MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE Contract No. _____ Docket No. _____

Application
- [ ] Denied
- [x] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [ ] Application and Attachments

Right Side

- [ ] Project Summary (final)
- [ ] Work Completed Analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semiannual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [ ] On-site Exam. Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. _____: Reports

- [ ] Analysis of Semiannual Inspection Reports
- [ ] Project Summary (Interim) by MME Engineers

Right Side

- [ ] Field Team Semiannual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with Transmittal, Narrative and Maps

Folders No. _____: Maps (Use pocket folder or envelope)

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty Material

72195-65

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 203

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 15 1968

INITIALS	CODE

August 13, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: Copper Age Uranium Company (Gold and Silver)
Fly-By-Night, Side-By-Side et al Claims
La Plata County, Colorado

Transmitted herewith is a copy of an application for financial assistance in minerals exploration on the above-captioned subject. One copy has been retained for the OME field office files.

J. William Hasler
mc

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

MME Form 40
Dec. 1958

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Budget Bureau No. 42-R1368
Approval Expires Dec. 31, 1963

OME Region III RECEIVED AUG 12 1968 Denver, Colorado

OFFICIAL COPY O. M. E. AUG 15 1968 INITIALS CODE

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Pursuant to Public Law 85-701 (72 Stat. 700; 30 U.S.C. 641)

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*

Copper Age Uranium Company
Post Office Box 124
Marvel, Colorado 81329

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6750

DATE RECEIVED: 8-15-68

REGION: III

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

- INDIVIDUAL [ ]
- CORPORATION [X]
- PARTNERSHIP [ ]
- OTHER *(Specify)* [ ]

STATE IN WHICH FIRM IS ORGANIZED: Colorado

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
Harry L. Rowe	Marvel, Colorado	President
William F. Rowe	Marvel, Colorado	Vice President
Florence M. Bass	Marvel, Colorado	Secretary

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Gold and Silver

ESTIMATED COST OF PROJECT: $ 65,000.00

PROPERTY NAME / LOCATION COUNTY / STATE: Patented claims as listed under 2 (b) located in LaPlata County, Colorado

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior, Washington 25, D. C., or with the nearest OME Field Office.*

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, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

July 29, 1968
DATED

Harry L. Rowe
BY *(Signature)*

Pres
TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include true copies of correspondence which show: (1) date of loan request, (2) amount and terms requested, (3) proposed use of loan funds, and (4) the replies from credit sources. If the loan was offered under terms which you consider unreasonable, state why you consider them so.

(b) List names and addresses of affiliated, parent, or controlling companies or organizations and state extent and nature of their interest.

(c) State how you propose to furnish your share of the cost of the exploration work.

2. Applicant's Rights in Land:

(a) State your interest in the land and mineral rights, whether owner, lessee, purchaser under contract, or other. If you are not the owner, submit one true copy of the lease, contract, or other document (with address of owner) under which you control the property. Describe all liens, mortgages, or other encumbrances on the land and state book and page number and official place where recorded.

(b) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all adjacent land which you own or control. Describe any part of the land or workings which should not be subject to Government royalty and liens. If the land consists of unpatented claims, state book and page number for each recorded location notice, including amended locations, and official place where recorded. State all the names by which you know the property.

(c) For all land or mineral rights encumbered or not owned, submit five copies of Lien and Subordination Agreements on MME Form 52. If the agreements cannot be obtained, state reasons and provide copies of letters of refusal.

3. Physical Description:

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the land. Include existing mine workings and all production facilities.

(b) State your interest, if any, in operations described in (a).

(c) State, if you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves, giving quantities and grades and sampling methods used. Support your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you have, indicating whether you require their return.

4. Accessibility of Property:

(a) To aid the OME representative who may examine the property, state name and address of person who will meet him; give directions for reaching the property; and describe accessibility of property and of any mine workings.

(b) Name the shipping and supply points and state the distances to the property.

5. Exploration Work:

(a) Describe fully the proposed exploration work giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and sections as necessary. Show location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *land boundaries* or to the closest identifiable corner.

(b) If an access road must be built, show the proposed location on the property map and state the length, type and construction methods proposed.

(c) If an OME contract is executed, state how soon thereafter work would be started and finished. State your anticipated average daily or monthly rate of progress for each type of work.

6. Experience:

State your operating experience and background to conduct this exploration work and also that of the person who will supervise the work.

7. Estimate of Costs:

Furnish detailed estimates of the necessary costs *for each item of the work proposed in 5(a)* under the headings listed below with a total for each heading and the estimated total cost of the work. Costs for any work to be performed by an independent contractor should be listed separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be listed under categories (b) through (g).

(a) Independent contracts. State the total cost of any proposed independent contract for all or any part of the work, and the number of units and the unit cost for each type of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, or per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note*—If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. The cost of supervision, engineering and geological services, outside consultants, and labor should be itemized by numbers and classes of employees; rates of wages, salaries or fees; and periods of employment. State whether these services are available.

