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Arizona Department of Mines and Mineral Resources Mining Collection

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12/02/85

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: GRAND GULCH

ALTERNATE NAMES:

ADAMS PATENTED

MOHAVE COUNTY MILS NUMBER: 238A

LOCATION: TOWNSHIP 34 N RANGE 14 W SECTION 21 QTR. SE
LATITUDE:N 36DEG 19MIN 35SEC LONGITUDE:W 113DEG 47MIN 18SEC
TOPO MAP NAME: GRAND GULCH BENCH - 7.5 MIN

CURRENT STATUS: DEVEL DEPOSIT

COMMODITY:

COPPER-(M) OXIDE-PRIMARY
SILVER-BYPRODUCT
VANADIUM-BYPRODUCT
IRON-(M) FERROUS OXIDE-BYPROD.
STONE-(M) LIMESTONE DM-BYPROD.

BIBLIOGRAPHY:

ADMMR GRAND GULCH MINE FILE
AZ MNG. JNL, VOL. XII, NO. 10 & 11, OCT. 15,
AND 30, 1920
HILLS, J. "GRND GLCH MNG DIST, AZ" USGS BULL
580, P. 49; 1914
BLM MINING DISTRICT MAPS
MALACH, R. "MOHAVE CTY PLACE NAMES" P. 9, 13
TENNEY, J.B. "1ST RPT OF MIN. INDUST. OF AZ"
AZBM BULL 125, P. 77; 1928
TENNEY, J.B. "2ND RPT OF MIN. INDUST. OF AZ"
AZBM BULL 129, P. 73; 1930
"MOHAVE CTY MINER"(NEWSPAPER) MNG ED. KINGMAN
AZ. 7/1919, AZ. HIST. SOCIETY, TUCSON, AZ
ECONOMIC GEOLOGY, VOL. 80, 1985, PP 1722-1735



20

21

22

29

28

27

32

33

34 Pigeon

5

4

3

Grand Gulch Bench 7.5'

A2

Grand Gulch Mine

USMM 1
4517

LANDING STRIP

W
A
S
H
A
N
D

Canyon

North

Name of Mine or Prospect:	10v 11p	Range	Section	Prior
Grand Gulch Mine	34N	14W	21 ddd	B
Principal Minerals: Chalcocite, azurite, malachite, silver	1:250,000 Quad Grand Canyon	7.5' - 15' Quad Grand Gulch Be		
Associated Minerals: Calcite, hematite, limonite	District Colorado Plateau	Principal Product Copper, silver		
Type of Operation: Underground: shafts, drifts	County Mohave	State Ar.	Type of Deposit Breccia Pipe	

Ownership or Controlling Interest:

U.A. Small, C.H. Engelhart, P.O. Box 395, American Fork, Utah (1980)

Access:

From Wildcat Ranch proceed north on Mt. Dellenbaugh trail. Turn left on Pigeon Wash trail and proceed west for 15 miles. The mine is shown on the topographic quadrangle.

Structural Control or Geological Association:

"Ore bodies surround a vertical plug-like mass in sandstone approximately 300 feet by 180 feet. Beds are slumped, typical sink-hole. Lenses of ore around the periphery of sink. Some of the ore is spring deposited tufa. Replacement rocks malachite, azurite with residual blebs of chalcocite. Chalcocite occurs along beds of arenaceous limestone. Chalcocite in some places completely replaces the limestone." ¹

"Oxidized lead minerals occur in very small quantities with copper sulfides and oxidized minerals along the periphery of a plug-like body of unstratified sandstone intrusive into Supai sandstone." ²

"The Grand Gulch Mine occurs in a crudely circular breccia pipe structure contained in the Pennsylvanian/Permian Paikoon Limestone facies of the Supai Formation. The pipe is roughly 600 feet in diameter with abundant malachite, azurite, hematite and limonite occurring in the fine grained quartz sand matrix." ⁴

Age of Mineralization:

Production History	Geochemical Analyses
4,500,000 pounds of copper ¹ ore grade average: ;0% copper ¹	<u>Radioactivity</u> ⁴ Background: 20 cps High: 55 cps
<u>Adams lode</u> - patented claim shaft to 500 feet level drifts at 28', 40', 60' and 200' levels	<u>Geochemical Assays</u> ⁵ U ₃ O ₈ 0.0075% Ag 0.198 oz/ton Au trace Cu 8.3% Mo 0.7555% Pb 8.45% Zn 0.305% Co 0.014% Ni 0.024% Cr 0.0415%

References

- 1) ADMR file, Phoenix, Ar.
- 2) ABM (1969) Bull. 180, p. 183-205.
- 3) AEC (1970) p. 110.
- 4) Exploration Research Associates Inc. (1980) October, field reconnaissance.
- 5) Exploration Research Associates Inc. (1981) 3 April, memo to W.H. Crutchfield, Jr.
- 6) Hill (1913) p. 39-57.
- 7) Billingsley in Breed and Roats (1974) p. 171-172.

RECNO M003839
 REC_TYPE S
 USER_FIELD *U94/2
 REP_DATE 79 01
 FIL_LINK CIMRI
 REP JOHNSON, KRIS H. (CREASEY, S.C.)
 REP_AFF USGS
 SYN ADAMS PATENTED
 DIST BENTLEY DISTRICT
 COUNTY MOHAVE
 STATE_CODE AZ
 CTRY_CODE US
 PHYS 11
 DRAIN 15010006
 LAND_ST 49
 ELEV 4400 FT
 UTM_N 4023550
 UTM_E 249460
 UTM_Z +12
 TOWNSHIP 034N
 RANGE 014W
 SECTION 21 22
 SECT_FRACT SE/4 SE/4 SEC 21, SW/4 SW/4 SEC 22
 MERIDIAN GILA AND SALT RIVER
 POSITION 1.5 MILES E OF GRAND WASH CLIFFS AND 1 MILE N OF NORTH FORK
 OF PIGEON CANYON.
 LOCATION 11 MILES NE OF PIERCE FERRY.
 SITE GRAND GULCH MINE
 LAT 36.3261
 LONG -113.7911
 CTRY_NAME UNITED STATES
 COMMOD CU V PB ZN AU AG LST
 ORE_MAT MALACHITE, AZURITE, CHALCOCITE, CHRYSOCOLLA, BROCHANTITE,
 COTUNNITE, CUPRODESCLOIZITE
 MAJOR CU
 MINOR V PB ZN
 CLH_USE 94/07/11
 TRACE AU AG LST
 PROD S
 STATUS 6
 YRFST_PROD 1901
 YRLST_PROD 1966
 EXPL_COM OPERATORS INCLUDED JENE B. CHADBURN, W.E. COVEY, J.
 WOLFESSTEIN, A.R. ARMSTRONG, J.M. BARNUM, J.H. SAMERS, W.P.
 JENNINGS, G.B. BRUBACHER, F. SWENSON, GRAND GULCH MINING,
 DR. ROHFING. MINE HAS 23 CLAIMS
 DEP_TYPE BRECCIA PIPE
 DEP_FORM LENSES, PODS IN ANNULAR CROSS SECTION
 DEPTH_BOT 250
 D B U FT
 DEP_SIZE S
 DDESC_COM THE ORE OCCURS AROUND THE SIDES OF A VERTICAL PLUG-LIKE MASS
 OF FINE GRAINED SANDSTONE, WHICH IS ENTIRELY DIFFERENT THAN
 THE SURROUNDING STRATIFIED SANDSTONE AND LIMESTONE. THE
 PLUG-FILLING IS ELLIPTICAL AND 300 FEET BY 180 FEET,
 INCREASING IN SIZE DOWN TO THE 250 FOOT LEVEL.
 QUAD250 GRAND CANYON
 DEPTH_WK 500
 D W U FT
 LEN_WK 400

