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DEFENSE MINERALS ADMINISTRATION
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INT.-DUP. SEC., WASH., D.C. 98868

400

JUL 27 1956

Rodenbeck and Perry
Perry-Wooten Building
104 East Gordon Street
Kinston, North Carolina

Re: Docket No. DMEA-4258, Tungsten
Burwell Prospects
Mecklenburg County, Virginia, and
Vance County, North Carolina

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington concerning the above-referenced property 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 our information, although noting tungsten mineralization in the Burwell property, indicates to us that the probability of disclosing minable tungsten ore reserves is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration's program and for bringing this property to our attention.

Sincerely yours,

G. O. Mittendorf

Administrator

cc: Docket
Code 400
Adm. Read. File
Thor Kiilsgaard, USGS
R. W. Holliday, USBM
Operating Committee
FT, Region V

SPHolt/ls
7/18/56

July 18, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $26,029.00
Docket No. DMEA-4258, Tungsten
Rodenbeck and Perry
Burwell prospects
Mecklenburg County, Virginia
Vance County, North Carolina

Denial of the subject application is recommended by this Division based on the following information:

(1) The applicant, Rodenbeck and Perry, a partnership consisting of W. H. Rodenbeck and E. J. Perry, Jr., Perry-Wooten Building, 104 East Gordon Street, Kinston, North Carolina, requested exploration assistance in the amount of $26,029.00 for bulldozing, percussion drilling, and diamond drilling in the Burwell prospects.

(2) The applicant controls, by a "Purchase Contract" agreement from the owner, Mrs. Lucy P. Burwell, the Armstead Burwell tract of land, area about 548 acres, situated in the Hamme tungsten district of Vance County, North Carolina, and Mecklenburg County, Virginia.

(3) The proposed program is to explore the quartz lenses on the Burwell tract by 30 bulldozer open cuts, 25 percussion drill holes ranging from 150 to 175 feet each in depth, total footage 4,000 feet, and six size NX diamond drill holes, average depth 300 feet each, total footage 1,800 feet.

(4) In the area of the Burwell prospects, tungsten occurs as small and scattered grains of hubnerite in quartz veins, in a narrow northeasterly trending shear zone roughly parallel to a granite-schist contact. The veins on the Burwell tract are all within the granite.

(5) The Field Team concludes that on the Burwell property hubnerite is almost lacking, and where found it occurs as very small and scattered grains. All available evidence indicates that the Burwell veins, where exposed, are weakly mineralized.

The 22 core drill holes and 16 cuts completed by the Bureau of Mines, by a previous lessee, and by theCorps of Engineers, demonstrate the lack of ore grade mineralization.

Because the proposed project does not have good prospects for success, the Field Team recommends that this application for DMEA assistance be denied. The Commodity Divisions of the Geological Survey and the Bureau of Mines concur in this recommendation.

Thos. L. Chapman, Acting Chief
Iron and Ferro-Alloys Division

SPHolt/ls
7/18/56

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

400

RECEIVED
JUL 20 1956

July 17, 1956

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Chief, Branch of Ferrous Metals & Ferroalloys

From: R. W. Halliday, Commodity Specialist, Branch of Ferrous Metals & Ferroalloys

Subject: Review of Field Examination Report
Docket No. DMEA-4258 (Tungsten)
Rodenbeck & Perry
Vance County, North Carolina

Subject report states that no new work has been done since work by the Bureau of Mines in 1947-1948; that although quartz vein structures are present, huebnerite mineralization is almost lacking; and previous work demonstrates the lack of ore grade mineralization.

The Field Team recommends denial of the application and I concur with that recommendation.

R. W. Halliday

401 IN REPLY REFER TO:

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

RECEIVED
JUL 25 1956

July 23, 1956

Re: DMEA 4258
Rodenbeck and Perry
Burwell Tract
Vance Co., N. C.
$26,029.00 - Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. S. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

The applicants requested assistance in exploring by bulldozing, percussion and core drilling lenses of quartz in shear zones which are known from previous work to carry small quantities of hübnerite.

The property has been well prospected, old trenches, and diamond drilling done by private interests, U. S. Corps of Engineers and U. S. Bureau of Mines have shown only low tungsten values in the quartz lenses.

The examiners and the Field Team conclude that enough work has been done and additional work probably would not result in a worthwhile discovery, and recommend that the application be denied.

I concur with the recommendation.

NSNelson:btr
G 7/23/56

N. S. Nelson

cc: Robert Holliday, 3517
Director's reading file (4212) N. S. Nelson
Branch reading file (4212)
DMEA (3)
Chron. file
Docket file

400

JUL 9 -

July 5, 1956

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tenn.

Subject: Field Examination Report - DMEA-4258 (Tungsten)
Rodenbeck & Perry, Vance County, N. C.

Submitted herewith are 4 copies of the subject report recommending denial of the application.

The Field Team is in complete agreement with the Field Examiners recommendations. It is our opinion that the property has been adequately explored by previous work of the Geological Survey and the Bureau of Mines and the Corps of Engineers.

Robert A. Laurence, Executive Officer
DMEA Field Team, Region V

V. J. Lynch, Member
DMEA - Bureau of Mines

VJL/mm
cc: Lynch
Files
Miller

Reviewed by
DMEA OPERATING COMMITTEE
7-13-56
(Date)

Field Team Report on Examination of Property

by

W. P. Williams and N. L. Burmeister 1/

DMEA Docket No. 4258 (tungsten)
Rodenbeck and Perry, a partnership
Perry-Wooten Bldg., 104 East Gordon St.,
P. O. Box 482, Kinston, North Carolina
W. N. Rodenbeck, 1705 Shackleford St.,
Morehead City, N. C.
Ely J. Perry, Jr., 104 East Gordon St.,
Kinston, N. C.

RECEIVED
JUL 19 1956

Summary

The property involved consists of about 548 acres known as the Armstead Burwell tract located in the Hamme tungsten district of Vance County, North Carolina and Mecklenburg County, Virginia.

The property was examined on May 15, 1956 by a field party composed of N. L. Burmeister, Bureau of Mines and W. P. Williams, U. S. Geological Survey, who were accompanied by the Messrs. W. N. Rodenbeck and E. J. Perry, Jr., the applicants. Eight hours were spent in the field. Sparse tungsten and metal sulphide mineralization is found on the property in quartz-filled shear zones in granite and granite-gneiss. The quartz veins are probably associated with large shear zones and quartz veins that extend from the Hamme tungsten mine about 2 miles to the south.

Three old prospect trenches, dug about 12 years ago by a former lessee, are on the property in addition to several trenches and core drill holes made by the U. S. Bureau of Mines in 1947 and 1948. No prospecting or exploration has been done by the applicant.

Reviewed by
DMEA OPERATING COMMITTEE

(date)

1/ W. P. Williams, geologist, U. S. Geological Survey.
N. L. Burmeister, mining engineer, U. S. Bureau of Mines.

Conclusions and Recommendations

Several quartz vein structures, like the ones from which tungsten ore is mined at the Hamme mine, are present on the subject property. At the Hamme mine, however, huebnerite mineralization is abundantly present in outcrops as coarse huebnerite crystals and masses in quartz. On the Burwell property huebnerite is almost lacking and when found it occurs as very small and scattered grains. All available evidence indicates that the Burwell veins, where exposed, are weakly mineralized. The 22 core drill holes and 16 cuts completed on the property by the U. S. Bureau of Mines, Lassiter interests, and Corps of Engineers, demonstrate the lack of ore grade mineralization.

The possibility exists that strongly mineralized veins are present at depth but do not outcrop or may be covered by surface mantle. The applicant appears to have these in mind as he proposes 30 bulldozer cuts at sites "where he believes veins exist". The bulldozing work is clearly a prospecting venture. It is the examining team's conclusion that enough exploration work has been done on the Burwell veins to show that additional work would probably not result in a worthwhile discovery. Because the proposed project does not have good prospects for success, it is recommended that this application for DMEA assistance be denied.

Name and Location of Property

This property, known as the Armstead Burwell Tract, consists of about 548 acres, located in the Hamme tungsten mining district in Granville and Vance counties, North Carolina and Mecklinburg County, Virginia. The tract boundaries are shown in Fig. 1 in accordance with the applicant's property map.

To reach the property from the circle in the village of Tomsville, proceed northwestward on Rt. 720 a distance of 3.2 miles to the entrance of a dirt farm road from the north or right. After following the dirt road for about 0.5 mile it is advisable to walk the balance of the way to the location of the quartz lenses shown in Figs. 1 and 2.

The dirt farm road would probably be passable for about 0.5 mile from the highway. Beyond this point there are a number of soft areas which are practically impassable for an automobile in dry weather now but could be repaired at low cost.

Competency of Applicant

Neither Mr. Perry nor Mr. Rodenbeck appears to have had any experience in mining or where and how to do exploration work.

Financial responsibility of the applicants was not investigated.

Applicant's Property Rights

The applicants, W. H. Rodenbeck and E. J. Perry, Jr., are associated in a partnership as stated in their application. The Burnell Tract containing about 548 acres is held under a "Purchase under Contract" agreement, by Mr. W. H. Rodenbeck only and not by the partnership. The contract has no definite overall time limit but states that on or before Jan. 20, 1958 a 100-foot shaft shall be operative. After July 20, 1957 Mr. Rodenbeck must pay the owner $100.00 permonth whether or not the property is operating. Total purchase price is $350,000.00.

The "Consent to Lien" furnished with the application does not cite the registry of deed in County, book or page of register. It cites only, "about 481 acres owned by Lucy P. Burnell".

Geology and Ore Reserves

The Burnell tract is located in the Piedmont physiographic province about 50 miles west of the Coastal Plain. The property is in a northeast trending belt of tungsten-bearing quartz veins. The belt is about 8 miles long and a mile wide and is known as the Hanna tungsten district. The location of the district is shown on figures 1 and 2.

In the Hanna district the country rocks are composed mainly of igneous granite and metamorphic schist. The contact between the two rock types strikes generally due north through the district and generally has a steep dip to the west. Locally the dip of the contact may be vertical or steep to the east. Granite lies east of the contact while schist lies to the west.

The metamorphic rocks are composed dominantly of chlorite and sericite phyllites and schists. The color of these rocks ranges from grayish green to very dark green and almost black. The texture may be fine grained and massive or coarser grained and schistose. In the chloritic rocks some of the harder, denser varieties contain epidote and quartz. The sericitic rocks are generally heavily speckled with martite (iron sesqui-oxide).

The age of the metamorphic rocks is thought to be pre-Cambrian or early Paleozoic.

The eastern part of the district is made up of biotite-albite granite. The age of the granite is late Paleozoic and the rocks are intrusive into the older schists and phyllites to the west.

The granite is coarse grained and is composed of albite, blue opalescent quartz, perthite, and microcline. Biotite may be nearly

lacking or very abundant. Common accessory minerals are magnetite, pyrite, sphene, apatite, and zircon.

Several types of dike rocks are found in the district. An Aplite granite dike cuts the granite in the vicinity of the Sneed shaft, Hamme mine. The dike is about 500 feet thick at its thickest part, and is composed mainly of quartz and albite with some sericite and biotite. The aplite is fine-grained and light gray to white. It is probably closely related to the granite but somewhat younger.

Both the schists and the granite are cut by diabase dikes of Triassic age. Dikes and sills of diabase are common throughout the district. Their thicknesses range from a few inches to as much as 200 feet, and they have been traced as far as 2 miles without reaching an end. The thinner dikes are fine grained while the thicker ones are coarser. Dark gray feldspar and black pyroxene are the main constituents, and the dikes are dark gray to black. Most of the diabase dikes have a northerly trend with steep dips.

Quartz veins are found throughout the district. They range in thickness from a fraction of an inch to 30 feet. The quartz veins cut all rock types except diabase.

The quartz veins are composed of at least three main types of quartz, 1) coarse grained and glassy, 2) medium to fine grained, shattered and fractured, somewhat dull-lustered containing tungsten mineralization, and 3) dull, fine grained sugary-textured quartz that is usually barren of mineralization but may contain, locally, sparse huebnerite, scheelite, and metal sulphides.

The tungsten-bearing quartz veins are in a narrow northeast trending zone that is roughly parallel to the granite-schist contact. Most of the veins

are in granite but some extend into the schist.

The largest and best developed quartz veins are localized in the granite along a shear zone that extends through the district for at least 3½ miles. The main shear zone strikes about N.35° E. and dips about 75 degrees southeast, fig. 2.

Within the shear zone the granite is altered variously from moderately sheared granite to sericite and chlorite schist. The altered and sheared zone reaches a maximum thickness of about 100 feet.

Some movement has taken place along the shear zone, as evidenced by slickensides in places along the shear. Displacement appears to have been only a few feet at most. The pitch of the slickensides is usually less than 5 degrees to the south. Drag folds associated with the shearing show that the southeast side moved south with relation to the west side.

Tungsten ore is found as huebnerite ($MnWO_4$) - and scheelite ($CaWO_4$) - bearing quartz veins. The veins are best developed and richest in the sheared granite. The next best vein locality is the granite west of the main shear zone and east of the schist contact. Heretofore, it was thought that the schists were not good host rocks for the tungsten veins, but the Tungsten Mining Corporation has been successful in developing at least two large veins withint the schist in the Hanna mine.

The quartz veins range in length from a few feet to a thousand feet, and from an inch or less in thickness to as much as 30 feet. The veins pinch and swell and in many places the quartz forms lenses. The pitch of the ore shoots in the veins is vertical in some places. In other places the pitch of ore shoots may be somewhat southwest or northeast. An intermediate

southwest pitch appears to be predominant. Offshoot quartz stringers often extend fromthe veins into the enclosing altered wall rocks.

The principal metallic minerals in the quartz veins are huebnerite, pyrite, galena, tetrahedrite, sphalerite, chalcopyrite and scheelite. Huebnerite is the important tungsten mineral. Scheelite practically everywhere in the veins is found as a sparse alteration product of hydrothermal alteration of huebnerite. Very little huebnerite seems to have been leached at the surface, consequently there is no significant zone of secondary enrichment at depth.

Quartz, fluorite, sericite, and rhodochrosite, in that order of abundance are the principal gangue minerals. Huebnerite is found as long, platy brown crystals that are arranged in irregular masses or seams that are parallel to the walls of the vein.

Two quartz veins are exposed on the Burwell tract by two prospect trenches dug about 12 years ago by R. G. Lassiter, a former lessee.

The two trenches are each about 150 feet long, 10 to 30 feet wide, and have a maximum depth of about 8 to 10 feet. The trenches were cut through the soil mantle, which is only about 1 to 3 feet thick, into the quartz vein. The quartz is sugary textured, grey to white colored, and is commonly stained brown or bluish black by iron and manganese oxides. Huebnerite mineralization can be found as tiny, almost microscopic, widely scattered crystals. No scheelite was noted although searched for. Carefully selected samples thought to contain scheelite were tested with an ultra-violet ray lamp with negative results.