(c) Operating materials and supplies. List items of material and supplies giving quantity and cost of each. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of equipment and tools costing $50 or more per unit. Give specifications and indicate how each item is to be acquired—i.e., rented, purchased or provided by the applicant. If rented or purchased, state the estimated rental or purchase price. If furnished by the applicant, state condition and present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant which will be used in the exploration work.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration work, stating specifications and cost including labor, materials, and supervision.

(g) Miscellaneous. Describe the type and estimate the cost of repairs and maintenance of the operating equipment listed in 7(d). Do not repeat initial repairs listed in 7(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories. [*Note*—The Government will not contribute to costs incurred before the date of the contract, or to costs of or incident to: (1) acquiring, using, or possessing land and any existing improvements, facilities, buildings, installations, and appurtenances, or the depreciation and depletion thereof; (2) general overhead, corporate management, interest and taxes (other than payroll and sales taxes); (3) insurance (other than employees' liability insurance); and (4) damages to persons or property (other than authorized repair to or replacement of equipment or other property used in the work).]

INT.-DUP. SEC., WASH., D.C. 50399

Copper Age Uranium Company
Post Office Box 124
Marvel, Colorado 81329

July 29, 1968

U. S. Department of Interior
Geological Survey
Office of Minerals Exploration Field Offices
Region III - Building 25
Denver Federal Center
Denver, Colorado 80225

Gentlemen:

We enclose herewith four copies of prepared MME Form 40, Application for Financial Assistance in Minerals Exploration, supported by additional information required by the reverse side of this application.

1. Financial Eligibility:
   (A) Letters of application and replies from two local banks are enclosed.
   (B) Copper Age Uranium Co. Inc., Marvel, Colorado, Box 124-81329, owns 100% of the two principal patented ore bearing claims and 2/3 % of eight additional adjoining patented claims.
   (C) To be invested by Stockholders.

2. Applicants Rights in Land:
   (A) Copper Age Uranium Co. is owner by purchase. No liens, Mortgages or other encumbrances exist.
   (B) Township 37 N., Range 11 W., Section 26, N.M.P.M., California Mining District, LaPlata County, Colorado Patented Claims as follows:

Fly-By-Night	No. 12019A	100%
Side-By-Side	No. 12019A	100%
Tunnel	No. 12019A	2/3%
Hold Up	No. 12409	2/3%
Valley King	No. 12409	2/3%
Rosebud	No. 12409	2/3%
Gold Regent	No. 12409	2/3%
Grassy Hill	No. 12409	2/3%
Rocky Point	No. 12409	2/3%
Anvil	No. 12664	2/3%

   (C) Not applicable.

3. Physical Description:
   (A) See map enclosed and excerpt pages 165 and 166 of Geology and Ore Deposits of the LaPlata District Colorado No. Geological Survey Professional Paper 219 Published 1949.

Copper Age Uranium Company
Post Office Box 124
Marvel, Colorado 81329

(B) See 2B, page 1.
(C) See excerpt listed in 3A, page 1.
(D). Ore reserves, quantities and grades unknown except as indicated in Geological Survey Paper 219. Assay Certificates of samples taken in existing tunnels are enclosed.
(E) Veins cross-sectioned by tunnels are quartz type containing gold and silver values. See description contained in Geological Survey Paper 219 referred to in 3A.
(F) See assay certificates enclosed and locations shown thereon.
(G) Two copies of area map showing claims is enclosed. Please return. Two copies of four assay certificates referred to in 3D above also enclosed. Return unnecessary.

4. Accessibility of Property:
(A) For directions to the property contact either Harry L. Rowe, President, Marvel, Colorado, Box 124 - Phone No. 966-2396, or William F. Rowe, Vice President, Marvel, Colorado, Box 26 - Phone No. 966-2393.
(B) In Durango, Colorado approximately 20 miles southeast of mine location.

5. Exploration Work:

(A) 1. Drive approximately 400 lineal feet of 5' by 7' drift to contact the Small Hope Vein.
2. Drive approximately 300 L.F. of 12' by 5' Raise.
3. Install ties, rails, air line and electric wiring in the 400 L.F. of new drift.
4. Enlarge, improve and rehabilitate existing tunnels.
(B) Build and improve approximately 3/4 mile of typical mountainous mine access road.
(C) Estimated Rate of Progress:
New drift - 90 working days
New raise - 70 working days
All other work to be performed concurrently with driving new drift and raise. We would propose to start work within 10 days after execution of OME Contract and to complete within 150 working days. Winter conditions of 1968-69 will probably interrupt exploration operations.

6. Experience:
President Harry L. Rowe has an adult lifetime experience of 45 years in mining, prospecting, milling, engineering and supervision. Vice President William F. Rowe has 30 years experience in the same activities.