From: MRD'S CD Rom - 1997

L W U FT
 DWORK_COM 1 VERTICAL 500 FT SHAFT WITH LEVELS AT 100, 200, 300, AND
 400 FT. SUBLEVELS AT 28, 40, AND 60 FT. 4 SUBLEVELS BETWEEN
 THE 100 AND 200 FT LEVELS. 1 STATION AT 500 FT LEVEL BUT NO
 DRIFTING HAS BEEN DONE.
 MIN AGE JUR-ECRET?
 NORE_MINS LIMESTONE
 CONC DOWNWARD MOVING WATERS
 CONT_CODE NA
 GEOL_COM GEOL.DESC: THE ELLIPTICAL PLUG MAY REPRESENT THE FILLING OF
 AN OLD SINK HOLE OF PLIO-PLEISTOCENE AGE.
 GEN_COM THIS RECORD CONTAINS DATA FROM DUPLICATE RECORD D000069 OF
 R.P. FISCHER WHICH HAS BEEN DELETED FROM MAIN MRDS. ;
 INFO.SRC : 1 PUB LIT
 REF HILL, J.M., 1914, THE GRAND GULCH MINING REGION, MOHAVE
 COUNTY, ARIZONA: U.S.G.S. BULLETIN 580-D, P. 46 -
 53. | ELSING, M.J., AND HEINEMAN, R.E., 1936, ARIZONA METAL
 PRODUCTION: ARIZONA BUREAU OF MINES BULLETIN 140, P.
 96. | GALBRAITH, 1941, ARIZ. BUR. MINES BULL. 149, P.
 65. | PHILLIPS, K.A., 1987, ARIZONA INDUSTRIAL MINERALS:
 ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES MINERAL RE
 PORT 4, 185 P.
 CONT_NAME NORTH AMERICA
 STATE_NAME ARIZONA
 WORK_TYPE U
 CP_ITEM CU
 CP_ACC EST
 CP_AMT 4500.
 CP_U LBS
 CP_YEAR 1890 - 1919
 CP_GRADE \$ 700,000
 AP_SOURCE ARIZ. BUREAU OF MINES BULL. 140.
 PROD_YEARS 1890 - 1919
 UPD_DATE 92 12
 UPDATER ORRIS, GRETA J.
 COMMOD_TYP B
 QUAD24 GRAND GULCH BENCH
 DATE_ISSUE 95/5/18
 UPD_AFF USGS
 PROF_ID 100
 PROF_LOC 100
 PF_COMMOD 66
 PROF_EXPL 75
 PFDESC_DEP 25
 PFDESC_WRK 100
 PROF_GEOL 28
 PROF_REF 100
 PPROD_RESV 20
 PROF_ALL 68
 HR_AGE_MV CARB
 HR_TYPE_MV CALCAREOUS SANDSTONE, ARENACEOUS LIMESTONE
 DEP_CODE 14000
 HUC 15010006

LUADRA MINERALS

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845-Ridgecrest
Kingman, AZ -86401-

Telephone 520 757-8228
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4804 STEINKE

Bernard LeFevre
Treasure Hill Mines
3710 Lucille
Kingman, AZ 86401

July 2nd, 1997

Dear Bernard:

Here are the completed geological maps of the underground workings at the Grand Gulch Mine, Bently Mining District, northern Mohave County, Arizona. Although you did not commission it, I cannot turn them in without some sort of explanation, so I have taken the liberty of writing up the salient points (sort of a summary of findings) for your edification.

1) Jeff and I were able to survey the 50, 85, and 100 levels. For safety reasons (bad air, unsafe ladders and workings, etc.), we were able to go no deeper, although we both could see well enough down into the 125 or 130 level to sketch it out. It appears that the annulus dips away from the center of the pipe at about 15 to 20 feet of horizontal displacement per 100 feet of depth.

2) Submitted are two color copies of each map and at least one original for duplication.

3) The Grand Gulch pipe appears to collar in the upper part of the Pennsylvanian Redwall Limestone, or perhaps in the lower part of the Lower Supai Group. I am inclined toward the latter interpretation.

4) This is significant for a number of reasons, but mainly because there is little chance of encountering uranium mineralization below the Permian. We are too low in the section, so there will be no radon gas given off, no health hazard in that regard.

5) The mapping indicates the ring-fracture dips outward away from the center of the pipe. According to Wenrich (1985, p.1722) "... the (ring) fracture usually dips outward from the center of the pipe *near its base*, but it becomes more vertical higher in the section."

6) Those pipes that have produced copper historically have collared in roughly the same sequence of rocks in the section, and all were deep: ie, they were near the bases of the pipes.

7) the abundance of liesegang banding throughout the mine indicates that there has been considerable remobilization of FeOx, typical of these types of systems.

8) Regionally, ore solutions are thought to have moved through the Supai Group from north to south. Major ore concentrations tend to occur on the NE sides of pipes due to redox gradients set up by anisotropic flow of oxidizing ore solutions into the pipes. A sort of stoss effect, if you will. This is well-demonstrated at the Grand Gulch Mine, particularly from the 100 level downward.

