DOCKET
SURNAME
Holt
Martin
Geehan
Killgaard
Selfridge

400

MAY 3 1956

Mr. Louis Walker
5954 MacArthur Boulevard
Oakland 5, California

Re: Docket No. DMEA 4096 - Tungsten
Great Cross Cut Mine
Yavapai County, Arizona

Dear Mr. Walker:

Your application for aid for an exploration project and other data available to us in Washington relative to the above named property have been carefully 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 on the Great Cross Cut group of claims, 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 program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

SPHelt:fec
4/30/56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. III
R. W. Holliday, USBM
T. N. Killsgaard, USGS

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

April 30, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in unstated amount (Approximately $105,600)
Docket No. DMEA 4098 - Tungsten
Louis Walker
Great Cross Cut Mine
Yavapai County, Arizona

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

(1) The applicant, Louis Walker, 5954 MacArthur Boulevard, Oakland 5, California, requested exploration assistance in unstated amount (approximately $105,600) for drifting on the Great Cross Cut group of claims.

(2) The applicant controls, by lease from the owners, James B. and Gladys Johnston, the Great Cross Cut Nos. 1, 2, and 3 unpatented lode mining claims, situated in the N. ½ sec. 29 and S. ½ sec. 20, T. 8 N., R. 1 E., Tip Top Mining District, Yavapai County, Arizona.

(3) The proposed program is to explore the Great Cross Cut group of claims by drifting along the Great Cross Cut fault.

(4) In the area of the Great Cross Cut group of claims tungsten in the form of wolframite ($FeMnWO_4$) with lesser amounts of scheelite ($CaWO_4$) occurs in discontinuous quartz veins along a northerly-trending fault zone in coarse-grained pegmatitic Pre-Cambrian granite.

(5) The Field Team, noting that the Great Cross Cut mine was previously denied Government aid under Docket DMA-1666X, on the basis of assays submitted by an applicant, and that Government aid had been recently denied, after examination by Field Team examiners, to the nearby Mystery mine (Docket No. DMEA 3874), concludes that the Great Cross Cut property contains no appreciable measured, indicated, or inferred reserves of tungsten ore; that its potentialities seem to be poor, as wolframite was probably

produced from less than 3 percent of the prospected length of the fault; and therefore recommends that the application be denied. The Commodity Divisions of the Bureau of Mines and Geological Survey concur in this recommendation.

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

DOCKET
SURNAME
Holt
Martin

April 30, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in unstated amount (Approximately $105,600)
Docket No. DMEA 4098 - Tungsten
Louis Walker
Great Cross Cut Mine
Yavapai County, Arizona

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Co W. S. Martin

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

SPHolt/foc
4/30/56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.

Docket

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

RECEIVED
APR 24 1956

April 19, 1956

Memorandum

WBay

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 Team Examination Report
Docket No. DMEA-4098
Great Cross Cut - Yavapai County, Arizona
Louis Walker
5954 Mac Arthur Boulevard
Oakland 5, California
$105,600-Tungsten

Subject examination report reveals no new information that would warrant such a large expenditure. The position taken in previous consideration (DMA Docket 1666X) appears to be correct even though minor production from the property has been reported.

I concur in the recommendation of denial.

R W Holliday
R. W. Holliday

Copy retained 400

Docket

IN REPLY REFER TO:

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

RECEIVED
APR 12 1956

April 11, 1956

Re: DMEA 4098
Louis Walker
Great Crosscut claims
Yavapai Co., Arizona
$105,600.00 - Tungsten

WSM

Memorandum

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

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

Subject: Review of Field Team report.

The applicant requested assistance in exploring a long crosscutting fault zone by 2400 feet of drifting. At two widely separated points tungsten-bearing quartz, some of it high grade, has been mined and the applicant's long project drift would explore the fault between the two places.

An application, DMA 1666X, was filed in 1951 requesting assistance in exploring portions of the same fault. The application was denied as was one concerned with the Mystery mine in the same general area, DMEA 3874, in 1955.

The crosscut fault with an average trend of N. 8° E. and westerly dip of from 55° to 80° cuts the country rock, a coarse-grained, pegmatitic, Precambrian granite. The granite is partly foliated and contains a few thin schist inclusions. The foliation as well as the inclusions and schistosity strike about N. 65° E. and dip 50° to 60° NW.

Workings, including the 250-foot Pearl adit and the glory hole where mining was done, are scattered along the fault. The fault in most places contains up to about 2 feet of clayey brown gouge and less often quartz vein material up to 2 feet in thickness. In the Pearl adit, quartz, fairly continuous and of even width, was seen for about 75 feet. The wolframite and scheelite appear to have been concentrated where the vein is regular in the Pearl adit. No apparent reason for localization at the glory hole is now discernible.

Because only two short ore shoots totalling about 100 feet have been found in perhaps 2700 feet of the fault, the examiner concludes the percentage of the fault mineralized by tungsten-bearing quartz is small and unlikely to be better along a 2400-foot adit as proposed by the applicant.

Copy [illegible]

The conclusion is well taken and the recommendation of the examiner and the geologist member of the Field Team that the application be denied is justified.

I concur with that recommendation.

N. E. Nelson

N. E. Nelson

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

Docket

RECEIVED
APR 4 - 1956

April 2, 1956

224 New Customhouse
Denver 2, Colorado

W309

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Geologic Report of Examination, DMEA Docket 4098 (Tungsten) Louis Walker (Great Cross Cut claims), Yavapai County, Arizona

Enclosed are the original and three copies of a Geologic Report of Examination on the subject property. The Bureau of Mines did not participate in the field examination and will not submit a report.

The field examiner noted very limited occurrence of tungsten minerals along the vein. The spotty habit of tungsten deposits of this type indicates the absence of a significant amount of tungsten ore, and he recommends that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
4-9-56
(date)

APR 2 1956

BUREAU OF MINES
Denver, Colorado

RECEIVED
APR 4 - 1956

TRANSMITTED
APR 2 1956

Box 4125 University Station
Tucson, Arizona

March 27, 1956

MEMORANDUM

To: Executive Officer, DMEA Field Team, Region III

From: J. N. Faick
W. R. Storms

Through: E. N. Harshman

Subject: Examination report of the Great Cross Cut Claims (tungsten) Yavapai County, Arizona; DMEA-4098.