Lens No. 1, figs. 1 and 3, is about 300 feet long and has a thin, elongate shape. It has a steep dip to the east. The vein appeared to pinch out completely at both ends. Lens No. 1 with its slightly

northwesterly trend appears to conform generaly with themain zone of shearing which trends through the district. Vein No. 3, fig. 1, has an easterly trend and probably occupies a cross-fracture between two northeasterly-trending shears. Vein No. 3 is about 200 feet long and also appears to pinch out at both ends.

No samples were taken in the pits. The sides of the pits are now caved and slumped; and although quartz is plentiful, no mineralization was found that was strong enough to offer an assay grade high enough to be classed as economic.

Previous Exploration

Past exploration on the Burwell tract consists of 22 core drill holes and 16 cuts. Three of the cuts and fourteen of the holes were completed by the Lassiter interests while the rest of the work was done by the U. S. Bureau of Mines and the Corps of Engineers. The locations of the holes and trenches are shown on fig. 3.

The work and the results are summarized ina report by the Advisory Board to the District Engineer (see References, Appendix A). It is noteworthy that on page A-10 of the report the following statements are made, "No ore reserves have been discovered on any of the Burwell veins. Conclusions: Further exploration or development of the Burwell veins is not believed to be warranted."

The exploratiaan work, with the exception of that done by the Lassiter interests, was done by and for the Corps of Engineers in connection with the construction of the Buggs Island dam and reservoir by the Corps of Engineers on the Roanoke River which bounds the tungsten district on the north. The objective in exploration was to determine what possible ore reserves might be inundated by impounded water.

Samples taken in connection with the Buggs Island dam project did not disclose the presence of material having a grade better than 0.1 percent WO_3. There are no known minable ore reserves on the property.

Past Production

In 1943, 544 tons of ore were mined from open cuts on Burwell 1 and 2 veins. The ore yielded 1974 pounds of concentrate with an average content of 13.07 percent WO_3.

Appendix A

References

1. Espenshade, G. H. Tungsten Deposits of Vance County, North Carolina, and Mecklenburg County, Virginia; U.S.G.S. Bull. 948-A, 1947.

2. Parker, J. M. Geology and Structure of Part of the Hamme Tungsten District, Vance County, North Carolina, and Mecklenburg County, Virginia; U.S.G.S. progress report (unpublished) in cooperation with North Carolina Dept. of Conservation and Development Division of Mineral Resources, July, 1951.

3. Advisory Board to the District Engineer, Corps of Engineers, Report of the Investigation of the Hamme Tungsten District in its Relationship to the Buggs Island Reservoir, Roanoke River, Va.-N.C., April 28, 1948.

Availability of manpower, equipment, supplies, water and power.

Due to the steady operation of the nearby Hamme tungsten mine

there is an adequate supply of skilled labor in the immediate vicinity of the Burwell tract. Current hourly wages range from $1.43 per hour for muckers and $1.53 per hour for mechanics and electricians helpers to $1.75 per hour for miners, hoistmen, electricians, etc.

Most equipment, materials and supplies necessary for an exploration program of this nature could be procured in Henderson and Raleigh, N. C. or Richmond and Norfolk, Va. Water is plentiful and a high voltage power line crosses the center of the property.

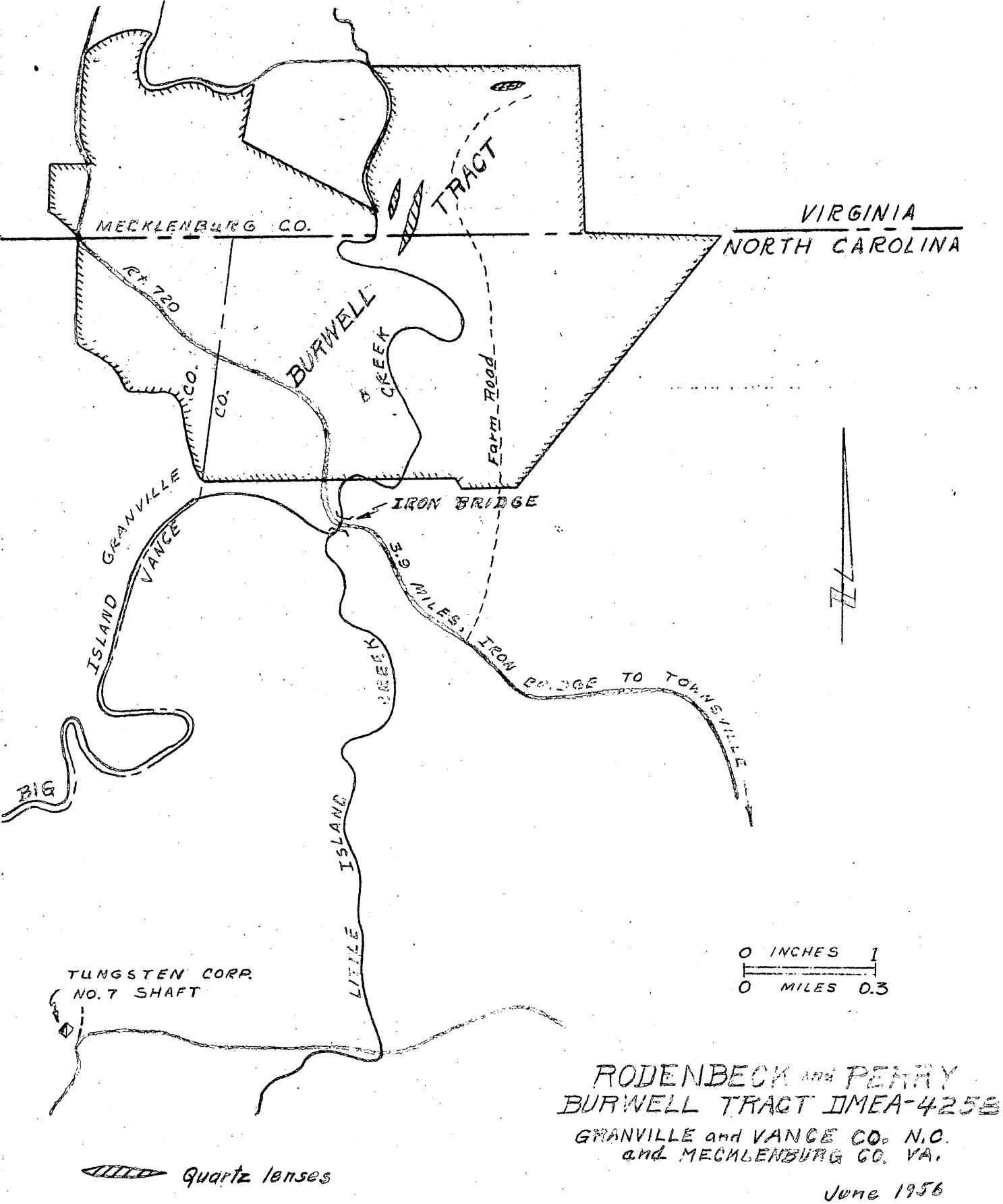
Applicant's Proposal

The applicant proposes to explore the quartz lenses by percussion and core drilling methods as well as by bulldozing trenches. Twenty-five percussion drill holes would range from 150 to 175 feet each in depth. Six NX size diamond core holes would be drilled to a depth of 300 feet each. The proposed drilling would consist of a total of 4,000 feet of percussion drilling and 1,800 feet of diamond core drilling. The total of 30 bulldozer cuts were proposed by the applicant to be made at four selected sites where "he believes quartz lenses exist."

Total project cost as estimated by the applicant would be $26,029.00.

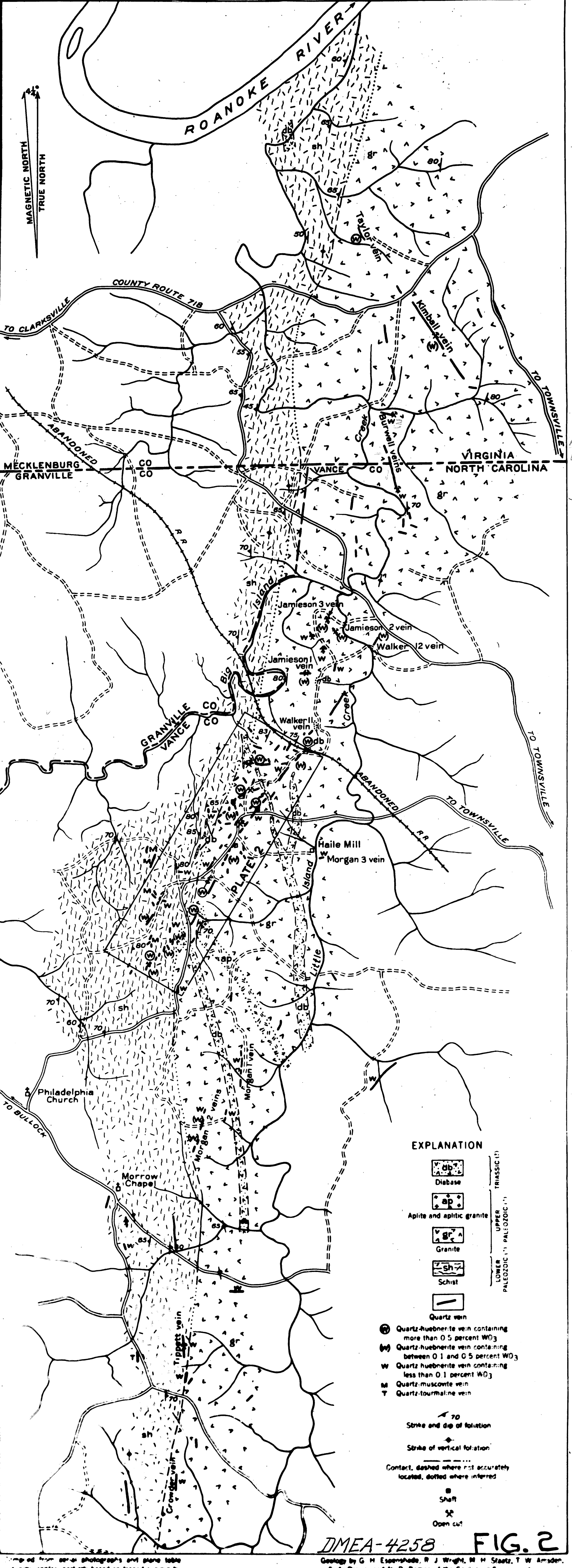
H. L. Burmeister
U. S. Bureau of Mines

For: W. F. Williams
U. S. Geological Survey



RODENBECK and PERRY
BURWELL TRACT IMEA-425B
GRANVILLE and VANCE CO. N.C.
and MECKLENBURG CO. VA.
June 1956

FIG. 1



DMEA-4258 FIG. 2

Compiled from aerial photographs and plane table surveys, contours partly based on transit surveys by Bureau of Mines 1941

Geology by G. H. Espenshade, R. J. Wright, M. H. Staatz, T. W. Amsden, E. A. Brown, and N. D. Ramer of the Geological Survey, and C. J. Cohen of the Bureau of Mines

GEOLOGIC MAP OF THE TUNGSTEN DEPOSITS OF VANCE COUNTY, NORTH CAROLINA, AND MECKLENBURG COUNTY, VIRGINIA

Rodenbeck and Perry
Perry-Wooten Building
104 East Gordon Street
P/ O. Box 482
Kinston, North Carolina

Re: Docket No. DMEA 4258 - Tungsten
Burwell Prospects
Mecklenburg County, Virginia
Granville and Vance Counties, N. C.

Gentlemen:

The above docketed application for exploration assistance for tungsten ores has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and is being referred to Mr. Robert A. Laurence, Executive Officer, DMEA Field Team, Region V, Room 13, Post Office Building, Knoxville 2, Tennessee, for review and a possible field examination of the property.

The Field Team will advise you if a field examination is considered necessary and any assistance that you may give the examining engineers will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

TLCHAPMAN/foc
4-27-56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. V
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

Mr. Robert A. Lawrence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville, Tennessee

Re: Docket No. DMEA 4258 - Tungsten
Rockenbach and Perry
Burwell Prospects
Mecklenburg County, Virginia
Granville and Vance Counties, N. C.

Dear Mr. Lawrence:

The above docketed application for exploration assistance is being referred to your office for a review and a possible field examination of the property.

The application and your memorandum of April 12, 1956, suggest that there are a number of complications, and indicate that it will be convenient to examine this area at the time an examination of the Hanna mine is made.

Copies of memoranda dated April 19, 1956, by N. E. Nelson, Geological Survey, and R. W. Holliday, Bureau of Mines, respectively, relating to the project are enclosed.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosure

APPROVED:

P. F. Yopes
Member, Bureau of Mines

N. E. Nelson
Member, Geological Survey

TLChapman:fec
4-27-56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. V
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

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RECEIVED
APR 2 5

April 19, 1956

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Chief, Branch of Ferrous Metals & Ferroalloys

From: R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals & Ferroalloys

Subject: Application
Docket No. DMEA 4258
548 Acres in Granville and Vance Counties
North Carolina and Mecklinburg County, Virginia
Redenbeck and Perry
P. O. Box 482 Kinston, North Carolina
$26,029.00-Tungsten

Subject application concerns an area which has been the subject of rather intensive geological study and a certain amount of litigation though I do not have the details. The Bureau of Land Management, Geological Survey, Bureau of Mines and Corps of Engineers have all been involved to a greater or lesser extent in the area, though possibly not with this particular property.

Bureau of Mines publications include R. I. 3857, Exploration of the Mecklenburg County, Virginia Tungsten Area and R. I. 4380, Investigation of the Hamme Tungsten District, Vance County, North Carolina and Mecklenburg County, Virginia. Several other (unpublished) reports are on file at College Park.

The letter of transmittal from the Executive Officer, DMEA, Region V, Knoxville quotes a report that: "Further exploration or development of the Burwell veins is not believed to be warranted." It is not clear whether this is the opinion of the Survey or the opinion of the Corp of Engineers.

It is recommended that subject application be referred to the field team for consideration providing personnel are available for a comprehensive review and study of the problems including the

possibility of flooding and the possibility of further claims for damages if a discovery is made.

R. W. Holliday

400

IN REPLY REFER TO:

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

RECEIVED
APR 23 1956

April 19, 1956

Re: DMEA 4258
Rodenbeck and Perry
Burwell Tract
Vance Co., N.C., and
Mecklenburg Co., Va.
$26,029.00 - Tungsten

Memorandum

To: [illegible]. S. Martin, Defense Minerals Exploration Administration

From: [illegible]. [illegible]. Nelson, U. [illegible]. Geological Survey

Subject: Review of application

The applicants request assistance in exploring by bulldozing, percussion drilling and core drilling lenses of quartz which are known, from previous work, to be hubnerite-bearing. The information at hand indicates the material is low-grade.