9) ORE CONTROLS

Besides the obvious (intense copper mineralization in the annulus/ring-fracture), there is strong evidence for stratigraphic control. The copper minerals were precipitated in the pipe above the point of ground-water recharge (in this case the Thunder Springs Member of the Redwall Limestone). Thus the mineralization is hosted by the Mooney Falls Member and above (ie, in the Lower Supai Group). Because the copper occurs as the carbonates azurite and malachite, it tends to be controlled by units with a high carbonate content, generally in well-washed, clean, carbonate-cemented sandstones. This is demonstrated in several places in the underground workings, both east and west of the main shaft, but particularly to the west of it.

The old-timers mined only the richest ore shoots, and these are found as:

- A) Irregularly-spaced **vertical chimneys** of continuous mineralization that connect levels and sub-levels. Their origin is abstruse, difficult to ascertain.
- B) Discontinuous **sub-horizontal pods**, generally crescent-shaped in plan, varying in thickness from 18" to 3'. These ore-bodies display obvious stratigraphic control, occurring where units with calcium carbonate cement have undergone replacement by copper oxides. Hill's report (1915, pp. 50 and 51) notes this style of mineralization to have occurred in the Pancake, Slap Jack, and Hot Cake stopes.

10) *It must be pointed out that the maximum "width" of these stopes is 40 ft.: ie, they do not appear to extend more than 40 ft. beyond the annulus of the pipe.*

11) Hill's report was amazingly accurate for having been written in 1915. He observes that: "The apparent failure of the copper ores to extend much below a depth of 250 feet, though the pervious ledge matter extends below that depth, leads to the belief that they were deposited by downward-moving waters. That these waters were probably cold seems to be rather well demonstrated by the absence of any hydrothermal alteration of the wall rocks in the vicinity of the deposit."

Both of these observations are consistent with current theory on the origin and occurrence of metalliferous breccia pipes on the Colorado Plateau.

12) *The breccia plug within the annulus may be barren.* We were unable to cross the main shaft on the 100 level to examine or sample it, which was unfortunate. The Hill report states that "... the filling has not proved ore bearing (although) there are only a few underground workings in which its character could be studied."

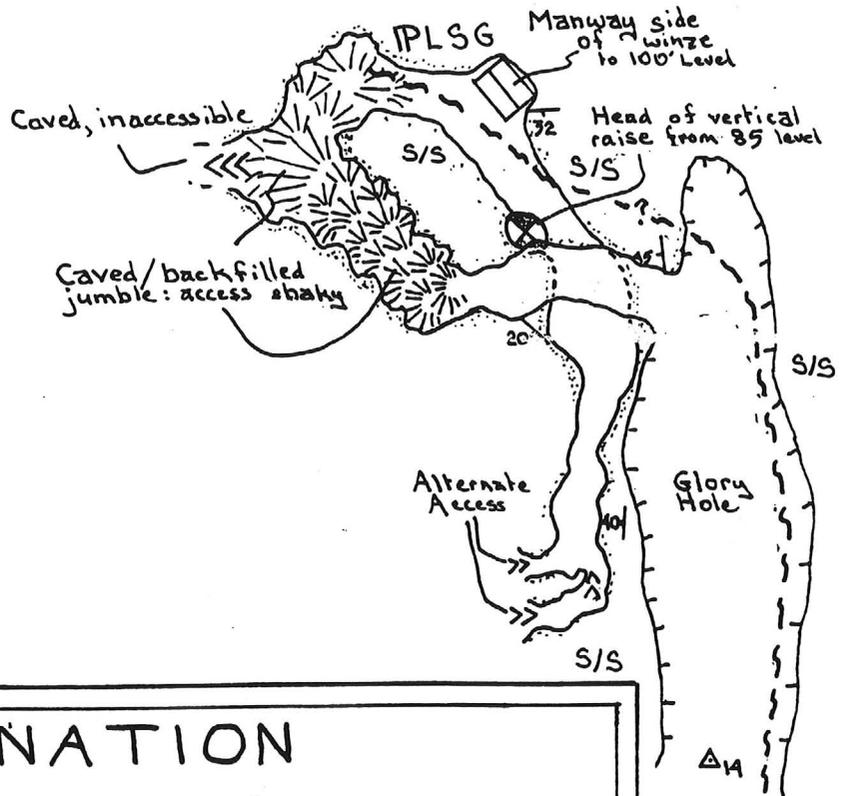
And that's about it. I can write a more detailed report for you, complete with drill targets, expected intercepts, sampling procedures etc, along with the detailed regional geology of the pipe, if you are so inclined. Enclosed is a bibliography put together by a colleague of mine. Karen Wenrich has been working on the breccia pipes for many years now, and is one of the experts on them. The bulk of her work though, has been concentrated on the uraniferous pipes. The museum has a copy of Hill's report, if you'd like to review it.

Have a safe and happy 4th of July. We are going on vacation, and I will contact you when we return.

All Best Wishes,

Ed Huskinson, Jr.

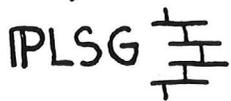
Grand Gulch Mine 50 ft Level



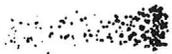
EXPLANATION

Symbol

Designation



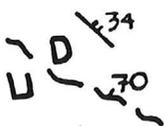
= Lower Supai Group: intercalated limestone and limey sandstone



= Copper mineralization: malachite, azurite and chalcocite. Pattern density indicates intensity of mineralization

12

= Strike and dip of bedding



= Strike and dip of mineralization (often controlled by bedding)



= Fault: relative displacement & dip indicated



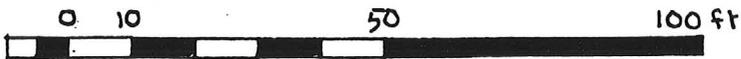
= Drift / Working

= Manway or ore pass: chevrons point downward

= Foot of ore shoot, raise, or "chimney"