Enclosed are the original and 8 copies of an examination report on the above subject property by Leonid Bryner of the U. S. Geological Survey. Bryner recommends denial of the application because only very small amounts of tungsten are believed to exist in the deposit. The Great Cross Cut mine previously was denied Government aid under DMA-1666X, on the basis of assays submitted by an applicant. This property is near the Mystery Mine for which Government aid was recently denied under docket DMEA-3874. Both properties are owned by Jim Johnston. The Great Cross Cut property previously was examined for radioactivity by L. A. Stewart, U. S. Bureau of Mines, in May 1949, at which time he noted the presence of tungsten but found no radioactivity.

As denial of the application is being recommended by the Survey, and, as a Bureau engineer has previously visited the property, we assume it is unnecessary for the Bureau to re-examine it at this time. The accompanying report represents the results of the Survey examination, and these are essentially in agreement with the conclusions expressed in the report on DMA-1666X. Both of the undersigned have examined and approved this report.

J. N. Faick
J. N. Faick

Walter R. Storms
W. R. Storms

JNF:ms

cc.: Harshman (8)
J.F.Shaw
W.R.Storms

Reviewed by
DMEA OPERATING COMMITTEE
4-9-56
(date)

RECEIVED
APR 4 - 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

TRANSMITTED
APR 2 1956

DMEA-4098, Louis Walker

Great Cross Cut Claims (Tungsten)

Yavapai County, Arizona

Leonid Bryner, Geologist
U. S. Geological Survey

March 1956

Reviewed by
DMEA OPERATING COMMITTEE
4-9-56
(date)

RECEIVED
APR 4 - 1956

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By Leonid Bryner[1]

In an application dated December 9, 1955, and docketed as DMEA-4098, Louis Walker applied for aid in a $105,600 program to explore for tungsten on the Great Cross Cut claims, situated in Yavapai County, Arizona. The property had received previous consideration under DMA docket 1666X, but the application was denied on the basis of samples submitted by the applicant, E. Tatalovich.

The Great Cross Cut claims are in an area of Precambrian, pegmatitic granite. The granite is cut by a north-northeasterly-trending fault, known as the Great Cross Cut, along which are discontinuous quartz veins that contain small sporadic showings of wolframite, and, to a lesser extent, scheelite. About 100 tons of ore probably represents the total tungsten production of this property. Some of this ore was probably very high grade, but most of it probably contained less than 1 percent WO_3. A large portion of it may have come from a residual concentration along the vein outcrop.

The property contains no appreciable measured, indicated, or inferred reserves. Its potentialities seem to be poor, as wolframite ore probably was produced from less than 3 percent of the prospected length of the fault. Consequently, this report recommends denial of the loan application.

---

[1] Geologist, U. S. Geological Survey, Tucson, Arizona.

DMEA-4098, LOUIS WALKER

GREAT CROSS CUT CLAIMS (Tungsten)

YAVAPAI COUNTY, ARIZONA

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3	Geology of the Pearl adit	8

INTRODUCTION

On December 9, 1955 Louis Walker applied for DMEA aid in a $105,600 program to explore for tungsten on the Great Cross Cut claims.

The claims are located in the N½ of Sec. 29 and the S½ of Sec. 20, T. 8 N., R. 1 E., Tiptop Mining District, Yavapai County, Arizona. On the USGS Bradshaw Mountains quadrangle the Pearl adit is S 60°E, 7500 feet, and the Glory hole is S 82°E, 7000 feet from the 2948-foot bench mark on Black Hill.

To reach the property turn left from State highway 69, 5.4 miles north of New River. From this turnoff the property is 18 miles in a westerly direction via dirt roads that lead down the canyon of the Agua Fria river and then up the divide between Tule and Humbug creeks (fig. 1). The route is presently negotiable in a passenger car but is subject to severe erosion by summer rains. The last mile from "the cabin" to the Glory hole is a bad jeep road in any weather, but the Pearl adit may be reached in a passenger car.

Elevations on the property range from about 2200 to about 2700 feet. The climate is very hot in the summer and mild in the winter. Occasional heavy summer rains interrupt car travel.

The claims, as described by the owner of the property, are shown in figure 2. From south to north they are the Great Cross Cut Nos. 1, 2, and 3. They are unpatented, and belong to Jim Johnston of Hayward, California. Louis Walker, 5954 MacArthur Blvd., Oakland 5, California leases the claims from Johnston.