Copper Age Uranium Company
Post Office Box 124
Marvel, Colorado 81329

7. Estimate of Costs:
   1. Drive approximately 400 lineal feet of 5' by 7' drift to contact the Small Hope Vein at an estimated cost of $40.00 per L.F. - $16,000.00.
   2. Drive approximately 300 L.F. of 12' by 5' Raise at an estimated cost of $50.00 per L.F. - $15,000.00.
   3. Install ties, rails, air line and electric wiring in the 400 L.F. of New drift at an estimated cost of $9.00 per L.F. - $3,600.00.
   4. Enlarge, improve and rehabilitate existing tunnels at a total estimated cost of $3,000.00.
   5. Build and improve approximately 3/4 mile of access road at an estimated cost of $4,000.00.

(A) None.
(B) Supervision and Engineering - 6 Mo. @ $600.00 Per Mo. Estimated $3,600.00.
Shifter $5.00 Per Hr.
Miners and Operators from $3.25 to $3.75 Per Hr.
Trammers and Muckers from $2.75 to $3.00 Per Hr.
These services are locally available.
(C) Water is available on site.
Electric power supplied by electric generator to be purchased.
Estimated allowance for fuel, drill bits and miscellaneous supplies - $1,000.00.
(D) Purchase the following equipment:

Air Compressor, 300 to 350 C.F.M.	- Estimate	$3,400.00.
Electric Generator, as required	- Estimate	900.00.
Air Trammer, as required	- Estimate	2,500.00.

(E) Not applicable.
(F) Construct an operational building at an estimated cost of $4,000.00.
(G) Miscellaneous Estimate:
Repairs and Maintenance: $100.00 per Mo. for 5 Mos. - $ 500.00.
Accounting : $300.00 per Mo. for 5 Mos. - $1500.00.
Workmans Compensation, Liability Insurance, Payroll Taxes and other direct payroll expenses - 12% of actual payroll - Estimated $3,000.00.
General Overhead, Corporate Management, Insurance, Interest and Taxes - 5% of actual operating cost - Estimated $3,000.00.

Respectfully Submitted,

Harry L. Rowe, Pres

Harry L. Rowe, President

L. B. STEWARD, Mgr.

ROOT & NORTON

ASSAYERS AND CHEMISTS
UMPIRE AND CONTROL WORK
Durango, Colorado. 81301

Telephone 247-3786 — Area Code 303
Mailing Address — Route 1, Box 389

CERTIFICATE OF ASSAY — No. 1

Assayed for Harry Rowe

NO.	DESCRIPTION	Ozs. Per Ton 2,000 Lbs. GOLD	SILVER	Per Cent Lead (wet)	Per Cent Copper (wet)	Per Cent Zinc	Per Cent Insoluble	Per Cent Iron	Per Cent	Per Cent
1	Vein	1.06	0.54	Vein	this	Side	of	Pil.	Muck	N. End
2	Muck	0.20	0.40	North	~~of~~	pile	of	Muck.		
3	Vein	4.28	0.62	South	End	of	100	ft	Shute.	

Durango, Colorado June 29, 1966
Charges $ 12.00

L. Steward
ASSAYERS

L. B. STEWARD, Mgr.

ROOT & NORTON

ASSAYERS AND CHEMISTS
UMPIRE AND CONTROL WORK
Durango, Colorado. 81301

Telephone 247-3786 — Area Code 303
Mailing Address — Route 1, Box 389

CERTIFICATE OF ASSAY — No. 2

Assayed for Harry Rowe

NO.	DESCRIPTION	Ozs. Per Ton 2,000 Lbs. GOLD	SILVER	Per Cent Lead (wet)	Per Cent Copper (wet)	Per Cent Zinc	Per Cent Insoluble	Per Cent Iron	Per Cent	Per Cent
1	Vein	3.25	2.55	one	hundred	ft	North			
2	Vein	1.56	1.10	50	ft	North				
3	—	0.09	0.05	Side	of	vein				
4	—	0.11	2.55	"	of	"				

Durango, Colorado Aug. 6, 1966
Charges $ 18.00

L. Steward
ASSAYERS

L. B. STEWARD, Mgr.

ROOT & NORTON

ASSAYERS AND CHEMISTS
UMPIRE AND CONTROL WORK
Durango, Colorado. 81301

Telephone 247-3786 — Area Code 303
Mailing Address — Route 1, Box 389

CERTIFICATE OF ASSAY — No. 3

Assayed for Harry Rowe

NO.	DESCRIPTION	Ozs. Per Ton 2,000 Lbs. GOLD	SILVER	Per Cent Lead (wet)	Per Cent Copper (wet)	Per Cent Zinc	Per Cent Insoluble	Per Cent Iron	Per Cent	Per Cent
1	Vein	11.51	12.7	South end of 100 ft Shute.						
2	—	(0.03	1.6	Copper Vein)						
3	Vein	0.86	2.7	60 ft North South face						

