Mining Division
Region IV

December 28, 1951

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah. Applicant, W. W. Sparks, Cortez, Colorado

Enclosed are the original and nine copies of the "Engineering Report" by the Bureau of Mines, pertaining to the above docket.

The application was for Government assistance in exploration work estimated to cost $4,341. Work proposals consisted of driving seven 15-foot adits, or a total of 105 feet of drifting and test pitting to aggregate 4,520 cubic feet.

A study of the applicants estimate of costs indicated that the desired work could not be accomplished within the amount requested, therefore, estimates were revised to the amount of $6,700, including the purchase of needed operating equipment, or $7,000 if the equipment was rented.

We favor the latter and concur in the recommendations that the project be approved for $7,000.

The Government participation would be 90 per cent, or $6,300.00

W. H. King
for Paul T. Allsman

Reviewed by
DMEA OPERATING COMMITTEE
6-30-52
(date)

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

224 New Customhouse
Denver 2, Colorado

June 20, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 2133, (Uranium) Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah

Enclosed are four copies of the final report on DMA-2133.

The application has been disqualified because the applicant has no mining rights to the property involved.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration
JUN 26 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado
December 20, 1951

Memorandum

To: Chief, Mining Division, Region IV

From: Chief, Colorado Branch, Mining Division

Subject: DMA 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah

Please find enclosed the original and nine copies of the "Summary, Conclusions, and Recommendations", by C. S. Robinson and Scott W. Hazen, Jr., and the same number of copies of Hazen's "Engineering Report" on the subject docket.

You will note the property is located in San Juan County, Utah, instead of Montezuma County, Colorado, as shown on the Field Team's transmittal memorandum of October 16, 1951. However, it is more accessible from Colorado than from Utah for project inspections in the event a contract is drawn up.

Hazen concludes, and the applicant admits, that his estimates for the work he proposes to do are low. However, he is able and willing to go along for the larger amount suggested, or $7,000.00 instead of the $4,541.00 requested. He is a competent operator and has a promising property likely to show a low-grade uranium discovery if judiciously explored. I concur with Hazen's recommendation that the loan be approved.

The brochure submitted by the Region IV Field Team October 16, 1951, is returned herewith.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

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

200 New Customhouse
Denver 2, Colorado

December 10, 1951

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah

Attached are 10 copies of the geological report by C. S. Robinson covering subject docket--Squaw Canyon Uranium-Vanadium claims, San Juan County, Utah.

Vanadium-uranium mineralized rock crops out on each of 12 claims controlled by W. W. Sparks in Squaw Canyon, and ore has been shipped from the Lone Wolf and Red Moon claims. In general the ore exposed on these claims is typical of that in other localities of the Colorado Plateau area. On all the claims good grade vanadium ore is exposed, but the grade of uranium varies considerably within short distances. Robinson recommends that the loan be approved, and I concur with his recommendation.

The brochure is attached.

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

Attachments (11)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA-2133, Squaw Canyon Uranium-Vanadium Claims

San Juan County, Utah

Uranium-Vanadium

C. S. Robinson, Geologist
U. S. Geological Survey

Scott W. Hazen, Jr., Mining Engineer
Bureau of Mines

December 20, 1951

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

Summary, Conclusions, and Recommendations

By C. S. Robinson
Geologist
U. S. Geological Survey

and

Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By C. S. Robinson and Scott W. Hazen, Jr.

The twelve vanadium-uranium claims of W. W. Sparks are in Squaw Canyon in southeastern San Juan County, Utah. Mr. Sparks has requested a loan of $4,541.00 to prospect the outcrops of ore exposed on these claims. Good vanadium-uranium ores, typical of those occurring in other areas of the Colorado Plateau, are exposed on the claims, and are believed to justify a Defense Minerals Administration exploration loan. It is evident that the cost of doing the proposed work will be greater than the amount requested by the applicant. Recalculation of the cost indicates the project work will cost $8,700.00 if equipment is purchased or $7,000.00 if equipment is rented.

The loan is recommended and granting of the lesser amount appears to be the most feasible.

SQUAW CANYON

URANIUM-VANADIUM CLAIMS

SAN JUAN COUNTY, UTAH

DMA DOCKET 2133

By C. S. Robinson
U. S. Geological Survey

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Report and map of reconnaissance trip to Squaw Canyon, Utah, by W. G. Verner, Geologist, Grand Junction Exploration Branch, Atomic Energy Commission.

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

INTRODUCTION

The claims under lease or owned by W. W. Sparks in Squaw Canyon, San Juan County, Utah, were visited on November 8, 1951, in company with W. W. Sparks and S. W. Hazen of the U. S. Bureau of Mines.

Mr. W. W. Sparks has requested a loan of $4341 for exploration of twelve claims. The exploration is to be done primarily by test pitting. These claims are located in T. 38 S., and T. 37 S., R. 26 E., San Juan County, Utah. They are connected by a fair dirt road to Dove Creek, Colorado, about 30 miles to the northeast.

The geology of this area has been published on a Strategic Minerals Investigation Preliminary Map entitled "Simplified Geologic Map of the Vanadium Region of southwestern Colorado and southeastern Utah," compiled by R. P. Fischer. A more detailed description of the ore deposits is given by R. P. Fischer (1950, pp. 1-11). A report of a reconnaissance trip to these claims by W. G. Verner, Geologist, Grand Junction Exploration Branch of the Atomic Energy Commission, is appended to this report.

GEOLOGY

The rock formations of Squaw Canyon consist of nearly horizontal continental sediments of Mesozoic age. The vanadium-uranium mineralization occurs in the Salt Wash member of the Morrison formation. The Morrison formation is here divided into a lower member, the Salt Wash,

composed primarily of sandstones, siltstones, and shales, and an upper member, the Brushy Basin, composed primarily of shales and siltstones with a few sandstone lenses. The Morrison is Jurassic in age. No formations older than the Morrison are exposed in Squaw Canyon. Above the Morrison on the sides of the Canyon is exposed the Burro Canyon formation and the Dakota (?) formation of Cretaceous age.

The vanadium-uranium minerals occur in medium grained bench forming sandstone lenses near the top of the Salt Wash member, which is locally known as the ore rim. The ore minerals coat the sand grains or partially or completely fill the spaces between grains. Locally, vegetable matter, deposited with the sand, has been replaced by ore minerals forming small high-grade deposits. In general, the contacts of the ore deposits with the surrounding sandstone are gradational but locally may be sharp. The size of the ore deposits varies from only a few feet across to large tabular bodies many hundreds of feet across.

On each of the 12 claims controlled by W. W. Sparks in Squaw Canyon are outcrops of vanadium-uranium mineralized rock and on the Lone Wolf and Red Moon claims are 3 short tunnels from which some ore has been shipped (see attached AEC report). From the others no ore has been shipped, but varying amounts of prospecting have been done. In general, the ore exposed on these claims is typical of that seen in other localities of the Colorado Plateau area. The deposits range from 6 inches to 6 feet in thickness and from less than 10 to 300 feet long. On all the claims good grade vanadium ore is exposed, but the grade of uranium varies considerably within short distances in any exposure. The sampling of the AEC shows a high lime content to the ore which reduces its value.

According to Verner (Verner, W. G.) ore of over 6 percent lime is subject to fines at the mills. However, he reports that a mill which will handle high lime ores is under construction at Shiprock, New Mexico.

CONCLUSIONS AND RECOMMENDATIONS

Very little mining for vanadium-uranium ores has been done in the Squaw Canyon area, probably because of the inaccessibility of the area. On W. W. Sparks' claims in Squaw Canyon good vanadium and locally good uranium ore is exposed. Sparks has requested a loan of $4341 to prospect these ore exposures. It is believed that this amount is inadequate to do the proposed work and a re-estimate of the cost should be made by the U. S. Bureau of Mines. It is recommended that this property be considered for a DMA exploration loan.

REFERENCES

Fischer, R. P., 1950, Uranium-bearing sandstone deposits of the Colorado Plateau: Econ. Geology, vol. 45, No. 1, pp. 1-11.

Verner, W. G., Oral Communication.

COPY

E. V. Reinhardt, Supervisor, Geologic Investigations, Grand Junction Exploration Branch
W. G. Verner, Geologist, GJEB

September 6, 1951

RECONNAISSANCE TRIP TO SQUAW CANYON, UTAH

MBOL: GJEB: WGV

A one-day reconnaissance trip was made into Squaw Canyon, Utah, to examine 2 dormant mines owned by Mr. Bill Hickey and Mrs. W. W. Sparks and 3 claims owned by Mr. W. W. Sparks, of Cortez, Colorado.

Squaw Canyon is situated in eastern Utah about 31 miles southwest of Dove Creek, Colorado. A road which is in fair condition extends from Dove Creek to the mines and claims; lesser roads ramify the Squaw Canyon area. Three springs are in the vicinity of the mines.

Uranium-vanadium mineralization occurs in the Salt Wash member of the Morrison formation and is conspicuous in the Red Moon mine, the Lone Wolf mine, and on the dumps. Mineralization of the same type occurs in a prospect pit on the Pay Day claim. Only vanadium was noted at the remaining claims.

The Red Moon (2) is owned by Mr. Bill Hickey and Mrs. W. W. Sparks. During the latter part of 1941 and the early part of 1942, 300 tons of vanadium ore was shipped to Vanadium Corporation of America in Monticello, Utah, according to Mr. W. W. Sparks; the ore assayed about 2.0% vanadium; uranium was not purchased at that time. The mine comprises 1 adit about 25 feet long and 1 drift about 20 feet long. Uranium-vanadium mineralization is visible on the walls. Geiger counter readings did not exceed

.15 mh. A 14-inch vertical chip sample (15051) which assayed 0.09% U_3O_8, 2.38% V_2O_5, and 5.5% $CaCO_3$, was taken at position 3.