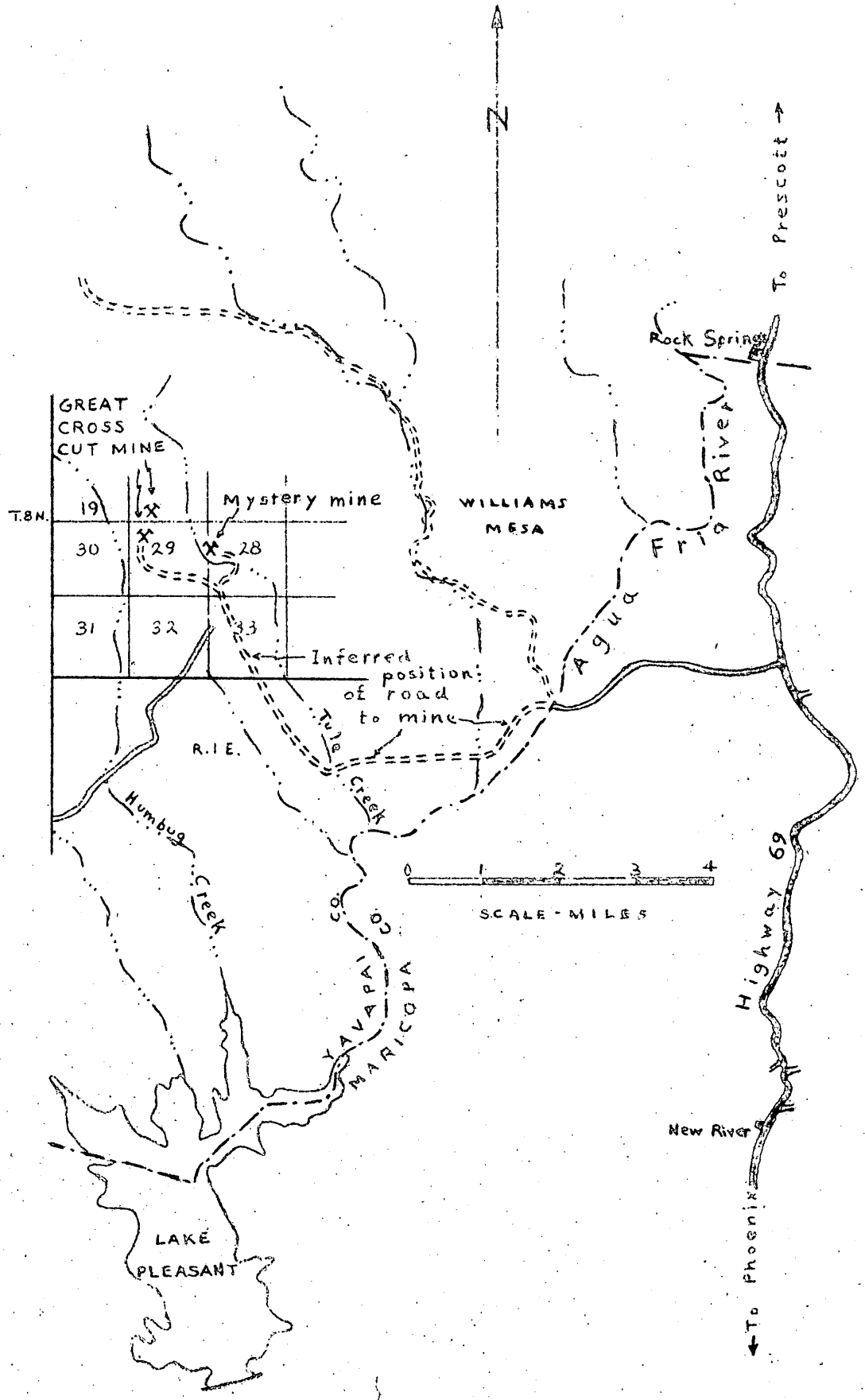

FIG. 1 - LOCATION MAP - Great Cross Cut Mine, ARIZ.

DMEA - 4098

The examination was made on March 2, in the company of Johnston, Walker, and George Walters. Last summer Johnston's Mystery mine (DMEA-3874), near the Great Cross Cut (fig. 1), was examined and described for DMEA. The loan request on this property was denied because of its very poor showings in uranium and tungsten.

Previous to this, a property described as the "Johnson property, Yavapai County, Arizona," received consideration for government aid under DMA docket 1666X, but was denied this aid on the basis of assays submitted by the lessee, E. Tatalovich, president, International Mining Corp., P.O. Box 49, Phoenix. A copy of the letter of denial, written July 11, 1951, by George B. Holderer of the U. S. Bureau of Mines, is at the Tucson office of the U. S. Bureau of Mines, but the full report was not available. Johnston admits that the application by Tatalovich was for the Great Cross Cut property.

Prior to Tatalovich's application the property had been examined by L. A. Stewart of the U. S. Bureau of Mines in order to determine the presence or absence of radioactivity and to identify a widely distributed mineral that fluoresces green. Stewart's report, dated May, 1949, states that wolframite and scheelite are present, but that there is no radioactivity, and that the fluorescent mineral is hyalite opal.

GEOLOGY

The Great Cross Cut claims are in an area of coarse-grained, pegmatitic, Precambrian granite. The granite is partly foliated and contains a few thin schist inclusions. The foliation as well as the inclusions and schistosity strike about N 65° E and dip 50° to 60° NW. A prominent structural feature is the so-called Great Cross Cut vein.

This more properly would be described as a fault with some dike and vein material along it. The Great Cross Cut fault strikes N 10° to 25° E and dips 55° to 80° W. From its south end it is traceable for at least 3000 feet to the north by slight topographic depressions, by associated dike or vein material, or by iron oxide staining. No attempt was made to follow it still farther north, although small cuts beyond this point probably represent a continued northerly extension. Lindgren's description[1/] of the Tiptop District mentions a vein called "the Big fault" that reputedly extends in a northerly direction for about six miles. It is likely that the Great Cross Cut fault is the south end of "the Big fault". The "Crosscut fault", also mentioned in Lindgren's report[1/], trends in a northwesterly direction and so, despite the similarity in names, cannot be the same as the Great Cross Cut fault.

The workings are distributed along the northerly-trending Great Cross Cut fault. From south to north these workings consist of (1) the Pearl adit that was started on the south end of the exposed fault and driven north along it for a distance of 250 feet, and from which a small amount of stoping connected the adit to the surface, (2) several shallow cuts and a 50-foot adit all within a distance of about 700 ft. north of the portal of the Pearl adit, (3) the so-called "Glory hole", about 2600 feet north along the fault from the Pearl adit portal, (4) a stripped zone marked by shallow cuts and several small, caved openings over a distance of about 400 feet north from the Glory hole. The Pearl adit and the Glory hole are shown in figure 2.

1/ Lindgren, Waldemar, Ore Deposits of the Jerome and Bradshaw Mountains quadrangle: U. S. Geol. Survey Bull. 782, p. 182, 1926.

The Great Cross Cut fault in most places contains up to about 2 feet of clayey, brown gouge. Quite commonly it also contains highly silicified, altered dike material up to 12 feet in width, that may correspond to Lindgren's post-Cretaceous rhyolite porphyry. Less common along the fault is quartz vein material up to 2 feet in thickness.

The quartz veins are banded and in places exhibit comb structure. In most places along the fault the quartz occurs as discontinuous lenses separated by slivers and horses of country rock. The only place where a fairly continuous vein of even width was seen was for about 75 feet along the Pearl adit.

Lindgren states[1] that in the Tiptop District practically all the veins trending east-northeast contain tungsten. At the Great Cross Cut mine the ore minerals are wolframite and scheelite, with wolframite predominating. The main gangue mineral is quartz with minor coatings of hyalite opal. This is the mineral that gives the green fluorescence that has been mistaken for scheelite. Wolframite seen in the Pearl adit occurs in very thin veinlets parallel to the vein structure, and near the base of quartz crystals that form comb structures within the vein. Scheelite generally occurs in close association with the wolframite, and, in some cases, as rims around wolframite grains.

Only traces of wolframite were seen during the examination and the property has not been described in the literature, so that the habit of occurrence of the ore bodies is not definitely known.