Durango, Colorado Sept. 15, 1966
Charges $ 13.50

L. Steward
ASSAYERS

L. B. STEWARD, Mgr.

ROOT & NORTON

ASSAYERS AND CHEMISTS
UMPIRE AND CONTROL WORK
Durango, Colorado. 81301

Telephone 247-3786 — Area Code 303
Mailing Address — Route 1, Box 389

CERTIFICATE OF ASSAY No. 4

Assayed for Harry Rowe

NO.	DESCRIPTION	Ozs. Per Ton 2,000 Lbs. GOLD	SILVER	Per Cent Lead (wet)	Per Cent Copper (wet)	Per Cent Zinc	Per Cent Insoluble	Per Cent Iron	Per Cent	Per Cent
1	Vein	0.88	3.3	60 ft ~~South~~ North South face						
2	Vein	1.26	17.2	50 ft North South drift face						
3	Vein	0.67	1.7	In face South drift						
4	—		~~12.3~~	~~Rubbitance Sample from New Mining~~						

Durango, Colorado Sept. 27, 1966
Charges $ 17.00

L. Steward
ASSAYERS

contains unusually large pebbles of limestone. Several beds and lenses of limestone conglomerate overlie the ore bed, but none of them has been replaced by ore minerals in the exposures seen.

The primary ore is an intergrowth of pyrite, chalcopyrite, and calcite, with a little hematite, in a gangue of quartz, garnet, chlorite, and unreplaced limestone. The pyrite forms brilliant octahedra up to half an inch in diameter; the chalcopyrite occurs in irregular masses. Both minerals appear to have replaced calcite. Some of the sulfide ore pans considerable free gold, but some of it is barren. Near the surface the ore is rather thoroughly oxidized, and nearly all of it contains free gold.

SMALL HOPE (5)

The Small Hope mine is on the ridge between Williams and Shoebeck Gulches, on the southeast slope of Diorite Peak. Data for the following description have been assembled from C. W. Purington's field notes of 1896, from Petre's description,[30] from a private report prepared in 1937 by John L. Craig, who sampled the Grassy Hill tunnel in 1932, and from observations made during the present survey.

The vein was discovered in the late eighties or early nineties and was a more or less regular producer at least until 1898. The ore was taken from a 275-foot shaft and a short adit, both at an altitude of 11,600 feet. Some of it was treated in a small bromination plant, which is reported to have made a 95-percent recovery.

The Grassy Hill crosscut tunnel, at an altitude of 10,600 feet, was driven between 1898 and 1900. At 1,800 feet it cut a vein that was believed by the operators to be the Small Hope, and considerable drifting was done. This tunnel is said by Craig to have caved 2 years after completion and to have remained closed until 1932, when it was reopened and examined by him. It was open in 1935 but was too gassy to permit thorough examination, and it caved near the portal in 1936. There are three other crosscut adits on the hill at altitudes of 10,800, 10,850, and 11,200 feet. Their histories are not known. The upper two were caved at the portal in 1935, and the lower one was caved 180 feet from the portal.

Craig says in his report that "the books of the American Smelting and Refining Co., at Durango, show that 1,000 tons of ore were shipped from the Small Hope having a total value of $115,000. One 20-ton carload of this ore brought a little over $20,000. This ore was all mined by hand and hauled down by ox teams to Hesperus, the nearest shipping point." The production figures quoted seem high, but the records referred to by Craig no longer exist. The following table shows that since 1902 the mine has produced nearly $7,000, but from what workings the ore was taken is not known:

Production of Small Hope mine, 1902–43 [1]

Year	Ore (short tons)	Gold (fine ounces)	Silver (fine ounces)
1903	24	63.60	48
1904	2	9.00	
1907	8	16.98	41
1908	6	12.54	21
1917	3	13.29	4
1918	13	186.41	26
1919	12	22.80	17

[1] Compiled from mine records of the U. S. Geological Survey and the Bureau of Mines. No production for years not listed.

With the exception of a small wedge of sedimentary rock in the Grassy Hill tunnel (fig. 46) all the rock in the vicinity of the mine is diorite. The Small Hope vein trends northeast and can be traced almost without interruption as far as Fall Gulch. In places it is vertical; elsewhere it dips steeply to the northwest. At the shaft Purington noted that the vein dipped 55° NW. at the surface but had steepened to 65° at a depth of 30 feet. He thought the flatter dip was due to slight movement of the near-surface rocks. The fracture zone was 3 feet wide in the old workings, with a 1-foot pay streak on the footwall or southeast side. Purington says that the whole fracture zone contained some gold and that the unsorted ore yielded 1 ounce of gold to the ton. It consisted of gold telluride, with less pyrite and chalcopyrite, in a quartz gangue. Petre says that the ore shoot was only 30 feet long but extended continuously to the bottom of the 275-foot shaft.