Production of the No. 1 and No. 2 veins is placed at 544.34 tons which, when milled yielded 1,974 pounds of concentrate averaging 13.07% WO_3. (Interim report on investigations of tungsten deposits in Buggs Island Reservoir 1948.)

Of the No. 1 and No. 2 veins, or lenses, the same report says: - "Burwell 1 vein is a strong quartz veing extending for over 800 feet in a N. N. direction, and dipping easterly. Vein appears to be essentially barren throughout, but with weak hubnerite mineralization at its southern end, and near the northern end.

Exploration: 1943 - 2 drill holes, 5 trenches ([illegible] - U. [illegible].S.)
1943-46 - 2 open cuts and at least 9 core drill holes.
1947-48 - None on vein proper, trenches on veins to south. No additional work planned. (Corps of [illegible]ngineers).

Sampling results: 1943 - [illegible].H. 37 and 40, trenches 134, 135, 136, 137 and 138: all cut vein, 3.5 to 10 ft., all 0.00% WO_3. ([illegible] - U. [illegible].S.). 1943-46 - Core from only one hole out of 9 was assayed: [illegible].H. 9B, 5' core length, 0.08% WO_3. ([illegible]. G. Lassiter).

Ore reserves: No ore reserves of commercial or strategic value have been indicated by 11 drill holes, 5 trenches, and 2 open cuts.

Conclusions: Tungsten mineralization in Burwell 1 vein is very sparse, and the vein can hardly be expected to be minable during a period of extreme national emergency. No further exploration or development of the vein is warranted.

BURWELL 2 VEIN

Location: About 1,000 feet N of Burwell 1 vein.

Description of vein: Burwell 2 vein is between 100 and 200 feet long, trends in an easterly direction, and dips N. It carries fair huebnerite in small localized spot near its east end; rest of vein seems essentially barren.

Exploration: 1943-46 - Open cut and 5 drill holes (H.G. Lassiter interests). 1947-48 - D.H. 49 and 52 and resistivity traverses; additional work planned: Opencut sampling. (Corps of Engineers).

Sampling results: 1943-46 - No tungsten reported in drill logs; no assays reported. (H. G. Lassiter). 1947-48 - D.H. 49 and 52, no vein intersected (Corps of Engineers).

Ore reserves: No ore reserves have been indicated by open cut and 7 drill holes.

Conclusions: Although a small patch of fair ore is present in the open cut, 7 drill holes have failed to reveal ore in depth. If ore should be indicated bu further exploration or development of the vein, mining should be don4 before the reservoir is filled, since the nearest point above elevation 320 is over 1200 feet distant from the vein."

The No. 2 vein of the report is the No. 3 of the applicants' map. The outcrops of both veins are below 320 elevation, and that of No. 2 is below 290 so submerged most of the time.

The map with the application shows a major shearing fault crossing the southeasterly part of the tract. Such a structure which might be inferred as a long projection of the important structure at the Hamme mine would be more or less on the line shown. The nearest mining southwest of the south boundary of the Burwell tract is about 1.3 miles distant. A drift, Project A of DMEA 4216, if driven, will explore about 1/3 of the interval, that is to a point under the Walker 10 vein outcrop.

The map which accompanies the Investigation of the Hamme Tungsten district in its relationship to the Buggs Island Reservoir, shows a quartz vein with no known tungsten about where the major shearing of the applicant's map goes through. The ore bodies of the Hamme mine are related to a wide complex shear zone of about the strike shown. The ore bodies are found in a sheared granite-gniess complex and in sheared chloritic schist. The schist-complex contact has a more northerly trend than the shearing, and crosses the Burwell tract nearly half a mile west of the No. 1 vein.

The Hamme mine ore bodies are in and near where the converging major shearing and contact zones meet and cross. That such a condition holds on the Burwell tract cannot now be inferred.

Referral to the Field Team for appropriate action is recommended.

N.E.Nelson:btr
G 4/19/56

N. E. Nelson

cc: Director's reading file (4212) GSA
DMEA (3)
Reading File (4212) GSA
Chron. File
Docket File
Robert Holliday, Rm. 3513

N. E. Nelson

400

DOCKET
Surname:
Holt
Chapman
Yopes
Nelson
Selfridge
Fryfman

JUL 27 1956

Rodenbeck and Perry
Perry-Wooten Building
104 East Gordon Street
Kinston, North Carolina

Re: Docket No. DMEA-4258, Tungsten
Burwell Prospects
Mecklenburg County, Virginia, and
Vance County, North Carolina

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington concerning the above-referenced property 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 our information, although noting tungsten mineralization in the Burwell property, indicates to us that the probability of disclosing minable tungsten ore reserves is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration's program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

cc: Docket
Code 400
Adm. Read. File
Thor Kiilsgaard, USGS
R. W. Holliday, USBM
Operating Committee
FT, Region V

SPHolt/ls
7/18/56

P.C.S.

Docket
Holt
Chapman

July 18, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $26,029.00
Docket No. DMEA-4258, Tungsten
Rodenbeck and Perry
Burwell prospects
Mecklenburg County, Virginia
Vance County, North Carolina

Denial of the subject application is recommended by this Division based on the following information:

(1) The applicant, Rodenbeck and Perry, a partnership consisting of W. H. Rodenbeck and E. J. Perry, Jr., Perry-Wooten Building, 104 East Gordon Street, Kinston, North Carolina, requested exploration assistance in the amount of $26,029.00 for bulldozing, percussion drilling, and diamond drilling in the Burwell prospects.

(2) The applicant controls, by a "Purchase Contract" agreement from the owner, Mrs. Lucy P. Burwell, the Armstead Burwell tract of land, area about 548 acres, situated in the Hamme tungsten district of Vance County, North Carolina, and Mecklenburg County, Virginia.

(3) The proposed program is to explore the quartz lenses on the Burwell tract by 30 bulldozer open cuts, 25 percussion drill holes ranging from 150 to 175 feet each in depth, total footage 4,000 feet, and six size NX diamond drill holes, average depth 300 feet each, total footage 1,800 feet.

(4) In the area of the Burwell prospects, tungsten occurs as small and scattered grains of hubnerite in quartz veins, in a narrow northeasterly trending shear zone roughly parallel to a granite-schist contact. The veins on the Burwell tract are all within the granite.

(5) The Field Team concludes that on the Burwell property hubnerite is almost lacking, and where found it occurs as very small and scattered grains. All available evidence indicates that the Burwell veins, where exposed, are weakly mineralized.

The 22 core drill holes and 16 cuts completed by the Bureau of Mines, by a previous lessee, and by theCorps of Engineers, demonstrate the lack of ore grade mineralization.

Because the proposed project does not have good prospects for success, the Field Team recommends that this application for DMEA assistance be denied. The Commodity Divisions of the Geological Survey and the Bureau of Mines concur in this recommendation.

Thos. L. Chapman, Acting Chief
Iron and Ferro-Alloys Division

SPHolt/ls
7/18/56

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

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

July 18, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $26,029.00
Docket No. DMEA-4258, Tungsten
Rodenbeck and Perry
Burwell prospects
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Vance County, North Carolina

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Because the proposed project does not have good prospects for success, the Field Team recommends that this application for DMEA assistance be denied. The Commodity Divisions of the Geological Survey and the Bureau of Mines concur in this recommendation.

Thos. L. Chapman

Thos. L. Chapman, Acting Chief
Iron and Ferro-Alloys Division

MF-203
Revised March 24, 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator_____
Docket No. DMEA-_____
Contract No. Idm-E_____
Contract Date_____

CONSENT TO LIEN

RECEIVED
APR 16 1956

To the United States of America:

Referring to that certain land in the County of County of Mecklenburg, State of Virginia, State of and Counties of Granville and Vance, State of North Carolina., described as follows:1/

about 481 acres, owned by Lucy P. Burwell and this day leased to W. H. Rodenbeck.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: _____

Dated this 20th day of January, 1956.

Lucy P. Burwell [Seal]

W. H. Rodenbeck [Seal]

_____ [Seal]

I, _____ certify that I am the _____ (Secretary, etc.) of the corporation named herein; that _____ who signed this agreement was then _____ (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____

[Corporate Seal]

State of Virginia
County of Mecklenburg;

I, Evelyn K. Inge, a Notary Public, of the above state and county, do hereby certify that Lucy P. Burwell and W. H. Rodenbeck, appeared before me this day and acknowledged the execution of the foregoing DMEA application.

Witness my hand and notarial seal this 20th day of January, 1956.

Evelyn K. Inge
Notary Public.

My commission expires March 10, 1959.

MF-203
Revised March 24, 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator _____
Docket No. DMEA- _____
Contract No. Idm-E _____
Contract Date _____

RECEIVED
APR 16 1956

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of County of Mecklenburg, State of Virgini, State of and Counties of Granville and Vance, State of North Carolina, _____, described as follows:1/

about 481 acres, owned by Lucy P. Burwell and this day leased to W. H. Rodenbeck.

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5. Added provision: _____

Dated this 20th day of January, 1956.

Lucy P. Burwell [Seal]

W. H. Rodenbeck [Seal]

_____ [Seal]

I, _____ certify that I am the _____ (Secretary, etc.) of the corporation named herein; that _____ who signed this agreement was then _____ (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____

[Corporate Seal]

State of Virginia
County of Mecklenburg;

I, Evelyn K. Inge, a Notary Public, of the above state and county, do hereby certify that Lucy P. Burwell and W. H. Rodenbeck, appeared before me this day and acknowledged the execution of the foregoing DMEA application. Witness my hand a notarial seal this 20th day of January, 1956.

Evelyn K. Inge
Notary Public

My commission expires March 10, 1959.

MF-203
Revised March 24, 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator _____
Docket No. DMEA- _____
Contract No. Idm-E _____
Contract Date _____

CONSENT TO LIEN

RECEIVED
APR 16 1956

To the United States of America:

Referring to that certain land in the County of County of Mecklenburg, State of Virginia, and Counties of Granville and Vance, State of North Carolina, State of _____, described as follows:1/

about 481 acres, owned by Lucy P. Burwell and this day leased to W. H. Rodenbeck.

_____,

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

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4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: _____

Dated this 20th day of January, 1956.

Lucy P. Burwell [Seal]

W. H. Rodenbeck [Seal]

_____ [Seal]

I, _____ certify that I am the _____ (Secretary, etc.) of the corporation named herein; that _____ who signed this agreement was then _____ (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____

[Corporate Seal]

State of Virginia
County of Mecklenburg;

I, Evelyn K. Inge, a Notary Public, of the above state and county, do hereby certify that Lucy P. Burwell and W. H. Rodenbeck, appeared before me this day and acknowledged the execution of the foregoing FHA application.

Witness my hand and notarial seal this 20th day of January, 1956.

Evelyn K. Inge
Notary Public.

My commission expires March 10, 1959.

Docket

IN REPLY REFER TO:

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

RECEIVED
JUL 25 1956

July 23, 1956

Copy retained 400

Re: DMEA 4258
Rodenbeck and Perry
Burwell Tract
Vance Co., N. C.
$26,029.00 - Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

The applicants requested assistance in exploring by bulldozing, percussion and core drilling lenses of quartz in shear zones which are known from previous work to carry small quantities of hübnerite.

The property has been well prospected. Old trenches, and diamond drilling done by private interests, U. S. Corps of Engineers and U. S. Bureau of Mines have shown only low tungsten values in the quartz lenses.

The examiners and the Field Team conclude that enough work has been done and additional work probably would not result in a worthwhile discovery, and recommend that the application be denied.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

Docket

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

RECEIVED
JUL 20 1956

July 17, 1956

Copy retained 400

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Chief, Branch of Ferrous Metals & Ferroalloys

From: R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals & Ferroalloys

Subject: Review of Field Examination Report
Docket No. DMEA-4258 (Tungsten)
Rodenbeck & Perry
Vance County, North Carolina

Subject report states that no new work has been done since work by the Bureau of Mines in 1947-1948; that although quartz vein structures are present, huebnerite mineralization is almost lacking; and previous work demonstrates the lack of ore grade mineralization.

The Field Team recommends denial of the application and I concur with that recommendation.

R W Holliday
R. W. Holliday

Copy retained 400

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
JUL 9 - 1956

July 5, 1956

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tenn.

Subject: Field Examination Report - DMEA-4258 (Tungsten)
Rodenbeck & Perry, Vance County, N. C.

Submitted herewith are 4 copies of the subject report recommending denial of the application.

The Field Team is in complete agreement with the Field Examiners recommendations. It is our opinion that the property has been adequately explored by previous work of the Geological Survey and the Bureau of Mines and the Corps of Engineers.

Robert A. Laurence

Robert A. Laurence, Executive Officer
DMEA Field Team, Region V

V. J. Lynch

V. J. Lynch, Member
DMEA - Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
7-13-56
(date)

Field Team Report on Examination of Property

by

W. P. Williams and H. L. Burmeister 1/

RECEIVED
JUL 9 - 1956

DMEA Docket No. 4258 (tungsten)
Rodenbeck and Perry, a partnership
Perry-Wooten Bldg., 104 East Gordon St.,
P. O. Box 482, Kinston, North Carolina
W. H. Rodenbeck, 1705 Shackleford St.,
Morehead City, N. C.
Ely J. Perry, Jr., 104 East Gordon St.,
Kinston, N. C.

Reviewed by
DMEA OPERATING COMMITTEE
7-13-56
(date)

Summary

The property involved consists of about 548 acres known as the Armstead Burwell tract located in the Hamme tungsten district of Vance County, North Carolina and Mecklenburg County, Virginia.

The property was examined on May 15, 1956 by a field party composed of H. L. Burmeister, Bureau of Mines and W. P. Williams, U. S. Geological Survey, who were accompanied by the Messrs. W. H. Rodenbeck and E. J. Perry, Jr., the applicants. Eight hours were spent in the field. Sparse tungsten and metal sulphide mineralization is found on the property in quartz-filled shear zones in granite and granite-gneiss. The quartz veins are probably associated with large shear zones and quartz veins that extend from the Hamme tungsten mine about 2 miles to the south.

Three old prospect trenches, dug about 12 years ago by a former lessee, are on the property in addition to several trenches and core drill holes made by the U. S. Bureau of Mines in 1947 and 1948. No prospecting or exploration has been done by the applicant.

1/ W. P. Williams, geologist, U. S. Geological Survey.
H. L. Burmeister, mining engineer, U. S. Bureau of Mines.

Conclusions and Recommendations

Several quartz vein structures, like the ones from which tungsten ore is mined at the Hamme mine, are present on the subject property. At the Hamme mine, however, huebnerite mineralization is abundantly present in outcrops as coarse huebnerite crystals and masses in quartz. On the Burwell property huebnerite is almost lacking and when found it occurs as very small and scattered grains. All available evidence indicates that the Burwell veins, where exposed, are weakly mineralized. The 22 core drill holes and 16 cuts completed on the property by the U. S. Bureau of Mines, Lassiter interests, and Corps of Engineers, demonstrate the lack of ore grade mineralization.

