DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

DMEA NO. 4729

Application (Denied
(Withdrawn
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
(Terminated - Certified
(Royalty Agreement

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

Interim Royalty Audits
Reports of Royalty Review
Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
Report of Review
Termination Notice or Agreement
Recision Notice
Assignment of Contract
Contract Amendments (latest on top)
Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
Leases and assignments of leases
Application and attachments
(3) Envelope for maps

Right Side

Project summary
Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

Final Field Team Report (Tab)
Operator's Final Report
(2R) Interim Reports
(2R) Operator's monthly reports and all attachments (latest on top)
X On-site Exam Report(s) (Tab)
(4) Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order) Interim Summary Reports by W. O. Engineers

Right Side

Operator's Semi-Annual Report for Certified Project, Field Team Interim Reports, Operator's Monthly Report with transmittal, narrative, maps, and Field Team review.

Folder No. 3: Maps (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED APR 17 1957

DATE	INITIALS	CODE
		700
DMEA		

April 15, 1957

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Application for DMEA Aid (Uranium-Copper) Heald Project Ltd., a limited partnership (Cuprite Claims) Sandoval County, New Mexico

Enclosed are the original and two copies of the subject application. One copy of the application is being retained in our file.

The Applicant proposes to explore a mineralized target area by 3,315 feet of drilling and an unspecified amount of outcrop stripping at a total estimated project cost of $12,075.00.

Although the potential ore bearing sandstone has been cored in four drill holes and explored in a 158 foot drift; we note that the only assays mentioned in the report are recorded from samples taken from the dump on the Cuprite No. 1 Claim. These assays certainly indicate little copper and practically no uranium. Supervision by the Surface Geological Company comprises 45% of the total project costs.

The applicant has applied for 75% Government participation. At most a copper-uranium project should be considered for no more than 62½% Government participation.

Not mentioned by the Applicant but evident on inspection is the fact that only two forms MF-103 were used in preparing the application. Two copies are merely carbon copies on bond paper of the entries typed on the MF-103 Form. We are retaining one of the copies of the application containing an MF-103 Form.

E. N. Harshman

By E. N. Harshman
Acting Executive Officer

Enclosures

K. C. HEALD
PETROLEUM CONSULTANT
605 CONTINENTAL LIFE BUILDING
EDISON 6-7900
FORT WORTH, TEXAS

DMEA
DEPARTMENT OF THE INTERIOR
APR 12 1957
REGION III
DENVER, COLORADO

April 9, 1957

Executive Officer
Defense Minerals Exploration Administration
224 New Customhouse Bldg.
Denver 2, Colorado

Dear Sir:

I am transmitting herewith application for a D.M.E.A. loan to aid in exploration of fourteen (14) mining claims known as the Cuprite Claims in the Nacimiento Mountains, Sandoval County, New Mexico.

It is estimated that the total cost of this exploration will be $12,075.00, as outlined in the accompanying report.

I request a D.M.E.A. loan for three-fourths of this amount, or $9,057.00.

Very truly yours,

K. C. Heald

KCH/mrd

K. C. Heald

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

DMEA
DEPARTMENT OF THE INTERIOR
APR 12 1957
REGION III
DENVER, COLORADO

Not to be filled in by applicant

Project No. 4729
Metal or Mineral URANIUM-Copper
Date Received 4-17-57
Estimated Cost $12,075
Participation (Government %) 62.5

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: HEALD PROJECT LIMITED, % DR. K.C. HEALD, 605 CONTINENTAL LIFE BLDG. FORT WORTH, TEXAS

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized. LIMITED PARTNERSHIP --- TEXAS

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners. ATTACHED

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract ATTACHED

(*b*) State any mine name by which the property is known. NOT APPLICABLE

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

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. NOT APPLICABLE

(*e*) If you own the land, describe any liens or encumbrances on it NONE

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. ATTACHED UNDER Para 3(a).

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

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CODE
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5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Copper and Uranium

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

(*c*) The work will start within 60 days and be completed within 6 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated March 23, 1957

HEALD PROJECT LIMITED
(Applicant)

By Dr. Heald

DR. K.C. HEALD

GENERAL PARTNER.

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

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

ATA SHEET RE: FORM MF-10
March 25, 1957

HEALD PROJECT, LTD.
% K. C. Heald
605 Continental Life Bldg.
Fort Worth 2, Texas -

Re Para 1 (d): PARTNERS OF HEALD PROJECT, LTD.:

Name	Title	Address
Dr. K. C. Heald	General Partner	605 Continental Life Bldg. Fort Worth 2, Texas
Mr. F. J. Adams	Partner	1008 Continental Life Bldg. Fort Worth 2, Texas
Mr. Ernest Closuit	Partner	1019 Ft. Worth National Bldg. Fort Worth 2, Texas
Mr. H. B. Fuqua	Partner	Ft. Worth National Bldg. Fort Worth 2, Texas
Mr. R. K. Hanger	Partner	Sinclair Bldg. Fort Worth 2, Texas
Mr. J. M. Leonard	Partner	200 Houston St. Fort Worth 2, Texas
Mr. O. P. Newberry	Partner	Ft. Worth National Bank Fort Worth 2, Texas
Mr. A. H. Rowan	Partner	P. O. Drawer 12247 Fort Worth, Texas
Mr. P. O. Settle	Partner	1610 Continental Life Bldg. Fort Worth 2, Texas
Mr. R. O. Shaffer	Partner	P. O. Box 11336 Fort Worth, Texas
Texas Pacific Coal & Oil Co	Partner	Ft. Worth National Bldg. Fort Worth 2, Texas
Estate of Clifford Mooers	Partner	Mr. H. B. Fuqua, Administrator Ft. Worth National Bldg. Fort Worth 2, Texas

Re Para 3 (a) APPLICANTS' PROPERTY RIGHTS:

Name of Claim	Recordation Data	Remarks
Cuprite #1	Book 7, Pg. 266	Unpatented Claim
Cuprite #2	Book 7, Pg. 267	Unpatented Claim

Name of Claim	Recordation Data	Remarks
Cuprite #3	Book 7, Pg. 268	Unpatented Claim
Cuprite #4	Book 7, Pg. 269	Unpatented Claim
Cuprite #5	Book 7, Pg. 270	Unpatented Claim
Cuprite #6	Book 7, Pg. 271	Unpatented Claim
Cuprite #7	Book 7, Pg. 272	Unpatented Claim
Cuprite #8	Book 7, Pg. 273	Unpatented Claim
Cuprite #9	Book 7, Pg. 274	Unpatented Claim
Cuprite #14	Book 7, Pg. 275	Unpatented Claim
Cuprite #14 "A"	Book 10,Pg. 116	Unpatented Claim
Cuprite #15	Book 10,Pg. 117	Unpatented Claim
Cuprite #16	Book 10,Pg. 118	Unpatented Claim
Cuprite #17	Book 10,Pg. 119	Unpatented Claim

Note: These unpatented mineral claims and locations are shown on the enclosed geological plat with the Geological Report. Also included herewith is the copy of assignment of Philip W. Beckley and Wife to Heald Project Ltd., 605 Continental Life Bldg., Ft. Worth, Texas.

Re Para 3 (c) APPLICANTS' INTEREST IN THE LAND:

All of the Cuprite claims are owned by Heald Project Ltd. a partnership, by virtue of the enclosed assignment, executed and assigning from Philip W. Beckley and Wife to Heald Project Limited.

Re Para 4 (a) PHYSICAL DESCRIPTION:

An old mine working does exist on the Cuprite #1 claim. Approximately 158 feet of underground drifting within a mineralized sandstone of the Abo formation, exposes both Copper and Uranium mineralization. This workings was collapsed at the portal and has been re-opened and

may be inspected. There are no records in the County or State files to indicate the date of this work. No claim monuments have been found on the ground within the area, and it is assumed that this mining could date to Spanish time. As no records are available, no production records are to be had. It is assumed that this was an exploration drift and that no ore was shipped from this mine workings. An old dump may still be seen close to the portal of the drift.

Re Para 4 (c):

The enclosed Geological Report covers all phases of this paragraph.

Re Para 4 (d):

An access road has been completed to the area of Cuprite #1 claim via the Bluebird Ranger Station which is served by a forest road running south from State Highway 125. Although this road is adequate for small vehicles, it will not serve for drill trucks or heavier equipment. This road may be improved, widened and conceivably be used for the haulage of ore northward to State Highway 126. The closest rail point for Copper ore is in Albuquerque, New Mexico, where it is shipped to El Paso, Texas. The road distance to Albuquerque, via State Highway 126 and State Highway 44 is approximately 97 miles. The closest Uranium buying station is at Blue Water, New Mexico, 10 miles west of Grants, a distance of 135 miles via State Highway 126, State Highway 44, and U. S. Highway 66. The town of Cuba, New Mexico, in Sandoval County, on State Highway 44, lies approximately 7 miles to the northwest of the Cuprite claims. Cuba has adequate housing and supply facilities for the needs of a mining operation and personnel. As

contract drilling is planned for the original work in this area, no additional help is anticipated other than contract.

Re Para 4 (e):

Sufficient manpower is available in the vicinity of Cuba, New Mexico for a projected mining operation. Ample timber is present on the claims if required for underground work or for rough mine buildings. No electrical facilities are available within the area, the closest being in the town of Cuba. Water, in abundance, is available from the drainage of the San Pablo Creek, which crosses the Cuprite claims, or from shallow wells which may be drilled into the weathered zone of the Granite.

Re Para 5 (b):

Two methods of exploration will be employed on the Cuprite claims, the first will be 3315 feet of plug and core drilling, as per the enclosed cost sheet, and Geological Report. The locations and total depths of each hole within the drill program is shown on the enclosed plat of the drill holes. Total depth of each hole is shown below the hole number. The second phase of the exploration will be the opening and exposing of the outcrop, with a bulldozer, of Horizon B. The linear extension of this work will be as much as 2000 feet of outcrop if the arkosic sandstone continues to indicate Copper and Uranium values. With the information of the drill holes, and the exposure of the outcrop, a complete evaluation will be possible of the Cuprite claims.

Re Para 5 (d):

The actual supervision, and the letting of the contracts for this

project will be done by Dr. K. C. Heald, General Partner for Heald Project Ltd., 605 Continental Life Bldg., Ft. Worth, Texas. Dr. K. C. Heald has wide and varied experience, in the mining as well as the oil business, and is well qualified in each and every phase of exploration and mining work. It is believed the applicate does possess the experience and background necessary to efficiently carry out the proposed exploration project.

For actual field mapping, drill hole location, plats, drill hole logging, sample splitting, and general overall supervision, the Surface Geological Company will be contracted. The Surface Geological Company is owned by Philip W. Beckley, 513 Manzano NE Apt. L, Albuquerque, New Mexico.

Re Para 6 (a) INDEPENDENT CONTRACTS:

A. DRILLING:

a. Air Plugging @ $1.00 per foot

b. Water Coring @ $3.00 per foot

Note: It is anticipated that 330 feet, or 10% of the drilling will be cored. The remainder will be dry plug drilled.

Thus:

330 feet of coring . . . . . .$ 990.00

2985 feet of dry plug drilling $2,985.00

B. ROAD AND OUTCROP WORK:

A D6 Cat will be employed at an hourly rate of $13.00 per hour or $104. per day.

Roads and drill locations
10 days road work $1,040.00

Outcrop work
15 days work on outcrop $1,560.00

Re Para 6 (b):

Surface Geological Company will be employed on a contract basis for all phases of field work and supervision. The contract will be on a basis of total supervision.

Monthly rate Surface Geological Company
One month $5,500.00

Re Para 6 (c):

Covered under 6 (b).

Re Para 6 (f):

Covered under 6 (b).

Re Para 6 (g):

Covered under 6 (b).

Total cost of project $12,075.00

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DATE	INITIALS	CODE

GEOLOGICAL REPORT

CUPRITE CLAIM AREA

SANDOVAL COUNTY, NEW MEXICO

FILE COPY
DMEA
RECEIVED APR 17 1957

DATE	INITIALS	CODE

Philip W. Beckley

PHILIP W. BECKLEY
CONSULTING GEOLOGIST

BUS. PHONE 5-0626
RES. PHONE 6-5029

SURFACE GEOLOGICAL COMPANY

MINERAL AND OIL PROPERTIES
513 MANZANO, NE, APT. L
ALBUQUERQUE, NEW MEXICO

SUBJECT: GEOLOGICAL REPORT ON CUPRITE CLAIM AREA, SANDOVAL CO. N.M.

TO: DR. K. C. HEALD, 605 CONTINENTAL LIFE BLDG., FT. WORTH, TEXAS

INTRODUCTION:

The Cuprite claims are located within the Nacimiento Mountains of New Mexico. The sixteen claims, unpatented, are within Sections 18 and 19 of Tsp. 20 North - Range 1 East, Sandoval County, New Mexico. These claims lie within the Santa Fe National Forest at an average elevation of 8000 feet above sea level. The claims lie 1.2 miles south of the Blue Bird Ranger Station, in an area of sparse Ponderosa pine and dense scrub oak.

The area is drained to the south into intermittent San Pablo Creek, which in turn drains into the upper Rio Puerco. During the months of December and January, light snow remains on the ground, however, by March, most of this precipitation has melted.

REGIONAL GEOLOGY:

Rocks exposed in the immediate area consist of christallines of Pre-Cambrian Age, the Abo formation of Permianage and the Agua Zarca sandstone and conglomerate of Triassic Age. Two miles to the west, beds of Jurassic and Cretaceous are exposed in the Nacimiento thrust fault.

The Cuprite claims are located on the east plate of the Nacimiento thrust block which forms the high topography of the western side of the mountain range. Although beds of Pennsylvanian Age are present to the

north and east, they are not seen within this area, either due to non-deposition or removal by erosion prior to basal Abo time.

Within the area of the Cuprite claims, the Abo formation was deposited on the eroded and weathered surface of the Pre-Cambrian granites. The basal Abo consists of a conglomerate member, ranging from a few feet to thirty feet in thickness. This member has acted as a filler on the rough surface of the weathered granite. The total Abo section measures 850 in thickness, dips at from 1-2 degrees N 35° E and is conformibly overlain by the Agua Zarca SS of Triassic Age. This exposure is in the N. E. quarter of Section 18, Tsp. 20 North - Range 1 East. In the northwest quarter of this same section, a normal fault, displaced downward to the east, brings beds of Permian Age in contact with Pre-Cambrian granites. This fault strikes N. 45° E. and has a maximum displacement of over 200 feet.

STRATIGRAPHY:

Pre-Cambrian

Pre-Cambrian beds are exposed through an erosion window in the Abo formation located in the south central part of Section 18, Tsp. 20 North - Range 1 East, and in the northerly quarter of Section 19, to the south. The Pre-Cambrian consists of medium to coarse grained red granites, badly weathered and with an occasional bull quartz vein. At the contact with the Permian, the granites appear to be weathered to a depth of from 10-12 feet. An occasional fragment of Pennsylvanian limestone may be found along this contact, either as an erosional remnant or as a re-deposited Limestone conglomerate.

Permian

Although 10 miles to the south, marine gastropods (Productus sp) are

found in the thin marine Limestones of the Basal Abo formation, none are present within this area. The Basal 2-30 feet of the Abo consists of a medium to coarse, well rounded, conglomerate with an occasional sandstone or shale parting. No woody remains have been found within this zone, although the outcrop is heavily covered with vegetation. There are exposures which show crossbedding and the possibility of channel deposits within this basal unit is plausible.

Overlying the basal conglomerate follows 30-40 feet of red, sandy to silty shales. Abundant micaceous material is found with the more sandy stringers within this zone. The uppermost part of this unit is a tight, bentonitic shale, without silt, and clear white on fresh exposure. Overlying this bentonitic shale follows a sequence of arkosic conglomerates interbedded with red silty shales. It is within these conglomerate beds that Copper and Uranium mineralization is found. The conglomerate is often overlain by a dense mudstone, containing plant remains, sticks, logs, and inveriably some Uranium mineralization. The conglomerates range from a few inches to 5 feet in thickness.

