400

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

224 New Customhouse
Denver 2, Colorado

October 2, 1956

WSM

Mr. William A. Whitehead
285 "F" Street
Salt Lake City, Utah

Re: Docket DMEA 3828 (Mercury)
Yellow King Claims, Washington
County, Utah.

Dear Mr. Whitehead:

Reference is made to your letter to Mr. Stephen R. Wilson, dated September 5, 1956.

You gave general information regarding additional work you have done on the captioned property since the DMEA field examination.

Enclosed are 5 copies of Form MF-103 and you are requested to submit a new and complete application supported by a map and assay results showing the extent and value of the additional work.

Please forward this office four copies of your new application and in this new application, make reference to the old Docket number DMEA 3828.

Yours very truly,

W. M. TRAVER

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

Enclosures

HMC:ytl
cc
Sec. Op. Comm. (2)
Harshman (2)
Wilson
DMEA 3828
Chron.

Duplicates
To Throw Out
WS Martin
4/3/57

400

Mr. W. M. Travers, Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

SEP 26 1956

Re: Docket No. DMEA 3828 - Mercury
Whitehead and Whitehead
Yellow King claims
Washington County, Utah

Dear Mr. Travers:

Reference is made to the subject docket and your memorandum of September 11, 1956, enclosing copies of the applicant's letter of September 5, to Mr. Stephen R. Wilson and Mr. Wilson's memorandum to you dated September 6.

The Geologic and Engineering Reports on the subject property by Field Examiners, R. W. Osterstock and M. M. Gilkey, indicate that exploration is not warranted geologically as there is no indication of possible increase in intensity of mineralization in either direction along the strike of the fault zone, and contain no evidence that any quantity of mineralized material exceeding a value of 0.50% mercury could be found. The reports also imply that sufficient geological information was available when the property was examined to conclude that the deposit was formed by extremely weak mineralizing solutions resulting in a very low grade ore-mineral occurrence which will not show an improvement in grade either along the strike or at depth.

0.05%

The general information in Mr. Whitehead's letter to Mr. Wilson regarding additional work performed does not justify reconsideration of the subject application. Therefore, as you suggested the applicant should be requested to submit a new and complete application supported by a map and assays showing the extent and value of the additional work.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

Frank D. Lamb
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

ADMcMahon/foc 9/25/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG.III
J. W. Pennington, BM
T. H. Kiilsgaard, GS

400

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

224 New Customhouse
Denver 2, Colorado

September 11, 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3828 (Mercury) Whitehead and Whitehead (Yellow King Claims) Washington County, Utah

S.P.H.

Enclosed are two copies of a letter from the subject applicant dated September 5, 1956, to Mr. Stephen R. Wilson, and two copies of Mr. Wilson's memorandum on the subject property dated September 6, 1956.

Will you please advise if you wish to reopen the subject docket on the basis of additional work performed by the applicant, or should we advise the applicant to submit a new and complete application showing the location, assays and results of his additional work?

W. M. TRAVER

Encl.

W. M. Traver

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1600 EAST FIRST SOUTH STREET
SALT LAKE CITY 12, UTAH

DMEA
DEPARTMENT OF THE INTERIOR
SEP 10 1956
REGION III
DENVER, COLORADO

September 6, 1956

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Region III

From: Stephen R. Wilson

Subject: Docket No. DMEA-3828 (Mercury), Whitehead and Whitehead (Yellow King claims), Washington County, Utah

Enclosed are the original and eight copies of a letter received from William A. Whitehead, one of the partners under the subject docket. Mr. Whitehead called at this office August 30, 1956, to discuss possible reconsideration of a request for DMEA assistance on the Yellow King claims in Washington County, Utah. Mr. Whitehead's discussion of the property in this office and his letter indicate that considerable work has been accomplished on the surface of the property since examination by DMEA personnel July 14, 1955. Mr. Whitehead indicated that a number of samples had been taken from the property and assayed for mercury. However, no results are included in his letter and no assay certificates were presented at the time he was in this office.

A report recommending denial of the applicant's request was transmitted to your office August 31, 1955. The request was subsequently denied by the Washington Office of DMEA.

Stephen R. Wilson
Stephen R. Wilson

Enclosure

cc: J. B. Clemmer

Salt Lake City, Utah
Sept. 5, 1956

Subject: DMEA-3828
Re: Exploration Assistance Yellow King

Mr. Stephen R. Wilson
Bureau of Mines
1600 East 1st South
Salt Lake City, Utah

Dear Sir:

Pursuant to our conversation of August 30, and referring to the application for a loan on the Mercury prospect to which we were assigned docket No. DMEA-3828, we are desirous of, and hereby ask for reconsideration of a loan on the grounds described as follows.

We have done considerable work with caterpiller tractor in removing the over-burden and exposing the formation to a great extent, also by making other surface excavations with air compressor, jack hammer, and power tractor. As a result, we are down deeper and have thereby exposed the formation so that a much better appraisal of the structure and mineralization can be made.

From samples taken during the development work, there is much evidence of the possibility of a large low-grade deposit of Mercury as well as the possibility of following a vein which has been opened up indicating higher grade deposit. We have also added five adjoining claims, all of which show Mercury on the surface, and, therefore, feel justified in asking for reconsideration of a loan. Because of this we feel there would be a possibility that drilling to discover the extent of the deposit would be of considerable value and in the operation of the development work, as well as the justification for building a plant for the processing of the ore.

We hope that you will give this your earnest consideration. We shall be happy to give any additional information needed.

Yours truly,

/s/ William A. Whitehead

William A. Whitehead

WAW/mrs

OCT 3 - 1955

Messrs. William A. Whitehead
and William A. Whitehead
285 F Street
Salt Lake City, Utah

Re: Docket No. DMEA 3825 - Mercury
Yellow King claims
Washington County, Utah

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 a small amount of mercury mineralization on the Yellow King group of claims, indicates to us that the probability of disclosing minable mercury ore reserves by your proposed program 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 Program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

SPHolt:foc 9/28/55
cc to: Docket
Code 400
Adm. Read. File
Oper. Comm.
FT. REG. III
H. M. Meyer, USBM
T. H. Kiilsgaard, USGS

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $27,979.20 ($5,690.00)
Docket No. DMEA 3828 - Mercury
William A. Whitehead and William R. Whitehead
Yellow King claims
Washington County, Utah

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

1. The applicants, William A. Whitehead and William R. Whitehead, 285 F Street, Salt Lake City, Utah, requested exploration assistance in the amount of $27,979.20 (later revised to $5,690), for 300 feet of drifting and 200 feet of sinking (later changed to 150 feet of drifting only), in the Yellow King claim.

2. The applicants control by ownership and lease-purchase agreement from Victor Sullivan and the heirs of Samuel Sullivan, the Yellow King unpatented lode mining claim; and by joint ownership with Calvert Whitehead, Preston Whitehead and Victor Sullivan, the Yellow Jacket Extension Nos. 1, 2 and 3, unpatented lode mining claims. These four claims are situated in Sections 19 and 30, T. 42 S., R. 14 W., S. L. B. & M., Washington County, Utah, about 3½ miles southeast of the town of Washington. The Yellow Jacket claim is recorded in Book X22, at page 362, in the records of Washington County, at St. George, Utah.

3. The proposed program was to sink 100 feet of vertical shaft and 100 feet of inclined shaft, with 300 feet of drifting from the shafts along the mineralized zone in the Yellow King claim. This proposed program was later revised to cover only 150 feet of drifting on the same claim.

4. In the area the applicants proposed to explore sparse mercury mineralization is exposed in outcrops and in one open cut on the Yellow King claim, but there is little

indication that minable bodies of mercury ore will be discovered by work under the applicant's proposed program.

5. The Field Team concludes that there is little probability of making a significant discovery and recommends denial. The Commodity Divisions of the Geological Survey and the Bureau of Mines concur in this recommendation.

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

SPHolt:foc
9-28-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.

400

September 21, 1955

Copy retained 400

Memorandum

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

From: J. W. Pennington, Branch of Base Metals

Subject: Review of Field Team Report, Docket DMEA 3828 (mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah

The Bureau of Mines examination revealed that the mercury mineralization of the area is weak. Representation samples from the deposit contained 0.05 percent or less mercury. With normal processing recoveries and current mercury prices, the maximum value of the material is only $3.25 a ton.

In addition, the Geological Survey has noted that there is no geologic evidence to indicate the presence of higher grade material.

For these reasons I concur with the Field Team's recommendation that the application for exploration assistance be denied.

Signed

J. W. Pennington

JWPennington/vr

Copy to: Division of Minerals
Branch of Base Metals
H. M. Meyer
Thor Kiilsgaard, U.S.G.S.
F i l e s

September 21, 1955

Memorandum

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

From: J. W. Pennington, Branch of Base Metals

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For these reasons I concur with the Field Team's recommendation that the application for exploration assistance be denied.

Signed

J. W. Pennington

JWPennington/vr

Copy to: Division of Minerals
Branch of Base Metals
H. M. Meyer
Thor Kiilsgaard, U.S.G.S.
F i l e s

September 21, 1955

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For these reasons I concur with the Field Team's recommendation that the application for exploration assistance be denied.

Signed

J. W. Pennington

JWPennington/vr

Copy to: Division of Minerals
Branch of Base Metals
E. M. Mayer
Thor Kiilsgaard, U.S.G.S.
F i l e s

IN REPLY REFER TO:

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

September 20, 1955

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of Field Team Report, DMEA Docket No. 3828 (Mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah.

The examining team reports that although cinnabar is present on the property, in non-commercial quantities, conditions are not favorable for the presence of mercury ore deposits.

Favorable conditions that do exist are:

1) The location of the property on the flank of the faulted Virgin anticline.

2) The presence of mercury mineralization.

3) The presence of Tertiary volcanic flows in the vicinity.

4) The presence of a favorable host rock capped, in places, by impervious Moenkopi shales and siltstones.

Mercury mineralization is known in various localities in southern Utah. Usually the cinnabar is found in Chinle shales.

I believe that if a place could be found, near Washington, Utah, where the above conditions are present in their best form the chances of finding a commercial mercury ore body might be good.

According to the Field Examination Report, however, the overlying Moenkopi is coarsely conglomeratic and the mineralization is weak. I agree, then, with the examining team's recommendation that the application be denied.

WPWilliams:iml
G-9/20/55
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. M. Meyer, 3623

W. P. Williams

IN REPLY REFER TO:

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

September 20, 1955

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of Field Team Report, DMEA Docket No. 3628 (Mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah.

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Favorable conditions that do exist are:

1) The location of the property on the flank of the faulted Virgin anticline.

2) The presence of mercury mineralization.

3) The presence of Tertiary volcanic flows in the vicinity.

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WPWilliams:iml
G-9/20/55
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. M. Meyer, 3623

W. P. Williams

400

IN REPLY REFER TO:

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

September 20, 1955

Copy retained 400

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of Field Team Report, DMEA Docket No. 3828 (Mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah.

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2) The presence of mercury mineralization.

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WPWilliams:iml
G-9/20/55
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. M. Meyer, 3623

W. P. Williams

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

402

September 9, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

WSM

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, Docket DMEA 3828, (Mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah

Enclosed are the original and three copies each of the U. S. Bureau of Mines and U. S. Geological Survey reports pertaining to the subject application. The reports consist of the following:

a. Geologic Report by R. W. Osterstock, U. S. Geological Survey
b. Engineering Report by M. M. Gilkey, U. S. Bureau of Mines
c. Joint Summary, Conclusions, and Recommendations by R. W. Osterstock and M. M. Gilkey
d. Memoranda of transmittal and comment by E. N. Harshman and Stephen R. Wilson

The examining team believes that the chances for a commercial deposit of mercury on the Yellow King Claims is poor and therefore they recommend that the application be denied.

We concur with their recommendation.

Enclosures

W. M. Traver
W. M. Traver

E. N. Harshman
E. N. Harshman

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1600 EAST FIRST SOUTH STREET
SALT LAKE CITY 1, UTAH

RECEIVED
Date Rec'd.
SEP 16 1955

TRANSMITTED
SEP 9 1955

SEP 2 1955
BUREAU OF MINES
Denver, Colorado

August 31, 1955

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Region III

From: Stephen R. Wilson

Subject: Docket No. DMEA-3828 (Mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah

Enclosed are original and eight copies of an engineering report covering examination of the subject property. The examination was made by M. M. Gilkey to appraise a request for DMEA assistance in exploration. Also included are the necessary copies of a separate section, Summary, Conclusions and Recommendations, and a copy of the brochure.

The applicant originally requested a loan of $27,929.20 to conduct exploration consisting of limited surface stripping, drifting and shaft sinking. A revised project proposal was later submitted estimated to cost $5,690.

Mercury mineralization on the Yellow King claims is found in Kaibab limestone of Permian age. Mineralization occurs in and adjacent to a northeasterly trending fault zone believed to be related to the Hurricane fault system several miles to the west. Mercury mineralization thus far disclosed is low in grade. The maximum assay value of six samples taken by the inspecting engineer is 0.05 percent mercury.

The examining engineer and geologist believe that chances for discovery of commercial mercury mineralization on the Yellow King claims are poor. It is believed that the grade of mineralization will not increase along the strike zone or at depth. It is therefore recommended that the request for DMEA assistance be denied. I concur in this recommendation.

Stephen R. Wilson
Stephen R. Wilson

Enclosures

cc: W. H. King
J. B. Clemmer

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By R. W. Osterstock and M. M. Gilkey

The Yellow King mercury claims in Washington County, Utah were examined by DMEA personnel during July 1955 to appraise a request for Government assistance in exploration. A project proposal was submitted by W. A. Whitehead and W. R. Whitehead under docket No. DMEA-2828. Original exploratory proposals consist of limited surface stripping, drifting and shaft sinking estimated to cost $27,[illegible].00. A revised program submitted by the applicants is estimated to cost $5,000.00.

Rocks in the area of the Yellow King claims consist of cherty limestone, sandstone, mudstone and shale of Permian and Triassic age. Mercury mineralization is found in the Permian Kaibab limestone on the west flank of the Virgin anticline. Mineralization occurs in and adjacent to a northeasterly trending fault believed to be related to the major north-south Hurricane fault several miles to the west. Mercury mineralization is found throughout the fault zone to a limited extent. Six samples cut in the zone show a maximum assay value of 0.05 percent mercury.

The examining personnel conclude that mineralization on the Yellow King claims is weak and little possibility exists that the grade of mineralization will increase along the strike of the zone or at depth. It is believed that work proposed by the applicant will not result in discovery of significant bodies of mercury ore and it is, therefore, recommended that the request for DMEA assistance be denied.

WHITEHEAD AND WHITEHEAD
YELLOW KING CLAIMS
WASHINGTON COUNTY, UTAH
MRDA-SAEE
Mercury

Engineering Report

By M. M. Gilbey
Mining Engineer
Bureau of Mines

WHITEHEAD AND WHITEHEAD
YELLOW KING CLAIMS
WASHINGTON COUNTY, UTAH

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ILLUSTRATIONS

Fig. 1 Location map, Whitehead and Whitehead, Yellow King claims, Washington County, Utah
Fig. 2 Sketch map, Yellow King claims
Fig. 3 Geologic map, Yellow King workings

SUMMARY

Whitehead and Whitehead submitted an application dated May 16, 1955, for aid in an exploratory project on the Yellow King mercury property in Washington County, Utah. The property was examined by DMEA personnel July 14, 1955. The applicant originally estimated the cost of the proposed project to be $37,979.80. In a revision of the project proposals, dated July 16, 1955, the estimated cost is $5,699.00.

The property is easily accessible. It is situated 8.6 miles by road southeast of the town of Washington, which is near St. George, in southwestern Utah. The altitude is about 3,000 feet.

The four Yellow King claims are held under a complicated partnership arrangement involving six partners, including the two applicants.

No ore has been produced from the claims and there are no known ore reserves.

The one mineralized showing on the property occurs on the original Yellow King claim. This is exposed in an open cut excavated across a brecciated, northeasterly trending, minor fault zone, cutting westerly dipping Kaibab limestone beds. The fault is believed to be related to the major north-south Hurricane fault several miles to the west. Assays of six samples taken from the cut show that low-grade mercury mineralization persists for a distance of more than 20 feet across the limestone beds. The highest grade sample, representing a width of 6 feet, assayed 0.05 percent mercury.

Exploratory work proposed by the applicant consists of 180 feet of drifting along the mineralized fault zone. The work is feasible from an engineering point of view and the estimated unit costs are reasonable. Geologically, however, the exploration does not appear to be warranted, inasmuch as there is no indication of possible increase in intensity of mineralization in either direction along the strike of the fault zone.

Therefore, it is recommended that the loan request be denied.

INTRODUCTION

Whitehead and Whitehead submitted an application dated May 16, 1955, for Government aid in an exploratory project estimated to cost $27,979.20 on the Yellow King mercury property, Washington County, Utah. The property was examined July 14, 1955, by R. W. Osterstock of the Geological Survey and M. M. Gilkey of the Bureau of Mines, with William A. Whitehead representing the applicant. In a revision of the project proposals, dated July 16, 1955, the estimated cost is reduced to $5,990.00. Assays of samples taken from the mineralized exposure show that the mercury content is too low to warrant an exploratory project. No evidence is present to indicate increase in grade of mineralization below the surface.

LOCATION, TOPOGRAPHY AND CLIMATE

The property is situated 2.6 miles by road southeast of the town of Washington, Washington County, Utah, in Secs. 19 and 30, T. 42 S., R. 14 W. (fig. 1). St. George, Utah, population 4,545, the largest town in the area, and source of supplies and manpower, is situated on U. S. Highway 91, 5 miles west of Washington.

A graded, county road from U. S. Highway 91 at Washington passes just north of the property line. An access road extends from this point a distance of one-half mile to the mineralized area on the original Yellow King claim.

Altitudes on the property range from 2,800 feet to 3,000 feet, approximately. Slopes are steep in the immediate vicinity of the mineralized outcrop, but the area as a whole is of moderate relief.

Temperatures are high during the summer, and the short winter is mild. Vegetation in the area consists mainly of sparse desert brush. Water is available at a distance of about 1 mile from the property.

OWNERSHIP AND EXTENT

In item 3, on application form MF-103, the property described consists of one claim only, the Yellow King, located December 28, 1948. As stated in the revised application dated July 16, 1956, three additional claims have since been located. The project area, as proposed by the applicants, now consists of the four lode claims, Yellow King and Yellow King Extensions Nos. 1, 2 and 3, as shown on the claim map (fig. 2).

The Yellow King claim is owned by the applicants, William A. Whitehead and William R. Whitehead, in partnership with Victor Sullivan and the heir to the estate of Samuel Sullivan. Attached to the application is an agreement dated December 28, 1949, whereby the "rights

and titles" (pertaining to Yellow King claim) of Victor and Samuel Sullivan are, subject to stated provisions, transferred to the applicants.

