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Volume 10 ; Book 1

TOMBSTONE

Mining District

Cochise County

ARIZONA

Photo Notes, Photos, and Slides

SLIDES + PHOTOS


A

FIELD NOTES

DATE: Sunday, August 29, 1982
LOCATION: Tombstone Mining District, Arizona

TIME: 8:57

PHOTO #1

Location: Charleston Lead Mine area, due east of brown water tank on road near drill hole collar

This represents an outcrop just to the left of the road beyond the wash. It is a strongly altered outcrop of ignimbrite. The texture is that of a breccia. Photo #1 is an intermediate close up, while Photo #2 is a close up showing ignimbrite fragments in an ignimbrite matrix. This probably represents a flow breccia, although it could possibly, though not likely represent an intrusive breccia. A cased hole, about 75 feet south may be one of the deep drill holes, drilled by ASARCO, circa, 1970.

TIME: 9:47

Location: Charleston Lead Mine open pit

PHOTO #2 & #3

Are intermediate close-ups taken of porphyritic rock - granodiorite?, on south edge of pit. This rock shows 2% to 3% disseminated pyrite. This lies on the south side of a seracitic intense pyritic zone that has +10%, possibly +20% pyrite. This zone to be shown in succeeding photographs is about 100 feet wide and has been mined by the open pit operation. It isn't clear what its origin is, maybe along a fault breccia zone, but could be also a breccia pipe. Rock in the zone itself is so intensly altered that all texture has been destroyed and remaining rock consists of sericite and pyrite. Breccia texture is visible on the northeast edge of pit in what may be shale and andesite porphyry, which forms a large percentage of the outcrops within the pit.

TIME: 9:53

PHOTO #4

This intermediate panoramic shows the intense sericite alteration on the northwest end of the pit. All rock within this view could be andesite porphyry though it is so intensely altered that it is really impossible to tell. Veins can be seen cutting the unit, and it is particularly noticeable immediately to the left of the pick, which is embedded in the soft rock. This material consists of possibly as much as 20% limonite after recently oxidized pyrite, and the remainder being sericite and

quartz. A close-up view will follow.

PHOTOS #5, #6 & #7

Are close-up views of the same area with the red handled geology pick visible at the edge of these photos. Note that some pyrite is still visible on the oxidized surface, glinting in the sunlight. Limonite after pyrite coats most of the surface. Again, the rock ground mass is seracite and silica, though it is very, very soft.

Sample CLM (Charleston Lead Mine)-2, was taken of the face 8 inches to the lower left of the pick point, below the sulfide vein. On breaking this off, it is noted that the entire fresh surface of the sample is seracite with pyrite. There is also a grass green to emerald green mineral coating the seracite. Could this be a silver mineral?

TIME: 10:06

PHOTO #8

Intermediate close-up taken 20 feet to right or northeast of previous series. Here talis of intensely pyritized and sericitized rock errodes off of the mine slope. Pyrite is visible as glistening flecks in this photograph.

TIME: 10:19

PHOTOS #9, #10, #11, #12, #13 & #14

Are a panoramic view of the north, the west and northwest Charleston Lead Mine open pit walls. This is the area where Photos #1 through #14 were taken. The series pans from left to right, with the last photo, #14 being taken looking towards the bottom of the pit in a west, northwesterly direction. The dark material in the center of the pit to the right of the traummel, visible at the top, is less altered (chlorotized) andesite. The depth of the pit is about 50 to possibly 60 feet here. It is not clear what they were mining - possibly seracite, although both rosin jack and black jack sphalerite were noted associated with quartz veins. No copper minerals were seen.

In the left hand portion of the pit, both andesite and a porphyry, represented by CLM #1, are present. The material that is heavily sericitized is impossible to tell what it is - although breccia texture in some areas were noted. In the northeasterly portion of the pit, some material represented as CLM #3 appears to be Bisbee group? shaley material now intensely altered sericite. This may have been caught up as exotic blocks in the andesite, or it may represent basement rock below the volcanic units, including the andesite breccia and Uncle Sam Tuff. One fragment taken from the center part of the pit near the entrance road may be a quartzcitic member of the Bisbee?