Although there is no true division within the Permian, the beds become more fine grained upward in the section. A total of 850 feet of Permian sediments are exposed within this area, and are conformibly overlain by the massive conglomeratic sandstone of the Triassic (Agua Zarca SS). The upper 500 feet of the Permian is predominantly a fine grained, red shale sequence, with an occasional soft friable buff sandstone. There are no Limestone stringers in the upper 500 feet of the section, as occasionally seen in the lower parts.

TRIASSIC

Beds of Triassic Age are exposed 3000 feet northeast of the Cuprite

claims. The Agua Zarca sandstone caps Blue Bird Mesa, a pronounced rim formed by the massive yellow to buff sandstones and conglomerates of this basal unit. Although Copper has been produced from the Agua Zarca from 3 miles to the northwest at Copper City (Section 2, Tsp. North - Range 1 West), none has been found within the Agua Zarca sandstones on Blue Bird Mesa.

The Agua Zarca sandstone is the youngest formation represented in the area of the Cuprite claims, although one mile to the west, within the Nacimiento fault, a full section of Jurassic, and Cretaceous complete the Mesozoic sequence. The Ojo Alamo, youngest of the Cretaceous beds, is overlain by the Nacimiento formation and the Wasatch sandstone of Pal-Eocene Age, west of the town of Cuba.

MINERALIZATION

Within sandstone "B", which lies approximately 65 feet above the base of the Abo formation, wide spread Copper and Uranium mineralization has been found on the Cuprite claims. Two Copper minerals have been identified within the fossil wood bearing conglomeratic sandstone, these being Malachite ($Cu_2CO_3 \cdot OH_2$) and Azurite $(Cu_3CO_3)_2 \cdot OH_2$. Both of these carbonates are found within the "B" horizon, associated with fossil wood, as well as removed from it, in the matrix of the conglomerate. The average thickness of conglomerate "B" is 4 feet, and has been traced laterally for 1000 feet. Perpendicular to the outcrop of the bed, the conglomerate may be traced 175 feet in an old drift which has been re-opened. Four slim core holes drilled to the "B" zone encountered Copper mineralization in the horizon. Cores were

recovered in the zone which confirmed the presence of both Copper and Uranium. Immediately overlying the Copper bearing conglomerate is a mudstone bed, ranging in thickness from 1 foot to 3½ feet, containing plant material, carbonaceous logs and some silty partings. This mudstone forms rolls where the underlying conglomerate thins; these "rolls" appear to be more mineralized, with Copper and Uranium, than are the flat contacts with the conglomerate. It is easily possible that a large roll of this kind may constitute a commercial Uranium deposit. The conglomerate shale contact on the outcrop may be traced for 1500 feet, by use of a Scintillometer even though the actual outcrop is covered with a 1-2 foot soil mantle.

RECOMMENDATIONS

It is recommended that a plug bit drill pattern be drilled on the bench behind the outcrop of horizon "B", on 100 foot centers. The suggested drilling is outlined on the enclosed plat, and would indicate the overall grade of the Copper-Uranium within horizon "B", as well as the presence of commercial rolls or channels which may yield commercial quality and quantity of secondary Uranium ore. With the 100 foot pattern, the presence of a sizeable stripping operation could be determined, as well as the nature of and association of the Uranium minerals. If the 100 foot pattern indicates wide distribution of higher grades of Copper and Uranium, then Phase II of the drilling could be initiated. Phase II is principally the blocking out of ore on 50 foot centers, for closer control and more specific assays. While drilling is being done, the outcrop of horizon "B" should be opened for inspection. This work would require at least a D6 Cat.

COST OF PHASE I

A DRILLING: (3315 feet as shown on enclosed plat)

Core drilling @ $3.00 per foot
330 feet of target coring . . . . . .$ 990.00

Plug drilling @ $1.00 per foot
2985 feet of dry drilling $2,985.00

B BULLDOZER:

10 days work on road and preparation of drill locations.

D6 Cat @ $13.00 per hour ($104.00 per day). $1,040.00

TOTAL COST OF ROADS, DRILLING AND LOCATIONS: $5,015.00

C OUTCROP WORK:

The outcrop along horizon "B" at the surface should be exposed. This will require a D6 Cat and while in the area, the same machine could be used for the road and location work. I estimate that at least 2000 feet of outcrop should be opened if the mineralization continues.

Total cost of outcrop work
15 days of work @ $104.00 per day $1,560.00

TOTAL COST OF PROJECT: . . . $6,575.00

Very truly yours,

Philip W. Beckley
March 1, 1957

Enclosures:

Assays
Cross-section
Geological plat
Drill plat
Isorad and Claim map

CHAPMAN AND WOOD
Mining Engineers and Geologists
536 Jefferson St., NE
Phone 6-1675 P. O. Box 8302
Albuquerque, New Mexico

LABORATORY DIVISION ASSAY CERTIFICATE

No. 724

Date 11/8/55

Submitted by Surface Geological Company

Address 513 Manzano NE 5-4767

Description of Sample	Cu%	eU_3O_8%	Chem. U_3O_8%
1884 - C-1-A	2.15		
1885 - C-1-B	1.81		
1886 - C-1-C	0.59		
1887 - C-1-D	——	0.003	0.004

All samples listed above are from mine dump on Cuprite #1.

Chemist
D. H. Reynolds

(Copy of original assay report)

ASSIGNMENT OF LODE MINING CLAIMS.

STATE OF NEW MEXICO
COUNTY OF BERNALILLO.

KNOW ALL MEN BY THESE PRESENTS:

That Philip W. Beckley, whose marital status has not changed since acquiring the interests herein assigned, for and in consideration of Ten Dollars ($10.00) and other goods and valuable consideration, receipt of which is hereby acknowledged, do hereby bargain, sell, transfer and assign to: HEALD PROJECT LTD. those certain lode mining claims described as follows:

NAME	COUNTY	STATE	DATED	FILED (MIN.REC.)
Cuprite #1	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 266
Cuprite #2	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 267
Cuprite #3	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 268
Cuprite #4	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 269
Cuprite #5	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 270
Cuprite #6	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 271
Cuprite #7	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 272
Cuprite #8	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 273
Cuprite #9	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 274
Cuprite #14	Sandoval	New Mexico	7 June 1955	Vol. 7 Pg. 275

together with all rights incident thereto and the personal property thereon, appurtenant thereto or used in connection therewith.

TO HAVE AND TO HOLD the above described property and rights together with all and singular rights thereto in any wise belonging unto the said assignee and to the assignee's heirs, administrators, executors and assigns forever.

IN WITNESS THEREOF, THE undersigned assignor has executed and assigned this instrument this 20 day of Dec 1956.

Philip W. Beckley

Vivien R. Beckley

JOINT ACKNOWLEDGMENT

THE STATE OF NEW MEXICO
COUNTY OF BERNALILLO

BEFORE ME, the undersigned authority, on this day personally appeared PHILIP W. BECKLEY, and wife VIVIEN R. BECKLEY known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same for the purposes and consideration therein expressed; and the said VIVIEN R. BECKLEY, wife of said PHILIP W. BECKLEY, having been examined by me privily and apart from her husband, and having the same fully explained to her, she, the said VIVIEN R. BECKLEY, acknowledged said instrument to be her act and deed and declared that she had willingly signed the same for the purposes and consideration therein expressed, and that she did not wish to retract it.

Given under my hand and seal of office this the 20th day of December, A.D. 1956.

Notary Public in and for Lincoln County, New Mexico.

My Comm. Exp. 10/21/60

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was recorded in my office on 12/21 195 6
in vol. MR 12, Page 949, 949 Co. Clk.
10 02 am

949

ASSIGNMENT OF LODE MINING CLAIMS.

STATE OF NEW MEXICO
COUNTY OF BERNALILLO.

KNOW ALL MEN BY THESE PRESENTS:

That Philip W. Beckley, whose marital status has not changed since acquiring the interests herein assigned, for and in consideration of Ten Dollars ($10.00) and other goods and valuable consideration, receipt of which is hereby acknowledged, do hereby bargain, sell, transfer and assign to: HEALD PROJECT LTD. those certain lode mining claims described as follows:

NAME	COUNTY	STATE	DATED	FILED (MIN. REC.)
Cuprite #14 "A"	Sandoval	New Mexico	11 April 1956	Vol. 10 Pg. 116
Cuprite #15	Sandoval	New Mexico	11 April 1956	Vol. 10 Pg. 117
Cuprite #16	Sandoval	New Mexico	11 April 1956	Vol. 10 Pg. 118
Cuprite #17	Sandoval	New Mexico	11 April 1956	Vol. 10 Pg. 119

together with all rights incident thereto and the personal property thereon, appurtenant thereto or used in connection therewith.

TO HAVE AND TO HOLD the above described property and rights together with all and singular rights thereto in any wise belonging unto the said assignee and to the assignee's heirs, administrators, executors and assigns forever.

IN WITNESS THEREOF, THE undersigned assignor has executed and assigned this instrument this 20 day of Dec., 1956.

Philip W. Beckley

Vivien R. Beckley

JOINT ACKNOWLEDMENT

THE STATE OF NEW MEXICO
COUNTY OF BERNALILLO

BEFORE ME, the undersigned authority, on this day personally appeared PHILIP W. BECKLEY, and wife VIVIEN R. BECKLEY known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same for the purposes and consideration therein expressed; and the said VIVIEN R. BECKLEY, wife of said PHILIP W. BECKLEY, having been examined by me privily and apart from her husband, and having the same fully explained to her, she, the said VIVIEN R. BECKLEY, acknowledged said instrument to be her act and deed and declared that she had willingly signed the same for the purposes and consideration therein expressed, and that she did not wish to retract it.

Given under my hand and seal of office this the 20th day of December, A.D. 19 56.

Notary Public in and for Bernalillo County, New Mexico.

My Commission Expires 10/11/60

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was recorded in my office on 12/21 195.6.
in vol. MR12 Page 950 ..... Co. Clk.
10 03 am

950

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,

County of SANDOVAL, The Cuprite #1 Mining Claim.

Unknown Mining District.

The undersigned, who is citizen of the United States (or has declared intention to become such) and of lawful age, hereby declare and give notice to all persons concerned that He has discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7th day of June, A. D. 1955, does hereby give notice of His intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the CUPRITE #1 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500 feet in a N ly direction and 600 feet in a E ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the S to the N.

The undersigned has distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and has posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section 18, Twp. 20 N, Range 1 E, bears degrees, minutes a distance of feet, thence

600 feet; thence

1500 feet; thence

600 feet; thence

1500 feet to the point and place of beginning;

Said Claim being located in the SEC 18 of Section

and the of Section

, Township 20 N, Range 1 E

NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

This claim adjoins Cuprite #8 on South, Cuprite #2 on West and Cuprite #9 on the East

Dated and posted on the ground this 7th day of June, 1955

Robert B. Jameson

Phillip M. Burnley

LOCATOR (S) AND CLAIMANT (S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1955
in vol. 7, Page 266

M. E. Quintana
County Clerk

266

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of ..... } ss.
..... Mining District

Name of Claim:

.....

Name of Locators:

.....
.....
.....
.....

Date of Location ....., 19 ...

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 23 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 266, on this 14 day of June, A. D. 1955.

J. L. Rucker
Probate Clerk and Ex-Officio Recorder.

By .....
Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,

County of SANDOVAL, The CUPRITE #2 Mining Claim.

UNKNOWN Mining District.

The undersigned, who IS citizen of the United States (or ha declared intention to become such) and of lawful age, hereby declare and give notice to all persons concerned that HE ha S discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7TH day of JUNE, A. D. 19 55, do ES hereby give notice of HIS intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the CUPRITE #2 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500' feet in a N ly direction and 600 feet in a E-W ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the S to the N.

The undersigned ha S distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and ha S posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section , Twp. , Range , bears degrees, minutes a distance of feet, thence 600 feet; thence 1500 feet; thence 600 feet; thence 1500 feet to the point and place of beginning;

Said Claim being located in the S. 1/2 of Section 18 and the of Section , Township 20 N, Range R 1 E NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

ADJOINS CUPRITE #1 ON E.
" " 3 ON W
" " 7 ON S
(THIS MK IN S. CEN. LINE)

Dated and posted on the ground this 7TH day of JUNE, 19 55

R. B. Jameson

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1955
in vol. 7, Page 267

County Clerk

267

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of ..... } ss.
..... Mining District

Name of Claim:

.....

Name of Locators:

.....

.....

.....

.....

Date of Location ....., 19....

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 24 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 267, on this 14 day of June A. D. 1955

F. L. Rivera

Probate Clerk and Ex-Officio Recorder.

By ..... Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,

County of Sandoval, The Cupreite #3 Mining Claim.

Unknown Mining District.

The undersigned, who is citizen of the United States (or has declared intention to become such) and of lawful age, hereby declare s and give s notice to all persons concerned that he has discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7th day of June, A. D. 1955, does hereby give notice of his intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the Cupreite #3 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500 feet in a N ly direction and 600 feet in a E-W ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the S to the N.

The undersigned has distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and has posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section , Twp. , Range , bears degrees, minutes a distance of feet, thence

W 600 feet; thence

N 1500 feet; thence

E 600 feet; thence

S 1500 feet to the point and place of beginning;

Said Claim being located in the S1/2 of Section and the of Section 18, Township 20N, Range 1E NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

Adjoins the Cupreite # 2 on E
" " " # 4 " W
" " " # 6 " S
Bearing to Jeinagle Hill is S 7° E

Dated and posted on the ground this 7th day of June, 1955.

R. F. Jameson

Philip M. Beasley

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June 1955
in vol. 7, Page 268
County Clerk

268

-7

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of ..... } ss.
..... Mining District

Name of Claim:

.....

Name of Locators:

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.....
.....

Date of Location ....., 19...

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 25 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 268, on this 14 day of June A. D. 1955

[illegible]
Probate Clerk and Ex-Officio Recorder.

By ..... Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL, The Cuprite # 4 Mining Claim.
UNKNOWN Mining District.

The undersigned, who citizen of the United States (or ha declared intention to become such) and of lawful age, hereby declare S and give S notice to all persons concerned that HE ha S discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7TH day of JUNE, A. D. 19 55, do ES hereby give notice of HIS intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the CUPRITE # 4 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500 feet in a N ly direction and 600 feet in a E-W ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the S to the N.

The undersigned ha S distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and ha S posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section, Twp., Range, bears degrees, minutes a distance of feet, thence 600 feet; thence 1500 feet; thence 600 feet; thence 1500 feet to the point and place of beginning;

Said Claim being located in the S 1/2 of Section 18 and the N 1/2 of Section 19, Township 20N, Range 1E NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

ADJOINS THE CUPRITE # 3 ON E.
" " " # 5 ON S
" " "

Dated and posted on the ground this 7TH day of JUNE, 19 55

R B Jameson
Shirley W Reeves

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1955
in vol. 7, Page 269.
County Clerk

269

-9

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of ..... } ss.
..... Mining District

Name of Claim :

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Name of Locators :

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Date of Location ....., 19....

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 26 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 269, on this 14 day of June A. D. 1955.

[illegible]
Probate Clerk and Ex-Officio Recorder.

By ..... Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL, The CUPRITE #5 Mining Claim.
UNKNOWN Mining District.

The undersigned, who IS citizen of the United States (or ha declared intention to become such) and of lawful age, hereby declare S and give S notice to all persons concerned that HE ha S discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7TH day of JUNE, A. D. 1955, do E S hereby give notice of HIS intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the CUPRITE #5 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500 feet in a S ly direction and 600 feet in a E-W ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the N. to the S.

The undersigned ha S distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and ha S posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section , Twp. , Range , bears degrees, minutes a distance of feet, thence
600 feet; thence
1500 feet; thence
600 feet; thence
1500 feet to the point and place of beginning;

Said Claim being located in the S 1/2 of Section 15
and the N 1/2 of Section 15
, Township 20N, Range 1E
NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:
Adjoins Cupriti #4 on N
" " #6 on E

Dated and posted on the ground this 7TH day of JUNE, 1955

[illegible] [illegible]

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1955
in vol. 7, Page 270

[illegible]
County Clerk

270

-11

12-

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of ..... } ss.
..... Mining District

Name of Claim:

.....

