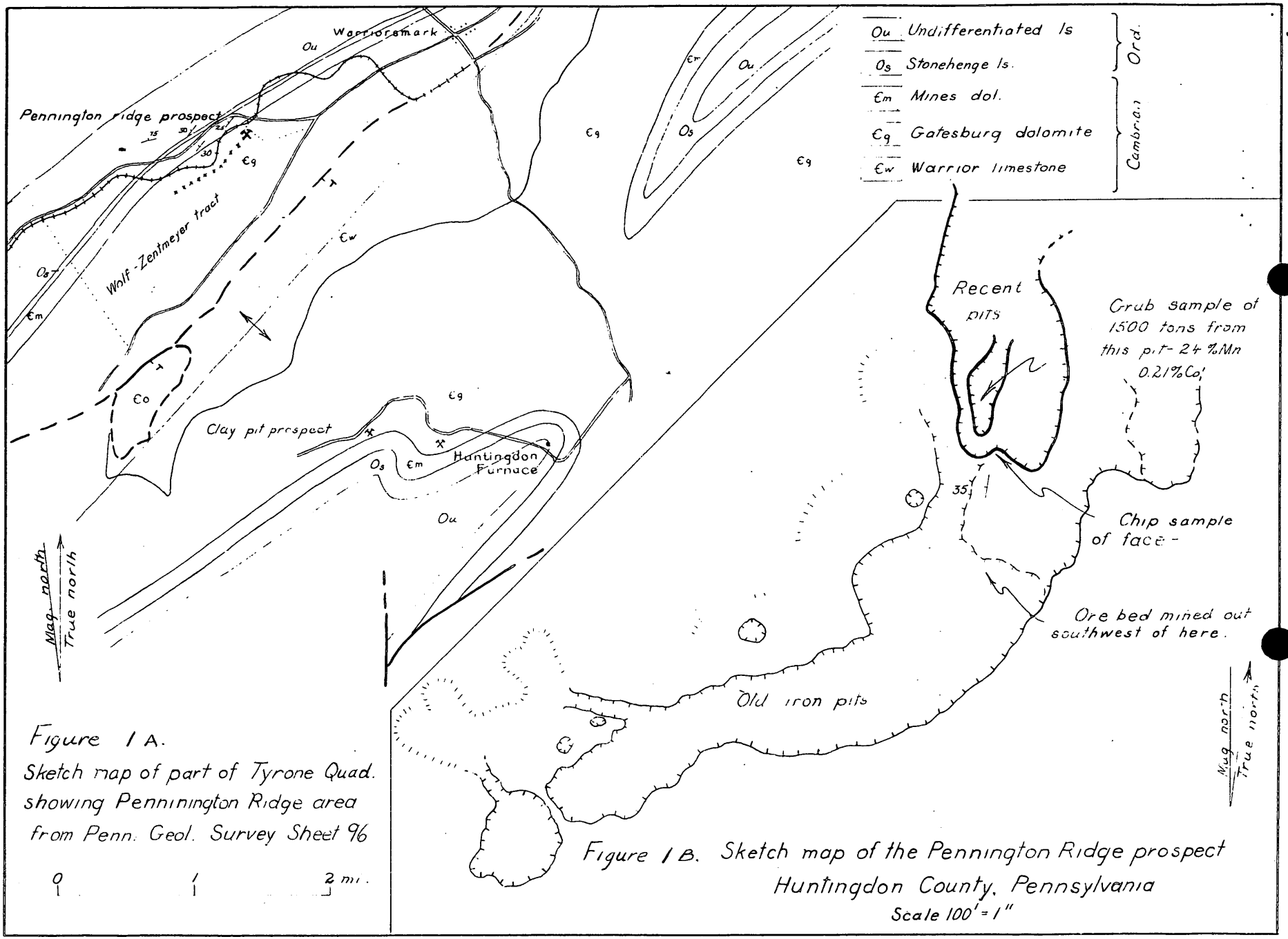
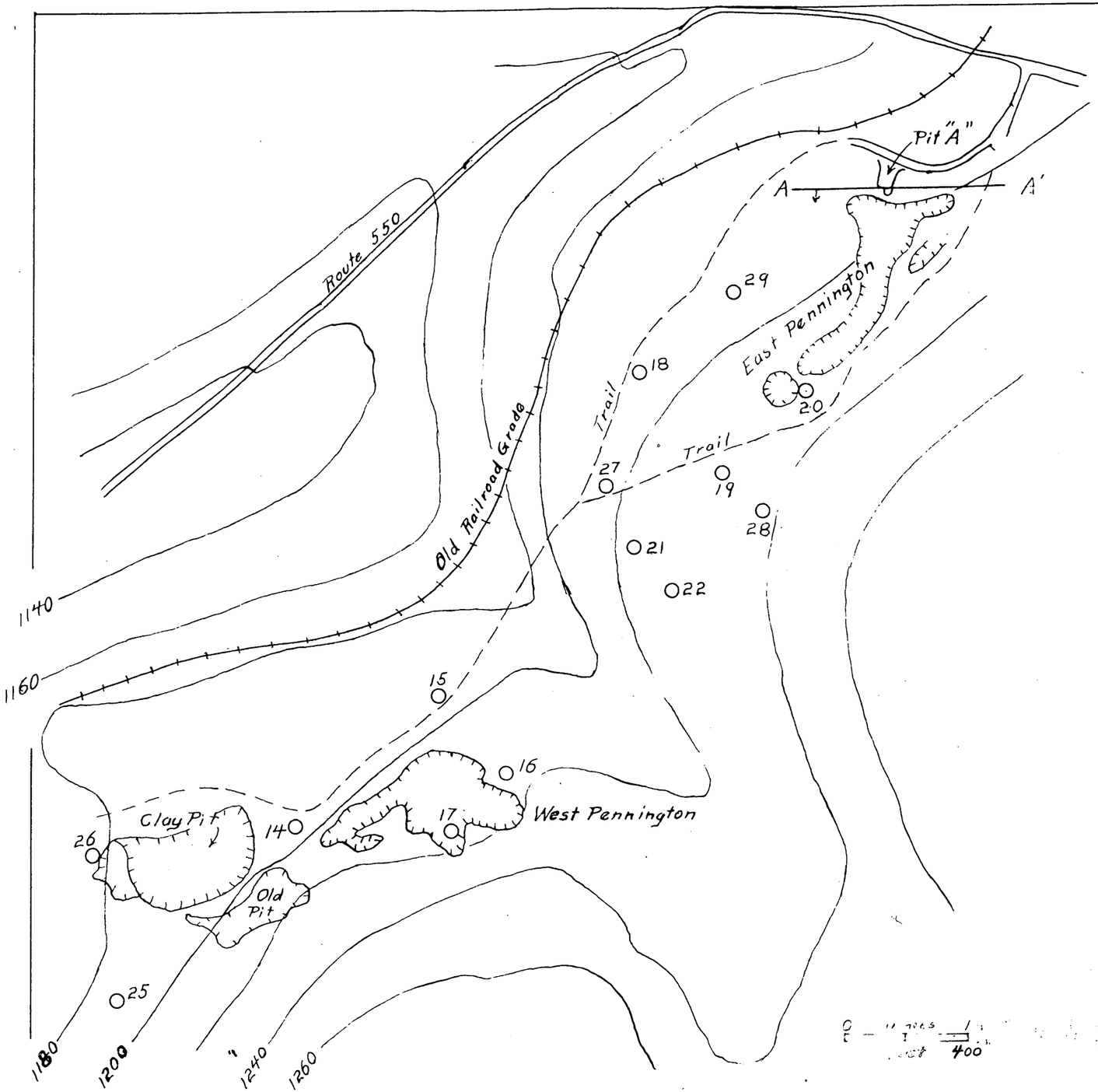
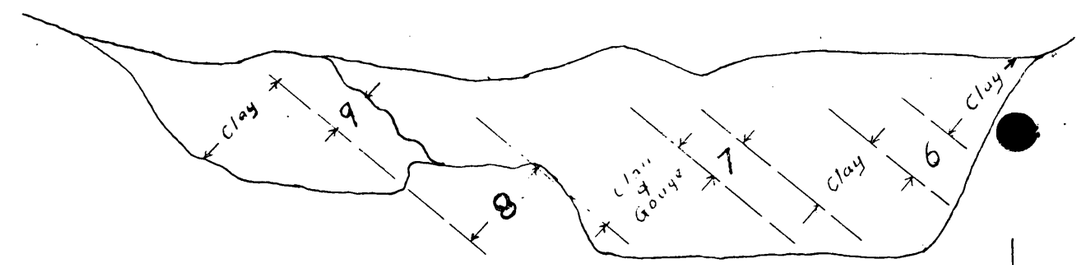


Figure 1 A.
Sketch map of part of Tyrone Quad. showing Penninington Ridge area from Penn. Geol. Survey Sheet 96

Figure 1 B. Sketch map of the Pennington Ridge prospect Huntingdon County, Pennsylvania
Scale 100' = 1"



SECT. A'-A



SAMPLE LOCATION

0 inches 1
0 feet 10

PLAN FROM W.M.R. PROJECT 945, OCT. 1945
SHOWING CHURN DRILL HOLES

SECT. A-A' ON PIT "A" of STANDARD ENTERPRISES
DMEA DOCKET 2918 WAS ADDED TO SHOW
LOCATION OF SAMPLES CUT APRIL 23, 1953

USBM 4/23/53

FIG.-2

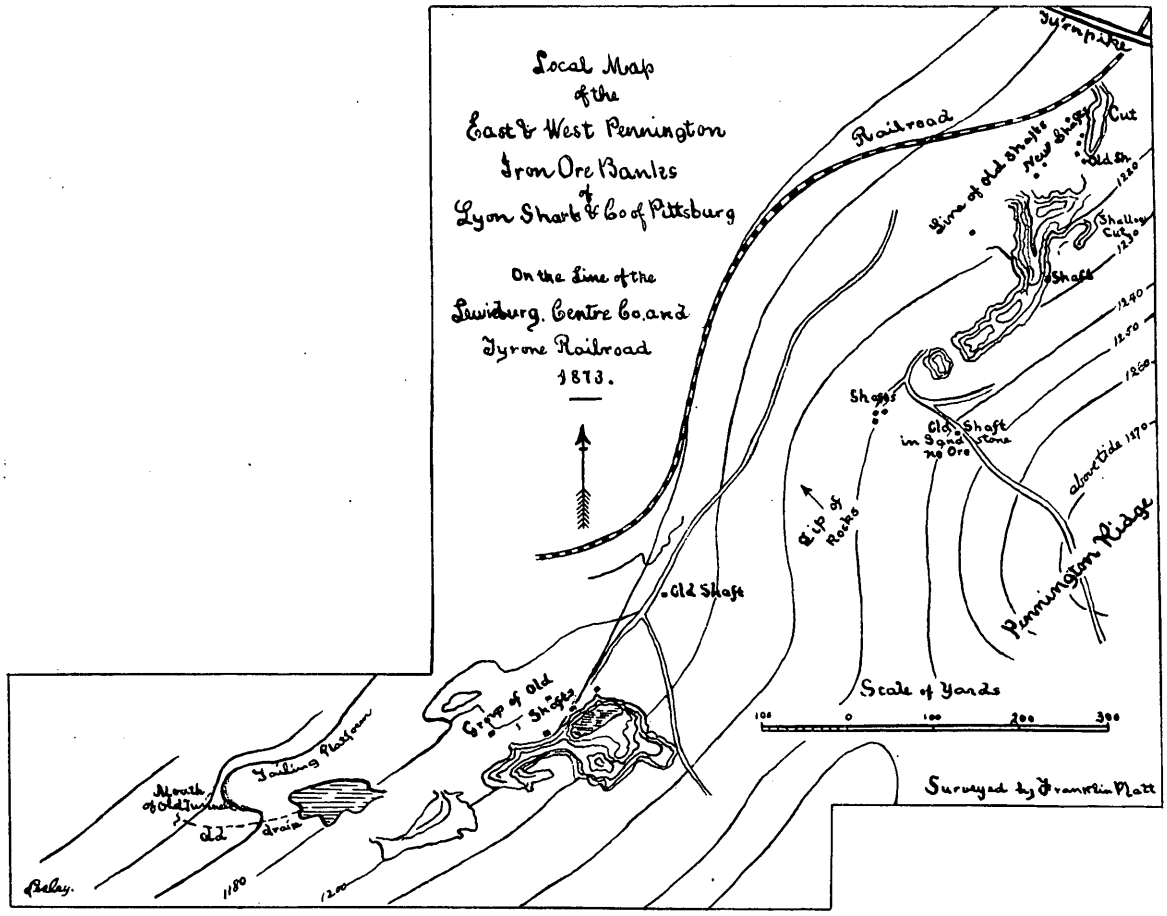


Figure 3. Map of the Pennington ore banks showing the location of old test pits, shafts and open pits. From Leslie, J.P., in White, I.C., 2d. Geol. Survey Penn., Rept. T³: Fig 8,10 p. 389, 393.

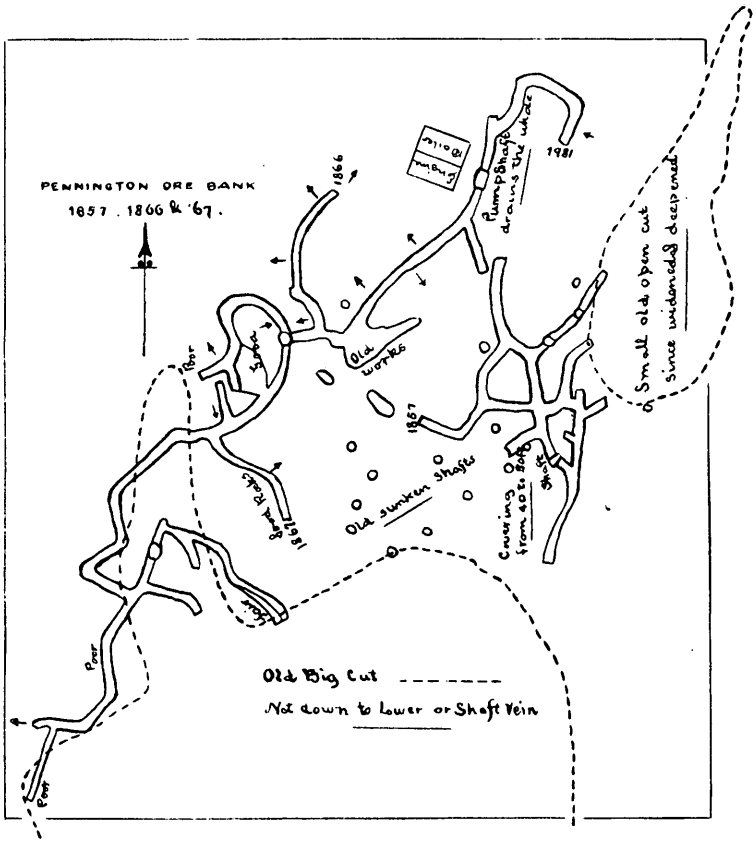


Figure 4. Map showing position and extent of underground workings at East (Old) Pennington ore bank. Scale not given. Assumed horiz scale 1" = 40yds. From Leslie, J.P., Fig. 9, p.390; Op. cit., Fig. 3, this report.

April 28, 1953

Memorandum

To: H. L. Burmeister, Mining Engineer

From: Chief, Mineral Dressing Section, Region VIII

Subject: DMEA-2918, Preliminary Beneficiation Tests on Huntingdon County, Pennsylvania Co-Mn Ore.

The results of preliminary tabling and flotation tests on a sample of cobalt-manganese bearing material from the Wolf-Zentmyer tract, Huntingdon County, Pennsylvania, were not encouraging. Recovery of manganese was low and the grade of concentrates below ferromanganese ore specifications.

A representative portion of the material as received was roll-crushed to pass a 20-mesh screen and sized on a 35-mesh screen prior to tabling. The two sized fractions, minus 20 plus 35-mesh and minus 35-mesh were tabled separately on a No. 13B Wilfley table with results as shown in Tables 1 and 2.

Table 1. Results of Tabling Minus 20 Plus 35-Mesh Fraction.

Product	Weight, Percent	Analysis, Percent Mn	Percent of Total Mn
Concentrates	45.6	32.9	58.3
Tailings	54.4	19.7	41.7
Composite	100.0	25.7	100.0

Table 2. Results of Tabling Minus 35-Mesh Fraction

Product	Weight, Percent	Analysis, Percent Mn	Percent of Total Mn
Concentrates	14.4	40.6	26.6
Tailings	78.6	18.7	66.8
Slimes	7.0	20.9	6.6
Composite	100.0	22.0	100.0

The finer fraction of the ore yielded higher grade concentrates but the recovery from the finer fraction was less than half that obtained from the coarser material. In tabling the minus 35-mesh portion, a sharp line was observed between concentrates and tailings which could not be seen with the coarse fraction. The concentrates obtained probably represent the maximum grade that can be produced by tabling but the recovery could be increased at a sacrifice in grade.

A flotation test on a sample ground to pass a 48-mesh screen using a fatty acid collector-frother reagent and sodium silicate as a dispersant gave results similar to those obtained in the table tests.

Table 3. Results of Flotation Test.

Product	Weight, Percent	Analysis, Percent Mn	Percent of Total Mn
Rougher Concs.	8.8	33.2	12.4
Scavenger Concs.	54.9	26.4	61.6
Tailings	36.3	16.9	26.0
Composite	100.0	23.5	100.0

Results of the flotation test, shown in Table 3, indicate a recovery of 12.4 percent of the manganese in a concentrate assaying 33.2 percent Mn. An additional recovery of 61.6 percent of the manganese was obtained in scavenger concentrates by adding more collector to the pulp after flotation of the rougher concentrates. As in the case of the table tailings, the flotation tailings assayed high in manganese so that recovery was poor. Fine grinding might improve recovery and grade of concentrates but more tests will have to be made to determine optimum flotation conditions.