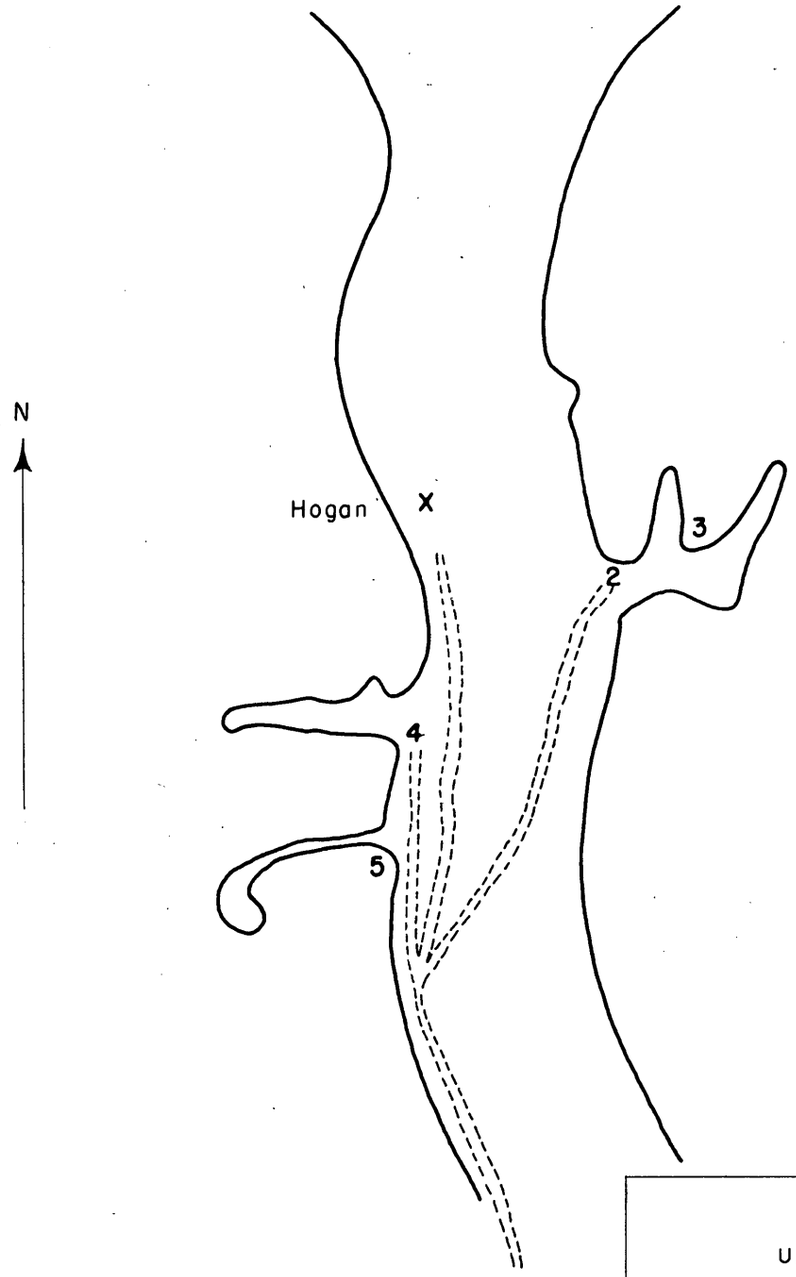
The Lone Wolf mine (formerly the Pay Day), positions 4 and 5, is owned by Mr. Bill Hickey and Mrs. W. W. Sparks. During the latter part of 1941 and the early part of 1942, 350 tons of vanadium ore was shipped to Vanadium Corporation of America in Monticello, Utah; adit #4 produced 150 tons of ore which assayed 2.5% vanadium and adit #5 produced 200 tons of ore which assayed 2% vanadium; uranium was not purchased at that time. Adit #4 is about 45 feet long and begins to "roll" downward at the face. Uranium and vanadium mineralization is visible on the walls. Geiger counter readings ranged to 3.0 mh. A 1-foot vertical chip sample (15052) which assayed 0.64% U_3O_8, 3.60% V_2O_5, and 24.8% $CaCO_3$ was taken about 9 feet inside the adit. Adit #5 is about 30 feet; uranium-vanadium mineralization is visible on the walls. Geiger counter readings average .10 mh.

The Pay Day claim (formerly the Lone Wolf), owned by Mr. W. W. Sparks, is situated ½ mile down canyon from the Red Moon mine. Uranium-vanadium mineralization is discernible in a small prospect pit. Geiger counter readings did not exceed .08 mh.

Two additional prospect pits were inspected; uranium mineralization was not visible nor was it indicated by the Geiger counter. Vanadium is visible in small amounts.

Mr. Sparks stated that the Salt Wash outcrops in canyons adjacent to Squaw Canyon and that claims have been made in these canyons. Uranium-vanadium mineralization is conspicuous and appears to be widespread enough in Squaw Canyon to warrant further investigation when the high lime ores are accepted at the mill.

CC: T. W. Oster, J. O. Jones, J. A. Tavelli, A. J. Shea, M. H. Sheridan and R. J. Wright



2 Red Moon Mine

3 Sample No.15051

4 Lone Wolf Mine, Sample No. 15052

5 Lone Wolf Mine

Department of Interior
U. S. GEOLOGICAL SURVEY

Sketch Map of

RED MOON and LONE WOLF MINES

Squaw Canyon, Utah

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

Engineering Report

By Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

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SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

ENGINEERING REPORT

By

Scott W. Hazen, Jr.

INTRODUCTION

W. W. Sparks, of Cortez, Colo., has applied for an exploration loan of $4,541.00 from the Defense Minerals Administration, Docket DMA 2133, to explore for uranium ore on twelve claims held by location and lease in the Squaw Canyon vanadium-uranium district of San Juan County, Utah. A field examination was made on November 8, 1951, in the company of the applicant and C. S. Robinson, of the U. S. Geological Survey.

The applicant's estimate of costs for labor and equipment is low. The total cost of the proposed work has been revised to $8,700.00 if equipment is purchased or $7,000.00 if equipment is rented.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Squaw Canyon deposits are located in T. 37 S., and T. 38 S., R. 26 E., Salt Lake Meridian, San Juan County, Utah, 27 1/2 miles by road south and west of Dove Creek, Colo. (fig. 1). The road from Dove Creek consists of approximately 20 miles of county-maintained, partially-improved road with the remaining 7 1/2 miles being a rough bulldozer-constructed truck trail to the rim of Squaw Canyon and down to the bottom of the canyon. This latter portion of the road was built by Sparks during operations in World War II. The twelve

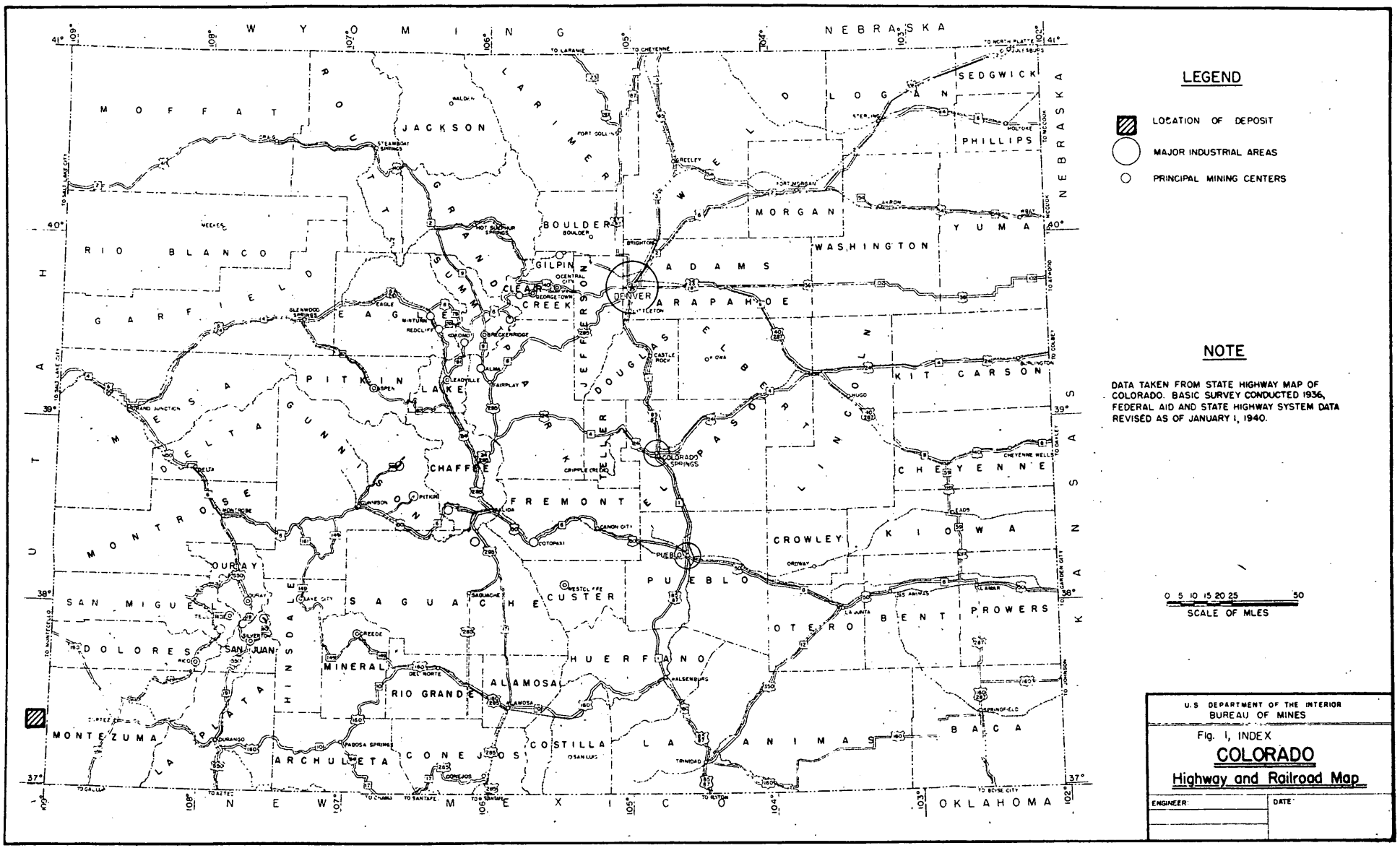

FIG. 1-LOCATION MAP, SQUAW CANYON URANIUM-VANADIUM SAN JUAN COUNTY, UTAH DMA 2133

claims are located along the exposures of the Morrison formation in Squaw Canyon (fig. 2). Five of the twelve claims are accessible by rough truck trail.