TIME: 12:25

Location: Robbers Roost Drainage, due north of the Charleston Lead Mine.

The specific location is just east of the north-south jeep trail at the conflex of Robbers Roost and a northerly trending wash.

Here, an andesite porphyry dike cuts cretaceous rhyolite. On the west flank of the cretaceous rhyolite is a contact with what is thought to be the Uncle Sam Tuff. The contact is well exposed, about 150 feet west of the conflex of the two washes, and Photo #21 shows an intermediate close-up of the exposed contact. Note light colored fragments of rhyolite in the darker colored tuff unit. The main contact is above the red handled pick in this view. The Rhyolite is brecciated with a very clastic auto-breccia texture. Photos preceeding this were of a rattlesnake at the cottonwoods at the Charleston Lead Mine.

TIME: 12:29

PHOTO #22

This is another view of the contact with the red handled pick in the same position.

PHOTO #23

A third, more distant view of the same contact with the pick in the same position. Note the large block 1 1/2 feet below the pick head is being engulfed by the Tuff unit.

After traveling down the wash a few hundred feet, it is obvious that the geologic relationships are not clear. It is not clear to me whether that unit that was intrusive into the rhyolite is indeed the Tuff unit, or whether it is simply a dike unit. The implications are obvious if it is a dike unit, then it certainly should be younger that the rhyolite, but that doesn't necessarily mean that the Uncle Sam is younger, if indeed, the rock is a dike rather than the Uncle Sam Tuff.

TIME: 12:40

PHOTO #24 & #25

Photo #25 is a distant view looking across Robbers Roost wash, about 400 feet south of the north-south road from the Charleston Lead Mine. In this view, three large xenoliths in what appears to be Uncle Sam Tuff are seen. The one in the central left is at 6 to 8 feet in length, the one below it is about 2 1/2 feet in length, while the one to the right with the red handled geology pick on it is about 5 to 6 feet in length, and rather squarish in form. Photo #24 is a closeup view of this right

most xenolith, with the red handled pick. It is not clear what these xenoliths are, thought I feel that they are probably fragments of Bisbee red beds. Examination of them show some ghost-like phenocristic forms, but this simply may be detrital arcose. The veinlets which cut these xenoliths are also present in the dark Uncle Sam Tuff. They do not apppear to have near the altering power within the Tuff as they do in the sediment? xenolith blocks. This is thought to be a typical reaction of sulfide bearing hydrothermal veins where they encounter carbonate bearing sediments. These xenoliths are probably carbonate rich shalely red beds. As the hydrothermal veins cut them, a chemical gradient, because of the re-activity of the carbonate is set up so that there is a geochemical sink in the xenolith blocks. This causes increased migration of reactive hydrothermal solutions in the Tuff unit to migrate towards the xenolith until all carbonate reaction is gone to completion or - the hydrothermal fluid has been exhausted. This results in a more intense metasomatism of the reactive xenolith.

TIME: 1:32

PHOTO #27

Location: North of Charleston Road, on the Charleston Lead Mine road that parallels the Charleston Road, paralleling the drainage between Charleston Lead Mine Hill and the Charleston Road.

Near prospects on the road within about 200 or 300 yards of the north-south Charleston Road is an outcrop that appeared to be breccia from a distance. Close examination of this outcrop showed indeed it was an auto-breccia comprised of the cretaceous rhyolite material with fragments contained in a rhyolite rock flower? matrix. All fragments are sub-angular to angular, with non appearing rounded to any degree. They measure from 1/4 inch to 1 foot or so, a few much larger than that. This photo shows an intermediate panorama while Photo #27 showed an intermediate closeup of the rock. The following photo will show a more distant view from across the ravine of the same outcrop. Green copper oxide is exposed in fault breccia in the prospects to the south. Rock is strongly bleached and contains 2% to 3% limonite after pyrite.

TIME: 1:36

PHOTO #28 & #29

Looking north, showing breccia outcrop. Note water tank at the Charleston Lead Mine in background. Photo #29 shows Charleston Hill in background - these noted for location.