The other three claims, Yellow King Extensions Nos. 1, 2 and 3, were located in July 1955 by William A. Whitehead and William R. Whitehead (the applicants), Calvert and Preston Whitehead, and the above-mentioned Victor Sullivan.

HISTORY, PRODUCTION AND ORE RESERVES

The Yellow King claim on which the cinnabar mineralization is exposed was first located in December 1948. The mineralization is visible in one open cut, about 20 feet long, 15 feet wide, and 1 to 6 feet deep, excavated at the site of an old, filled prospect pit, in the bottom of a V-shaped gulch (fig. 2). No mineralization is exposed in a second prospect cut situated some 300 feet to the south of the first. No underground work nor exploratory drilling has been done. There has been no production from any of the claims in the Yellow King group and there are no known ore reserves.

DESCRIPTION OF THE DEPOSIT

The Yellow King mercury deposit is situated low on the west flank of the Virgin anticline. The mercury mineralization, with minor amounts of copper carbonate, occurs in and adjacent to a N. 35° E.-trending fault presumably related to the major north-south Hurricane fault several miles farther to the west (fig. 3). The host rock, upper

Permian Kaibab limestone, is light in color, cherty and regularly bedded. Another northeasterly striking fault, exposed about [illegible] feet northwest of the mineralized outcrop, places the Kaibab limestone in lateral contact with the stratigraphically higher Triassic Moenkopi formation. In the vicinity of the contact, the Moenkopi consists principally of red, grey and green shales. The contact unit is a coarse, limestone-quartzite conglomerate. A basalt capping on an isolated hill, situated about a mile to the west across a badland area, is evidence of Tertiary volcanic activity in the region.

Six chip samples of the brecciated fault material were taken by the BEGA engineers. As shown on figure 3, the three samples taken on the southwest side of the open cut, samples Nos. 1, 2 and 3, represent a total continuous distance of 18.5 feet across the westerly dipping limestone beds. It should be noted that the high-grade spot sample (14.14 percent Hg) reported by the applicant, was taken within the 6-foot interval included in sample No. 1 which assayed only 0.03 percent mercury. Apparently, the high-grade sample consisted of a small amount of material taken from one or more stringers of knife-blade width. Inspection revealed the presence of small fractures filled with red and dark-colored, earthy material, probably cinnabar and metacinnabarite. Sample No. 2, representing a distance of 6.5 feet, assayed less than 0.01 percent mercury. Sample No. 3 was 6 feet in length and assayed 0.05 percent

mercury. Samples Nos. 4, 5 and 6, taken along the northeast side of the cut, and totaling 22 feet in length, assayed from 0.08 percent down to less than 0.01 percent mercury.

The assay results indicate that the mineralized zone is wide but does not approach commercial grade. The highest assay, 0.08 percent mercury, is of the order of one-tenth ore grade under present economic conditions, with mercury priced at about $275 per flask of 76 pounds. Inasmuch as mercury deposits are generally formed at shallow depths and are not influenced by type of wallrock, it may be concluded that, with regard to these factors, optimum conditions existed in the area exposed in the open cut, and that the weakness of the mineralization results from the weakness of the mineralizing solutions. The brecciated nature of the limestone in the open cut is also conducive to deposition. It appears unlikely, therefore, that the proposed exploration would encounter ore of minable grade.

PROPOSED EXPLORATION AND COSTS

The applicant proposed, originally, an exploratory project estimated to cost $27,279.20 and which would require an estimated 12 months for completion. The original proposal included the following:

1. Power shovel and bulldozer work, 2 days each, at $125 per day	$ 500.00
2. Drifting (5' x 7'), 300' at $37 per foot	11,100.00
3. Vertical shaft sinking (6' x 6'), 100 feet at $55 per foot	5,500.00
4. Inclined shaft sinking (6' x 6'), 100 feet at $55 per foot	5,500.00
5. Construction of equipment shed	2,000.00
6. Assaying, accounting, taxes and insurance	2,779.20
Total estimated cost of original program	$27,979.20

In a revised program the applicant has proposed a project consisting of the following work which is estimated to require 4 months for completion.

1. Power shovel and/or bulldozer work, 4 days each, at $125 per day	$ 500.00
2. Drifting (5' x 7'), 150 feet, untimbered, at $25 per foot	3,750.00
3. Drift timbering, 30 sets (150 feet), at $40 per set	1,200.00
4. Assaying for mercury, 30 samples at $3.00 each	90.00
Total estimated cost of revised program	$ 5,540.00

The proposed work is feasible from an engineering point of view. Two adits would be driven along the mineralized zone exposed at the bottom of the gulch (figs. 2 and 3). The adit to the south would be 100 feet in length and would reach a depth of approximately 50 feet. To the north, the proposed 50-foot adit would reach a depth of about 20 feet.

The ground is completely dry but of somewhat ravelly nature so that some difficulty could be expected in drilling. It is not likely that any timber will be required for ground support, other than at

the adit portals. (The applicant includes in the estimation, the cost of timbering the entire 150 feet of drift). Rather than install a car and track, the applicant plans to use a slusher for removal of broken rocks from the adits.

Estimated unit costs are reasonable. Surface excavation at the portals, using a bulldozer or power shovel at $125 a day or $15.62 an hour, is not excessive for a four-day job. A cost of $25 a foot for untimbered, 5' x 7' drift is considered to be a reasonable figure for this type ground. Considered in estimating the total cost of timbering, $45 for a five-foot set, are the costs of extra excavation (specified cross section is 5' x 7' in the clear of timber) and extra mucking; and purchase price of delivered timber and cost of installation. The cost of timber, at $100 per thousand board feet, used in one, partially lagged, five-foot set, using 8-inch by 8-inch caps and posts, is about $20. Therefore, the total cost of timbering, at $45 a set, or $9 per foot of advance, does not seem to be excessive. The specified cost of mercury assays, at $3 each, agrees with the amount charged in Salt Lake City assay laboratories.

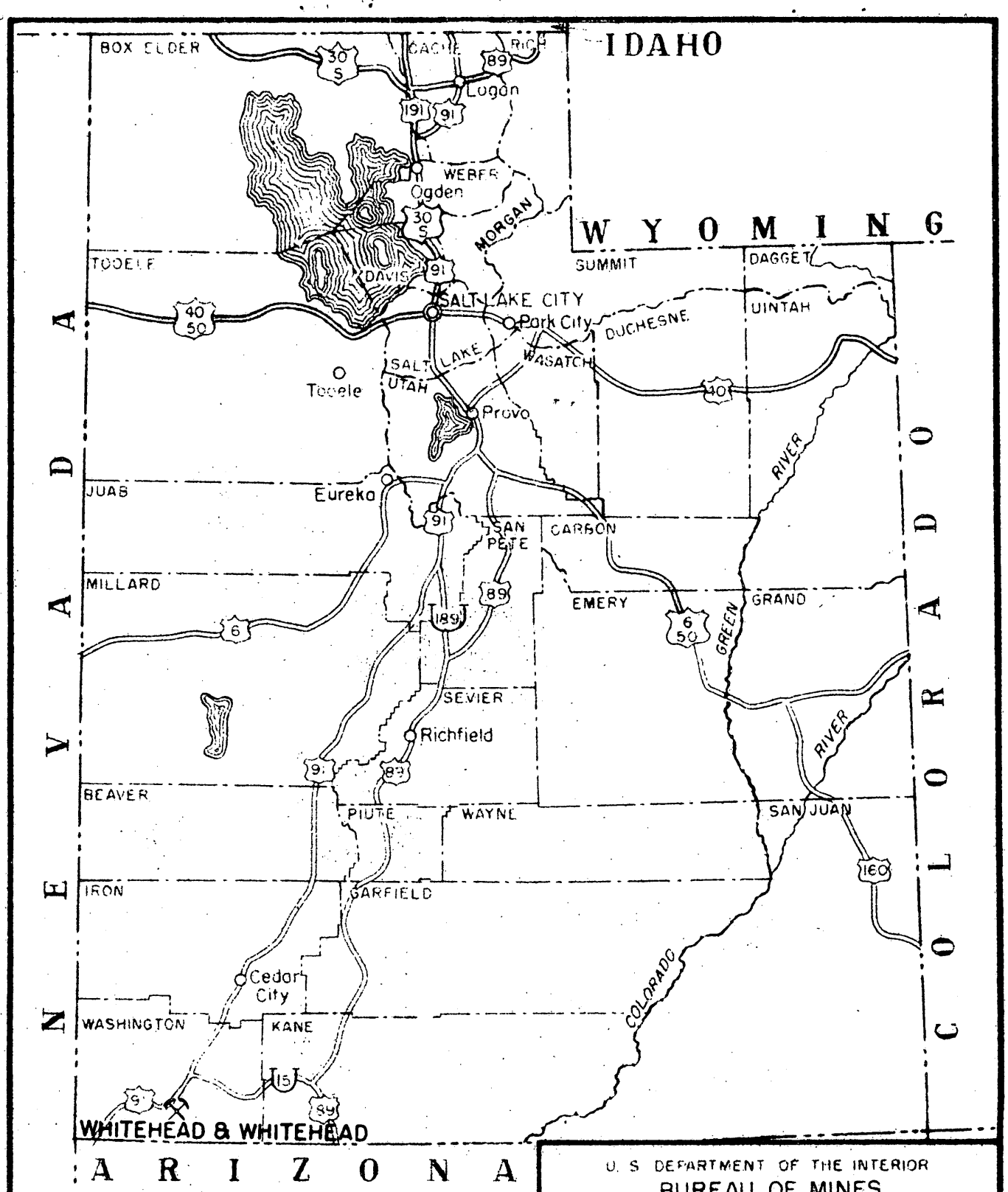
At 75 percent participation in the cost of the project, maximum cost to the Government would be $4,267.50.

CONCLUSIONS AND RECOMMENDATIONS

An open cut in upper Permian Kaibab limestone, on the Yellow King claims, has exposed material assaying from less than 0.01 percent to 0.05 percent mercury. The mineralization follows a minor fault zone

which strikes N. 25° E. and dips steeply to the west, and which makes low-angle intersections with the steeply west-dipping limestone beds. Width of the mineralized zone exceeds 20 feet. Remnants of basalt flows in the area indicate a Tertiary volcanic source of mineralization.

Geologic conditions in the area of the open cut are favorable with respect to proximity to the surface and the open nature of the brecciated fault material. There are no indications of a possible increase in intensity of mineralization along the strike of the fault zone. It is concluded, therefore, that the proposed 150 feet of drifting would not result in the discovery of cinnabar ore of minable grade, and it is recommended that the request for RFC assistance be denied.



0 50 100

SCALE OF MILES

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 1 DMEA Docket No. 3828

Location Map

WHITEHEAD & WHITEHEAD

YELLOW KING CLAIMS

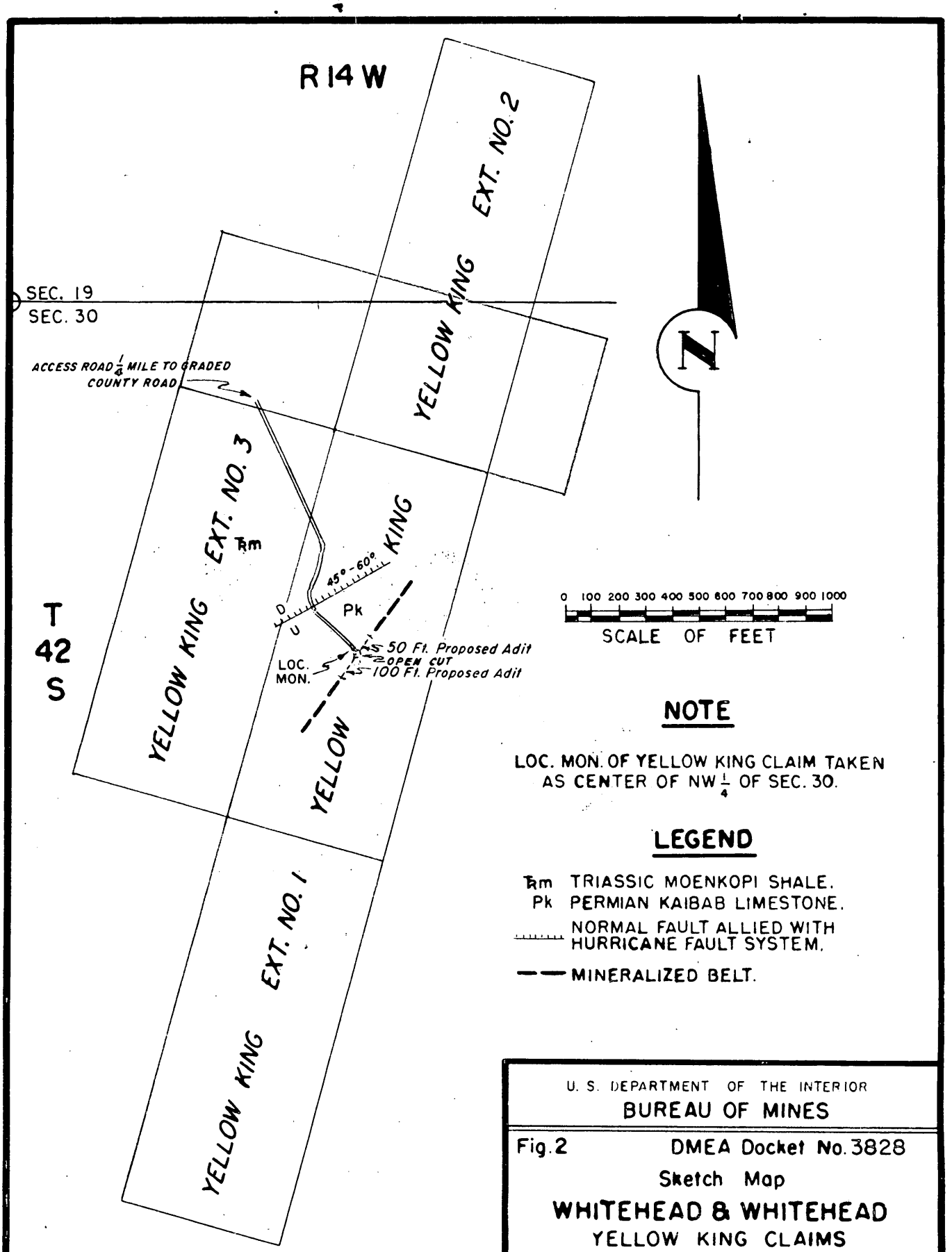
WASHINGTON COUNTY, UTAH

ENGINEER *Millard M. GILKEY* DATE: AUG. 15, 1955

TRACED: AUG., 1955; A.P.T.S.

CHECKED:

400 - 3 - E



U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 2 DMEA Docket No. 3828

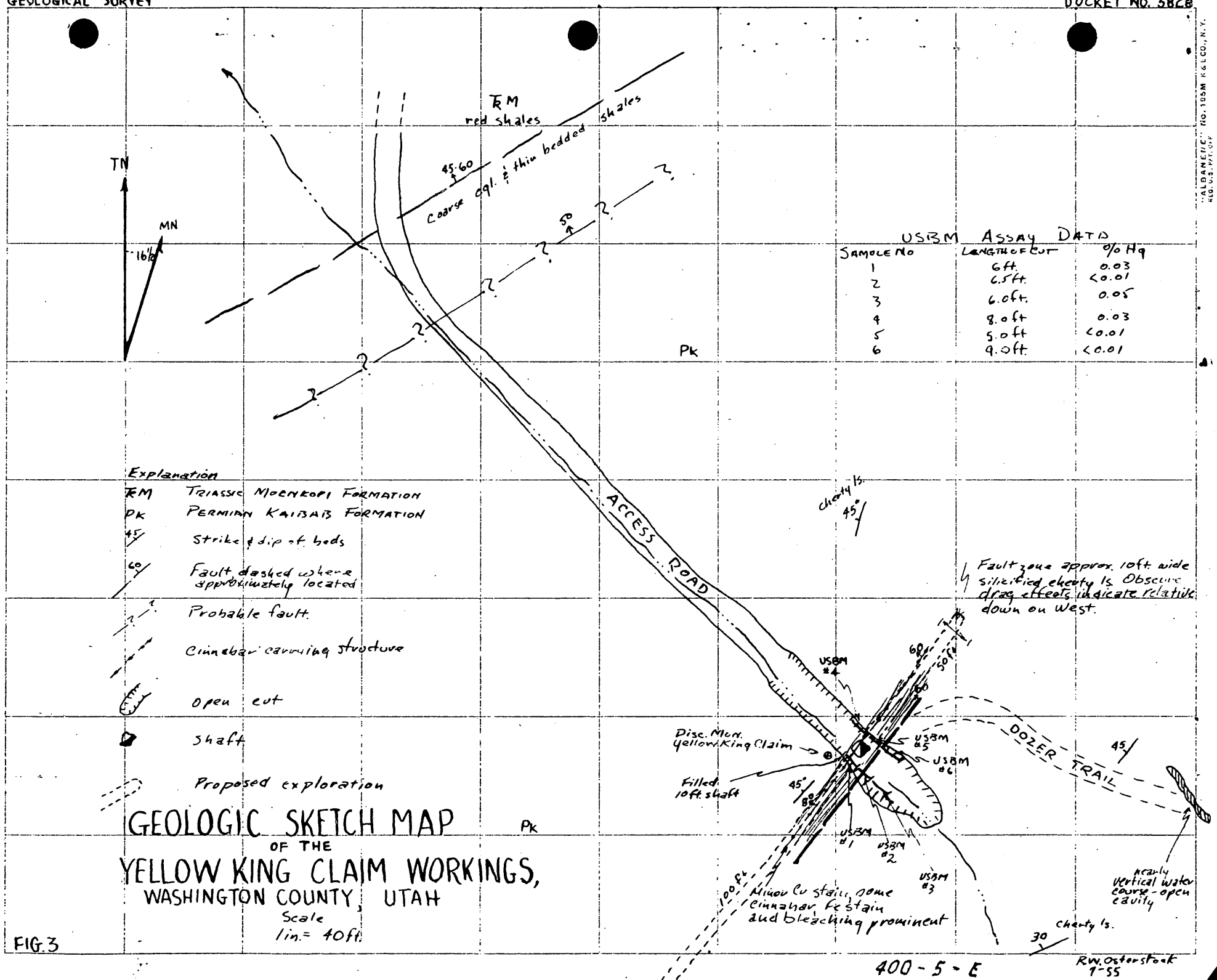
Sketch Map

WHITEHEAD & WHITEHEAD

YELLOW KING CLAIMS

WASHINGTON COUNTY, UTAH

ENGINEER: *Millard M. GILKEY*	DATE: AUG. 17, 1955
TRACED: AUG., 1955; A.P.T.S.	400 - 4 - E
CHECKED:	



USBM Assay Data

Sample No	Length of cut	% Hg
1	6 ft.	0.03
2	6.5 ft.	<0.01
3	6.0 ft.	0.05
4	8.0 ft	0.03
5	5.0 ft	<0.01
6	9.0 ft.	<0.01

GEOLOGIC SKETCH MAP OF THE YELLOW KING CLAIM WORKINGS, WASHINGTON COUNTY, UTAH

Scale 1 in. = 40 ft.