The topography is the usual flat mesa type, cut by canyons which expose the ore horizons. Roads are easily built on the mesa surfaces but are more difficult and expensive to construct along the sides of the canyon to reach the mesa. The area is accessible all year except immediately after rains or snows when the dirt roads become quite muddy and slippery, but all year operations can be maintained.

Three small springs exist in the bottom of the canyon which will supply sufficient water for the miners.

HISTORY AND PRODUCTION

The first deposits in the district were located by Sparks and associates after considerable prospecting work in 1941. Production was begun in late 1941 and continued through 1943. During this time, 700 tons of vanadium ore were shipped to the Metals Reserve depot at Monticello, Utah. This production came from three claims--the Lone Wolf, the Red Moon, and the Black Sheep. Settlement sheets from the Metals Reserve depot were not available, but Sparks stated that the ore assayed approximately 2 percent vanadium and 0.2 percent uranium. No work was done on the property after the conclusion of the earlier operations until the summer of 1950 when Sparks located nine claims and acquired three other claims of the group by lease, a copy of which is attached to the loan application.

DESCRIPTION OF THE DEPOSITS

The outcrops of vanadium-uranium ore are typical for the carnotite region and are found along the eroded exposures of the Morrison formation. The outcrops are characterized by the uranium "yellow bloom" with the surrounding gray-colored, high-lime vanadium ore. The ore outcrops on the various claims are small with the exception of one on the Dottie No. 1 claim which showed a width of 4 feet for perhaps a hundred feet along the rim. The mine workings on the Lone Wolf, the Red Moon, and the Black Sheep, from which the 700 tons of vanadium-uranium ore have been produced, indicate that the surface exposures of ore found on these claims were no larger or more prominent than those now shown on the undeveloped claims. The uranium occurs associated with vegetal matter usually found in the vanadium ore. Where the vegetal matter was broken out and exposed, the Geiger counter indicated uranium content in excess of 0.2 percent. The deposits are erratic, widening and thinning rapidly, and there is the usual evidence that deposition of the ore has been influenced by location of ancient stream beds. Several small log replacements were found in the deposits and a definite increase in uranium concentration was shown by the counter. There is sufficient vegetal matter distributed throughout the vanadium ore which, combined with the log replacements, will insure an average uranium content estimated at 0.2 percent.

Two chip samples taken by W. G. Vener, geologist, Grand Junction Exploration Branch of the Atomic Energy Commission, assayed as follows:

15051	14-inch cut	Red Moon adit	0.09 U_3O_8	2.38 V_2O_5	5.5 $CaCO_3$
15052	12-inch cut	Lone Wolf adit	0.64 U_3O_8	3.60 V_2O_5	24.8 $CaCO_3$

MINABLE ORE RESERVES

The ore deposits indicated by the workings on these claims are small and have been followed for short distances both into the walls of the canyon and parallel to the walls. The 700 tons produced from the deposits have come from the Lone Wolf, the Red Moon, and the Black Sheep. Sparks recently shipped 10 tons of ore from the Black Sheep claim. Using the amount of production from these claims as a measure of inferred ore, it is expected that each surface outcrop now unexplored on the other claims may produce an average of 50 to 100 tons, with the exception of the Dottie No. 1 claim where the vanadium ore outcrop indicates a deposit inferred as approximately 500 tons. Nearly all of the claims have evidence of ore in several places along the horizons and, in some cases, it may be inferred that these outcrops which are 50 to 100 feet apart will be more or less continuous although they will be quite thin in many places. Total ore reserves are estimated to be between 1,200 and 1,500 tons.

PRESENT STATUS

Exploration and Development

Five of the twelve claims are accessible by truck roads which cross the various claims. Tributary roads to the ore exposures will have to be constructed. Development work has been confined to the three claims mined during 1941-43 and only necessary discovery work has been done on the others. The workings on the Lone Wolf consist of several short adits and open-cuts along the face of shallow cliffs where the small rolls of vanadium ore have been followed. The Red

Moon has been developed by one large open-cut with short adits leading from it. These adit workings are partially filled with mud as the ore dipped away, or down grade, from the cut. The Black Sheep deposits have been developed by a series of closely-spaced open-cuts and short adits following the more or less continuous ore along the cliff.

Mining and Milling Equipment and other Facilities

Sparks is presently operating on the Black Sheep claim using a worn-out jackhammer and a compressor made of two automobile engines, one used for power and the other for compressing the air, This equipment is inadequate and it will be necessary to re-equip the operation completely for the proposed exploration.

The ore produced from the operation may be sold at either the Monticello, Utah, plant or the new plant being erected at Shiprock, N. Mex. This latter plant will probably be the most desirable point of sale as it is understood from the Atomic Energy Commission it will specialize in high lime content ore.

The present purchase schedule for 2.0 percent vanadium and 0.2 percent uranium ore follows:

Basic payment: 0.2 percent U_3O_8 = 4 pounds at $3.50 per pound	$14.00
Production bonus: at same rate	14.00
Exploration bonus: at $0.50 per pound, 4 pounds	2.00
Bonus payment: $0.75 per pound in excess of 10 pounds (not applicable)	
Vanadium content: maximum 10 to 1 ratio, 2 percent V_2O_5 = 40 pounds at $0.31 per pound	12.40
Value per ton	$42.40

Plus $0.06 per ton-mile transportation allowance;
Plus bonus payments if U_3O_8 content increases;
Less any penalty for high lime content of ore--6 percent $CaCO_3$ is now maximum allowed. The new high lime treatment plant should overcome the latter restriction.

PROPOSED EXPLORATION

The applicant has proposed to explore the various outcrops of ore by open pits and short adits. This is the common method of exploration in use in the region and is the logical method of approach. In some cases, it will be necessary to drive these short adits below the ore exposures in order to prevent having to drive down-dip on the ore. Development of the ore body from these adits will be done by drifts following the greatest thickness of ore. The individual proposals on each claim are listed below:

Claim	Proposed Work		Footage
Morning Star	1 - 7 ft. x 6 ft. adit	15 feet long	15
Willadean	1 - 7 ft. x 6 ft. adit	15 feet long	15
Lone Wolf	1 - 7 ft. x 6 ft. adit	15 feet long	15
Dottie No. 1	1 - 7 ft. x 6 ft. adit	15 feet long	15
Rita	1 - 7 ft. x 6 ft. adit	15 feet long	15
Squaw Kitty	1 - 7 ft. x 6 ft. adit	15 feet long	15
Red Pirate	1 - 7 ft. x 6 ft. adit	15 feet long	15
Total	7 adits		105
			Cubic feet
Red Horse	1 open pit	20 ft. x 6 ft. x 6 ft.	720
Magpie	1 open pit	20 ft. x 6 ft. x 6 ft.	720
Red Moon	1 open pit	20 ft. x 10 ft. x 7 ft.	1,400
Charlie Horse	1 open pit	20 ft. x 7 ft. x 6 ft.	840
Black Sheep	1 open pit	20 ft. x 7 ft. x 6 ft.	840
Total	5 open pits		4,520

COSTS OF PROJECT

Labor

2 miners at $1.50 per hour, or $350.00 per month, 6 months		$4,200.00
One of these men (Sparks) to be supervisor.		

Equipment to be purchased or rented

1 - 85-105 c.f.m. portable gasoline-driven compressor, new price	$2,500.00	
1 - 35-pound jackhammer	250.00	
Air and water hoses and fittings	100.00	
Water tank	50.00	2,900.00

This is a large portion of the total amount to be expended and it may be advisable to rent this equipment instead of purchasing it. The above can be rented as a complete unit for about $200.00 per month, or $1,200.00 for 6 months

Equipment to be rented (Owned by applicant)

1 - 1952 Chevrolet 4-speed pickup, value $1,800.00--depreciation rate at $30.00 per month, 6 months	180.00

Supplies

Powder, caps, fuse	$200.00	
Wheelbarrow, steel, bits	200.00	
100 feet of 1½-inch pipe for air line	50.00	
Small tools	50.00	
Gasoline for compressor	250.00	750.00

Transportation

Freight on equipment, truck use, hauling supplies, moving jobs, etc.	170.00

Rehabilitation and new facilities

No buildings or other facilities are needed. The applicant has a house trailer which he will furnish for living quarters.

Access Roads

(1) Rehabilitation and some improvement of existing truck roads from the canyon rim to the claims.
(2) Construction of new truck trails to the proposed work on the Morning Star, Red Horse, Willadean, Magpie, Dottie No. 1, Charlie Horse, and Rita claims.

Estimated at 6 days' work for bulldozer including transporting bulldozer to and from job, expected cost at $10.00 per hour--allow	500.00
Total	$8,700.00

If the equipment is rented instead of purchased, the total cost will be reduced to $7,000.00.

When Sparks was contacted for the field examination, he immediately mentioned that he had found his estimates were low and requested revision. He was willing to participate in the revised amount as he wants to do the work on each claim. He stated he will be able to finance his share of the increased amount.

CONCLUSIONS

The outcrops of uranium ore found in the Squaw Canyon district are promising and exploration is certainly justified. The proposals as given by Sparks are practical and the cost is reasonable. Discovery of ore on part of the claims will suffice to repay the loan. Sparks has successfully operated in the district during World War II and is prepared to finance his share of the project.

RECOMMENDATIONS

The work as proposed by the applicant and itemized under "Project Proposals" is recommended. The cost will be $8,700.00 if the equipment is purchased or $7,000.00 if the equipment is rented for six months. Government participation will be 90 percent of the total amount of the loan. A loan for $7,000.00 is probably more practical as it will not require settlement of equity in purchased equipment at the conclusion of the contract.