= Shaft or winze

= Caved: inaccessible

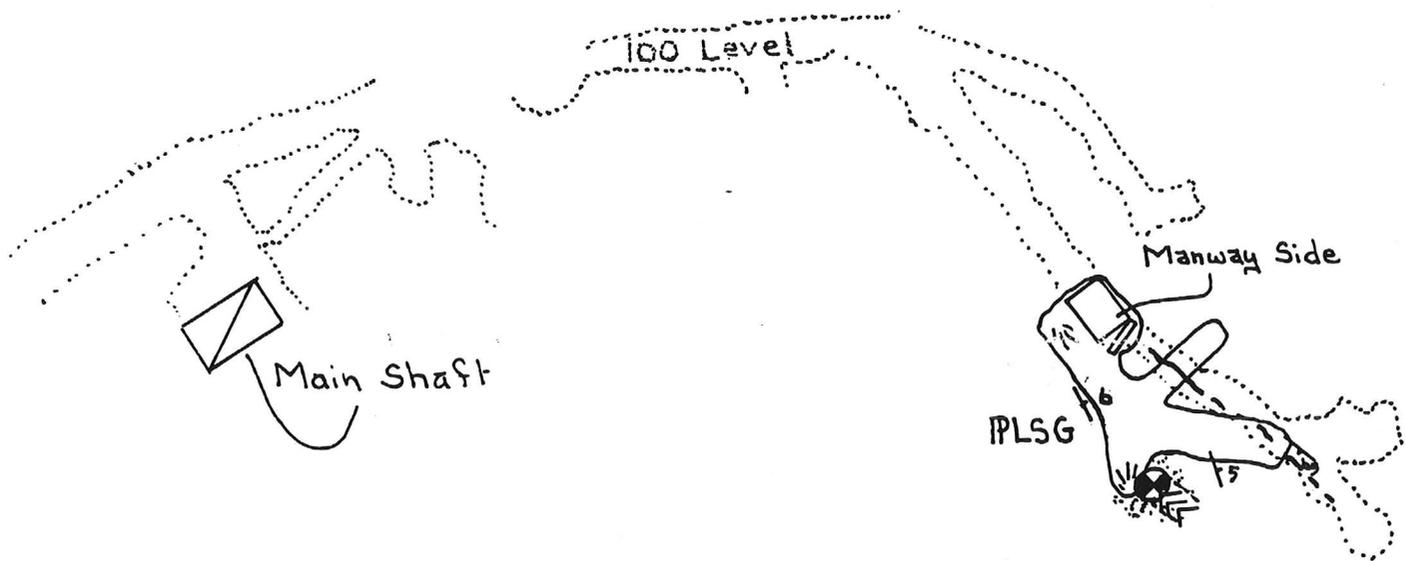


1" = 30ft

Brunton (on tripod) & Chain Control June, 1977
Ed Huskinson, Jr.
Jeff Carlton

B-4

Grand Gulch Mine 85 ft Level



<u>Symbol</u>	<u>Designation</u>
IPLSG	= Lower Supai Group: intercalated limestone and limey sandstone
	= Copper mineralization: malachite, azurite and chalcocite. Pattern density indicates intensity of mineralization
	= Strike and dip of bedding
	= Strike and dip of mineralization (often controlled by bedding)
	= Fault: relative displacement & dip indicated
	= Drift / Working
	= Manway or ore pass: chevrons point downward
	= Foot of ore shoot, raise, or "chimney"
	= Shaft or winze
	= Caved: inaccessible