FIG. 3

400 - 5 - E

R.W. Osterstock
7-55

OFFICE OF THE ADMINISTRATOR

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

IN REPLY REFER TO:

DMEA
Date Rec'd.

AUG 25 1955

BUREAU OF MINES
Denver, Colorado

RECEIVED
SEP 13 1955
GEOL. SURVEY

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

August 24, 1955

TRANSMITTED
SEP 9 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3828 (Mercury), Whitehead and Whitehead, Yellow King claims, Washington County, Utah

Enclosed are the original and eight copies of a geologic report by R. W. Osterstock, U. S. Geological Survey, covering his examination of the above subject property.

Osterstock reports that very minor amounts of cinnabar and metacinnaberite occur in a 10-foot wide fault zone cutting beds of Kaibab limestone. Samples in a small open cut on the mineralized zone indicate a mercury content of about 0.05 percent. There is no geologic reason to believe that exploration will result in the discovery of higher grade material, and Osterstock, therefore, recommends denial of the application for exploration assistance.

I concur with this recommendation.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (9)

ENHarshman:arh

RECEIVED
SEP 1 6 1955

Room 208, 222 So. West Temple
Salt Lake City 1, Utah
August 23, 1955

TRANSMITTED
SEP 9 1955

Memorandum

To: E. N. Hershman, DMEA Field Team, Region III

From: R. W. Osterstock

Subject: DMEA Docket 3828 (Mercury) Whitehead and Whitehead, Yellow King claims, Washington County, Utah.

Enclosed are 9 copies of a geologic report on the Yellow King Claims. The subject operators applied for a DMEA loan to explore for mercury on their property. The initial exploration program costing $27,979.20 was later modified to a program costing $5,690.

Field examination of the property revealed the ore mineralization to be confined to a minor NE trending fault zone in the Permian Kaibab limestone. Sampling across the entire width of mineralization demonstrates only very low intensity ore mineralization which in no section approaches ore grade. There is no evidence to indicate that higher grade mineralization will be encountered by additional work. It is recommended, therefore, that the application for government assistance be denied.

R. W. Osterstock

cc: S. R. Wilson

RECEIVED
SEP 13 1955

YELLOW KING CLAIMS, WHITEHEAD AND WHITEHEAD

WASHINGTON COUNTY, UTAH

DMEA Docket 3828
(Mercury)

Initial Geologic Report

By R. W. Outerstock
U. S. Geological Survey

CONTENTS

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Summary	1
Introduction	2
Location and accessibility	2
History and production	3
Geology	3
Ore deposits	5
Ore reserves	6
Proposed exploration	6
Conclusions and recommendations	

ILLUSTRATIONS

Figure 1. Index map of Utah.

Figure 2. Claim map of Yellow King group.

Figure 3. Geologic sketch map of workings and proposed exploration on Yellow King Claim.

SUMMARY

The Yellow King claims, situate in Washington County, Utah and owned by Whitehead and Whitehead, were examined by DMEA personnel during July, 1955 relative to an application for government assistance on an exploration project. The applicants have submitted two exploration programs for consideration. The commodity is mercury.

Ore mineralization appears to be confined to a NW trending fault zone in the upper Kaibab limestone. Assay samples cut by the USBM engineer revealed no material above .05 percent Hg, and there is no evidence to indicate that higher grade mineralization will be found beyond the outcrops. It is therefore recommended that this loan request be denied.

INTRODUCTION

On May 23, 1955 Wm. A. and Wm. R. Whitehead (a partnership based in Salt Lake City, Utah) applied for a DMEA loan to aid in exploration for mercury ores on their Yellow King property in Washington County, Utah. At the request of the DMEA Region III Field Team an examination of the property was conducted July 21, 1955 by R. W. Osterstock (USGS) and M. M. Gilkey (USBM). Mr. Wm. A. Whitehead accompanied the examiners in the field.

The estimated cost of the initially proposed exploration project was $27,979.20. On July 21, 1955 the applicants submitted a revised exploration project estimated to cost $1,690.00

Location and Accessibility

The Yellow King property is composed of 4 claims, the Yellow King, and the Yellow King Extension Nos. 1, 2, and 3 (see Fig. 2). The claims are situate in the NW 1/4 of Sec. 30, T. 42 S., R. 14 W., SLB and M, Washington County, Utah.

The area in which the claims are located is one of high rounded hills separated by deeply eroded canyons leading down to irregularly dissected badland area which eventually grades down to the flat Virgin River valley floor. Specifically, the claims are at the junction of the badland topography and the higher rounded hills.

The property may be reached by travelling easterly on paved U. S. Highway 91 five miles from St. George, Utah to Washington, Utah, thence turn right (south) on graded dirt road (Utah 212) for 0.3 mile, thence bear left at "T" in road, thence cross one way bridge in 0.8 mile, thence turn left on dirt road after 0.5 mile, continue for 0.6 mile and take right fork

ORE DEPOSITS

All of the known mineralization on the Yellow King claims appears to be confined to a N. 35° E. striking fault zone in the upper beds of the Permian Kaibab limestone. Dips taken along the fault zone range from vertical to 60° West. It is believed that this fault zone is one of many small subordinate structures of the major Hurricane fault system. The limestone on the walls of the fault where exposed in the open cut contains abundant chert and has undergone mild silicification thus producing a sandy, friable product along the fault in place of the more conventional gouge zone. Total width of the fault zone is perhaps 10 feet of broken, crushed and brecciated material. The strongest single fracture in the zone appears to be on the southeast or footwall side.

The mercury mineralization occurs throughout the broken zone to a very limited extent, however one small break near the center of the zone does on visual inspection appear to carry slightly higher values. Samples taken by the applicants, in this their higher grade zone, are reported to have assayed up to 14.16 percent Hg. Chip samples taken by the U. S. Bureau of Mines on both walls of the open cut through the mineralized zone disclosed no material containing over 0.05 percent Hg.

The mercury bearing minerals in the thin "high grade" streak are tentatively identified as red, earthy cinnabar, and black, powdery metacinnabarite. Minor copper stain is also visible along the mineralized portion of the fault zone. Iron stain and bleaching by alteration are distinctive features of the zone. The overall impression gained is one of very low intensity mineralizing conditions.

The origin of the cinnabar mineralization is obscure but its proximity to large extrusive bodies is a characteristic relation noted in the major mercury producing districts the world over. It is further noted that most of the mercury deposits of the United States are associated with Tertiary (or later) basaltic volcanic activity. Cinnabar, unstable at high temperatures, is generally confined to relatively shallow depths and is generally not influenced by type of wallrock.

Thus, it may be concluded that the relative grade of the deposit will not vary appreciably from that noted in its outcrop, there is little likelihood of enrichment with depth as the mercury minerals are relatively stable in their present position.

It appears that the ore minerals in the Yellow King claims are disseminated over a fairly wide zone along a minor northeast fault with only one very thin seam containing small concentrations of the ore minerals. In no place noted does the mineralization even approach ore grade.

ORE RESERVES

The Yellow King property contains no ore reserves of any classification.

PROPOSED EXPLORATION

Originally the applicants proposed a $27,979.20 exploration project consisting of 300 feet of drifting, 100 feet of vertical shaft and 100 feet of incline shaft, along with considerable incidental expenses. The applicants submitted a revised exploration program on July 21, 1955 following the field examination. This program estimated to cost $5,690.00 consisted of 150 feet of drifting and some bulldozing.

Although the revised exploration program would adequately explore the structure along which the mineralization occurs there is no indication that

the work would prove the existence of mineralization higher in grade than that already noted in the open cut.

CONCLUSIONS AND RECOMMENDATIONS

The Yellow King group of claims in Washington County, Utah owned by Whitehead and Whitehead, a partnership, is in an area of Permian and Triassic sediments with cappings of basaltic flow rock. The rocks in the claim area are predominantly cherty limestone, sandstone and mudstone with some conglomerate. Considerably below ore-grade mercury mineralization occurs in a minor fault zone, there is no indication of possible improvement in grade and the USBM samples demonstrate the extremely low grade of mineralization where exposed in the open cut.

It is recommended that this application for government assistance be denied on the grounds that the deposit was formed by extremely weak mineralizing solutions thus forming a very low grade ore-mineral occurrence which will not show an improvement in grade either along strike or with depth.

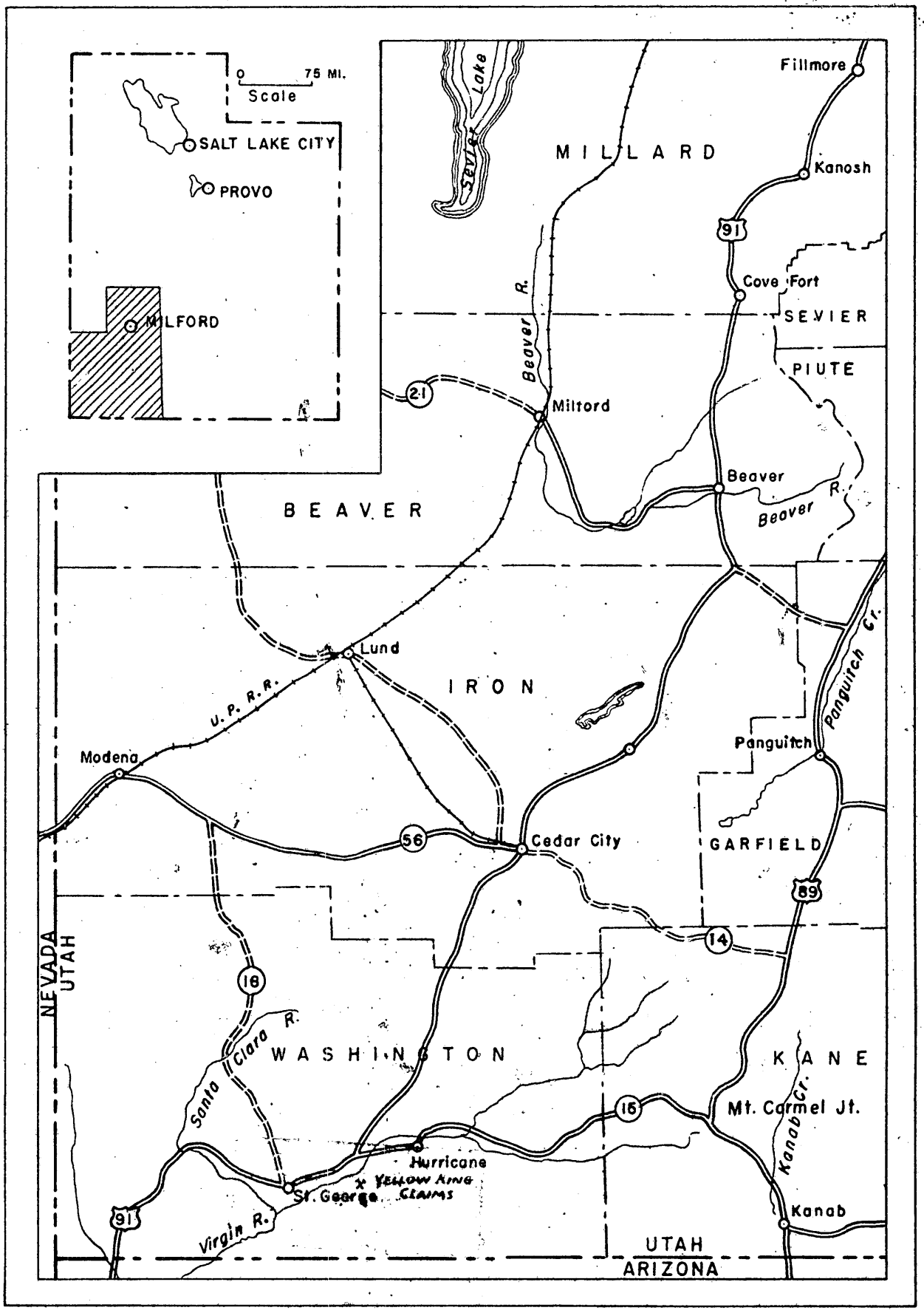
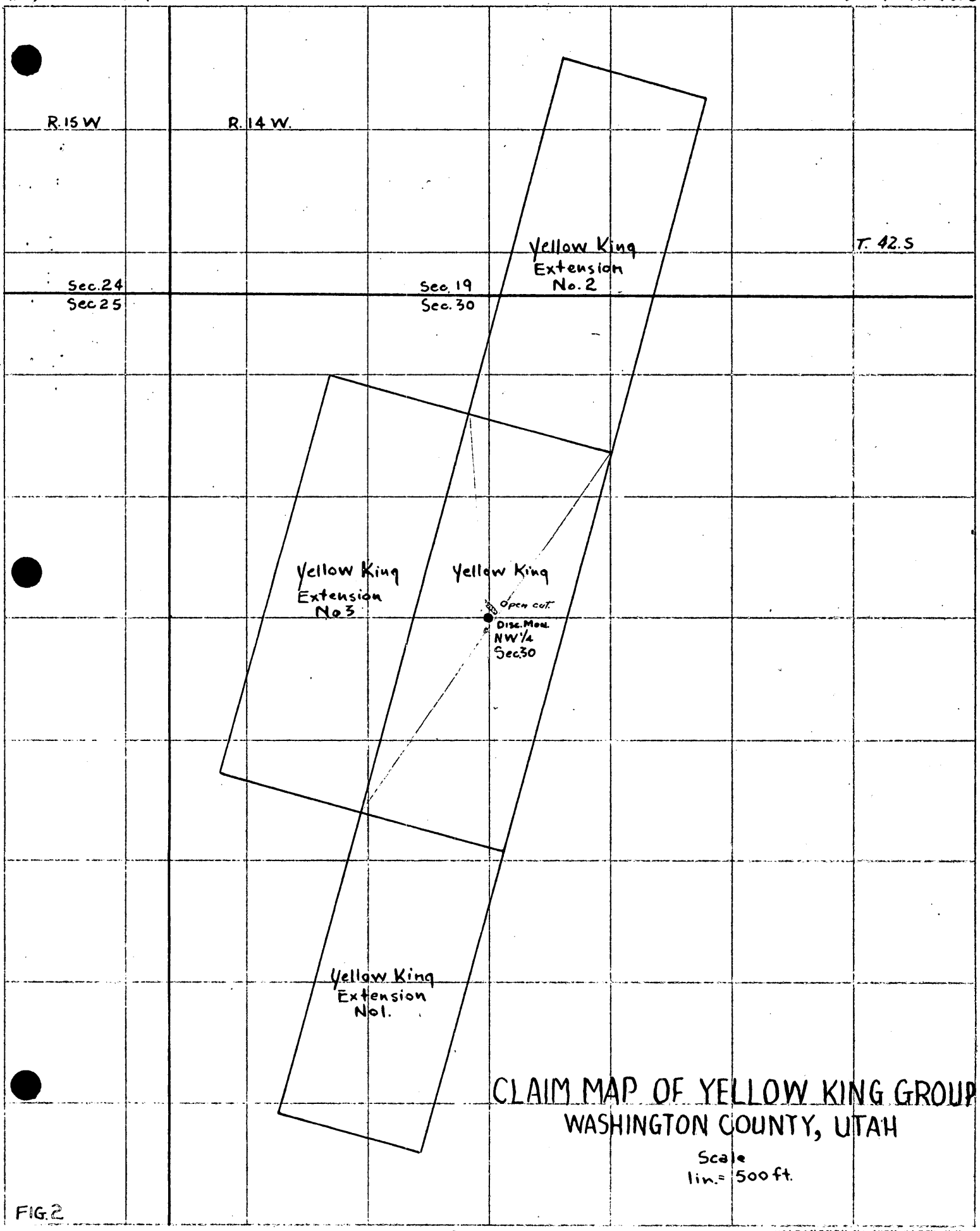


FIG. 1 INDEX MAP OF UTAH

0 5 10 15 20 MILES
Scale



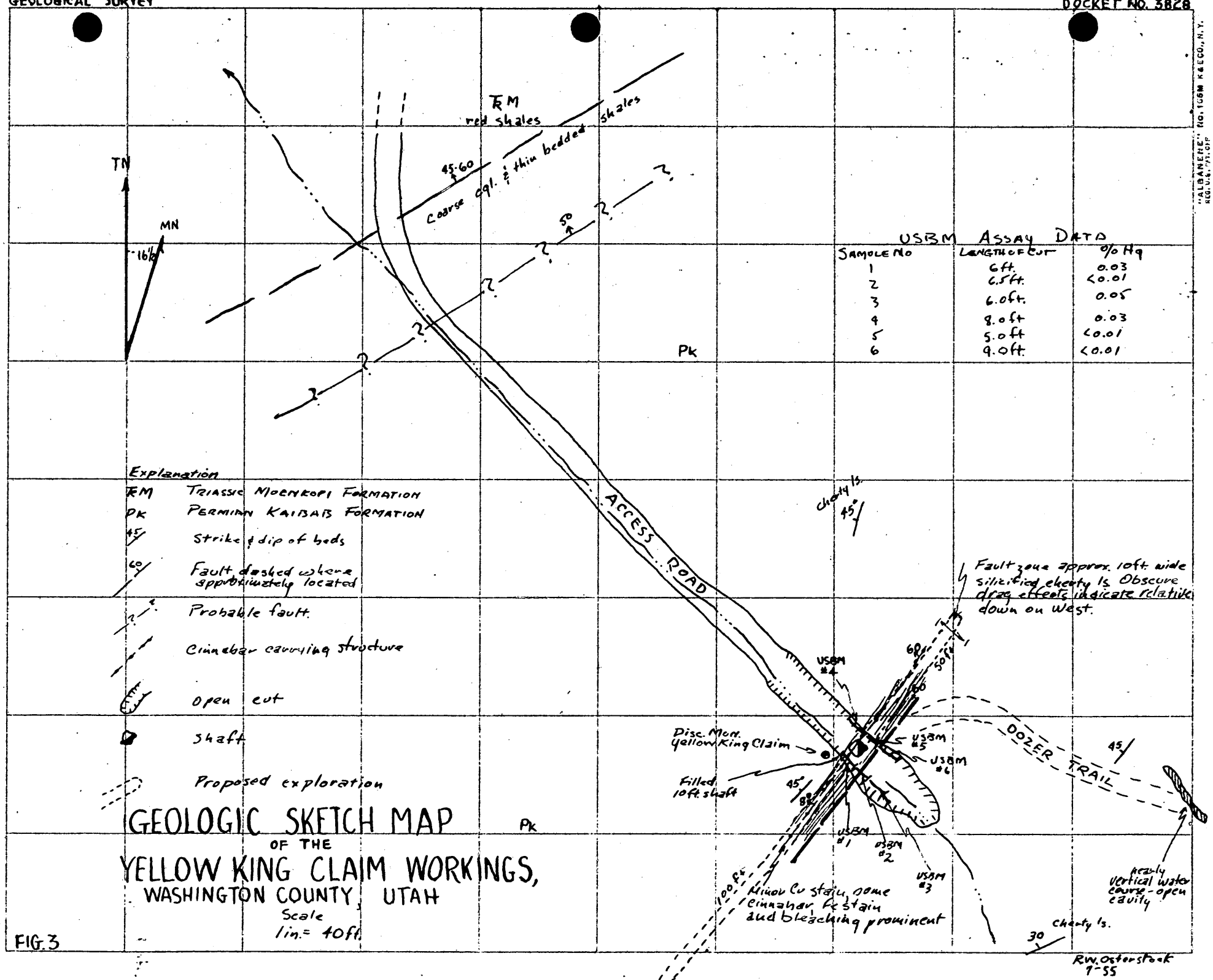
CLAIM MAP OF YELLOW KING GROUP
WASHINGTON COUNTY, UTAH

Scale
1 in. = 500 ft.