The possibility exists that strongly mineralized veins are present at depth but do not outcrop or may be covered by surface mantle. The applicant appears to have these in mind as he proposes 30 bulldozer cuts at sites "where he believes veins exist". The bulldozing work is clearly a prospecting venture. It is the examining team's conclusion that enough exploration work has been done on the Burwell veins to show that additional work would probably not result in a worthwhile discovery. Because the proposed project does not have good prospects for success, it is recommended that this application for DMEA assistance be denied.

Name and Location of Property

This property, known as the Armstead Burwell Tract, consists of about 548 acres, located in the Hamme tungsten mining district in Granville and Vance counties, North Carolina and Mecklinburg County, Virginia. The tract boundaries are shown in Fig. 1 in accordance with the applicant's property map.

To reach the property from the circle in the village of Townsville, proceed northwestward on Rt. 720 a distance of 3.2 miles to the entrance of a dirt farm road from the north or right. After following the dirt road for about 0.5 mile it is advisable to walk the balance of the way to the location of the quartz lenses shown in Figs. 1 and 2.

The dirt farm road would probably be passable for about 0.5 mile from the highway. Beyond this point there are a number of soft areas which are practically impassable for an automobile in dry weather now but could be repaired at low cost.

Competency of Applicant

Neither Mr. Perry nor Mr. Rodenbeck appears to have had any experience in mining or where and how to do exploration work.

Financial responsibility of the applicants was not investigated.

Applicant's Property Rights

The applicants, W. H. Rodenbeck and E. J. Perry, Jr., are associated in a partnership as stated in their application. The Burwell Tract containing about 548 acres is held under a "Purchase under Contract" agreement, by Mr. W. H. Rodenbeck only and not by the partnership. The contract has no definite overall time limit but states that on or before Jan. 20, 1958 a 100-foot shaft shall be operative. After July 20, 1957 Mr. Rodenbeck must pay the owner $100.00 permonth whether or not the property is operating. Total purchase price is $350,000.00.

The "Consent to Lien" furnished with the application does not cite the registry of deed in County, book or page of register. It cites only, "about 481 acres owned by Lucy P. Burwell".

Geology and Ore Reserves

The Burwell tract is located in the Piedmont physiographic province about 50 miles west of the Coastal Plain. The property is in a northeast trending belt of tungsten-bearing quartz veins. The belt is about 8 miles long and a mile wide and is known as the Hamme tungsten district. The location of the district is shown on figures 1 and 2.

In the Hamme district the country rocks are composed mainly of igneous granite and metamorphic schist. The contact between the two rock types strikes generally due north through the district and generally has a steep dip to the west. Locally the dip of the contact may be vertical or steep to the east. Granite lies east of the contact while schist lies to the west.

The metamorphic rocks are composed dominantly of chlorite and sericite phyllites and schists. The color of these rocks ranges from grayish green to very dark green and almost black. The texture may be fine grained and massive or coarser grained and schistose. In the chloritic rocks some of the harder, denser varieties contain epidote and quartz. The sericitic rocks are generally heavily speckled with martite (iron sesqui-oxide).

The age of the metamorphic rocks is thought to be pre-Cambrian or early Paleozoic.

The eastern part of the district is made up of biotite-albite granite. The age of the granite is late Paleozoic and the rocks are intrusive into the older schists and phyllites to the west.

The granite is coarse grained and is composed of albite, blue opalescent quartz, perthite, and microcline. Biotite may be nearly

lacking or very abundant. Common accessory minerals are magnetite, pyrite, sphene, apatite, and zircon.

Several types of dike rocks are found in the district. An Aplite granite dike cuts the granite in the vicinity of the Sneed shaft, Hamme mine. The dike is about 500 feet thick at its thickest part, and is composed mainly of quartz and albite with some sericite and biotite. The aplite is fine-grained and light gray to white. It is probably closely related to the granite but somewhat younger.

Both the schists and the granite are cut by diabase dikes of Triassic age. Dikes and sills of diabase are common throughout the district. Their thicknesses range from a few inches to as much as 200 feet, and they have been traced as far as 2 miles without reaching an end. The thinner dikes are fine grained while the thicker ones are coarser. Dark gray feldspar and black pyroxene are the main constituents, and the dikes are dark gray to black. Most of the diabase dikes have a northerly trend with steep dips.

Quartz veins are found throughout the district. They range in thickness from a fraction of an inch to 30 feet. The quartz veins cut all rock types except diabase.

The quartz veins are composed of at least three main types of quartz, 1) coarse grained and glassy, 2) medium to fine grained, shattered and fractured, somewhat dull-lustered containing tungsten mineralization, and 3) dull, fine grained sugary-textured quartz that is usually barren of mineralization but may contain, locally, sparse huebnerite, scheelite, and metal sulphides.

The tungsten-bearing quartz veins are in a narrow northeast trending zone that is roughly parallel to the granite-schist contact. Most of the veins

are in granite but some extend into the schist.

The largest and best developed quartz veins are localized in the granite along a shear zone that extends through the district for at least 3½ miles. The main shear zone strikes about N.35° E. and dips about 75 degrees southeast, fig. 2.

Within the shear zone the granite is altered variously from moderately sheared granite to sericite and chlorite schist. The altered and sheared zone reaches a maximum thickness of about 100 feet.

Some movement has taken place along the shear zone, as evidenced by slickensides in places along the shear. Displacement appears to have been only a few feet at most. The pitch of the slickensides is usually less than 5 degrees to the south. Drag folds associated with the shearing show that the southeast side moved south with relation to the west side,

Tungsten ore is found as huebnerite ($MnWO_4$) - and scheelite ($CaWO_4$) - bearing quartz veins. The veins are best developed and richest in the sheared granite. The next best vein locality is the granite west of the main shear zone and east of the schist contact. Heretofore, it was thought that the shcists were not good host rocks for the tungsten veins, but the Tungsten Mining Corporation has been successful in developing at least two large veins withint the schist in the Hamme mine.

The quartz veins range in length from a few feet to a thousand feet, and from an inch or less in thickness to as much as 30 feet. The veins pinch and swell and in many places the quartz forms lenses. The pitch of the ore shoots in the veins is vertical in some places. In other places the pitch of ore shoots may be somewhat southwest or northeast. An intermediate

southwest pitch appears to be predominant. Offshoot quartz stringers often extend from the veins into the enclosing altered wall rocks.

The principal metallic minerals in the quartz veins are huebnerite, pyrite, galena, tetrahedrite, sphalerite, chalcopyrite and scheelite. Huebnerite is the important tungsten mineral. Scheelite practically everywhere in the veins is found as a sparse alteration product of hydrothermal alteration of huebnerite. Very little huebnerite seems to have been leached at the surface, consequently there is no significant zone of secondary enrichment at depth.

Quartz, fluorite, sericite, and rhodochrosite, in that order of abundance, are the principal gangue minerals. Huebnerite is found as long, platy, brown crystals that are arranged in irregular masses or seams that are parallel to the walls of the vein.

Two quartz veins are exposed on the Burwell tract by two prospect trenches dug about 12 years ago by R. G. Lassiter, a former lessee.

The two trenches are each about 150 feet long, 10 to 30 feet wide, and have a maximum depth of about 8 to 10 feet. The trenches were cut through the soil mantle, which is only about 1 to 3 feet thick, into the quartz vein. The quartz is sugary textured, gray to white colored, and is commonly stained brown or bluish black by iron and manganese oxides. Huebnerite mineralization can be found as tiny, almost microscopic, widely scattered crystals. No scheelite was noted although searched for. Carefully selected samples thought to contain scheelite were tested with an ultra-violet ray lamp with negative results.

Lens No. 1, figs. 1 and 3, is about 300 feet long and has a thin, elongate shape. It has a steep dip to the east. The vein appeared to pinch out completely at both ends. Lens No. 1 with its slightly

northwesterly trend appears to conform generaly with themain zone of shearing which trends through the district. Vein No. 3, fig. 1, has an easterly trend and probably occupies a cross-fracture between two northeasterly-trending shears. Vein No. 3 is about 200 feet long and also appears to pinch out at both ends.

No samples were taken in the pits. The sides of the pits are now caved and slumped; and although quartz is plentiful, no mineralization was found that was strong enough to offer an assay grade high enough to be classed as economic.

Previous Exploration

Past exploration on the Burwell tract consists of 22 core drill holes and 16 cuts. Three of the cuts and fourteen of the holes were completed by the Lassiter interests while the rest of the work was done by the U. S. Bureau of Mines and the Corps of Engineers. The locations of the holes and trenches are shown on fig. 3.

The work and the results are summarized ina report by the Advisory Board to the District Engineer (see References, Appendix A). It is noteworthy that on page A-10 of the report the following statements are made, "No ore reserves have been discovered on any of the Burwell veins. Conclusions: Further exploration or development of the Burwell veins is not believed to be warranted."

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Samples taken in connection with the Buggs Island dam project did not disclose the presence of material having a grade better than 0.1 percent WO_3. There are no known minable ore reserves on the property.

Past Production

In 1943, 544 tons of ore were mined from open cuts on Burwell 1 and 2 veins. The ore yielded 1974 pounds of concentrate with an average content of 13.07 percent WO_3.

Appendix A

References

1. Espenshade, G. H. Tungsten Deposits of Vance County, North Carolina, and Mecklenburg County, Virginia; U.S.G.S. Bull. 948-A, 1947.

2. Parker, J. M. Geology and Structure of Part of the Hamme Tungsten District, Vance County, North Carolina, and Mecklenburg County, Virginia; U.S.G.S. progress report (unpublished) in cooperation with North Carolina Dept. of Conservation and Development Division of Mineral Resources, July, 1951.

3. Advisory Board to the District Engineer, Corps of Enginers, Report of the Investigation of the Hamme Tungsten District in its Relationship to the Buggs Island Reservoir, Roanoke River, Va.-N.C., April 28, 1948.

Availability of manpower, equipment, supplies, water and power.

Due to the steady operation of the nearby Hamme tungsten mine

there is an adequate supply of skilled labor in the immediate vicinity of the Burwell tract. Current hourly wages range from $1.43 per hour for muckers and $1.53 per hour for mechanics and electricians helpers to $1.75 per hour for miners, hoistmen, electricians, etc.

Most equipment, materials and supplies necessary for an exploration program of this nature could be procured in Henderson and Raleigh, N. C. or Richmond and Norfolk, Va. Water is plentiful and a high voltage power line crosses the center of the property.

Applicant's Proposal

The applicant proposes to explore the quartz lenses by percussion and core drilling methods as well as by bulldozing trenches. Twenty-five percussion drill holes would range from 150 to 175 feet each in depth. Six NX size diamond core holes would be drilled to a depth of 300 feet each. The proposed drilling would consist of a total of 4,000 feet of percussion drilling and 1,800 feet of diamond core drilling. The total of 30 bulldozer cuts were proposed by the applicant to be made at four selected sites where "he believes quartz lenses exist."

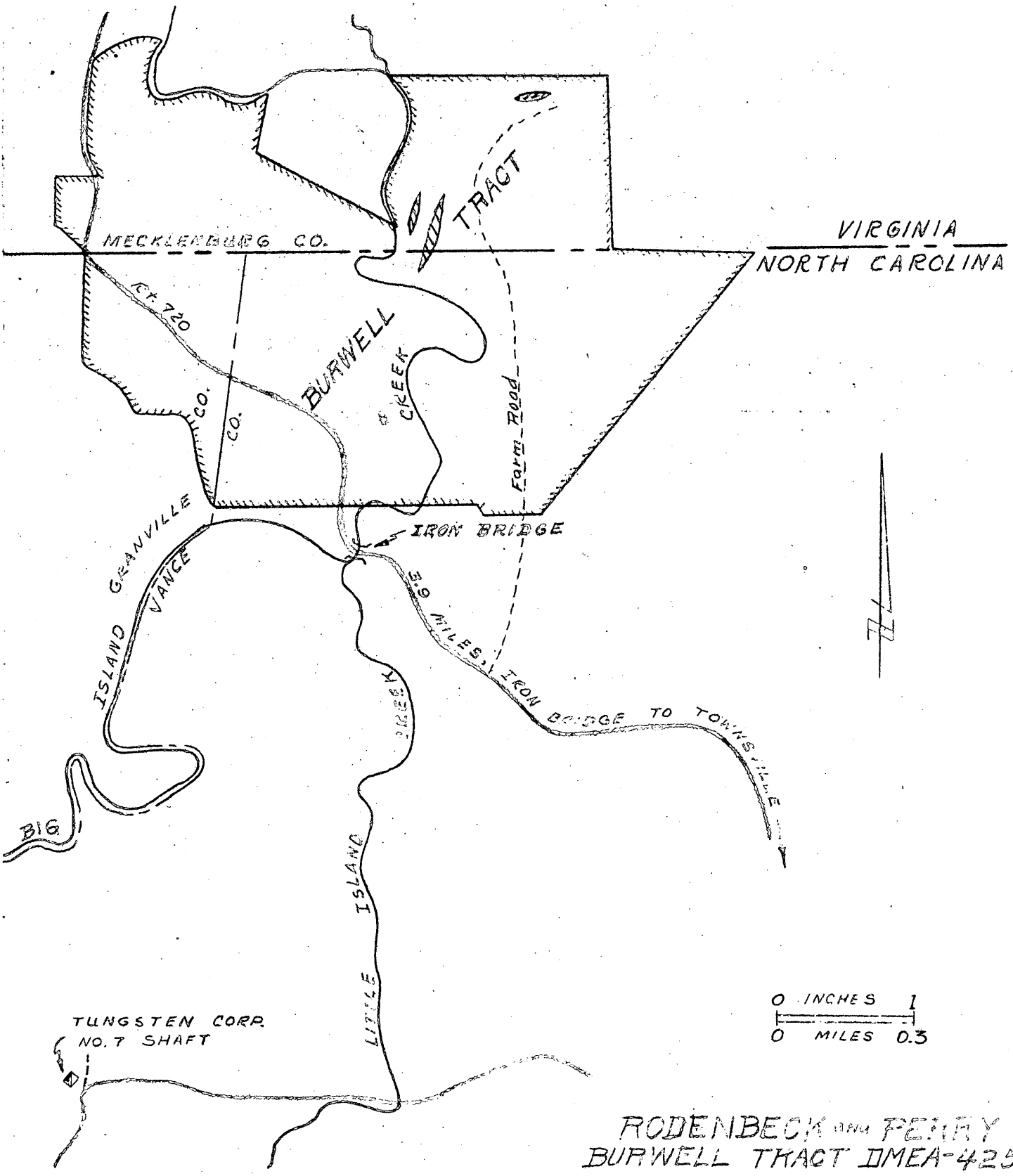
Total project cost as estimated by the applicant would be $26,029.00.