The Grassy Hill crosscut tunnel is shown in figure 46. At the drifts 1,800 feet from the portal the bad air extinguished carbide lamps and prevented completion of the survey or examination of the vein. Within 300 feet of the portal two broad breccia zones are exposed. Gouge makes up fully 50 percent of the larger of the two. Ten or more northeastward-trending fracture zones were also cut by the tunnel. They range from 1 foot to 6 feet wide, and most of them are similar to the Mountain Lily and other veins that occur in diorite; they are characterized by a hard silicified medial sheet containing pyrite and possibly other metallic minerals, flanked by soft altered diorite which grades into the fresh wall rock. Several of the veins contain calcite and a little specular hematite. None of these fracture zones has been thoroughly sampled, but some are known to contain a little gold.

The vein that was cut at 1,800 feet from the portal strikes N. 60° E. and dips steeply northwest. Craig states in his report that the southwesterly drift is about 400 feet long and the northeasterly drift about 500 feet. He says: "In the south drift there is a streak from 4 inches to 1 foot of ore that assays from 1.5 to 2 ounces

[30] Petre, R. W., Mines of the La Plata Mountains, Colo.: Eng. and Min. Jour., vol. 66, pp. 667–668, 1898.

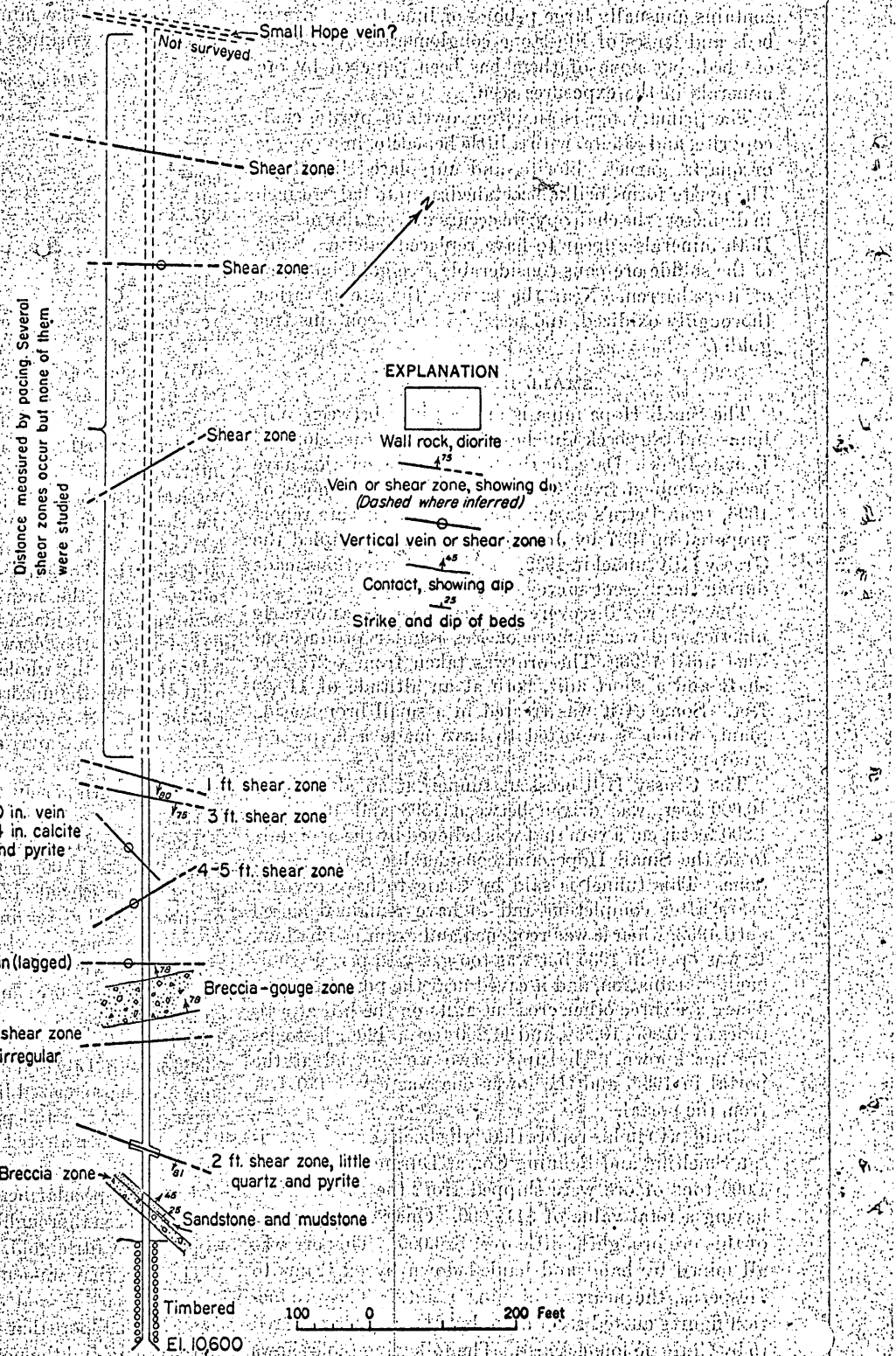


FIGURE 46.—Plan of Grassy Hill adit, Small Hope mine.