1/ Op. cit., p. 182.

So far as is known, production has come mainly from two rather restricted intervals along the Great Cross Cut fault, namely the Pearl adit and the Glory hole. It is not evident why the tungsten has been concentrated at these places or whether other parts of the fault might be similarly mineralized. In the Pearl adit, however, the interval of even, continuous vein, mentioned on page 4, also corresponds more or less to the interval of the vein along the drift that has been stoped. The stope above the drift is caved, so cannot be examined, but the stope length along the vein probably does not exceed about 50 feet. Whether the same condition, that is, localization of ore in the best-developed intervals of the vein, held true at the Glory hole is not known because the Glory hole has been mined out and the opening in its floor is caved. It is obvious, however, that the Glory hole represents a small interval (about 30 feet, strike distance) along a stripped interval (about 400 feet) of the Great Cross Cut fault, and this also suggests that concentration of wolframite along the fault is quite local.

According to George Walters[1/], who worked at the Great Cross Cut during the first World War, the wolframite occurred in large bunches or boulders, and much of it was gathered by rake. From this description it appears that the wolframite was at least partly in residual deposits near the vein outcrop. This is an indication that the wolframite occurs in the vein as coarse crystals or bunches. Occurrence of the ore mainly in a residual deposit and its abrupt

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1/ Personal communication , March 1, 1955.

exhaustion might partly explain the lack of tungsten production from the area after the first World War.

PRODUCTION AND GRADE

Johnston and Walters from their first-hand acquaintance with the district for a period of about 40 years provided the following information.

The Great Cross Cut property was worked primarily for silver in the 70's and 80's. Tungsten production began about 1915 or 1916 with the stimulation provided by the first World War. A small dry-mill, consisting of rolls followed by velvet-topped tables, was erected at the Pearl adit to treat ore from there. Ore from the Glory hole consisted of hand-cobbed wolframite packed out on burros. A shipment of this ore brought $87,000 at the dock in New York during the peak price of about $90 per unit. Assuming that this shipment averaged 60 percent WO_3, it represented about 1,000 units or about 16 to 17 tons of nearly pure wolframite.

In 1937 and 1938 Sam Cupel operated a small mill on Tule creek below the Mystery mine. This mill treated tungsten ore from the surrounding area including about 80 tons from the Pearl adit, and recovered wolframite but not scheelite. Some of the fine tailings from this mill, shown me by Johnston under the mineral light, contain a fairly abundant dissemination of scheelite grains.

Since 1938 tungsten production has been almost nil. At present Walter G. Johnston is doing a little mining for the applicant at the Glory hole and at the surface at the Pearl adit. About $2\frac{1}{2}$ tons recently mined at the Pearl by Walter G. Johnston yielded 62 lbs. of concentrates. This is 25 lbs. of concentrate per ton, or about 15 lbs. WO_3 per ton.

A part of the previously-mentioned letter from Holderer to Tatalovich concerning the grade of the deposit is quoted below:

> "You have given us assay certificates for 27 samples analyzed for tungsten during 1950-51. Of these assays 1 contained no tungsten, 9 contained a trace, 13 ranged from 0.03 to 0.34 percent WO_3 and the remaining 4 contained more than 1.0 percent WO_3. The narrowness of the veins suggests that only material containing more than 1.0 percent would be workable for tungsten alone. The 4 samples in this group apparently do not represent any substantial tonnage.
>
> "The evidence you have given us does not indicate that your property is likely to yield much tungsten except as a by-product from your other operations."

Judging from the last sentence, the assays showed values for other minerals besides tungsten; probably silver and gold.

In examining the property the writer saw only trace amounts of wolframite and scheelite. No samples were taken because samples would not be representative of more than a few hundred pounds of rock. It is impossible to judge the grade of the deposit, because all known ore is essentially depleted and because ore that has been produced in the past was concentrated either by hand-sorting or milling and probably also by natural erosion of the vein. Apparently the ore that was recently mined by Walter G. Johnston contained less than 1 percent WO_3 and some of the ore that had been mined in the past has been almost pure wolframite.

RESERVES

No measured, indicated or inferred reserves are present in this deposit. Most likely the Great Cross Cut fault still contains ore, but such ore probably is in small bodies of less than 20 tons each. Assuming that the ore that has been removed from the vein at the Pearl adit

and at the Glory hole occupied a strike length of 100 feet in a total prospected length of 3000 feet, means that about 3 percent of the Great Cross Cut fault has shown commercial tungsten mineralization. Exploration horizontally along the fault might find as much ore as has been already removed, say 100 tons of ore that contain several percent WO_3, and yet this would not offer an attractive target if it had to be sought over a strike distance of 2000 or 3000 feet, as would be the case at the Great Cross Cut property.

EXPLORATION

The applicant proposes drifting 2400 feet along the Great Cross Cut fault for $44 per foot. If exploration were justified this would be a reasonable way in which to explore.

CONCLUSIONS AND RECOMMENDATIONS

The Great Cross Cut property has produced a small amount of high grade wolframite concentrates. Some of this came from two small workings along 3,000 feet of the zone that locally contains vein material. The writer suspects, but has no proof, that most of the tungsten ore produced from this property was an eluvial concentrate due to the weathering of relatively low grade vein material. Judging by the very small production, very limited occurrence of tungsten minerals along the vein, and spotty habit of tungsten deposits of this type, it appears unlikely that the property contains a significant amount of tungsten ore. My recommendation, therefore, is that the request for DMEA aid be denied.