H. L. Burmeister

H. L. Burmeister
U. S. Bureau of Mines

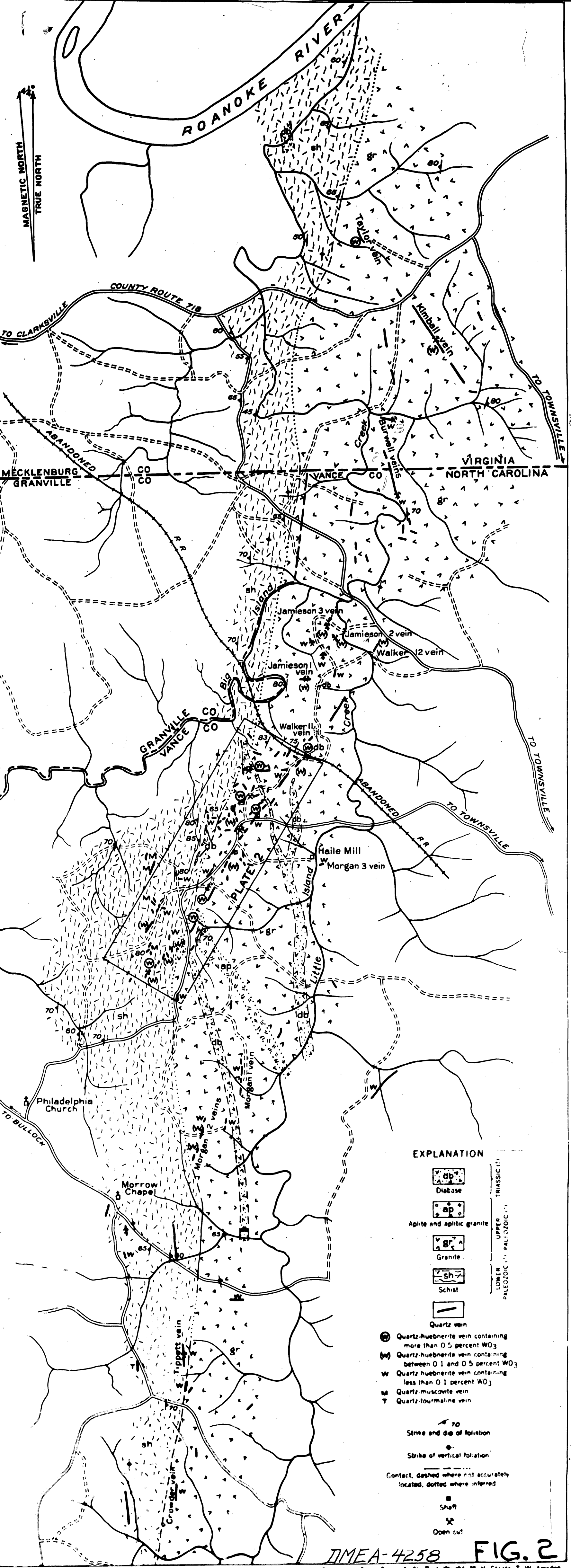
FOR: T. H. Kilsgaard

W. P. Williams
U. S. Geological Survey



RODENBECK and PERRY
BURWELL TRACT DMEA-425S
GRANVILLE and VANCE CO. N.C.
and MECKLENBURG CO. VA.
June 1956

FIG. 1
to F.T. rept. sent by 7/5/56 ltr



DMEA-4258 FIG. 2

Compiled from aerial photographs and plane table surveys, contours partly based on transit surveys by Bureau of Mines (1943)

Geology by G. H. Espenshade, R. J. Wright, M. H. Staatz, T. W. Amsbar, E. A. Brown, and N. D. Ramer of the Geological Survey, and G. J. Cohen of the Bureau of Mines

GEOLOGIC MAP OF THE TUNGSTEN DEPOSITS OF VANCE COUNTY, NORTH CAROLINA, AND MECKLENBURG COUNTY, VIRGINIA

Field Team Report on Examination of Property

by

W. P. Williams and H. L. Burmeister 1/

DMEA Docket No. 4258 (tungsten)
Redenbeck and Perry, a partnership
Perry-Weston Bldg., 104 East Gordon St.,
P. O. Box 482, Kinston, North Carolina
W. H. Redenbeck, 1705 Shacklaford St.,
Morehead City, N. C.
Ely J. Perry, Jr., 104 East Gordon St.,
Kinston, N. C.

JUL 9 - 1956

Summary

The property involved consists of about 548 acres known as the Armstead Burwell tract located in the Hanna tungsten district of Vance County, North Carolina and Mecklenburg County, Virginia.

The property was examined on May 15, 1956 by a field party composed of H. L. Burmeister, Bureau of Mines and W. P. Williams, U. S. Geological Survey, who were accompanied by the Messrs. W. H. Redenbeck and E. J. Perry, Jr., the applicants. Eight hours were spent in the field. Sparse tungsten and metal sulphide mineralization is found on the property in quartz-filled shear zones in granite and granite-gneiss. The quartz veins are probably associated with large shear zones and quartz veins that extend from the Hanna tungsten mine about 2 miles to the south.

Three old prospect trenches, dug about 12 years ago by a former lessee, are on the property in addition to several trenches and core drill holes made by the U. S. Bureau of Mines in 1947 and 1948. No prospecting or exploration has been done by the applicant.

Reviewed by
DMEA OPERATING COMMITTEE
7-13-56
(date)

1/ W. P. Williams, geologist, U. S. Geological Survey.
H. L. Burmeister, mining engineer, U. S. Bureau of Mines.

Conclusions and Recommendations

Several quartz vein structures, like the ones from which tungsten ore is mined at the Hanna mine, are present on the subject property. At the Hanna mine, however, huebnerite mineralization is abundantly present in outcrops as coarse huebnerite crystals and masses in quartz. On the Burwell property huebnerite is almost lacking and when found it occurs as very small and scattered grains. All available evidence indicates that the Burwell veins, where exposed, are weakly mineralized. The 22 core drill holes and 16 cuts completed on the property by the U. S. Bureau of Mines, Lassiter interests, and Corps of Engineers, demonstrate the lack of ore grade mineralization.

The possibility exists that strongly mineralized veins are present at depth but do not outcrop or may be covered by surface mantle. The applicant appears to have these in mind as he proposes 30 bulldozer cuts at sites "where he believes veins exist". The bulldozing work is clearly a prospecting venture. It is the examining team's conclusion that enough exploration work has been done on the Burwell veins to show that additional work would probably not result in a worthwhile discovery. Because the proposed project does not have good prospects for success, it is recommended that this application for DMEA assistance be denied.

Name and Location of Property

This property, known as the Armstead Burwell Tract, consists of about 548 acres, located in the Hanna tungsten mining district in Granville and Vance counties, North Carolina and Mecklinberg County, Virginia. The tract boundaries are shown in Fig. 1 in accordance with the applicant's property map.

To reach the property from the circle in the village of Tennsville, proceed northeastward on Rt. 720 a distance of 3.2 miles to the entrance of a dirt farm road from the north or right. After following the dirt road for about 0.5 mile it is advisable to walk the balance of the way to the location of the quarts leases shown in Figs. 1 and 2.

The dirt farm road would probably be passable for about 0.5 mile from the highway. Beyond this point there are a number of soft areas which are practically impassable for an automobile in dry weather now but could be repaired at low cost.

Competency of Applicant

Neither Mr. Perry nor Mr. Rodenbeck appears to have had any experience in mining or where and how to do exploration work.

Financial responsibility of the applicants was not investigated.

Applicant's Property Rights

The applicants, W. H. Rodenbeck and E. J. Perry, Jr., are associated in a partnership as stated in their application. The Burwell Tract containing about 548 acres is held under a "Purchase under Contract" agreement, by Mr. W. H. Rodenbeck only and not by the partnership. The contract has no definite overall time limit but states that on or before Jan. 20, 1958 a 100-foot shaft shall be operative. After July 20, 1957 Mr. Rodenbeck must pay the owner $100.00 permonth whether or not the property is operating. Total purchase price is $350,000.00.

The "Consent to Lien" furnished with the application does not cite the registry of deed in County, book or page of register. It cites only, "about 481 acres owned by Lucy F. Burwell".

Geology and Ore Reserves

The Burwell tract is located in the Piedmont physiographic province about 50 miles west of the Coastal Plain. The property is in a northeast trending belt of tungsten-bearing quartz veins. The belt is about 8 miles long and a mile wide and is known as the Hanna tungsten district. The location of the district is shown on figures 1 and 2.

In the Hanna district the country rocks are composed mainly of igneous granite and metamorphic schist. The contact between the two rock types strikes generally due north through the district and generally has a steep dip to the west. Locally the dip of the contact may be vertical or steep to the east. Granite lies east of the contact while schist lies to the west.

The metamorphic rocks are composed dominantly of chlorite and sericite phyllites and schists. The color of these rocks ranges from grayish green to very dark green and almost black. The texture may be fine grained and massive or coarser grained and schistose. In the chloritic rocks some of the harder, denser varieties contain epidote and quartz. The sericitic rocks are generally heavily speckled with martite (iron sesqui-oxide).

The age of the metamorphic rocks is thought to be pre-Cambrian or early Paleozoic.

The eastern part of the district is made up of biotite-albite granite. The age of the granite is late Paleozoic and the rocks are intrusive into the older schists and phyllites to the west.

The granite is coarse grained and is composed of albite, blue opalescent quartz, perthite, and microcline. Biotite may be nearly

lacking or very abundant. Common accessory minerals are magnetite, pyrite, sphene, apatite, and zircon.

Several types of dike rocks are found in the district. An Aplite granite dike cuts the granite in the vicinity of the Speed shaft, Hanna mine. The dike is about 500 feet thick at its thickest part, and is composed mainly of quartz and albite with some sericite and biotite. The aplite is fine-grained and light gray to white. It is probably closely related to the granite but somewhat younger.

Both the schists and the granite are cut by diabase dikes of Triassic age. Dikes and sills of diabase are common throughout the district. Their thicknesses range from a few inches to as much as 200 feet, and they have been traced as far as 2 miles without reaching an end. The thinner dikes are fine grained while the thicker ones are coarser. Dark gray feldspar and black pyroxene are the main constituents, and the dikes are dark gray to black. Most of the diabase dikes have a northerly trend with steep dips.

Quartz veins are found throughout the district. They range in thickness from a fraction of an inch to 30 feet. The quartz veins cut all rock types except diabase.

The quartz veins are composed of at least three main types of quartz, 1) coarse grained and glassy, 2) medium to fine grained, shattered and fractured, somewhat dull-lustered containing tungsten mineralization, and 3) dull, fine grained sugary-textured quartz that is usually barren of mineralization but may contain, locally, sparse huebnerite, scheelite, and metal sulphides.

The tungsten-bearing quartz veins are in a narrow northeast trending zone that is roughly parallel to the granite-schist contact. Most of the veins

are in granite but some extend into the schist.

The largest and best developed quartz veins are localized in the granite along a shear zone that extends through the district for at least 3½ miles. The main shear zone strikes about N.35° E. and dips about 75 degrees southeast, fig. 2.

Within the shear zone the granite is altered variously from moderately sheared granite to sericite and chlorite schist. The altered and sheared zone reaches a maximum thickness of about 100 feet.

Some movement has taken place along the shear zone, as evidenced by slickensides in places along the shear. Displacement appears to have been only a few feet at most. The pitch of the slickensides is usually less than 5 degrees to the south. Drag folds associated with the shearing show that the southeast side moved south with relation to the west side.

Tungsten ore is found as huebnerite ($MnWO_4$) - and scheelite ($CaWO_4$) - bearing quartz veins. The veins are best developed and richest in the sheared granite. The next best vein locality is the granite west of the main shear zone and east of the schist contact. Heretofore, it was thought that the schists were not good host rocks for the tungsten veins, but the Tungsten Mining Corporation has been successful in developing at least two large veins within the schist in the Hanna mine.

The quartz veins range in length from a few feet to a thousand feet, and from an inch or less in thickness to as much as 30 feet. The veins pinch and swell and in many places the quartz forms lenses. The pitch of the ore shoots in the veins is vertical in some places. In other places the pitch of ore shoots may be somewhat southwest or northeast. An intermediate

southeast pitch appears to be predominant. Offshoot quartz stringers often extend from the veins into the enclosing altered wall rocks.

The principal metallic minerals in the quartz veins are huebnerite, pyrite, galena, tetrahedrite, sphalerite, chalcopyrite and scheelite. Huebnerite is the important tungsten mineral. Scheelite practically everywhere in the veins is found as a sparse alteration product of hydrothermal alteration of huebnerite. Very little huebnerite seems to have been leached at the surface, consequently there is no significant zone of secondary enrichment at depth.

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Two quartz veins are exposed on the Burwell tract by two prospect trenches dug about 12 years ago by R. G. Lassiter, a former lessee.

The two trenches are each about 150 feet long, 10 to 30 feet wide, and have a maximum depth of about 8 to 10 feet. The trenches were cut through the soil mantle, which is only about 1 to 3 feet thick, into the quartz vein. The quartz is sugary textured, gray to white colored, and is commonly stained brown or bluish black by iron and manganese oxides. Huebnerite mineralization can be found as tiny, almost microscopic, widely scattered crystals. No scheelite was noted although searched for. Carefully selected samples thought to contain scheelite were tested with an ultra-violet ray lamp with negative results.

Lens No. 1, figs. 1 and 3, is about 300 feet long and has a thin, elongate shape. It has a steep dip to the east. The vein appeared to pinch out completely at both ends. Lens No. 1 with its slightly

northwesterly trend appears to conform generaly with themain zone of shearing which trends through the district. Vein No. 3, fig. 1, has an easterly trend and probably occupies a cross-fracture between two northwesterly-trending shears. Vein No. 3 is about 200 feet long and also appears to pinch out at both ends.

No samples were taken in the pits. The sides of the pits are now caved and slumped; and although quartz is plentiful, no mineralization was found that was strong enough to offer an assay grade high enough to be classed as economic.

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Past Production

In 1943, 544 tons of ore were mined from open cuts on Burwell 1 and 2 veins. The ore yielded 1974 pounds of concentrate with an average content of 13.07 percent WO_3.

Appendix A

References

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Availability of manpower, equipment, supplies, water and power.

Due to the steady operation of the nearby Hamme tungsten mine

there is an adequate supply of skilled labor in the immediate vicinity of the Burwell tract. Current hourly wages range from $1.43 per hour for muckers and $1.53 per hour for mechanics and electricians helpers to $1.75 per hour for miners, hoistmen, electricians, etc.