/s/ Frank D. Lamb
Frank D. Lamb

Concentrates under Table 1. assayed 0.34 percent cobalt.

Concentrates under Table 2. assayed 0.52 percent cobalt.

/s/ H. L. Burmeister

May 5, 1953

Memorandum

To: H. L. Burmeister, Mining Engineer

From: Chief, Mineral Dressing Section, Region VIII

Subject: IMEA-2918, Preliminary Beneficiation Tests on Huntingdon County, Pennsylvania Co-Mn Ore.

The results of wet screen analysis and sink-float tests on sized fractions of a sample of the above ore after crushing to pass a 1-inch screen are shown in Tables 1 and 2.

Table 4. Results of Wet Screen Analysis of Minus 1-inch Ore.

Size, Mesh	Weight, Percent	Analysis, Percent		Percent of Total	
		Co	Mn	Co	Mn
-1" +½"	27.6	0.26	24.1	30.0	28.9
-½" +4	33.0	.21	23.1	29.1	33.0
-4 +10	21.6	.27	24.3	24.5	22.8
-10 +20	4.7	.29	28.7	5.7	5.9
-20 +65	6.2	.21	18.9	5.5	5.1
-65	6.9	.18	14.4	5.2	4.3
Total	100.0	0.24	23.0	100.0	100.0

Table 5. Results of Sink-Float Tests on Sized Fractions in Acetylene Tetrabromide (Sp. Gr. - 2.95).

Size, Mesh	Product	Weight, Percent	Analysis, Percent		Percent of Total	
			Co	Mn	Co	Mn
	Float	23.2	0.18	15.3	16.3	14.8
-1" +½"	Sink	76.8	.28	26.7	83.7	85.2
	Total	100.0	.26	24.1	100.0	100.0
	Float	24.5	.18	13.2	21.0	14.0
-½" +4	Sink	75.5	.22	26.3	79.0	86.0
	Total	100.0	.21	23.1	100.0	100.0
	Float	18.6	.22	13.8	15.2	10.6
-4 +10	Sink	81.4	.28	26.7	84.8	89.4
	Total	100.0	.27	24.3	100.0	100.0

Table 5. (continued)

Size, Mesh	Product	Weight, Percent	Analysis, Percent Co	Analysis, Percent Mn	Percent of Total Co	Percent of Total Mn
	Float	13.0	0.15	7.1	6.7	3.2
-10 +20	Sink	87.0	.31	31.9	93.3	96.8
	Total	100.0	.29	28.7	100.0	100.0
	Float	40.0	.07	2.4	13.5	5.1
-20 +65	Sink	60.0	.30	29.9	86.5	94.9
	Total	100.0	.21	18.9	100.0	100.0
-65	Total - -	100.0	.18	14.4	100.0	100.0

The foregoing tests indicate that the coarser fractions of the crushed ore are somewhat higher in cobalt and manganese than the fines but not sufficiently higher to permit benefiction by washing/and sizing. The sink-float tests indicate that the ore will require crushing to minus 20-mesh or finer to permit production of relatively high grade manganese concentrates.

Frank E. Lamb

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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Docket

Field Team Report on Examination of

Wolf-Zentmyer Tract
Huntingdon County, Pennsylvania

DMEA Docket No. 2918

(Cobalt-Manganese)

by

H. L. Burmeister, Mining Engineer
U. S. Bureau of Mines

and

Louis Pavlides, Geologist
U. S. Geological Survey

May 20, 1953

Cleared
OC
5/27/53

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Figure 1B - Sketch of map of Pennington Ridge Property.

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FIELD TEAM REPORT ON EXAMINATION OF PROPERTY

1. DMEA Docket No. 2918 - (Cobalt-Manganese)

2. Standard Enterprises, Inc.
2270 William Penn Highway, Pittsburgh 35, Pa.

3. Summary, Conclusions and Recommendations:

(a) Summary -

This application was made primarily to explore for cobalt. As the cobalt occurs in association with manganese minerals, the examination was concerned largely with the amount of manganese ore that might be developed. This in conjunction with a record of the cobalt content of all samples available are the factors governing a conclusion.

Much work has been done prior to this examination in an effort to economically separate cobalt from manganese. In furtherance of this research, bulk samples from the applicant's stockpile were obtained by the Bureau of Mines for metallurgical tests in the laboratories in Pittsburgh, Pa., and College Park, Md. The concentration and assay results are a part of this report.

The face in the open cut made by the applicant was cleaned and sampled by the Field Team. Records of old iron ore mining on this deposit were investigated for their bearing on the presence of manganese and cobalt.

(b) Conclusions -

Past records as well as the present observation indicate that iron ore as well as the associated manganese mineralization was spotty in occurrence both along the strike and in old random underground workings around the East Pennington surface workings. Samples cut in the only available face show low grade iron and manganese-bearing quartzite beds, separated by clay areas. Assay results on the bulk samples are not ~~to be~~ indicative of the true grade of ore because the bulk

samples represent hand picked ore selected for its high cobalt content for metallurgical testing. Metallurgical processes applied to the higher grade bulk ore sample indicate a low recovery of both cobalt and manganese as well as a comparatively low grade cobalt and manganese concentrate.

(c) Recommendations -

It is the recommendation of the Field Team that this application be denied for the following reasons:

(1) Previous mining during the 19th century has removed all the "ore" minable by open pit methods.

(2) No underground ore reserves are believed to exist on this property. Even if ore existed as underground reserves it is doubtful if it could be mined profitably at the present market price for spiegeleisen, which is the product the applicant eventually hopes to market.

(3) No process is known whereby low grade cobalt can be economically extracted from manganiferous material of this type.

(4) Even if this application were revised solely to a manganese exploration program, the observations and results of sampling by the Field Team indicate that such exploration would not be recommended.

4. Time spent on Property and Persons Accompanying Examiner:

This property was examined on April 23, 1953 by H. L. Burmeister, Mining Engineer, U. S. Bureau of Mines; Louis Pavlides and Max D. Crittenden, Geologists, U. S. G. S. Seven hours were spent on the property in company with Mr. Daniel H. Viscount, president of the applicant corporation.

5. Name and Location of Property:

This property is presently known by the name of the lessees, "Standard Enterprises, Inc." It embraces the old East Pennington and West Pennington mines which were worked for iron 90 years ago. The area ~~(here concerned)~~ is in the Wolf-Zentmyer Tract, situated in the township of Warriors Mark, county of Huntingdon, Pa.

The application as originally submitted, (see item 3 of the application), is misleading in that it describes lands under lease that lie partly in the townships of Half Moon and Ferguson of Centre County, Pa. These lands are evidently not to be included in the request for exploration as Mr. Viscount in his letter to the Executive Officer, dated April 18, 1953, furnished a map on which he had outlined the properties and also the strike and dip of the deposit. Only the Wolf and Zentmyer tract is outlined on this map and the applicant stated to the Field Team that it was the property he intended to explore.

To reach the property proceed east from Tyrone, Pa. for one mile on highway 350. At this point turn north on highway 550 and continue for a distance of 4.0 miles. Pit "A" lies about 125 yards east of the highway on a rock-base mine road. The location of the property is also shown in Figs. 1A and 2.

6. Conditional and Seasonal Accessibility of Road to Property:

All roads leading to this property are excellent paved highways. The 125 yards of mine road is level and has a crushed rock surface.

7. Competency of Applicant and Operating Personnel:

Mr. Viscount, the president of the applicant company, is designated in the application to have charge of the exploration operations. Apparently Mr. Viscount has no previous experience in the contemplated work, but probably he could handle it if properly instructed by a competent engineer.

8. Applicant's Property Rights:

All land relative to this application is held by the applicant company under two leases which are a part of the application.

A company letter to the Executive Officer under date of February 27, 1953, submitted a request that the applicant's guarantee for royalties be accepted in lieu of "Owner's Consent to Lien." The bank statement for Mr. Stephen Catarinella, Secretary, is attached to the application.

9. Description of Property:

The Wolf-Zentmyer Tract is on a wooded hill locally called Pennington Ridge in Huntingdon County, Pa. The present prospect pit is on the northwest slope of the ridge. The surface along the deposit slopes gently to the southwest. The entire area has been burned over several times leaving a small amount of standing timber. If the burned-over small timber is removed a truck can, in dry weather, reach nearly any point in the area included in this application.

The applicant's workings consist of an open prospect pit near the north end of the property. The pit with its long dimension, approximating the strike of the deposit at this point, is about 200 feet long and 80 feet wide. A smaller pit, about 75 feet long and 20 to 25 feet wide, has been dug 12 feet below the floor of the larger pit. The walls of all old workings have caved, making them unavailable for sampling.

See sketch section of Pit "A," Fig. 2, for location of samples cut. The areas in the sketch marked "clay" are barren of any mineralization.

Table 6. Assay results of Pit "A" cut samples by the U.S.B.M.

Sample No.	Normal Width Feet	Mn Percent	Co Percent	Fe Percent	P_2O_5 Percent
6	4	2.79	0.10	13.1	0.14
7	2.5	1.03	0.07	25.6	0.08
8	6	1.72	0.09	19.7	0.08
9	2.5	0.51	0.04	23.7	0.16

The applicant has a blast furnace at Union Furnace for smelting spiegeleisen that he has rated at a capacity of 20 tons per hour. Union Furnace is about 3 miles southeast of Birmingham and can easily be reached over US highway 322.

To investigate the possibility of separating cobalt from manganese, the Bureau of Mines obtained two tons of ore to be used in Pittsburgh and one half ton to be used at College Park. In requesting this ore it was understood that Mr. Viscount would give the Bureau ore with the highest cobalt content available. The small pit (see fig. 1B) is the source of the 1500 tons of material stockpiled at the applicant's furnace from which the bulk sample used by the Bureau of Mines for their ore dressing and chemical tests was obtained. Part of this ore probably came from quartzite boulders, some of which are still around Pit "A".

Assay results on these bulk samples are listed below:

	College Park Percent	Pittsburgh Percent
Mn	24.0	17.0
Fe	8.27	17.0
P	0.032	
Co	0.21	0.15
SiO_2	39.1	
Al_2O_3	2.98	
Ignition Loss	8.23	

These bulk samples were taken from a stockpile at the company-owned blast furnace. This material is brecciated and more highly mineralized than the rock in the face of the present open pit "A".

Tabling, flotation, and heavy media tests were run at College Park on this material with the results cited in Tables 1, 2, 3, 4 and 5.

The Department of the Interior, Bureau of Mines, WMR, Project 945, is here referred to. This project covered the churn drilling of 16 holes around and between the East Pennington and the West Pennington open pits. Exploration for iron

ore was the object of the project, but it also is valuable in the examination of this property for the presence of manganese and cobalt, which is associated with the manganese. Fig. 2 shows the location of the churn drill holes. A cross section of the new open workings, Pit "A," made during this examination has been added to Fig. 2.

Fig. 2 shows drill holes 18, 27, and 29, approximately 400 feet in the hanging wall from the probable outcrop at the East Pennington pit. These holes have an average depth of 40 feet from the surface or 55 feet below the original outcrop at East Pennington. If the dip of the bed containing manganese is about 35° as indicated in Pit "A," these holes would have to be 200 feet deep to intercept the formation mined for iron.

Drill holes 19, 20, and 21 are either on or very near the line connecting the East and West Pennington pits and should be indicative of the mineral content of the material that was mined in the East Pennington pit. These holes show only a small amount of limonite, and only No. 19 shows the presence of any manganese. Holes 22 and 28 on the map appear to be in the footwall and the drill logs of these holes seem to confirm this. The width and depth of the East Pennington pit tend to bear out the belief that the dip of the mineralized structure was about 35° to the northwest.

10. Geology and Ore Reserves:

Geology -

The Pennington iron ore banks are on the northwest limb of an anticline, named the Sinking Valley Anticline by Butts 1/, and appear to be stratigraphically localized in a zone near the top of the Cambrian Gatesburg dolomite. See Fig. 1A.

1/ Butts, Charles, Swartz, F. M. & Willard, B., 1939, Tyrone Quadrangle, Pa.: Pa. Geol. Survey Bull., 4th Series, A96, Plate 1, In pocket.

This formation 2/ is about 1750 feet thick and is composed predominantly of thick bedded, coarsely crystalline dolomite of steel-blue color in freshly broken surface. Abundant interbeds of quartzite, some as much as 10 feet thick, are a prominant feature of the formation, imparting to the weathered Gatesburg dolomite a characteristic heavy residual mantle of quartz sand and quartzite boulders. Manganese oxides and nodules of goethite have been uncovered by the applicant in prospect pits and trenches at approximately the same stratigraphic horizon within the Gatesburg dolomite on the southeast limb of the anticline west of Huntingdon Furnace (idem). These latter prospects have not been included in the applicant's request for aid in exploration and will not be discussed in this report.

Butts 3/ describes the iron ores of the district as, "residual deposits on limestone of Cambrian and Ordovician age. The ore occurs as lump and wash ore mixed with clay, sand and gravel." The Pennington ore banks generally conform to this description, although these deposits also contain material that consists of iron and manganese oxides impregnating and veining quartzite beds that occur within the Gatesburg dolomite at this horizon. This latter siliceous variety of "ore" comprises the 1500 ton stockpile of material at the applicant's furnace and is claimed to be suitable for the making of spiegeleisen when blended with iron ore from another deposit.

The small pit from which the applicant obtained this stockpile was partially flooded andslumped at the time of the Field Team's examination and the only exposure available was in the partially slumped south face of the pit. This face contains a discontinuous exposure consisting of limonite and manganiferous impregnated and veined quartzite striking northeast and dipping 35° west. South of the pit, the strike of the ore horizon, as inferred from the trend of the old pits, gradually rotates to the southwest until it becomes conformable with the regional

2/ Butts, Charles, op. cit., p. 10
3/ Butts, Charles, op. cit., p. 89

strike. See Figs. 1A and 1B. The quartzite in the pit face is interbedded with a kaolinic clay, which is probably the residuum of weathered carbonate layers. It is visible at three places in this pit face, (see fig. 1B); (1) on the west end of the face immediately on strike with the pit from which the 1500 ton stockpile was earlier obtained, (2) on the east end of the face on strike with the terrace formed by the floor of the first large recent pit, and (3) in a small knob at the west edge of this terrace where it forms part of the east wall of the lower pit. The eastern and western exposures consist of a mineralized quartzite bed about 3 feet thick dipping 35° west. The attitude and thickness of the exposure at the terrace edge could not be determined.

The rocks in this pit are too poorly and discontinuously exposed for one to determine with any degree of certainty whether these 2 quartzite exposures represent 3 different layers interbedded with clay or whether they may be one unit that was broken up and slightly slumped. Regardless of the number of quartzite units present, the blocks as seen in the face probably are at present somewhat slumped. Some of the clay may be from the backs of old caved stopes, as this appears to have been an area that at one time was prospected by shafts and mined by underground methods. See Figs. 3 and 4. However, the moderate 35° dip to the west in these rocks appears to be within the right order of magnitude. Butts, (see Fig. 1A), shows dips of 25° and 30° to the northwest within the Mines dolomite, which overlies the Gatesburg dolomite immediately to the northwest of the Pennington ore banks.

The Field Team cut chip samples across the 3 quartzite exposures. The assays of these samples are given in Table 6. The hard material sampled consists of quartzite and quartzite breccia that has been impregnated and slightly replaced by iron and manganese deposited from solutions that worked along fractures and bedding planes. The iron is in the form of limonite and geothite and, the manganese occurs

as a wad-like manganese oxide. Manganese may also be present in small amounts as a variety of the psilomelane type. Foose 4/states that manganese oxides occur both as bedded and nodular psilomelane type minerals at the East Pennington iron ore banks, but the Field Team did not find any nodular material at the time of its examination.

Cobalt staining was not observed in the mineral examined by the Field Team. It is assumed that the cobalt detected by chemical analyses is chemically combined with the manganese oxides.

Ore Reserves -

The information available on the Pennington Ore banks suggests that there is little if any material that could be classed as ore reserves on the applicant's property. It is evident from the literature and from the size and extent of the old pits on the property that all the near surface ore was completely mined out, mostly by open pit methods, during the 19th century. The low content of manganese and cobalt in the rocks sampled by the Field Team, (see Table 6), in the pit face, indicates that even if these rocks extended down dip to the northwest they are of no economic interest at present. Residual deposits of this type are generally shallow, being restricted to the weathered residuum of the formations in which they occur, and any extensive down dip continuation in this deposit is not likely. It should be pointed out that a wide discrepancy exists between the chemical analyses of the Field Team's samples and the analyses of the bulk samples obtained by the Bureau of Mines. The applicant's two samples also vary widely in their manganese and iron content. One explanation of the difference may be found in a comparison of the mineralization in the face of the pit with that in the blocks of material in the 1500 ton stockpile at the spiegeleisen plant at Union Furnace. The material in the stockpile is dominantly an impregnated and replaced quartzite breccia, but the rock sampled in the

4/ Foose, R. M., 1945, Manganese Minerals of Pa.: Pa. Geol. Survey, 4th Series, Bull. M 27, p. 94.

pit face is less brecciated, its appearance being more that of a quartzite bed with iron and manganese oxides staining and replacing it chiefly along bedding and jointing planes. It may be, that the material from the stockpile came from a local brecciated zone in the quartzite and because of its more porous nature, the solutions mineralized this zone more highly than the relatively less fractured and consequently less porous quartzite to the southwest. If this inference is correct, the extent of this brecciated zone may be local, possibly restricted to the pit from which the stockpiled ore was obtained.

11. Past Operations:

The mineralized zone of the Wolf-Zentmyer Tract lies on the northwest slope of Pennington Ridge and was extensively mined for iron during the 19th century. Both open pit and underground methods were used in mining. The deposits are referred to in the literature 5/ as the Pennington East and West iron ore banks or as the Old and New Pennington ore banks and analyses of the ore from this deposit are given in the reports of the state geologist for 1840 and 1841 6/. The main pit (see Fig. 3) of the Old Pennington bank is reported 7/ to have supplied the furnace at Old Bald Eagle for many years.