STANDARD FORM NO. 64

7/17/52 glc

Office Memorandum • UNITED STATES GOVERNMENT

TO : Ernest Wm. Ellis, DMEA Member, Uranium Commodity Committee

DATE: July 15, 1952

FROM : A. P. Butler, Jr., USGS Member, Uranium Commodity Committee

SUBJECT: Final Report DMEA Docket 2133 (uranium) W. W. Sparks, applicant Cortez, Colorado, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah.

In view of the memorandum of June 20 to Acting Administrator, DMEA from Field Team Region IV the geologic aspects of this application are irrelevant, and I concur with the action of the regional officers in denying the application for exploration assistance.

Arthur P. Butler, Jr.

Arthur P. Butler, Jr.

Copy to: E. Wm. Ellis

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 16 1952

IN REPLY REFER TO:

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

July 15, 1952

Ernest Wm. Ellis, DMEA Member, Uranium Commodity Committee
A. P. Butler, Jr., USGS Member, Uranium Commodity Committee
Final Report DMEA Docket 2133 (uranium)
W. W. Sparks, applicant Cortez, Colorado, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah.

In view of the memorandum of June 20 to Acting Administrator, DMEA from Field Team Region IV the geologic aspects of this application are irrelevant, and I concur with the action of the regional officers in denying the application for exploration assistance.

Arthur P. Butler, Jr.

Copy to: E. Wm. Ellis

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 16 1952

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

224 New Customhouse
Denver 2, Colorado

June 20, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 2133, (Uranium) Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah

Enclosed are four copies of the final report on DMA-2133.

The application has been disqualified because the applicant has no mining rights to the property involved.

W. H. King

W. H. King

A. H. Koschmann

A. H. Koschmann

Enclosures

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JUN 26 1952

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

224 New Customhouse
Denver 2, Colorado

December 28, 1951

Memorandum

To: Administrator, Defense Minerals Exploration Administration, Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah Applicant, W. W. Sparks, Cortez, ~~Utah~~ Colorado

The application for Government assistance in exploration work estimated to cost $7,000 has been approved by us and a contract is being prepared.

Government participation will be 90 per cent, or $6,300.

A copy of the Final Report will be forwarded with your copy of the contract.

Attached are the original and one copy of Form 3b.

J. H. East, Jr.

J. H. East, Jr.

A. H. Koschmann

A. H. Koschmann

cc: PTAllsman w/copy of final report
AHKoschmann w/copy of final report
WMTraver w/copy of final report

Mining Division
Region IV

December 28, 1951

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah. Applicant, W. W. Sparks, Cortez, ~~Utah~~ Colorado

Enclosed are the original and nine copies of the "Engineering Report" by the Bureau of Mines, pertaining to the above docket.

The application was for Government assistance in exploration work estimated to cost $4,341. Work proposals consisted of driving seven 15-foot adits, or a total of 105 feet of drifting and test pitting to aggregate 4,520 cubic feet.

A study of the applicants estimate of costs indicated that the desired work could not be accomplished within the amount requested, therefore, estimates were revised in the amount of $8,700, including the purchase of needed operating equipment, or $7,000 if the equipment was rented.

We favor the latter and concur in the recommendations that the project be approved for $7,000.

The Government participation would be 90 per cent, or $6,300.00

W. H. King
for Paul T. Allsman

DEPUTY
Deputy Chief

Reviewed by
DMEA OPERATING COMMITTEE
6-30-52
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado
December 20, 1951

Memorandum

To: Chief, Mining Division, Region IV

From: Chief, Colorado Branch, Mining Division

Subject: DMA 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah

Please find enclosed the original and nine copies of the "Summary, Conclusions, and Recommendations", by C. S. Robinson and Scott W. Hazen, Jr., and the same number of copies of Hazen's "Engineering Report" on the subject docket.

You will note the property is located in San Juan County, Utah, instead of Montezuma County, Colorado, as shown on the Field Team's transmittal memorandum of October 16, 1951. However, it is more accessible from Colorado than from Utah for project inspections in the event a contract is drawn up.

Hazen concludes, and the applicant admits, that his estimates for the work he proposes to do are low. However, he is able and willing to go along for the larger amount suggested or $7,000.00 instead of the $4,541.00 requested. He is a competent operator and has a promising property likely to show a low-grade uranium discovery if judiciously explored. I concur with Hazen's recommendation that the loan be approved.

The brochure submitted by the Region IV Field Team October 16, 1951, is returned herewith.

W. M. Traver, Jr.
W. M. Traver, Jr.

enclosures

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

200 New Customhouse
Denver 2, Colorado

December 10, 1951

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Utah

Attached are 10 copies of the geological report by C. S. Robinson covering subject docket--Squaw Canyon Uranium-Vanadium claims, San Juan County, Utah.

Vanadium-uranium mineralized rock crops out on each of 12 claims controlled by W. W. Sparks in Squaw Canyon, and ore has been shipped from the Lone Wolf and Red Moon claims. In general the ore exposed on these claims is typical of that in other localities of the Colorado Plateau area. On all the claims good grade vanadium ore is exposed, but the grade of uranium varies considerably within short distances. Robinson recommends that the loan be approved, and I concur with his recommendation.

The brochure is attached.

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

Attachments (11)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA-2133, Squaw Canyon Uranium-Vanadium Claims

San Juan County, Utah

Uranium-Vanadium

G. S. Robinson, Geologist
U. S. Geological Survey

Scott W. Hazen, Jr., Mining Engineer
Bureau of Mines

December 20, 1951

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

Summary, Conclusions, and Recommendations

By C. S. Robinson
Geologist
U. S. Geological Survey

and

Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By C. S. Robinson and Scott W. Hazen, Jr.

The twelve vanadium-uranium claims of W. W. Sparks are in Squaw Canyon in southeastern San Juan County, Utah. Mr. Sparks has requested a loan of $4,541.00 to prospect the outcrops of ore exposed on these claims. Good vanadium-uranium ores, typical of those occurring in other areas of the Colorado Plateau, are exposed on the claims, and are believed to justify a Defense Minerals Administration exploration loan. It is evident that the cost of doing the proposed work will be greater than the amount requested by the applicant. Recalculation of the cost indicates the project work will cost $8,700.00 if equipment is purchased or $7,000.00 if equipment is rented.

The loan is recommended and granting of the lesser amount appears to be the most feasible.

SQUAW CANYON

URANIUM-VANADIUM CLAIMS

SAN JUAN COUNTY, UTAH

DMA DOCKET 2133

By C. S. Robinson
U. S. Geological Survey

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ENCLOSURES

Report and map of reconnaissance trip to Squaw Canyon, Utah, by W. G. Verner, Geologist, Grand Junction Exploration Branch, Atomic Energy Commission.

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

INTRODUCTION

The claims under lease or owned by W. W. Sparks in Squaw Canyon, San Juan County, Utah, were visited on November 8, 1951, in company with W. W. Sparks and S. W. Mason of the U. S. Bureau of Mines.

Mr. W. W. Sparks has requested a loan of $4541 for exploration of twelve claims. The exploration is to be done primarily by test pitting. These claims are located in T. 38 S., and T. 37 S., R. 26 E., San Juan County, Utah. They are connected by a fair dirt road to Dove Creek, Colorado, about 30 miles to the northeast.

The geology of this area has been published on a Strategic Minerals Investigation Preliminary Map entitled "Simplified Geologic Map of the Vanadium Region of southwestern Colorado and southeastern Utah," compiled by R. P. Fischer. A more detailed description of the ore deposits is given by R. P. Fischer (1950, pp. 1-11). A report of a reconnaissance trip to these claims by W. G. Verner, Geologist, Grand Junction Exploration Branch of the Atomic Energy Commission, is appended to this report.

GEOLOGY

The rock formations of Squaw Canyon consist of nearly horizontal continental sediments of Mesozoic age. The vanadium-uranium mineralization occurs in the Salt Wash member of the Morrison formation. The Morrison formation is here divided into a lower member, the Salt Wash,

composed primarily of sandstones, siltstones, and shales, and an upper member, the Brushy Basin, composed primarily of shales and siltstones with a few sandstone lenses. The Morrison is Jurassic in age. No formations older than the Morrison are exposed in Squaw Canyon. Above the Morrison on the sides of the Canyon is exposed the Burro Canyon formation and the Dakota (?) formation of Cretaceous age.

The vanadium-uranium minerals occur in medium grained bench forming sandstone lenses near the top of the Salt Wash member, which is locally known as the ore rim. The ore minerals coat the sand grains or partially or completely fill the spaces between grains. Locally, vegetable matter, deposited with the sand, has been replaced by ore minerals forming small high-grade deposits. In general, the contacts of the ore deposits with the surrounding sandstone are gradational but locally may be sharp. The size of the ore deposits varies from only a few feet across to large tabular bodies many hundreds of feet across.

On each of the 12 claims controlled by W. W. Sparks in Squaw Canyon are outcrops of vanadium-uranium mineralized rock and on the Lone Wolf and Red Moon claims are 3 short tunnels from which some ore has been shipped (see attached AEC report). From the others no ore has been shipped, but varying amounts of prospecting have been done. In general, the ore exposed on these claims is typical of that seen in other localities of the Colorado Plateau area. The deposits range from 6 inches to 6 feet in thickness and from less than 10 to 300 feet long. On all the claims good grade vanadium ore is exposed, but the grade of uranium varies considerably within short distances in any exposure. The sampling of the AEC shows a high lime content to the ore which reduces its value.

According to Verner (Verner, W. G.) ore of over 6 percent lime is subject to fines at the mills. However, he reports that a mill which will handle high lime ores is under construction at Shiprock, New Mexico.