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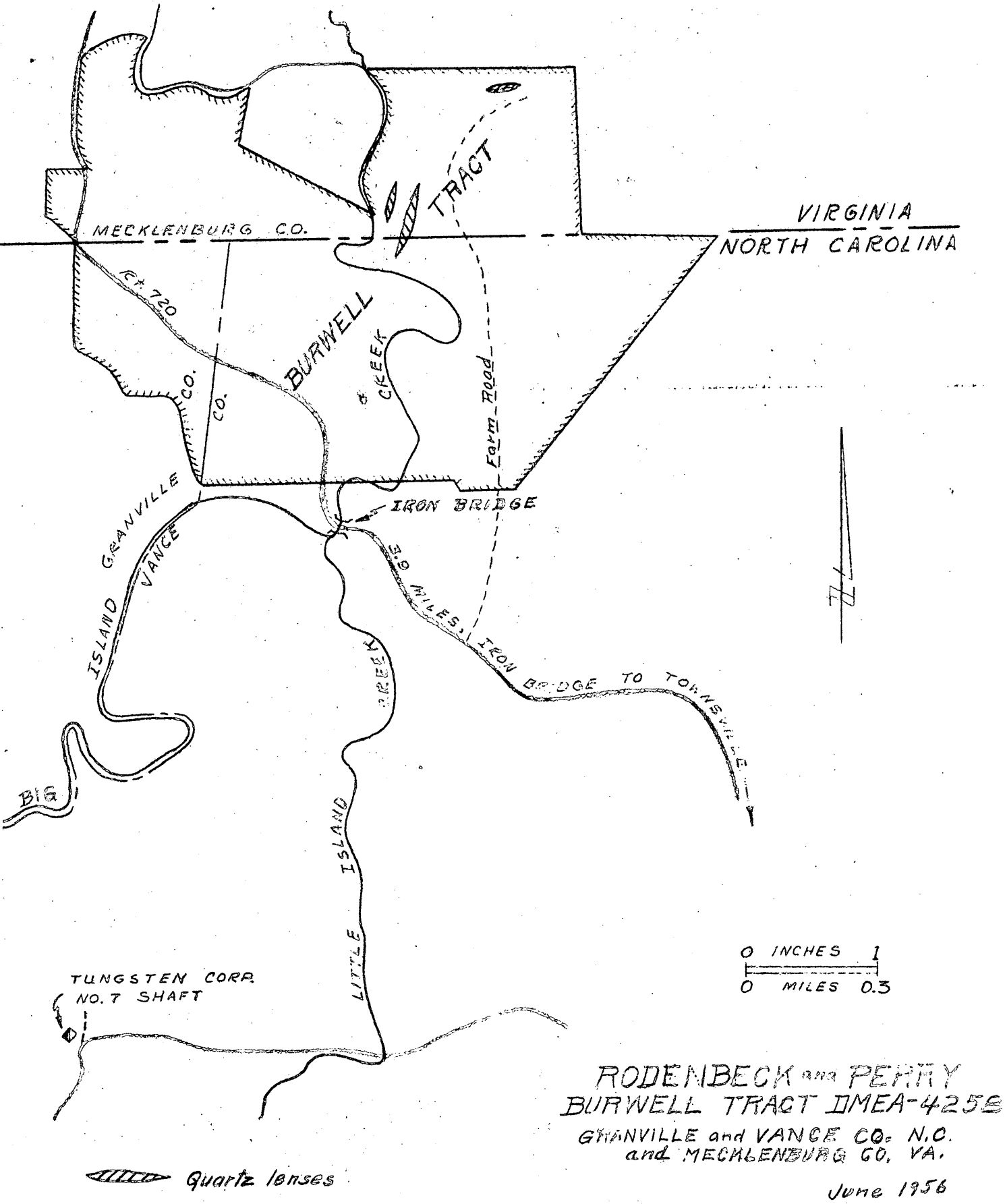
Total project cost as estimated by the applicant would be $26,029.00.

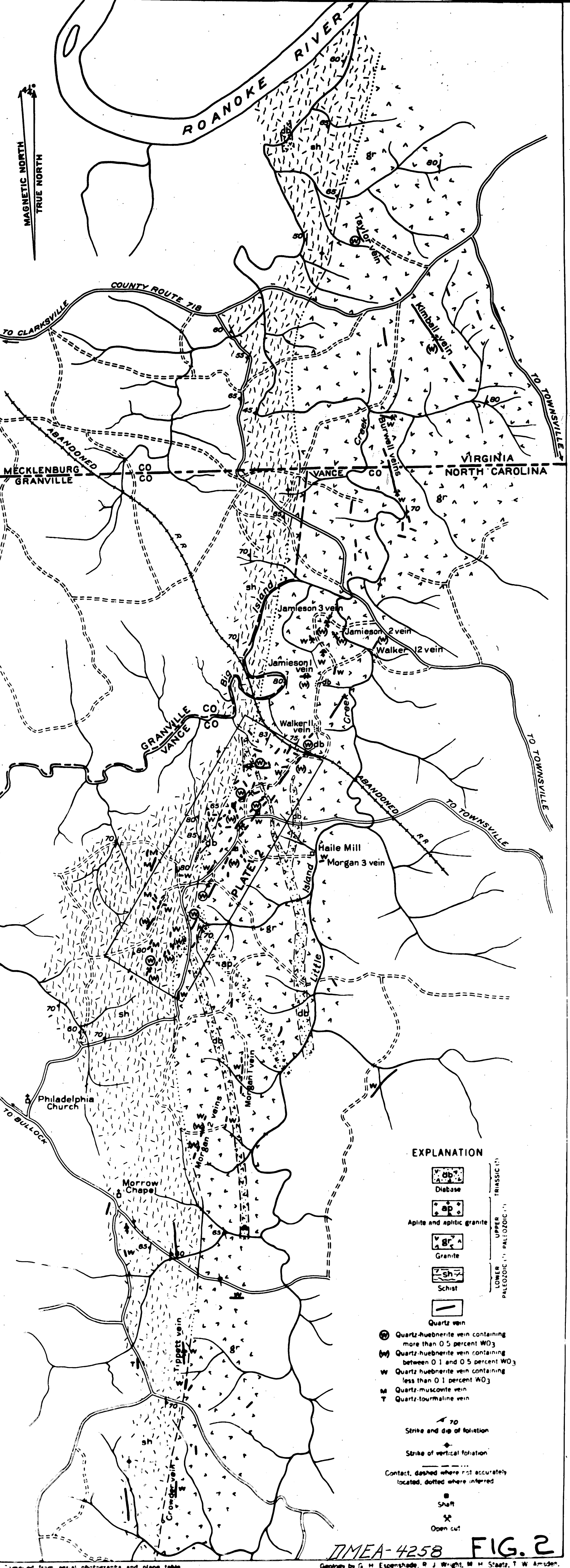
W. L. Burmeister
U. S. Bureau of Mines

For: W. T. Williams
U. S. Geological Survey



RODENBECK and PERRY
BURWELL TRACT DMEA-4258
GRANVILLE and VANCE CO. N.C.
and MECKLENBURG CO. VA.
June 1956

FIG. 1



TMEA-4258 FIG. 2

Compiled from aerial photographs and plane table survey, contour partly based on transit surveys by Bureau of Mines (1943)

Geology by G. H. Espenshade, R. J. Wright, M. H. Stantz, T. W. Amsden, E. A. Brown, and N. D. Palmer of the Geological Survey, and G. J. Cohen of the Bureau of Mines

GEOLOGIC MAP OF THE TUNGSTEN DEPOSITS OF VANCE COUNTY, NORTH CAROLINA, AND MECKLENBURG COUNTY, VIRGINIA

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

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, $300
(PMGC)

Docket

IN REPLY REFER TO:

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

RECEIVED
APR 23 1956

April 19, 1956

Re: DMEA 4258
Rodenbeck and Perry
Burwell Tract
Vance Co., N.C., and
Mecklenburg Co., Va.
$26,029.00 - Tungsten

W/Ag

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application

The applicants request assistance in exploring by bulldozing, percussion drilling and core drilling lenses of quartz which are known, from previous work, to be hubnerite-bearing. The information at hand indicates the material is low-grade.

Production of the No. 1 and No. 2 veins is placed at 544.34 tons which, when milled yielded 1,974 pounds of concentrate averaging 13.07% WO_3. (Interim report on investigations of tungsten deposits in Buggs Island Reservoir 1948.)

Of the No. 1 and No. 2 veins, or lenses, the same report says: - "Burwell 1 vein is a strong quartz veing extending for over 800 feet in a N. NW direction, and dipping easterly. Vein appears to be essentially barren throughout, but with weak huebnerite mineralization at its southern end, and near the northern end.

Exploration: 1943 - 2 drill holes, 5 trenches (U.S.B.M. - U.S.G.S.)
1943-46 - 2 open cuts and at least 9 core drill holes.
1947-48 - None on vein proper, trenches on veins to south. No additional work planned. (Corps of Engineers).

Sampling results: 1943 - D.H. 37 and 40, trenches 134, 135, 136, 137 and 138: all cut vein, 3.5 to 10 ft., all 0.00% WO_3. (U.S.B.M. - U.S.G.S.). 1943-46 - Core from only one hole out of 9 was assyed: D.H. 9B, 5' core length, 0.08% WO_3. (R. G. Lassiter).

Copy retained 400

Ore reserves: No ore reserves of commercial or strategic value have been indicated by 11 drill holes, 5 trenches, and 2 open cuts.

Conclusions: Tungsten mineralization in Burwell 1 vein is very sparse, and the vein can hardly be expected to be minable during a period of extreme national emergency. No further exploration or development of the vein is warranted.

BURWELL 2 VEIN

Location: About 1,000 feet N of Burwell 1 vein.

Description of vein: Burwell 2 vein is between 100 and 200 feet long, trends in an easterly direction, and dips N. It carries fair huebnerite in small localized spot near its east end; rest of vein seems essentially barren.

Exploration: 1943-46 - Open cut and 5 drill holes (R.G. Lassiter interests). 1947-48 - D.H. 49 and 52 and resistivity traverses; additional work planned: Opencut sampling. (Corps of Engineers).

Sampling results: 1943-46 - No tungsten reported in drill logs; no assays reported. (R. G. Lassiter). 1947-48 - D.H. 49 and 52, no vein intersected (Corps of Engineers).

Ore reserves: No ore reserves have been indicated by open cut and 7 drill holes.

Conclusions: Although a small patch of fair ore is present in the open cut, 7 drill holes have failed to reveal ore in depth. If ore should be indicated bu further exploration or development of the vein, mining should be don4 before the reservoir is filled, since the nearest point above elevation 320 is over 1200 feet distant from the vein."

The No. 2 vein of the report is the No. 3 of the applicants' map. The outcrops of both veins are below 320 elevation, and that of No. 2 is below 290 so submerged most of the time.

The map with the application shows a major shearing fault crossing the southeasterly part of the tract. Such a structure which might be inferred as a long projection of the important structure at the Hamme mine would be more or less on the line shown. The nearest mining southwest of the south boundary of the Burwell tract is about 1.3 miles distant. A drift, Project A of DMEA 4216, if driven, will explore about 1/3 of the interval, that is to a point under the Walker 10 vein outcrop.

The map which accompanies the Investigation of the Hamme Tungsten district in its relationship to the Buggs Island Reservoir, shows a quartz vein with no known tungsten about where the major shearing of the applicant's map goes through. The ore bodies of the Hamme mine are related to a wide complex shear zone of about the strike shown. The ore bodies are found in a sheared granite-gniess complex and in sheared chloritic schist. The schist-complex contact has a more northerly trend than the shearing, and crosses the Burwell tract nearly half a mile west of the No. 1 vein.

The Hamme mine ore bodies are in and near where the converging major shearing and contact zones meet and cross. That such a condition holds on the Burwell tract cannot now be inferred.

Referral to the Field Team for appropriate action is recommended.

N. E. Nelson

N. E. Nelson

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

Docket

RECEIVED
APR 25 1956

April 19, 1956

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Chief, Branch of Ferrous Metals & Ferroalloys

From: R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals & Ferroalloys

Subject: Application
Docket No. DMEA 4258
548 Acres in Granville and Vance Counties
North Carolina and Mecklinburg County, Virginia
Rodenbeck and Perry
P. O. Box 482 Kinston, North Carolina
$26,029.00-Tungsten

WSM

Subject application concerns an area which has been the subject of rather intensive geological study and a certain amount of litigation though I do not have the details. The Bureau of Land Management, Geological Survey, Bureau of Mines and Corps of Engineers have all been involved to a greater or lesser extent in the area, though possibly not with this particular property.

Bureau of Mines publications include R. I. 3857, Exploration of the Mecklenburg County, Virginia Tungsten Area and R. I. 4380, Investigation of the Hamme Tungsten District, Vance County, North Carolina and Mecklenburg County, Virginia. Several other (unpublished) reports are on file at College Park.

The letter of transmittal from the Executive Officer, DMEA, Region V, Knoxville quotes a report that: "Further exploration or development of the Burwell veins is not believed to be warranted." It is not clear whether this is the opinion of the Survey or the opinion of the Corp of Engineers. ?

It is recommended that subject application be referred to the field team for consideration providing personnel are available for a comprehensive review and study of the problems including the

Copy retained 400

possibility of flooding and the possibility of further claims for damages if a discovery is made.

R W Holliday

R. W. Holliday

DOCKET
SURNAME
400 Chapman
Martin
Selfridge

Mr. Robert A. Lawrence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville, Tennessee

Re: Docket No. DMEA 4258 - Tungsten
Rodenbeck and Perry
Burwell Prospects
Mecklenburg County, Virginia
Granville and Vance Counties, N. C.

Dear Mr. Lawrence:

The above docketed application for exploration assistance is being referred to your office for a review and a possible field examination of the property.

The application and your memorandum of April 12, 1956, suggest that there are a number of complications, and indicate that it will be convenient to examine this area at the time an examination of the Hanna mine is made.

Copies of memoranda dated April 19, 1956, by N. E. Nelson, Geological Survey, and R. W. Halliday, Bureau of Mines, respectively, relating to the project are enclosed.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SLB)

Enclosure

APPROVED:

P. F. Yopes (SLB)
Member, Bureau of Mines

N. E. Nelson (SLB)
Member, Geological Survey

TLChapman:foc
4-27-56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. V
R. W. Helliday, USBM
T. H. Kiilsgaard, USGS

C

DOCKET
SURNAME
Chapman
400 Martin
Gore
Kelson
Selfridge

APR 30 1956

Rodenbeck and Perry
Perry-Wooten Building
104 East Gordon Street
P. O. Box 432
Kinston, North Carolina

Re: Docket No. DMEA 428 - Tungsten
Burwell Prospects
Mecklenburg County, Virginia
? ~~Granville~~ and Vance Counties, N. C.