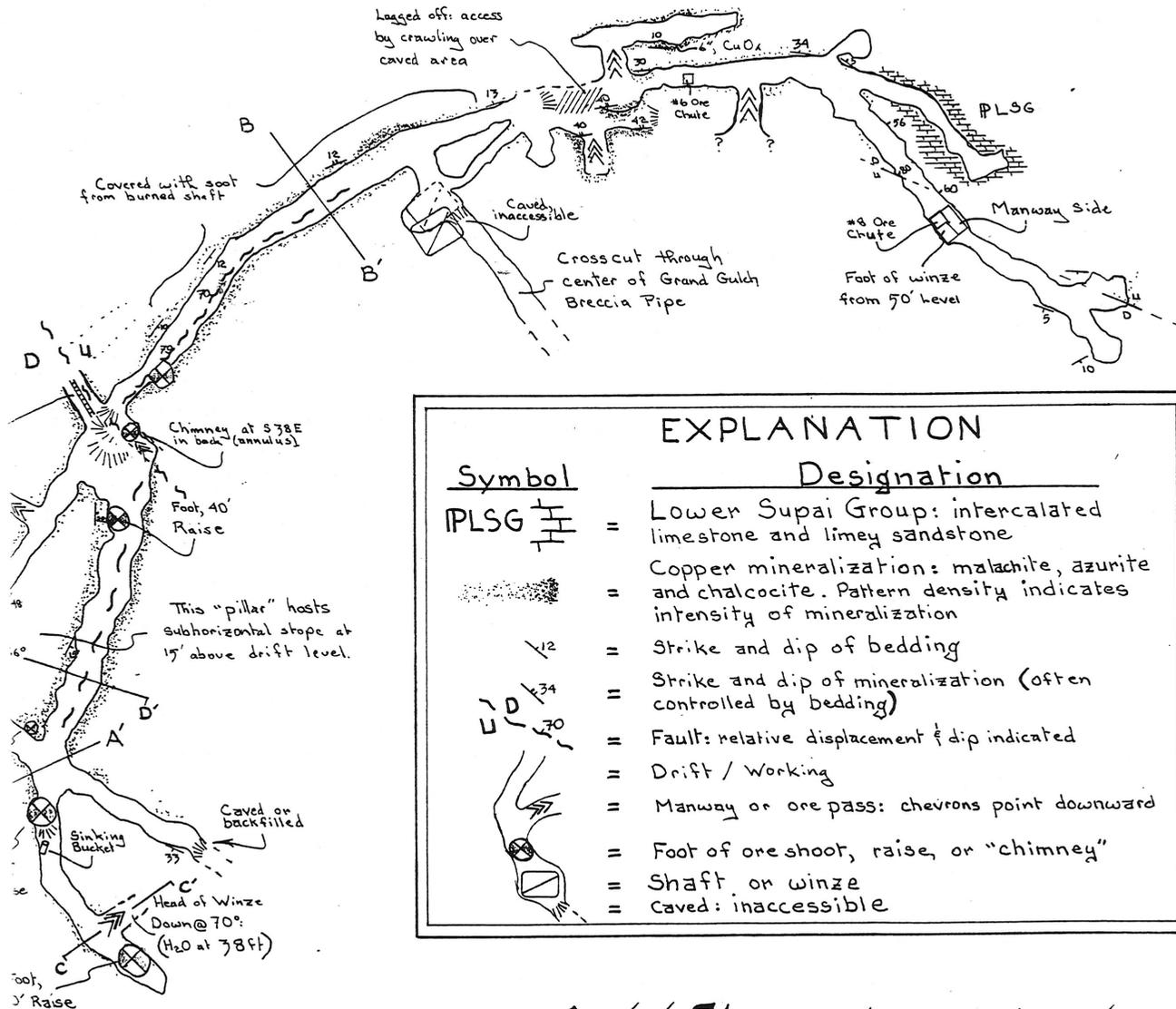
Brunton (on tripod) & chain control



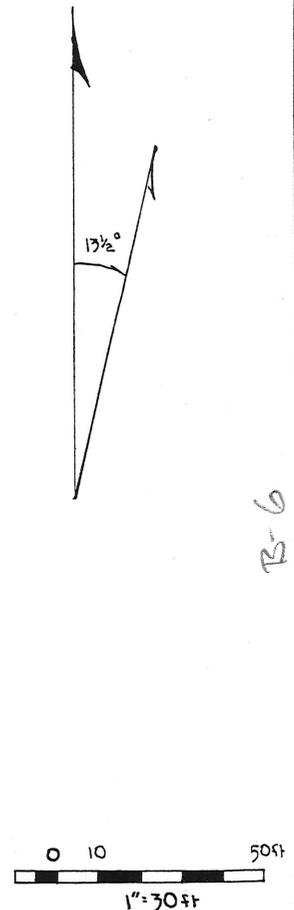
1" = 30ft B-5

Ed Huskinson
Jeff Carlton

June, 1997



Symbol	Designation
PLSG	Lower Supai Group: intercalated limestone and limey sandstone
(Dotted pattern)	Copper mineralization: malachite, azurite and chalcocite. Pattern density indicates intensity of mineralization
(Line with dip symbol)	Strike and dip of bedding
(Line with dip symbol and strike)	Strike and dip of mineralization (often controlled by bedding)
(Line with displacement and dip)	Fault: relative displacement & dip indicated
(Dashed line)	Drift / Working
(Chevron symbol)	Manway or ore pass: chevrons point downward
(Circle with cross)	Foot of ore shoot, raise, or "chimney"
(Square with cross)	Shaft or winze
(Hatched area)	Caved: inaccessible



B-6

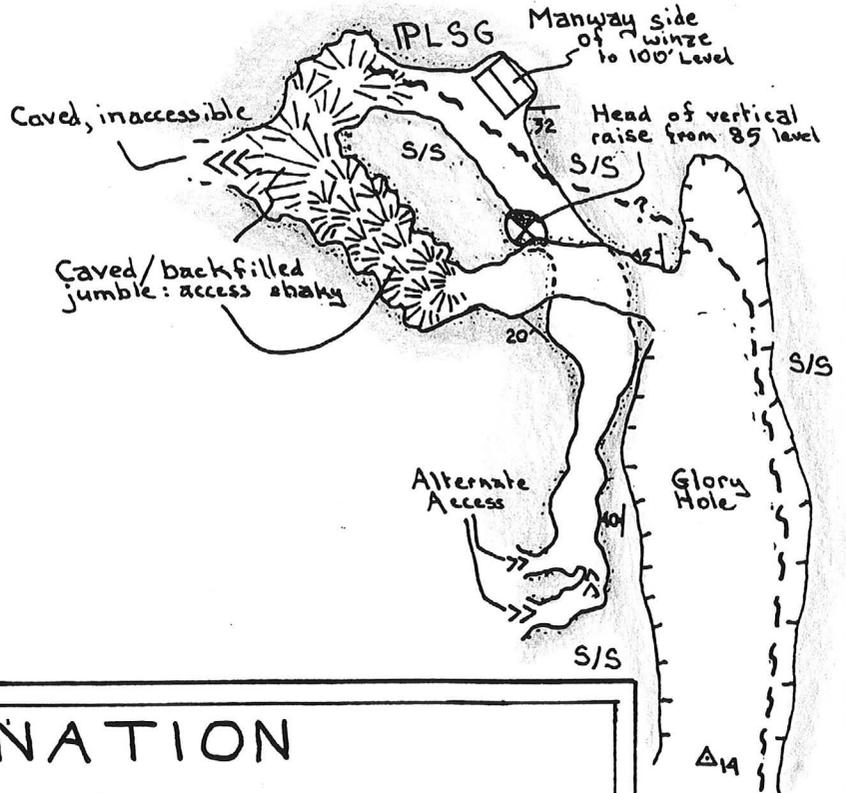
Grand Gulch Mine 100 ft Level

Brunton (on tripod) &
Chain control
Ed Huskinson, Jr &
Jeff Carlton
June, 1997

Grand Gulch Mine 50 ft Level



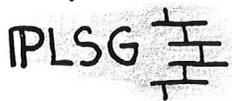
Main Shaft



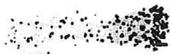
EXPLANATION

Symbol

Designation



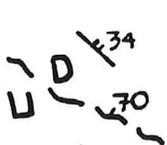
= Lower Supai Group: intercalated limestone and limey sandstone



= Copper mineralization: malachite, azurite and chalcocite. Pattern density indicates intensity of mineralization

12

= Strike and dip of bedding



= Strike and dip of mineralization (often controlled by bedding)



= Fault: relative displacement & dip indicated



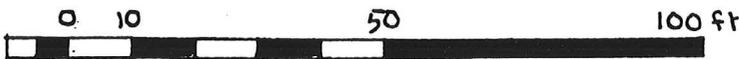
= Drift / Working

= Manway or ore pass: chevrons point downward

= Foot of ore shoot, raise, or "chimney"