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51st Ave. & Olive
19th Ave. & Montebello
Central & Camelback
32nd St. & Camelback

Paradise Valley
40th St. & Thunderbird

Scottsdale
Hayden & Osborn
McCormick Ranch Center
77th St. & McDowell

Tempe
Baseline & Rural
Broadway & McClintock

Mesa
Guadalupe & Alma School
Southern & Gilbert
University & Alma School

Flagstaff
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Ina & Thornydale
Prince & Campbell
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Broadway & Wilmot

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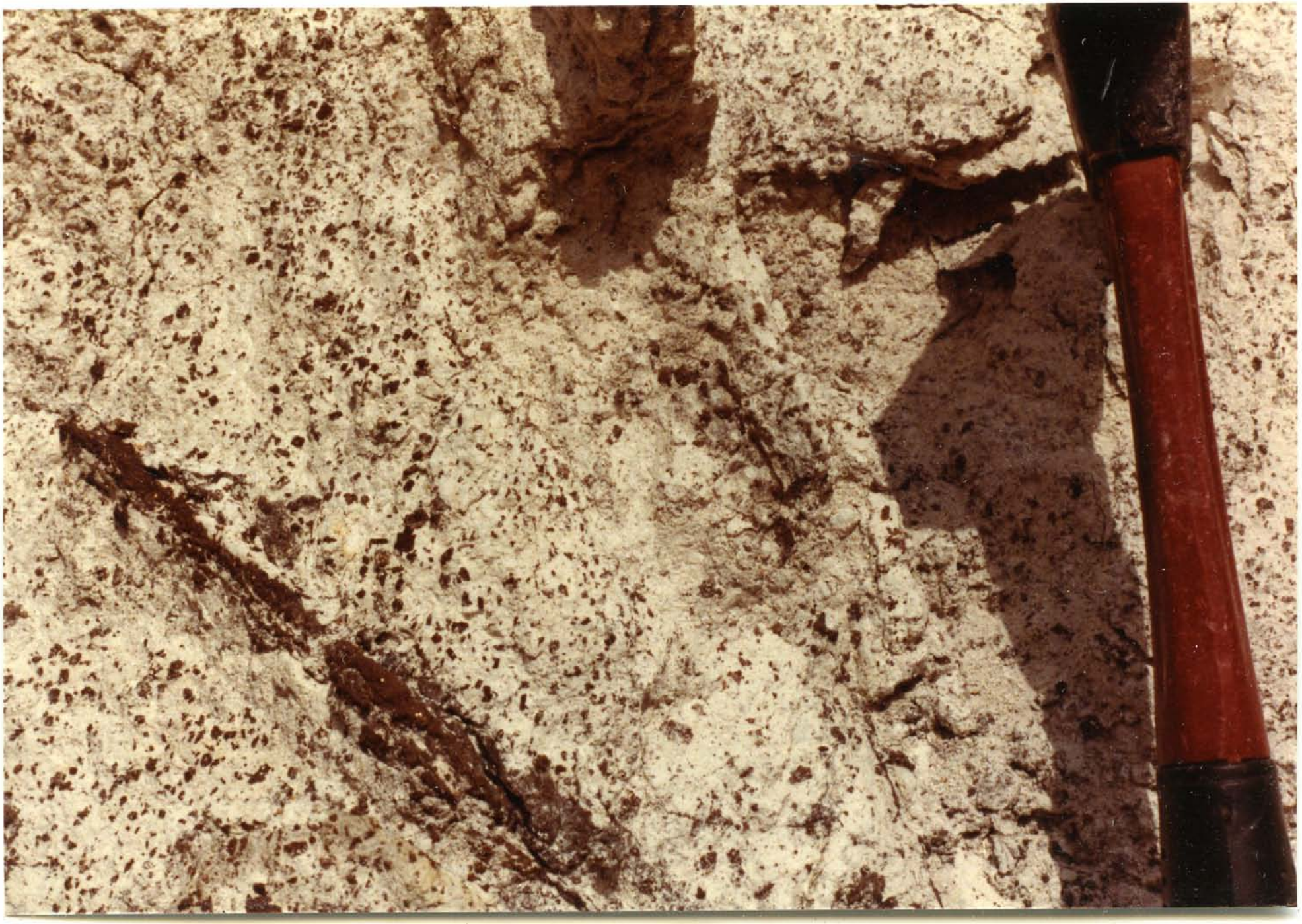