of gold per ton and a trifle more in silver. The ore in the north drift is a little wider and softer but only runs from 0.5 to 1 ounce gold per ton. There is some ore on each side of this streak that will make mill ore but the writer has not sampled enough to know how much." He further says that the mine was abandoned because the ore would not pay the high costs of mining and transporting it by the methods employed at that time, but various other reasons are given by local residents.

The vein described above has always been considered to be the Small Hope vein, but the relations shown in plate 2 indicate that even if the dip is vertical the Small Hope vein is at least 450 feet northwest of the end of the Grassy Hill tunnel. If that is true, the vein developed by the crosscut is a parallel vein of similar character, which apparently does not extend to the surface. An accurate survey of the workings and of the surface features is necessary to check this conclusion. If it is found to be correct, extension of the crosscut to its original objective might well seem worth while. All the veins exposed in the Grassy Hill tunnel seem to deserve careful sampling and possibly further development.

SNOWSTORM (4)

The Snowstorm vein, which is supposed to be the southwestward extension of the Cumberland (pp. 410–417), is on the southeastern side of Cumberland Basin, 700 feet northwest of Snowstorm Peak. As was noted in the description of the Cumberland mine, the vein differs in trend from the Cumberland and is characterized by a somewhat different type of ore. Either the Cumberland vein turns sharply to the south on the Snowstorm ground or the Snowstorm vein is a different vein, at least in part. Both mines were worked under the same management and the early history of the Snowstorm closely parallels that of the Cumberland. Both deposits were discovered in 1878, produced little ore until 1884, and were active from then until about 1890. There is no record of production from the Snowstorm since 1888. According to information given to Purington in 1896 by local residents, the total production of the Snowstorm was $25,000. The recorded production, shown in the following table, amounts to less than $10,000. Except for 1888, the figures are taken from an engineer's private report. They contain all the data available to him but are said to be incomplete.

Recorded production, Snowstorm mine, 1884–1943 [1]

Year	Ore (short tons)	Gold (fine ounces)	Silver (fine ounces)
1884	33	143.62	732
1885	27	138.56	210
1886	1	5.50	
1888 [1]		4.40	2,492

[1] Kimball, J. P., Report of the Director of the Mint upon the production of the precious metals in the United States for 1888, p. 112. No production recorded 1878–83, 1887, and 1889–1943.

Development on the Snowstorm vein consists of four adits and several open-cuts. The two upper adits, which follow the vein, are at altitudes of about 11,500 and 11,400 feet, respectively. They were probably less than 100 feet long. The third level, which also follows the vein, is 200 feet below the second level and is 225 feet long. The lowest or fourth level, whose portal is near that of the Cumberland fourth level, is said to be 600 feet long. It starts as a crosscut, and the extent of drifting on the vein is not known. Only the third level was accessible when the mine was visited in 1935.

The country rocks are unmetamorphosed Cutler and Dolores redbeds, which are cut by one large dike and several thin sills of porphyry. The two lower levels are in the Cutler formation, whose contact with the overlying Dolores is only a few feet above the third level. In the vicinity of Snowstorm Peak the beds are warped into a series of irregular folds. Near the mine they dip 12° to 22° north and northwest. The irregular structure was probably caused by the intrusion of the large porphyry mass shown in plate 2. This is a crosscutting dike near the mine but is sill-like farther west and south.

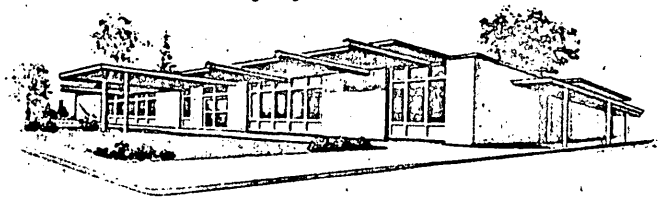
Near the portal of the third level the vein strikes N. 77° E., but it gradually swings toward the south, and where it crosses the ridge west of Snowstorm Peak it strikes N. 35° E. and dips 75° NW. It can be traced only a few hundred feet on the south side of the ridge. At the crest it consists of a 3-foot to 5-foot shear zone in partly bleached and silicified redbeds. Within the shear zone the rocks are largely replaced by fine-grained quartz but large irregular bladed masses of white barite are the most conspicuous feature of the vein filling. No metalliferous minerals were seen. On the third level the vein traverses the porphyry dike between points 50 and 180 feet from the portal. On each side of the dike the wall rocks consist of soft red shale and sandstone, in which the vein zone is weak and poorly defined. Where it passes through the porphyry it is somewhat wider but is weak as compared to the vein in the Cumberland workings and contains little vein matter. A little stoping was done 50 to 100 feet from the portal. Burchard [31] states that in two short adits that were open in 1882 the vein had an average width of 9 feet and consisted of white quartz rich in free gold and ruby silver. In the ore mined the ratio of gold to silver is notably high in strong contrast to that in the ore from the Cumberland mine.