= Shaft or winze

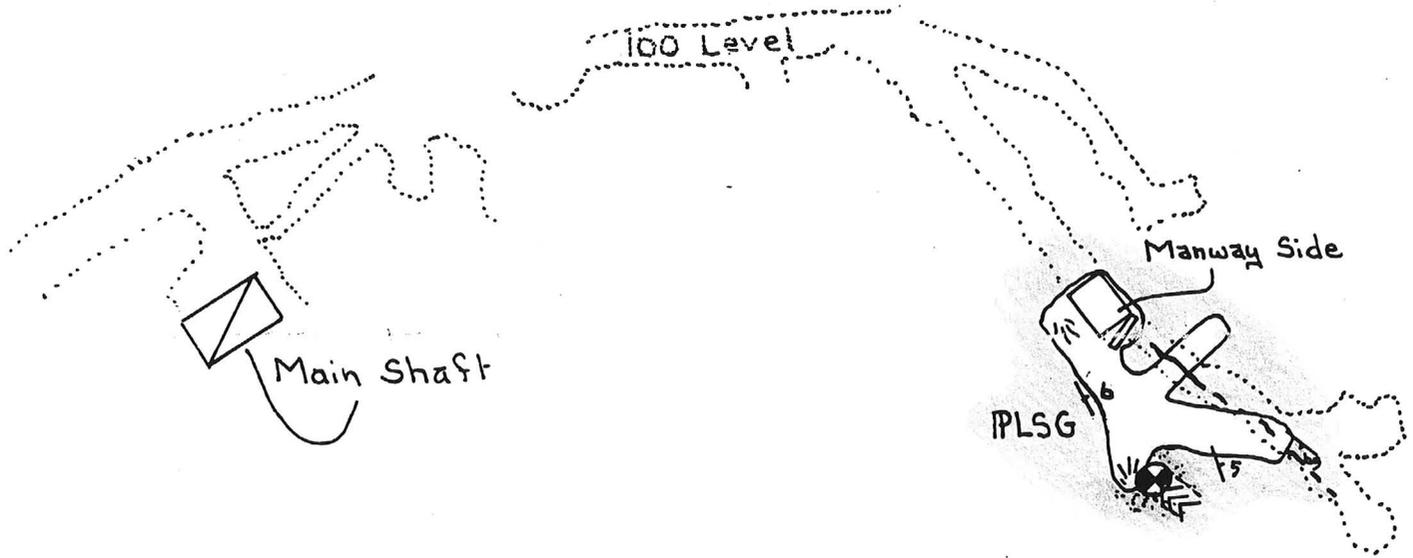
= Caved: inaccessible



1" = 30 ft

Brunton (on tripod) & Chain Control June, 1997
Ed Huskinson, Jr.
Jeff Carlton

Grand Gulch Mine 85 ft Level



<u>Symbol</u>	<u>Designation</u>
IPLSG	= Lower Supai Group: intercalated limestone and limey sandstone
	= Copper mineralization: malachite, azurite and chalcocite. Pattern density indicates intensity of mineralization
	= Strike and dip of bedding
	= Strike and dip of mineralization (often controlled by bedding)
	= Fault: relative displacement & dip indicated
	= Drift / Working
	= Manway or ore pass: chevrons point downward
	= Foot of ore shoot, raise, or "chimney"
	= Shaft or winze
	= Caved: inaccessible