CONCLUSIONS AND RECOMMENDATIONS

Very little mining for vanadium-uranium ores has been done in the Squaw Canyon area, probably because of the inaccessibility of the area. On W. W. Sparks' claims in Squaw Canyon good vanadium and locally good uranium ore is exposed. Sparks has requested a loan of $4341 to prospect these ore exposures. It is believed that this amount is inadequate to do the proposed work and a re-estimate of the cost should be made by the U. S. Bureau of Mines. It is recommended that this property be considered for a DMA exploration loan.

REFERENCES

Fischer, R. P., 1950, Uranium-bearing sandstone deposits of the Colorado Plateau: Econ. Geology, vol. 45, No. 1, pp. 1-11.

Verner, W. G., Oral Communication.

COPY

E. V. Reinhardt, Supervisor, Geologic Investigations, Grand Junction Exploration Branch
W. G. Verner, Geologist, GJEB

September 6, 1951

RECONNAISSANCE TRIP TO SQUAW CANYON, UTAH

MBOL: GJEB: WGV

A one-day reconnaissance trip was made into Squaw Canyon, Utah, to examine 2 dormant mines owned by Mr. Bill Hickey and Mrs. W. W. Sparks and 3 claims owned by Mr. W. W. Sparks, of Cortez, Colorado.

Squaw Canyon is situated in eastern Utah about 31 miles southwest of Dove Creek, Colorado. A road which is in fair condition extends from Dove Creek to the mines and claims; lesser roads ramify the Squaw Canyon area. Three springs are in the vicinity of the mines.

Uranium-vanadium mineralization occurs in the Salt Wash member of the Morrison formation and is conspicuous in the Red Moon mine, the Lone Wolf mine, and on the dumps. Mineralization of the same type occurs in a prospect pit on the Pay Day claim. Only vanadium was noted at the remaining claims.

The Red Moon (2) is owned by Mr. Bill Hickey and Mrs. W. W. Sparks. During the latter part of 1941 and the early part of 1942, 300 tons of vanadium ore was shipped to Vanadium Corporation of America in Monticello, Utah, according to Mr. W. W. Sparks; the ore assayed about 2.0% vanadium; uranium was not purchased at that time. The mine comprises 1 adit about 25 feet long and 1 drift about 20 feet long. Uranium-vanadium mineralization is visible on the walls. Geiger counter readings did not exceed

.15 mh. A 14-inch vertical chip sample (15051) which assayed 0.09% U_3O_8, 2.38% V_2O_5, and 5.5% $CaCO_3$, was taken at position 3.

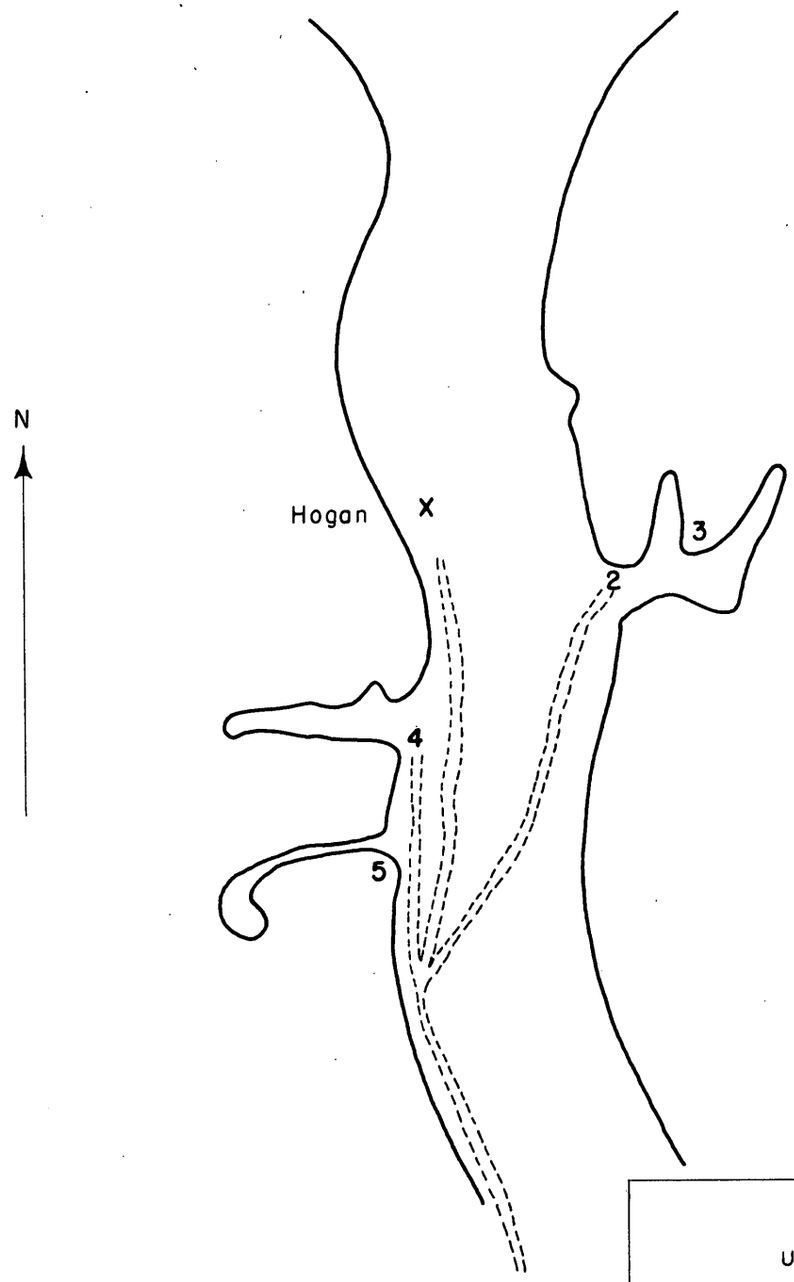
The Lone Wolf mine (formerly the Pay Day), positions 4 and 5, is owned by Mr. Bill Hickey and Mrs. W. W. Sparks. During the latter part of 1941 and the early part of 1942, 350 tons of vanadium ore was shipped to Vanadium Corporation of America in Monticello, Utah; adit #4 produced 150 tons of ore which assayed 2.5% vanadium and adit #5 produced 200 tons of ore which assayed 2% vanadium; uranium was not purchased at that time. Adit #4 is about 45 feet long and begins to "roll" downward at the face. Uranium and vanadium mineralization is visible on the walls. Geiger counter readings ranged to 3.0 mh. A 1-foot vertical chip sample (15052) which assayed 0.64% U_3O_8, 3.60% V_2O_5, and 24.8% $CaCO_3$ was taken about 9 feet inside the adit. Adit #5 is about 30 feet; uranium-vanadium mineralization is visible on the walls. Geiger counter readings average .10 mh.

The Pay Day claim (formerly the Lone Wolf), owned by Mr. W. W. Sparks, is situated ½ mile down canyon from the Red Moon mine. Uranium-vanadium mineralization is discernible in a small prospect pit. Geiger counter readings did not exceed .08 mh.

Two additional prospect pits were inspected; uranium mineralization was not visible nor was it indicated by the Geiger counter. Vanadium is visible in small amounts.

Mr. Sparks stated that the Salt Wash outcrops in canyons adjacent to Squaw Canyon and that claims have been made in these canyons. Uranium-vanadium mineralization is conspicuous and appears to be widespread enough in Squaw Canyon to warrant further investigation when the high lime ores are accepted at the mill.

CC: T. W. Oster, J. O. Jones, J. A. Tavelli, A. J. Shea, M. H. Sheridan and R. J. Wright



2 Red Moon Mine

3 Sample No.15051

4 Lone Wolf Mine, Sample No. 15052

5 Lone Wolf Mine

Department of Interior
U. S. GEOLOGICAL SURVEY

Sketch Map of

RED MOON and LONE WOLF MINES

Squaw Canyon, Utah

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

Engineering Report

By Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

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SQUAW CANYON URANIUM-VANADIUM CLAIMS
SAN JUAN COUNTY, UTAH

ENGINEERING REPORT

By

Scott W. Hazen, Jr.

INTRODUCTION

W. W. Sparks, of Cortez, Colo., has applied for an exploration loan of $4,541.00 from the Defense Minerals Administration, Docket DMA 2133, to explore for uranium ore on twelve claims held by location and lease in the Squaw Canyon vanadium-uranium district of San Juan County, Utah. A field examination was made on November 8, 1951, in the company of the applicant and C. S. Robinson, of the U. S. Geological Survey.

The applicant's estimate of costs for labor and equipment is low. The total cost of the proposed work has been revised to $8,700.00 if equipment is purchased or $7,000.00 if equipment is rented.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Squaw Canyon deposits are located in T. 37 S., and T. 38 S., R. 26 E., Salt Lake Meridian, San Juan County, Utah, 27 1/2 miles by road south and west of Dove Creek, Colo. (fig. 1). The road from Dove Creek consists of approximately 20 miles of county-maintained, partially-improved road with the remaining 7 1/2 miles being a rough bulldozer-constructed truck trail to the rim of Squaw Canyon and down to the bottom of the canyon. This latter portion of the road was built by Sparks during operations in World War II. The twelve