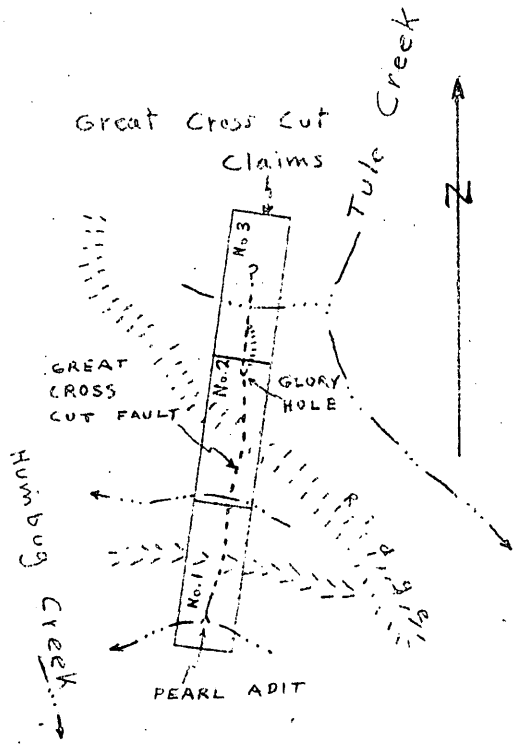

FIGURE 2

GREAT CROSS CUT AREA SHOWING FAULT, CLAIMS, AND PRINCIPAL WORKINGS

1000 0 2000

SCALE - FEET

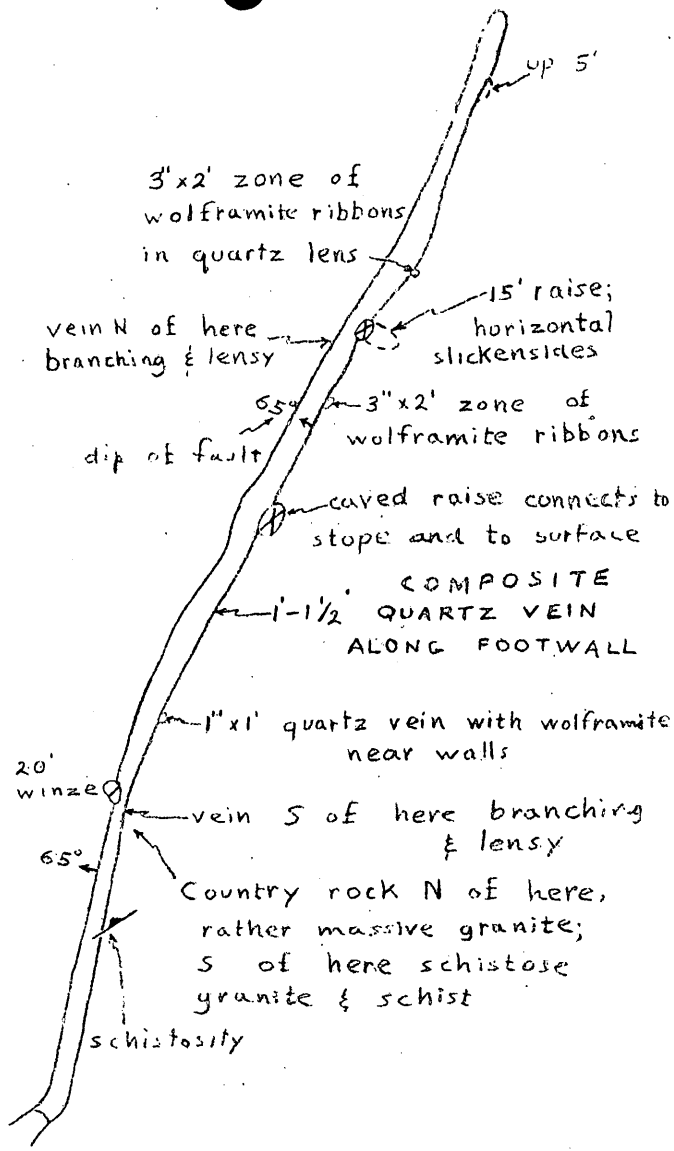

FIGURE 3

GEOLOGY OF THE PEARL ADIT

Brunton - tape survey; L. Bryner 3/2/56

0 40 80

SCALE - FEET

GEOLOGY OF GREAT CROSS CUT MINE

YAVAPAI COUNTY

ARIZONA

DMEA-4098

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

Docket

RECEIVED
JAN 26 1956

January 23, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

Copy retained 400

WSY

To: W. R. Storms
J. B. Faick

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 4098 (Tungsten), Louis Walker, Great Cross Cut Mine, Yavapai County, Arizona

Enclosed is a copy of a letter from the Chairman of the Operating Committee dated January 20, 1956 on the subject docket.

Since your weekly report shows that you have not as yet scheduled this property for a field examination, it is entirely possible that Mr. Stewart might have enough knowledge of the property to make a recommendation without a further examination. However, it is the opinion of the Field Team that an examination is necessary to definitely determine if additional work has been done since the time of Stewart's examination.

W. M. TRAVER,

W. M. Traver

Enclosure

HMC:ab

cc: Sec. Op. Comm. (2)
Harshman
Docket 4098
Chron.

400

DOCKET
SURNAME
Chapman
Martin
Selfridge
Johnson
Weatherby

JAN 20 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House Building
Denver 2, Colorado

Re: Docket No. DMEA 4098 - Tungsten
Louis Walker
Great Cross Cut Mine
Yavapai County, Arizona

Dear Mr. Traver:

Our letter of January 3, 1956, requested a review and a possible field examination for the subject application.

The application and data available here do not indicate that any work has been done since the examination and report by Mr. Lincoln A. Stewart in 1949. Consequently, we had considered the possibility that Mr. Stewart might have enough knowledge of the property to make a recommendation without a further examination.

We note, however, that your memorandum of January 6, 1956, to Mr. J. F. Shaw and Mr. J. H. Faick, and Mr. Shaw's memorandum of January 10 to Mr. W. R. Storms, advise that a field examination and suitable report are required. Accordingly we assume a field examination is needed to give you sufficient information for making a report and recommendation.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SHB)

APPROVED:

/s/ Robert W. Geehan (SHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (SHB)
Member, Geological Survey

TLChapman:foc
1-18-56
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
Messrs. Holliday, USBM
Kiilsgaard, USGS

Docket

RECEIVED
JAN 16 1956

January 11, 1956

[illegible] reta[illegible] 400

Memorandum

Copy

WSM

To: W. R. Storms

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4098 (Tungsten), Louis Walker, Great Cross Cut mine, Yavapai County, Arizona

The subject application, in which the applicant has given no estimate of costs, is enclosed.

A field examination and suitable report are required. The completed report should be forwarded directly to the Executive Officer with a copy of the memorandum of transmittal to this office.