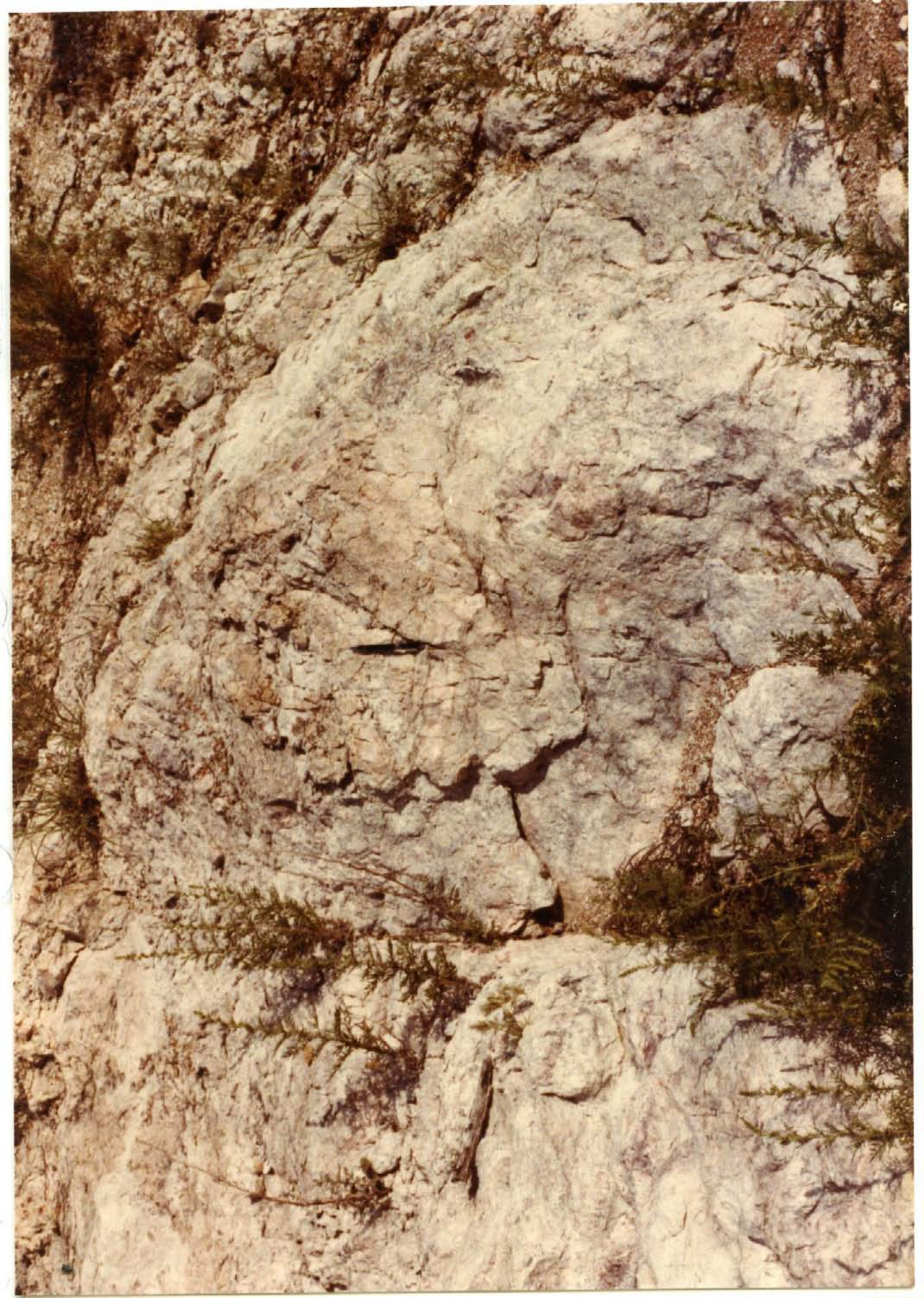