Some of the ore from the Old Pennington bank was mined by underground methods involving an irregular network of shafts, inclines, drifts, and stopes that presumably followed the thickest and highest grade ore, see Figure 4. These underground workings generally caved and were abandoned soon after removal of the high-grade ore. Water also caused the abandonment of many underground workings, some as shallow as 30 feet 8/. The workings were completely flooded out in 1857 and

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5/ Lesley, J. P. in White, J. C., 1885, The Geology of Huntingdon Co., Pa. 2nd Geol. Survey Report, T3, pp. 388-399.
6/ Rogers, H. D., 1840, 4th Annual Report, Pa. Geol. Survey, p. 188
" " " 1841, 5th Annual Report, Pa. Geol. Survey, p. 96
7/ Lesley, J. P., op. cit., pp. 390-391
8/ Lesley, J. P., op. cit., p. 391

and were presumably not re-opened until 1865, when a 60-foot pump shaft was sunk below the ore zone. Subsequent drifting and raising to the west encountered the ore horizon (which dips to the west), but no mining was done. The West or New Pennington ore bank was discovered in 1857 8/ and was also mined by open pit and underground methods.

The Pennington deposits were probably abandoned due to exhaustion of easily accessible high grade ore. Economic factors that came into play at the time also may have contributed to the end of the mining operations. Butts 9/ attributes the end of the iron mining industry in the Tyrone Quadrangle about 1885 to, "small local demand for iron, superiority and cheapness of the Lake Superior and foreign iron ores, the general dullness of the iron trade and high royalties (50¢ per ton) demanded by the land owners."

Production data of iron ore for the Pennington deposits are not available but from the published mine maps (see fig. 3), it appears that the ore was mined out to a depth of at least 40 feet. The following analyses of the ores were obtained from the literature:

Table 7. Chemical Analyses of Ore from the Pennington Banks.

	A 10/	B 11/
Composition in 100 parts:		
Peroxide of iron	75.2	76.5
Alumina	0.5	None
Oxide of manganese	a trace	2.70
Silica & insoluble matter	8.8	7.50
Lime	a trace	
Water	15.0	12.50
Loss	0.5	0.80
	100.00	100.00

8/ See footnote 8/ on p. 10
9/ Butts, Charles, op. cit., p. 89
10/ Rogers, H. D., 1840, 4th Annual Report, Pa. Geol. Survey, p. 188; Old Pennington Bank Ore
11/ " " " 1841, 5th Annual Report, Pa. Geol. Survey, p. 96; Old Pennington Bank Ore

Table 7. Chemical Analyses of Ore from the Pennington Banks (continued).

	C[12] * East Pennington Bank	D[12] ** West Pennington Bank
Ferric Oxide	65.88 (= 44.77 Fe)	70.93 (= 49.65 Fe)
Manganic Oxide	6.00 (= 4.18 Mn)	0.39
Cobaltic Oxide	0.34 (= 0.24 Co)	a trace
Alumina	a trace	2.81
Magnesia	0.26	0.14
Lime	a trace	0.08
Phosphoric Acid	0.22 (= 0.097 P)	0.37 (= 0.16 P)
Silica Acid	6.38	4.38
Quartz	7.87	7.91
Water	13.05	13.00
	100.00	100.00

12. Availability of Manpower, Materials, etc.:

The town of Tyrone, which is about 5 miles southwest of the property, could probably furnish the manpower, equipment, and supplies necessary for operation. Electric power could be connected at a distance of about 3 miles. The nearest water supply for drilling would be the abandoned clay quarry west of the West Pennington pit.

13. Statement of Applicant's Proposal:

The applicant states that the deposit is indicated for about 6,000 feet on the strike from his Pit "A." Actually there are no pits or indications beyond a distance of 3,400 feet southwest on the strike from Pit "A."

Stage I of the applicant's proposal specified bulldozing trenches across

12/ Lesley, J. P., op. cit., pp. 427-428
* Average of 13 specimens of ore of variable character.
** Average of 5 specimens of ore of variable character.

the strike at 1,000-foot intervals to expose the deposit. A total of 300 linear feet of trenching is proposed.

Stage II specified that holes be diamond drilled at 300-foot intervals along the strike starting at the applicant's Pit "A." Each 300-foot interval to have two stations, one station at a distance of 50 feet and one station at a distance of 150 feet from the edge of the deposit. Each station to be the site of 2 holes, one at 45° and one at 60°. This would result in a total of 520 feet of drilling on each interval. A total of 6,500 feet of drilling is specified. This would allow 12 intervals of 300 feet each in the distance of 3,600 feet between Pit "A" and "Old Pit," see Fig. 2, south of West Pennington pit.

If the 80° dip stated in the application is correct, the 4 holes on each interval would intercept the deposit at 46, 69, 136 and 206 feet on the dip.

The estimate of $1,000.00 for sampling and analysis is probably less than would be required if ore were encountered. Supervision in the amount of $6,000.00 is excessive.

After examination of this property certain revisions in the original application were suggested to the applicant as indicated below:

Stage I - Bulldozer trenches are neither necessary nor advisable. The trend of the deposit is as clearly indicated by old pits extending between the East and West Pennington Pits as it would be by trenches at 1,000-foot intervals. Observation indicates that overburden in the area to be bulldozed, might well be too deep for a bulldozer to be effective. Eliminating bulldozer trenches was suggested.

Stage II - Because of the alternation of clay, and harder material, and of the vuggy nature of some of the material, it is considered that satisfactory results cannot be obtained by diamond drilling. The advisability of drilling to an intercept approximately 200 feet below the surface on the assumed dip in this type

of mineralization is questioned. In any case it is believed that the more shallow holes should be completed first if drilling is approved.

The following points were discussed at length with Mr. Viscount: The inadvisability of diamond drilling this formation, the necessity for a method of separating cobalt from manganese, and the high cost submitted for supervision. No satisfactory answer has been found for the applicant's submission to the engineer that the face of Pit "A" showed 30 feet of solid manganese ore. The applicant states that he has people working on cobalt-manganese separation but that he hesitates to go further as the method would then be available to everyone.

H. L. B. by WTM
H. L. Burmeister, Mining Engineer
U. S. Bureau of Mines

W. T. Millar
W. T. Millar, Executive Officer
Bureau-Survey Field Team
Defense Minerals Exploration
Administration, Region VIII

Louis Pavlides
Louis Pavlides, Geologist
U. S. Geological Survey

Quentin J. Fitzgerald U.S.G.S.
John B. Hanley, U. S. Geological Survey
Member, Bureau-Survey Field Team
Defense Minerals Exploration
Administration, Region VIII

College Park, Md.
May 20, 1953

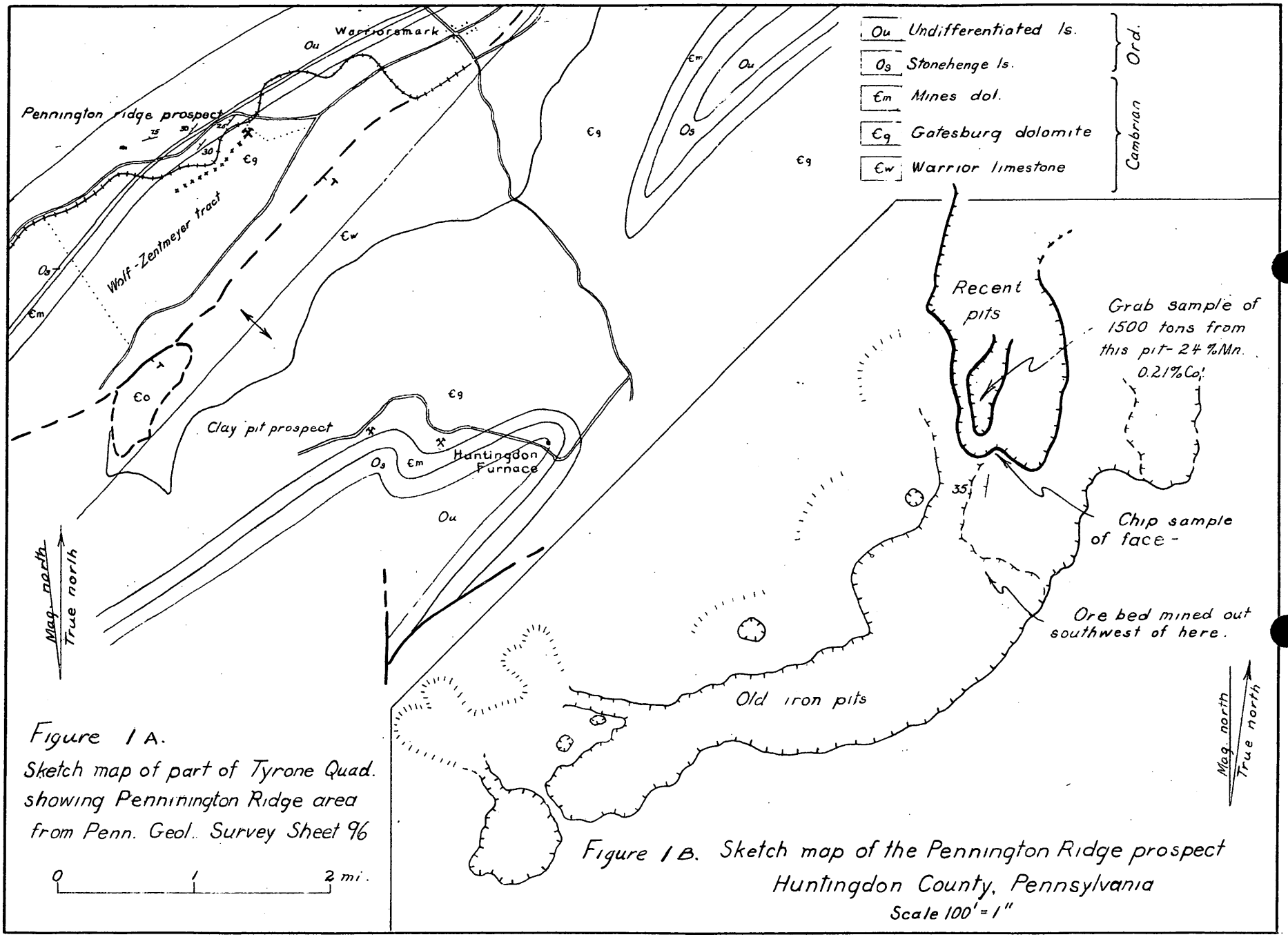
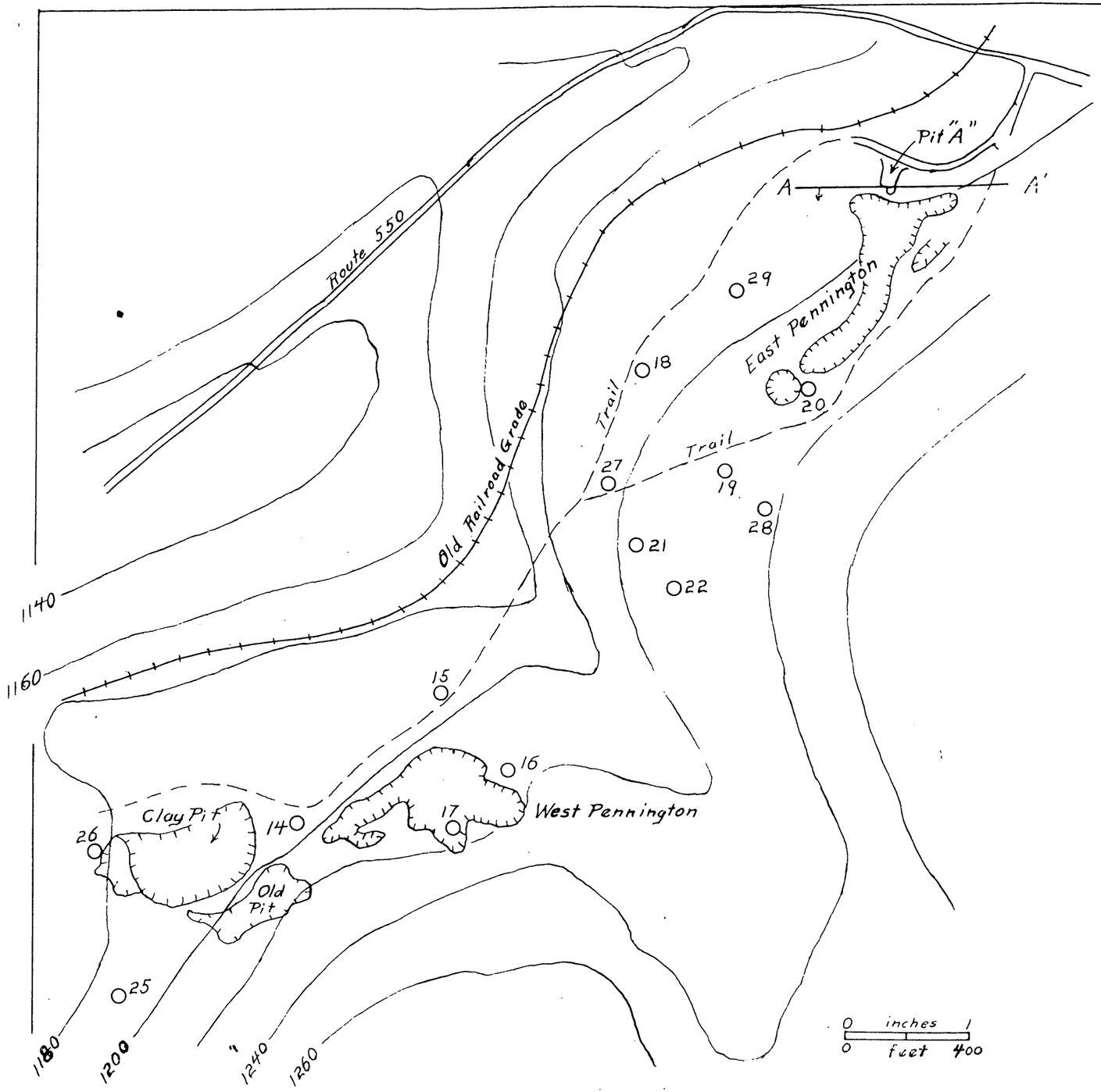
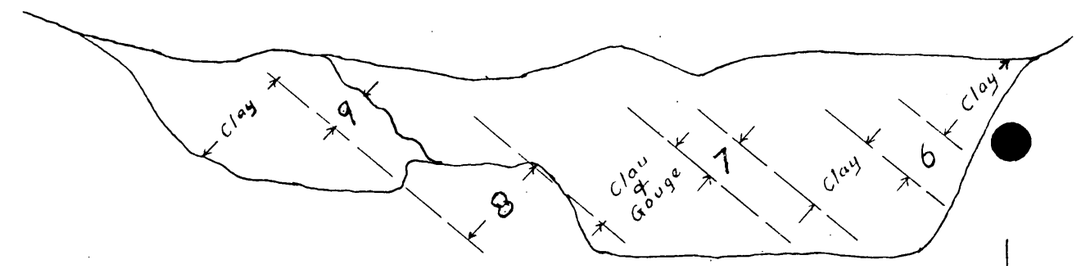


Figure 1 A.
Sketch map of part of Tyrone Quad. showing Penninington Ridge area from Penn. Geol. Survey Sheet 96

Figure 1 B. Sketch map of the Pennington Ridge prospect
Huntingdon County, Pennsylvania
Scale 100' = 1"



SECT. A'-A



SAMPLE LOCATION

0 inches 1
0 feet 10

PLAN FROM W.M.R. PROJECT 945, OCT. 1945
SHOWING CHURN DRILL HOLES

SECT. A-A' ON PIT "A" of STANDARD ENTERPRISES
DMEA DOCKET 2918 WAS ADDED TO SHOW
LOCATION OF SAMPLES CUT APRIL 23, 1953

USBM 4/23/53

FIG.-2

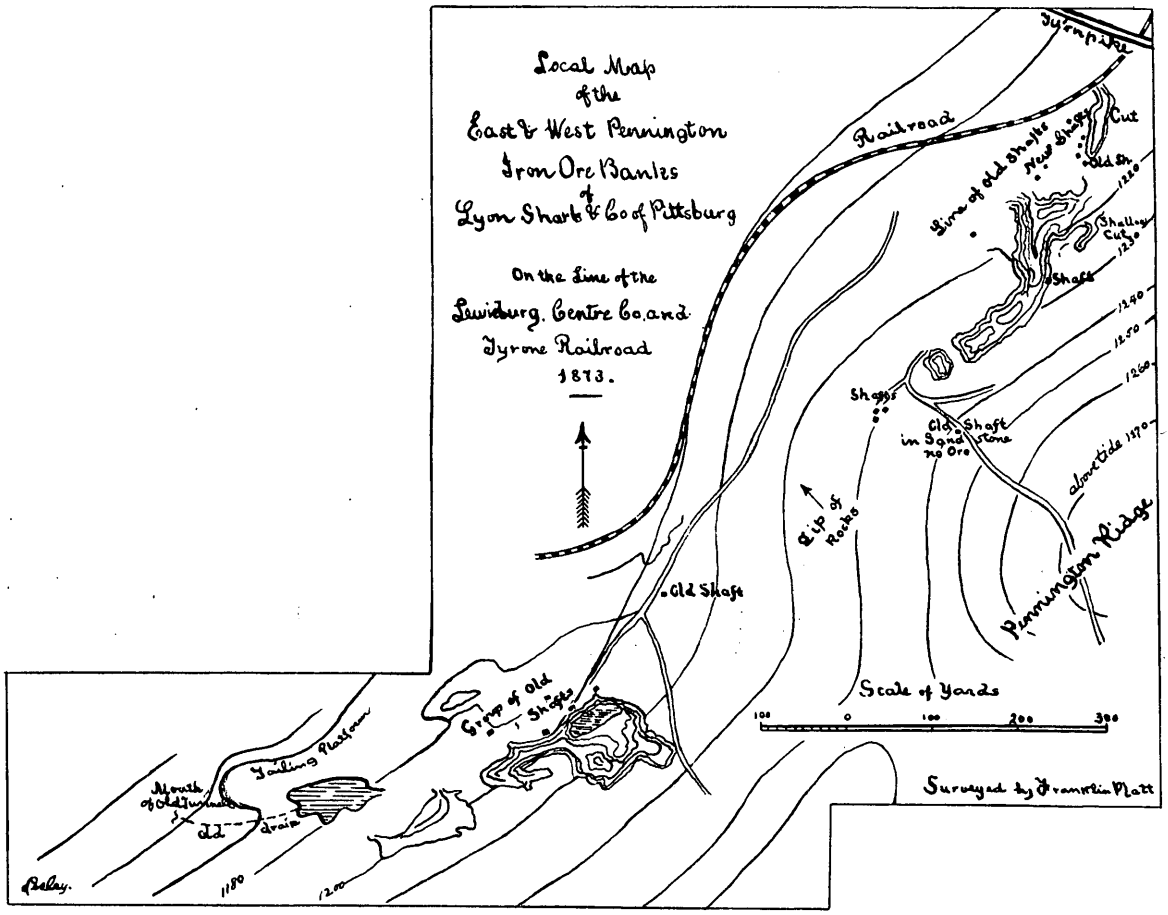


Figure 3. Map of the Pennington ore banks showing the location of old test pits, shafts and open pits. From Leslie, J.P., in White, I.C., 2d. Geol. Survey Penn., Rept. T³: Fig 8,10 p. 389, 393.