JOHN F. SHAW

John F. Shaw

Enclosures

cc: W. M. Traver (3)
J. N. Faick
J. F. Shaw
E. N. Harshman
Sec. Op. Com (2)

Docket

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

January 6, 1956

224 New Customhouse
Denver 2, Colorado

VSM

Copy ...ed 400

Memorandum

To: J. F. Shaw (With brochure)
J. N. Faick

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 4098 (Tungsten), Louis Walker, Great Cross Cut Mine, Yavapai County, Arizona

Enclosed is the subject application in which the applicant has given no estimate of costs. Also enclosed is a copy of a letter from the Chairman of the Operating Committee dated January 3, 1956 and attached memoranda of review of the application by N. E. Nelson and R. W. Holliday.

A field examination and suitable report are requested.

Wm. Traver
W. M. Traver

Enclosures

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Docket 4098
Chron.

RECEIVED
JAN 9 1956

400

DOCKET
Surname:
Chapman
Martin
Guhon
Kilsgaard
Selfridge
Johnson

JAN 3 1956

Mr. Louis Walker
5954 MacArthur Boulevard
Oakland 5, California

Re: Docket No. DMEA-4098, Tungsten
Great Cross Cut Mine
Yavapai County, Arizona

Dear Mr. Walker:

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. W. M. Traver, Executive Officer, DMEA Field Team, Region III, 224 New Custom House, Denver 2, Colorado, for review and a possible field examination of the property.

If a field examination is considered necessary, any assistance that you may give the members of the field team will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

cc: Docket
Code 400
Oper. Comm.
Adm. Read. File
T. Kiilsgaard, USGS
R. W. Holliday, USBM
FT, Reg. 3

TLChapman/ls
12/28/55

Chapman
Martin
Selfridge
Hefferman

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA-4098, Tungsten
Louis Walker
Great Cross Cut Mine
Yavapai County, Arizona

Dear Mr. Traver:

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

Copies of memoranda dated December 19, 1955, and December 20, 1955, by N. E. Nelson, Geological Survey, and R. W. Holliday, Bureau of Mines, respectively, relating to the project, are enclosed for your information.

In Mr. Holliday's memorandum, he mentions that in 1949 the property was examined and reported on by Lincoln A. Stewart. We obtained a copy of this report from College Park, and you probably have a copy in your files. So far as we can determine, no work has been done since that time.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JB)

Enclosures

cc: Docket
Code 400
Oper. Comm.
Adm. Read. File
T. Kiilsgaard, USGS
R. W. Holliday, USBM
FT, Reg. 3

APPROVED:

/s/ Robert W. Geehan (JB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JB)
Member, Geological Survey

C

TLChapman/ls
12.28.55

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

Docket

December 20, 1955

Memorandum

To: Chief, Iron & Ferroalloys Division-DMEA
Through: Acting Chief, Branch of Ferrous Metal & Ferroalloys HWD

From: Commodity Specialist-Tungsten

Subject: New Application for exploration aid
Docket No. DMEA-4098-Tungsten
Great Cross Cut-Yavapai County, Arizona
Louis Walker
5954 MacArthur Blvd.
Oakland 5, California
(No cost given but approximately $100,000)

A previous examination of this area (by Lincoln A. Stewart in March 1949) is on file at College Park, Maryland. Reference No. 80.9852. There has been some past production in gold and silver. Wolframite and scheelite were also observed.

On the basis of known mineralization the 2400 feet of drifting proposed would appear to be unwarrented. However, a field examination is recommended to determine whether a new exploration is justified and if so what method of exploration would be most suitable.

R W Holliday
R. W. Holliday

Copy to: Mr. Geehan
Mr. Holliday
DMEA file-4098
F I L E S

Docket

IN REPLY REFER TO:

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

RECEIVED
DEC 20 1955

December 19, 1955

Re: DMEA 4098
Louis Walker
Great Cross Cut mine
Yavapai Co., Arizona
$105,600.00 - Tungsten

Copy retained 400

WSM

Memorandum

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

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

Subject: Review of application.

The applicant requests aid in exploring by a long drift (2,400 feet) a vein reputed to carry gold, silver, and tungsten values. No values are given, although the applicant claims the vein has been traced for 3 miles and a drift 257 feet long is open for sampling.

The applicant claims high-grade tungsten ore was mined from a glory hole which would be reached by the 2400-foot drift. Supporting evidence should be supplied by the applicant.

If the Field Team has information on the property, appraisal of the application without examination may be possible. At any rate, referral is recommended. A less ambitious work program may possibly be warranted.

N. E. Nelson

N. E. Nelson

December 16, 1955
Subject: DMEA-4098
Re: Exploration Assistance
Great Cross Cut

Mr. Louis Walker
5954 MacArthur Blvd.
Oakland 5, California

My dear Mr. Walker:

The receipt of your application dated December 9, 1955, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4098 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

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form [illegible]
Budge[illegible] 1035.2.

RECEIVED
DEC 15 1955

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-4098
Metal or Mineral Tungsten
Date Received 12-15-55
Estimated Cost $ no amount
Participation (Government %)

$176,000 ls

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:

LOUIS WALKER
5954 MacArthur Blvd.
Oakland 5, California

(*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

Great Cross Cut #1, Book 157, page 301; Great Cross Cut #2, Book 157, Page 300; Great Cross Cut #3, Book 157, page 299 recorded at Prescott, County of Yavapai, State of Arizona.

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

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

Lessee

(*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.

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 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 ..... days and be completed within ..... months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

☑ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated 9 December 1, 1955

Chris Walker
(Applicant)

By .....

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

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

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DEC 15 1955

4. PHYSICAL DESCRIPTION:

The southern extremity of the Great Cross Cut Vein has been drifted on the vein a distance of 257 feet sometime about 1915 and is presently uncaved and open for sampling. At another point on the Great Cross Cut Vein, a shaft has been sunk, now caved, also about the same year.

(b) From the shaft, mentioned above, there is a reported past production of $85,000. This ore, I understand, was shipped to Germany prior to U.S. entry into World War I. I have personally talked to George Walters, who worked in this Glory Hole, and he has told me that they took from it the "pure-quill". Jack Gardner, now deceased, and Ray Cleveland, still alive, both worked the Pearl Tunnel at about the same time and made shipments of Tungsten ore, the amount of which I have not been able to ascertain.

(c) The Great Cross Cut Vein extends for a distance of well over 3 miles. It is reputed by the State Mining Bureau Publication to be 9 miles in length, however, I only covered about 3 miles of it. This vein is a fracture in a dioritic pegmatite in the southern area, and grades into various types of granitics as it continues north. It is subject to a number of short faults, mineralization increasing at these points.

