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04/30/87

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: COPPER ACE GROUP

ALTERNATE NAMES:
COPPER ACE MS 4640

PINAL COUNTY MILS NUMBER: 145

LOCATION: TOWNSHIP 3 S RANGE 13 E SECTION 13 QUARTER C
LATITUDE: N 33DEG 10MIN 15SEC LONGITUDE: W 110DEG 58MIN 20SEC
TOPO MAP NAME: SONORA - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
COPPER
SILVER
SILICON
GOLD

BIBLIOGRAPHY:
ADMMR COPPER ACE MINE FILE
BLM MINING DISTRICT SHEET 634

Water Tank
Well 2076
Calumet Mine
Calumet Gl.
Ray
Jimmies Duck Gulch
Bluebell Gulch
Pearl
Pearl Handle Pit
Haleys Mtn
Drill Hole
Jeep Trail
Ray Mine
Cairo Hill
Water Tank
Poorman Gulch
Indian Spring
Sonora
Amanda Gl.
Liberal
Water Tank
Wall
Substation
Twin Domes
Creek
Railroad
Susie D
Big Dome
Mining
Burro Spring
Copper Ace
T33 R13E Sec. 13
Sonora 7.5'

July 10, 1956.

Copper Ce

To: Mr. Lee Crandall,
Mesa, Ariz.

Re: Certain Mining Claims
near Ray, Ariz.

Pursuant to your request I have made an examination of certain mining claims situated on the mountain side about one mile due east of the town of Sonora (near Ray) Pinal County, Arizona.

There are six claims in the group and they are contiguous to the property of the Ray Consolidated Copper Co. The purpose of the examination was to determine the probability of developing important tonnages of ore thereon, and to outline the most feasible development plan.

History and Title.

The claims lie mostly between two old patented mining claims (Bonanza and Black Hussar) owned by the Ray company and adjoin the Diabase Group (unpatented) also belonging to that company. The Black Hussar patented claims lies within the unpatented Diabase Group.

The claims had been held for several years by a prospector who had failed to perform his annual labor during recent years, and were than relocated by Mr. Dan Danielson of Ray. I understand that the older owner has abrogated his original rights and will not contest the Danielson locations. The management of the Ray Consolidated also advised me that they make no claim to that particular area.

Further Description of Your Claims.

Your claims are about 3000 feet east of the Ray Pit and about 1000 feet higher in elevation. While they form an irregular shaped block the long axis is approximately north-south and along a diabase/quartzite fault contact.

In places in the quartzite along this contact there is meagre copper staining on the surface. At one point about 1500 feet from your south end Mr. Danielson has dug into the contact and disclosed about 20 feet in width of commercial copper ore in the quartzite. At this point there is a cross fault into the main fault. This feature will be further discussed underG@eology.

Mr Danielson shipped two carloads of ore carrying 2.90% copper, and at the time of my visit had a half car on the dump which in my opinion should assay about 4.5% copper. The ore is highly silicious and r eadily acceptable at custom smelters.

The overhanging bank at that spot preculded further work until the overburden could be removed with heavier equipment. The fault which forms the footwall of the ore appeared to be dipping steeply

P4

to the east while the bedding planes of the quartzite are apparently dipping rather flat to the east. No positive hangingwall to the ore could yet be determined.

Along the strike of the fault, on the surface, other stained areas appear, but whether or not they will develop as favorably as that spot has, can only be determined by digging.

To the north, along the same general zone there are two areas that have been opened to a greater extent. At the first one to the north the development and showing is in the diabase side of the contact. The one furthest north is in the quartzite.

General Geology.

The geologic terrain at Ray consists of a base of pre-Cambrian schist on top of which are thick layers of old sediments some of which have been metamorphosed. (For instance old sandstone layers which have been converted into what is now the Dripping Springs and Troy Quartzites).

This mass was invaded by intrusions of diabase which formed dikes and masses and flat sills which were forced into and between the pre-existing rocks. Following this came intrusions of the porphyry or monzonitic type showing tongues and dikes into the mass above. The porphyry intrusions were accompanied or followed by mineralizing solutions which precipitated in the schist, the diabase, the porphyry itself, and possibly some of the sediments. The terrain was later covered by post-mineral lava flows, and conglomerates, now largely eroded away. Faulting was extensive both before and after mineralization.

The original copper deposition was very low grade but as erosion took place some of the copper was dissolved, carried downward by descending waters, and precipitated below. This action continued in cyclic manner until the present Ray orebody was formed.

At the Ray mine the valuable or e is in the schist, the porphyry intrusions, and to a lesser extent in the diabase. Ray has no consistant ore in the quartzite, but as far as I can determine has no favorably situated quartzite. The area at the Ray mine may have been both elevated and depressed. It is now lowner than the surrounding terrain, where your claims are, but has been stripped of most of the overlying formations, including the quartzite.