Name of Locators:

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Date of Location ....., 19....

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 27 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 270, on this 14 day of June A. D. 1955.

[illegible]
Probate Clerk and Ex-Officio Recorder.

By ..... Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL, The Cupriite #6 Mining Claim.
UNKNOWN Mining District.

The undersigned, who IS citizen of the United States (or ha declared intention to become such) and of lawful age, hereby declare S and give S notice to all persons concerned that HE ha S discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7th day of June, A. D. 19 55, do ES hereby give notice of His intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the CUPRITE #6 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500' feet in a S ly direction and 600 feet in a E-W ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the N to the S.

The undersigned ha S distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and ha 3 posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section , Twp. , Range , bears degrees, minutes a distance of feet, thence 600 feet; thence 1500 feet; thence 600 feet; thence 1500 feet to the point and place of beginning;

Said Claim being located in the N ½ of Section 17 and the S ½ of Section 18, Township 20 N, Range 1 E NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

Adjoins the Cupriite #3 on N
" " " #5 on W
" " " #7 on E
Bearing to Triangle Peak is S.7°E.

Dated and posted on the ground this 7th day of June, 1955

R B Jonnson
D L Berring

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1955
in vol. 7, Page 271
M D Rivera
County Clerk

271

-13

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of ..... } ss.
..... Mining District

Name of Claim :

.....

Name of Locators :

.....
.....
.....
.....

Date of Location ....., 19 ....

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 28 o'clock A M., and was duly recorded in Book 7 of Mining Claim Records, page 271, on this 14 day of June A. D. 1955.

J. P. Rueno
Probate Clerk and Ex-Officio Recorder.

By .....
Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of Sandoval, UNKNOWN Mining District. } The Cuprite # 7 Mining Claim.

The undersigned, who IS citizen of the United States (or ha declared intention to become such) and of lawful age, hereby declare and give notice to all persons concerned that He ha S discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7th day of June, A. D. 19 55, do ES hereby give notice of He intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the Cuprite #7 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500 feet in a S ly direction and 600 feet in a E-EW ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the N to the S.

The undersigned ha S distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and ha S posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section , Twp. , Range , bears degrees, minutes a distance of feet, thence
E 600 feet; thence
S 1500 feet; thence
W 600 feet; thence
N 1500 feet to the point and place of beginning;

Said Claim being located in the N 1/2 of Section 19
S and the S 1/2 of Section 18
, Township 20 N, Range 1 E
NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

Adjoins Cuprite # 2 on N
" " # 8 on E
" " # 6 on W line

Bearing to Triangle Hill is S 4 E

Dated and posted on the ground this 7th day of June, 19 55

R. B. Jomerson
Delwin W. Berry

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1955
in vol. 7, Page 272
County Clerk

272

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of..... } ss.
..... Mining District

Name of Claim:

.....

Name of Locators:

.....
.....
.....
.....

Date of Location....., 19....

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 24 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 272, on this 14 day of June A. D. 1955.

[illegible]
Probate Clerk and Ex-Officio Recorder.

By..... Deputy.

PRINTED AND FOR SALE BY VALIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL, UNKNOWN Mining District. } The Cuprite # 8 Mining Claim.

The undersigned, who citizen of the United States (or ha declared intention to become such) and of lawful age, hereby declare and give notice to all persons concerned that HE ha S discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7TH day of JUNE, A. D. 19-55, do ES hereby give notice of His intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the Cuprite # 8 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500 feet in a N-S ly direction and 600 feet in a E-W ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the N to the S.

The undersigned ha S distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and ha S posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section , Twp. , Range , bears degrees, minutes a distance of feet, thence 600 feet; thence 1500 feet; thence 600 feet; thence 1500 feet to the point and place of beginning;

Said Claim being located in the N 1/2 of Section 19 and the S 1/2 of Section 18, Township 20 N, Range 1 E NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

This Lode MK is Center of W Line of This Claim - Adjoins Cuprite # 1 on N. — Triangle Peak Bears S 1½° W from This point

Dated and posted on the ground this day of , 19.

R. B. Jameson

Philip W. Beverly

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1958
in vol. 7, Page 273

M. B. Brown
County Clerk

273

-17

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of ..... } ss.
..... Mining District

Name of Claim:

.....

Name of Locators:

.....
.....
.....
.....

Date of Location ....., 19...

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 30 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 273, on this 14 day of June A. D. 1955.

[illegible]
Probate Clerk and Ex-Officio Recorder.

By .....
Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL, The CUPRITE #9 Mining Claim.
UNKNOWN Mining District.

The undersigned, who IS citizen of the United States (or ha declared intention to become such) and of lawful age, hereby declare S and give S notice to all persons concerned that HE ha S discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7th day of JUNE, A. D. 19 55, do ES hereby give notice of HIS intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the CUPRITE #9 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500' feet in a N ly direction and 600 feet in a E-W ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the S to the N.

The undersigned ha S distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and ha posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section , Twp. , Range , bears degrees, minutes a distance of feet, thence 600 feet; thence 1500 feet; thence 600 feet; thence 1500 feet to the point and place of beginning;

Said Claim being located in the of Section and the of Section 18, Township 20N, Range 1E NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

Adjoins #1 Cuprite on W.
" #14 " " S.
" #10 " " E.
Bearing to Triangle Hill S 5 W

Dated and posted on the ground this 7th day of JUNE, 19 55

R B Jameson
Philip M Burney

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1955
in vol. 7, Page 274
County Clerk

274

-19

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of..... } ss.
..... Mining District

Name of Claim:

.....

Name of Locators:

.....

.....

.....

.....

Date of Location....., 19....

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 31 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 274, on this 14 day of June A. D. 1955

[illegible]
Probate Clerk and Ex-Officio Recorder.

By..... Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,

County of SANDOVAL, UNKNOWN Mining District. } The CUPRITE #14 Mining Claim.

The undersigned, who IS citizen of the United States (or ha declared intention to become such) and of lawful age, hereby declare S and give S notice to all persons concerned that HE ha S discovered within the limits of the claim hereby located, a vein, lode or deposit of mineral bearing rock in place, and that on this 7TH day of JUNE, A. D. 19 55, do ES hereby give notice of HIS intention to locate and claim under and by virtue of Chapter 2, Title 30 of the United States Code, and all laws amendatory thereof and supplementary thereto, including laws pertaining to "fissionable source material", and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, faults, variations, spurs and angles, and all veins, ledges or deposits within the boundaries of this claim, to be named the CUPRITE #14 Mining Claim.

Said Claim so located is rectangular in form, being 1500 feet in length along said vein, lode or deposit, and 600 feet along the surface in width; said Claim measures lengthwise of the claim 1500 feet in a S ly direction and 600 feet in a E-W ly direction from the Point of Discovery, at which this Notice is posted, and in width measures 300 feet on each side of said Point of Discovery; the general course of the lode, vein or deposit is from the N to the S.

The undersigned ha S distinctly marked the said location on the ground, so that its surface boundaries may be readily traced, by four substantial posts or monuments, one at each corner of the claim, each so marked or inscribed as to indicate the corner intended, and ha S posted at a conspicuous place on such location the within written Notice.

Said Claim is situated in the above mentioned Mining District, County and State, and is more particularly described as follows: Commencing at the Corner thereof, whence the Corner of Section , Twp. , Range , bears degrees, minutes a distance of feet, thence 600 feet; thence 1500 feet; thence 600 feet; thence 1500 feet to the point and place of beginning;

Said Claim being located in the N 1/2 of Section 19 and the E 1/2 of Section 18, Township 20 N, Range 1 E NMPM.

Said Claim is further more particularly described by reference to the following natural object or permanent monument as will identify it, as follows:

adjoins the Cuprite #13 ONE
" " " 8 on W
" " Cuprite #9 on N

Dated and posted on the ground this 7TH day of JUNE, 19 55

R. B. Jameson

Philip H. Boone

LOCATOR(S) AND CLAIMANT(S)

(NOTE. Complete and sign two copies. Post one at the point of discovery. Record the other in the office of the above County Clerk within Ninety Days.)

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was filed in my office on 14 day of June, 1955
In vol. 7, Page 275

M. B. Green
County Clerk

275

-21

Notice of Lode Mining Location

STATE OF NEW MEXICO
County of..... } ss.
....Mining District

Name of Claim:

.....

Name of Locators:

.....

.....

.....

.....

Date of Location....., 19.....

STATE OF NEW MEXICO
County of Sandoval } ss.

I hereby certify that this instrument was filed for record on the 14 day of June, A. D. 1955 at 10 32 o'clock a M., and was duly recorded in Book 7 of Mining Claim Records, page 275, on this 14 day of June A. D. 1955.

.....
Probate Clerk and Ex-Officio Recorder.

By.....
Deputy.

PRINTED AND FOR SALE BY VALLIANT PRINTING CO., ALBUQUERQUE

FORM 106

SUTTON GEOLOGICAL CO.

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL
UNKNOWN Mining District

The Cuprite #14 "A" Mining Claim

The undersigned, who are citizens of the United States (~~or have declared their intention to become citizens~~) and of lawful age, hereby declares and gives notice to all persons concerned that he has discovered within the limits of the claim hereby located a vein, lode or deposit of mineral bearing rock in place, and that on this 11th day of APRIL, A. D. 1956, does locate and claim under and by virtue of Chapter 6, Title XXXII of the Revised Statutes of the United States, and all laws amendatory thereof and supplementary thereto, and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, spurs and angles, to be named the Cuprite #14 "A" Mining Claim.

And the undersigned locators do hereby certify: That the claim so located is rectangular in form and extends along said vein, lode or deposit 1500' feet in a N-S direction and 600 feet in a E-W direction, from this the point of discovery where this notice is posted; said claim is 1,500 feet in length, along and upon said vein, lode or deposit and 600 feet in width; being 300 feet on each side of the middle of the vein at the surface thereof, where this notice is posted in a tin Can
(In a box or tin can in monument of stone or on post or tree, as may be)

The said claim is more particularly described as follows: It is distinctly marked on the ground, so that the boundaries thereof can be readily traced by four substantial Wood & Stone monuments
(Posts or monuments of stone, or both, as may be)
, one at each corner of the claim, and each so marked or inscribed as to indicate the corner intended.

Said claim is situated in the Mining District, County and State first above mentioned and the following reference to a natural or permanent monument will identify the same, that is to say:
This lode marker lies 300' West of the SW Corner of Cuprite #4; thence 300' West to SW Corner Cuprite #14A; thence 1500' N. to NW Corner Cuprite #14A; thence 600' E to NE Corner Cuprite #14A; thence 1500' S to SW Corner Cuprite #4.

STATE OF NEW MEXICO
~~COUNTY OF SANDOVAL~~
This instrument was recorded in my office on 7, 1956,
in vol. 16 Page 116 Co. Clk.
9:31 A.M.

A copy of this notice is posted on the claim as CUPRITE #14
stated on the date first aforesaid in the presence of

Philip W. Beckley
by George H. Anderson
513 MANZANO, N.E. APT. L
ALBUQUERQUE, N. M.

Locators

116

SUTTON GEOLOGICAL CO.

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL
UNKNOWN Mining District

The CUPRITE #15 Mining Claim

The undersigned, who is citizen of the United States (~~or he declared intention to become such~~) and of lawful age, hereby declares and gives notice to all persons concerned that he has discovered within the limits of the claim hereby located a vein, lode or deposit of mineral bearing rock in place, and that on this 11th day of APRIL, A. D. 1956., does locate and claim under and by virtue of Chapter 6, Title XXXII of the Revised Statutes of the United States, and all laws amendatory thereof and supplementary thereto, and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, spurs and angles, to be named the CUPRITE #15 Mining Claim.

And the undersigned locator does hereby certify: That the claim so located is rectangular in form and extends along said vein, lode or deposit 1500 feet in a N-S direction and 600 feet in an E-W direction, from this the point of discovery where this notice is posted; said claim is 1,500 feet in length, along and upon said vein, lode or deposit and 600 feet in width; being 300 feet on each side of the middle of the vein at the surface thereof, where this notice is posted in a tin can
(In a box or tin can in monument of stone or on post or tree, as may be)

The said claim is more particularly described as follows: It is distinctly marked on the ground, so that the boundaries thereof can be readily traced by four substantial wood & stone monuments
(Posts or monuments of stone, or both, as may be)
, one at each corner of the claim, and each so marked or inscribed as to indicate the corner intended.

Said claim is situated in the Mining District, County and State first above mentioned and the following reference to a natural or permanent monument will identify the same, that is to say:
From this Lode Marker 300' E to NE Corner of Cuprite #15 (SW corner Cuprite #4); thence 1500' S. to SE Corner Cuprite #15; thence 600' W. to SW Corner Cuprite #15; thence 1500' N to NW Corner Cuprite #15; thence 300' E to point of beginning and this Lode Marker.

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was recorded in my office on 5-7-1956
in vol. 16 M.R., Page 117 Abs. Dep. Co. Clk.
9:00 A.M.

A copy of this notice is posted on the claim as CUPRITE #15
stated on the date first aforesaid in the presence of

Philip W. Beckley
By George H. Anderson
Locators

THE STATE GEOLOGICAL CO.
513 MANZANO, N.E. APT. L
ALBUQUERQUE, N. M.

117

24

FORM 106

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL
Unknown Mining District

The CUPRITE # 16 Mining Claim

The undersigned, who is a citizen of the United States (~~or has declared intention to become such~~) and of lawful age, hereby declares and gives notice to all persons concerned that he has discovered within the limits of the claim hereby located a vein, lode or deposit of mineral bearing rock in place, and that on this 11th day of APRIL, A. D. 1956, does locate and claim under and by virtue of Chapter 6, Title XXXII of the Revised Statutes of the United States, and all laws amendatory thereof and supplementary thereto, and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, spurs and angles, to be named the CUPRITE # 16 Mining Claim.

And the undersigned locator does hereby certify: That the claim so located is rectangular in form and extends along said vein, lode or deposit 1500 feet in a N-S direction and 600 feet in an E-W direction, from this the point of discovery where this notice is posted; said claim is 1,500 feet in length, along and upon said vein, lode or deposit and 600 feet in width; being 300 feet on each side of the middle of the vein at the surface thereof, where this notice is posted in a tin Can
(In a box or tin can in monument of stone or on post or tree, as may be)

The said claim is more particularly described as follows: It is distinctly marked on the ground, so that the boundaries thereof can be readily traced by four substantial Wood & Stone monuments
(Posts or monuments of stone, or both, as may be)
, one at each corner of the claim, and each so marked or inscribed as to indicate the corner intended.

Said claim is situated in the Mining District, County and State first above mentioned and the following reference to a natural or permanent monument will identify the same, that is to say:

300' W From the SE corner of Cuprite #16: thence 300' W to SW Corner Cuprite #16: thence 1500' N to NW Corner Cuprite #16: thence 600' E to NE Corner Cuprite #16: thence 1500' S to SE Corner Cuprite #16.

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was recorded in my office on 5-7, 1956
in vol. 10 M.R., Page 118, Co. Clk.
9:33 AM

A copy of this notice is posted on the claim as CUPRITE # 16

stated on the date first aforesaid in the presence of

John P. McGill

Philip N. Beckley
by George N. Anderson

Locators

113

SURFACE GEOLOGICAL CO.
513 MARKETS, ALBUQUERQUE

25

FORM 108

SURFACE GEOLOGICAL CO.

Notice of Lode Mining Location

STATE OF NEW MEXICO,
County of SANDOVAL
Unknown Mining District

The CUPRITE #17 Mining Claim

The undersigned, who is a citizen of the United States (~~or he declared intention to be~~) and of lawful age, hereby declares and gives notice to all persons concerned that he has discovered within the limits of the claim hereby located a vein, lode or deposit of mineral bearing rock in place, and that on this 11th day of APRIL, A. D. 1956, does locate and claim under and by virtue of Chapter 6, Title XXXII of the Revised Statutes of the United States, and all laws amendatory thereof and supplementary thereto, and laws of the State of New Mexico, a mining claim upon the said vein, lode or deposit, together with all its dips, spurs and angles, to be named the CUPRITE #17 Mining Claim.