There is evidence in the "Pearl" tunnel at the south end of shoot - occurance in ore values. There is little depth made at any points on the vein structure over 50 to 75 feet, but wherever sampled, it shows very good values in gold, silver and tungsten in values that may be recoverable in a gold-silver circuit. All values may be expected to become somewhat higher with depth. A vein of this maghitude may well be expected to go to at least 800 feet in depth, which is less than the depth reached in many of the older mines to the north, as the Tip Top and Crown King, etc.

The Pearl Tunnel is a drift on vein. Vein widths in this drift are from 2 to 3 feet. The vein is carried in the upper right side of the drift. The strike is N.19°E, and the dip is approximately 66° NW. At 75 feet in from the adit is a winze about 25 feet in depth. No ladders. Not sampled. North of this winze about 20 feet sample showed gold, silver and tungsten. Ramdom sampling seemed to indicate that the front of the drift is in an ore shoot, and is going out of it at about 200 feet. It is reasonable to assume that there will be other ore shoots as the drift is furthered.

(d) The property is reached from Phoenix, Arizona, via Federal Highway 89 thru Glendale to Marinette, a distance of 17 miles, thence northward on State road and County maintained roads, a distance of approximately 40 miles to Mr. Johnston's camp.

The Federal and State roads are excellent and the County roads better than passable, but need some improvement in grades and widening, more especially at points where crossing several stream beds and washes. While it would be possible to move equipment over them in their present condition, these improvements would be necessary in the event of moving the heavy type of equipment needed in the mining and road building, and for conveying ore of concentrates to market points. In short, the physical conditions surrounding this location are exceptionally favorable.

(e) Supplies of all kinds may be obtained in Phoenix. Agencies of practically all the mine and mill equipment companies have long been established there, and being the capital city of Arizona, The State Mining Bureaus and agencies are represented there and information on all subjects pertaining to mining and milling practice is readily obtainable.

5. THE EXPLORATION PROJECT

(b) I propose drifting on the Great Cross Cut a distance of approximately 2400 feet which would place me under the Glory Hole from which the High-grade Tungsten ore was mined. And, should it seem feasible, either under this contract or a supplemental contract, to continue about another 1600 feet to bring me under "the Great Blow-Out"

(d) I am at the present time engaged in the Real Estate and Insurance business in Oakland and my mining experience has been limited to financing and acquiring various mining properties, however, the owner of the property who has had 25 years mining experience in various capacities, will be on the property representing my and his interests.

6. ESTIMATE OF COSTS:

(a) I intend all work to be on a contract basis and although no contracts have yet been let, I have a tentative understanding with a contractor that he can drift in this ground at $44.00 a foot.

(b) Included in contract

Ic) Included in contract

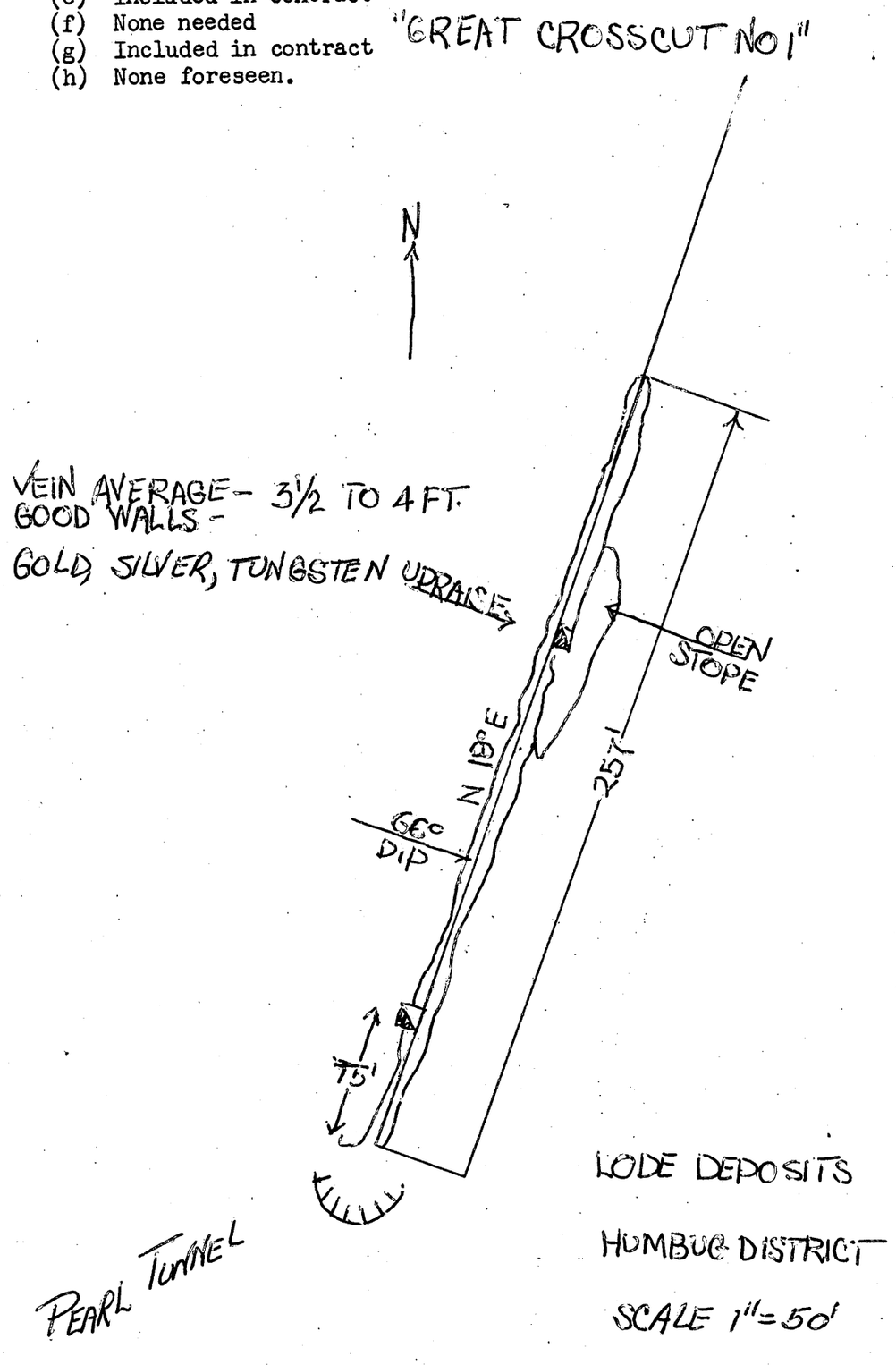
(d) Included in contract

(e) Included in contract

(f) None needed

(g) Included in contract

(h) None foreseen.