Gentlemen:

The above docketed application for exploration assistance for tungsten ores has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and is being referred to Mr. Robert A. Laurence, Executive Officer, DMEA Field Team, Region V, Room 13, Post Office Building, Knoxville 2, Tennessee, for review and a possible field examination of the property.

The Field Team will advise you if a field examination is considered necessary and any assistance that you may give the examining engineers will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

TLCHAPMAN/foc
4-27-56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. V
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

April 17, 1956
Subject: DMEA-4258
Re: Exploration Assistance
Armstead Burwell Tract

Rodenbeck & Perry
Perry-Wooten Building
104 East Gordon Street
P. O. Box 482
Kinston, North Carolina

Gentlemen:

The receipt of your application dated April 10, 1956, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4258 and referred to the Iron & Ferro-Alloys Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

April 17, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region V

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 V.

DMEA
- 4258 Rodenbeck & Perry

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
APR 16 1956

April 12, 1956

Memorandum

To: Operating Committee, DMEA, Washington 25, D. C.

From: Executive Officer, DMEA, Region V, Knoxville, Tennessee

Subject: Application from Rodenbeck & Perry, Kinston, N. C. Burwell prospects, Vance County, North Carolina and Mecklenburg County, Virginia (Tungsten)

Enclosed are three copies of the subject application, received in this office today, with copies of the lease and signed copies of the consent to lien. The fourth copy is being kept for our use.

It will be noted that this area is practically adjacent to that of DMEA-4216 (Tungsten Mining Corp.), so that field examination of both applications can be made at the same time.

Although the application is in the name of Rodenbeck & Perry, a partnership, the lease is to W. H. Rodenbeck alone. We have had no previous contact with either Mr. Rodenbeck or Mr. Perry, but the State Geologist of North Carolina has told me that Mr. Rodenbeck is currently exploring for rutile and ilmenite on State-owned lands in eastern North Carolina, under leases which were approved by the State Department of Conservation and Development.

Several years ago, during the construction of the Buggs Island Dam on Roanoke River, the Burwell tract was core-drilled for the Army Engineers as part of a study to evaluate the effect of the reservoir on the tungsten district. The report on this drilling, dated April 28, 1948 is available in the Geological Survey, and should be consulted as part of the office review of this application. Exploration on the Burwell property up to that time consisted of 16 trenches and 21 drill holes; the report concludes (p. A-10) that: "Further exploration or development of the Burwell veins is not believed to be warranted." It does not appear that any new work has been done by the Applicant.

It should also be noted that the maximum pool elevation for flood control is 320 feet, and that it is estimated by the Army Engineers that, under normal operation of the Buggs Island Dam, the reservoir level will be at or above 290 feet about 76% of the time. The 290-ft contour is shown on the Applicant's map. It is my understanding that the Burwell property is downstream from the dike built by the Army Engineers to protect the main part of the Hamme district from flooding.

Mr. Espenshade and Mr. Pavlides, of the Geological Survey are familiar with the work done for the Army Engineers in 1947-48 and probably could provide additional information.

Robert A. Laurence

Robert A. Laurence
Executive Officer

Enclosures 3

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
APR 16 1956

April 12, 1956

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From: Executive Officer, DMEA, Region V, Knoxville, Tennessee

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Mr. Espenshade and Mr. Pavlides, of the Geological Survey are familiar with the work done for the Army Engineers in 1947-48 and probably could provide additional information.

Robert A. Laurence
Executive Officer

RAL/mg
Enclosures 3

cc - Operating Committee (3)
Mr. V. J. Lynch
Files

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Page 1 of 12

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APR 16 1956

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-4258
Metal or Mineral Tungsten
Date Received 4-16-56
Estimated Cost $26,029.00
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: Rodenbeck and Perry, Perry-Wooten Building, 104 East Gordon Street, (P. O. Box 482) Kinston, North Carolina, a partnership - W. H. Rodenbeck, 1705 Shackelford Street, Morehead City, North Carolina; Ely J. Perry, Jr., 104 East Gordon Street, Kinston, North Carolina.

(*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 548 acres, located in Granville and Vance Counties, North Carolina, and Mecklinburg County, Virginia. (See attached copy of Purchase Option Contract for legal description of the tract.)

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

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

(*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 None

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

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APR 12 1956

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 We wish to explore specifically for Huebnerite and Scheelite (Tungsten)

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

(*c*) The work will start within 30 days and be completed within 4 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 April 10, 1956

Rodenbeck and Perry
(Applicant)
By W H Rodenbeck
Elg J Perry Jr

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

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APR 16 1956

COMMONWEALTH OF VIRGINIA

MECKLENBURG COUNTY

THIS CONTRACT IN DUPLICATE, Made and entered into this the 10th day of January, 1956, by and between Mrs. Lucy P. Burwell, of Upperville, Virginia, party of the first part, and W. H. Rodenbeck, of Carteret County, Morehead City, North Carolina, party of the second part;

WITNESSETH, That whereas the party of the first part is the owner of about 548 acres of land located in Granville and Vance Counties, North Carolina, and Mecklenburg County, Virginia, and is desirous of giving to the party of the second part a contract to prospect, explore, mine, dig, drill and quarry for all kinds of minerals, metals and fossils, particularly tungsten minerals, and finally to purchase the tract of land the description of which is hereinafter fully set out; and

WHEREAS, the party of the second part is desirous of entering into a contract to mine and purchase the tract of land as above set forth;

NOW THEREFORE, in consideration of $1.00 paid by the party of the second part to the party of the first part, the receipt of which is hereby fully acknowledged, and more particularly in consideration of the agreements hereinafter set forth, the party of the first part does hereby agree to sell and convey to the said party of the second part, upon terms and conditions hereinafter set out, the following tracts or parcels of land which are contiguous and are located partly in Mecklenburg County, Virginia, and in Granville and Vance Counties, North Carolina, and more particularly described as follows:

FIRST TRACT: A parcel of land situated in the State of North Carolina in Granville and Vance Counties, bounded on the north by the North Carolina-Virginia State line, bounded on the east by the land of R. G. Sneed estate, to corner on Oxford Road, and bounded on the west by the said Oxford Road to the North Carolina State line, containing 283 acres more or less.

SECOND TRACT: A parcel of land situated in Mecklenburg County, State of Virginia, bounded on the south by the North Carolina-Virginia State line, bounded on the

east by the lands of B. F. Knott, bounded on the north by the lands of June Lewis and the lands of the Carolina Power and Light Company, and bounded on the northeast by the Big Island Creek to the bridge at Taylor's Ferry Road and bounded by the Taylor's Ferry Road to Henry Burwell corner, bounded on the west by Frank Burwell's lands, bounded on the southwest by a farm road, containing approximately 265 acres, more or less.

Together with whatever right the party of the first part has to release from the Federal Government any mineral rights on the lands taken by the Federal Government abutting the above-described tracts of land.

Excepting therefrom all that part of the land located in Mecklenburg County, Virginia 64.3 acres, known as Tract No. C-289 of the Buggs Island Reservoir Project, and excepting from that part of the land located in Granville County, North Carolina, 3.1 acres, known as Tract No. N-1329 of Buggs Island Reservoir Project, both of which said tracts of land have been acquired by the Federal Government in fee. Also excepting from the above tracts of land any cemetery wherever located on the said land, together with the right of access to the same. Also excepting from the above land a tract the exact dimensions are to be determined by Mrs. Lucy P. Burwell which she desires to give to her brother-in-law, H. S. Burwell, for a lake site, total acreage not to exceed five acres, and not to include mineral rights, with due access across other lands to it.

The total purchase price when finally paid is to be $350,000.00, without interest.

The party of the second part agrees to pay five (5) per cent of the total net returns on all shipments of tungsten ores or tungsten concentrates mined and shipped from the land during the first eighteen (18) months from date of this contract, and thereafter, he is to pay ten (10) per cent of the total net returns of all shipments of tungsten ores or tungsten concentrates mined and shipped. Payments so made are to be credited upon the total purchase price of $350,000.00, until it is fully paid, without interest.

It is further agreed that all minerals other than tungsten minerals, if there are any shipped and sold, the party of the second part is to pay five (5) per cent of the total net smelter returns; and these payments, if any, are to be credited upon the full purchase price.

The party of the second part beginning eighteen (18) months from date of this contract agrees to pay the party of the first part a minimum payment of $100.00 per month, said payments to be credited upon the

full purchase price.

The party of the first part hereby agrees that the party of the second part, his heirs and assigns, shall have the right-of-way of ingress, egress, and regress, and the right to take from the land any wood, timber, and water to carry on such mining operations.

The party of the second part agrees to carry on the exploration and mining operations in accordance with traditional efficient methods, and said operations in, on and under the lands shall be to any extent he deems advisable, and that within two (2) years from the date of this contract a shaft of not less than 100 feet deep will be operative. The party of the second part further agrees to protect and save the party of the first part harmless from such mining operations during the life of this contract, and it is further agreed by the party of the second part that the present farm operations of the party of the first part will not be disturbed in any substantial manner during the life of this contract.

The party of the second part shall keep full records of all transactions which will be open to the party of the first part, her heirs and assigns, for examination during the regular business hours.

All payments will be made by the 15th of the following month on ores or concentrates sold and collected for during the preceding month, and will be payable to Mrs. Lucy P. Burwell, her heirs and assigns.

In case of default by the party of the second part, his heirs and assigns, this contract shall become null and void, and they shall have the right to remove from the property such buildings and equipment as they have placed thereon.

Upon the full payment of the purchase price, $350,000.00, the party of the first part, her heirs and assigns, will deliver a good and sufficient deed in fee simple, free and clear of all encumbrances, without exception.

It is further agreed by the parties hereto that the party of the first part, Mrs. Lucy P. Burwell, her heirs and assigns, will pay the

XXXXXXXX
XXXXXXXXXXX
XXXXXXXXXXXXXX

real estate taxes.

To the true and faithful performance of this contract, the parties hereto do hereby bind themselves, their heirs, executors, administrators, and assigns.

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

Lucy P. Burwell (SEAL)

W. H. Rodenbeck (SEAL)

STATE OF VIRGINIA,

MECKLENBURG COUNTY

I, Evelyn K. Inge, a Notary Public, do hereby certify that Mrs. Lucy P. Burwell, widow, personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed.

Witness my hand and notarial seal, this the 20th day of January, 1956.

Evelyn K. Inge
Notary Public.

My commission expires: March 10, 1959.

STATE OF VIRGINIA,

MECKLENBURG COUNTY

I, Evelyn K. Inge, a Notary Public, do hereby certify that W. H. Rodenbeck personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes

therein expressed.

Witness my hand and notarial seal, this 20th day of January, 1956.

Evelyn K. Bangs
Notary Public.

My commission expires: March 10, 1959.

3. (b) The Armstead Burwell Tract.

(d) Purchase Option Contract attached.

(f) No claims registered or known.

RECEIVED
APR 1 6 1956

4. There are no mine workings on the property and no production. Several years ago this Burwell tract was leased by R. G. Lassiter through Seminole Rock & Sand Company of Oxford, North Carolina. This organization performed such surface development, evidenced by bulldozer cuts and particularly the exposure of three lenses shown on the attached sketch. These lenses have been blasted, which together with the erosion of the overburden, have through the years obliterated the true picture of the lenses, their actual length and width. The technical report on this exploration has not been obtained. There is evidence along the length of each of these mineralized veins to indicate the probable existence of economic ore deposits.

We have also found U.S.G.S. core holes in the area, and plan to combine this data, if available, with such data as this project will reveal.

The Burwell tract is accessible by paved and improved State and County roads, which intersect the property. Good farm roads lead to the lense sites.

The attached map locates the property and roads.

(c) This tungsten area was discovered in 1943. A geological survey made by the U.S.G.S. engineers was completed in 1948 and indicates a mineralized zone having a northeasterly trend beginning at the old "Burnside Plantation" on the south, and extends for nine miles to the Roanoke River.

Granodiorite formation of undetermined width forms contact with banded schist of sedimentary origin. A major horizontal fault beginning at the schist contact near the south end of the mineralized zone has been traced N 30 to 35° E within the granadiorite formation. Extensive shearing along the fault plane has been traced northeast for several miles and is believed to extend to Roanoke River. Several diabase and gabbro dikes occur within the granodiorite, usually cutting the formation at an oblique angle. The major fault crosses the Burwell tract near its eastern boundary.

Several subsidiary shears appear to be genetically connected with the main fault occur within the granodiorite. These subsidiary shears are occasionally cut at right angles by aplite dikes. It has been recognized that these aplite dikes are closely associated with the ore-bearing quartz.

The Burwell lenses being confined to the shearings, helps to solve the problem of development; the chances of finding many more ore lenses are good. Several outcroppings have been located which hold promise.

The major shear, which evidently was the most important factor in producing the hydrothermal solutions responsible for the ore deposition throughout the tungsten district, crosses the Burwell and continues northeasterly. It has not been developed on the Burwell or properties north. It is probably the key to substantial sources of ore yet to be discovered.

It is well known that much of the ore produced on the south (the Hamme Mine) which is currently producing substantial tonnage and developed to 1800 foot depth, has been mined from the main shearing and cross fractures, leading off to the west of the main fault.

Considering the similarity of geological structure, there seems no logical reason why conditions on the Burwell should not prove, through further exploration, to be a duplication of those of the Hamme Mine, operated by the Tungsten Mining Corporation. The Hamme shaft is located in the order of 1¼ miles south of the Burwell tract. Lands of the Tungsten Mining Corporation adjoin the south boundary of the Burwell.

The proposed exploration and drilling program, in our opinion, will prove the existence of an ore deposit equal or better than that of the Hamme Mine.

(d) The attached map shows improved and paved access roads. Nearby residence points are:

Oxford, North Carolina	20 miles
Clarksville, Virginia	18 miles
Bullock, North Carolina	8 miles
Townsville, North Carolina	3 miles

Eastern seaboard processors of the ores and concentrates are within trucking distance.

(e) There is a plentiful supply of labor and craftsmen, now unemployed. Equipment, supplies and materials are available from:

Henderson, North Carolina	18 miles
Raleigh-Durham, North Carolina	45 miles
Danville, Virginia	55 miles
Richmond, Virginia	120 miles
Norfolk, Virginia	125 miles

The water supply is excellent and heavy power lines are within 1½ miles of the center of the property.

5. (b) A sketch attached indicates the probable location of the major shearing and the line of schist contact.

Refering to the sketch, areas marked A-B-C-D each contain the crest of one or more hills, we propose to make at least 10 bulldozer cuts of 100 feet or more in length in areas A-B-C and at least 20 similar cuts in Area D. These bulldozer cuts will reveal the extent of the present lenses (3) and expose others which we believe exist.