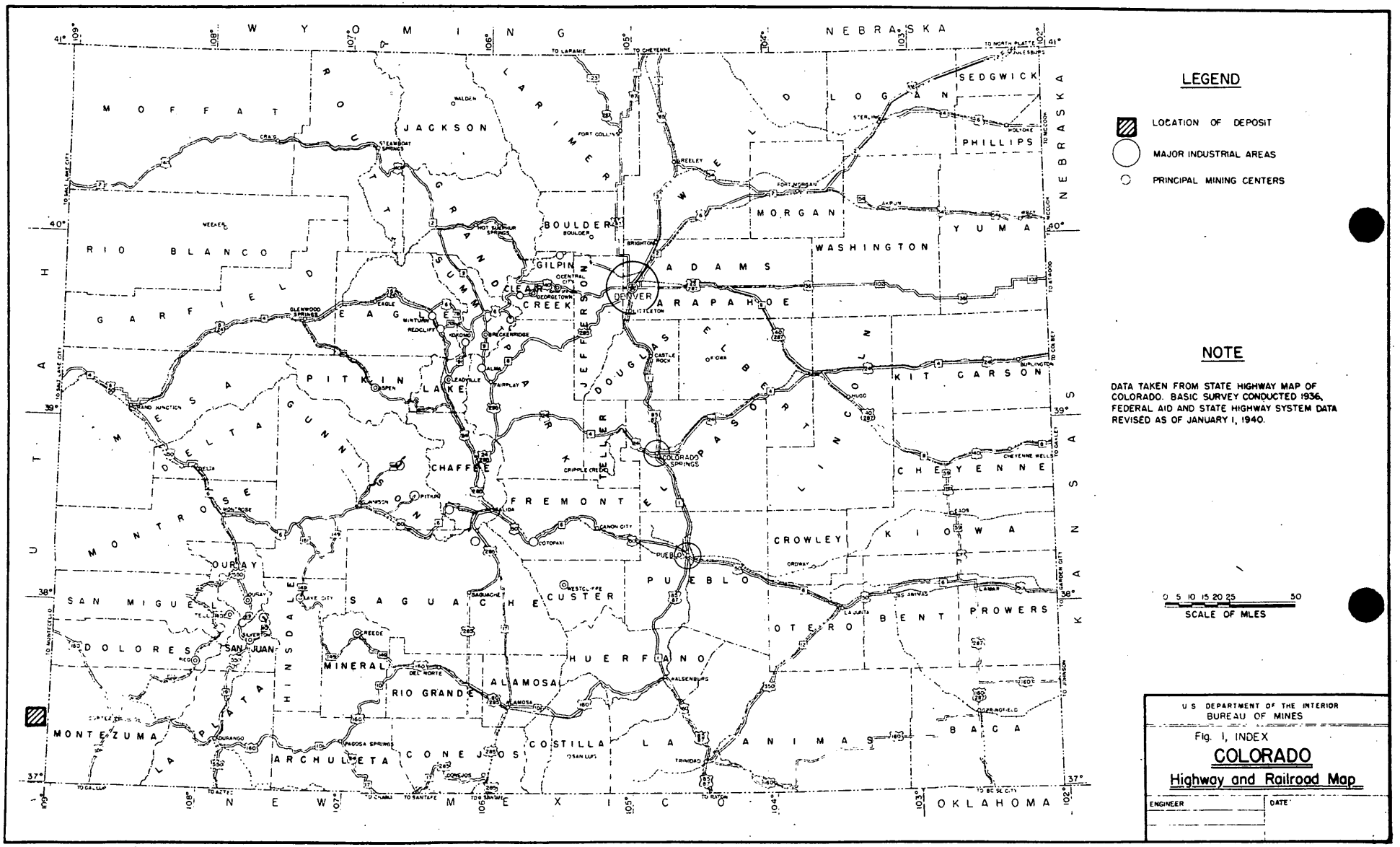

FIG. 1-LOCATION MAP, SQUAW CANYON URANIUM-VANADIUM SAN JUAN COUNTY, UTAH DMA 2133

claims are located along the exposures of the Morrison formation in Squaw Canyon (fig. 2). Five of the twelve claims are accessible by rough truck trail.

The topography is the usual flat mesa type, cut by canyons which expose the ore horizons. Roads are easily built on the mesa surfaces but are more difficult and expensive to construct along the sides of the canyon to reach the mesa. The area is accessible all year except immediately after rains or snows when the dirt roads become quite muddy and slippery, but all year operations can be maintained.

Three small springs exist in the bottom of the canyon which will supply sufficient water for the miners.

HISTORY AND PRODUCTION

The first deposits in the district were located by Sparks and associates after considerable prospecting work in 1941. Production was begun in late 1941 and continued through 1943. During this time, 700 tons of vanadium ore were shipped to the Metals Reserve depot at Monticello, Utah. This production came from three claims--the Lone Wolf, the Red Moon, and the Black Sheep. Settlement sheets from the Metals Reserve depot were not available, but Sparks stated that the ore assayed approximately 2 percent vanadium and 0.2 percent uranium. No work was done on the property after the conclusion of the earlier operations until the summer of 1950 when Sparks located nine claims and acquired three other claims of the group by lease, a copy of which is attached to the loan application.

DESCRIPTION OF THE DEPOSITS

The outcrops of vanadium-uranium ore are typical for the carnotite region and are found along the eroded exposures of the Morrison formation. The outcrops are characterized by the uranium "yellow bloom" with the surrounding gray-colored, high-lime vanadium ore. The ore outcrops on the various claims are small with the exception of one on the Dottie No. 1 claim which showed a width of 4 feet for perhaps a hundred feet along the rim. The mine workings on the Lone Wolf, the Red Moon, and the Black Sheep, from which the 700 tons of vanadium-uranium ore have been produced, indicate that the surface exposures of ore found on these claims were no larger or more prominent than those now shown on the undeveloped claims. The uranium occurs associated with vegetal matter usually found in the vanadium ore. Where the vegetal matter was broken out and exposed, the Geiger counter indicated uranium content in excess of 0.2 percent. The deposits are erratic, widening and thinning rapidly, and there is the usual evidence that deposition of the ore has been influenced by location of ancient stream beds. Several small log replacements were found in the deposits and a definite increase in uranium concentration was shown by the counter. There is sufficient vegetal matter distributed throughout the vanadium ore which, combined with the log replacements, will insure an average uranium content estimated at 0.2 percent.

Two chip samples taken by W. G. Vener, geologist, Grand Junction Exploration Branch of the Atomic Energy Commission, assayed as follows:

15051	14-inch cut	Red Moon adit	0.09 U_3O_8	2.38 V_2O_5	5.5 $CaCO_3$
15052	12-inch cut	Lone Wolf adit	0.64 U_3O_8	3.60 V_2O_5	24.8 $CaCO_3$

MINABLE ORE RESERVES

The ore deposits indicated by the workings on these claims are small and have been followed for short distances both into the walls of the canyon and parallel to the walls. The 700 tons produced from the deposits have come from the Lone Wolf, the Red Moon, and the Black Sheep. Sparks recently shipped 10 tons of ore from the Black Sheep claim. Using the amount of production from these claims as a measure of inferred ore, it is expected that each surface outcrop now unexplored on the other claims may produce an average of 50 to 100 tons, with the exception of the Dottie Nel 1 claim where the vanadium ore outcrop indicates a deposit inferred as approximately 500 tons. Nearly all of the claims have evidence of ore in several places along the horizons and, in some cases, it may be inferred that these outcrops which are 50 to 100 feet apart will be more or less continuous although they will be quite thin in many places. Total ore reserves are estimated to be between 1,200 and 1,500 tons.

PRESENT STATUS

Exploration and Development

Five of the twelve claims are accessible by truck roads which cross the various claims. Tributary roads to the ore exposures will have to be constructed. Development work has been confined to the three claims mined during 1941-43 and only necessary discovery work has been done on the others. The workings on the Lone Wolf consist of several short adits and open-cuts along the face of shallow cliffs where the small rolls of vanadium ore have been followed. The Red

Moon has been developed by one large open-cut with short adits leading from it. These adit workings are partially filled with mud as the ore dipped away, or down grade, from the cut. The Black Sheep deposits have been developed by a series of closely-spaced open-cuts and short adits following the more or less continuous ore along the cliff.

Mining and Milling Equipment and other Facilities

Sparks is presently operating on the Black Sheep claim using a worn-out jackhammer and a compressor made of two automobile engines, one used for power and the other for compressing the air. This equipment is inadequate and it will be necessary to re-equip the operation completely for the proposed exploration.

The ore produced from the operation may be sold at either the Monticello, Utah, plant or the new plant being erected at Shiprock, New Mex. This latter plant will probably be the most desirable point of sale as it is understood from the Atomic Energy Commission it will specialize in high lime content ore.

The present purchase schedule for 2.0 percent vanadium and 0.2 percent uranium ore follows:

Basic payment: 0.2 percent U_3O_8 = 4 pounds at $3.50 per pound	$14.00
Production bonus: at same rate	14.00
Exploration bonus: at $0.50 per pound, 4 pounds	2.00
Bonus payment: $0.75 per pound in excess of 10 pounds (not applicable)	
Vanadium content: maximum 10 to 1 ratio, 2 percent V_2O_5 = 40 pounds at $0.31 per pound	12.40
Value per ton	$42.40

Plus $0.06 per ton-mile transportation allowance;
Plus bonus payments if U_3O_8 content increases;
Less any penalty for high lime content of ore—6 percent $CaCO_3$ is new maximum allowed. The new high lime treatment plant should overcome the latter restriction.

PROPOSED EXPLORATION

The applicant has proposed to explore the various outcrops of ore by open pits and short adits. This is the common method of exploration in use in the region and is the logical method of approach. In some cases, it will be necessary to drive these short adits below the ore exposures in order to prevent having to drive down-dip on the ore. Development of the ore body from these adits will be done by drifts following the greatest thickness of ore. The individual proposals on each claim are listed below:

Claim	Proposed Work		Footage
Morning Star	1 - 7 ft. x 6 ft. adit	15 feet long	15
Willadean	1 - 7 ft. x 6 ft. adit	15 feet long	15
Lone Wolf	1 - 7 ft. x 6 ft. adit	15 feet long	15
Dottie No. 1	1 - 7 ft. x 6 ft. adit	15 feet long	15
Rita	1 - 7 ft. x 6 ft. adit	15 feet long	15
Squaw Kitty	1 - 7 ft. x 6 ft. adit	15 feet long	15
Red Pirate	1 - 7 ft. x 6 ft. adit	15 feet long	15
Total	7 adits		105
			Cubic feet
Red Horse	1 open pit	20 ft. x 6 ft. x 6 ft.	720
Magpie	1 open pit	20 ft. x 6 ft. x 6 ft.	720
Red Moon	1 open pit	20 ft. x 10 ft. x 7 ft.	1,400
Charlie Horse	1 open pit	20 ft. x 7 ft. x 6 ft.	840
Black Sheep	1 open pit	20 ft. x 7 ft. x 6 ft.	840
Total	5 open pits		4,520

COSTS OF PROJECT

Labor

2 miners at $1.50 per hour, or $350.00 per month, 6 months		$4,200.00
One of these men (Sparks) to be superviser.		