And the undersigned locator does hereby certify: That the claim so located is rectangular in form and extends along said vein, lode or deposit 1500 feet in a N-S direction and 600 feet in an E-W direction, from this the point of discovery where this notice is posted; said claim is 1,500 feet in length, along and upon said vein, lode or deposit and 600 feet in width; being 300 feet on each side of the middle of the vein at the surface thereof, where this notice is posted in a tin can
(In a box or tin can in monument of stone or on post or tree, as may be)

The said claim is more particularly described as follows: It is distinctly marked on the ground, so that the boundaries thereof can be readily traced by four substantial wood & Stone Monuments
(Posts or monuments of stone, or both, as may be)
, one at each corner of the claim, and each so marked or inscribed as to indicate the corner intended.

Said claim is situated in the Mining District, County and State first above mentioned and the following reference to a natural or permanent monument will identify the same, that is to say:
From this lode marker 300' W to NW Corner Cuprite #17; thence 1500' S to SW corner Cuprite #17; thence 600' E to SE Corner Cuprite #17; thence 1500' N to NE Corner Cuprite #17; thence 300' W to point of beginning & this lode marker

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
This instrument was recorded in my office on 5-7-1956 at 9:04 A.M. in vol. 16 M.R. Page 119, Sd. Dep. Co. Clk.

A copy of this notice is posted on the claim as CUPRITE #17

stated on the date first aforesaid in the presence of

John P McNeal

Philip W. Beckley
by George H. Anderson
Locators

119

SURFACE GEOLOGICAL CO. ALBUQUERQUE, N.M. APR. 2

26x

OFFICIAL FILE COPY
D M E A
RECEIVED APR 17 1987

DATE	INITIALS	CODE

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/22	Murphy	700
7/22	Ellis	700
7/24	Martin	130
7/24	Reno	130
7/24	Kiilsgaard	130
"	Johnson	110
"	Mittendorf	1000
7/25	P.K.	220
		225

JUL 25 1957

Dr. K. C. Heald, General Partner
Heald Project Limited
605 Continental Life Building
Fort Worth, Texas

Re: Docket No. DMEA-4729 (Uranium-copper)
Cuprite Claims
Sandoval County, New Mexico

Dear Dr. Heald:

Your application for aid in an exploration project and other information available to us in Washington concerning the above-named property have been reviewed.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program.

Careful study of all our information, although noting some minor copper mineralization and indications of radioactivity on your property, indicates that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. We regret to advise you that, under these circumstances, your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

FMMurphy/izm 7-22-57
cc to: Mr. Murphy
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
DMEA FT Reg. 3 (2)

8623

Docket

Murphy

July 22, 1957

Summary of Proposed Project

Object: Denial of application for exploration aid.

Docket No.: DMEA-4729

Commodity: Uranium-copper

Amount of Application: $12,075.00

Applicant: Heald Project, Ltd.
c/o Dr. L. C. Heald
605 Continental Life Bldg.
Fort Worth, Texas

Property: Owner of Cuprite Nos. 1 through 9, Cuprite Nos. 14 and 14"A" and Cuprite Nos. 15, 16, 17, unpatented lode claims, situated in secs. 18 and 19, T. 20 N., R. 1 E., N.M.P.M., Sandoval County, New Mexico.

Date of Application: March 23, 1957

Referred to Region III: April 26, 1957

Field Examination made: June 12, 1957

Field Team Report received: July 17, 1957

Work Proposed: Drill 43 holes ranging from 20 to 100 feet in depth and about 2,000 feet of bulldozer rim stripping.

Estimated Costs:

2,985 ft. plug drilling @ $1/ft.	$2,985.00	
330 ft. core drilling @ $3/ft.	990.00	
Bulldozer @ $104/day		
Access roads & drill sites, 10 days	1,040.00	
Outcrop stripping	1,560.00	
Supervision and consultants	5,500.00	
TOTAL		$12,075.00

Excerpts from Field Team Report:

> The subject claims are in the Nacimiento mining district, where several small widely scattered uranium deposits, in places associated with copper, occur in strata that range in age from Pennsylvanian to late Cretaceous in an near the Nacimiento Mountains. The copper deposits occur in Permian and Triassic strata; however, only those in the basal sandstone Aqua Zarca member of the Chinle formation have been of sufficient size and grade to have been mined in the past. Uranium is essentially absent in these deposits, only one prospect having produced a small amount of uranium.

Copper and uranium occur on the Cuprite claims in a thin stratum of sandstone in the lower part of the Abo formation of Permain (?) age. This stratum is about 40 to 60 feet above the sedimentary contact of the Abo formation with underlying Precambrian granite. The mineralized stratum is thin where exposed for 158 feet along a 175-foot adit which has been reopened on the Cuprite No. 1 claim. The stratum, ranging from 2.5 - 4.4 feet in thickness, contains copper minerals generally evenly disseminated in the sandstone. Twelve samples taken from the adit indicate that the average grade over the entire thickness of the stratum will range from 0.01 to 0.17 percent copper. Selected dump samples contained as much as 2.15 percent copper. Anomalous radioactivity in the host rock is restricted to a small lens of very fine-grained silty sandstone; the grade of uranium here is 0.002 percent U_3O_8.

Four core drill holes on theproperty were reported to contain copper. However no data on the grade were submitted. Probing of the holes showed no radioactivity.

The examiners and Field Team recommend that the application be denied since the thinness of the host stratum and the low grade of its copper and uranium content preclude any possibility that a significant ore deposit occurs on the subject property.

Commodity Member's Comments: (excerpts)

USGS, N. E. Nelson, July 18, 1957:

Because of the total lack of significant copper and uranium mineralization reported, Mr. Nelson concurs in the examiner's recommendation to deny the application.

USBM, James Paone, July 19, 1957:

Mr. Paone concurs in the Field Team's recommendation for denial.

Div. of Rare & Misc. Metals, F. M. Murphy, July 22, 1957:

Considerable prospecting has been done along the "Red Beds" in the southwest, however, to date no large mine has been discovered. Judging from the examiner's report, the subject claims contain the usual low-grade copper and uranium concentrations usually found in these strata.

Conclusions and Recommendations:

This Division agrees with the conclusions reached by the field examiners, and therefore, concurs in their recommendation that application DMEA-4729 should be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 22 1957

DATE	INITIALS	CODE
7/22	S.K.	220
"	FMM	700
Comments		
Complete		

July 19, 1957

4729

Uranium

Heald Project, Ltd.
Cuprite Claim Group
Sandoval County, New Mexico
$12,075.00

Ernest William Ellis, DMEA Member
Uranium Commodity Committee
James Paone, Bureau of Mines Member JP
Uranium Commodity Committee

Field Team Report

7/57 7/18/57

x

x

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 19 1957

IN REPLY REFER TO:

DATE	INITIALS	CODE
7/19	A.K.	220
"	FMM	700

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

July 18, 1957
Re: DMEA ~~4129~~ 4729
~~Heald Project, Ltd.~~
Cuprite Claim Group
Sandoval County, N.M.
$12,075 - Uranium

Memorandum

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

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

Subject: Review of Field Team Report

The applicant requested assistance in exploratory drilling and rim stripping of copper and uranium deposits in a thin lense of sandstone in the lower part of the Abo formation, which overlies Precambrian granite.

Channel sampling of a 175-foot drift in the lense showed only slight copper mineralization, 0.01 to 0.19%. Slight radioactivity was detected, and a channel sample assayed, 0.002% U_3O_8. Four core drill holes are reported to have penetrated the copper-bearing sandstone but probing showed no radioactivity.

Because of the total lack of significant copper and uranium mineralization, the examiners recommend that the application be denied. I concur with the recommendation.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

July 15, 1957

OFFICIAL FILE COPY
D M E A
RECEIVED JUL 17 1957

DATE	INITIALS	CODE
7-17	C	220
		130
		220
7/19	R.K.	
11	FMM	700

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA 4729 (Uranium) Heald Project, Ltd., (Cuprite Claim Group) Sandoval County, New Mexico - Joint Report of Examination

Enclosed are the original and two copies of the Joint Report of Examination on the subject property by D. P. Elston, USGS, and M. H. Salsbury, USBM.

The field examiners conclude that the probability for making a significant discovery is not sufficiently promising to justify Government participation. Accordingly, they recommend that the Applicant's work proposal be denied in which the Field Team concurs.

ON-SITE EXAM.

W. H. King
Executive Officer

OFFICIAL FILE COPY
D M E A

Reviewed by
DMEA OPERATING COMMITTEE
7-19-57
(date)

MINERAL DEPOSITS
DRAFT
RECEIVED
JUL 11 1957
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colorado

July 9, 1957

TRANSMITTED
JUL 15 1957

Memorandum

To: W. H. King, Executive Officer, DMEA Field Team, Region III

Through: H. N. Harshman

From: J. William Hasler

Subject: Transmittal of joint engineering and geologic report on the Cuprite claim group, Heald Project, Ltd., DMEA docket 4729, (Uranium), Sandoval County, New Mexico.

Enclosed are 12 copies of a joint engineering and geologic report of examination on the Cuprite claim group, by D. P. Elston, U. S. Geological Survey, and M. H. Salsbury, U. S. Bureau of Mines.

Heald Project, Ltd., 605 Continental Life Building, Fort Worth, Texas, applied for Government assistance through the Defense Minerals Exploration Administration to explore for uranium and copper on the above named claims that are in the Nacimiento mining district, Sandoval County, New Mexico. The application was referred to the field and an examination was made on June 12 by a DMEA examining team accompanied by Mr. Philip W. Beckley, a consulting geologist of Albuquerque, New Mexico, who represented the applicant.

Several small widely scattered uranium deposits, in places associated with copper, occur in strata that range in age from Pennsylvanian to latest Cretaceous in and near the Nacimiento Mountains. A small amount of marginal ore-grade uranium in association with copper has been mined from only one prospect. Copper deposits occur in Permian and Triassic strata in the Nacimiento Mountains; however, only those in the basal sandstone of the Chinle formation have been of sufficient size and grade to have been mined in the past. Uranium is essentially absent in these deposits.

Copper and uranium occur on the Cuprite claims in a thin stratum of sandstone in the lower part of the Abo formation of Permian (?) age. This stratum is about 40 to 60 feet above the sedimentary contact of the Abo formation with underlying Precambrian granite. The mineralized stratum is thin where exposed in an exploratory drift on the Cuprite 1 claim, ranging from 2.5 - 4.4 feet in thickness, and possibly is discontinuous in parts of the claims. The copper minerals are generally evenly disseminated

Reviewed by
DMEA OPERATING COMMITTEE
7-19-57
(date)

in the sandstone, the entire thickness ranging in average grade from 0.01 to 0.17 percent copper. A selected dump sample contained as much as 2.15 percent copper, which apparently represents a local richly mineralized spot. Anomalous radioactivity in the host rock is restricted to a small lens of very fine-grained silty sandstone; the grade of uranium here is 0.002 percent U O . Because of the thinness of the host stratum and the low grade of the copper and uranium, it is concluded that the chance of finding a significant ore deposit here is poor and it is recommended that the application be denied. I concur with the conclusions and recommendations of the examining team.

This application was brought to the attention of the Atomic Energy Commission personnel.

Accompanying the report are 12 copies each of figures 1 and 2 for inclusion in the report. The applicant's brochure and maps are also enclosed.

D P Elston

For J. William Hasler,
Geologist

DPE/mlr

Enclosures
Report (12 copies)
Figs. 1 & 2 (12 copies)
Brochure

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UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

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DMEA 4729

Heald Project, Ltd.

Cuprite Claim Group

Sandoval County, New Mexico

Uranium

Joint Engineering and Geologic Report

by

D. P. Elston
Geological Survey

M. H. Salsbury
Bureau of Mines

July 1957

Reviewed by
DMEA OPERATING COMMITTEE
7-19-57
(date)

DMEA 4729
HEALD PROJECT, LTD.
CUPRITE CLAIM GROUP
SANDOVAL COUNTY, NEW MEXICO

CONTENTS

Joint Engineering and Geologic Report

	Page
Introduction and Summary	1
Acknowledgments	4
Location, Topography, and Climate	4
History and Production	5
Ownership and Extent	8
Present Status	
Exploration and development	10
Mining and milling equipment and other facilities	10
Geology	
General geology	11
Geology of the general area of the Cuprite claims	12
Ore Deposits	
Distribution of the copper and uranium deposits	15
Deposit on the Cuprite claims	19
Ore Reserves	23
Proposed Exploration	23
Conclusions and Recommendations	24

ILLUSTRATIONS

Figure		Follows page
1.	Geologic map of part of Nacimiento Mountains, San Pedro Mountain, and adjoining plateaus showing location of copper and uranium deposits including the Cuprite prospect, Heald Project, Ltd., Sandoval and Rio Arriba Counties, New Mexico	25
2.	Geologic map of Cuprite claims, sec. 18-19, T. 20 N., R. 1 E., NMPM, Heald Project, Ltd, Sandoval County, New Mexico	25

TABLES

		Page
1.	Uranium prospects in and near the Nacimiento Mountains, Sandoval and Rio Arriba Counties, New Mexico	8
2.	Assays of channel samples and dump samples from exploratory drift on the Cuprite No. 1 claim, Heald Project, Ltd., Sandoval County, New Mexico	22

DMEA 4729
HEALD PROJECT, LTD.
CUPRITE CLAIM GROUP
SANDOVAL COUNTY, NEW MEXICO

INTRODUCTION AND SUMMARY

On March 23, 1957, Heald Project, Ltd., a limited partnership, c/o Dr. K. C. Heald, 605 Continental Life Bldg., Fort Worth, Texas, applied for DMEA assistance for exploration drilling and rim stripping on the Cuprite claims, Sandoval County, New Mexico. The claims are in secs. 18 and 19, T. 20 N., R. 1 E., NMPM, on the west side of the Nacimiento Mountains, about 7 miles southeast of Cuba, New Mexico.

The applicant proposes 3,315 feet of non-core and core drilling in 43 holes spaced on about 100-foot centers followed by 2,000 feet of rim stripping to explore for copper and uranium ore in a sandstone lens in the lower part of the Abo formation of Permian (?) age. A possible second phase of close-spaced drilling to block out ore is also suggested. The estimated cost of the program is $12,075.00. Government participation at 75 percent for uranium would be $9,056.25. For uranium-copper at 62½ percent it would be $7,561.97. For copper only at 50 percent it would be $6,037.50. Of the estimated cost, $5,500.00 is for supervision by the Surface Geological Company, owned by the applicant's consultant.

The application, Docket DMEA 4729, was referred to the field, and an examination was made on June 12, 1957. The examining team, consisting of D. P. Elston, U. S. Geological Survey, and M. H. Salsbury, U. S. Bureau of Mines, was accompanied by Mr. Philip W. Beckley, geologist, representing the company.

Property included in the application consists of 14 unpatented lode mining claims that are accessible from New Mexico State Highway 126, 8 road miles east of Cuba, New Mexico, by means of an unimproved dirt road south to the Blue Bird Ranch and a jeep trail beyond that.

The Cuprite claims are staked on the lower part of the Abo formation of Permian (?) age and in part upon Precambrian granite. A bed of conglomeratic sandstone 3 to 4 feet thick, about 60 feet above the sedimentary contact of the Abo formation with the underlying granite, contains copper minerals and some anomalous radioactivity. This bed is poorly exposed on outcrop but has been exposed for 175 feet in a drift driven on the Cuprite No. 1 claim. Channel samples of the sandstone submitted by the applicant, spaced every 10 feet for 110 feet along the drift, showed average grades of copper that ranged from 0.01 percent to 0.19 percent; one channel sample assayed for uranium showed 0.002 percent U_3O_8. The copper minerals, malachite and azurite, are sparsely disseminated in conglomeratic sandstone and in local lenses of very fine-grained silty sandstone; copper also occurs in association with some of the carbonaceous material in the sandstone. The uranium minerals are not visible; on the basis of anomalous radioactivity, the uranium is sparse and is present only locally in a very fine-grained silty sandstone. The applicant has drilled 4 core holes which are reported to have penetrated copper-bearing sandstone in the host stratum, but no anomalous radioactivity was detected by radiometric probing of the holes. Core recovery was poor and the results of drilling

in regards to the copper content of the host stratum are inconclusive, but the core recovered contained sparsely disseminated malachite similar in distribution to that observed in the drift on the Cuprite No. 1 claim. Rock containing sparse copper minerals was observed at a possible dump adjacent to a collapsed portal of an old adit or cut about 300 feet west of the Cuprite No. 1 adit. In addition, anomalous radioactivity has been detected at the outcrop about 1,100 feet west of the adit on the Cuprite No. 1 claim.