FIG. 2

"ALDANENE" No. 190M R&S CO., N.Y.
REG. U.S. PAT. OFF
RWO 7-55

"ALBANENE" REG. U.S. PAT. OFF. NO. 1GSM K&EGG., N.Y.



USBM Assay Data

Sample No	Length of cut	% Hg
1	6 ft.	0.03
2	6.5 ft.	<0.01
3	6.0 ft.	0.05
4	8.0 ft	0.03
5	5.0 ft	<0.01
6	9.0 ft.	<0.01

GEOLOGIC SKETCH MAP OF THE YELLOW KING CLAIM WORKINGS, WASHINGTON COUNTY, UTAH

Scale 1 in. = 40 ft.

FIG. 3

R.W. Osterstock
7-55

OFFICE OF THE ADMINISTRATOR

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

400

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

RECEIVED
JUN 13 1955

224 New Customhouse
Denver 2, Colorado

June 8, 1955

Memorandum

To: S. R. Wilson (w/brochure)
R. W. Osterstock

Copy retained 400

From: Field Team, Region III

Subject: Docket DMEA-3828 (Mercury), Whitehead and Whitehead, (Yellow King claims), Washington County, Utah

Enclosed are copies of the subject application for a loan for an estimated amount of $27,979.20, its referral by the Chairman of the Operating Committee, and a memorandum to E. W. Ellis from N. E. Nelson, USGS.

A field examination and covering reports are requested. Evidently, there is no information available in Washington regarding mercury deposits in the area covered by the application.

W. M. TRAVER

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

WMT:pw

cc: Subject
Chron
Sec.Op.Comm. (2)
Harshman

288 "A" Street
Salt Lake City, Utah
June 8, 1951

U. S. Department of the Interior
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Locket No. LAM 3828 - Mercury
Yellow King claim
Washington County, Utah

Gentlemen:

With reference to your letter of June 2, 1951, paragraph 2, the Yellow King claim was recorded in Book X-25, Page 360, in Washington County Recorders Office at St. George, Utah.

With reference to Samuel Sullivan and Victor Sullivan, they did not want to help in the annual assessment work and on December 28, 1949, transferred all their rights and titles to William A. Whitehead and William R. Whitehead to avoid the necessity of advertising them out, as required by law.

Since that time, Samuel Sullivan has died. Therefore, in the event your department required the approval by Victor Sullivan, I have a signed statement from him consenting to the same. I did this because Victor Sullivan shears sheep and was expecting to be in Wyoming and Montana and would not be readily accessible. Copies of his agreement are enclosed herewith.

Very truly yours,

W. A. Whitehead

William A. Whitehead

400

285 "E" Street
Salt Lake City, Utah
June 8, 1958

Copy Entered 400

U. S. Department of the Interior
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Locket No. LMSA 3828 - Mercury
Yellow King claim
Washington County, Utah

Gentlemen:

With reference to your letter of June 2, 1958, paragraph 2, the Yellow King claim was recorded in Book A-28, Page 360, in Washington County Recorders Office at St. George, Utah.

With reference to Samuel Sullivan and Victor Sullivan, they did not want to help in the annual assessment work and on December 28, 1949, transferred all their rights and titles to William A. Whitehead and William R. Whitehead to avoid the necessity of advertising them out, as required by law.

Since that time, Samuel Sullivan has died. Therefore, in the event your department required the approval by Victor Sullivan, I have a signed statement from him consenting to the same. I did this because Victor Sullivan shears sheep and was expecting to be in Wyoming and Montana and would not be readily accessible. Copies of his agreement are enclosed herewith.

Very truly yours,

W.A. Whitehead

William A. Whitehead

C O P Y

C O P Y

May 2, 1958

I hereby agree to a loan from United States Government on the Yellow King Mining Claim, containing Mercury, which is located about the center of north west quarter of section 30 Township, 42 South Range, 14 West S.L.B.&M. in Utah. I hereby disclaim any prior rights in subjection to the Government Contract.

/Signed/
Victor Sullivan

of split in road, continue for 1.1 miles to cattle guard, one hundred yards past cattle guard turn off graded dirt road onto primitive access road, continue on access road 0.6 mile to mine workings.

With the exception of the last 0.6 mile of bulldozed, sandy road, the property should remain accessible throughout the year, severe rainstorms may fill dry washes temporarily however.

History and Production

The original Yellow King claim was located on December 28, 1948 by Victor and Samuel Sullivan who, on December 28, 1949, assigned their interest in the claim to Wm. A. and Wm. R. Whitehead, the present applicants. Since acquiring the Yellow King Claim the Whiteheads have located three additional claims, the Yellow King Extension Nos. 1, 2, and 3. Mr. Wm. A. Whitehead reports that the Yellow King claim was located over an abandoned prospect which probably dates back at least 30 years. There is no record of production from the property.

GEOLOGY

The Yellow King group of claims lies in an area of badland type topography on the west flank of the Virgin Anticline.

The rocks exposed in the area are cherty limestone, sandstone, mudstone and shale of Permian and Triassic age. The oldest rock exposed is the upper Permian Kaibab limestone, this stratigraphically lowest formation is exposed by virtue of erosion of the Virgin Anticline. As a result of this action only the uppermost beds of the Kaibab occur low on the west flank of this anticlinal structure. The Kaibab in the area of the Yellow King claims is a dense, light colored, regular bedded cherty limestone, locally dolomitic. In fault contact with the underlying Kaibab formation is the Lower Triassic

Moenkopi formation, it is this section which gives rise to the badland topography. The Moenkopi formation in the area of the Yellow King claims is composed dominantly of red, gray and green argillaceous shales and mudstone. The unit in fault contact with the underlying Kaibab is a coarse conglomerate with abundant limestone and some quartzite and is generally referred to as the Timpoweap member of the Moenkopi.

Although not exposed in the immediate Yellow King area there are abundant Tertiary or later basaltic flows capping many of the nearby highlands. Trachyte porphyry is also reported in the region.

Structurally, the Yellow King property lies in the area of broad NE trending folds which parallel the Hurricane fault system. The most prominent structural features of the region are the persistent N-S trending Hurricane fault and related faults of lesser displacement. C. E. Dobbin, (U. S. Geo. Survey, Open File Map of the St. George District, Washington County, Utah) has shown small normal faults, down on the west, along the axis of the Virgin anticline. It is believed that the small fault structure noted at the contact of Permian Kaibab and the Triassic Moenkopi is a part of this group of faults which are themselves related to the major Hurricane fault system. The relatively small vertical displacement of the Yellow King fault is demonstrated by the fact that the uppermost beds of the Kaibab are still in contact with the lower Moenkopi or Timpoweap member. Extreme brecciation and some fault gouge along with local discoloration from alteration characterize the Yellow King fault. The fault zone along which the ore mineralization occurs is also thought to be a subordinate but related structure to the Hurricane fault system.

C
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May 2, 1955

I hereby agree to a loan from United States Government on the Yellow King Mining Claim, containing Mercury, which is located about the center of North west quarter of section 30 Township, 42 South Range, 14 West S.L.B.M. in Utah. I hereby disclaim any prior rights in subjection to the Government Contract.

/Signed/
Victor Sullivan

C
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May 2, 1955

I hereby agree to a loan from United states Government on the Yellow King Mining Claim, containing Mercury, which is located about the center of North West quarter of section 30 Township, 42 South Range, 14 West S.L.B.&M. in Utah. I hereby disclaim any prior rights in subjection to the Government Contract.

/Signed/
Victor Sullivan

Y Y

May 2, 19[illegible]

I hereby agree to a loan from United States Government on the Yellow Line Mining Claim, containing Mercury, which is located about the center of north west quarter of section 30 Township, 42 South Range, 14 east S.L.B.&M. in Utah. I hereby disclaim any prior rights in subjection to the Government contract.

/Signed/
Victor Sullivan

May 2, 1955

I hereby agree to a loan from United States Government on the Yellow King Mining Claim, containing mercury, which is located about the center of north west quarter of section 30 Township, 42 South Range, 14 West S.L.B.&M. in Utah. I hereby disclaim any prior rights in subjection to the government contract.

/Signed/
Victor Sullivan

400

JUN - 2 1955

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

Re: Docket No. DMEA 3628 - Mercury
Wm. A. Whitehead & Wm. R. Whitehead
Yellow King claim
Washington County, Utah

Dear Mr. Traver:

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

Two copies of a relevant memorandum dated May 27, 1955, by H. E. Nelson, Geological Survey, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

J. H. Hedges

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

FARutledge:foc
6-1-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
H. M. Meyer, USBM
T. H. Kiilsgaard, USGS

Enclosure

400

JUN - 2 1955

Messrs. Wm. A. Whitehead & Wm. R. Whitehead
285 "F" Street
Salt Lake City, Utah

Re: Docket No. DMEA 3828 - Mercury
Yellow King claim
Washington County, Utah

Gentlemen:

Reference is made to the above-docketed application for exploration assistance which has been reviewed by the Defense Minerals Exploration Administration and referred to Mr. W. M. Trever, Executive Officer, DMEA Field Team, Region III, 224 New Custom House, Denver 2, Colorado, for a field examination of the property.

Information as to the book, page number, and place of recording for the Yellow King claim should be furnished this Administration. In addition, we need six copies of the enclosed Subordination Agreement, form MF-201, executed by Samual Sullivan and Victor Sullivan, unless their entire interest in that claim has been transferred to you.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc
6-1-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. Reg. III
H. M. Meyer, USBM
T. H. Kiilsgaard, USGS

IN REPLY REFER TO:

400

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

May 27, 1955

Re: IMEA-3828
Whitehead & Whitehead
Yellow King Claims
Washington Co., Utah
$27,979.20 - Mercury

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

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

Subject: Review of application

Little information concerning this occurrence of mercury is given in this application and no general report on the area is available. A sample assaying 14.1[illegible] percent mercury was obtained, but one sample may not justify the work outlined.

A general examination appears warranted and referral to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

NENelson:hlm
G-5/27/55

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. M. Meyer, 2623 Interior

Copy [illegible] 400

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

224 New Customhouse
Denver 2, Colorado

May 19, 1955

Dmea 38228

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Mercury), William A. Whitehead and William R. Whitehead, a partnership, Yellow King claim, Washington County, Utah

Enclosed are the original and two copies of the subject application for government assistance to explore the Yellow King mining claim by 500 feet of drifting incline and vertical shaft sinking at a total estimated cost of $27,979.20.

A copy of the application has been retained in this office.

W. M. TRAVER,

W. M. Traver

Enclosures

Dmea 38228

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

RECEIVED
OCT - 4 1956

October 2, 1956

224 New Customhouse
Denver 2, Colorado

Mr. William A. Whitehead
285 "F" Street
Salt Lake City, Utah

Re: Docket DMEA 3828 (Mercury)
Yellow King Claims, Washington
County, Utah.

Dear Mr. Whitehead:

Reference is made to your letter to Mr. Stephen R. Wilson, dated September 5, 1956.

You gave general information regarding additional work you have done on the captioned property since the DMEA field examination.

Enclosed are 5 copies of Form MF-103 and you are requested to submit a new and complete application supported by a map and assay results showing the extent and value of the additional work.

Please forward this office four copies of your new application and in this new application, make reference to the old Docket number DMEA 3828.

Yours very truly,

W. M. TRAVER

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

Enclosures

HMC:ytl
cc
Sec. Op. Comm. (2)
Harshman (2)
Wilson
DMEA 3828
Chron.

DOCKET
SURNAME
McMahon
Martin
Selfridge
Fleming
Mattendorf

400

SEP 2 8 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 Bow Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 3828 - Mercury
Whitehead and Whitehead
Yellow King claims
Washington County, Utah

Dear Mr. Traver:

Reference is made to the subject docket and your memorandum of September 11, 1956, enclosing copies of the applicant's letter of September 5, to Mr. Stephen R. Wilson and Mr. Wilson's memorandum to you dated September 6.

The Geologic and Engineering Reports on the subject property by Field Examiners, R. W. Outerstock and M. M. Gilkey, indicate that exploration is not warranted geologically as there is no indication of possible increase in intensity of mineralization in either direction along the strike of the fault zone, and contain no evidence that any quantity of mineralized material exceeding a value of 0.50% mercury could be found. The reports also imply that sufficient geological information was available when the property was examined to conclude that the deposit was formed by extremely weak mineralizing solutions resulting in a very low grade ore-mineral occurrence which will not show an improvement in grade either along the strike or at depth.

0.05%

The general information in Mr. Whitehead's letter to Mr. Wilson regarding additional work performed does not justify reconsideration of the subject application. Therefore, as you suggested the applicant should be requested to submit a new and complete application supported by a map and assays showing the extent and value of the additional work.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SVS)

APPROVED:

Frank D. Lamb
Member, Bureau of Mines (SVS)

Thor H. Kiilsgaard
Member, Geological Survey (SVS)

ADMcMahon/foc 9/25/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG.III
J. W. Pennington, BM
T. H. Kiilsgaard, GS

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

RECEIVED
SEP 13 1956

224 New Customhouse
Denver 2, Colorado

September 11, 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3828 (Mercury) Whitehead and Whitehead (Yellow King Claims) Washington County, Utah

Enclosed are two copies of a letter from the subject applicant dated September 5, 1956, to Mr. Stephen R. Wilson, and two copies of Mr. Wilson's memorandum on the subject property dated September 6, 1956.

Will you please advise if you wish to reopen the subject docket on the basis of additional work performed by the applicant, or should we advise the applicant to submit a new and complete application showing the location, assays and results of his additional work?

W. M. Traver

Encl.

W. M. Traver

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1600 EAST FIRST SOUTH STREET
SALT LAKE CITY 12, UTAH

DMEA
DEPARTMENT OF THE INTERIOR
SEP 10 1956
REGION III
DENVER, COLORADO

September 6, 1956

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Region III

From: Stephen R. Wilson

Subject: Docket No. DMEA-3828 (Mercury), Whitehead and Whitehead (Yellow King claims), Washington County, Utah

Enclosed are the original and eight copies of a letter received from William A. Whitehead, one of the partners under the subject docket. Mr. Whitehead called at this office August 30, 1956, to discuss possible reconsideration of a request for DMEA assistance on the Yellow King claims in Washington County, Utah. Mr. Whitehead's discussion of the property in this office and his letter indicate that considerable work has been accomplished on the surface of the property since examination by DMEA personnel July 14, 1955. Mr. Whitehead indicated that a number of samples had been taken from the property and assayed for mercury. However, no results are included in his letter and no assay certificates were presented at the time he was in this office.

A report recommending denial of the applicant's request was transmitted to your office August 31, 1955. The request was subsequently denied by the Washington Office of DMEA.

Stephen R Wilson
Stephen R. Wilson

Enclosure

cc: J. B. Clemmer

Salt Lake City, Utah
Sept. 5, 1956

Subject: DMEA-3828
Re: Exploration Assistance Yellow King

Mr. Stephen R. Wilson
Bureau of Mines
1600 East 1st South
Salt Lake City, Utah

Dear Sir:

Pursuant to our conversation of August 30, and referring to the application for a loan on the Mercury prospect to which we were assigned docket No. DMEA-3828, we are desirous of, and hereby ask for reconsideration of a loan on the grounds described as follows.

We have done considerable work with caterpiller tractor in removing the over-burden and exposing the formation to a great extent, also by making other surface excavations with air compressor, jack hammer, and power tractor. As a result, we are down deeper and have thereby exposed the formation so that a much better appraisal of the structure and mineralization can be made.

From samples taken during the development work, there is much evidence of the possibility of a large low-grade deposit of Mercury as well as the possibility of following a vein which has been opened up indicating higher grade deposit. We have also added five adjoining claims, all of which show Mercury on the surface, and, therefore, feel justified in asking for reconsideration of a loan. Because of this we feel there would be a possibility that drilling to discover the extent of the deposit would be of considerable value and in the operation of the development work, as well as the justification for building a plant for the processing of the ore.

We hope that you will give this your earnest consideration. We shall be happy to give any additional information needed.

Yours truly,

/s/ William A. Whitehead

William A. Whitehead

WAW/mrs

DOCKET
SURNAME
400 Holt
Martin
Nelson
Guhon
Selfridge
Johnson

OCT 3 - 1955

Messrs. William A. Whitehead
and William A. Whitehead
285 F Street
Salt Lake City, Utah

Re: Docket No. DMEA 3823 - Mercury
Yellow King claims
Washington County, Utah

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 a small amount of mercury mineralization on the Yellow King group of claims, indicates to us that the probability of disclosing minable mercury ore reserves by your proposed program 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 Program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

SPHolt:foc 9/28/55
cc to: Docket
Code 400
Adm. Read. File
Oper. Comm.
FT. REG. III
H. M. Meyer, USBM
T. H. Kiilsgaard, USGS

P.C.B.

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

September 28, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $27,979.20 ($5,690.00)
Docket No. DMEA 3828 - Mercury
William A. Whitehead and William R. Whitehead
Yellow King claims
Washington County, Utah

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

1. The applicants, William A. Whitehead and William R. Whitehead, 285 F Street, Salt Lake City, Utah, requested exploration assistance in the amount of $27,979.20 (later revised to $5,690), for 300 feet of drifting and 200 feet of sinking (later changed to 150 feet of drifting only), in the Yellow King claim.