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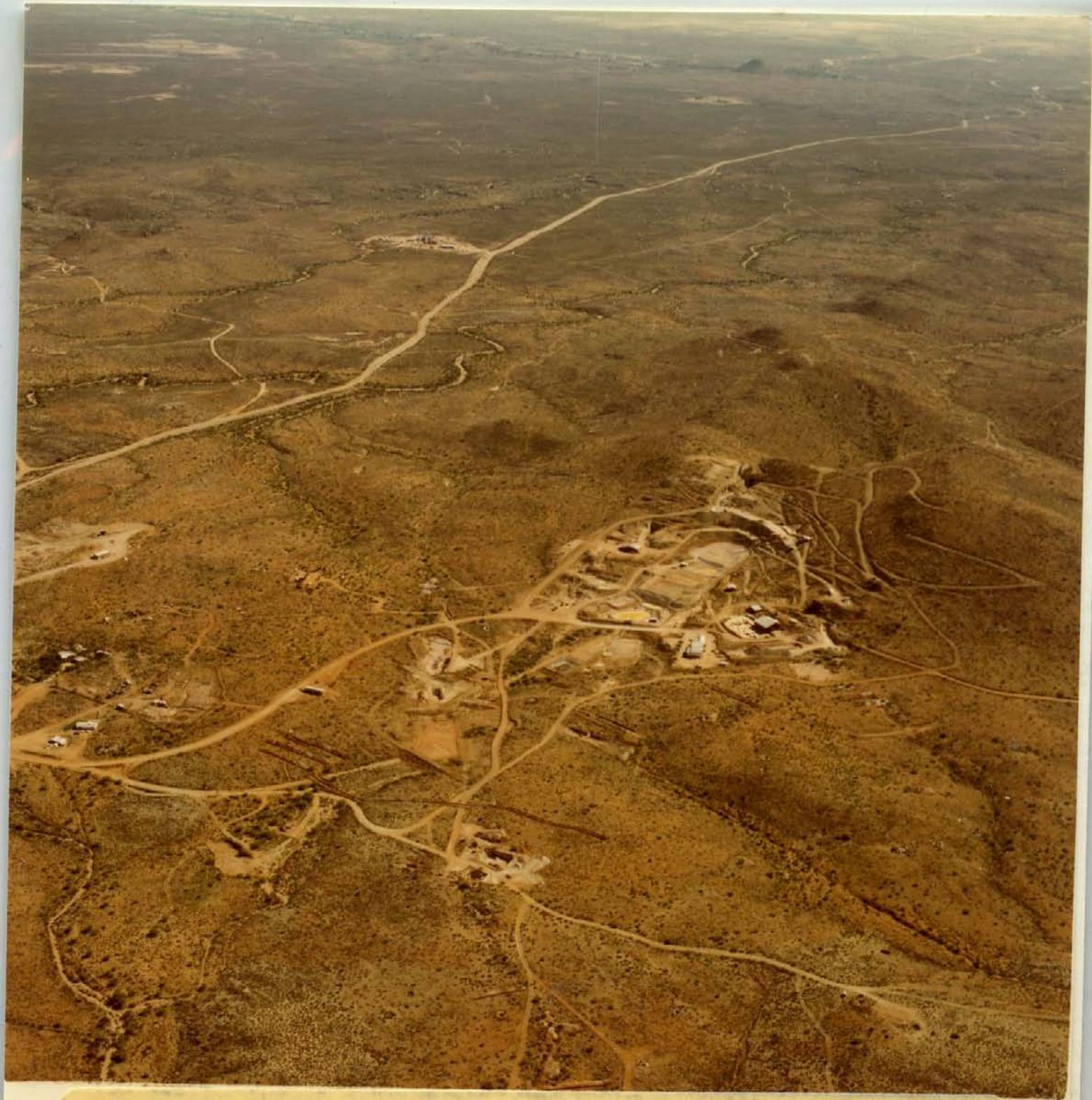