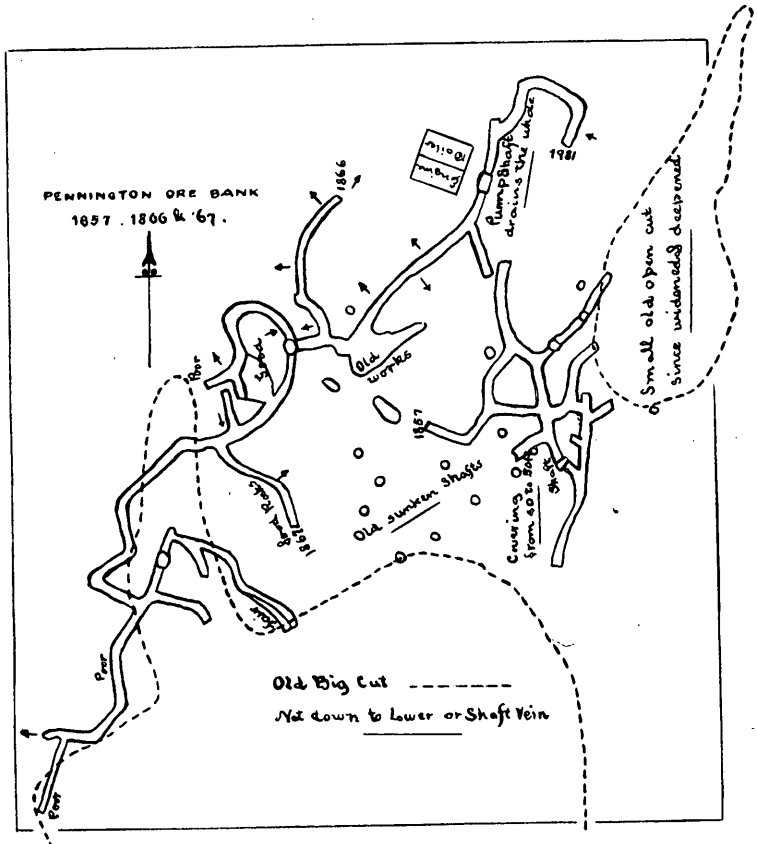


Figure 4. Map showing position and extent of underground workings at East (Old) Pennington ore bank. Scale not given. Assumed horiz. scale 1" = 40yds. From Leslie, J.P., Fig. 9, p.390, Op. cit., Fig. 3, this report.

April 28, 1953

Memorandum

To: H. L. Burmeister, Mining Engineer

From: Chief, Mineral Dressing Section, Region VIII

Subject: DMEA-2918, Preliminary Beneficiation Tests on Huntingdon County, Pennsylvania Co-Mn Ore.

The results of preliminary tabling and flotation tests on a sample of cobalt-manganese bearing material from the Wolf-Zentmyer tract, Huntingdon County, Pennsylvania, were not encouraging. Recovery of manganese was low and the grade of concentrates below ferro-grade manganese ore specifications.

A representative portion of the material as received was roll-crushed to pass a 20-mesh screen and sized on a 35-mesh screen prior to tabling. The two sized fractions, minus 20 plus 35-mesh and minus 35-mesh were tabled separately on a No. 13B Wilfley table with results as shown in Tables 1 and 2.

Table 1. Results of Tabling Minus 20 Plus 35-Mesh Fraction.

Product	Weight, Percent	Analysis, Percent Mn	Percent of Total Mn
Concentrates	45.6	32.9	58.3
Tailings	54.4	19.7	41.7
Composite	100.0	25.7	100.0

Table 2. Results of Tabling Minus 35-Mesh Fraction

Product	Weight, Percent	Analysis, Percent Mn	Percent of Total Mn
Concentrates	14.4	40.6	26.6
Tailings	78.6	18.7	66.8
Slimes	7.0	20.9	6.6
Composite	100.0	22.0	100.0

The finer fraction of the ore yielded higher grade concentrates but the recovery from the finer fraction was less than half that obtained from the coarser material. In tabling the minus 35-mesh portion, a sharp line was observed between concentrates and tailings which could not be seen with the coarse fraction. The concentrates obtained probably represent the maximum grade that can be produced by tabling but the recovery could be increased at a sacrifice in grade.

A flotation test on a sample ground to pass a 48-mesh screen using a fatty acid collector-frother reagent and sodium silicate as a dispersant gave results similar to those obtained in the table tests.

Table 3. Results of Flotation Test.

Product	Weight, Percent	Analysis, Percent Mn	Percent of Total Mn
Rougher Concs.	8.8	33.2	12.4
Scavenger Concs.	54.9	26.4	61.6
Tailings	36.3	16.9	26.0
Composite	100.0	23.5	100.0

Results of the flotation test, shown in Table 3, indicate a recovery of 12.4 percent of the manganese in a concentrate assaying 33.2 percent Mn. An additional recovery of 61.6 percent of the manganese was obtained in scavenger concentrates by adding more collector to the pulp after flotation of the rougher concentrates. As in the case of the table tailings, the flotation tailings assayed high in manganese so that recovery was poor. Fine grinding might improve recovery and grade of concentrates but more tests will have to be made to determine optimum flotation conditions.

/s/ Frank D. Lamb
Frank D. Lamb

Concentrates under Table 1. assayed 0.34 percent cobalt.

Concentrates under Table 2. assayed 0.52 percent cobalt.

/s/ H. L. Burmeister

May 5, 1953

Memorandum

To: H. L. Burmeister, Mining Engineer

From: Chief, Mineral Dressing Section, Region VIII

Subject: DMEA-2918, Preliminary Beneficiation Tests on Huntingdon County, Pennsylvania Co-Mn Ore.

The results of wet screen analysis and sink-float tests on sized fractions of a sample of the above ore after crushing to pass a 1-inch screen are shown in Tables 1 and 2.

Table 4. Results of Wet Screen Analysis of Minus 1-inch Ore.

Size, Mesh	Weight, Percent	Analysis, Percent		Percent of Total	
		Co	Mn	Co	Mn
-1" +½"	27.6	0.26	24.1	30.0	28.9
-½" +4	33.0	.21	23.1	29.1	33.0
-4 +10	21.6	.27	24.3	24.5	22.8
-10 +20	4.7	.29	28.7	5.7	5.9
-20 +65	6.2	.21	18.9	5.5	5.1
-65	6.9	.18	14.4	5.2	4.3
Total	100.0	0.24	23.0	100.0	100.0

Table 5. Results of Sink-Float Tests on Sized Fractions in Acetylene Tetrabromide (Sp. Gr. - 2.95).

Size, Mesh	Product	Weight, Percent	Analysis, Percent		Percent of Total	
			Co	Mn	Co	Mn
	Float	23.2	0.18	15.3	16.3	14.8
-1" +½"	Sink	76.8	.28	26.7	83.7	85.2
	Total	100.0	.26	24.1	100.0	100.0
	Float	24.5	.18	13.2	21.0	14.0
-½" +4	Sink	75.5	.22	26.3	79.0	86.0
	Total	100.0	.21	23.1	100.0	100.0
	Float	18.6	.22	13.8	15.2	10.6
-4 +10	Sink	81.4	.28	26.7	84.8	89.4
	Total	100.0	.27	24.3	100.0	100.0

Table 5. (continued)

Size, Mesh	Product	Weight, Percent	Analysis, Percent Co	Analysis, Percent Mn	Percent of Total Co	Percent of Total Mn
	Float	13.0	0.15	7.1	6.7	3.2
-10 +20	Sink	87.0	.31	31.9	93.3	96.8
	Total	100.0	.29	28.7	100.0	100.0
	Float	40.0	.07	2.4	13.5	5.1
-20 +65	Sink	60.0	.30	29.9	86.5	94.9
	Total	100.0	.21	18.9	100.0	100.0
-65	Total - -	100.0	.18	14.4	100.0	100.0

The foregoing tests indicate that the coarser fractions of the crushed ore are somewhat higher in cobalt and manganese than the fines but not sufficiently higher to permit beneficiation by washing and sizing. The sink-float tests indicate that the ore will require crushing to minus 20-mesh or finer to permit production of relatively high grade manganese concentrates.

Frank D. Lamb

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 4/20/53

REFERRED TO:

1. ~~H. Berry, Rm. 4624~~
2. ~~Miss Langhan, Rm. 4539~~
3. Mr. Martin, Rm. 3538
4.

FOR:

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

REMARKS: Bernadette: I sent 1 ea. of this ltr. to BM & USGS—Orig. & 2 cc rec'd.

H Berry

Check (X) before the items needing attention.

R. E. ADAMS
Initials of sender.

GPO 16—63815-1

Docket.

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

April 17, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 20 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From; Executive Officer, DMEA Field Team, Region VIII

WSM

Subject: Docket No. DMEA-2918 - (Cobalt-Manganese)
Standard Enterprises, Inc., Daniel H. Viscount, Pres.
Herbert and George Wolf Tract, Huntingdon and Centre
Counties, Pennsylvania

Mr. Viscount telephoned this morning from Pittsburgh, Pa., inquiring about the subject application.

I requested that additional information be supplied as requested in Mr. Mittendorf's letter to him of March 19. Mr. Viscount stated that a map has been made and some additional information obtained which will be submitted within a few days.

I asked other questions about the deposit which were answered as follows:

The overburden is about 3 feet deep, so trenching with a bulldozer is feasible.

The structure is solid rock and the mining he did required drill holes on 6-foot centers.

There are 2 or 3 test pits, 4 or 5 feet deep, along the trend of the formation which is about 6,500 feet long.

The structure is exposed in the opencut which now has some soil washed in by winter and rainy weather, but this could be cleaned out with very little work.

This information gives an impression different from what I had when my memorandum to you of April 15 was written. At this time, I would like to withdraw previous comments on the physical features of the property. It seems as if a field examination is necessary before any definite plan for exploration can be considered.

Field examination made on 4/23/53 by Mr. Cuttelson

W. T. Millar

W. T. Millar

Copy retained

Docket

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

April 20, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

APR 20 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region VIII

Subject: Docket No. DMEA-2918 - (Cobalt-Manganese)
Standard Enterprises, Inc., D. H. Viscount, President
Herbert & George Wolf Tracts
Huntingdon and Centre Counties, Pennsylvania

Attached herewith are three sets of additional information on subject docket with copies of letter of transmittal, dated April 18, from Mr. D. H. Viscount.

W. T. Millar

W. T. Millar

Enclosures - 3

WSM

C
O
P
Y

4956 Curry Road
Curwood Manor
Pittsburgh 27, Pa.
April 18, 1953

Mr. W. T. Millar, Acting Executive Officer
Bureau-Survey Field Team
Defense Minerals Exploration
College Park, Maryland

Dear Mr. Millar:

Confirming verbal conversation of even date we are herewith enclosing four copies of the following:

1. Topographic map on which we have outlined the properties and also the strike and dip of the deposit.

2. Geological Survey map.

3. Assay analysis and notes indicating where and how the samples were taken.

At the present time we cannot furnish information on the recovery of the minerals in our deposit as requested by Mr. C. O. Mittendorf. However we are still experimenting with the furnace that we have installed on our property and are also working with several other companies. As recovery methods are developed and cost data complied we will forward it to you. We trust that we have submitted the above data in accordance with your request.

Sincerely yours,

Standard Enterprises Inc.

/s/ D. H. Viscount
D. H. Viscount

COPY

SPECTRCHEMICAL LABORATORIES INC.
IOIO WOOD STREET
PITTSBURGH 2I, PENNA.

ANALYSIS REPORT

	"A"	"B"	"C"
	January 29, I952	October 9, I952	October29, I952
SiO_2	I5.o	Major	
Fe_2O_3	I.o	7.5	
MnO	Major	26.47 as Mn 20.52 Chem	
MgO	.Io	.o5	
Al_2O_3	5.o	5.o	
V_2O_5	-	-	
CuO	.o3	.ooI	
Na_2O	.o5	.35	
ZnO	.oo5	.oo5	
TiO_2	.Io	.Io	
NiO	.Io	.Io	
CoO	.Io	I.3o	Co .59 O) Chem
PbO	.oI	.oo2	CoO .75)
K_2O	.o5	I.o	
CaO	.3o	.Io	
Cr_2O_3	.ooI	.oo2	

Note: Item "A" Analysis of float taken along strike of vein for approximately 6500 feet.

Item "B" Analysis of ore taken at three foot intervals across length of present pit at approximate depth of 20 feet of surface.

Item "C" Analysis of ore taken from bottom of present pit floor.

FILE COPY
SURNAME:

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

400

Rutledge
Martin
Jeffrey
Hutchinson

Mr. W. T. Millar
Executive Officer, DMEA Region VIII
Bureau of Mines
Eastern Experiment Station
College Park, Maryland

APR 20 1953

Re: Docket No. DMEA-2918 -(Cobalt - Manganese)
Standard Enterprises, Inc.
Herbert & George Wolf Tract
Huntingdon and Centre Counties, Pennsylvania

Dear Mr. Millar:

J. C. 4/20/53

This will acknowledge receipt of your memorandum of April 15, 1953, giving us information regarding the subject application for which we thank you.

We note that while the metallurgical work by Pittsburgh and College Park laboratories of the Bureau of Mines is not complete, the research indicates that a separation of manganese and cobalt may be made by chemical methods the cost of which is probably prohibitive.

Standard Enterprises wrote to us on April 7, 1953 as follows:

"Information requested in your letter of March 19, 1953, is being prepared at the present time and will be sent you as soon as possible. In the event a field examination is required we will be glad to cooperate in every way possible with the examining engineers."

It will be appreciated, therefore, if you will keep us currently advised of the results of the metallurgical research for our guidance in taking appropriate action when Standard Enterprises furnishes the promised information.

Sincerely yours,

George C. [illegible]
(JHB)
Chairman, Operating Committee

APPROVED:

[illegible] (JHB)
Member, Bureau of Mines

A. R. [illegible] (JHB)
Member, Geological Survey

WSMartin/foc 4-17-53

cc: Docket
Admr. Reading File
Code 400
FT. Reg. VIII
Oper. Comm.
Mr. Davis, USBM
Mr. Thayer, USGS

Docket

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 16 1953

April 15, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region VIII

Subject: Docket No. DMEA-2918 - (Cobalt-Manganese)
Standard Enterprises, Inc.
Herbert & George Wolf Tract
Huntingdon and Centre Counties, Pennsylvania

This memorandum is in reply to your letter of April 2, referring the subject application to this office.

The application was discussed with the Bureau of Mines engineer who visited the property in December as a routine check on mineral deposits within Region VIII. The area is covered with overburden estimated to be as much as 20 feet deep. The old test pits and the open cut are inaccessible, therefore, little additional information can be obtained without exposing the structure.

Today, I received assay results from the Metallurgical Branch on the sample of material obtained for metallurgical research by the Pittsburgh and College Park laboratories of the Bureau of Mines. The metallurgical work is not complete, but the advanced information received seems worthy of consideration for this application. Please bear in mind that the sample for metallurgical testing described in my memo to you on March 23 is not considered as representative of the deposit. The object of the sample was to obtain cobalt bearing manganese on which research on separation of cobalt and manganese could be made.

Assay results:

Mn	-	24.0%
Fe	-	8.27%
P	-	0.032%
Insol.	-	39.3%
Ignition Loss	-	8.23%
Co	-	0.21%
SiO_2	-	39.1%
Al_2O_3		2.98%

There is some variation in the assay results obtained in the Pittsburgh laboratory, which I do not have, but this may be expected because

the manganese is reported to occur in large blocks up to 1/2 ton. Weathering probably affected some parts more than others.

At this time, research indicates that a separation of manganese and cobalt may be made by chemical methods, the cost of which is probably prohibitive.

The following comments are offered for consideration:

(1) It seems that the cobalt content is too low to be considered as a cobalt application. Manganese is the chief constituent.

(2) Provided favorable action is taken on a manganese application, then set up a contract in two stages.

Stage I - Examination work by cleaning out the open cut and test pits to expose the structure, sampling and assaying mineralized areas.