2. The applicants control by ownership and lease-purchase agreement from Victor Sullivan and the heirs of Samuel Sullivan, the Yellow King unpatented lode mining claim; and by joint ownership with Calvert Whitehead, Preston Whitehead and Victor Sullivan, the Yellow Jacket Extension Nos. 1, 2 and 3, unpatented lode mining claims. These four claims are situated in Sections 19 and 30, T. 42 S., R. 14 W., S. L. B. & M., Washington County, Utah, about 3½ miles southeast of the town of Washington. The Yellow Jacket claim is recorded in Book X22, at page 362, in the records of Washington County, at St. George, Utah.

3. The proposed program was to sink 100 feet of vertical shaft and 100 feet of inclined shaft, with 300 feet of drifting from the shafts along the mineralized zone in the Yellow King claim. This proposed program was later revised to cover only 150 feet of drifting on the same claim.

4. In the area the applicants proposed to explore sparse mercury mineralization is exposed in outcrops and in one open cut on the Yellow King claim, but there is little

indication that minable bodies of mercury ore will be discovered by work under the applicant's proposed program.

5. The Field Team concludes that there is little probability of making a significant discovery and recommends denial. The Commodity Divisions of the Geological Survey and the Bureau of Mines concur in this recommendation.

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

DOCKET
SURNAME
400 Holt
Martin
Nelson

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $27,979.20 ($5,690.00)
Docket No. DMEA 3828 - Mercury
William A. Whitehead and William R. Whitehead
Yellow King claims
Washington County, Utah

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

1. The applicants, William A. Whitehead and William R. Whitehead, 285 F Street, Salt Lake City, Utah, requested exploration assistance in the amount of $27,979.20 (later revised to $5,690), for 300 feet of drifting and 200 feet of sinking (later changed to 150 feet of drifting only), in the Yellow King claim.

2. The applicants control by ownership and lease-purchase agreement from Victor Sullivan and the heirs of Samuel Sullivan, the Yellow King unpatented lode mining claim; and by joint ownership with Calvert Whitehead, Preston Whitehead and Victor Sullivan, the Yellow Jacket Extension Nos. 1, 2 and 3, unpatented lode mining claims. These four claims are situated in Sections 19 and 30, T. 42 S., R. 14 W., S. L. B. & M., Washington County, Utah, about 3½ miles southeast of the town of Washington. The Yellow Jacket claim is recorded in Book X22, at page 362, in the records of Washington County, at St. George, Utah.

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4. In the area the applicants propose to explore sparse mercury mineralization is exposed in outcrops and in one open cut on the Yellow King claim, but there is little

indication that minable bodies of mercury ore will be discovered by work under the applicant's proposed program.

5. The Field Team concludes that there is little probability of making a significant discovery and recommends denial. The Commodity Divisions of the Geological Survey and the Bureau of Mines concur in this recommendation.

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

SPHolt:foc
9-28-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.

Docket

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

Copy retained 400

September 21, 1955

Memorandum

WSM

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

From: J. W. Pennington, Branch of Base Metals

Subject: Review of Field Team Report, Docket DMEA 3828 (mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah

The Bureau of Mines examination revealed that the mercury mineralization of the area is weak. Representation samples from the deposit contained 0.05 percent or less mercury. With normal processing recoveries and current mercury prices, the maximum value of the material is only $3.25 a ton.

In addition, the Geological Survey has noted that there is no geologic evidence to indicate the presence of higher grade material.

For these reasons I concur with the Field Team's recommendation that the application for exploration assistance be denied.

J. W. Pennington

J. W. Pennington

Copy to: Division of Minerals
Branch of Base Metals
H. M. Meyer
Thor Kiilsgaard, U.S.G.S.
F i l e s

Docket

IN REPLY REFER TO:

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

Copy retained 400

September 20, 1955

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of Field Team Report, DMEA Docket No. 3828 (Mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah.

The examining team reports that although cinnabar is present on the property, in non-commercial quantities, conditions are not favorable for the presence of mercury ore deposits.

Favorable conditions that do exist are:

1) The location of the property on the flank of the faulted Virgin anticline.

2) The presence of mercury mineralization.

3) The presence of Tertiary volcanic flows in the vicinity.

4) The presence of a favorable host rock capped, in places, by impervious Moenkopi shales and siltstones.

Mercury mineralization is known in various localities in southern Utah. Usually the cinnabar is found in Chinle shales.

I believe that if a place could be found, near Washington, Utah, where the above conditions are present in their best form the chances of finding a commercial mercury ore body might be good.

According to the Field Examination Report, however, the overlying Moenkopi is coarsely conglomeratic and the mineralization is weak. I agree, then, with the examining team's recommendation that the application be denied.

W P Williams

W. P. Williams

Docket

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

RECEIVED
SEP 16 1955

September 9, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, Docket DMEA 3828, (Mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah

Enclosed are the original and three copies each of the U. S. Bureau of Mines and U. S. Geological Survey reports pertaining to the subject application. The reports consist of the following:

a. Geologic Report by R. W. Osterstock, U. S. Geological Survey
b. Engineering Report by M. M. Gilkey, U. S. Bureau of Mines
c. Joint Summary, Conclusions, and Recommendations by R. W. Osterstock and M. M. Gilkey
d. Memoranda of transmittal and comment by E. N. Harshman and Stephen R. Wilson

The examining team believes that the chances for a commercial deposit of mercury on the Yellow King Claims is poor and therefore they recommend that the application be denied.

We concur with their recommendation.

Enclosures

W. M. Traver

E. N. Harshman

Reviewed by
DMEA OPERATING COMMITTEE
9-19-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1600 EAST FIRST SOUTH STREET
SALT LAKE CITY 1, UTAH

August 31, 1955

RECEIVED
SEP 16 1955
TRANSMITTED
SEP 9 1955

DMEA
Date Rec'd.
SEP 2 1955
BUREAU OF MINES
Denver, Colorado

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Region III

From: Stephen R. Wilson

Subject: Docket No. DMEA-3828 (Mercury), Whitehead and Whitehead, Yellow King Claims, Washington County, Utah

Enclosed are original and eight copies of an engineering report covering examination of the subject property. The examination was made by M. M. Gilkey to appraise a request for DMEA assistance in exploration. Also included are the necessary copies of a separate section, Summary, Conclusions and Recommendations, and a copy of the brochure.

The applicant originally requested a loan of $27,929.20 to conduct exploration consisting of limited surface stripping, drifting and shaft sinking. A revised project proposal was later submitted estimated to cost $5,690.

Mercury mineralization on the Yellow King claims is found in Kaibab limestone of Permian age. Mineralization occurs in and adjacent to a northeasterly trending fault zone believed to be related to the Hurricane fault system several miles to the west. Mercury mineralization thus far disclosed is low in grade. The maximum assay value of six samples taken by the inspecting engineer is 0.05 percent mercury.

The examining engineer and geologist believe that chances for discovery of commercial mercury mineralization on the Yellow King claims are poor. It is believed that the grade of mineralization will not increase along the strike zone or at depth. It is therefore recommended that the request for DMEA assistance be denied. I concur in this recommendation.

Stephen R. Wilson
Stephen R. Wilson

Enclosures

cc: W. H. King
J. B. Clemmer

Reviewed by
DMEA OPERATING COMMITTEE
9-19-55
(date)

RECEIVED
SEP 13 1955
9/22/55

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By R. W. Osterstock and M. M. Gilkey

The Yellow King mercury claims in Washington County, Utah were examined by DMEA personnel during July 1955 to appraise a request for Government assistance in exploration. A project proposal was submitted by W. A. Whitehead and W. R. Whitehead under docket No. DMEA-3828. Original exploratory proposals consist of limited surface stripping, drifting and shaft sinking estimated to cost $27,929.20. A revised program submitted by the applicants is estimated to cost $5,690.00.

Rocks in the area of the Yellow King claims consist of cherty limestone, sandstone, mudstone and shale of Permian and Triassic age. Mercury mineralization is found in the Permian Kaibab limestone on the west flank of the Virgin anticline. Mineralization occurs in and adjacent to a northeasterly trending fault believed to be related to the major north-south Hurricane fault several miles to the west. Mercury mineralization is found throughout the fault zone to a limited extent. Six samples cut in the zone show a maximum assay value of 0.05 percent mercury.

The examining personnel conclude that mineralization on the Yellow King claims is weak and little possibility exists that the grade of mineralization will increase along the strike of the zone or at depth. It is believed that work proposed by the applicant will not result in discovery of significant bodies of mercury ore and it is, therefore, recommended that the request for DMEA assistance be denied.

Reviewed by
DMEA OPERATING COMMITTEE
9-19-55
(date)

WHITEHEAD AND WHITEHEAD
YELLOW KING CLAIMS
WASHINGTON COUNTY, UTAH
DMEA-3828
Mercury

RECEIVED
SEP 16 1955

Engineering Report

By M. M. Gilkey
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
9-19-55
(date)

RECEIVED
SEP 1 3 1955

WHITEHEAD AND WHITEHEAD
YELLOW KING CLAIMS
WASHINGTON COUNTY, UTAH

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Proposed exploration and costs	7
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ILLUSTRATIONS

Fig. 1 Location map, Whitehead and Whitehead, Yellow King claims, Washington County, Utah
Fig. 2 Sketch map, Yellow King claims
Fig. 3 Geologic map, Yellow King workings

SUMMARY

Whitehead and Whitehead submitted an application dated May 16, 1955, for aid in an exploratory project on the Yellow King mercury property in Washington County, Utah. The property was examined by DMEA personnel July 14, 1955. The applicant originally estimated the cost of the proposed project to be $27,979.20. In a revision of the project proposals, dated July 16, 1955, the estimated cost is $5,690.00.

The property is easily accessible. It is situated 3.6 miles by road southeast of the town of Washington, which is near St. George, in southwestern Utah. The altitude is about 3,000 feet.

The four Yellow King claims are held under a complicated partnership arrangement involving six partners, including the two applicants.

No ore has been produced from the claims and there are no known ore reserves.

The one mineralized showing on the property occurs on the original Yellow King claim. This is exposed in an open cut excavated across a brecciated, northeasterly trending, minor fault zone, cutting westerly dipping Kaibab limestone beds. The fault is believed to be related to the major north-south Hurricane fault several miles to the west. Assays of six samples taken from the cut show that low-grade mercury mineralization persists for a distance of more than 20 feet across the limestone beds. The highest grade sample, representing a width of 6 feet, assayed 0.05 percent mercury.

Exploratory work proposed by the applicant consists of 150 feet of drifting along the mineralized fault zone. The work is feasible from an engineering point of view and the estimated unit costs are reasonable. Geologically, however, the exploration does not appear to be warranted, inasmuch as there is no indication of possible increase in intensity of mineralization in either direction along the strike of the fault zone.

Therefore, it is recommended that the loan request be denied.

INTRODUCTION

Whitehead and Whitehead submitted an application dated May 16, 1955, for Government aid in an exploratory project estimated to cost $27,979.20 on the Yellow King mercury property, Washington County, Utah. The property was examined July 14, 1955, by R. W. Osterstock of the Geological Survey and M. M. Gilkey of the Bureau of Mines, with William A. Whitehead representing the applicant. In a revision of the project proposals, dated July 16, 1955, the estimated cost is reduced to $5,690.00. Assays of samples taken from the mineralized exposure show that the mercury content is too low to warrant an exploratory project. No evidence is present to indicate increase in grade of mineralization below the surface.

LOCATION, TOPOGRAPHY AND CLIMATE

The property is situated 3.6 miles by road southeast of the town of Washington, Washington County, Utah, in Secs. 19 and 30, T. 42 S., R. 14 W. (fig. 1). St. George, Utah, population 4,545, the largest town in the area, and source of supplies and manpower, is situated on U. S. Highway 91, 5 miles west of Washington.

A graded, county road from U. S. Highway 91 at Washington passes just north of the property line. An access road extends from this point a distance of one-half mile to the mineralized area on the original Yellow King claim.

Altitudes on the property range from 2,800 feet to 3,000 feet, approximately. Slopes are steep in the immediate vicinity of the mineralized outcrop, but the area as a whole is of moderate relief.

Temperatures are high during the summer, and the short winter is mild. Vegetation in the area consists mainly of sparse desert brush. Water is available at a distance of about 1 mile from the property.

OWNERSHIP AND EXTENT

In item 3, on application form MF-103, the property described consists of one claim only, the Yellow King, located December 28, 1948. As stated in the revised application dated July 16, 1955, three additional claims have since been located. The project area, as proposed by the applicants, now consists of the four lode claims, Yellow King and Yellow King Extensions Nos. 1, 2 and 3, as shown on the claim map (fig. 2).

The Yellow King claim is owned by the applicants, William A. Whitehead and William R. Whitehead, in partnership with Victor Sullivan and the heir to the estate of Samuel Sullivan. Attached to the application is an agreement dated December 28, 1949, whereby the "rights

and titles" (pertaining to Yellow King claim) of Victor and Samuel Sullivan are, subject to stated provisions, transferred to the applicants.

The other three claims, Yellow King Extensions Nos. 1, 2 and 3, were located in July 1955 by William A. Whitehead and William R. Whitehead (the applicants), Calvert and Preston Whitehead, and the above-mentioned Victor Sullivan.

HISTORY, PRODUCTION AND ORE RESERVES

The Yellow King claim on which the cinnabar mineralization is exposed was first located in December 1948. The mineralization is visible in one open cut, about 30 feet long, 15 feet wide, and 1 to 6 feet deep, excavated at the site of an old, filled prospect pit, in the bottom of a V-shaped gulch (fig. 2). No mineralization is exposed in a second prospect cut situated some 300 feet to the south of the first. No underground work nor exploratory drilling has been done. There has been no production from any of the claims in the Yellow King group and there are no known ore reserves.

DESCRIPTION OF THE DEPOSIT

The Yellow King mercury deposit is situated low on the west flank of the Virgin anticline. The mercury mineralization, with minor amounts of copper carbonate, occurs in and adjacent to a N. 35° E.-trending fault presumably related to the major north-south Hurricane fault several miles farther to the west (fig. 3). The host rock, upper

Permian Kaibab limestone, is light in color, cherty and regularly bedded. Another northeasterly striking fault, exposed about 220 feet northwest of the mineralized outcrop, places the Kaibab limestone in lateral contact with the stratigraphically higher Triassic Moenkopi formation. In the vicinity of the contact, the Moenkopi consists principally of red, grey and green shales. The contact unit is a coarse, limestone-quartzite conglomerate. A basalt capping on an isolated hill, situated about a mile to to the west across a badland area, is evidence of Tertiary volcanic activity in the region.

Six chip samples of the brecciated fault material were taken by the DMEA examiners. As shown on figure 3, the three samples taken on the southwest side of the open cut, samples Nos. 1, 2 and 3, represent a total continuous distance of 18.5 feet across the westerly dipping limestone beds. It should be noted that the high-grade spot sample (14.16 percent Hg) reported by the applicant, was taken within the 6-foot interval included in sample No. 1 which assayed only 0.03 percent mercury. Apparently, the high-grade sample consisted of a small amount of material taken from one or more stringers of knife-blade width. Inspection revealed the presence of small fractures filled with red and dark-colored, earthy material, probably cinnabar and metacinnabarite. Sample No. 2, representing a distance of 6.5 feet, assayed less than 0.01 percent mercury. Sample No. 3 was 6 feet in length and assayed 0.05 percent

mercury. Samples Nos. 4, 5 and 6, taken along the northeast side of the cut, and totaling 22 feet in length, assayed from 0.03 percent down to less than 0.01 percent mercury.

The assay results indicate that the mineralized zone is wide but does not approach commercial grade. The highest assay, 0.05 percent mercury, is of the order of one-tenth ore grade under present economic conditions, with mercury priced at about $275 per flask of 76 pounds. Inasmuch as mercury deposits are generally formed at shallow depths and are not influenced by type of wallrock, it may be concluded that, with regard to these factors, optimum conditions existed in the area exposed in the open cut, and that the weakness of the mineralization results from the weakness of the mineralizing solutions. The brecciated nature of the limestone in the open cut is also conducive to deposition. It appears unlikely, therefore, that the proposed exploration would encounter ore of minable grade.

PROPOSED EXPLORATION AND COSTS

The applicant proposed, originally, an exploratory project estimated to cost $27,979.20 and which would require an estimated 12 months for completion. The original proposal included the following:

1.	Power shovel and bulldozer work, 2 days each, at $125 per day	$ 500.00
2.	Drifting (5' x 7'), 300' at $37 per foot	11,100.00
3.	Vertical shaft sinking (6' x 6'), 100 feet at $58 per foot	5,800.00
4.	Inclined shaft sinking (6' x 6'), 100 feet at $58 per foot	5,800.00
5.	Construction of equipment shed	2,000.00
6.	Assaying, accounting, taxes and insurance	2,779.20
	Total estimated cost of original program	$27,979.20

In a revised program the applicant has proposed a project consisting of the following work which is estimated to require 4 months for completion.

1.	Power shovel and/or bulldozer work, 4 days each, at $125 per day	$ 500.00
2.	Drifting (5' x 7'), 150 feet, untimbered, at $25 per foot	3,750.00
3.	Drift timbering, 30 sets (150 feet), at $45 per set	1,350.00
4.	Assaying for mercury, 30 samples at $3.00 each	90.00
	Total estimated cost of revised program	$ 5,690.00

The proposed work is feasible from an engineering point of view. Two adits would be driven along the mineralized zone exposed at the bottom of the gulch (figs. 2 and 3). The adit to the south would be 100 feet in length and would reach a depth of approximately 50 feet. To the north, the proposed 50-foot adit would reach a depth of about 30 feet.

The ground is completely dry but of somewhat ravelly nature so that some difficulty could be expected in drilling. It is not likely that any timber will be required for ground support, other than at

the adit portals. (The applicant includes in the estimation, the cost of timbering the entire 150 feet of drift). Rather than install a car and track, the applicant plans to use a slusher for removal of broken rocks from the adits.

Estimated unit costs are reasonable. Surface excavation at the portals, using a bulldozer or power shovel at $125 a day or $15.62 an hour, is not excessive for a four-day job. A cost of $25 a foot for untimbered, 5' x 7' drift is considered to be a reasonable figure for this type ground. Considered in estimating the total cost of timbering, $45 for a five-foot set, are the costs of extra excavation (specified cross section is 5' x 7' in the clear of timber) and extra mucking; and purchase price of delivered timber and cost of installation. The cost of timber, at $100 per thousand board feet, used in one, partially lagged, five-foot set, using 8-inch by 8-inch caps and posts, is about $20. Therefore, the total cost of timbering, at $45 a set, or $9 per foot of advance, does not seem to be excessive. The specified cost of mercury assays, at $3 each, agrees with the amount charged in Salt Lake City assay laboratories.