The data available suggests there is widespread weakly disseminated copper and local patches of generally weak anomalous radioactivity in the thin sandstone stratum near the base of the Abo formation on these claims. Although two selected dump samples assayed 1.81 and 2.15 percent copper, no material of this grade was observed on the outcrop or in the mine workings during the field examinations. It is likely that such concentrations are local and would not be of sufficient extent to constitute ore. The uranium present is in small patches and is low grade. The thinness of the host rock, and the widely and weakly disseminated character of the copper and uranium minerals, suggests that the chance for finding a significant ore deposit here is poor. It is therefore recommended that the application for DMEA assistance for exploration be denied.

ACKNOWLEDGMENTS

The Atomic Energy Commission was consulted relative to the appraisal of the uranium deposits in the general area. Some of the geological data, assay data, and channel samples that were compiled by Mr. Philip W. Beckley and were submitted with the application, have been abstracted in part.

LOCATION, TOPOGRAPHY, AND CLIMATE

The 14 unpatented Cuprite claims are in secs. 18 and 19, T. 20 N., R. 1 E., NMPM, Sandoval County, New Mexico. The claims are on the west side of the Nacimiento Mountains, at a general elevation of 8,000 feet, about 6-1/2 airline miles southeast of Cuba, New Mexico (Fig. 1). The claims may be reached from the town of Cuba by traveling 8.1 miles southeast on State Highway 126 to a turn-off that leads to the Blue Bird Ranch (Blue Bird Ranger Station); thence southerly over an unimproved dirt road for 2 miles to the Blue Bird Ranch; thence continuing southerly on a jeep trail for 1.8 miles to the property. The claims are on moderate slopes drained by intermittent San Pablo Creek, a westward flowing tributary of the Rio Puerco. The area receives moderate precipitation that supports a rather dense vegetation, consisting of Ponderosa pine, scrub oak, juniper, and a few pinon pine. The average annual precipitation for this area in the period 1912-1921, is 22.26 inches (Renick, B.C., 1931, p. 8). Surface operations are not advisable in winter and early spring. The claims are in an area of moderate relief where construction of drill

sites would be fairly inexpensive. However, the access road beyond the Blue Bird Ranch would require extensive improvement for the passage of heavy equipment.

There are no unusual problems of supply, labor, access, or power. Living facilities and labor are available in Cuba. The proposed work would be done by independent contractors.

Ore marketing of a combined uranium-copper ore so as to realize the full value in copper is impractical at this time. Uranium ores from independent operators in the area can be sold at the Grants, New Mexico buying station of the Atomic Energy Commission, 170 miles southwest of the property. Cuba is 65 miles from the main line of the Santa Fe Railway at Bernalillo, New Mexico. The American Smelting and Refining Company copper smelter at El Paso, Texas, is 290 miles from Bernalillo by rail.

HISTORY AND PRODUCTION

Exploration of the Sierra Nacimiento for minerals may possibly date from the days of the Spanish conquest. The Nacimiento District, in which the Cuprite claims are located, was prospected by Indians and Mexicans about the middle of the nineteenth century but systematic exploitation of the copper deposits dates from 1880 (Lundgren, et al, 1910, p. 143). As of 1905, the most important deposits were at Copper City, north and east of Senorito, N.M., the Eureka deposits about 3 miles to the east of these, and the San Miguel mine about 8 miles

south of Senorito. The mines are now inoperative with the exception of small occurrences in the Copper City area, on Eureka Mesa about 4 miles northeast of the Cuprite claims. A small intermittent operation from dumps and possibly surface workings is currently producing ore which is sorted and trucked to the railroad for shipment by rail to the smelter at El Paso, Texas.

Copper deposits of the Nacimiento district were investigated for possible uranium mineralization in 1952 (Gott, G.B., and Erickson, R.L., 1952). Slightly anomalous radioactivity was found at one place in the Copper City deposits. In the last three years several uranium prospects have been located in and near the Sierra Nacimiento. These are listed in Table 1. The only production has been a few tons of ore, barely of shipping grade (0.11 percent U_3O_8), from the Coyote Hill No. 1 prospect in Rio Arriba County, New Mexico.

The early history of the area covered by the Cuprite claims is unknown. An outcropping copper-bearing stratum was explored at several points identified only by small dumps. One tunnel, which appears to have been driven without the use of explosives, has been reopened. There is no record of claim locations having been filed during the early period of exploration.

Table 1. Uranium prospects in and near the Nacimiento Mountains, Sandoval and Rio Arriba Counties, New Mexico. 1/

Name	Location	Formation	Lithology
Butler claims 2/	sec. 23, T. 19 N., R. 1 W., Sandoval Co.	Dakota	lignitic shale
Coyote Hill No. 1 (Bridges Pit No.1)	sec. 8, T. 22 N., R. 3 E., Rio Arriba Co.	Cutler	sandstone
Production:	period--Jan.-June 1954; 7.84 tons,	0.11 percent U_3O_8 0.12 percent copper	
Nacimiento Mt. Hog Back	NW¼, sec. 1, T. 19 N., R. 1 W., and sec. 20 & 29, (E½ each) T. 15 N., R. 1 E., Sandoval Co.	Morrison	sandstone
Vegitas cluster 3/ (includes White Flo prospect of P.W. Beckley)	sec. 24, 25, 36, T. 23 N., R. 1 W., Sandoval Co.; sec. 19-21, 28-33, T. 23 N., R. 1 E., Rio Arriba Co.	Madera Cutler	sandstone & mudstone
Zambarmolake Area(?)	about 10 mi. SW of Cuba, Sandoval Co.	Ojo Alamo	sandstone

1/ Abstracted and supplemented from Anderson, E. C., 1955.

2/ Gabelman, John W., 1956.

3/ Brown, III, H. Gassaway, 1955.

OWNERSHIP AND EXTENT

The property included in the proposed DMEA project consists of 14 located mining claims. Of these, 12 are shown on figure 2. Two are unmarked claims and 2 others, Cuprite Nos. 10 and 13 not included in the application, were shown on the applicant's map, but Cuprite Nos. 14A, 15, 16, and 17, which adjoin the other claims on the south, are not shown. The applicant's geologist states that the Axehead claims Nos. 1, 2, and 3, adjoining the Cuprite claims on the west have also been located by him.

The Cuprite claims Nos. 1 through 9 and 14 were located on June 7, 1955, and recorded on June 14, 1955 in Volume 7, pages 266-275 of the Sandoval County records in Bernalillo, New Mexico. The locators were Philip W. Beckley and Robert B. Lomerson, an associate.

The Cuprite claims Nos. 14A, 15, 16, and 17 were located on April 11, 1956 and recorded on May 7, 1956 in Volume 10, pages 116-119 by John P. McNeil and by George H. Anderson for Philip W. Beckley.

Mr. Beckley states that Lomerson, Anderson, and McNeil are his employees and have signed an agreement, not furnished with the application, assigning any claims located by them to Beckley.

The 14 Cuprite claims were assigned to the Heald Project, Limited, by Beckley and his wife on December 20, 1956 as recorded in Volume M.R. 12, pages 949 and 950, on December 21, 1956. Copies of assignments were included in the application.

Heald Project, Ltd., of which Dr. K. C. Heald, 605 Continental Life Building, Fort Worth 2, Texas is the manager and general partner, is a partnership of 9 other individuals, the Texas Pacific Coal and Oil Company, and the Estate of Clifford Mooers.

The property rights of the applicant appear to be valid. The transfer of the property from Beckley was an outright sale according to the assignment.

Location procedures were satisfactory so far as inspection in the field and the Sandoval County records indicates. On or about September 20, 1955, Leon Messer, a local contractor, who had been employed by Beckley to construct roads, over-staked several of the Cuprite claims in the name of the Cuba Mining Company. Beckley obtained from Messer a quit claim deed covering any claims which had been staked over the Cuprite claims. This deed dated October 28, 1955, was recorded November 2, 1955 in Vol. M.R. 8, page 994. The name or number of the claims is not mentioned in the deed and no evidence of the locations was found in the field. The Sandoval County records do not contain any recording data for claims located by the Cuba Mining Company in this area, so it is assumed that the locations were never filed, and consequently have no validity.

Proof of Labor for assessment work for the year ending June 30, 1956 covering the Cuprite claims Nos. 1 through 9, and others was filed August 15, 1955 in Vol. M.R. 8, page 80. Cuprite No. 14 claim, which should have been included, is not mentioned in the record.

Assessment work for the year ending June 30, 1957 on all of the claims, including those located after July 1, 1955, is due. Mr. Beckley states that they plan to do enough road work immediately to meet requirements.

PRESENT STATUS

Exploration and Development

Underground exploration of the Cuprite claims is limited to two early-day workings. The copper-bearing sandstone stratum is exposed for 158 feet along a 175-foot adit which has been reopened on the Cuprite No. 1 claim. The applicants have also drilled four shallow diamond drill holes in the vicinity of the tunnel with a prospecting drill which recovered a core about 5/8-inch in diameter. Beckley stated that core recovery was poor and the copper and uranium content of the core was negligible. No hole logs were furnished and no core was left at the property but a specimen of the core exhibiting very slight copper mineralization but no radioactivity was forwarded to the DMEA examiners later.

Mining and Milling Equipment and Other Facilities

There is no mining equipment on the property. The prospecting drill formerly used had been removed.

GEOLOGY

General Geology

The Sierra Nacimiento bounds a part of the southeast side of the Colorado Plateau province; on the west, the range presents nearly a straight front, trending north and south for a distance of about 50 miles. In the vicinity of Cuba, the general elevation rises eastward, in the distance of 2-4 miles, from about 7,000 to 9,500 feet into mountainous but not extremely rugged terrain.

The core of the Sierra Nacimiento mainly consists of coarse-grained, massive, red to brown and dark gray Precambrian granite that locally contains veins of quartz and associated black basic intrusive rocks, mostly in dikes (Lindgren, et al, 1910; Renick, B.C., 1931). In places gneiss and mica schist are present, at least the latter of which probably has been intruded by the granite. The Precambrian rock on the claims is a red,coarse-grained granite that contains sparse minor quartz veins. The uppermost part is rotted and has been weathered to a depth of perhaps 10-12 feet.

Marine and continental strata of Pennsylvanian and Permian age overlap the land mass that formerly occupied the Sierra Nacimiento (Wood, G. H., and Northrup, S. A., 1946). These are, in turn, overlain in places in the mountains by Triassic strata of continental origin. On the west flank of the uplift a sequence of strata is exposed that ranges from Pennsylvanian to Eocene age overlain by Miocene and Pliocene deposits.

The entire sequence is about 12,000-13,000 feet thick. The attitude of the strata range from overturned to a nearly horizontal position.

Geology of the General Area of the Cuprite Claims

The Cuprite claims are staked on the Abo formation of Permian (?) age and on Precambrian granite on the west side of the Sierra Nacimiento about 6-1/2 airline miles southeast of Cuba, New Mexico. The claims are at a general elevation of about 8,000 feet on the upthrown side of a steep overthrust that bounds the Sierra Nacimiento on the west. The surface expression of the overthrust is exposed about one mile west of the claims (fig. 1).

Sedimentary strata exposed on the claims are the lower part of the Abo formation of Permian (?) age. The Permian Yeso formation overlies the Abo to the northeast and in a section measured, about 2 miles to the north, near Senorito Canyon by Wood and Northrup (1946), is about 50 feet thick. The entire Permian section on and near the claims measured by P. W. Beckley, geologist for the applicant, is 850 feet thick. North of latitude 36°00', 2-1/2 miles to the north, the Permian section is not subdivided as the Yeso formation cannot be distinguished. Where this occurs the Permian section is called the Cutler formation. South of the Cuprite claims the lower part of the Abo formation interfingers and is gradational with the arkosic limestones of the subjacent Madera formation of Pennsylvanian age.

On the Cuprite claims the Abo formation unconformably overlies and was deposited on a gently irregular surface developed on the Precambrian granite. An arkosic conglomerate is present at the base of the Abo. It ranges from about 2 to 30 feet thick and is a very fine- to coarse-grained, light gray sandstone containing abundant granules and small pebbles of sub-round quartz and unweathered angular salmon-pink orthoclase feldspar. A few fragments of limestone, one a possible fragment of a spirifer-type brachopod, were observed in this basal conglomerate.

Overlying the basal conglomerate, is 30-40 feet of brownish-red and red, locally, sandy, micaceous siltstone and claystone. The uppermost part, a few inches thick, is a white to pale greenish-gray micaceous claystone that appears to be bentonitic.

A sequence of three sandstone strata, separated by mudstone, and aggregating about 130 feet in thickness are present over much of the central and northern part of the Cuprite claims. The lowest of the sandstone strata (fig. 2) is partly conglomeratic and is thin, where observed in the drift on the Cuprite No. 1 claim, and ranges from 2.5 to 4.4 feet in thickness. The sandstone is not exposed on the outcrop, and it is likely that this sandstone is locally absent on the claims. The overlying sandstone strata, about 60 and 110 feet stratigraphically higher have thicknesses that range from about 10 to 20 feet. They are clean, rather well sorted sandstone, and in this respect, coupled with the lack of copper minerals or anomalous radioactivity, differ from the lower sandstone. The intervening mudstones are nearly everywhere

covered but appear to be similar to the mudstone that underlies the lower sandstone.

The lower sandstone is a light gray, locally stained light to dark brown, very fine- to coarse-grained arkosic sandstone. Granules and small pebbles are locally abundant, as are pale green micaceous claystone flakes, galls and thin discontinuous seams. Quartz, sub-round to sub-angular, is the principal constituent but angular to sub-round, fresh to weathered grains of orthoclase feldspar, ranging in size from fine-grained to small pebbles, are abundant and impart a pinkish tinge to the rock. The rock is variably cemented by calcite, some in optical continuity between grains; small augen of calcite occur locally associated with carbonaceous matter, some apparently in spaces formerly occupied by woody material enclosed in the sandstone. Carbonaceous matter is present as thin seams and irregular patches of powdery and vitreous, coal-like material in the sandstone, and as disseminated fragments and plant impressions in very fine-grained, silty sandstone lenses at the top of, and locally within, the sandstone. The copper minerals, malachite and azurite, are sparsely disseminated throughout much of the sandstone; weak anomalous radioactivity is present locally in a gray, very fine-grained, carbonaceous, silty sandstone lense.

Strata of Triassic age crop out about 3,000 feet northeast of and about 800 feet above the Cuprite claims. The basal member of the Chinle formation is the Aqua Zarca member, a massive white to yellow cliff-forming sandstone that contains beds of conglomerate consisting of well

rounded pebbles of quartz, quartzite and chert. It ranges in thickness from about 97 to 260 feet but in the general area of the claims it is about 100 feet thick. This member, formerly called the Poleo sandstone, is probably equivalent to the Shinarump member of the Chinle formation (Renick, B.C. 1931, p. 24). The Aqua Zarca member contains all of the formerly productive and producing copper deposits of the Nacimiento district.

Strata on the claims are nearly flat lying. In the exploratory drift, the strata appear to have a small component of dip (1-2°) to the west.

No faults are known to displace the copper-bearing stratum on the Cuprite claims but just west of the claims there is a normal fault that strikes about N. 45° E. Permian strata on the east are in juxtaposition with Precambrian granite on the west; the displacement exceeds 200 feet (fig. 1).