Stage II - Provided results from Stage I justify further exploration, trenching and testpitting may be employed. This will necessarily be determined after some knowledge of the occurrence of the ore is obtained. If the deposit is a solid bed with a shallow overburden, a bulldozer would be useful. In deep overburden up to 20 or 30 feet, a clam shell for sinking test pits could be used advantageously; then blast through the mineralized bed. If the manganese occurs in scattered blocks up to 1/2 ton, my impression is that drilling of any kind would furnish unreliable information. Probably test pits on a definite pattern would supply more accurate results. Core drilling would be more economical if the structure is such that could be cored.

Before a definite plan for exploration can be made, it is necessary to obtain information on the structure which is not now available.

W. T. Millar

W. T. Millar

Docket

4[illegible]6 Curry Road
Curwood Manor
Pittsburgh 27, Pa.
April 7, 1953

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Washington 25, D. C.

W 509

Re: Docket DMEA 2918-Cobalt
and Manganese
Standard Enterprises Inc.
Herbert & George Wolf Tract
Huntingdon County, Pa.

Dear Mr. Mittendorf:

Information requested in your letter of March 19, 1953 is being prepared at the present time and will be sent you as soon as possible. In the event a field examination is required we will be glad to cooperate in every way possible with the examining engineers.

Sincerely yours,
Standard Enterprises Inc.
D. H. Viscount

D. H. Viscount

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 9 1953

FILE COPY
SURNAME:

Rutledge
Martin
Davis
Crittenden
Selfridge
Johnson

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

Mr. W. T. Millar, Executive Officer
DMRA Field Team, Region VIII
Bureau of Mines Eastern Experiment Station
College Park, Maryland

APR 2 1953

Re: Docket No. DMRA 2918 - Cobalt
and Manganese
Standard Enterprises, Inc.
Herbert & George Wolf tract
Huntingdon & Centre Counties, Pa.

Dear Mr. Millar:

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

Neither the deposit nor the proposed program is adequately described in the application, and the applicant was requested to furnish additional information on March 19, 1953. Though this information has not been received, the subject application is being referred to you for consideration because we feel that little additional data are likely to be obtained from Mr. Viscount.

In reviewing the application, it was noted that the exploration was to consist of angle diamond drill holes using AX-size bits. We question the results that will be obtained by a program of this type. It is suggested that the respective merits of either a churn drilling program or an exploration program using a rotary bucket-drill be compared with those of the diamond drill program.

To justify considering the subject application under cobalt, the applicant, during the examination, if he has not yet done so, should be requested to furnish detailed cost data on his proposed treatment process.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

Approved:

J. H. Hedges (JHB)
Member, Bureau of Mines

A. R. Kinkel, Jr. (JHB)
Member, Geological Survey

FARutledge/ls 3/30/53

cc: DOCKET
FT. REG. 8
ADMN. READ. FILE
CODE 400
OPER. COMMITTEE
N. B. MELCHER, USBM
M. D. CRITTENDEN, USGS

400

FILE COPY
SURNAME:

Rutledge
Martin
Davis
Hedges
Daniel
Selfridge
Hyman

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

Mr. Daniel Viscount, President
Standard Enterprises, Inc.
4956 Curry Road, Curwood Manor
Pittsburgh 27, Pennsylvania

APR 2 1953

Re: Docket No. DMEA 2918 - Cobalt
and Manganese
Standard Enterprises, Inc.
Herbert & George Wolf tract
Huntingdon & Centre Counties, Pa.

J. C. 4/1/53

Dear Mr. Viscount:

Your application for assistance in exploring cobalt and manganese occurrences at the Huntingdon Furnace property has been reviewed by the Iron and Ferro-Alloys Division, Defense Minerals Exploration Administration, and has been referred to Mr. W. T. Millar, Executive Officer, DMEA Field Team, Region VIII, Bureau of Mines Eastern Experiment Station, College Park, Maryland, for further consideration and possibly a field examination. You should, however, furnish us with the information requested in our letter of March 19, 1953.

We have been advised that the Bureau of Mines' examination, referred to in your conversation with this Administration on March 23, 1953, was only a routine visit and that no samples were taken. In addition, the samples taken by you for metallurgical investigation were not representative of the deposit but were taken to obtain cobalt-bearing manganese material for metallurgical testing.

Should a field examination be required, any assistance that you can render the examining engineers will be appreciated.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

CC: DOCKET
FIELD TEAM, REG. 8
CODE 400
OPER. COMMITTEE
ADMN. READ. FILE
N. B. MELCHER, USBM
M. D. CHETTENDEN, USGS

FARutledge/ls
3/31/53

Docket

4956 Curry Road
Curwood Manor
Pittsburgh (27) Penna
March 24, 1953

Mr. Robert E. Adams
Chief Operations Control
and Statistics Division
Washington (25) D.C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 26 1953

Subject: D.M.E.A 2918
Re: Exploration Assistance
Pennington Ridge Lands.

Dear Mr. Adams:

Kindly change the address on all future correspondence on the above subject to the following address:

Standard Enterprises Inc
4956 Curry Road
Curwood Manor
Pittsburgh (27) Penna.

Sincerely yours,
Standard Enterprises Inc
D. H. Viscount

Docket

IN REPLY REFER TO:

G-MD-CF

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

March 25, 1953

Memorandum

To: W. S. Martin

From: M. D. Crittenden, Jr.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 25 1953

Subject: DMEA-2918
Standard Enterprises, Inc.
Huntington and Centre Counties
Pennsylvania

The applicants are lessees of large acreages in Huntington and Centre Counties said to carry cobalt-bearing manganese ores. No assays or samples are reported. The property is opened by an open cut 40 x 60 x 20 feet on a deposit of manganese oxides in clay.

The Geological Survey apparently has no detailed information concerning these deposits. However, the Bureau of Mines, in 1942, carried out a bucket drilling program on a deposit in this vicinity, known as the Crètchfield manganese deposit (R2-4326). Careful comparison of details as to location and access suggest that the deposits are within a few miles of each other at the most, and may be identical.

The Crètchfield deposit is also in clay and was operated as a clay mine about 1942. The USBM completed 6 rotary bucket drill holes showing manganese content of 0.02 to 0.53 percent manganese. The average was less than 0.10 percent. No cobalt was reported.

The docket is held for further information.

M. D. Crittenden, Jr.

M. D. Crittenden, Jr.

Copy retained 400

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 3/25/53

REFERRED TO:

1. ~~H Berry Rm 4-6-2-4~~
2. MW Martin R 3538
3.
4.

FOR:

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

REMARKS: 1 cy each to BM & USGS.

Check (X) before the items needing attention.

Adams (AA)
Initials of sender.

GPO 16—63815-1

Docket

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 24 1953

March 23, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region VIII

Subject: Docket DMEA-2918 - Standard Enterprise Company, Daniel H. Viscount, President

This is in connection with a telephone conversation today with Mr. W. S. Martin pertaining to the subject docket.

The property described in Docket No. DMEA-2918, filed by Standard Enterprise, Daniel H. Viscount, President, was visited on December 9, 1952 by G. L. Neumann, Mining Engineer, Bureau of Mines, College Park, Maryland, as a routine check on mineral deposits within Region VIII. The visit was made during a rainy spell and all existing openings were filled with water. It was reported that the property had been mined previously for kaolin and iron ore. The most recent activity is reported to have produced 2,000 tons of manganese in four weeks. No samples were taken during this investigation. Assay sheets exhibited showed manganese ranging from 26 to 52 percent; cobalt, 0.59 to 1.30 percent. A blast furnace with a capacity of 20 tons of spiegeleisen per hour is on the property. Several hundred tons of mined ore are stockpiled along the bank of the open-cut.

Dr. Russell C. Buehl, Chief of Pyrometallurgy Branch, 1036 Macon Ave., Pittsburgh 18, Pa., became interested in the metallurgy of this deposit and through Mr. Paul M. Ambrose, Chief of the Metallurgical Division, College Park, Md., requested a two ton sample. The Mining Development Branch arranged to obtain the two ton sample for the Pittsburgh laboratory and another half ton sample for the College Park laboratory. The purpose of this sampling was to obtain cobalt bearing manganese material for metallurgical testing. The sample was mined by the operator for the Bureau of Mines and a good cobalt content is more important for testing purposes than the actual value of the material. It was not the intent that this sample be considered as representative of the deposit.

It was suggested to Mr. Viscount that he file an application for aid through the DMEA. Attached is a copy of my letter dated January 2, 1953, to Mr. Viscount.

The manganese mined was taken from an open-cut 50 feet long x 40 feet wide x 20 feet deep. The mineral occurs as large blocks of hard manganese

oxide weighing about 900 pounds, covered with overburden. The Bureau of Mines engineer suggested trenching and core drilling to determine the extent of the deposit and grade of the material.

The field work from this office on the Standard Enterprise property has not been for DMEA purposes and is of little value other than the location and physical features. At a future date we expect to know something about the metallurgy of separating cobalt and manganese which will be valuable information.

W. T. Millar

W. T. Millar

Enclosure - 1

Region VIII
January 2, 1953

Mr. Daniel H. Viscount
1956 Curry Road
Turwood Manor
Pittsburgh 23, Pennsylvania

Dear Mr. Viscount:

Your letter of December 26, pertaining to the Huntingdon Furnace property which you contemplate mining, is herewith acknowledged.

It is noted that you intend to mine kaolin and are interested in marketing manganese-cobalt ore which occurs on the same property. The names of three companies listed in our letter of December 17 are prospective buyers.

It may be to your advantage to contact all three of these companies and supply them with copies of the analysis you now have. If interested, they will probably request samples of the ore or have their representative obtain samples for testing. Corporations purchasing ores usually have their own processes for separation of the elements contained and will advise you accordingly.

The Government has established manganese purchasing depots at Butte and Philipsburg, Montana, and Deming, New Mexico, operated by the General Services Administration. Payment is made on the basic of $2.30 per long ton unit for ore meeting the following specifications:

48.0% manganese
6.0% or less iron
11.0% or less silica plus alumina
0.12% or less phosphorus

Complete details of the purchasing program may be obtained from the General Services Administration, General Services Building, Washington, D. C.

Government assistance for exploration work may be obtained through the Defense Minerals Exploration. Enclosed is a copy of Order No.1, a booklet of Questions and Answers, a set of Forms MF-103

and MF-203. If you elect to avail yourself of this assistance, we shall be glad to help in any way possible.

The inspection of your property by Mr. Neumann on December 9, 1952 is merely a routine memorandum and not prepared as a report for distribution. You may call at this office and some members of our staff will be glad to discuss your problems with you.

Very truly yours,

W. T. Millar, Acting Chief
Mining Development Branch

Enclosures

WTM:rwa

copy for CPStaFiles
CPMD
DMEA Files

Mr. Viscount phoned COM on 3/23/53 and said USBM had examined the property and sent a 2 Ton sample to Pittsburg Station.

Millar, who will write to us, says it was not a field examination and that the sample is not representative, but was taken with the instructions: "Be sure it has cobalt in it". Millar will write us a memo.

FILE COPY
SURNAME:

FEJohnson

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

Mr. Daniel Viscount, President
Standard Enterprises, Inc.,
2270 William Penn Highway
Pittsburgh 35, Pennsylvania

MAR 19 1953

Re: Docket No. DMEA-2918
(Cobalt and Manganese)
Standard Enterprises, Inc.
Herbert & George Wolf tract,
Huntingdon & Centre Counties, Pa.

Dear Mr. Viscount:

R.C. 3/19/53

This is with reference to your application for exploration assistance on the captioned property.

A review of this application does not reveal sufficient information to enable us to take further action on it. It will be necessary that we receive maps showing the local geology, the present workings, and the target of the proposed exploration work. It is also necessary that you furnish us with assay data to substantiate the occurrence of cobalt and manganese. The location and length of samples of the mineralization should be shown on the maps submitted.

The recovery of cobalt and manganese from low-grade ores presents metallurgical problems. Inasmuch as your application includes cobalt with manganese we are interested in your proposed plans for recovery of these metals. We will appreciate receiving any information from you in this connection, together with copies of the flow sheet for your proposed treatment process, if available. If you have any detailed estimated cost data for the recovery of these minerals we would also be interested in receiving this information.

Your application will be held in abeyance until we receive further word from you concerning the foregoing.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

FARutledge/FEJohnson/hhb/bih
3/19/53
cc to: Docket
Admr. Reading File
Region VIII (2)
Messrs. N.B. Melcher, USBM
M.D.Crittenden, USGS
FARutledge
FEJohnson

400

FILE COPY
SURNAME:

Rutledge
Martin

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

Mr. Daniel Viscount, President
Standard Enterprises, Inc.
2270 William Penn Highway
Pittsburgh 35, Pennsylvania

MAR 18 1953

Re: Docket No. DMEA 2918 - Cobalt & Manganese
Standard Enterprises, Inc.
Herbert and George Wolf tract
Huntingdon and Centre Counties, Pennsylvania

Dear Mr. Viscount:

This will acknowledge receipt of your application for exploration assistance on the referenced property.

A field examination could not, however, be justified on the basis of the information submitted with your application. Before we can refer the subject application to the field, we will require maps showing the local geology, the present workings, and the target of the proposed exploration. It also will be necessary for you to furnish us with assays to substantiate the occurrence of cobalt and manganese. The location and length of the samples should be shown on the maps submitted.

Separation of cobalt from manganese in low-grade ores is currently a problem of economics. For this reason and because you have included cobalt with manganese in your application, we will need a flow sheet of your proposed treatment process with detailed estimated cost data.

Your application will be held in abeyance until the information requested above is received.

Sincerely yours,

Administrator

cc: Docket
Field Team, Region 2
Code 400
Admn. Read. File
N. B. Melcher, USBM
M. D. Crittenden, USGS

FARutledge/hhb
3/17/53

March 5, 1953

Mr. Daniel Viscount, President
Standard Enterprises, Inc.
2270 William Penn Highway
Pittsburgh 35, Pennsylvania

DMEA-2918
Subject: Exploration Assistance
Re: Pennington Ridge Lands

My dear Mr. Viscount:

The receipt of your application dated February 27, 1953 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-2918 and referred to the Iron and Ferro-Alloys Division.

Kindly refer to DMEA-2918 in any future correspondence relating to your application.

Sincerely yours,

R. E. ADAMS
Robert E. Adams
Chief, Operations Control
and Statistics Division

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

March 5, 1953

Memorandum

To: Executive Officer, DMEA Field Team, Region VIII

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region VIII.

DMEA-2918 Standard Enterprises, Inc.

R. E. ADAMS

Robert E. Adams,
Chief, Operation's Control
and Statistics Division

33980

dmea 2918

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 5 1953

March 4, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region VIII

Subject: Standard Enterprises, Inc., Daniel Viscount, President
Zentmyer Tract and Herbert and George Wolf Tract
Huntingdon and Centre Counties, Pennsylvania
(Cobalt-Manganese)

Transmitted herewith is the original and two copies of subject application.

Mr. Viscount requested by telephone that he be permitted to give bond or guarantee for his portion of the estimated cost for exploration, rather than to obtain liens from the various property owners. A bank statement is attached to the application.

W. T. Millar

W. T. Millar

Enclosures - 3

C O P Y

dmca 2918

4956 Curry Road
Curwood Manor
Pittsburgh 27, Pa.

Mr. W. T. Millar, Acting Chief
Mining Development Branch
Bureau of Mines
College Park, Maryland

Dear Mr. Millar:

Enclosed herewith (4) copies of application for drilling project. Please note that we have included a quoted price of $8.00 per foot in our estimate submitted by Sprague & Henwood Inc. This is your authority to change the price if you feel that the Pennsylvania Drilling Co. quoted price is cheaper. If you will notice their bid is broken out and they would not quote on a lump sum basis per foot.

In line with our telephone conversation rather than submitting the owners consent to lien, we are submitting a bank statement of one of the officers of the corporation. We trust that the application as submitted is complete in every detail.

Incidentally, Mr. Sturges, President of Pennsylvania Drilling, and a registered engineer and geologist for the past 50 years considers this one of the best projects that he has seen.

Very truly yours,

STANDARD ENTERPRISES, INC.

/s/ Daniel H. Viscount
Daniel H. Viscount

encl. 4

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 5 1953

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

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/2918
Metal or Mineral
Date Received 3-5-53
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: Standard Enterprises, Inc., a Pennsylvania corporation, 2270 William Penn Highway, Pgh. 35, Pa. - Daniel Viscount, Pres., 4956 Curry Rd., Pgh. 27, Pa. - Stephen Catarinella, Sec., 2270 William Penn Highway, Pgh. 35, Pa. - Felix Caste, Treas., 106 Hoodridge Dr., Pgh. 16, Pa.

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

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

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

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

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

(*b*) State any mine name by which the property is known. None

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. Lessee of mineral lands, 20 acre plant and plant site owned by corporation.

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

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

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

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

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

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

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

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

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

Cobalt and manganese

(*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 90 days and be completed within 24 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

[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 Feb-27-, 1953

ATTEST:

Stephen Catarinelly
Secretary

STANDARD ENTERPRISES, INC.
(Applicant)

By Daniel H. Viscount
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

3. Applicant's property rights.---(a) Approximately 4,000 acres in Huntingdon and Centre Counties, held by lease, 20 acres at plant site, owned by corporation, Morris Township, Huntingdon County, Pa., land to be explored comprises approximately 418 acres and known as the Pennington Ridge lands, Zentmyer tract partly in Township of Warriorsmark, Huntingdon County, and in the Townships of Half Moon and Ferguson, Centre County, Pa., more particularly described and referred to as Parcel No. 1 in lease agreement with Edna T. Zentmyer, attached hereto as Exhibit "A".

Herbert and George Wolf tract comprising approximately 400 acres, Warriorsmark Township, Huntingdon County, Pa., of record in the Recorder's Office of said County in Misc. Book No. 43, page 183, a copy of which lease is attached hereto and marked Exhibit "B".

4. Physical description.---(a) Previous mining operations, if any, unknown. Mine is located on hard surfaced road and is accessible at all times.