Your situation is thus quite different from the Ray mineralization and there is little precedent there on which to bas a prediction as to your future findings.

Your quartzite/diabase fault contact is accompanied by a typical impervious gouge(clay) seam. It is evident that this seam acted as a dam against percolating copper bearing soultions, depositing concentrations of same on the quartzite side.

The original location of this dissolved copper is obscure. It does not seem tenable that it was intimately connected with the source of the Ray deposit, although the general magmatic source was no doubt the same. It is entirely possible that tongues of the mineralizing [illegible], and channels caused by same, may have entered the overlying rocks above and east of Ray and precipitated copper in such manner that subsequent leaching and reprecipitation has brought about concentrated deposits in favorable places, such as the above "behind the dam" situation.

There seems little chance that you will find any large disseminated deposit in the quartzite. It lacks the physical characteristics to form such a host rock. But it is entirely possible that you will find secondary concentrations approaching high grade at favorable spots - which is exactly what you have found. These may often be controlled by cross fractures or channels forming ore shoots. The size and extent of such ore bodies can only be determined by exploration.

Recommendations.

I would advise continued exploration along the outcrop of the mineralized zone, with a bulldozer, to remove the completely leached overburden. At the same time I would advise following the good ore that you have and mining and shipping such ore as is economically obtainable. As this ore is proven to go down below feasible depth for surface work you should sink a prospect shaft on the ore.

You can run drifts from such shaft, stope out the or e and ship it in typical small mine manner. This simultaneous development and shipping program should furnish valuable information regarding the extent of the ore, and allay the expense. I would not want to see you become involved in too much capital expense before you positively know that you have sufficient ore. Should the deposit develop well with the prospect shaft, you could then put down angle core drill holes to prospect the area at further depth.

On the other ore exposures to the north it is doubtful if commercial shipping ore could be economically mined at present. The area that is in diabase is high in alumina which would be penalized at the smalters. Both these areas justify drilling but I would pr efer to see you confine your resources to your known area of shipping ore, and exploration along the same contact, at present.

No thought should be given to any type of concentration plant until you have positively proven enough ore to justify same.

Conclusion.

You have a spot of excellent copper ore in a general area known to have been invaded by copper bearing intrusions and subjected

to secondary concentration.

Any such situation always justifies exploration.

There is an excellent chance that the orebody which you have will continue downward, and laterally along the fault dam, and may become considerably richer before it becomes leaner.

There are surface indications of similar ore shoots along this zone which warrant exploration.

The ore showings to the north are of fairly good grade and size and should eventually be core drilled to determine what happens at further depth.

Your entire situation justifies an exploration program. It is speculative of courseb but the speculative feature could be minimized by continued profitable production and exercising caution as to capital expenditures.

Respectfully Submitted,

New

Idle (will be worked again soon)

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
MINE OWNER'S REPORT

Date 1-23-58

1. Mine: Copper Ace
2. Location: Sec. 13 Twp. 3 S Range 13 E Nearest Town Ray Distance 1½ miles
   Direction SE Nearest R.R. Ray Distance 1½"
   Road Conditions Good
3. Mining District and County: Mineral Creek, Pinal Co
4. Former Name of Mine: none.
5. Owner: Dan Daniels and Alley Hing
   Address: Alley Hing, Ray Arizona.
6. Operator: Dan Daniels.
   Address: Box 1152. Superior Arizona
7. Principal Minerals: Copper - silver gold (Chalcopyrite, Chalocite, Tetrahedrite)
8. Number of Claims: Lode 8 Patented 4 Unpatented 4
   Placer ..... Patented ..... Unpatented .....
9. Type of Surrounding Terrain: Similar to Ray Consolidated Pit. rough and steep.

10. Geology and Mineralization: The mineralization is typical of porphyry dissemination found in the Ray Consolidated pit. The ore (Lies east of Diabase 8 and 11 claims of Ray. Ray people say that Diabase Claims will eventually be worked as pit moves east according to Daniels) The main minerals indicated in oxide zone are little chrysocolla and much cuprite in limonite. Deeper enriched copper sulphides are indicated (as indicated by specimens) Ore vein dipping 30° SE and striking NE-SW.

11. Dimension and Value of Ore Body: Large ore body indicated by Ray Consolidated's drilling on two sides. Property is 3000 feet East of present pit but area between shows good ore. The indicated grade show. 2% plus of copper. + 70-78% SiO_2 Veins show up to 3% copper.

Please give as complete information as possible and attach copies of engineer's reports, shipment returns, maps, etc. if you wish to have them available in this Department's files for inspection by prospective leasors or buyers.

(over)

12. Ore "Blocked Out" or "In Sight": 59000 tons @ 2½-5% Copper

Ore Probable: Unknown but appears large because of border drilling by Ray Consolidated.