ORE DEPOSITS

Distribution and General Features of the Copper and Uranium Deposits

The copper deposits of the Nacimiento mining district are described by F. C. Schrader and L. G. Graton (Lindgren, et al, 1910, pp. 143-147). The regional and stratigraphic distribution, habits, and hypotheses of origin of the "Red Beds" deposits are summarized and discussed by R. P. Fischer (1937).

As defined by Schrader and Graton, the Nacimiento district is about 12 miles long and 3 miles wide, the long dimension extending from about 2 miles north of Senorito southward to near San Miguel Mountain (fig. 1).

The copper produced from the Nacimiento district has come from deposits in the Aqua Zarca member of the Chinle formation. The host rocks vary from siliceous to calcareous, and from a fine-grained sandstone to a fine- to coarse-conglomeratic sandstone and conglomerate. Individual beds containing the ore minerals commonly range from 2 to 4 feet thick and locally exhibit cross-bedding. The ore minerals locally are disseminated for thicknesses as great as 25 feet, as in the Eureka mine, but here the richer and more important part was only 3-4 feet thick, which in turn was overlain by a thickness of 12 feet of "low grade" ore estimated to contain 5 percent metallic copper. (Lindgren, et al, 1910, p. 146.) The linear extent of individual clusters of deposits range from about 500 to 4,500 feet in length and a few hundred to perhaps 750 feet in width. The richer parts of the deposits are considerably more restricted.

The ore minerals of the copper deposits in the Nacimiento district are chalcocite, Cu_2S, that, occurs locally as pseudomorphs after fossil wood (Fischer, 1937, p. 917) and occurs as concretionary nodules away from fossil wood, and malachite and azurite, basic cupric carbonates, that occur disseminated in the sandstone and associated with the chalcocite. Additional ore minerals listed by Gott and Erickson (1952,

p. 24) are covellite, chrysocolla, and cuprite (?). Silver, ranging from 1-3 ounces per ton, occurs in the ore. About the year 1905, over 3,000 tons of metallic copper had been produced from the district, but total production of copper is not known. The descriptions of Schrader and Graton indicate that the grade of ore mined ranged from about 5 to 65 percent copper, with much of the production and high grade ore coming from the San Miguel mine.

Gott and Erickson (1952) made a reconnaissance investigation of the Copper City, Eureka and San Miguel mines in a search for uranium that might be associated with copper. The textural relations of the ore minerals to the host rock are briefly described. Slight anomalous radioactivity of 0.07 mr/hr was noted in some of the fossil wood of the Copper City deposits; a maximum radioactivity of 0.04 and 0.03 mr/hr, not considered anomalous, was found at the Eureka and San Miguel deposits.

A small stockpile of copper ore from Eureka Mesa, apparently segregated as to carbonate ore, and high and low grade siliceous ore, is stockpiled along State Highway 122 about 1 mile east of Senorito at the site of an abandoned mill and smelter. This material was checked for anomalous radioactivity with a scintillometer, but none was noted.

There are five prospects or groups of prospects in and near the Nacimiento Mountains that are reported to have occurrences of uranium. These prospects are in strata that range in age from Permian to latest Cretaceous. Only one, the Coyote Hill No. 1 in Permian strata, has

had recorded production (table 1). The White Flo deposit also in Permian strata was prospected by P. W. Beckley. It is reported to have been mined (Brown, 1955) but Mr. Beckley states it is non-commercial.

The Coyote Hill No. 1 was examined by D. P. Elston on June 13, 1957. This prospect is on the bank of the eastward draining, intermittent Rio Puerco, about 300 yards south of State Highway 96, 2 miles west of the road junction of State Highway 96 and the southerly trending Coyote Canyon road, Coyote, New Mexico. Mining operations consisted of rim stripping, about 100 feet in length and 5 feet in width, on a thin stratum of sandstone.

The ore minerals are malachite and azurite; the form of the accompanying uranium is unknown but appears, in part, to be associated with carbonaceous matter. Anomalous radioactivity along the outcrop generally ranges from about 0.030-0.040 mr/hr, but at one place on the outcrop and on a few samples on the remnants of a small stockpile the radioactivity is as high as 0.30 mr/hr. This material may be representative of the ore that assayed generally between 0.10 and 0.20 percent U_3O_8.

The host rock is a dark red to locally light brown, fine- to coarse-grained, partly conglomeratic, arkosic sandstone in the Permian Cutler formation. The base of the Cutler formation is not exposed in the area but the host stratum may be about 100 feet above the base. The stratum, in a distance of 150 feet, thins and appears to pinch out from north to south along the outcrop; on the north the sandstone is about 6-8 feet thick; along the part that was rim stripped, from about 25-100 feet north

of the pinchout, the sandstone thins from about 6 to 4 feet; the sandstone thins to a vanishing edge in a distance of about 25 feet. Only one remnant of ore-grade material at the top of the sandstone, 1-3 inches thick and a few feet in lateral extent, remains in the southern part of the stripping operation. This remnant and the samples that remain on the former stockpile suggest that the ore grade parts of the deposit general may have been less than one foot thick. Malachite and azurite are erratically and very sparsely disseminated throughout the remainder of the sandstone. Carbonate cement appears to be abundant.

The host stratum is dominantly a dark brown-red in color. Grayish mudstone, within and bounding the sandstone is sparse; large fragments of mudstone in the sandstone have only a rind of gray-green color with centers that are red. The host stratum is about 20 feet beneath a massive and cross-bedded, light brown, conglomeratic, arkosic sandstone, that in turn is about 20 feet thick. This sandstone appears to be a more favorable host than the sandstone that contains the ore minerals but a radiometric reconnaissance revealed no abnormal radioactivity and no copper minerals were seen.

Deposit on the Cuprite claims

The copper deposit on the Cuprite claims is in a thin conglomeratic sandstone in the lower part of the Abo formation of Permian(?) age(p.13-14). The ore minerals are malachite and azurite that are sparsely disseminated throughout much of the sandstone. A few tiny dots of chalcocite (?) in

abundant throughout much of the coarser sandstone, some occurring as "trash" and some occurring as 1/4 inch seams and small pockets of sooty and coaly material. None of this was found to be anomalously radioactive.

The lower contact of the sandstone is gently to sharply undulatory, the relief locally being as much as one foot. No channel or scour is apparent; rather, the distribution of the copper minerals throughout the sandstone, apparently decreasing in amount near the outcrop, suggests that perhaps the host stratum thins or pinches out in a southerly direction. A grayish micaceous mudstone, 0.3-0.4-foot thick and 0.1-foot thick, underlies and overlies the sandstone; at greater distances the mudstone is a brownish-red.

Local areas of slightly higher grade copper than is exposed generally in the drift walls must have been encountered during the drifting operations. This is suggested by the results of assays of three selected dump samples, submitted by the applicant, that ranged from 0.59 to 2.15 percent copper; one additional sample, apparently containing no copper, assayed 0.003 percent eU_3O_8 and 0.004 percent U_3O_8 (table 2).

Slight anomalous radioactivity was detected by the applicant along and near the apparent but concealed trace of the host stratum for a distance of about 1,200 feet west of the drift on the Cuprite No. 1 claim (fig. 2). The relative measurements and contouring shown on an iso-rad map submitted by the applicant appear reasonable, but the applicant's system of numerical figures should be corrected by inserting a zero

between the decimal point and the first significant figure, e.g., 0.40 mr/hr becomes 0.040 mr/hr.

The data presented by the applicant and the observed field relations suggest that there is a belt of ground, about 1,200 feet in length and of unknown width, that contains one or more low-grade copper deposit containing traces of uranium. Bodies of ore-grade copper with the deposit(s) are likely to be too small to be economic. It is possible but unlikely that there are concentrations of ore grade uranium. If present, they probably would be thin and a few inches to a few feet in lateral extent.

Table 2. Assays of channel samples and dump samples from exploratory drift on the Cuprite No. 1 claim, 1/ Heald Project, Ltd., Sandoval County, New Mexico.

Channel samples:		PERCENT	
No.	Cu	eU_3O_8	U_3O_8
face	0.03		
10	0.17		
20	0.04		
30	0.03		
40	0.19		
50	0.01	0.009	0.002
60	0.04		
70	0.06		
80	0.06		
90	0.03		
100	0.06		
110	0.05		
Dump samples: 2/			
C-1-A	2.15		
C-1-B	1.81		
C-1-C	0.59		
C-1-D	--	0.003	0.004

1/ Assay data submitted by P. W. Beckley June 1957; channel samples cut vertically across entire thickness of host sandstone stratum, ranging from about 2.5 to 4.4 feet; very fine-grained sandstone and siltstone at top that locally contains copper not sampled; sample intervals 10 feet starting at face of drift.

2/ Samples taken on the dump were not representative of the dump as a whole but were selected specimens with the highest visible copper content (oral communication, P. W. Beckley).

ORE RESERVES

There are no known ore reserves on the property.

PROPOSED EXPLORATION

The applicant has proposed exploration on the Cuprite claims Nos. 1, 2, 3, 4, 7, 8, and 9 first by non-core and core drilling in 43 holes on 100-foot centers from 20 to 100 feet in depth located above the outcrop of the potential ore-bearing sandstone of the Abo formation. This would be supplemented by 2,000 feet of stripping to expose the outcrop if drilling results justified it. Also suggested was additional close-spaced drilling in a second phase to block out ore if initial exploration results should justify it. The last item would of course not qualify for a DMEA project. The estimated cost of the proposed program is $12,075.00. The applicant has assumed Government participation at 75 percent or $9,056.25. However, if there was any justification for a DMEA project, it might cover copper-uranium at 62½ percent, or possibly copper only at 50 percent.

The applicant's cost estimate includes $5,500.00 for supervision, or 45 percent of the total cost. This disproportionate amount covers the services of the Surface Geological Company, owned by Philip W. Beckley, for one month. Obviously, this supervisory cost could not be justified.

No bids supporting the drilling and stripping costs were submitted, and the applicant was not asked to obtain them. No change in the applicant's exploration plan is suggested by the DMEA examiners, and the cost estimate has not been revised.

CONCLUSIONS AND RECOMMENDATIONS

Copper and uranium minerals are present on the Cuprite claims in sparse amounts. The possibility of the occurrence of significant ore deposits of either or both metals in the mineralized stratum is remote.

The grade of the mineralized rock on the claims has been reasonably well established by assays of 12 channel samples from the drift on the Cuprite No. 1 claim. The lateral extent of mineralized ground has been roughly defined by slight anomalous radioactivity along the apparent trace of the host stratum. On the basis of available evidence, there is no reason to conclude that mineralized rock of higher grade occurs in unexplored portions of the property. In addition, exploration of the few copper-uranium deposits in Permian strata in Rio Arriba County, New Mexico has not resulted in discovery of minable deposits.

Denial of the application for Government assisted exploration under Docket No. DMEA 4729 is recommended.

Literature Cited

Anderson, E. C., 1955, "Occurrence of Uranium Ores in New Mexico", Circular 29, New Mexico Institute of Mining and Technology, and State Bureau of Mines and Mineral Resources, Socorro, New Mexico.

Brown, III, H. Gassaway, 1955, "Uranium Deposits of the Vegitas cluster, Rio Arriba and Sandoval Counties, New Mexico", U.S. A.E.C., RME-84

Fischer, R. P., 1937, "Sedimentary Deposits of Copper, Vanadium-Uranium and Silver in Southwestern United States", Econ. Geol., p. 906-951.

Gabelman, John W., 1956, "Uranium deposits in paludal black shale of the Dakota formation, San Juan Basin, New Mexico", Proceedings of the International Conference on Peaceful Uses of Atomic Energy, Vol. 6, Geology of Uranium and Thorium.

Gott, G. B., and Erickson, R. L., 1952, "Reconnaissance of Uranium and Copper Deposits in Parts of New Mexico, Colorado, Utah, Idaho, and Wyoming", TEIR 232.

Lindgren, W., Graton, L. C, and Gordon, C. H., 1910, "The Ore Deposits of New Mexico", U.S. Geol. Survey Prof. Paper 68.

Renick, B. C., 1931, "Geology and Ground-water Resources of Western Sandoval County, New Mexico," U.S. Geol. Survey Water-Supply Paper 620.

Wood, G. H., Jr., and Northrup, S. A., 1946, "Geology of the Nacimiento Mountains, San Pedro Mountains, and Adjacent Plateaus in Parts of Sandoval and Rio Arriba Counties, New Mexico", U.S. Geol. Survey, Prelim. Map 57, Oil and Gas Inv. Ser.

DMEA
DEPARTMENT OF THE INTERIOR
MAY 2 - 1957
REGION III
DENVER, COLORADO

May 1, 1957

Memorandum

To: Acting Executive Officer, DMEA Field Team, Reg. III

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA-4729 (Uranium-Copper) Heald Project Ltd., a limited partnership (Cuprite Claims) Sandoval County, New Mexico

The application for Heald Project, Ltd., Docket DMEA 4729 in the amount of $12,375.00 was received in this office on May 1, 1957.

A field examination will be made and suitable report prepared by an engineer from the Denver or Grand Junction office.

W. H. KING

W. H. King

cc: Acting Executive Officer
E. W. Marshman
J. W. Mazler
M.H. Salsbury
A. S. Konselman

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RECEIVED MAY 6 1957

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RECEIVED MAY 13 1957

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324 New Customhouse
Denver 2, Colorado

April 30, 1957

Memorandum

To: W. H. King)
J. W. Hasler) w/enclosures, Items 1-5 below

From: DMEA Field Team, Region III

Subject: Docket DMEA-4729 (Uranium-Copper) Heald Project Ltd., a limited partnership (Cuprite Claims) Sandoval County, New Mexico

Enclosed is the following material relating to the subject docket.

1. Copy of application for Government assistance in exploration work under the DMEA program.

2. Memorandum of Review by James Paone, USBM.

3. Memorandum of Review by T. H. Kiilsgaard, USGS.

4. Letter of transmittal of the foregoing to this office, dated April 26, 1957, from the Chairman, Operating Committee, DMEA.

5. Routing control sheet.

A joint report of recommendations based on available information or a joint report of findings and recommendations based on a field examination is requested.

The field examiners should note that the Applicant has applied for 75 percent Government participation. At most, a copper-uranium project should be considered at no more than 62½ percent Government participation.

Should an examination of the property be warranted, close scrutiny should be given to the excessive cost proposed by the Applicant for supervision.

Twelve extra copies of each map used in the joint report which show the land to be subordinated and the location and extent of recommended work, relative to property boundaries, should be submitted if Government participation is recommended.

The Bureau of Mines' copy of the application should be returned to this office with the joint report of examination. The Survey's copy of the application is to be returned to Mr. Harshman's office.

Original signed by
E. N. HARSHMAN

By E. N. Harshman
Acting Executive Officer

Enclosures

MEM:jy

cc: Sec. Op. Comm. (2)
Harshman w/enclosures, Item 2-4
King
Docket 4729
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
4/26	Murphy	700
4/26	Ellis	700
4/26	Jeffridge	130
		110
		~~100~~
		220

Lamb Williams

APR 26 1957

Dr. K. C. Heald, General Partner
Heald Project Limited
605 Continental Life Building
Fort Worth, Texas

Re: Docket No. DMEA-4729 (Uranium-copper)
Cuprite Claims
Sandoval County, New Mexico

Dear Dr. Heald:

The application for assistance in exploring your claims, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred to:

Mr. E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

Frank E. Johnson (for)

ACTING Administrator

FMMurphy/izm 4-26-57
cc to: Mr. Murphy
Admr.'s Reading File
DMEA FT Reg. 3 (2)

8623

DMEA Form 7
(12-56)

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Date	Surname	Code
4/26	Murphy	700
4/26	Elliott	710
4/26	Selfridge	130
"	Johnson	110
		700
4/29	Davis	220

APR 26 1957

Mr. B. M. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-6729 (Uranium-copper)
Heald Project Limited
Cuprite Claims
Sandoval County, New Mexico

Dear Mr. Harshman:

The captioned application is referred to Region III Field Team for investigation, a field examination if deemed advisable, and recommendations.