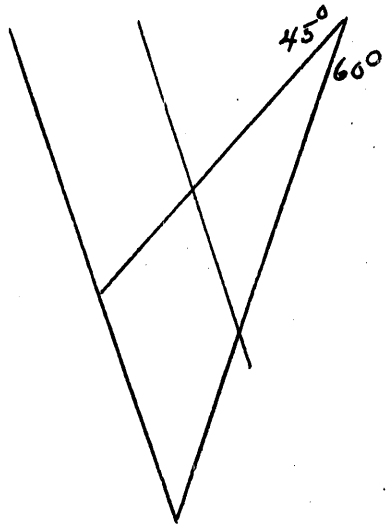
(b) Iron ore mined 1870. Production unknown. Kaolin clay mined in 1941. Production unknown.

(c) Standard Enterprises, Inc., operation consists of an open cut approximately 40 ft. wide, 60 ft. long and 20 ft. deep. The deposit is composed of block manganese oxide in clay. The ratio from the ground worked appears to be about 1 manganese equals 2 clay. Sketch of open cut is attached hereto. The reason for exploration is to determine the trend. Persistence along trend and also with depth, ratio of ore to waste, and grade of ore. The cobalt content appears to increase with the depth of the deposit. Deposit is indicated along strike for about 6,000 ft., apparent dip 80°, overburden 3 to 4 ft. at open cut.

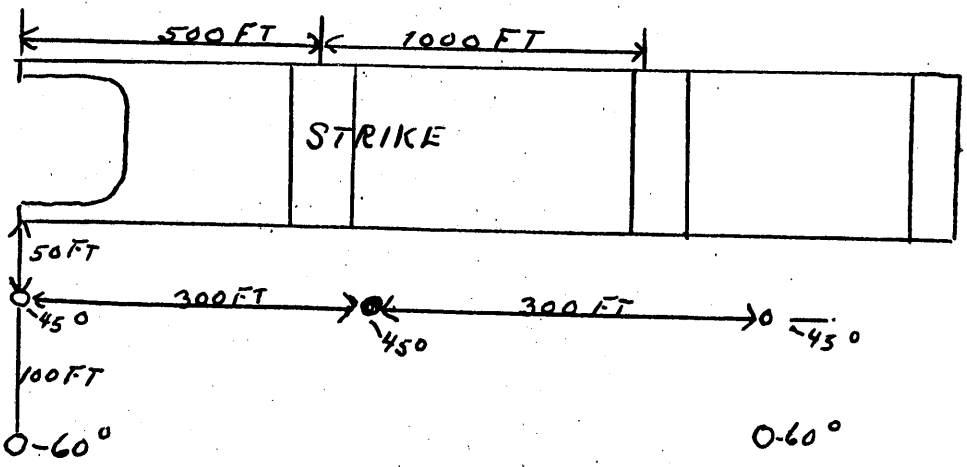
(d) Good hard surfaced all-weather highway to the property.

(e) High unemployment area, 6 miles to Tyrone and 14 miles to Altoona, Pa., where materials and supplies can be obtained. Plant is on railroad siding of the main line of the Pennsylvania Railroad. Water and water rights very adequate. Power available for large operation.

5. The exploration project.---(b) First stage---bull dozer trenches through overburden across apparent trend on 1,000 ft. intervals, starting 500 ft. from present pit. Second stage---diamond core drilling program to start at present pit and continue along strike on 300 ft. interval. Holes to be AX size minimum. Holes to be drilled at 45° and 60° at distances of 50 ft. and 150 ft. from edge of deposit.



45°
20 holes at 45° - 125 ft. deep
10 holes at 60° - 400 ft. deep



6. Estimate of costs.---

Supervision	$ 6,000.00		$ .92
Diamond drilling 6,500 ft.	52,000.00		8.00 per ft.
Trenching 300 ft.	1,000.00		.16 per ft.
Sampling and analysis	1,000.00		.16 per ft.
Surveying and mapping	500.00		.08 per ft.
Total 6,500 units	$60,500.00	at	$9.32 per ft.

(b) All work to be performed on sub-contracts. Supervision to be handled by Mr. Daniel Viscount. All cores to be saved for logging, sampling and future reference.

dmea 2918

PENNSYLVANIA DRILLING COMPANY

February 16, 1953

Standard Enterprises, Inc.
Curry Road
Pittsburgh (37), Pa.

Subject: Core Drilling
Tyrone, Pa. Area

Gentlemen:

We are pleased to submit the following prices for above proposed work:

Drilling AX Size Cores - Price $6.30 per lineal ft.

Reaming and installing AX Size Casings where necessary - $1.50 per lineal ft. of AX Casing installed

Cementing, waiting for cement to set, and drilling out cement - Price $11.00 per hour

We understand that there will be 10 or more holes of approximately 125 ft. depths each and 8 or more holes of approximately 400 ft. depths each.

We are in a position to offer prompt service at this time.

Thanking you for the opportunity to be of service, we are

Very truly yours,

PENNSYLVANIA DRILLING COMPANY

S/ J. A. Christopherson

J. A. Christopherson
Vice-President-Operations

JAC:ef

dmea 2918

SPRAGUE & HENWOOD, INC.

February 20, 1943

Mr. D. H. Viscount, President
Standard Enterprises, Inc.
40956 Curry Road
Curwood Manor
Pittsburgh 27, Pa.

My dear Mr. Viscount:

Immediately after our trip to your manganese ore project, near Tyrone, Pa., on February 7th, 1943, I forwarded full information as to what you planned, to our main office at Scranton, Pa. I have been in contact with them today, and they have authorized me to quote you as follows upon the diamond core drilling you propose having done:

> We will put down for you a series of 20 diamond core drilled holes, on an angle of 20 degrees from the vertical, each hole to be approximately 125 feet in depth, and 10 diamond core drilled holes, on an angle of 60 degrees from the vertical, each hole to be approximately 400 feet in depth, using AX diamond bits and recovering a 1-1/8" core, whenever core can be obtained, for the price of EIGHT DOLLARS . . . . . $8.00 per ft.
>
> All cores from the ore body to be boxed, in the order of recovery.
>
> It is understood that the above holes are to be drilled in the vicinity of Tyrone, Pa., at points to be indicated by you, for the purpose of locating and testing a body of manganese ore.
>
> We to place one or more complete drilling outfits upon the job, operated by competent crews, and furnish everything necessary to complete the work to your entire satisfaction.
>
> Trusting the above will meet with your approval, we are,

Yours very truly,

SPRAGUE & HENWOOD, INC.

S/ L. R. Castator

L. R. Castator
Vice President

LRC/ef

dmcc 2918

ARTICLES OF AGREEMENT

THIS AGREEMENT, made and entered into this ____ day of _____, 1952, between EDNA T. ZENTMYER, Widow, of the Borough of Tyrone, County of Blair, State of Pennsylvania, party of the first part, and

STANDARD ENTERPRISES, INC., a corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania, with its principal office at 2870 William Penn Highway, Churchill Borough, Allegheny County, Pennsylvania, party of the second part.

WITNESSETH: That the party of the first part, for and in consideration of the sum of One ($1.00) Dollar, receipt of which is hereby acknowledged, and of the covenants and agreements hereinafter mentioned, has granted, bargained, demised and leased, and by these presents does grant, bargain, demise and lease unto Standard Enterprises, Inc., the second party, for the purposes hereinafter mentioned, all the following described property situate partly in the Township of Warriors Mark, County of Huntingdon, and in the Townships of Half Moon and Ferguson, County of Centre and State of Pennsylvania, bounded and described as follows:

PARCEL No. 1, known as the "PENNINGTON RIDGE" lands.

"BEGINNING at a stone heap at the line of lands of the Estate of Henry Myers, deceased, which stone heap is also a corner of lands of the Tyrone Mining & Manufacturing Company, thence, along the last named, South 30½° East 71.4 P. to a stone heap, thence, along the same, North 59½° East 26 P. to stones; thence, along the same, South 30½° East 80.2 P. to a post and stones; thence again, along the same, North 65° East 75 P. to a post at the line of lands formerly of Charles H. Fitzhugh et al, now owned by Clark Grazier; thence, along the said Grazier land, South 23½° West 15.4 P. to a point in the public road leading from

EXHIBIT "A"

Warriors Mark to Birmingham; thence, along the said road, South 44½° West 56.6 P.; South 45° West 39.33 P.; South 43-3/4° West 86.72 P.; South 47° West 39.76 P.; South 50¼° West 32.24 P.; South 80-3/4° West 28 P.; South 77½° West 45.45 P.; and South 46½° West 60 P. to a post at the west side of the said road at the line of lands of Mingle Brothers; thence, along the last named lands, North 33° 50' West 24.44 P. to stones, also a corner of the said Mingle lands; thence, along the same and lands of George Dickson, South 54½° West 124.44 P. to stones, also a corner of lands of Robert S. Seeds; thence, along the last named, North 59° West 126 P. to stones at the line of lands of the George G. Guyer Estate; thence, along the latter and lands of Eli Grant, H. L. Harpster and others, North 35-3/4° East 266 P. to a post and stones, also a corner of the said H. L. Harpster; and thence, along land now or formerly of H. Myers Estate, North 54-3/4° East 160 P. to a stone heap, the place of beginning."

CONTAINING 418 Acres and 125 Perches, net measure, and being all or portions of surveys in the names of William Birdsall and Andrew Henderson.

For title to iron ore and mineral see deed from John Phillips, Master, dated July 22, 1908, and recorded in Huntingdon County Deed Book, No. "L"-87, Page 159.

<u>PARCEL No. 2</u>, known as the "DORSEY RIDGE" lands.

"BEGINNING at a post by a pine, also a corner of lands lately sold by the said Charles H. Fitzhugh et al to Abraham Hesley, which post is also a corner of the Israel Pennington survey; thence, along the said Hesley, North 82-3/4° West 63.76 P. to a post and stones at the line of the public road leading from Huntingdon Furnace to Birmingham; thence, along the said road, South 17° East 17.76 P. to a post at the line of lands of Hannah Smith; thence, along the latter, North 45° West 72.2 P. to a post and thence, along the same and lands now or formerly of Elizabeth Patterson and Thomas Smith, South 56½° West 75.1 P. to a post and

stones, also a corner of lands now or formerly of S. T. Isett; thence, along the latter, South 50½° West 77.6 P. to a post and stones, also a corner of lands of Daniel Waite's heirs; thence, along the latter, South 57½° West 106 P. to a point in the public road leading from Spruce Creek to Birmingham; thence, along the said road, North 45° West 18.75 P. and North 58½° West 14 P.; thence, along lands of Thomas Kocken's Heirs, North 13½° West 30.1 P. to a post, North 46½° East 40.24 P. to a stone, also a corner of lands of the said Kocken heirs; thence, again along the latter, North 26½° East 52.1 P. to a white oak; North 1½° East 9 P. to a hickory; North 43° 10' West 65.8 P. to a post and pointers; thence, along lands of the said Kocken heirs, George Dickson and Mingle Brothers, North 24° East 148.36 P. to a post and stones at the line of Uriah Gates, formerly the Allison Farm of the George K. Schoenberger Estate; thence, along the said farm, South 85½° East 15.76 P. to a post by a white oak; South 69½° East 18.18 P. to a post by a chestnut; South 31½° East 7.2 P. to a post by a black oak; North 88½° East 21.4 P. to a post and stones; and South 87-3/4° East 56.23 P. to a post at the line of lands of Clark Grazier; and thence, along the last named, South 41½° East 261.27 P. to a post, the place of beginning."

CONTAINING 334 Acres and 106 Perches, net measure, and being composed of all or portions of surveys in the names of William Thompson, Richard Chaney and Sarah Massey and William Perry.

FOR title to iron ore and mineral see deed from John Phillips, Master, dated February 1, 1909, and recorded in Huntingdon County Deed Book, No. "L"-5, Page 488,

for and during the term of fifteen (15) years from the date hereof with an option to renew or extend this lease at the conclusion of the primary term for another fifteen (15) years, and so on from year to year, under the same terms and conditions as hereinafter set forth.

FIRST: It is hereby covenanted and agreed that Standard Enterprises, Inc., or its assignee shall have the sole and exclusive right and privilege to search, explore, dig, test, drill, quarry, process and to mine for iron ore and all other metallic ore and other minerals, including clay, during the continuance of this lease or any renewal thereof, in, upon and under the surface of the tract or piece of land hereinbefore described, and to take, remove and transport the same therefrom and for the purposes aforesaid to use so much of the water supply on said premises, so much of the land, surface or otherwise, as may be necessary to sink a shaft or shafts for hoisting, ventilation, to erect hoisting works, breakers, engines, machinery, office, weigh house, scales, processing equipment and such other buildings, erections and works as the party of the second part or its assignee may find necessary for the proper working, mining, exploring, processing and operation as aforesaid, and the right to dump spoilage on the premises or any debris accumulated as a result of said mining or processing operation, and to have free ingress and regress to and from, and over and across the said premises, and the right to transport under, through, upon and over said premises other minerals and clay belonging to or which may hereafter be acquired by the second party on adjoining tracts of land or which, while not actually adjoining said tract, may be in the general vicinity of the premises herein described, so long as mining and quarrying operations on this land are continued in conjunction therewith. It is understood and agreed that the appropriation of the surface for necessary construction, processing and operations of the second party shall interfere in the least possible manner with the operations of the lessor of the tract for farm or other purposes. It is further understood and agreed that the second party or its assigns shall have the right at any time to remove all tools, engines, machinery, buildings and all other equipment and property belonging to the second party or its agents or assignees, which may be placed upon, set up or erected upon said

premises and used in connection with the operations thereon, and the first party hereby releases the second party or its assignees of and from all and every claim or claims for damages to, in, under and upon the surface of said premises caused by any of the operations, constructions or communications aforesaid.

SECOND: The party of the second part agrees not to commit any damage to the said lands or suffer any damage to be done thereto other than such as may be necessary for the purposes hereinbefore mentioned nor to claim or hold possession of the same for any other purpose whatsoever.

THIRD: It is understood and agreed that the second party or its agents, employees or assigns shall have the right to enter possession of the premises at any time within eighteen (18) months from the date hereof for the purpose of prospecting, testing for the presence of minerals therein and the installation of any equipment that may be necessary for the proper mining operations aforesaid, after which period the second party shall pay to the first party a rental of Twenty-five ($25.00) Dollars per month. It is further understood and agreed that is production is started and minerals are produced in paying quantities at any time during the term of this lease or any renewal thereof, the second party agrees to pay to the first party a flat royalty of Twenty-five (25¢) Cents per ton upon each and every ton of iron ore or other metallic ore, minerals and clay which may be mined or processed, taken out and removed by the said second party or its assigns as aforesaid, the same to be paid to the first party at 1103 Lincoln Avenue, Tyrone Borough, Pennsylvania, on the 17th day of the month, upon so much thereof as may have been mined or processed, taken out and removed during the preceding month. A true account of the quantity mined, processed, taken out and removed from time to time shall be kept by the said second party, which shall at all times be open to the inspection of the first party. It is further understood and agreed that the

rental of Twenty-five ($25.00) Dollars per month, during the term of this lease or any renewal thereof, shall cease and determine and shall not be an additional charge as part of the consideration herein as and when mining operations begin and minerals are produced as aforesaid.

FOURTH: It is further understood and agreed, as part of the consideration herein, the first party hereby grants to the second party the free and uninterrupted use of and passage in and over any other lands of the first party, if any, and if such way or passage is required in the judgment of the party of the second part or its assignees in connection with the removal of minerals in the above described land or which may be required as a convenient loading and unloading point by railroad, trucks or other carriers for shipment of ores, minerals and clay, the party of the second part, its successors or assigns shall notify in writing the party of the first part, her heirs and assigns of the amount of land necessary for such purposes and the location thereof and, as soon as convenient after such notice, shall proceed to occupy such land for said purposes.

FIFTH: It is further understood and agreed that if the party of the second part, its successors or assigns shall at any time hereafter fail to pay the rental and royalty as aforesaid, and shall become in default for a period of two (2) months after the same shall become due hereunder, and after being notified in writing by registered letter sent to the business office of the said second party, by the first party, of said default, then and in such case the said party of the first part at her option may declare this entire lease null and void, and from thence and thereafter all of the rights in the agreement granted unto the party of the second part shall be forfeited, terminated and ended, saving only to the party of the second part a period of three (3) months thereafter within which it shall have the right to remove from the premises any machinery, tools, equipment, buildings, and

so forth, which it may have placed thereon and which have not been removed at the termination of this lease.

SIXTH: It is understood and agreed that all the covenants between the parties hereto shall extend to their respective heirs, executors, administrators, successors and assigns.

SEVENTH: It is further understood and agreed that if at any time during the term of this agreement or any renewal thereof, the second party shall find that there are no minerals or other metallic ores and clay, or that the minerals or other metallic ores and clay found on the premises cannot be mined, processed and produced in paying quantities, the second party shall have the right to terminate this agreement or any renewal thereof by giving ninety (90) days' notice in writing, sent by registered mail to the first party, and by paying all sums of money due the first party which may have accrued in accordance with the terms of this agreement, and all obligations and liability incurred under the terms of this contract shall be ended, and the second party or its successors or its assings forever discharged.

IN WITNESS WHEREOF the parties have hereunto set their hands and seals the day and year first above written and hereby intend to be legally bound.

WITNESS:

_____ _____(SEAL)

ATTEST: STANDARD ENTERPRISES, INC.

_____ by_____

Secretary President

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF BLAIR)

On this ___ day of _____ A.D., 1952, before me, a notary public, personally appeared Edna T. Zentmyer, Widow, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that she executed the same for the purposes therein contained.

Witness my hand and notarial seal the day and year aforesaid.