Little can be said of the future of the mine, and few suggestions can be made as to prospecting. As reports on the early operations indicate that in places the vein contained rich ore, further well-considered examination and development would seem to be justified. As in the Cumberland, the best ore is likely to be found where the

[31] Burchard, H. C., Report of the Director of the Mint upon the production of the precious metals in the United States, 1882, p. 508, 1883.

THE CITIZENS STATE BANK OF CORTEZ

A Thoroughly Modern Bank



CHARLES M. SEARLE
PRESIDENT

CORTEZ · COLORADO

June 24, 1968

Copper Age Uranium Company
Marvel
Colorado

Attention: Mr. Harry Rowe, President

Dear Mr. Rowe:

This will acknowledge receipt of your letter of June 20th., 1968 applying for a $50,000.00 loan for exploration and rehabilitation of your claims in the La Plata Mountain area.

Frankly, we are not presently making such loans and have not done so in the past. We've considered these to be rather risky and just do not have the experience which would allow us to evaluate the potential which your operations would need to show to justify a loan of this amount.

Frankly, I am not even able to direct you to a source of such financing. I appreciate your contacting us and am just sorry that we can not consider your application.

Very truly yours,

Charles M Searle

Charles M. Searle
President

CMS/pjs

COPPER AGE URANIUM CO.
Marvel, Colorado

June 20, 1968

The Citizens State Bank
Drawer T
Cortez, Colorado

Att: Mr. C. M. Searle

Dear Sir:

Please consider this as a formal application for a $50,000 loan for the purpose of exploration and rehabilitation of our patented mining claims in the La Plata mountains.

We propose to use the funds requested to rehabilitate the existing tunnels and drifts, to extend the drifts and stopes in order to contact, expose and sample ore veins that exist on our property, to purchase mining equipment necessary to perform the exploration work, and to construct a suitable operations building outside of the portal.

Assay reports of samples taken from the veins which have been cross sectioned and exposed by the existing drifts indicate a sizeable reserve of productive gold and silver ore upon completion of our proposed exploration and rehabilition work.

Your careful consideration of this application will be appreciated.

Very truly yours,

Harry Rowe
President

THE FIRST NATIONAL BANK DURANGO, COLORADO 81301

ROBERT B. SAWYER

July 23, 1968

Copper Age Uranium Co.
Marvel
Colorado

Attention: Mr. Harry Rowe, President

Gentlemen:

I am writing to answer your letter in which you applied for a $50,000.00 loan for the purpose of exploration and rehabilitation of your mining claims in the La Plata mountains.

I regret to inform you that we are not in the position to make exploration loans in this bank at this time. We would be most happy to consider loans at a later date when you have developed your claims and are operational.

Sincerely yours,

Robert B. Sawyer
Senior Vice President

RBS:bb

COPPER AGE URANIUM CO.
Marvel, Colorado

June 10, 1968

The First National Bank
PO Box 141
Durango, Colorado 81302

Att: Mr. Robert Sawyer

Dear Sir:

Please consider this as a formal application for a $50,000 loan for the purpose of exploration and rehabilitation of our patented mining claims in the La Plata mountains.

We propose to use the funds requested to rehabilitate the existing tunnels and drifts, to extend the drifts and stopes in order to contact, expose and sample ore veins that exist on our property, to purchase mining equipment necessary to perform the exploration work, and to construct a suitable operations building outside of the portal.

Assay reports of samples taken from the veins which have been cross sectioned and exposed by the existing drifts indicate a sizeable reserve of productive gold and silver ore upon completion of our proposed exploration and rehabilition work.

Your careful consideration to this application will be appreciated.

Very truly yours,

Harry Rowe
President

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
12/27/68	Peterson	120
		110
		220

December 27, 1968

Memorandum

To: The File

From: Chief, Office of Minerals Exploration

Subject: OME-6750 (Gold-Silver)
Copper Age Uranium Company
Small Hope Mine
LaPlata County, Colorado

The Applicant has not replied to our letter of November 25, 1968. Accordingly, the subject docket is referred to the inactive file and the application considered as having been withdrawn.