Enclosed are copies of memoranda, dated April 19 and 23, 1957, by T. H. Kiilsgaard, USGS, and James Paone, USBM, respectively, relating to the application. Also enclosed for Field Team use are two copies of the application.

We agree with the comments in your memorandum of April 15, regarding ore values, the estimated cost for supervision, and the percentage of Government participation in the event a contract is approved.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SLB)

Enclosures

APPROVED:

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

W. P. Williams (SLB)
Member, Geological Survey

FMMurphy/izm 4-26-57
cc to: Mr. Murphy
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224

8623

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RECEIVED APR 24 1957

DATE	INITIALS	CODE
4/24	C	220
"	Ellis	700
Comments		
Complete		

[illegible]
[illegible]
BUREAU OF MINES
Washington 25, D. C.

Date April 23, 1957

DMEA Docket No. 4729
DMEA Contract No. [illegible]
Commodity Uranium
Name of applicant Heald Project Ltd.
Name of property Cuprite Claims
Location of property Sandoval County, N. Mex.
Estimated cost of project $12,075.00

~~Ernest William Ellis~~, DMEA Member
Uranium Commodity Committee
James Paone, Bureau of Mines Alternate Member
Uranium Commodity Committee

Application

[illegible] application, Field Team Report [illegible]

[illegible] 4/12/57. 2. Date received [illegible] 4/23/57

[illegible] property known to reviewer: Yes [ ] No [ ]

[illegible] production known to reviewer: Yes [ ] No [ ]

[illegible] on pilot production: Yes [ ] No [ ]

[illegible] known to reviewer: Yes [ ] No [ ]

[illegible] above:

[illegible] a matter general consideration:
a. Caution [ ]
b. Morality [ ]
c. Evidence of [illegible] [ ]
d. Geology [ ]
e. Proposed exploration method [ ]
f. Alternate exploration method [ ]
g. Costs [ ]
h. _____ [ ]

[illegible] advised:
a. Obtain information from applicant [ ]
b. Refer to Field Team [X]
c. Cancel [ ]
d. Agree with Field Team [ ]
e. Consult with Mr. _____ at _____ ARS office.
f. Disagree with Field Team [ ]
g. Support alternate plan [ ]
h. Request another examination [ ]
i. Approval [ ]

[illegible]: (Use back of page if necessary)

IN REPLY REFER TO:

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D M E A
RECEIVED APR 22 1957

DATE	INITIALS	CODE
4/22	JWJ	220
"	Ellis	700

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

April 19, 1957
Re: Docket 4729 (Uranium & Copper)
Heald Project Ltd.
Cuprite Claims
Bernalillo County, New Mexico

Memorandum

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

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of application

The applicant has acquired control of the Cuprite claims, Bernalillo County, New Mexico, and plans to explore them for copper and uranium. Work, to date, consists of a 158-foot adit and 4 core holes to the "B" zone of the Abo formation. Samples from the adit dump show some copper values, and copper and uranium are reported from the core holes but no assays are given.

As described, the property appears to be another of the many Permian "Red Bed" deposits so common in the southwest. Many of these have uranium associations but few have been found of a size that warranted mining. On the other hand, the dump samples of copper are not too bad for that type of a deposit, assuming they are representative samples and not hand-picked, thus the deposit might warrant some exploration for copper.

I recommend that the application be referred to the field for a field examination. If a contract appears to be warranted, the applicant should be advised that drilling cannot be done on the close-spaced centers as he has requested. Further, the cost of administrative and technical services is drastically out of proportion to the physical costs of the proposed work.

T. H. Kiilsgaard

T. H. Kiilsgaard

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

April 17, 1957

Heald Project, Ltd.,
% Dr. K.C. Heald,
605 Continental Life Building,
Fort Worth, Texas.

Subject: DMEA 4729
Re: Exploration Assistance

Dear Dr. Heald:

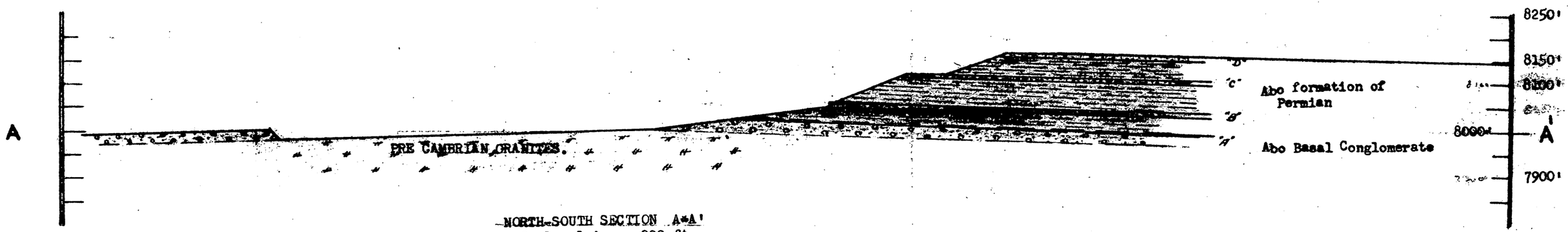
Your application for exploration assistance, dated March 23, 1957, submitted to our office at has been assigned Docket Number DMEA 4729 and referred to the Rare & Miscellaneous Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Chief
Operations Control and
Statistics Division

Copy to: Region III.

3571



NORTH-SOUTH SECTION A-A'
Scale: 1 in. = 200 ft.

CUPRITE CLAIMS
SANDOVAL CO. NEW MEXICO

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RECEIVED APR 17 1957
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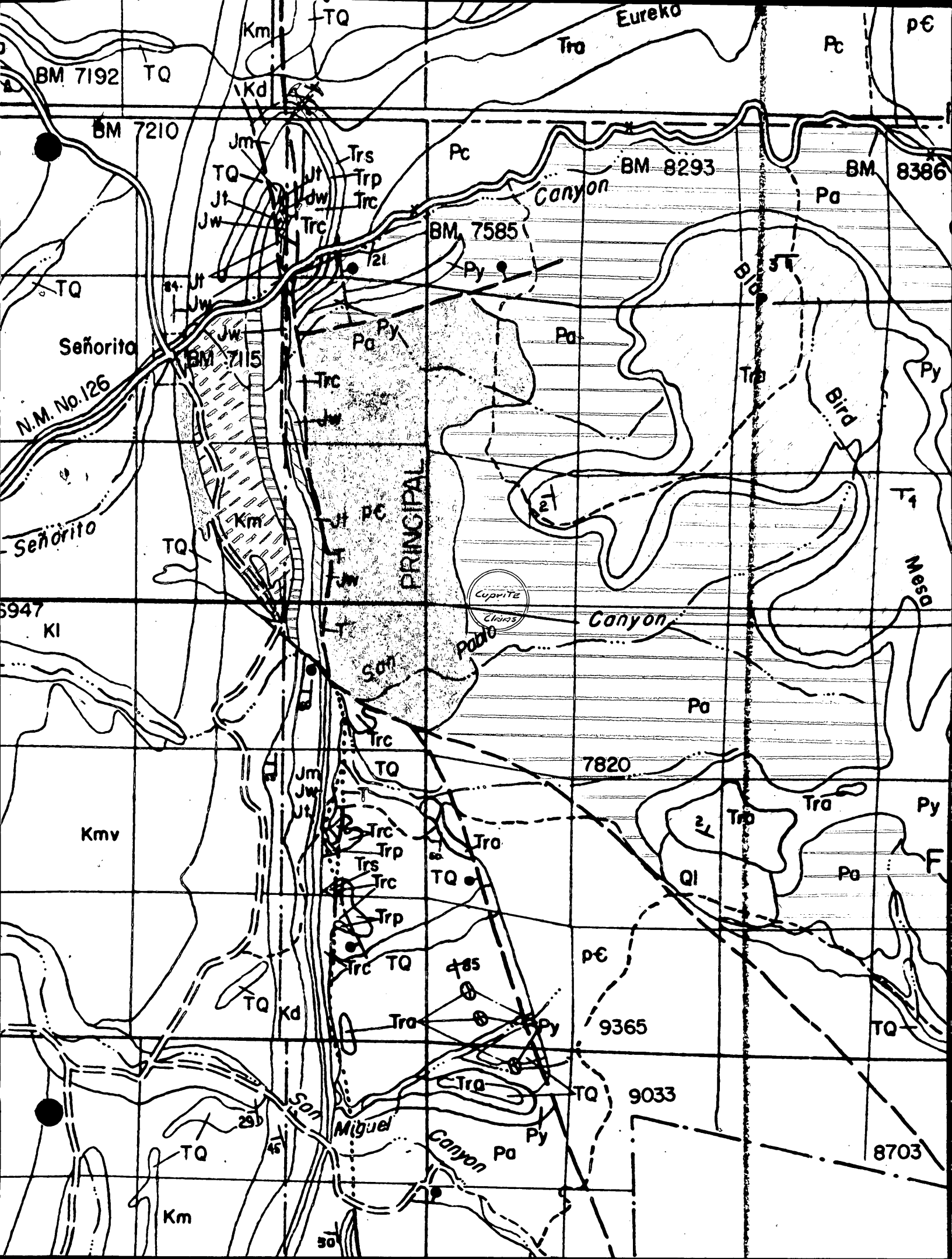
Eureka
Canyon
BM 7192
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BM 8293
BM 8386
BM 7585
BM 7115
Señorita
N.M. No. 126
PRINCIPAL
Cupriite Claims
San Pablo
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San Miguel
Canyon

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r. ~~John Hamel~~ [illegible] 5280 ~~S.A. Bldg.~~	RUN / STOP	~~Hank Cornwell~~ ~~5225 Int.~~	RUN / STOP
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[illegible]	RUN / STOP	Mr Poole Silver Spring	RUN / STOP
Mr [illegible]	RUN / STOP	Mrs. Griffin Room 5229 Internal Branch of Accounts	RUN / STOP
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Mr. Schlatter Room 1016	RUN / STOP	[illegible]	RUN / STOP
Mr W. H. Bradley Rm 4241 D S Bldg.	RUN / STOP	[illegible] Room 4015 GSA Forestry [illegible]	RUN / STOP
Dorothy Lemmon 3212	RUN / STOP	Mr [illegible]	RUN / STOP
W. [illegible] Fischer 2654 Interior Bldg.	RUN / STOP	~~U.S.G.S. Library~~ ~~R. 1033 GSA~~	RUN / STOP
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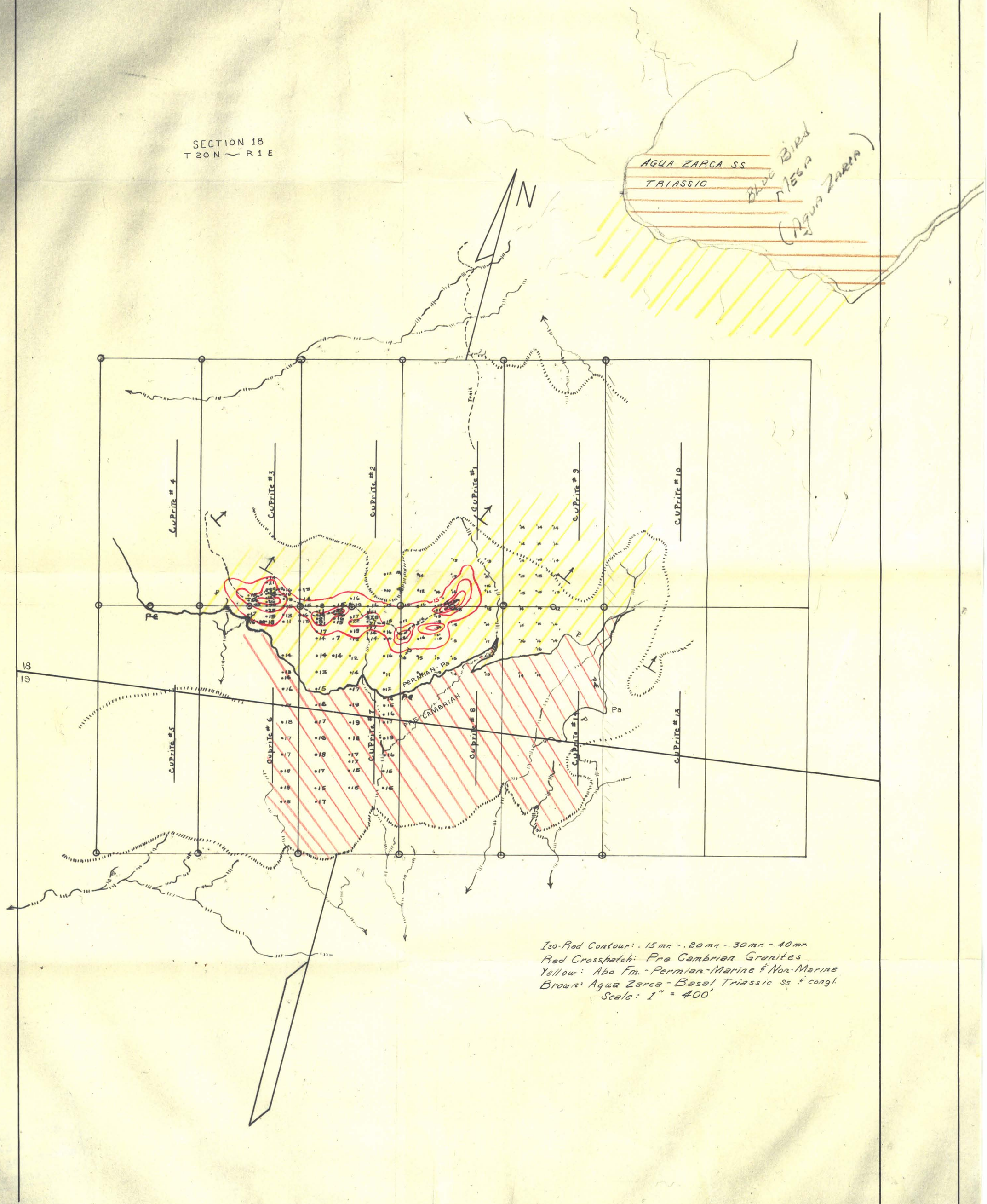
SECTION 18
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N
AGUA ZARCA SS
TRIASSIC
Blue Bird Mesa
(Agua Zarca)
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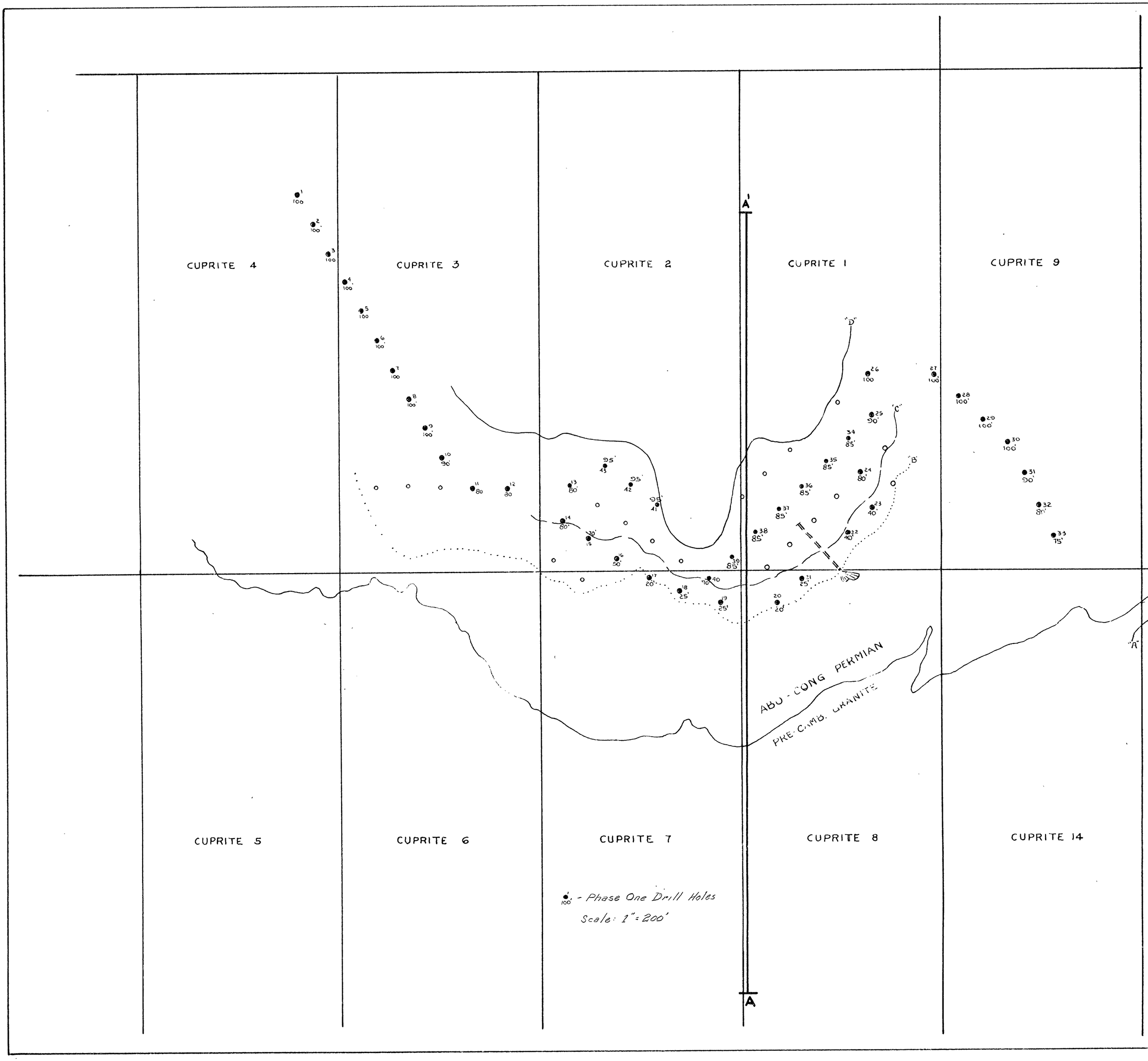
CuPrite #3
CuPrite #2
CuPrite #1
CuPrite # 9
CuPrite #10
CuPrite #5
CuPrite #6
CuPrite #7
CuPrite # 8
CuPrite #11
CuPrite #13
PE
PERMIAN - Pa
PRE CAMBRIAN
Pa
18
19
Trail
Iso-Red Contour: .15 mr. - .20 mr. - .30 mr. - .40 mr.
Red Crosshatch: Pre Cambrian Granites
Yellow: Abo Fm. - Permian - Marine & Non-Marine
Brown: Agua Zarca - Basal Triassic ss & congl.
Scale: 1" = 400'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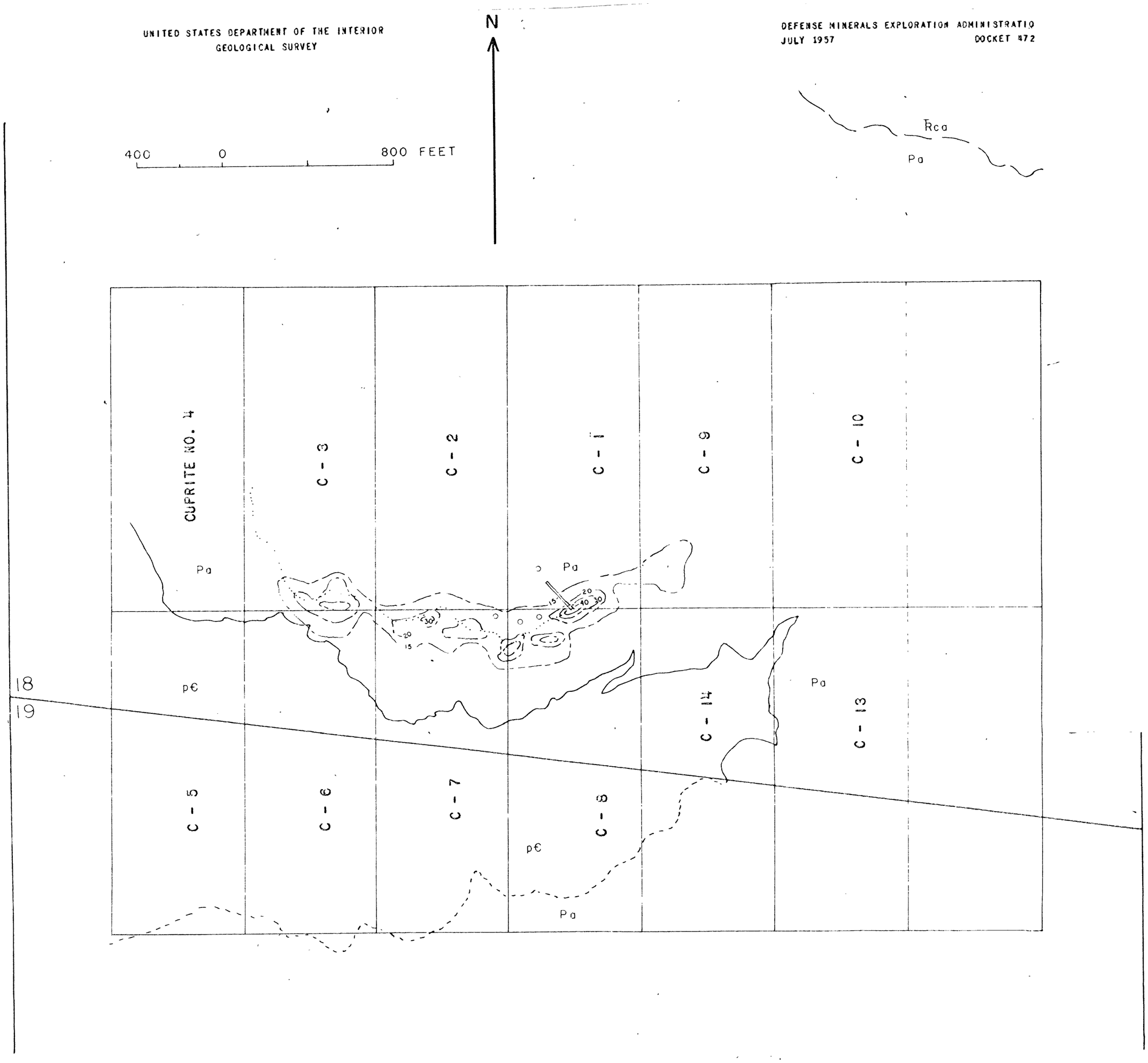
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATIO
JULY 1957 DOCKET 472