Brunton (on tripod) & chain control

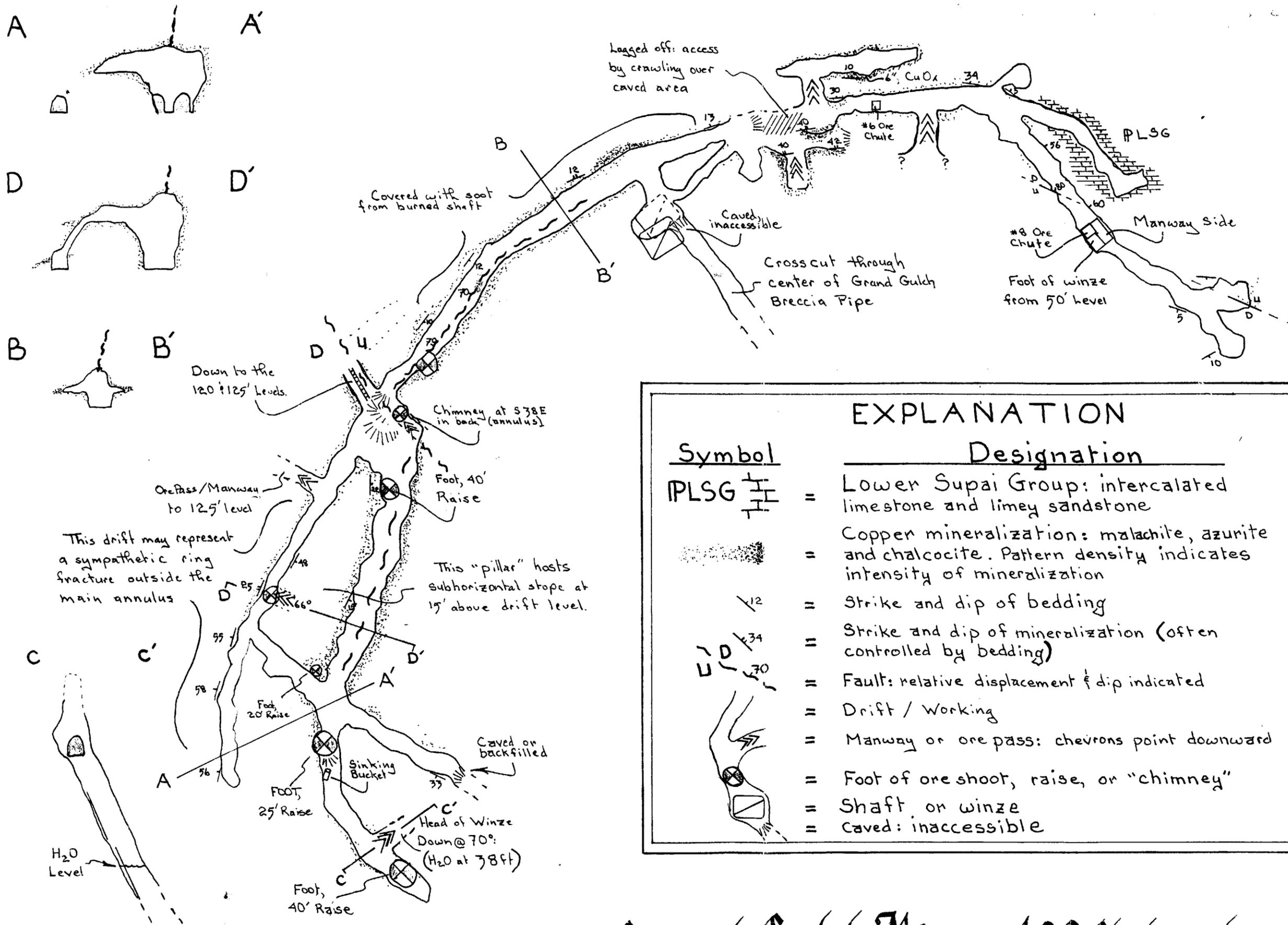


1" = 30ft

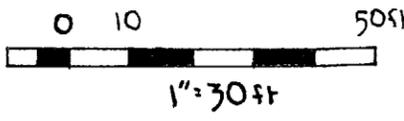
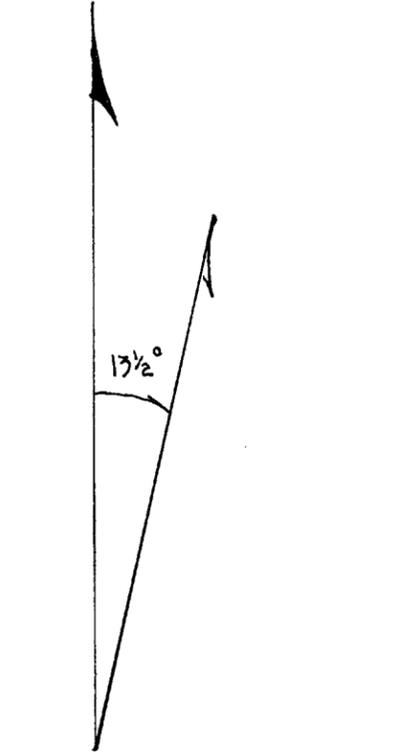
88

Ed Huskinson
Jeff Carlton

June, 1997



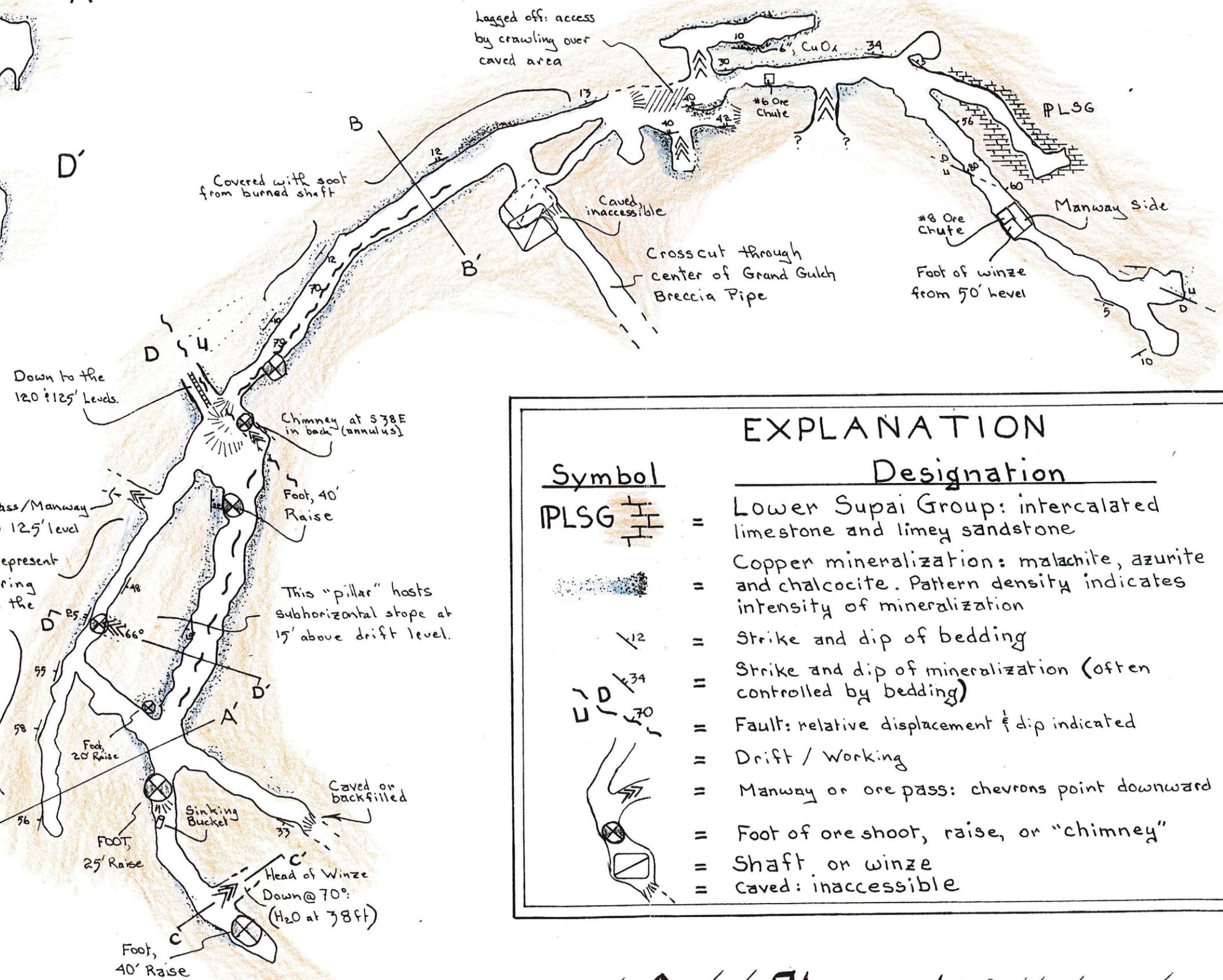
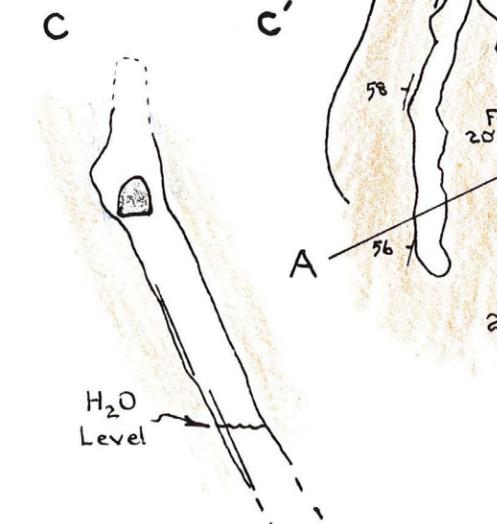
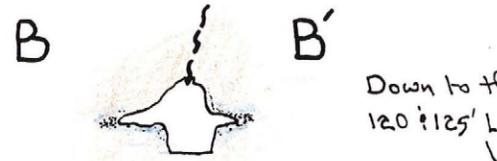
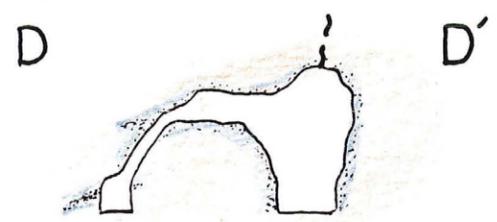
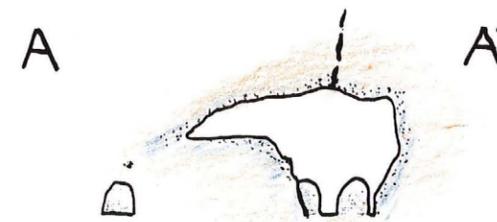
Symbol	Designation
PLSG	Lower Supai Group: intercalated limestone and limey sandstone
(stippled pattern)	Copper mineralization: malachite, azurite and chalcocite. Pattern density indicates intensity of mineralization
(line with strike/dip)	Strike and dip of bedding
(line with strike/dip)	Strike and dip of mineralization (often controlled by bedding)
(line with strike/dip and displacement)	Fault: relative displacement & dip indicated
(dashed line)	Drift / Working
(chevron symbol)	Manway or ore pass: chevrons point downward
(circle with cross)	Foot of ore shoot, raise, or "chimney"
(square with cross)	Shaft or winze
(hatched area)	Caved: inaccessible