Equipment to be purchased or rented

1 - 85-105 c.f.m. portable gasoline-driven compressor, new price	$2,500.00	
1 - 35-pound jackhammer	250.00	
Air and water hoses and fittings	100.00	
Water tank	50.00	2,900.00

This is a large portion of the total amount to be expended and it may be advisable to rent this equipment instead of purchasing it. The above can be rented as a complete unit for about $200.00 per month, or $1,200.00 for 6 months

Equipment to be rented (Owned by Applicant)

1 - 1932 Chevrolet 4-speed pickup, value $1,800.00— depreciation rate at $30.00 per month, 6 months	180.00

Supplies

Powder, caps, fuse	$200.00	
Wheelbarrow, steel, bits	200.00	
100 feet of 1½-inch pipe for air line	50.00	
Small tools	50.00	
Gasoline for compressor	250.00	750.00

Transportation

Freight on equipment, truck use, hauling supplies, moving jobs, etc.	170.00

Rehabilitation and new facilities

No buildings or other facilities are needed. The applicant has a house trailer which he will furnish for living quarters.

Access Roads

(1) Rehabilitation and some improvement of existing truck roads from the canyon rim to the claims.
(2) Construction of new truck trails to the proposed work on the Morning Star, Red Horse, Willadean, Magpie, Dottie No. 1, Charlie Horse, and Rita claims.

Estimated at 6 days' work for bulldozer including transporting bulldozer to and from job, expected cost at $10.00 per hour—allow	500.00
Total	$8,700.00

If the equipment is rented instead of purchased, the total cost will be reduced to $7,000.00.

When Sparks was contacted for the field examination, he immediately mentioned that he had found his estimates were low and requested revision. He was willing to participate in the revised amount as he wants to do the work on each claim. He stated he will be able to finance his share of the increased amount.

CONCLUSIONS

The outcrops of uranium ore found in the Squaw Canyon district are promising and exploration is certainly justified. The proposals as given by Sparks are practical and the cost is reasonable. Discovery of ore on part of the claims will suffice to repay the loan. Sparks has successfully operated in the district during World War II, and is prepared to finance his share of the project.

RECOMMENDATIONS

The work as proposed by the applicant and itemized under "Project Proposals" is recommended. The cost will be $8,700.00 if the equipment is purchased or $7,000.00 if the equipment is rented for six months. Government participation will be 90 percent of the total amount of the loan. A loan for $7,000.00 is probably more practical as it will not require settlement of equity in purchased equipment at the termination of the contract.

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

224 New Customhouse
Denver 2, Colorado

June 13, 1952

Uranium - Vanadium

Mr. W. W. Sparks
Cortez, Colorado

Re: DMEA - 2133

Dear Mr. Sparks:

Reference is made to your application for exploration assistance docket number DMEA-2133.

According to all the available information the unpatented claims on which you propose to do exploration work are either on school sections or on land covered by oil and gas leases dated prior to the date of your locations.

Since you apparently do not have clear title to the property involved we will be unable to enter into an exploration project contract. Accordingly we have placed your application in our inactive file.

If at some later date you obtain clear title to the property, we will be glad to reconsider your application.

Very truly yours,

W. H. King

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

JFS:fwo

cc: Frank E. Johnson
Chairman to the Oper. Comm.
Traver
Koschmann (2)
Subject
Chron

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
DENVER

JUN 16 1952

OFFICE OF THE ADMINISTRATOR

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

224 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 2 - 1952

December 28, 1951

Memorandum

To: Administrator, Defense Minerals Exploration Administration, Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Colorado. Applicant, W. W. Sparks, Cortez, Colorado

The application for Government assistance in exploration work estimated to cost $7,000 has been approved by us and a contract is being prepared.

Government particpation will be 90 per cent, or $6,300.

A copy of the Final Report will be forwarded with your copy of the contract.

Attached are the original and one copy of Form 3b.

Completion Withdrawn 6/20/52

J. H. East, Jr.

A. H. Koschmann

Region 4 case

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

224 New Customhouse
Denver 2, Colorado

December 28, 1951

Memorandum

To: Administrator, Defense Minerals Exploration Administration, Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 2133, Squaw Canyon Uranium-Vanadium Claims, San Juan County, Colorado. Applicant, W. W. Sparks, Cortez, Colorado

The application for Government assistance in exploration work estimated to cost $7,000 has been approved by us and a contract is being prepared.

Government participation will be 90 per cent, or $6,300.

A copy of the Final Report will be forwarded with your copy of the contract.

Attached are the original and one copy of Form 3b.

J. H. East, Jr.

A. H. Koschmann

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. dma 2133

Date received 10-8-51

Participation

W. W. Sparks
Cortez, Colorado

Name and address of applicant

Date

DEFENSE MINERALS ADMINISTRATION WASHINGTON D.C. OCT 8 1 30 PM '51

FILL IN THIS BLOCK

Date of application Estimated cost $4 341.00

Mineral or metal Uranium-Vanadium Percentage of Government participation 90%

Location of mine Squaw Canyon 24 Miles South West of Dove Creek Colo.

Date of filing MF-100 DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation? Individual

*2. If a partnership, state names and addresses of partners. —

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders. —

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. Extensive Mining and Prospecting Experience

*5. Are you the owner or the lessee of the property? Owner of 5 Claims. Lessee of 10 Claims

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. None

7. If lessee, attach a copy of the lease and state if it is in good standing. —

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract. Nothing against property

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.

9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)? $434.00

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

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THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

(*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any. Sparks Mining Claims

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons. Springs Sufficient
State amount of power to be used, rate per hour or other cost, and source. Gas Power

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. About $2000.00 Worth of Roads - Trailor House-Car

15. State in detail how the ore could be shipped and how and where milled.

*16. History:

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? Carnotite (Uranium Vanadium)

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. Tracing Leads

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each.

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

(Name of company)	By W. W. Sparks (Signature of authorized official)
(Date)	Owner Lessee (Sept) (Title)

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.

*Same as footnote on page 1.

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Item No. 10

Names of The Claims I own

Name	Date Filed	Book	Page
Charlie Horse	9-15-51	R4 of L.C.	129
Squaw Kitty	9-15-51	R4 of L.C.	129
Black Sheep	9-15-51	R4 of L.C.	129
Rita	9-15-51	R4 of L.C.	130
Willadean	9-15-51	R4 of L.C.	130
Dottie No. 1	4-29-50	R2 of L.C.	145
Red Pirate	3-27-50	R2 of L.C.	13[illegible]
Red Horse	3-27-50	R2 of L.C.	134
Morning Star	3-27-50	R2 of L.C.	137

Item No 21

The Location for the proposed exploration work on each of the twelve claims has been chosen because of the favorable indications ~~of~~ for uncovering new bodies of ore.

On seven of the claims the proposed work will consist of tunnelling from fifteen to twenty feet.

On five of the claims an open pit is all that is necessary to determine where the ore body is located.

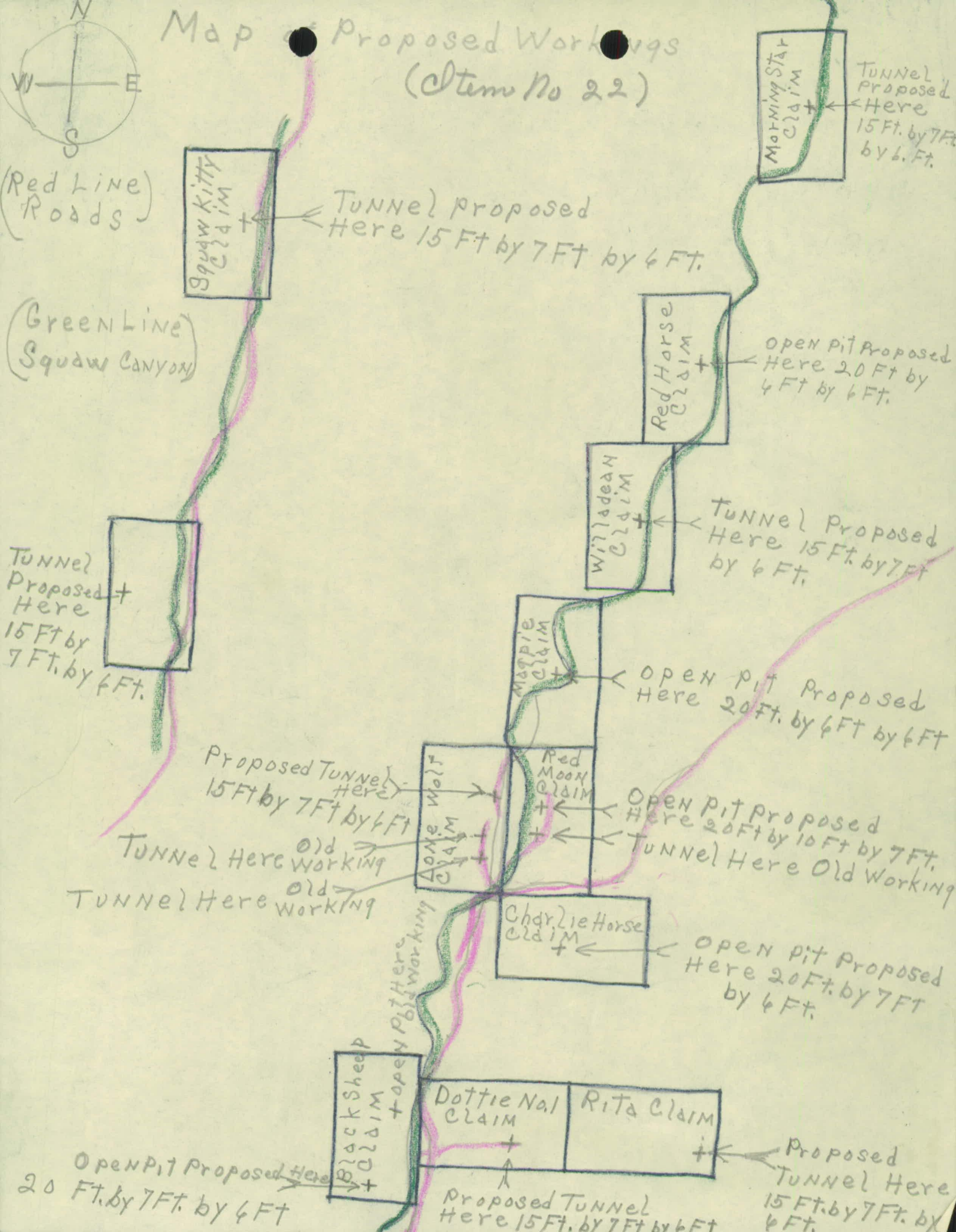
The estimated ~~estimated~~ time is two weeks for each claim or six months for twelve claims, although more time would be profitably spent.