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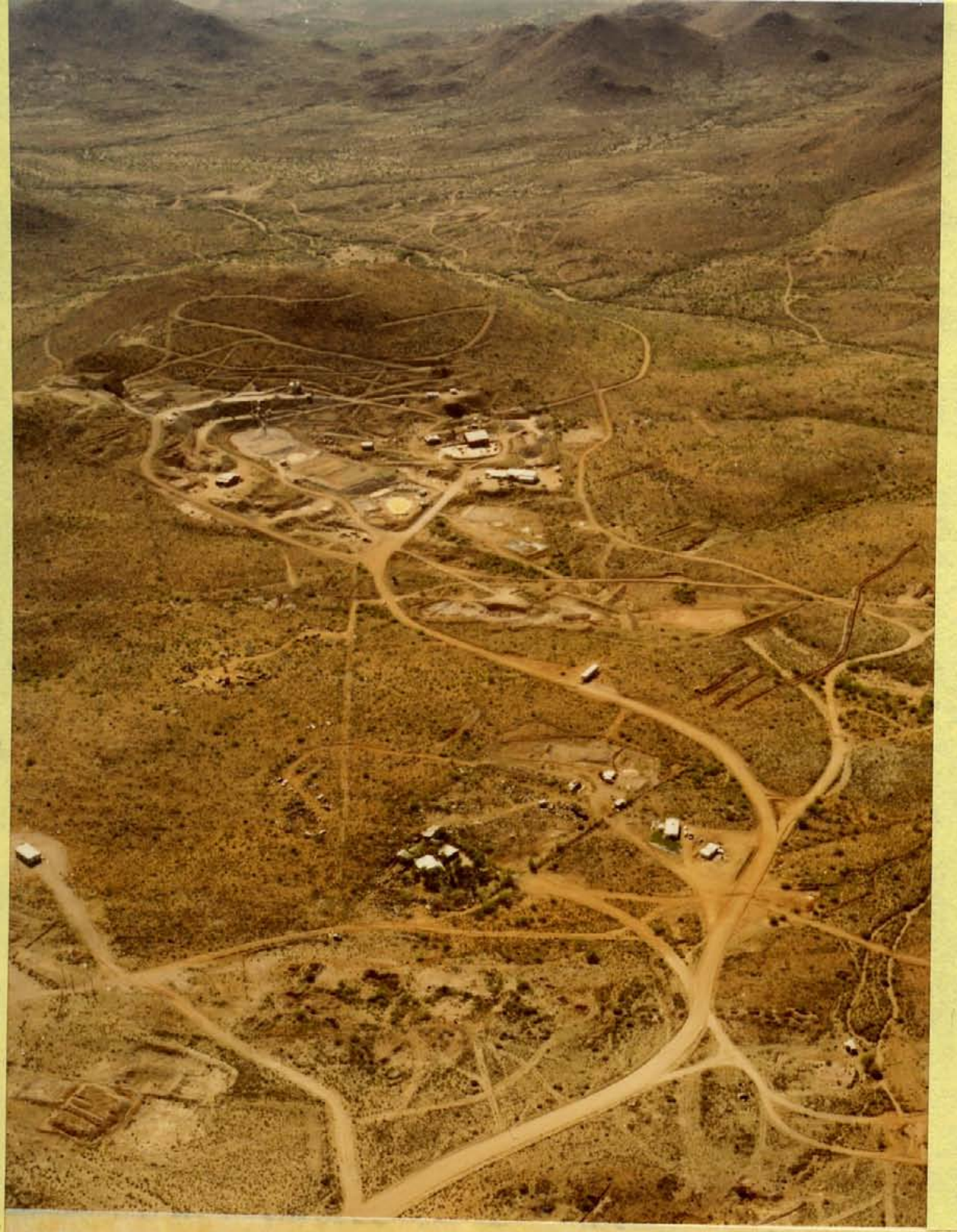