_____(SEAL)

My commission expires:

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

On this ___ day of _____ A.D., 1952, before me, a notary public, personally appeared Stephen Catarinella, Secretary of Standard Enterprises, Inc., who, being duly sworn according to law, says that he was personally present at the execution of this agreement and saw the corporate seal of Standard Enterprises, Inc., affixed thereto, that the seal so affixed thereto is the corporate seal of Standard Enterprises, Inc.; that the agreement was duly sealed and delivered by Daniel H. Viscount, President of Standard Enterprises, Inc., and Stephen Catarinella as Secretary, subscribed to the foregoing agreement, in attestation of its due execution and delivery, are of their, and each of their own respective handwriting.

_____
Secretary

Sworn and subscribed to
before me the day and year
aforesaid.

_____
Notary Public

dmcw 2918

ARTICLES OF AGREEMENT

THIS AGREEMENT, made and entered into this 19th day of August, 1952, between HERBERT T. WOLF and GEORGE A. WOLF, of 1501 Fifteenth Street, Altoona, Pennsylvania, parties of the first part, and

STANDARD ENTERPRISES, INC., a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, with its principal office at 2270 William Penn Highway, Churchill Borough, Allegheny County, Pennsylvania, part of the second part.

WITNESSETH: The said parties of the first part, for and in consideration of the sum of One ($1.00) Dollar, receipt of which is hereby acknowledged, and of the covenants and agreements hereinafter mentioned, have granted, bargained, demised and leased, and by these presents do grant, bargain, demise and lease unto Standard Enterprises, Inc., for the purposes hereinafter mentioned, all that certain tract of land situate in Warriorsmark Township, in the County of Huntingdon and State of Pennsylvania, bounded and described as follows:

BEGINNING at a point on the Bellefonte Central Railroad Company, Tyrone Branch of the Pennsylvania Railroad Company, and line of land now or formerly of H. W. Myers Estate; thence along line of said land 30-3/4° East 92 perches, more or less, to stones; thence along the same land South 50° East 92 perches, more or less, to stones; thence along same land South 54-3/4° West, 73 perches to stones; thence along land now or formerly of R. A. Zentmeyer, South 38-1/2° East 72-4/10° perches to stones; thence along said land North 59-1/2° East 26 perches to stones; thence North 65° East 75 perches to stones; thence along land now or formerly of C. Grazier North 23-1/4° East 43 perches to the line of land now or formerly of J. W. Miller; thence along said Miller land North 70-3/4° West 68 perches to stone; thence along the same North 43°, 7/10's perches to a point at a post; thence along same North 67-1/2° East 61-4/10 perches to stones; thence along land now or

EXHIBIT "B"

formerly of A. B. Henderson South 72-1/2° East 74-5/10 perches to a point in the center of a public road leading from Warriorsmark to Birmingham; thence along center of said road North 34-1/7° East 127 perches to a post on land now or formerly of James B. Irwin; thence along said Irwin land North 26-1/2° West 90 perches, more or less, to a public road leading from Warriorsmark to Tyrone; thence along said public road to the front of the intersection of said public road with the Bellefonte Central Railroad; thence West along said Bellefonte Central Railroad following the courses and curves of said railroad in a Western direction to the point and place of beginning.

For and during the term of fifteen (15) years from the date hereof, with an option to renew or extend this lease at the conclusion of the primary term for another fifteen (15) years, and so on from year to year, under the same terms and conditions as hereinafter set forth, as long as minerals may be found thereon and can be produced or extracted in paying quantities.

FIRST: It is hereby covenanted and agreed that Standard Enterprises, Inc., or its assignee shall have the sole and exclusive right and privilege to search, explore, test, drill, quarry, process and to mine for clay, iron ore and all other minerals, during the continuance of this lease or any renewal thereof, in, upon and under the surface of the tract or piece of land hereinbefore mentioned, and to take, remove and transport the same therefrom and for the purpose aforesaid to use so much of the water supply on said premises, so much of the land, surface or otherwise, as may be necessary to sink a shaft or shafts for hoisting, ventilation, to erect hoisting works, breakers, engines, machinery, office, weigh house, scales and such other buildings, erections and works as the party of the second

part or its assignee may find necessary for the proper working, mining, processing and operation as aforesaid, and the right to dump spoilage on the premises or any debris accumulated as a result of said mining or processing operations, and to have free ingress and regress to andfrom the said premises and the right to transport through, under, upon and over said premises other iron ore, minerals and clay belonging to or which may hereafter be acquired by the party of the second part. It being understood that the party of the second part shall follow all laws and regulations of the Commonwealth of Pennsylvania with regard to backfills in connection with mining operations. The party of the second part or its assigns shall have the right at any time to remove all tools, engines, machinery, buildings and all other property and equipment belonging to the second party or its agents or assignees, which may be placed upon, set up or erected upon said premises and used directly or indirectly in connection with the operations thereon, and the first parties hereby release the second party or its assignees of and from all and every claim or claims for damages to, in, under and upon the surface of said premises caused by any of the operations, constructions, processing or communications aforesaid.

SECOND: The party of the second part agrees not to commit any damage to the said lands or suffer any damage to be done thereto other than such as may be necessary for the purposes hereinbefore mentioned nor to claim or hold possession of the same for any other purpose whatsoever.

THIRD: It is understood and agreed that the second party or its assigns shall have the right to enter possession of the premises at any time within six (6) months from the date hereof for the purpose of prospecting, testing for the presence of minerals therein and the installation of any equipment that may be necessary for the proper mining and processing operation afore-

said, after which period the second party shall pay to the first parties, as rental for said premises, the sum of Twenty-five ($25.00) Dollars per month. It is further understood and agreed that if and when production is started and minerals are produced and processed in paying quantities at any time during the term of this lease or any renewal thereof, the second party agrees to pay to the first parties a flat royalty of Twenty-five (25¢) Cents per ton upon each and every ton of clay, iron ore or other minerals which may be mined or processed, taken out and removed by the second party or its assigns as aforesaid, the same to be paid to the first parties at their address, 1501 Fifteenth St., Altoona, Pa., on the 17th day of the month upon so much thereof as may have been mined or processed, taken out and removed during the preceding month. A true account of the quantity mined and processed, taken out and removed from time to time shall be kept by the said second party, which shall at all times be open to the inspection of the said first parties. It is further understood and agreed that the flat rental of Twenty-five ($25.00) Dollars per month during the term of this lease or any renewal thereof shall cease and determine and shall not be an additional charge as part of the consideration herein if and when mining and processing operations begin and minerals are produced as aforesaid.

FOURTH: It is further understood and agreed, as part of the consideration herein, the first parties hereby grant to the second party the free and uninterrupted use of and passage in and over the above described land at any point and on any other lands of the first parties, if any, and if such way or passage is required in the judgment of the party of the second part or its assignee hereof in connection with the removal of minerals in the above described land or which may be required as a convenient loading and unloading point by railroad or truck shipment of minerals, the party of the second part, its successors or assigns shall notify in writing the first parties of the amount of land

necessary for such purposes and the location thereof.

FIFTH: It is further understood and agreed that if the party of the second part shall at any time hereafter fail to pay the royalty as aforesaid and shall become in default for a period of two (2) months after the same shall become due hereunder, and after being notified in writing by registered letter sent to the business office of the said second party of said default, then and in such case the said parties of the first part at their option may declare this entire lease null and void, and from thence and thereafter all of the rights in the agreement granted unto the party of the second part shall be forfeited, terminated and ended, saving only to the party of the second part a period of three (3) months thereafter within which it shall have the right to remove from the premises any machinery, tools, equipment, buildings, and so forth, which it may have placed thereon and which have not been removed at the termination of this lease.

SIXTH: It is understood and agreed that all the covenants between the parties hereto shall extend to the respective heirs, executors, administrators, successors and assigns.

SEVENTH: It is further understood and agreed that if at any time during the term of this agreement or any renewal thereof, the second party shall find that there are no minerals or that the minerals found on the premises cannot be mined and produced in paying quantities, the second party shall have the right to terminate this agreement or any renewal thereof by giving ninety (90) days' notice in writing, sent by registered mail, to the first parties and by paying all sums of money due the first parties which may have accrued in accordance with the terms of this agreement, and all obligations and liability incurred under the terms of this contract shall be ended, and the second party or

its assigns forever discharged.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals the day and year first above written and hereby intend to be legally bound.

WITNESS:

Marion Stalts	George A. Wolf	(SEAL)
Zelia D. Reynold	Herbert T. Wolf	(SEAL)

ATTEST: STANDARD ENTERPRISES, INC.

Stephen Catarinella, Secretary — by Daniel H. Viscount, President

(SEAL)

COMMONWEALTH OF PENNSYLVANIA :
: SS:
COUNTY OF HUNTINGDON :

On this 19th day of August, A. D. 1952, before me, an alderman a notary public, personally appeared Herbert T. Wolf and George A. Wolf, known to me (Or satisfactorily proven) to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same for the purposes therein contained.

Witness my hand and notarial seal the day and year aforesaid.

Anthony O'Toole (SEAL)
Alderman

My commission expires: My Commission Expires on the First Monday in Jan. 1953

COMMONWEALTH OF PENNSYLVANIA :
: SS:
COUNTY OF ALLEGHENY :

On this 19th day of August A. D. 1952, before me, a notary public, personally appeared Stephen Catarinella, Secretary of Standard Enterprises, Inc., who, being duly sworn according to law, says that he was personally present at the execution of this agreement and saw the corporate seal of Standard Enterprises, Inc., affixed thereto, that the seal so affixed thereto is the corporate seal of Standard Enterprises, Inc., that the agreement was duly sealed and delivered by Daniel H. Viscount, President of Standard Enterprises, Inc., and Stephen Catarinella as Secretary, subscribed to the foregoing agreement, in attestation of its due execution and delivery, are of their, and each of their own respective handwriting.

Stephen Catarinella
Secretary

Sworn and subscribed to before me the day and year aforesaid

Ralph Spano
Notary Public

RALPH SPANO, Notary Public
My Commission Expires
February 9, 1953

Amer 2918

CR 12

FINANCIAL STATEMENT

INDIVIDUAL PROPRIETORSHIP

STATEMENT FORM SUGGESTED BY FEDERAL RESERVE BANK OF CLEVELAND

NAME [illegible]

ADDRESS [illegible]

BUSINESS [illegible]

TO THE [illegible] NATIONAL BANK OF [illegible]

CONDITION AT CLOSE OF BUSINESS February 27, 1933 FILL IN DATE

ASSETS	DOLLARS	CENTS	LIABILITIES	DOLLARS	CENTS
CASH ON HAND AND IN BANK	7 716	12	NOTES PAYABLE FOR MERCHANDISE	-0-	
U. S. GOVT. OBLIGATIONS	7 000	00	NOTES OWING FOLLOWING BANKS:		
NOTES RECEIVABLE OF CUSTOMERS	1 500	00	First Nat'l Bank of [illegible]	500 000	00
ACCOUNTS RECEIVABLE OF CUSTOMERS—NOT DUE	-0-				
ACCOUNTS RECEIVABLE OF CUSTOMERS—PAST DUE	-0-		NOTES PAYABLE—OTHER THAN TO BANKS	-0-	
MERCHANDISE—FINISHED	-0-		ACCOUNTS PAYABLE FOR MERCHANDISE—NOT DUE	-0-	
MERCHANDISE—IN PROCESS	-0-		ACCOUNTS PAYABLE FOR MERCHANDISE—PAST DUE	-0-	
MERCHANDISE—RAW MATERIAL			TAXES	-0-	
Completed hosp sold and			ANY OTHER INDEBTEDNESS—DUE WITHIN ONE YEAR	-0-	
not sold	109 300	00			
TOTAL CURRENT ASSETS	200 934	12	TOTAL CURRENT LIABILITIES	500 000	00
STOCKS, BONDS AND INVESTMENTS—ITEMIZE ON REVERSE SIDE	282 200	00	MORTGAGES OR LIENS ON REAL ESTATE	305 001	26
MORTGAGES OR LOANS DUE ME	-0-				
REAL ESTATE OWNED (SEE SCHEDULE)	605 100	00	ANY OTHER INDEBTEDNESS—DUE BEYOND ONE YEAR		
MACHINERY AND EQUIPMENT	5 000	00			
CASH VALUE LIFE INSURANCE	10 000	00			
OTHER ASSETS—ITEMIZE			TOTAL LIABILITIES	805 001	26
			NET WORTH	656 702	00
TOTAL	1,201 034	12	TOTAL	1,461 034	12

SCHEDULE OF REAL ESTATE OWNED

DESCRIPTION AND LOCATION	TITLE IN WHOSE NAME	IMPROVED OR UNIMPROVED	APPRAISED VALUE	MORTGAGES	TAX VALUE	INSURANCE
			$	$	$	$
	[illegible]		[illegible]			

CONTINGENT LIABILITY OF ANY KIND (IF NONE, SO INDICATE)	DOLLARS	CENTS
UPON NOTES OR ACCOUNTS RECEIVABLE DISCOUNTED SOLD, OR ASSIGNED		
AS GUARANTOR FOR OTHERS ON NOTES, BONDS, CONTRACTS, ETC.		
ANY OTHER CONTINGENT LIABILITY—ITEMIZE		
TOTAL CONTINGENT LIABILITIES	-0-	

SEE OTHER SIDE

Note: 1951 to 1951; 1952 not reported as yet.

CONDENSED INCOME AND EXPENSE STATEMENT FOR FISCAL YEAR ENDED 1/51 19 51

EXPENSE	DOLLARS	CENTS	INCOME	DOLLARS	CENTS
COST OF MERCHANDISE SOLD			NET SALES		
SELLING EXPENSE			FROM INVESTMENTS		
ADMINISTRATIVE AND GENERAL EXPENSE			FROM DISCOUNTS ON PURCHASES		
INTEREST ON BORROWED MONEY			FROM OTHER SOURCES—ITEMIZE		
BAD DEBTS CHARGED OFF			Net income after exp. recon		
DEPRECIATION			& depreciation as reported		
NET PROFIT			for income tax	66 000	00
TOTAL			TOTAL	66 000	00

SALARY BONUSES AND WITHDRAWALS OF PROPRIETOR DURING YEAR $

RECONCILEMENT OF NET WORTH

NET WORTH AT CLOSE OF PREVIOUS FISCAL YEAR ..... $

ITEMS NOT APPLICABLE TO CURRENT YEAR: VIZ ..... $

..... $

..... $

NET ADDITION OR DEDUCTION ..... $

BALANCE ..... $

NET PROFIT OR LOSS AS PER STATEMENT ABOVE ..... $ $

LESS WITHDRAWALS (OTHER THAN AS ABOVE) ..... $

NET WORTH (SEE REVERSE SIDE) ..... $

SCHEDULE OF STOCKS AND BONDS OWNED and investments

DESCRIPTION	RATE	MATURITY	PAR VALUE	MARKET VALUE
Pendric Corp., Ft. Lauderdale, Florida				180,000.00
Standard Enterprises, Inc., Churchill, Penn.				22,500.00
				202,500.00

SCHEDULE OF NOTES PAYABLE ON DATE OF STATEMENT ON REVERSE HEREOF

NAME OF CREDITOR	AMOUNT	MATURITY	DESCRIPTION OF SECURITY	AMOUNT OF SECURITY
	$			$
completed house sold but not closed	(actual value) 115,000.00			

MERCHANDISE VALUATION—BASIS 100,000.00 DATE OF INVENTORY February 27, 1953

FIRE INSURANCE CARRIED ON MERCHANDISE $ 10,000.00 ON MACHINERY AND EQUIPMENT $ 10,000.00

LIFE INSURANCE CARRIED $ ..... CASH VALUE $ 20 BENEFICIARY Helen Catanzaro

ARE THERE ANY JUDGMENTS UNSATISFIED OR SUITS PENDING AGAINST YOU? none AMOUNT $

LIST ASSETS, OTHER THAN REAL ESTATE, PLEDGED OR HYPOTHECATED IN ANY WAY Furnishings

LIST ANY INDIVIDUAL ASSETS NOT INCLUDED IN STATEMENT none

LIST ANY INDIVIDUAL DEBTS NOT INCLUDED IN STATEMENT

STATE AMOUNT BORROWED FROM ALL SOURCES AT ANY ONE TIME DURING FISCAL YEAR Building mtgs.

$ 0,000,000 MAXIMUM DATE Feb. 27, 1953 $ 510,000.00 MINIMUM DATE March, 1952

THE UNDERSIGNED HEREBY CERTIFIES THAT THE FOREGOING STATEMENT HAS BEEN CAREFULLY READ BY THE UNDERSIGNED, THAT IT IS A TRUE AND CORRECT STATEMENT OF THE UNDERSIGNED'S FINANCIAL CONDITION, AND THAT IT IS DELIVERED TO YOU FOR THE PURPOSE OF PROCURING CREDIT FROM TIME TO TIME. IN THE EVENT OF ANY SUBSTANTIAL ADVERSE CHANGE IN THE UNDERSIGNED'S FINANCIAL CONDITION, THE UNDERSIGNED WILL GIVE YOU PROMPT NOTICE THEREOF.