EXPLANATION

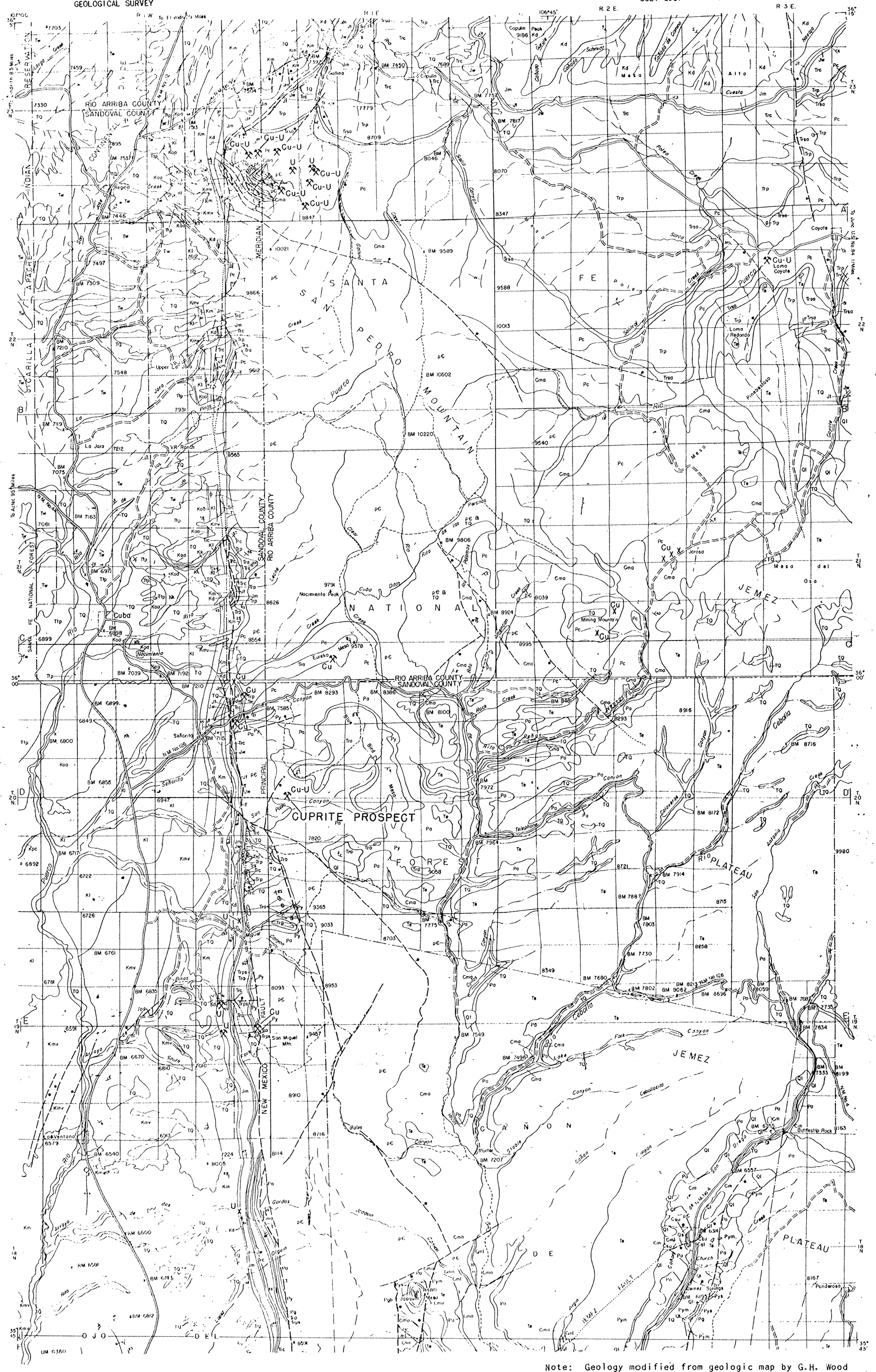
Rca	AGUA ZARCA MEMBER OF CHINLE FORMATION OF TRIASSIC AGE	.....	APPROXIMATE TRACE OF CONCEALED COPPER AND URANIUM BEARING SANDSTONE
Pa	ABO FORMATION OF PERMIAN(?) AGE (INCLUDES YESO FORMATION OF PERMIAN AGE AT TOP)	15	ISORAD LINE; LINES DRAWN AT 15, 20, 30, AND 40 THOUSANDTHS MR/HR
p€	MASSIVE RED GRANITE OF PRECAMBRIAN AGE	o	DRILL HOLE, PART CORE
	GEOLOGIC CONTACT; DASHED WHERE APPROXIMATELY LOCATED; SHORT DASHES WHERE CONCEALED		EXPLORATORY DRIFT

NOTE: GEOLOGY, CLAIM BOUNDARIES AND LAND LINES FROM APPLICANTS MAP.

Figure 2.--GEOLOGIC MAP OF CUPRITE CLAIMS, SEC. 18 - 19, T.20 N., R.1 E., N.M.P.M., HEALD PROJECT, LTD., SANDOVAL COUNTY, NEW MEXICO.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JULY 1957
DOCKET 4729



Note: Geology modified from geologic map by G.H. Wood and S.A. Northrup, U.S. Geol. Sur. Prelim. map 57, Oil and Gas Inv. Ser.

1 0 5 MILES

EXPLANATION

Cu-U MINE OR PROSPECT, Cu - copper, U - uranium

Cu-U MINE OR PROSPECT, LOCATION IS QUESTIONABLE, Cu - copper, U - uranium

EXPLANATION FOR GEOLOGIC MAP

SEDIMENTARY ROCKS

QUATERNARY

- Pleistocene and Recent
  - Ql — Landslide debris
  - Qs — Spring deposits
- Miocene and Pliocene
  - TQ — Santa Fe formation, lake deposits, pedriment gravels, bolson deposits. Unconformity

TERTIARY

- Eocene
  - Tw — Wasatch formation. Disconformity
- Paleocene
  - Ttp — Torrejon and Puerco(?) formations. Disconformity

CRETACEOUS

- Upper Cretaceous
  - Koa — Ojo Alamo sandstone. Disconformity
  - Kk — Kirtland shale
  - Kpc — Pictured Cliffs sandstone
  - Kl — Lewis shale
  - Kmv — Mesaverde formation
  - Km — Mancos shale
  - Kd — Dakota sandstone. Disconformity

JURASSIC

- Upper Jurassic
  - Jm — Morrison formation with Todilto gypsum member (Jt) at base. Possible disconformity
  - Jw — Wingate(?) sandstone

TRIASSIC

- Upper Triassic
  - Trc, Trp, Trs, Tra; Trps (South), Trsa (North) — Chinle formation (Trc), with Poleo sandstone lentil (Trp), Salitral shale tongue (Trs), and Agua Zarca sandstone member (Tra). Poleo and Salitral undifferentiated (Trps) south of San Miguel canyon. Salitral and Agua Zarca undifferentiated (Trsa) in north and northeast parts of area. Disconformity

PERMIAN

- Pb, Pg, Pgb — San Andres formation (Pgb), consisting of upper member (Pb) and Glorieta sandstone member (Pg)
- Pys, Pym, Py — Yeso formation (Py) consisting of San Ysidro member (Pys) and Meseta Blanca sandstone member (Pym)
- Pc — Cutler formation north of 36°N equivalent to Abo formation and part of Yeso formation
- Pa — Abo formation

Diagram of relations of Abo (Pa), Cutler (Pc) and Yeso (Py) formations, and Agua Zarca sandstone member (Tra) of Chinle formation

CARBONIFEROUS

- Pennsylvanian
  - Magdalena group
    - Cma, Cml, Cm — Madera limestone, Cm (Upper arkosic limestone member, Cma; lower gray limestone member, Cml) in structure sections Cm includes both Madera and Sandia formations
    - Csu, Csl — Sandia formation consisting of upper clastic member (Csu) and lower limestone member (Csl). Nonconformity

PRE-CAMBRIAN

- p€ — Granite, gneiss, schist and quartzite

TERTIARY(?) AND QUARTERNARY

IGNEOUS ROCKS

- Pliocene(?) and Pleistocene
  - Te — Rhyolitic to basaltic flows and tuffs

Normal fault (T downthrown side)

Reverse fault (T upthrown side)

Uncertain or covered fault

Anticlinal axis

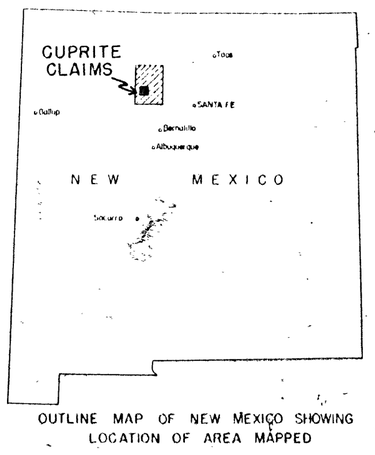
Synclinal axis

Strike and dip of beds

Strike of vertical beds

Strike and dip of overturned beds

Dry Well



OUTLINE MAP OF NEW MEXICO SHOWING LOCATION OF AREA MAPPED

Figure 1.--GEOLOGIC MAP OF PART OF NACIMIENTO MOUNTAINS, SAN PEDRO MOUNTAIN AND ADJOINING PLATEAUS, SHOWING LOCATION OF COPPER AND URANIUM DEPOSITS, INCLUDING THE CUPRITE PROSPECT, HEALD PROJECT, Ltd., SANDOVAL AND RIO ARRIBA COUNTIES, NEW MEXICO