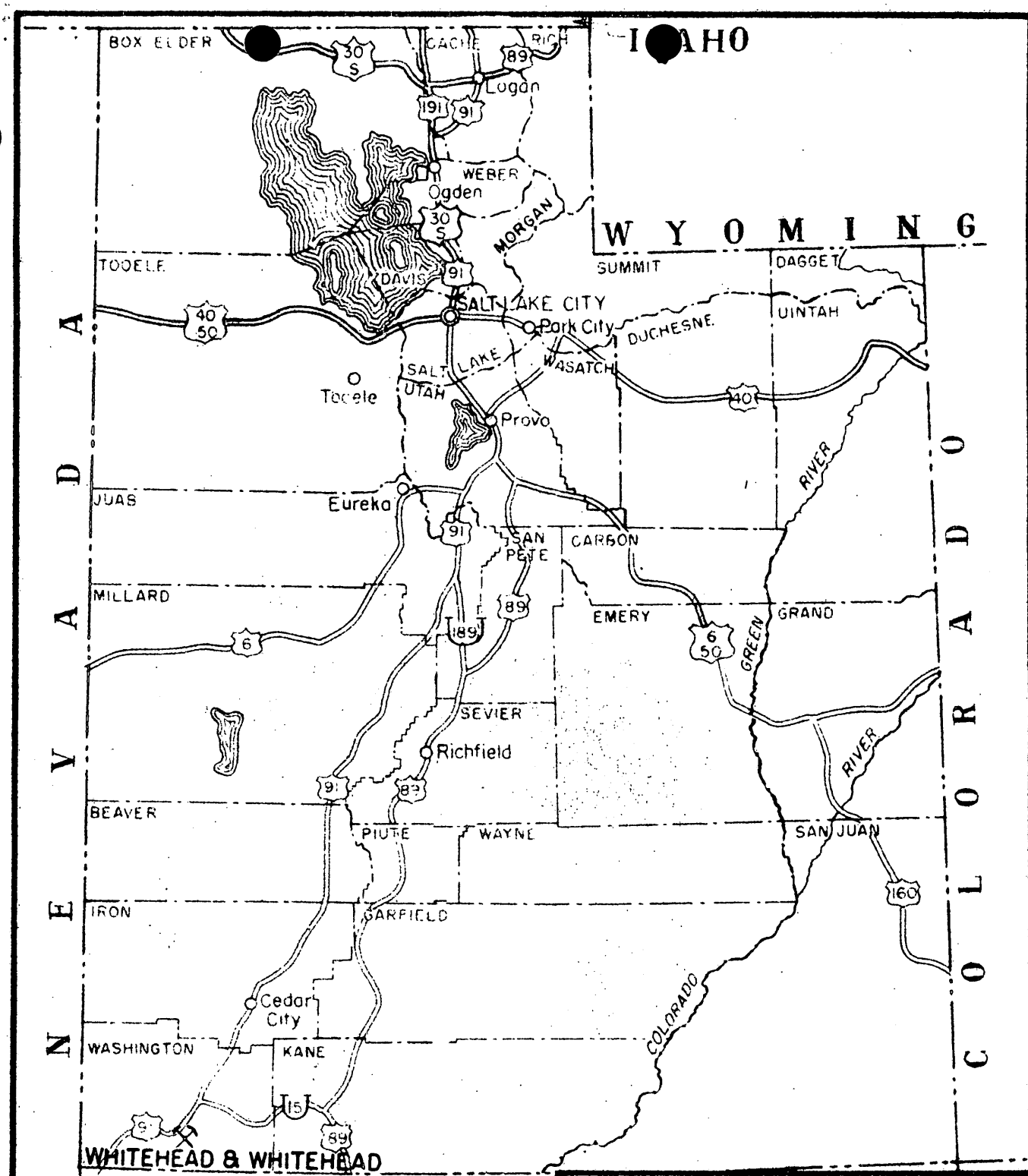
At 75 percent participation in the cost of the project, maximum cost to the Government would be $4,267.50.

CONCLUSIONS AND RECOMMENDATIONS

An open cut in upper Permian Kaibab limestone, on the Yellow King claims, has exposed material assaying from less than 0.01 percent to 0.05 percent mercury. The mineralization follows a minor fault zone

which strikes N. 35° E. and dips steeply to the west, and which makes low-angle intersections with the steeply west-dipping limestone beds. Width of the mineralized zone exceeds 20 feet. Remnants of basalt flows in the area indicate a Tertiary volcanic source of mineralization.

Geologic conditions in the area of the open cut are favorable with respect to proximity to the surface and the open nature of the brecciated fault material. There are no indications of a possible increase in intensity of mineralization along the strike of the fault zone. It is concluded, therefore, that the proposed 150 feet of drifting would not result in the discovery of cinnabar ore of minable grade, and it is recommended that the request for DMEA assistance be denied.



0 50 100

SCALE OF MILES

U S DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Fig. 1 DMEA Docket No. 3828

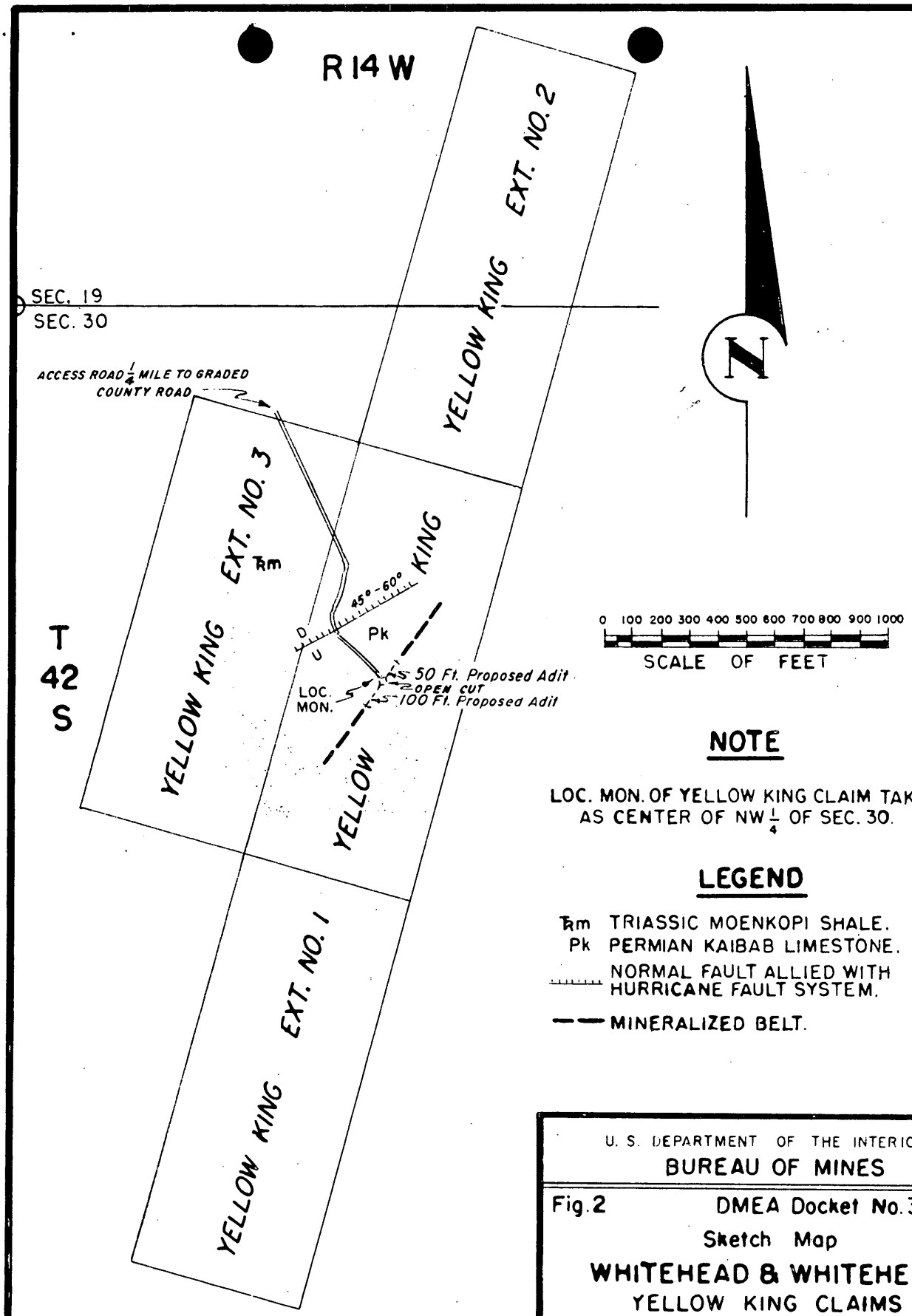
Location Map

WHITEHEAD & WHITEHEAD

YELLOW KING CLAIMS

WASHINGTON COUNTY, UTAH

ENGINEER *Millard M. GILKEY*	DATE: AUG. 15, 1955
TRACED: AUG., 1955; A.P.T.S.	400 - 3 - E
CHECKED:	



NOTE

LOC. MON. OF YELLOW KING CLAIM TAKEN AS CENTER OF NW 1/4 OF SEC. 30.

LEGEND

Ŧm TRIASSIC MOENKOPI SHALE.
Pk PERMIAN KAIBAB LIMESTONE.
NORMAL FAULT ALLIED WITH HURRICANE FAULT SYSTEM.
MINERALIZED BELT.

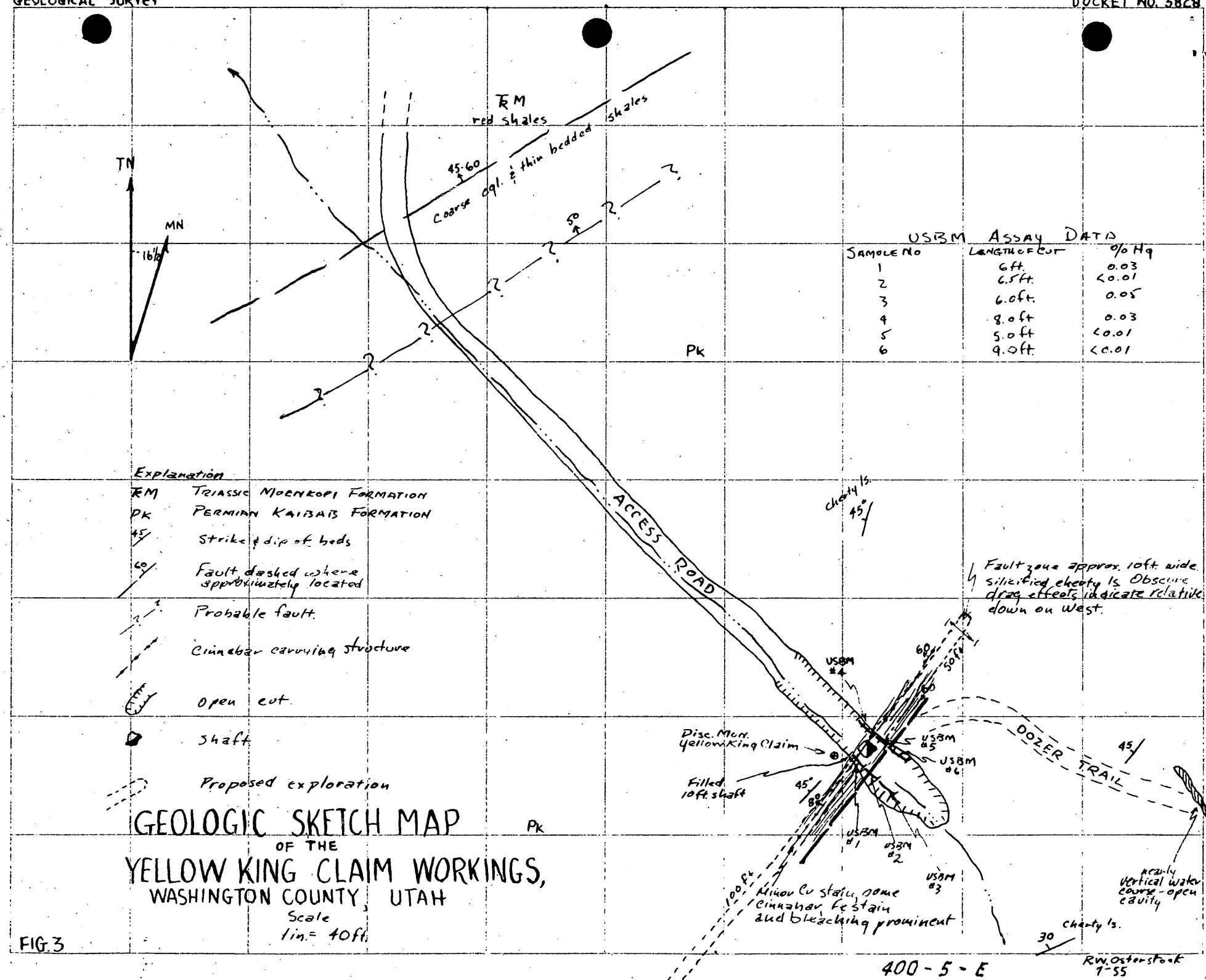
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 2 DMEA Docket No. 3828

Sketch Map

WHITEHEAD & WHITEHEAD
YELLOW KING CLAIMS
WASHINGTON COUNTY, UTAH

ENGINEER: *Millard M. GILKEY*	DATE: AUG. 17, 1955
TRACED: AUG., 1955; A.P.T.S.	400 - 4 - E
CHECKED:	



USBM Assay Data

Sample No	Length of cut	% Hg
1	6 ft.	0.03
2	6.5 ft.	<0.01
3	6.0 ft.	0.05
4	8.0 ft	0.03
5	5.0 ft	<0.01
6	9.0 ft.	<0.01

GEOLOGIC SKETCH MAP OF THE YELLOW KING CLAIM WORKINGS, WASHINGTON COUNTY, UTAH

Scale 1 in. = 40 ft.

FIG. 3

400 - 5 - E

R.W. Osterstock
7-55

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

IN REPLY REFER TO:
DMEA
Date Rec'd.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

RECEIVED
SEP 16 1955

AUG 25 1955
BUREAU OF MINES
Denver, Colorado

August 24, 1955

SEP 9 1955
TRANSMITTED

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3823 (Mercury), Whitehead and Whitehead, Yellow King claims, Washington County, Utah

Enclosed are the original and eight copies of a geologic report by R. W. Osterstock, U. S. Geological Survey, covering his examination of the above subject property.

Osterstock reports that very minor amounts of cinnabar and metacinnabarite occur in a 10-foot wide fault zone cutting beds of Kaibab limestone. Samples in a small open cut on the mineralized zone indicate a mercury content of about 0.05 percent. There is no geologic reason to believe that exploration will result in the discovery of higher grade material, and Osterstock, therefore, recommends denial of the application for exploration assistance.

I concur with this recommendation.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (9)

ENHarshman:arh

Reviewed by
DMEA OPERATING COMMITTEE
9-19-55
(date)

RECEIVED
SEP 16 1955

Room 208, 222 So. West Temple
Salt Lake City 1, Utah
August 23, 1955

TRANSMITTED
SEP 9 1955

Memorandum

To: E. M. Marshman, DMEA Field Team, Region III

From: R. W. Osterstock

Subject: DMEA Docket 3828 (Mercury) Whitehead and Whitehead, Yellow King claims, Washington County, Utah.

Enclosed are 9 copies of a geologic report on the Yellow King Claims. The subject operators applied for a DMEA loan to explore for mercury on their property. The initial exploration program costing $27,979.20 was later modified to a program costing $5,690.

Field examination of the property revealed the ore mineralization to be confined to a minor NE trending fault zone in the Permian Kaibab limestone. Sampling across the entire width of mineralization demonstrates only very low intensity ore mineralization which in no section approaches ore grade. There is no evidence to indicate that higher grade mineralization will be encountered by additional work. It is recommended, therefore, that the application for government assistance be denied.

R. W. Osterstock

cc: S. R. Wilson

Reviewed by
DMEA [illegible]
9-19-55
(date)

RECEIVED
SEP 1 9 1955

YELLOW KING CLAIMS, WHITEHEAD AND WHITEHEAD

WASHINGTON COUNTY, UTAH

DMEA Docket 3828
(Mercury)

Initial Geologic Report

By R. W. Osterstock
U. S. Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
9-19-55
(date)

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Introduction	2
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History and production	3
Geology	3
Ore deposits	5
Ore reserves	6
Proposed exploration	6
Conclusions and recommendations	

ILLUSTRATIONS

Figure 1. Index map of Utah.

Figure 2. Claim map of Yellow King group.

Figure 3. Geologic sketch map of workings and proposed exploration on Yellow King Claim.

SUMMARY

The Yellow King claims, situate in Washington County, Utah and owned by Whitehead and Whitehead, were examined by DMEA personnel during July, 1955 relative to an application for government assistance on an exploration project. The applicants have submitted two exploration programs for consideration. The commodity is mercury.

Ore mineralization appears to be confined to a NE trending fault zone in the upper Kaibab limestone. Assay samples cut by the USBM engineer revealed no material above .05 percent Hg, and there is no evidence to indicate that higher grade mineralization will be found beyond the outcrops. It is therefore recommended that this loan request be denied.

INTRODUCTION

On May 23, 1955 Wm. A. and Wm. R. Whitehead (a partnership based in Salt Lake City, Utah) applied for a DMEA loan to aid in exploration for mercury ores on their Yellow King property in Washington County, Utah. At the request of the DMEA Region III Field Team an examination of the property was conducted July 21, 1955 by R. W. Osterstock (USGS) and M. M. Gilkey (USBM). Mr. Wm. A. Whitehead accompanied the examiners in the field.

The estimated cost of the initially proposed exploration project was $27,979.20. On July 21, 1955 the applicants submitted a revised exploration project estimated to cost $5,690.00

Location and Accessibility

The Yellow King property is composed of 4 claims, the Yellow King, and the Yellow King Extension Nos. 1, 2, and 3 (see Fig. 2). The claims are situate in the NW 1/4 of Sec. 30, T. 42 S., R. 14 W., SLB and M, Washington County, Utah.

The area in which the claims are located is one of high rounded hills separated by deeply eroded canyons leading down to irregularly dissected badland area which eventually grades down to the flat Virgin River valley floor. Specifically, the claims are at the junction of the badland topography and the higher rounded hills.