THE FOREGOING IS A STATEMENT OF MY FINANCIAL CONDITION AT THE CLOSE OF BUSINESS ON February 27, 1953, 19

DATE SIGNED Feb-27-1953 SIGN HERE [signature]

Amend 2/9/8

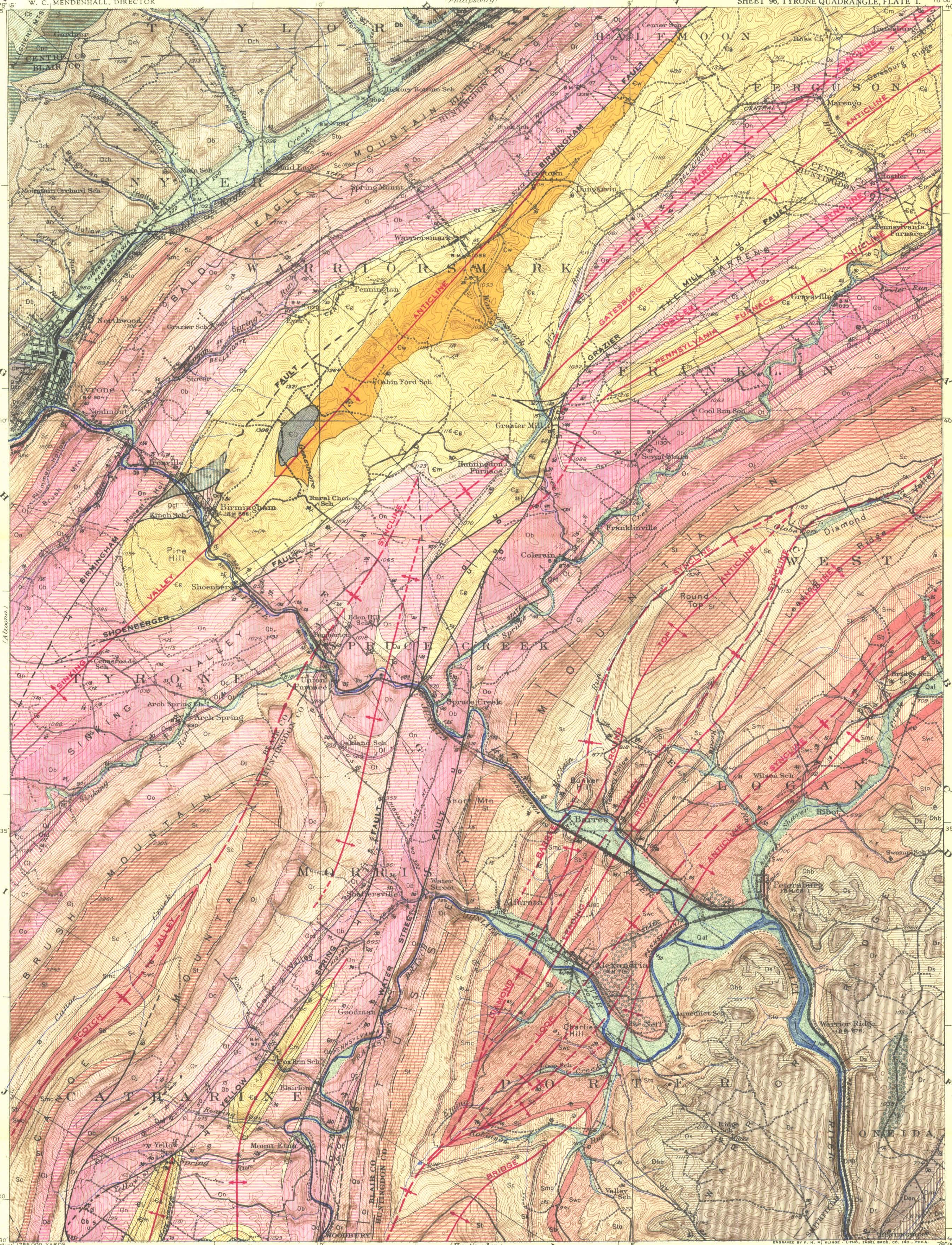
SCHEDULE of REAL ESTATE OWNED

Description & Location	Title in Whose Name	Imp. or Unimp.	App. Value	Mtges.	Tax Value	Ins.
20 developed lots in Gilmore Acres, Wilkins Twp.	Stephen Catarinella	Improved	35,100.00	-0-	10,000.00	-0-
50 acres, Wilkins Twp.	Stephen Catarinella	Unimproved	40,000.00	-0-	20,000.00	-0-
22 double houses Leetsdale, Penna.	Stephen Catarinella	Improved	374,000.00	227,356.64	154,000.00	264,000.0
2-8 family apts. Duquesne, Penna.	Stephen Catarinella	Improved	100,000.00	18,867.31	52,000.00	80,000.0
7 double houses Pittsburgh, Penna.	Stephen Catarinella	Improved	126,000.00	18,867.31	63,000.00	91,000.0
1-10 family apt. McKeesport, Penna.	Stephen Catarinella	Improved	95,000.00	-0-	35,000.00	80,000.0
Residence, Churchill Borough	Stephen Catarinella	Improved	35,000.00	-0-	13,500.00	20,000.0
			805,100.00	265,091.26		

PENNSYLVANIA DEPARTMENT OF INTERNAL AFFAIRS
WILLIAM S. LIVENGOOD, Jr., SECRETARY
TOPOGRAPHIC AND GEOLOGIC SURVEY
GEORGE H. ASHLEY, STATE GEOLOGIST

U. S. GEOLOGICAL SURVEY
W. C. MENDENHALL, DIRECTOR

PENNSYLVANIA GEOLOGICAL SURVEY,
SHEET 96, TYRONE QUADRANGLE, FLATE 1.



Topography by R.L. Harrison and K.W. Trimble
Control by U.S. Geological Survey,
Pennsylvania State Highway Department and
Pennsylvania Railroad
Surveyed in 1921 and 1929

Scale $\frac{1}{62500}$

1 ½ 0 1 2 3 4 Miles

5000 0 5000 10000 15000 20000 Feet

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 20 feet.
Datum is mean sea level

Geology by Charles Butts
of the U. S. Geological Survey
Surveyed in 1923, 1924, and 1925.

GEOLOGIC MAP OF THE TYRONE QUADRANGLE, PA.

EXPLANATION

QUATERNARY

Qal — Alluvium
(mainly loam deposited on flood-plain of modern streams. Some sand and gravel)

Qtg — Terrace gravel
(quartzite pebbles and boulders on terraces of old streams at about 800 feet above sea level and 50 to 100 feet above present streams)

High-level gravel
(about 1050 feet above sea level; probably of late Tertiary age)

CARBONIFEROUS

Cb, Cpo — Pocono formation
(green to gray shale and sandstone; Burgoon sandstone member (Cb) at top)

DEVONIAN

Dck — Catskill formation
(red shale and red to green sandstone)

Dch — Chemung formation
(gray to green shale and sandstone)

Db — Brallier shale
(siliceous greenish shale and fine-grained sandstone)

Dha, Dbk — Harrell shale
(soft gray shale; Burket black shale member (Dbk) at base)

Dh — Hamilton formation
(olive-green shale and sandstone)

Dm — Marcellus shale
(black fissile shale)

Don — Onondaga formation
(calcereous shale and thin limestone)

Dr — Ridgeley sandstone
(thick-bedded coarse sandstone)

Ds — Shriver formation
(thin-bedded siliceous limestone)

Dhb — Helderberg and Keyser limestones *(cherty and nodular limestones)*

SILURIAN

Sto — Tonoloway limestone
(thin-bedded limestone)

Swc, Sb — Wills Creek shale
(calcareous shale; Bloomsburg red shale and sandstone member (Sb) at base)

Smc — McKenzie limestone
(thin-bedded limestone and shale)

Sr, Sk, Sc — Clinton group
(green shale and sandstone; Rochester limestone member (Sr) and Keefer sandstone member (Sk) at top)

St — Tuscarora quartzite
(hard white quartzitic sandstone)

ORDOVICIAN

Oj — Juriata formation
(lumpy red shale and sandstone)

Oo — Oswego sandstone
(thick-bedded gray sandstone; some speckled brown; many layers cross laminated)

Or — Reedsville shale
(olive-green shale; thin limy and sandy layers)

Ot — Trenton limestone
(thin-bedded fine-grained dark limestone)

Ord — Rodman limestone
(medium-bedded coarse-grained dark limestone)

ORDOVICIAN

Ol — Lowville limestone
(thick-bedded fine-grained dove-colored limestone)

GREAT HIATUS

Ocl — Carlim and Lowville limestones
(undifferentiated at Birmingham)

Oc — Carlim limestone
(thick-bedded bluish-gray to dark limestone)

Ob — Bellefonte dolomite
(thick-bedded light-gray dolomite with much chert)

Oa — Axemann limestone
(medium-bedded blue limestone with layers of dolomite)

On — Nittany dolomite
(thick-bedded light and dark gray dolomite)

Os — Stonehenge limestone
(thick and thin bedded blue limestone)

CAMBRIAN

Ꞓl — Larke dolomite
(thin limy-looking beds)

Ꞓm — Mines dolomite
(thick-bedded dolomite with much chert)

Ꞓg — Gatesburg dolomite
(thick-bedded, coarse-grained blue dolomite with many beds of quartzite)

Ꞓw — Warrior limestone
(thick and thin bedded limestone and dolomite with sandy partings)

Ꞓph — Pleasant Hill limestone
(thin-bedded argillaceous limestone)

fnd — Dolomite
(age not determined; possibly Bellefonte)

ꞒO — Fenster or window
(exposing small patches of Reedsville shale and Oswego sandstone below Warrior limestone; too poorly exposed for mapping)

Fault

T, overthrust side of thrust fault

D, down throw of normal or stripangle fault

Anticlinal axis

Synclinal axis

Mine or quarry

Strike and dip of strata

Vertical beds

Horizontal beds

BALD EAGLE MOUNTAIN
WARRIORSMARK
Bald Eagle Creek
Bald Eagle
Main Sch
Spring Mount
Warriorsmark
Vail Bald
Pennington
Northwood
Grazier Sch
Spring
Ever
Logan
Stover
Cabin Ford Sch
Ironville
Rural Choice Sch
Birmingham
Kinch Sch
Huntingdon Furnace
HIGHWAY
PENNSYLVANIA
BELLEFONTE
STATE
U S
Run
Hollow
Gorsuch
Mary
Rock
Home
Hill
Sch
BM 1072
BM 1023
BM 1088
BM 1120
1096
1248
1258
1053
1032
1086
1264
1321
1247
1308
1116
1123
1070
1262
1283
1281
1665
1127
1054
960
780
904
866
322
220

Main Sch
Bald Eagle
Creek
Eagle
Spring Mount
Vail Bald
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Hunting
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PENNSYLVANIA DEPARTMENT OF INTERNAL AFFAIRS
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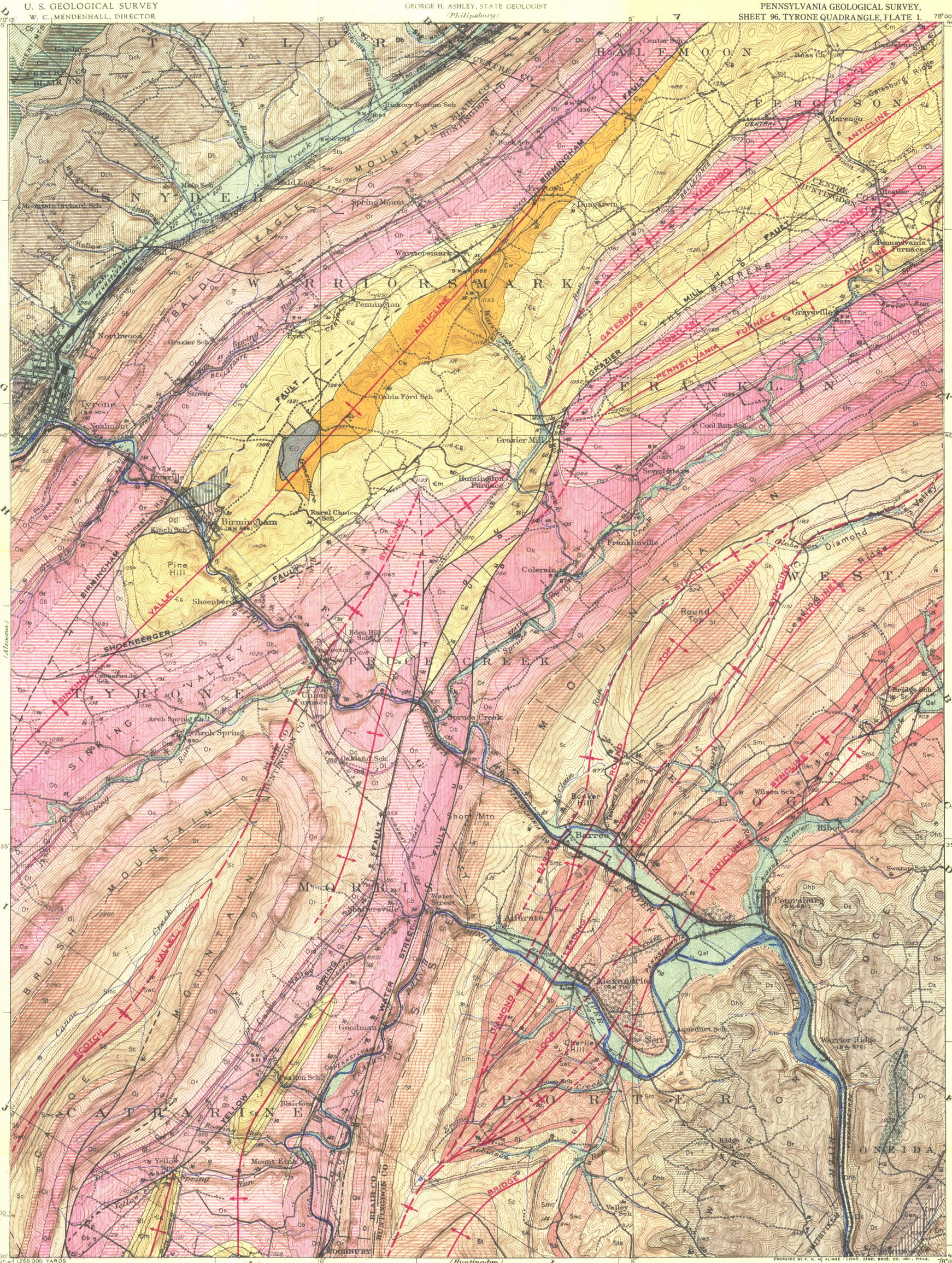
TOPOGRAPHIC AND GEOLOGIC SURVEY
GEORGE H. ASHLEY, STATE GEOLOGIST
(Philipsburg)

U. S. GEOLOGICAL SURVEY
W. C. MENDENHALL, DIRECTOR

PENNSYLVANIA GEOLOGICAL SURVEY,
SHEET 96, TYRONE QUADRANGLE, PLATE 1.

with 4/18/53 ltr.
dmea 2918



EXPLANATION

QUATERNARY

- **Qal** — Alluvium (*mainly loam deposited on flood-plain of modern streams. Some sand and gravel*)
- **Qt** — Terrace gravel (*quartzite pebbles and boulders on terraces of old streams at about 800 feet above sea level and 50 to 100 feet above present streams*)
- High-level gravel (*about 1050 feet above sea level; probably of late Tertiary age*)

CARBONIFEROUS

- **Cb, Cpo** — Pocono formation (*green to gray shale and sandstone; Burgoon sandstone member (Cb) at top*)

DEVONIAN

- **Dck** — Catskill formation (*red shale and red to green sandstone*)
- **Dch** — Chemung formation (*gray to green shale and sandstone*)
- **Db** — Brallier shale (*siliceous greenish shale and fine-grained sandstone*)
- **Dha, Dbk** — Harrell shale (*soft gray shale; Burket black shale member (Dbk) at base*)
- **Dh** — Hamilton formation (*olive-green shale and sandstone*)
- **Dm** — Marcellus shale (*black fissile shale*)
- **Don** — Onondaga formation (*calcareous shale and thin limestone*)
- **Dr** — Ridgeley sandstone (*thick-bedded coarse sandstone*)
- **Ds** — Shriver formation (*thin-bedded siliceous limestone*)
- **Dhb** — Helderberg and Keyser limestones (*cherty and nodular limestones*)

SILURIAN

- **Sto** — Tonoloway limestone (*thin-bedded limestone*)
- **Swc, Sb** — Wills Creek shale (*calcareous shale; Bloomsburg red shale and sandstone member (Sb) at base*)
- **Smc** — McKenzie limestone (*thin-bedded limestone and shale*)
- **Sr, Sk, Sc** — Clinton group (*green shale and sandstone; Rochester limestone member (Sr) and Keefer sandstone member (Sk) at top*)
- **St** — Tuscarora quartzite (*hard white quartzitic sandstone*)

ORDOVICIAN

- **Oj** — Juniata formation (*lumpy red shale and sandstone*)
- **Oo** — Oswego sandstone (*thick-bedded gray sandstone; some speckled brown; many layers cross laminated*)
- **Or** — Reedsville shale (*olive-green shale; thin limy and sandy layers*)
- **Ot** — Trenton limestone (*thin-bedded fine-grained dark limestone*)
- **Ord** — Rodman limestone (*medium-bedded coarse-grained dark limestone*)
- **Ol** — Lowville limestone (*thick-bedded fine-grained dove-colored limestone*)

GREAT HIATUS

- **Ocl** — Carlim and Lowville limestones (*undifferentiated at Birmingham*)
- **Oc** — Carlim limestone (*thick-bedded bluish-gray to dark limestone*)
- **Ob** — Bellefonte dolomite (*thick-bedded light-gray dolomite with much chert*)
- **Oa** — Axemann limestone (*medium-bedded blue limestone with layers of dolomite*)
- **Oh** — Nittany dolomite (*thick-bedded light and dark gray dolomite*)
- **Os** — Stonehenge limestone (*thick and thin bedded blue limestone*)

CAMBRIAN

- **Ꞓl** — Larke dolomite (*thin limy-looking beds*)
- **Ꞓm** — Mines dolomite (*thick-bedded dolomite with much chert*)
- **Ꞓg** — Gatesburg dolomite (*thick-bedded, coarse-grained blue dolomite with many beds of quartzite*)
- **Ꞓw** — Warrior limestone (*thick and thin bedded limestone and dolomite with sandy partings*)
- **Ꞓph** — Pleasant Hill limestone (*thin-bedded argillaceous limestone*)
- **Ꞓd** — Dolomite (*age not determined; possibly Bellefonte*)
- **Ꞓ0** — Fenster or window (*exposing small patches of Reedsville shale and Oswego sandstone below Warrior limestone; too poorly exposed for mapping*)

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GEOLOGIC MAP OF THE TYRONE QUADRANGLE, PA.