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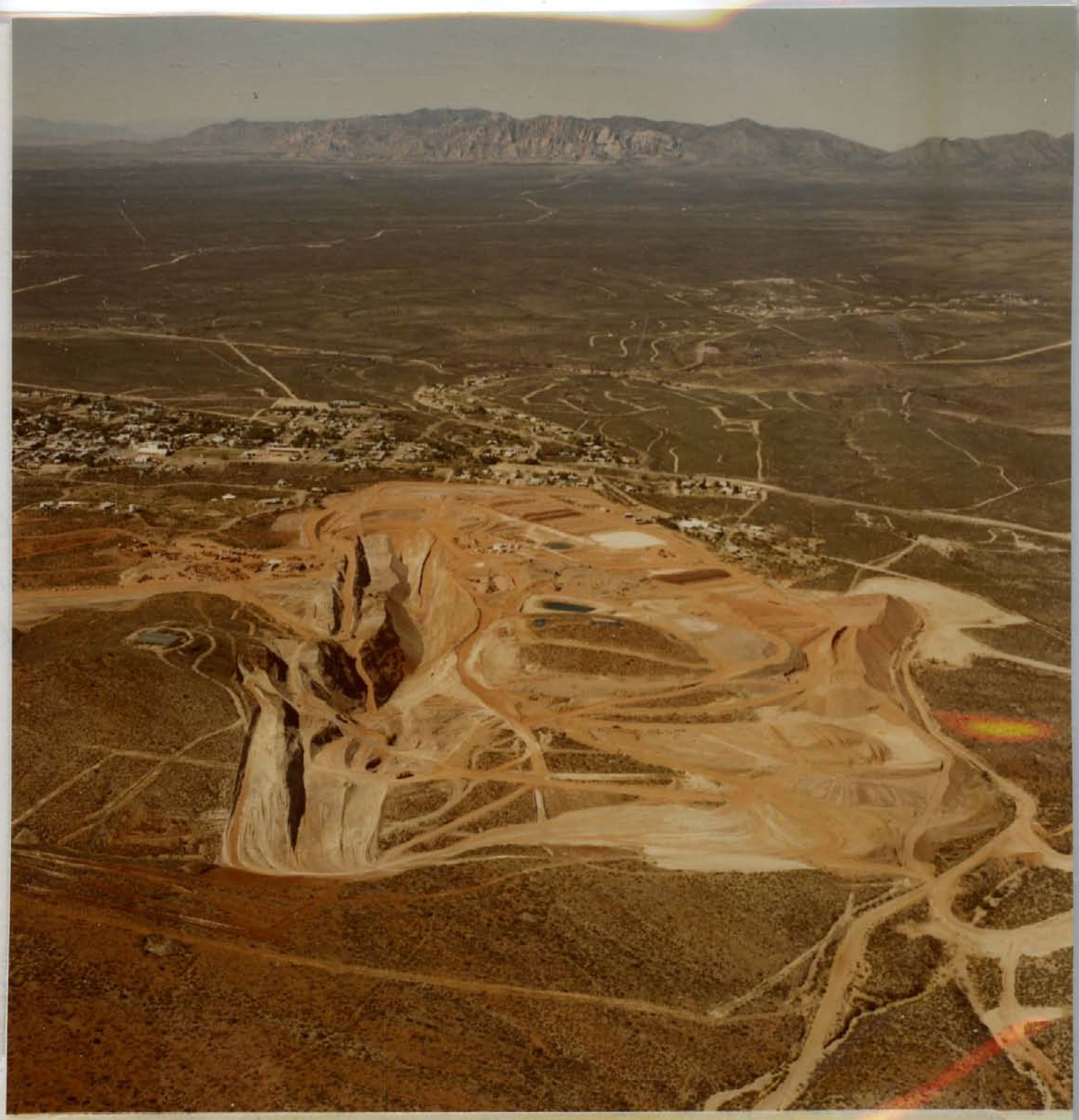

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