MINING LEASE AND PURCHASE OPTION
with
Owner's Consent To Lien

RECEIVED
DEC 15 1955

THIS MEMORANDUM OF AGREEMENT made and entered into this 28th day of November, 1955, by and between JAMES B. JOHNSTON AND GLADYS JOHNSTON, hereinafter termed First Party, and LOUIS EDGAR WALKER, hereinafter termed Second Party,

W I T N E S S E T H

First Party hereby agrees to sell to Second Party for and in consideration of the rents, royalties, covenants and agreements hereinafter contained, that certain property belonging to First Party and the mineral rights pertaining thereto, situated in the County of Yavapai, State of Arizona, and more particularly described as follows, to-wit:

> Great Cross Cut #1, Book 157, page 301, Great Cross Cut #2, Page 300, Book 157, Great Cross Cut, #3, Book 157, page 299.

TO HAVE AND TO HOLD under the following express terms and conditions for a period of five (5) years, to-wit: from the 28th day of November, 1955 to the 28th day of November, 1960.

1. Second Party shall have the right, and is hereby granted the right to the extension of this agreement for five (5) additional years after the specified term hereof, at his option, provided Second Party shall give written notice of his intention to exercise said option at least thirty (30) days prior to the end of the term hereof, such notice to be given to First Party at its address herein designated, or such other place as may hereafter designated, in writing, by personal delivery or by registered mail, with postage prepaid.

2. Second Party shall have the exclusive right to the possession of the above described premises and the exclusive right to prospect and mine for Tungsten ores contained in said premises (and other valuable metals or minerals), take the product thereof into possession, sell the same and account for the proceeds, subject to rent or royalty herein provided for.

3. Second Party agrees to work said premises in a good miner-like manner, with due regard to the preservation thereof, as a workable mine, and agrees not to make or suffer any waste or strip thereof, provided hownever, that the term "waste or strip" shall not be deemed to include reasonable use,

depletion or wear thereof incident to the proper working thereof under the terms of this agreement.

4. Second Party shall comply with all the safety and accident laws or other laws pertaining to mining, of the State of Arizona, and the United States, in the working of said premises.

5. Second Party agrees to make payment to the First Party during the terms of this agreement and any extension or extensions thereof, expressly as follows, until the entire purchase price of One Hundred Fifty Thousand ($150,000) Dollars, legal tender has been received by the First Party under the following terms and conditions:

(a) Twenty-five (25) percent of the net proceeds received from the sale of all tungsten ores and or other valuable minerals or metals produced from said premises until said purchase price of One Hundred Fifty Thousand ($150,000) Dollars has been paid. Payments to be computed and made on the 1st day of each calendar month for proceeds received by Second Party during the preceding calendar month.

6. All mills, equipment, machinery or other supplies furnished by Second Party, to or for the use of said premises, shall remain the property of the Second Party and may be removed by said Second Party in the event default in this agreement except in such case as may impair, mor or react to the value or safety of said premises in which case said equipment or supplies shall remain on said premises and become the property of the First Party.

7. All payments for rent or royalty or purchase shall be made to First Party at 386 Smalley Avenue, Hayward, California, or such other place as First Party may in writing designate from time to time.

8. Second Party shall post on the property a Notice of Non-Responsibility furnished by First Party and shall continue to keep the same posted during the life of this agreement.

9. Second Party agrees, during the life of this agreement that it will not permit any liens, except, it being understood by the Party of the First Part and the Party of the Second Part that loan is to be solicited by Party of the Second Part from the U.S. Government under the Defense Minerals Exploration Program, and Party of the First Part understands that if the Government enters into contract with Party of the Second Part, any production

will be subject to the Governments royalty and if the Government makes a certification of discovery or development under the provisions of the contract all of the production will be subject to the Governments percentage royalty:

10. Second Party agrees to keep true books of account, to be open to the inspection of First Party at all reasonable times, showing the quantities and values of the ore mined, and the proceeds derived therefrom. First Party shall have access to said premises at all reasonable times, for the purpose of inspecting the same.

11. Second Party agrees to furnish to First Party copies of all documents showing the value of ores mined, milled or otherwise treated, the value of the mineral product therefrom, and the proceeds received from the sale thereof.

12. Second Party agrees to furnish to First Party, at First Party's request, a complete report of progress and development made by Second Party upon said premises, and will furnish to First Party, at First Party's request, a copy of all maps, surveys, sample data, assays taken, tests made, or other data which may be accumulated from time to time, relating to the mining operations of Second Party upon the demised properties.

13. It is also agreed that at its option, and upon thirty (30) days written notice, the Second Party may at any time terminate and/or cancel this agreement without further liability on its part, except to surrender said premises to the First Party and to pay any accrued royalties not then paid.

14. Upon the termination of this agreement prior to final sale, Second Party shall have the right within a reasonable time thereafter to remove from the demised premises all tools, machinery, supplies, equipment and personal property of whatsoever character which it may have installed or placed thereon, but buildings or permanent structures are excepted herefrom and shall remain on the property of the First Party.

15. Each and all of the terms, conditions, covenants and priviledges herein mentioned, shall inure to the benefit of, and be binding upon First Party, its successors and assigns, and the Second Party, its successors and assigns.

16. It is further agreed that should this contract be invalidated for any reason, <u>all water rights</u> will remain in possession of Jim Johnston,

Party of the First Part. That no mining operation will be undertaken without Party of the First Part passing on such operation so as not to knowledgeably jeopardize that present flow of water.

IN WITNESS WHEREOF the parties hereto have executed these presents the day and year first above written, in triplicate.

James B. Johnston
JAMES B. JONSTON, First Party

Gladys Johnston
GLADYS JOHNSTON, First Party

Louis Edgar Walker
LOUIS EDGAR WALKER, Second Party

Witness:_____