The present exposed mineralized lenses marked #1, #2, and # 3 on the sketch appear to be 1200, 200 and 220 feet in length; the width of each cannot accurately be determined. These lenses were exposed and blasted by the previous lessee some years ago, and it is quite impossible to take accurate channel samples due to both erosion and the blasted vein material of the lenses. There are good showings of both Huebuerite and Scheelite along the length of each of these three lenses. Samples taken of the three lenses have ranged from .5% to 8.6%. They are not representative and should not be considered a substitute for adequate channel samples.

We propose to drill the # 1 lense every 75 feet along its length with "Airtrac" and Gardner-Denver Percussion Drills, using 2 3/4 " Carbide bits to depths of 150 to 175 feet. Samples will be collected by Ducon Cyclone Sampler equipment when air is used to clean the drill hole, and by sludge box and settling tanks when water is used for cleaning. These samples will be taken every 10 feet of hole drilled.

From the resulting data of percussion drilling and sampling 3 cored holes will be drilled using NX diamond bits, to a depth of 300 feet.

Summary:

Percussion	17 holes x 160 ft. -	2720 linear feet
Core drill	3 holes x 300 ft. -	900 linear feet

Lenses # 2 and " 3:

In like manner these lenses will be percussion drilled to an average depth of 160 feet and core drilled in the selected areas.

Summary:

Percussion	8 holes x 160 feet -	1280 linear feet
Core Drill	3 holes x 300 feet -	900 linear feet

Total Percussion Footage - 4000 feet (linear)
Total Core Drilling (linear)-1800 feet (linear)

5. (c) Work will begin within 30 days and be completed within 4 months from the date of an exploration project contract.

(d) The work will be planned by a Consulting Geologist of national repute and directed by one of the partners of Rodenbeck and Perry. The field drilling and sampling team will be supervised by an experienced drilling supervisor with practical experience in precious metal sampling and sound management procedures.

6. Estimate of Costs

(a) Independent Contracts.

Bulldozer 5000' of cuts 3 cuts per day - 16 days @ $120.00 per day plus haul $80.00	$2000.00
Core drilling 1800 feet of NX Core @ $5.50 per foot Sprauge-Henwood	9900.00
	$11,900.00

(b) Labor, Supervision and consultants.

Drill training	125.00
Drill foreman $3.00 per hour, 22 days	528.00
Drill 2nd hand $2.50 per hour, 22 days	440.00
Labor 500 hours @ $1.50 per hour	750.00
Sample and time clerk 3 mo. 528 hours @ $1.50	792.00
Supervision 3 months	1500.00
Consulting Geologist	1500.00
	$ 5635.00

(c) Operating Materials and supplies.

Steel 20 pcs CLS 610 H sectional 10 feet lengths @ $37.00	740.00
Couplings 20-CLS 600 @$7.15	143.00
Shanks 3-DH 123-143 @ $16.00	48.00
Bits 20-06-2 3/4 CS (Timken) $38.70	774.00
Fuel, Lube	220.00
Small tools	50.00
Settling drums 10 @ $5.00	50.00
	$ 2025.00

(d) Operating Equipment

"Air Trac" with DH 123 Drifter and 12 ft. feed	700.00
600 cfm Compressor (G-D)	861.00
Water pump (air steam) and access. (50'-3/4 hose)	50.00
Air hose 1½"-100 ft. 2 lengths @ $44.50	89.00
Pick-up truck	200.00
Haul to and from site all above rentals	200.00
Purchase: 200' of 2" Aluminum pipe with Wade Quicklock Couples & Std pipe adapters	139.00
Ducon Cyclone Sampler	300.00
	$ 2539.00

(e) None.

(f) None.

(g) Miscl.

Analytical work	$ 2000.00
Accounting	100.00
Workmen's Compensation 2.85/100	120.00
Liability Insurance	250.00
Payroll taxes	210.00
	$ 2680.00

(h) Contingencies

Subsistence (labor)	250.00
Contingencies	1000.00
	$ 1250.00

Summary of Costs

(a)	Contracts	$ 11,900.00
(b)	Labor and consultants	5,635.00
(c)	Supplies	2,025.00
(d)	Equipment	2,539.00
(e)	None	
(f)	None	
(g)	Miscl.	2,680.00
(h)	Contingencies	1,250.00
		$ 26,029.00

1800 ft. core drilling
4000 ft. percussion drilling
5800

$26029. ÷ 5800 = $4.487 per ft.

7. (a) Yes.

(b) Money.

S. Government Messenger Envelope

ard Form No. 65 (Rev. 1/46)

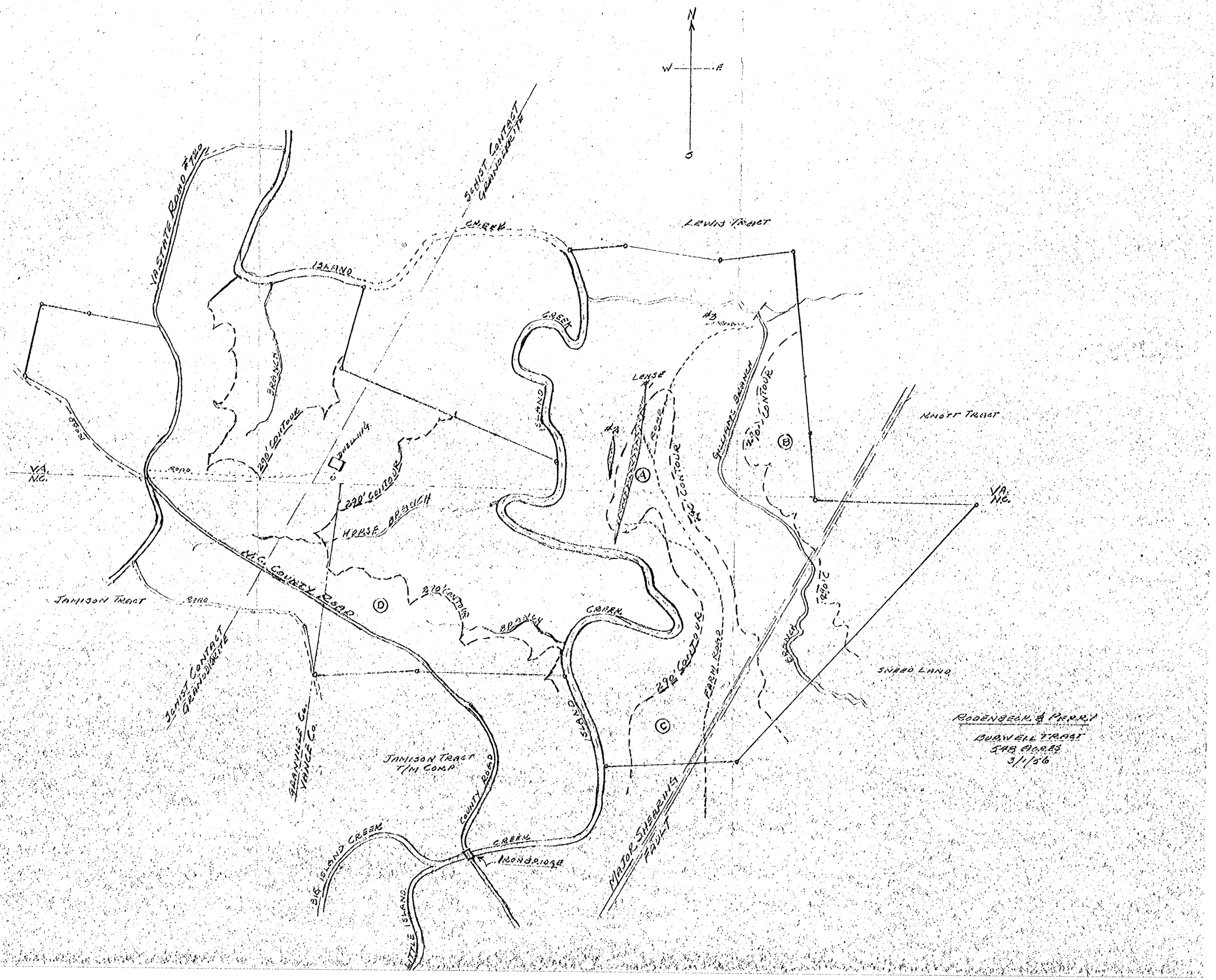
1. Use blocks consecutively, one at a time.
2. Void previous block.
3. Write clearly.

NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM		NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM	
. Martin , 3538, Interior	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP

rplus envelopes to room for reissue.

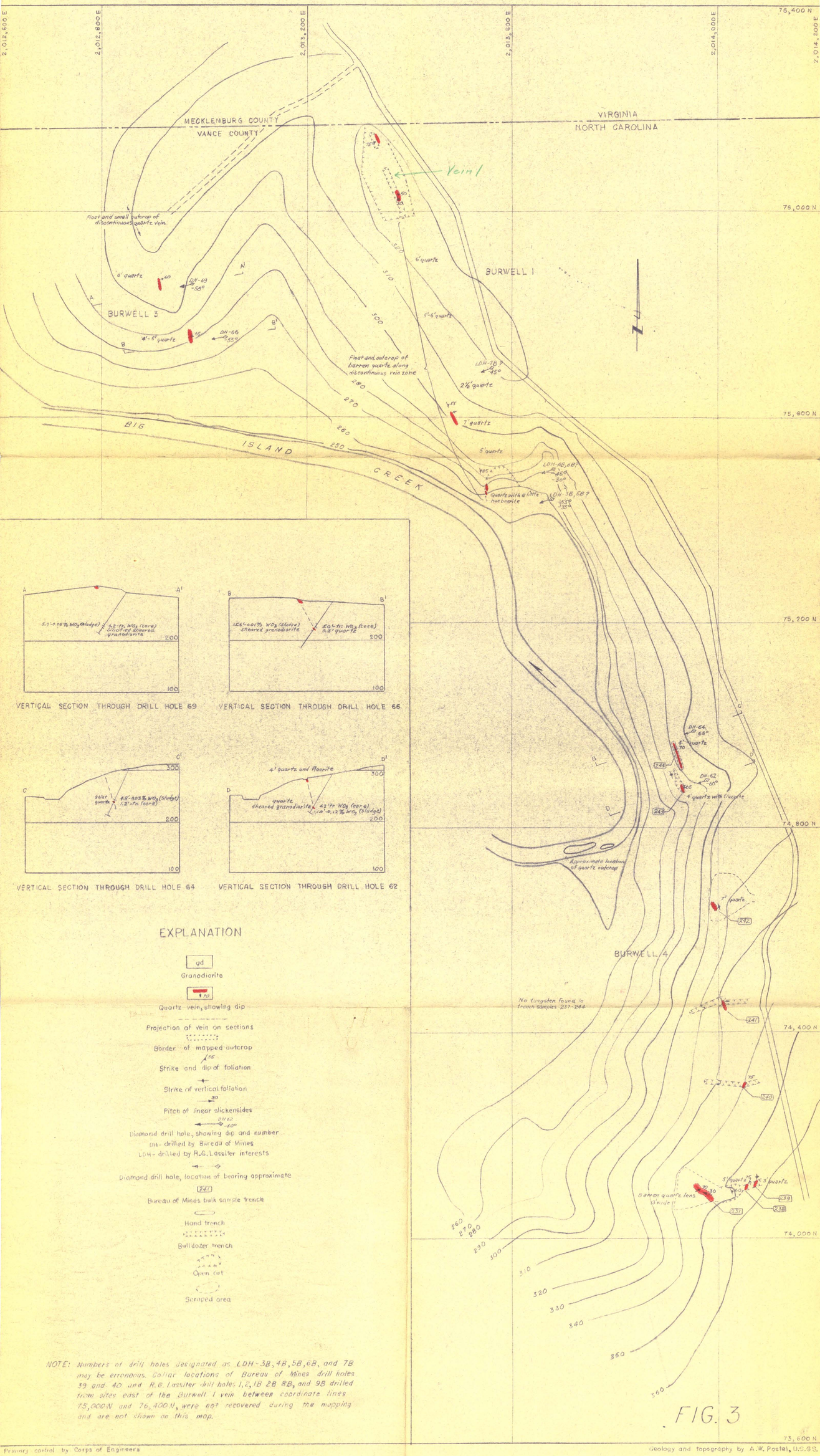
Use other side

Use RUN and STOP only when messenger service between Government buildings in Washington is required.
Your mail room has RUN and STOP information.


N
W
E
S
VA. STATE ROAD #750
SCHIST CONTACT
GRANODIORITE
CREEK
ISLAND
LEWIS TRACT
BRANCH
ISLAND
CREEK
HB
LEASE
ROAD
TOUR
SILVERING BRANCH
(2101) CONTOUR
KNOTT TRACT
ROAD
VA.
N.C.
DWELLING
230' CONTOUR
HORSE BRANCH
N.C. COUNTY ROAD
JAMISON TRACT
ROAD
210' CONTOUR
BRANCH
CREEK
ISLAND
290' CONTOUR
FARM ROAD
BRANCH
SNEED LAND
SCHIST CONTACT
GRANODIORITE
GRANVILLE CO.
VANCE CO.
JAMISON TRACT
T/M CORP
COUNTY ROAD
BIG ISLAND CREEK
CREEK
MONDRIGA
LITTLE ISLAND
MAJOR SHEARING
FAULT
RODENBECK & PEARL
DURWELL TRACT
148 ACRES
3/1/56

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

DMEA 4258



VERTICAL SECTION THROUGH DRILL HOLE 69

VERTICAL SECTION THROUGH DRILL HOLE 66

VERTICAL SECTION THROUGH DRILL HOLE 64

VERTICAL SECTION THROUGH DRILL HOLE 62

EXPLANATION

gd
Granodiorite

70
Quartz vein, showing dip

Projection of vein on sections

Border of mapped outcrop

25
Strike and dip of foliation

Strike of vertical foliation

30
Pitch of linear slickensides

DH 62
50°
Diamond drill hole, showing dip and number
DH- drilled by Bureau of Mines
LDH- drilled by R.G. Lassiter interests

Diamond drill hole, location of bearing approximate

241
Bureau of Mines bulk sample trench

Hand trench

Bulldozer trench

Open cut

Scraped area

NOTE: Numbers of drill holes designated as LDH-3B, 4B, 5B, 6B, and 7B may be erroneous. Collar locations of Bureau of Mines drill holes 39 and 40 and R.G. Lassiter drill holes 1, 2, 1B 2B 8B, and 9B drilled from sites east of the Burwell 1 vein between coordinate lines 75,000 N and 76,400 N, were not recovered during the mapping and are not shown on this map.

FIG. 3

Primary control by Corps of Engineers

Geology and topography by A.W. Postel, U.S.G.S.

GEOLOGIC MAP AND SECTIONS OF BURWELL 1, 3, AND 4 VEINS
VANCE COUNTY, N.C., AND MECKLENBURG COUNTY, VA.

100 0 100 200 300 400 Feet

Contour interval 10 feet
Datum is mean sea level

April 1948