Frank E. Johnson

Frank E. Johnson

cc: Director's Reading File
Economic Geology File
OME docket
OME Reading File
OME Region III
Mr. Peterson

ECPeterson/gla 12-27-68

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
11/22/68	Peterson	120
11/25/68	Kirkham	120
		110
11/25	eal	220
		120M

AIRMAIL

NOV 25 1968

Copper Age Uranium Company
Post Office Box 124
Marvel, Colorado 81329

Re: OME-6750 (Gold-Silver)
Copper Age Uranium Company
Small Hope Mine
LaPlata County, Colorado

Gentlemen:

We have not had a reply to our letter of October 21, 1968. If you need additional time to prepare the information, please let us know. If we do not receive a reply from you within 30 days from the date of this letter, we must assume that you are no longer interested in proceeding with your application and we shall consider it as having been withdrawn.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
OME Region III
Mr. Peterson

ECPeterson/bsl 11/22/68

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
10/21/68	Peterson	120
	(on leave)	120
		110
10/21	Cal	220
		120M

AIRMAIL

Copper Age Uranium Company
Post Office Box 124
Marvel, Colorado 81329

Re: OME-6750 (Gold & Silver)
Copper Age Uranium Company
Small Hope Mine
LaPlata County, Colorado

Gentlemen:

On August 27, 1968, we wrote you outlining certain information which was necessary to continue the processing of your application. To date, we have not received these data. Will you please inform us of your plans regarding the application. If you have decided not to pursue it further, will you please so inform us.

Sincerely yours,

FRANK E. JOHNSON (gfa)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geolgoy File
OME Docket
OME Reading File
Region III
Mr. Peterson

ECPeterson/bsl 10/21/68

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
8/27/68	Peterson	120
	(on leave)	120
		110
		220
		120M

AIRMAIL

Copper Age Uranium Company
Post Office Box 124
Marvel, Colorado 81329

AUG 27 1968

Re: GME-6750 (Gold & Silver)
Copper Age Uranium Company
Small Hope Mine
LaPlata County, Colorado

Gentlemen:

Our review of your application for financial assistance indicates that additional information is needed to continue the processing.

Since the Company is not the sole owner of the eight adjoining patented claims, it will be necessary for you to furnish five copies of Lien and Subordination Agreements signed by the parties who retain a 1/3 interest in the claims. Lien and Subordination Agreements (six copies MME Form 52) are enclosed for your possible use.

We note that no provisions have been included in your proposal for exploration of the target (Small Hope vein). The work plan and cost estimate should be revised to include some additional drifting for the exploration of this vein. Please state the geologic justification for driving the raise in the location shown on the map.

Under an GME contract underground openings 5' by 7' in cross section are considered adequate for exploratory purposes, and any additional cost incurred for driving larger openings would be at the Operator's own expense. In addition, the Government contributes only to the costs of rehabilitation that is considered necessary to do the exploration work.

Please furnish a sketch or map showing the proposed exploration in relation to the old workings mentioned in the geologic report submitted with the application. In addition, the location of the samples taken should be shown, and information relative to sample widths and sampling methods given.

We shall be pleased to continue the processing of your application upon receipt of the requested information; however, nothing in this letter should be construed as a commitment by the Government to grant an exploration contract.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

Enclosures

cc: Director's Reading File
Economic Geology File
~~OME Docket~~
OME Reading File
Region III
Mr. Peterson

ECPeterson/bsl 8/27/68

August 15, 1968

Copper Age Uranium Company
Post Office Box 124
Marvel, Colorado 81329

Subject: OME-6750

Gentlemen:

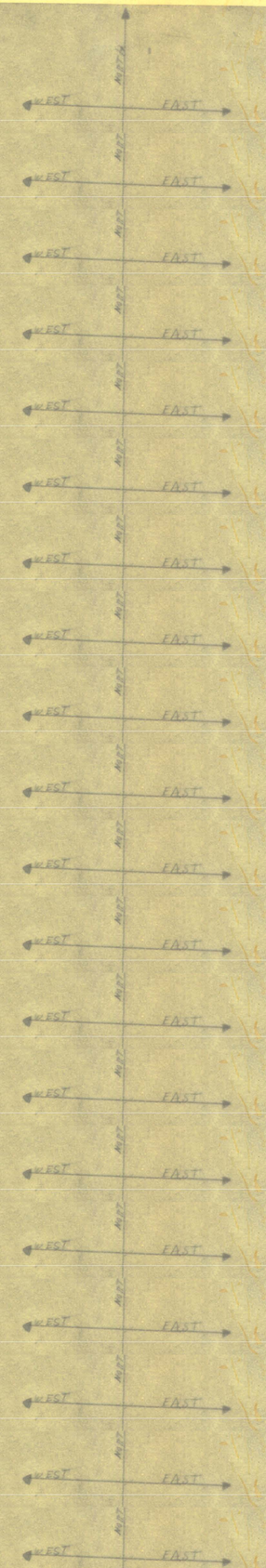
Your application for exploration assistance, dated July 29, 1968, submitted to our office at Denver, Colorado, has been assigned Docket No. OME-6750.

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

Sincerely yours,

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to Region III


WEST
EAST