The property may be reached by travelling easterly on paved U. S. Highway 91 five miles from St. George, Utah to Washington, Utah, thence turn right (south) on graded dirt road (Utah 212) for 0.3 mile, thence bear left at "T" in road, thence cross one way bridge in 0.8 mile, thence turn left on dirt road after 0.5 mile, continue for 0.6 mile and take right fork

of split in road, continue for 1.1 miles to cattle guard, one hundred yards past cattle guard turn off graded dirt road onto primitive access road, continue on access road 0.6 mile to mine workings.

With the exception of the last 0.6 mile of bulldozed, sandy road, the property should remain accessible throughout the year, severe rainstorms may fill dry washes temporarily however.

History and Production

The original Yellow King claim was located on December 28, 1948 by Victor and Samuel Sullivan who, on December 28, 1949, assigned their interest in the claim to Wm. A. and Wm. R. Whitehead, the present applicants. Since acquiring the Yellow King Claim the Whiteheads have located three additional claims, the Yellow King Extension Nos. 1, 2, and 3. Mr. Wm. A. Whitehead reports that the Yellow King claim was located over an abandoned prospect which probably dates back at least 30 years. There is no record of production from the property.

GEOLOGY

The Yellow King group of claims lies in an area of badland type topography on the west flank of the Virgin Anticline.

The rocks exposed in the area are cherty limestone, sandstone, mudstone and shale of Permian and Triassic age. The oldest rock exposed is the upper Permian Kaibab limestone, this stratigraphically lowest formation is exposed by virtue of erosion of the Virgin Anticline. As a result of this action only the uppermost beds of the Kaibab occur low on the west flank of this anticlinal structure. The Kaibab in the area of the Yellow King claims is a dense, light colored, regular bedded cherty limestone, locally dolomitic. In fault contact with the underlying Kaibab formation is the Lower Triassic

Moenkopi formation, it is this section which gives rise to the badland topography. The Moenkopi formation in the area of the Yellow King claims is composed dominantly of red, gray and green argillaceous shales and mudstone. The unit in fault contact with the underlying Kaibab is a coarse conglomerate with abundant limestone and some quartzite and is generally referred to as the Timpoweap member of the Moenkopi.

Although not exposed in the immediate Yellow King area there are abundant Tertiary or later basaltic flows capping many of the nearby highlands. Trachyte porphyry is also reported in the region.

Structurally, the Yellow King property lies in the area of broad NE trending folds which parallel the Hurricane fault system. The most prominent structural features of the region are the persistent N-S trending Hurricane fault and related faults of lesser displacement. C. E. Dobbin, (U. S. Geo. Survey, Open File Map of the St. George District, Washington County, Utah) has shown small normal faults, down on the west, along the axis of the Virgin anticline. It is believed that the small fault structure noted at the contact of Permian Kaibab and the Triassic Moenkopi is a part of this group of faults which are themselves related to the major Hurricane fault system. The relatively small vertical displacement of the Yellow King fault is demonstrated by the fact that the uppermost beds of the Kaibab are still in contact with the lower Moenkopi or Timpoweap member. Extreme brecciation and some fault gouge along with local discoloration from alteration characterize the Yellow King fault. The fault zone along which the ore mineralization occurs is also thought to be a subordinate but related structure to the Hurricane fault system.

ORE DEPOSITS

All of the known mineralization on the Yellow King claims appears to be confined to a N. 35° E. striking fault zone in the upper beds of the Permian Kaibab limestone. Dips taken along the fault zone range from vertical to 60° West. It is believed that this fault zone is one of many small subordinate structures of the major Hurricane fault system. The limestone on the walls of the fault where exposed in the open cut contains abundant chert and has undergone mild silicification thus producing a sandy, friable product along the fault in place of the more conventional gouge zone. Total width of the fault zone is perhaps 10 feet of broken, crushed and brecciated material. The strongest single fracture in the zone appears to be on the southeast or footwall side.

The mercury mineralization occurs throughout the broken zone to a very limited extent, however one small break near the center of the zone does on visual inspection appear to carry slightly higher values. Samples taken by the applicants, in this their higher grade zone, are reported to have assayed up to 14.16 percent Hg. Chip samples taken by the U. S. Bureau of Mines on both walls of the open cut through the mineralized zone disclosed no material containing over 0.05 percent Hg.

The mercury bearing minerals in the thin "high grade" streak are tentatively identified as red, earthy cinnabar, and black, powdery metacinnabarite. Minor copper stain is also visible along the mineralized portion of the fault zone. Iron stain and bleaching by alteration are distinctive features of the zone. The overall impression gained is one of very low intensity mineralizing conditions.

The origin of the cinnabar mineralization is obscure but its proximity to large extrusive bodies is a characteristic relation noted in the major mercury producing districts the world over. It is further noted that most of the mercury deposits of the United States are associated with Tertiary (or later) basaltic volcanic activity. Cinnabar, unstable at high temperatures, is generally confined to relatively shallow depths and is generally not influenced by type of wallrock.

Thus, it may be concluded that the relative grade of the deposit will not vary appreciably from that noted in its outcrop, there is little likelihood of enrichment with depth as the mercury minerals are relatively stable in their present position.

It appears that the ore minerals in the Yellow King claims are disseminated over a fairly wide zone along a minor northeast fault with only one very thin seam containing small concentrations of the ore minerals. In no place noted does the mineralization even approach ore grade.

ORE RESERVES

The Yellow King property contains no ore reserves of any classification.

PROPOSED EXPLORATION

Originally the applicants proposed a $27,979.20 exploration project consisting of 300 feet of drifting, 100 feet of vertical shaft and 100 feet of incline shaft, along with considerable incidental expenses. The applicants submitted a revised exploration program on July 21, 1955 following the field examination. This program estimated to cost $5,690.00 consisted of 150 feet of drifting and some bulldozing.

Although the revised exploration program would adequately explore the structure along which the mineralization occurs there is no indication that

the work would prove the existence of mineralization higher in grade than that already noted in the open cut.

CONCLUSIONS AND RECOMMENDATIONS

The Yellow King group of claims in Washington County, Utah owned by Whitehead and Whitehead, a partnership, is in an area of Permian and Triassic sediments with cappings of basaltic flow rock. The rocks in the claim area are predominantly cherty limestone, sandstone and mudstone with some conglomerate. Considerably below ore-grade mercury mineralization occurs in a minor fault zone, there is no indication of possible improvement in grade and the USBM samples demonstrate the extremely low grade of mineralization where exposed in the open cut.

It is recommended that this application for government assistance be denied on the grounds that the deposit was formed by extremely weak mineralizing solutions thus forming a very low grade ore-mineral occurrence which will not show an improvement in grade either along strike or with depth.

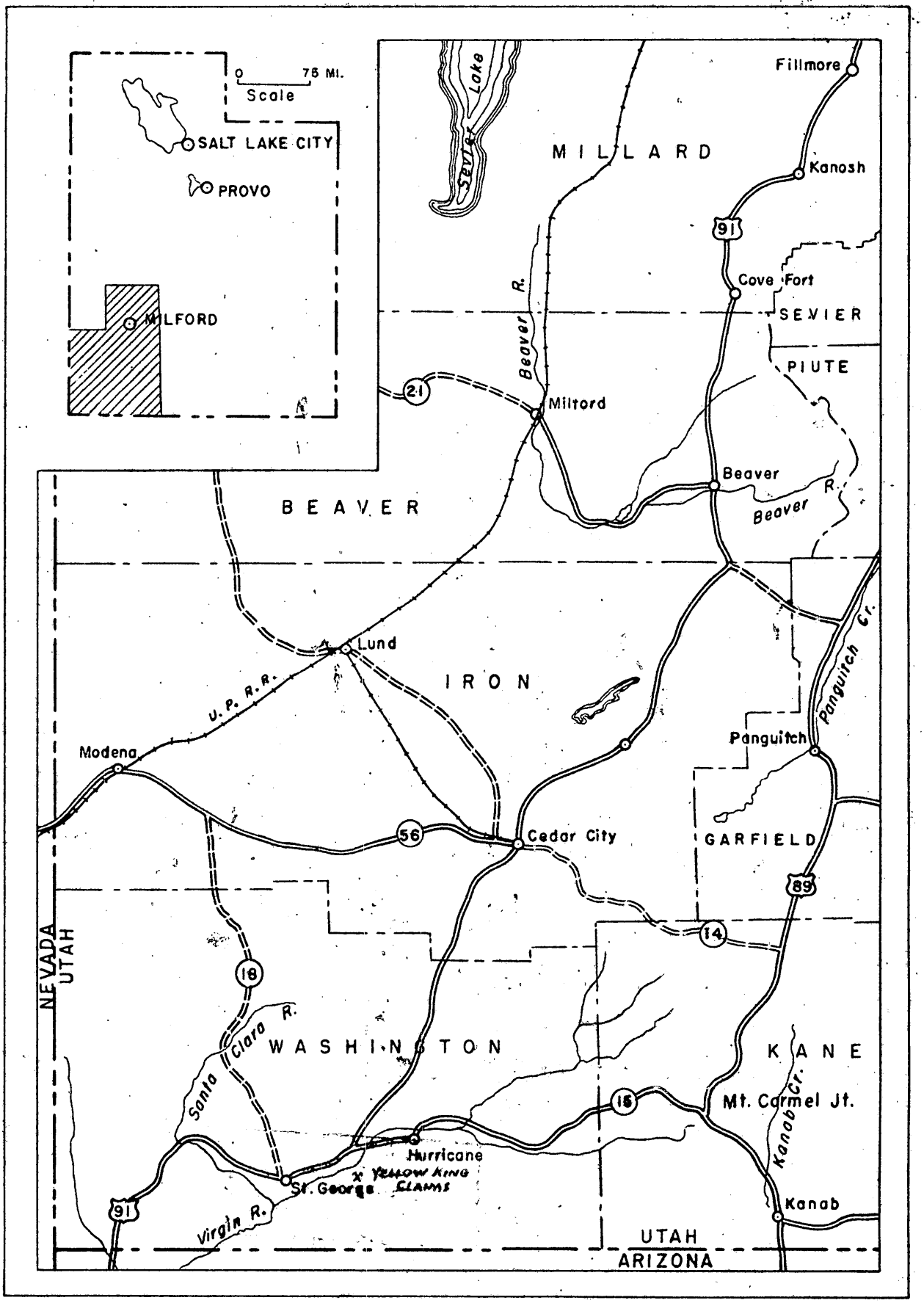
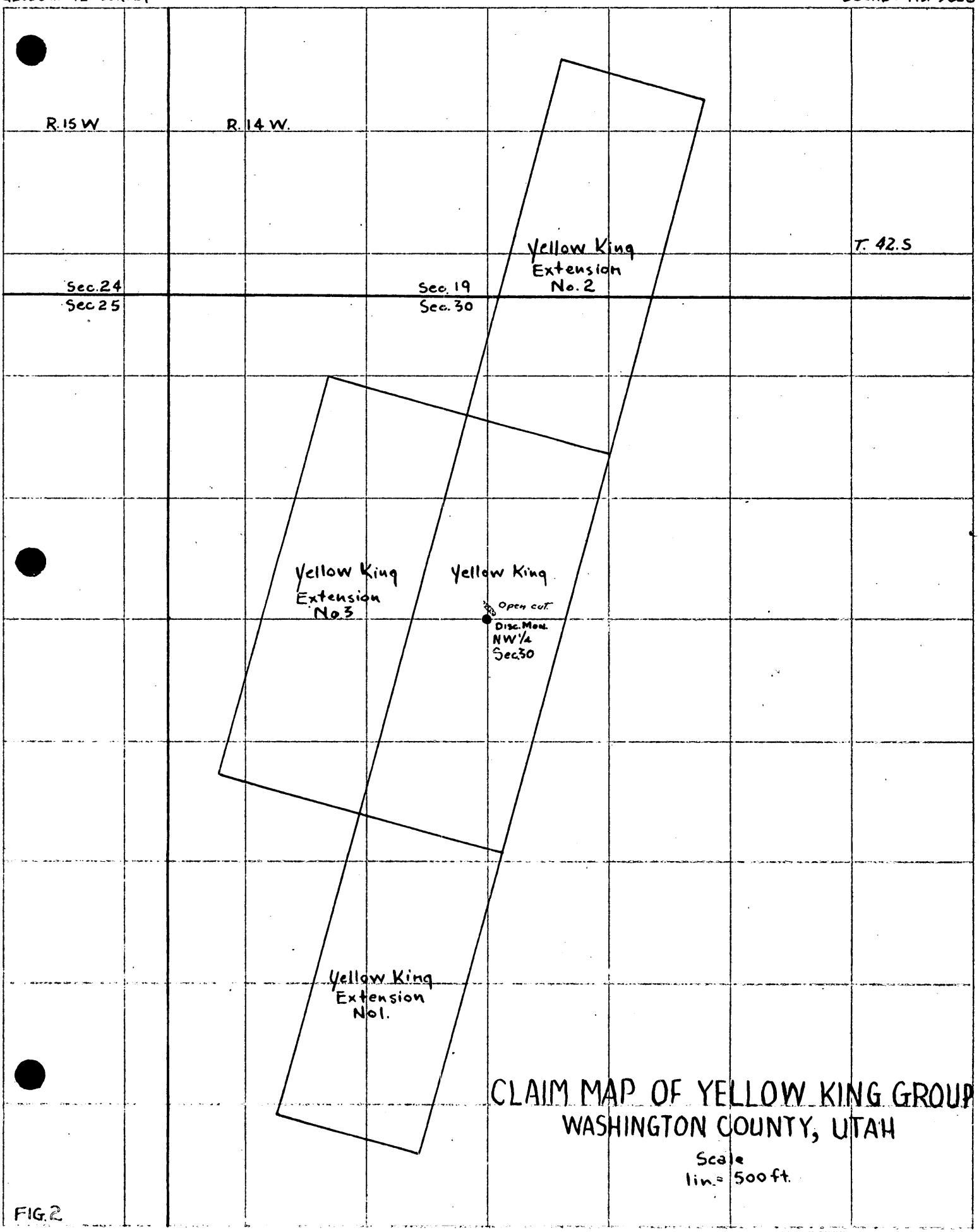


FIG. I INDEX MAP OF UTAH

0 5 10 15 20 MILES
Scale

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3828

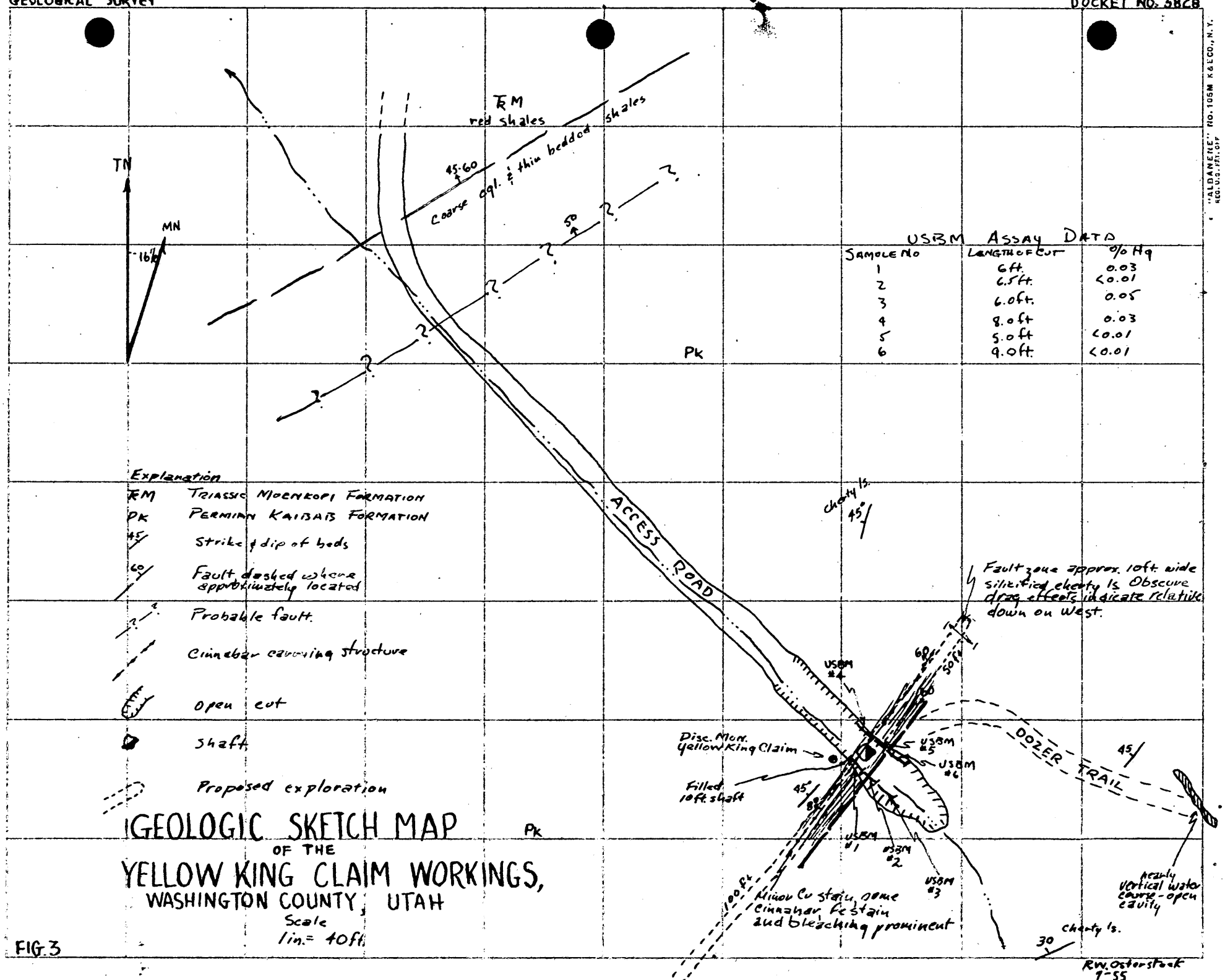


CLAIM MAP OF YELLOW KING GROUP
WASHINGTON COUNTY, UTAH

Scale
1 in. = 500 ft.

FIG. 2

"ALBANENE" NO. 100M K&E CO., N.Y.
REG. U.S. PAT. OFF.
RWO 7-56



USBM Assay Data

Sample No	Length of cut	% Hg
1	6 ft.	0.03
2	6.5 ft.	<0.01
3	6.0 ft.	0.05
4	8.0 ft	0.03
5	5.0 ft	<0.01
6	9.0 ft.	<0.01

GEOLOGIC SKETCH MAP OF THE YELLOW KING CLAIM WORKINGS, WASHINGTON COUNTY, UTAH

Scale 1 in. = 40 ft.

FIG. 3

RW. Osterstock
7-55

"ALBANENE" NO. 105M K&E CO., N.Y. REG. U.S. PAT. OFF.