13. Mine Workings—Amount and Condition:

	No.	Feet	Condition
Shafts	—		
Raises	—		
Tunnels	—		
Crosscuts	—		
Stopes	2	6 x 8 x 25	Open Pit.

14. Water Supply: None, but obtainable

15. Brief History: Not known by present owner.

16. Remarks: Shipped couple of track loads, 20-25 tons to Hayden Ran. 3.15% Cu. 2.0 oz silver and sufficient silica to qualify for silica flux.

17. If Property for Sale, List Approximate Price and Terms: For sale, price to be negotiated.

18. Signature: L. Bn Pannels

SEC. 13, T. 3 S., R. 13 E.
MINERAL CREEK DIST.

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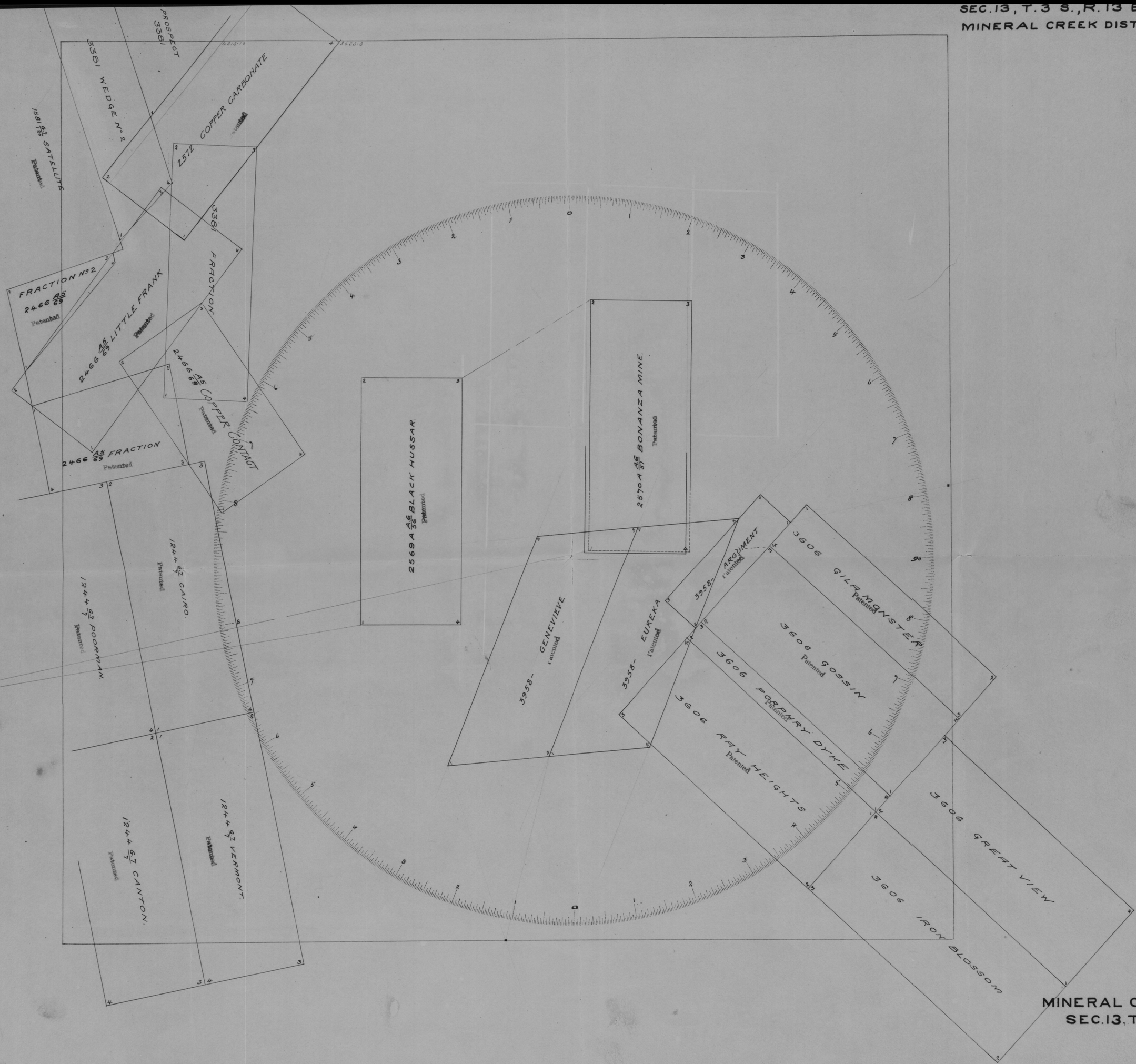

MINERAL CREEK DIST
SEC. 13, T. 3 S., R. 13 E