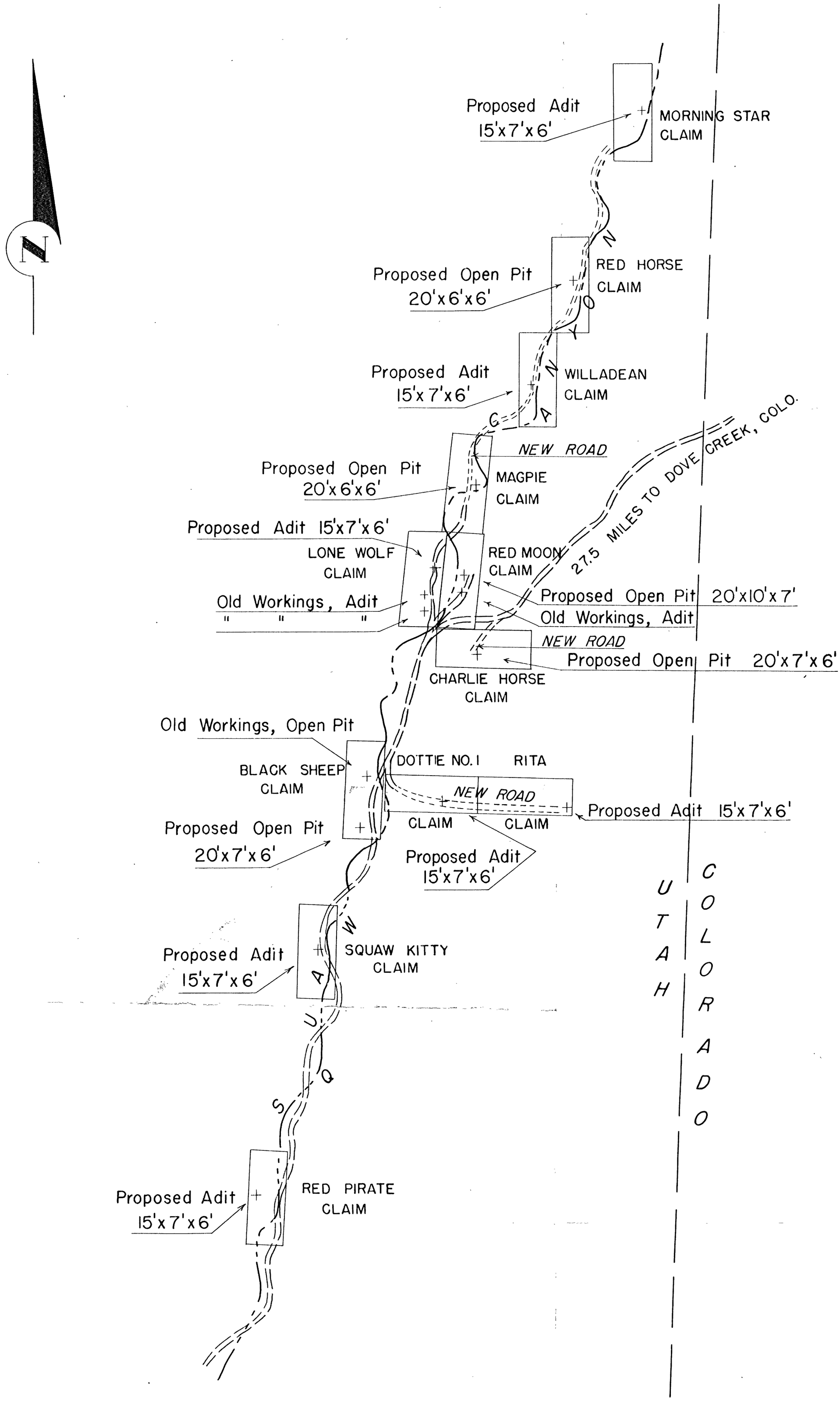
Item No 23

The Requirements and Cost for Six Months

(a)	Labor One Mucker at $1.00 per hour	$1152	00
(b)	Supervisor, Myself - Run Jack Hammer at $1.25 per hour, etc Powder	$1440	00
(c)	Cost of Roads to sites and Misc. Repairs	288	00
(d)	Cost of Necessary Installations - None		
(e)	Cost of equipment Small Compressor, Jack Hammer	$1200	00
(f)	Cost of Rental on equipment - None		
(g)	Rental Value of Equipment operator now owns none		
(h)	Cost of Material and Supplies, Caps, Powder, Fuse, Stuff	288	00
(i)	Cost of Power - Gas to Run Compressor	175	00
	Total	$4541	

Map of Proposed Workings
(Item No 22)



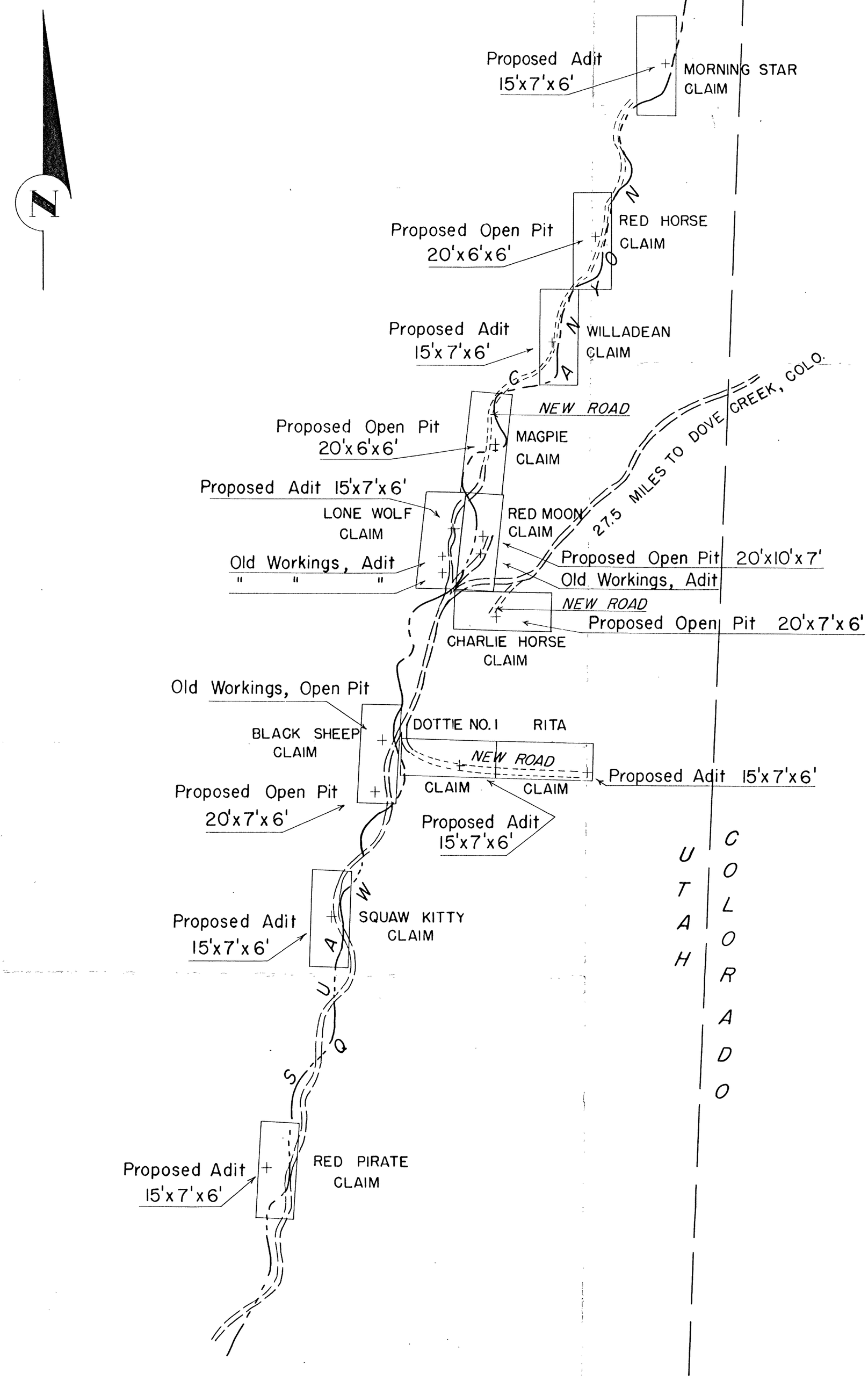


NOTE: MAP DRAWN FROM APPLICANT'S SKETCH. NOT TO SCALE.

Fig. 2 SQUAW CANYON URANIUM - VANADIUM

SAN JUAN COUNTY, UTAH DMA 2133

COLORADO BRANCH - MINING DIVISION - REGION IV
BUREAU OF MINES



NOTE: MAP DRAWN FROM APPLICANT'S SKETCH. NOT TO SCALE.

Fig. 2 SQUAW CANYON URANIUM - VANADIUM SAN JUAN COUNTY, UTAH DMA 2133

COLORADO BRANCH - MINING DIVISION - REGION IV
BUREAU OF MINES