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

Docket

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

RECEIVED
JUN 13 1955

224 New Customhouse
Denver 2, Colorado

June 8, 1955

WBM

Memorandum

To: S. R. Wilson (w/brochure)
R. W. Osterstock

Copy retained 400

From: Field Team, Region III

Subject: Docket DMEA-3828 (Mercury), Whitehead and Whitehead, (Yellow King claims), Washington County, Utah

Enclosed are copies of the subject application for a loan for an estimated amount of $27,979.20, its referral by the Chairman of the Operating Committee, and a memorandum to E. W. Ellis from N. E. Nelson, USGS.

A field examination and covering reports are requested. Evidently, there is no information available in Washington regarding mercury deposits in the area covered by the application.

W. M. TRAVER
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

WMT:pw

cc: Subject
Chron
Sec.Op.Comm. (2)
Harshman

285 "J" Street
Salt Lake City, Utah
June 8, 1951

U. S. Department of the Interior
Defense Mineral Exploration Administration
Washington 25, D. C.

Re: Docket No. DMEA 3828 - Mercury
Yellow King claim
Washington County, Utah

Gentlemen:

With reference to your letter of June 2, 1951, paragraph 2, the Yellow King claim was recorded in Book L-22, Page 360, in Washington County Recorders Office at St. George, Utah.

With reference to Samuel Sullivan and Victor Sullivan, they did not want to help in the annual assessment work and on December 28, 1949, transferred all their rights and titles to William A. Whitehead and William L. Whitehead to avoid the necessity of advertising them out, as required by law.

Since that time, Samuel Sullivan has died. Therefore, in the event your department required the approval by Victor Sullivan, I have a signed statement from him consenting to the same. I did this because Victor Sullivan shears sheep and was expecting to be in Wyoming and Montana and would not be readily accessible. Copies of his agreement are enclosed herewith.

Very truly yours,

W. A. Whitehead

William A. Whitehead

C
O
P
Y

C
O
P
Y

RECEIVED
JUN 3 0 1955

May 2, 1955

I hereby agree to a loan from United States Government on the Yellow King Mining Claim, containing Mercury, which is located about the center of North West quarter of section 30 Township, 42 South Range, 14 West S.L.B.M. in Utah. I hereby disclaim any prior rights in subjection to the Government Contract.

/Signed/
Victor Sullivan

DOCKET
SURNAME

400 Rutledge
Mayo
Martin
Selfridge
Johnson

JUN - 2 1955

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

Re: Docket No. DMEA 3828 - Mercury
Wm. A. Whitehead & Wm. R. Whitehead
Yellow King claim
Washington County, Utah

Dear Mr. Traver:

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

Two copies of a relevant memorandum dated May 27, 1955, by N. E. Nelson, Geological Survey, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

APPROVED:

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

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

FARutledge:foc
6-1-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
H. M. Meyer, USBM
T. H. Kiilsgaard, USGS

Enclosure

R.C.S.

DOCKET
SURNAME

400 Rutledge
Hoyt
Martin
Hedges
Kilsgaard
Selfridge
FE Johnson

JUN - 2 1955

Messrs. Wm. A. Whitehead & Wm. R. Whitehead
285 "F" Street
Salt Lake City, Utah

Re: Docket No. DMEA 3828 - Mercury
Yellow King claim
Washington County, Utah

Gentlemen:

Reference is made to the above-docketed application for exploration assistance which has been reviewed by the Defense Minerals Exploration Administration and referred to Mr. W. M. Trever, Executive Officer, DMEA Field Team, Region III, 22k New Custom House, Denver 2, Colorado, for a field examination of the property.

Information as to the book, page number, and place of recording for the Yellow King claim should be furnished this Administration. In addition, we need six copies of the enclosed Subordination Agreement, form MF-201, executed by Samual Sullivan and Victor Sullivan, unless their entire interest in that claim has been transferred to you.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc
6-1-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. Reg. III
H. M. Meyer, USBM
T. H. Kiilsgaard, USGS

R.C.J.

Docket

IN REPLY REFER TO:

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

May 27, 1955

Re: DMEA-3828
Whitehead & Whitehead
Yellow King Claims
Washington Co., Utah
$27,979.20 - Mercury

WSG

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

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

Subject: Review of application

Little information concerning this occurrence of mercury is given in this application and no general report on the area is available. A sample assaying 14.16 percent mercury was obtained, but one sample may not justify the work outlined.

A general examination appears warranted and referral to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

Copy retained 400

TELEPHONE 3-3302

Hand Sample Serial 92489-90

ASSAY REPORT

UNION ASSAY OFFICE, Inc.

J. V. SADLER, President
A. C. SELBY, Vice-Pres. & Treas.
A. C. SELBY, JR., Secretary

Salt Lake City 10, Utah

Mine W.A.Whitehead

285 F Street Salt Lake City Utah

RESULTS PER TON OF 2000 POUNDS

May 5, 1955

NO.	GOLD Ozs. per Ton	SILVER Ozs. per Ton	LEAD Per Cent Wet	~~COPPER~~ Hg Per Cent	INSOL. Per Cent	ZINC Per Cent	SULPHUR Per Cent	IRON Per Cent	LIME Per Cent	Per Cent	Per Cent	VALUE GOLD
1				14.16								
2				0.04								

Remarks

Charges $ 6.00 Paid

A. C. Selby

3 (c) C O P Y

C O P Y

Salt Lake City, Utah
December 28, 1949

We, the undersigned, Victor Sullivan and Samuel Sullivan, co-partners, with William A. Whitehead and William R. Whitehead, do hereby transfer our rights and titles to the mining claim known as the Yellow King, located on December 28th, 1948, and situated about five miles Southeast of Washington, Washington county, Utah, to William A. Whitehead and William R. Whitehead for the following consideration:

That William A. Whitehead agrees to keep said Yellow King Claim in good standing by meeting all requirements of the law pertaining to the annual assessments work,

That within two years, if any mineral of marketable value is discovered in sufficient quantities to justify making shipment of same, said William A. Whitehead agrees to pay ten per cent royalty from said shipments of ore until each is paid $500 (Five Hundred Dollars) in settlement of said rights,

ThatVictor Sullivan and Samuel Sullivan are to receive $500 each for their interest as above stated.

Signed:

/s/ Samual Sullivan

/s/ Victor Sullivan

Wm A. Whitehead

4. Physical description:

(a) The work done on the Yellow King Mining Claim consists of an open cut at or near the Discovery Monument and another open cut about 300 feet south of the above. All above work has been done by William A. Whitehead. A road is made to the point of location on the claim.

(b) None.

(c) A dike locally called lime clurt which has been pushed through limestone and other sedimentary formations. The dike has been mineralized with mercury, low-grade silver and copper. The mineral deposits extend through the dike, which is about fifteen feet wide at the present, mineral showing with pockets of higher grade mercury as per assay reports herewith have been found. Therefore, the dike is in the form of a vein. We are desirous of developing the course of the mineral to discover ore bodies and need money to help us do it.
Sample No. 1 14.16 per cent Mercury
Sample No. 2 0.04 per cent Mercury

(d) A road of about 1/2 mile is made to the place where we expect to do the work. This road connects with a gravel road 4 miles to the town of Washington, Washington County, on U. S. Highway 91 in Utah. Washington is five miles from St. George where we have a residence.

(e) There is plenty of manpower in St. George where materials, supplies, and equipment can be obtained. Water is about a mile from the Claim. An electric power line about three miles away.

5. The exploration project:

(a) Mercury

(b) map

(c) 30 days 12 months

(d) William A. Whitehead has had several years experience in working in mines and supervised operation of a copper mine for two years. William R. Whitehead is an Engineer who worked several years for Combined Metals Reduction Company, Salt Lake City, Utah, a mining corporation.

6. Estimate of costs:

(a) none

Rental of power shovel two days, including putting machinery on ground and supervision of same	250.00
Rental on No. 6 Caterpillar tractor for two days, including supervision and putting machine on job	250.00
Making drifts 7' x 5' -- 300 feet at $37.00 per ft.	11,100.00

Wm R. Whitehead

6. Sinking 6' x 6' shaft - 100 feet at $58.00 per ft. $ 5,800.00

Making an incline shaft 6' x 6' - 100 feet at $58.00 per ft. 5,800.00

(f) Building to house equipment and machinery 2,000.00

All costs of operation are included in the unit costs as in 6 (a) (b) (c) (d) (e)

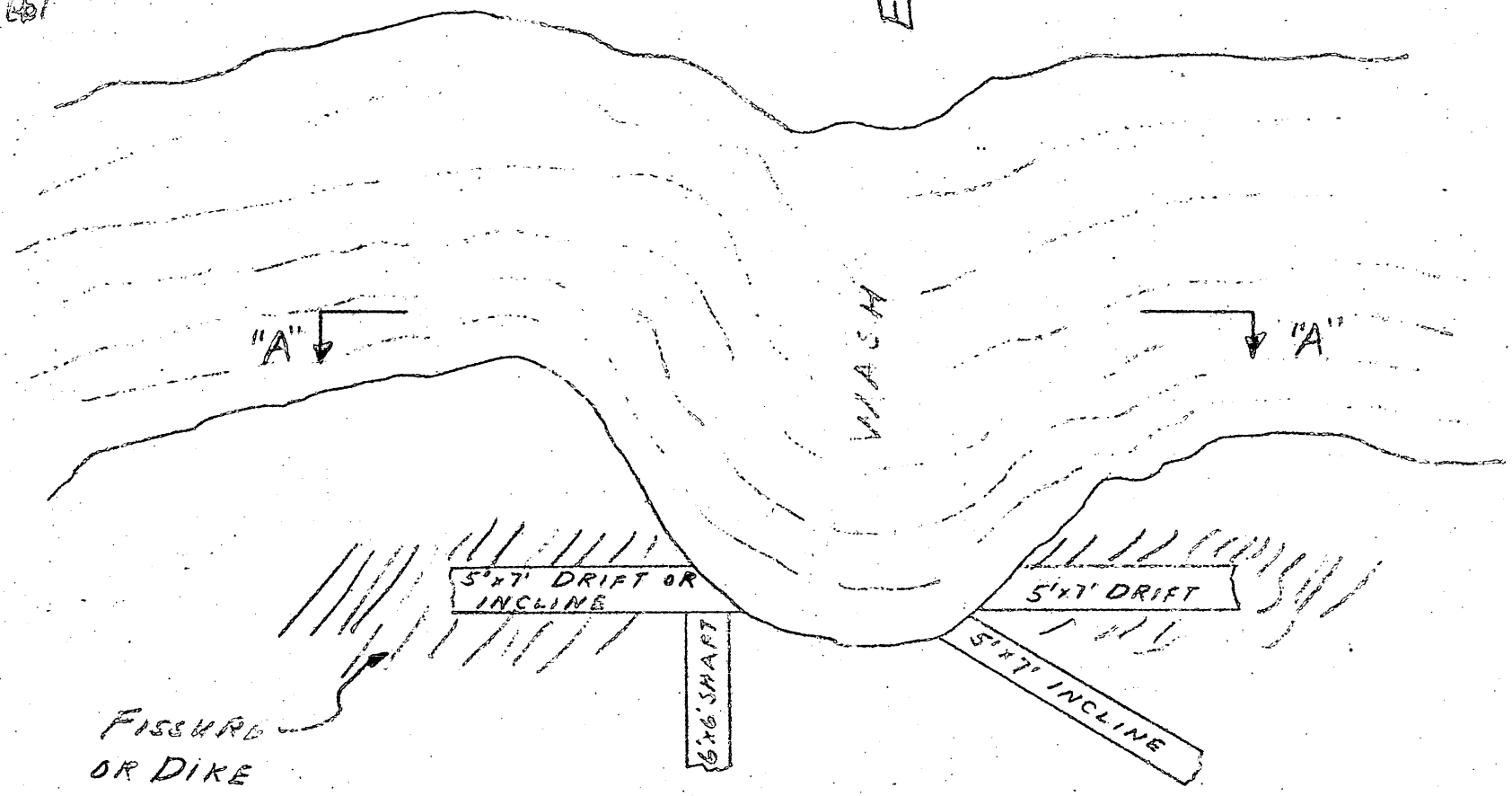
(g)	Analitical work	$50.00 per month	600.00
	Accounting	$100.00 per month	1,200.00
	Workman's Compensation and Employers Insurance	$50.00 per month	600.00
	Payroll Tax	$16.60 per month	199.20
(h)	Health Insurance		180.00
	Total of Items (g) & (h)		$ 2,779.20

Grand Total $27,979.20

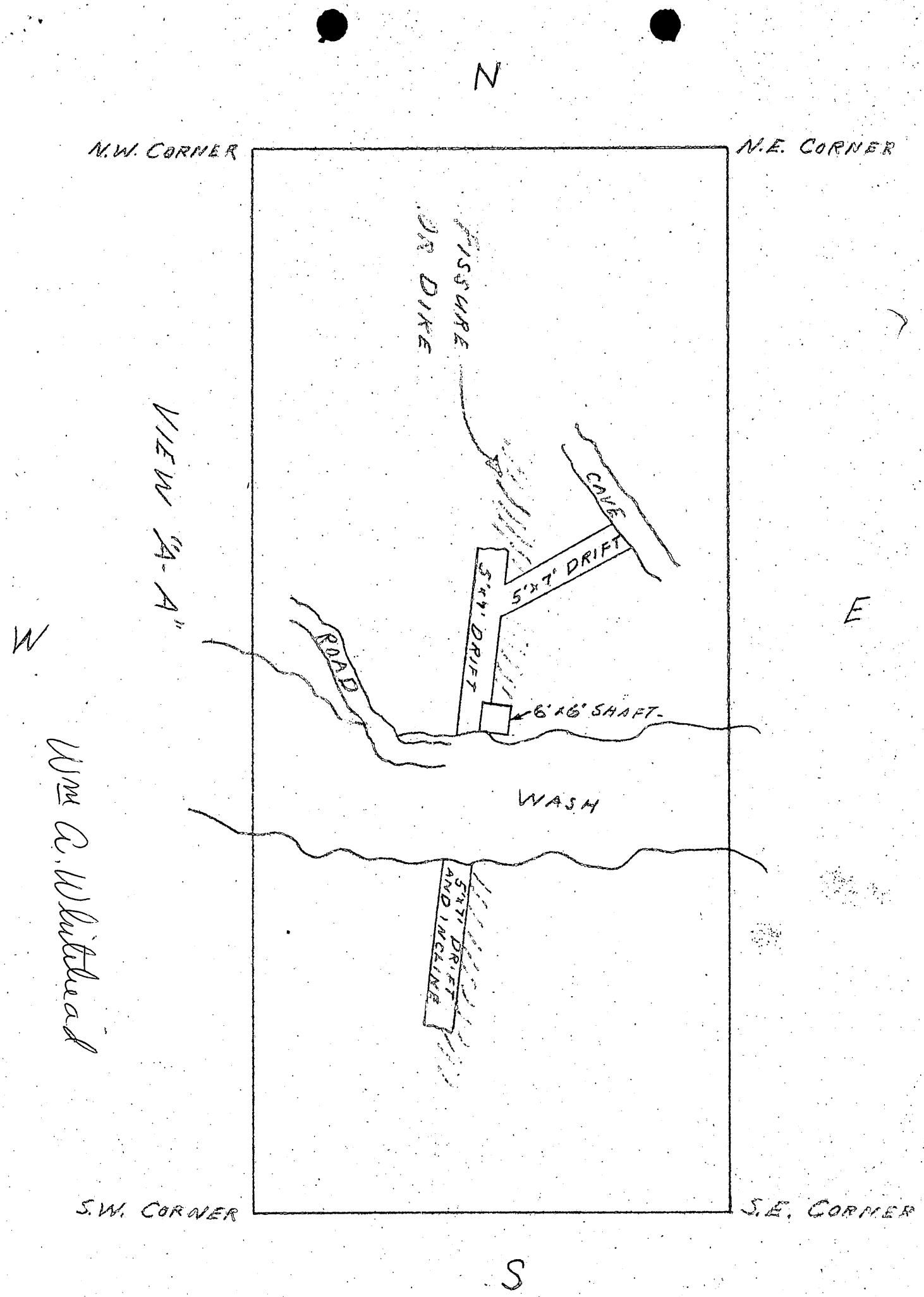
7. (b)
We have a man available who has had considerable experience with Mercury Mining and in processing the ore. Some men have agreed to help with the money if the loan is granted, if we decide we need it. We have a tractor, cars, drill steel, air hose. Also other miscellaneous tools and materials for mucking.

Wm A. Whitehead

5 (6)



Wm A. Whitehead


N
N.W. CORNER
N.E. CORNER
FISSURE OR DIKE
CAVE
5'x7' DRIFT
5'x4' DRIFT
ROAD
6'x6' SHAFT
WASH
5'x7' DRIFT AND INCLINE
VIEW "A-A"
W
E
Wm. C. Whitehead
S.W. CORNER
S.E. CORNER
S

May 24, 1955

Subject: DMEA-3828
Re: Exploration Assistance
Yellow King

Wm. A. Whitehead &
Wm. R. Whitehead
285 F. St..
Salt Lake City, Utah

Gentlemen:

The receipt of your application dated May 16, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3828 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

May 24, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

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 III

DMEA-3828 Wm. A. Whitehead & Wm. R. Whitehead

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

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

224 New Customhouse
Denver 2, Colorado

May 19, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Mercury), William A. Whitehead and William R. Whitehead, a partnership, Yellow King claim, Washington County, Utah

Enclosed are the original and two copies of the subject application for government assistance to explore the Yellow King mining claim by 500 feet of drifting incline and vertical shaft sinking at a total estimated cost of $27,979.20.

A copy of the application has been retained in this office.

W. M. Traver

Enclosures

W. M. Traver

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA
Date Rec'd.
Form Approved.
Budget Bureau No. 42-R035.2.
MAY 18 1955
BUREAU OF MINES
Denver, Colorado

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. 3828
Metal or Mineral Mercury
Date Received 5-23-55
Estimated Cost 27,979.20
Participation (Government %) 25

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: Wm. A. Whitehead, 285 F Street, Salt Lake City, Utah
Partner Wm. R. Whitehead, 3445 Del Verde, Salt Lake City, Utah
(Partnership)

(*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
One claim 1,500 feet long by 600 feet wide, known as Yellow King situated about the center of the northwest quarter of Section 30 Township 42 South ranged 14 West

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise
Owner in Partnership with Wm. R. Whitehead

(*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 agreement herewith filled filed December 28, 1948 in Book X22 Page 362

(*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 ---Mercury---

(*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 ---12--- months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

[X] Money [X] Use of equipment owned by you [X] 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 May 16th, 1955

Wm A. Whitehead
(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