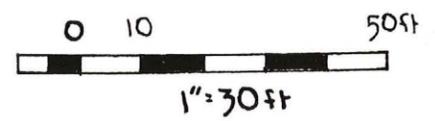
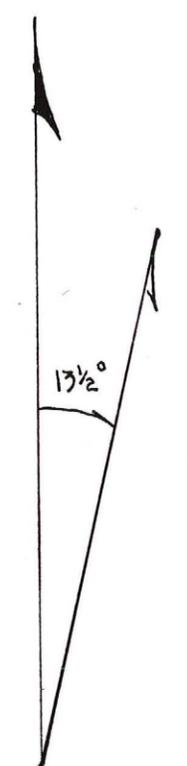
Brunton (on tripod) & Chain control

Ed Huskinson, Jr. & Jeff Carlton
June, 1997

Grand Gulch Mine 100 ft Level



Symbol	Designation
PLSG	Lower Supai Group: intercalated limestone and limey sandstone
(Dotted pattern)	Copper mineralization: malachite, azurite and chalcocite. Pattern density indicates intensity of mineralization
(Line with dip)	Strike and dip of bedding
(Line with dip and strike)	Strike and dip of mineralization (often controlled by bedding)
(Line with displacement and dip)	Fault: relative displacement & dip indicated
(Dashed line)	Drift / Working
(Chevron symbol)	Manway or ore pass: chevrons point downward
(Circle with cross)	Foot of ore shoot, raise, or "chimney"
(Square with cross)	Shaft or winze
(Cross-hatched area)	Caved: inaccessible



Brunton (on tripod) & Chain control

Ed Huskinson, Jr & Jeff Carlton
June, 1997

Grand Gulch Mine 100 ft Level

LUADRA MINERALS

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Consulting Exploration Geologist
4804 Steinke Dr.
Kingman, AZ -86401-

Telephone 520 757-8228
email: huskye@ctaz.com

NYAL NIEMUTH
Arizona DMMR
1502 West Washington
Phoenix, AZ -85007-

March 30th, 1998

Hi Nyal:

Here are copies of the maps I generated at the Grand Gulch Mine last June. I remember it was inordinately cold and windy. They drilled it (airplanes, cell-phone towers, high-dollar stuff) last summer, then came down here and tried to make something of the old Stockton Hill area, but they broke their pick there. Drilled all the wrong places for all the wrong reasons. I've heard they are back at it, that they intend to leach the dumps at the Grand Gulch. Seems to me those dumps have been leached once already. At least we found plastic liner sticking out of several areas of the dumps. Oh well, its their show...

In my final report to them you will notice that I am somewhat tongue in cheek regarding the mine's potential. Points 10 and 12 (which I have put in italics and high-lighted) specifically down-play the potential of the mine. Nevertheless, I *am* an optimist, so I left the door if not open, at least slightly ajar for them, with regard to making a go of it out there.

Besides the colored maps, I have enclosed a black and white set from which to make copies, should the need arise.

Thanks for all your help, both in the past and in the future. Your department has proven to be a valuable source of information, and I plan to keep drawing on it.

All Best Wishes,



Ed Huskinson, Jr.

Ken A. Phillips

From: hilburn <hilburn@infowest.com>
To: <Kenfillups@hotmail.com>; Durtschi, Steve <Steve_Durtschi@ATK.COM>
Sent: Tuesday, January 28, 2003 7:19 PM
Subject: Grand Gulch Mines

Ken;

Thank you for taking time to acknowledge my request of assistance. I too have seen the "presents of mind" that the BLM and their counter parts "the environmental groups" have displayed displeasure with all mining... In addition to Timber, Damns, Rivers and so on. For some unknown reason, I have become infatuated with the relic's of old mines, from the stand point of art, and history. They, the mines area very much part of what we are today. I sure wish the trend would swing the other way for a while, but it does not look good. And sadly enough I along with a few others have continued to protect these jewels of the the desert.

I have included a site location about an article that I wrote (<http://www.swaviator.com/html/issueas01/Gulch.html>) This article alone has brought many a pilot to the mine seeking history, and a small glimpse of the past. I am also looking for any archive photos that may have ended up in trust. They may help me complete the time line, as mining had occurred over the 100 years.

Any information that you could forward, would be greatly appreciated. In addition information obtained will be shared with other Utah Back Country Pilots and others visiting the site.

Hal Hilburn
883 Coyote Way
Dammeron Valley, UT 84783

Ken A. Phillips

From: Nyal Niemuth <njn22r@hotmail.com>
To: Ken Phillips <kenfillups@hotmail.com>
Sent: Wednesday, January 22, 2003 9:27 AM
Subject: Fw: Grand Gulch Mine needs help

----- Original Message -----

From: hilburn
To: diane bain@hotmail.com ; susancelestial@hotmail.com ; njn22r@hotmail.com ; njn22r@hotmail.com
Sent: Monday, January 20, 2003 8:05 AM
Subject: Grand Gulch Mine needs help

Sirs;

Let me introduce myself. I am a Commercial Pilot residing in the St. George, Ut area. And I have become enchanted with a copper mine rich in history. This mine is commonly refereed to as the Grand Gulch Mine, and it has a dandy access portal for transportation. The mine has not one but two air strips that have remained in serviceable condition over the years of existence.

But the buildings and equipment have not fared as well. Any relic with a date or items of significant meaning have been removed only to make their way to the county land fill some day. Sad, but due to the access via quads and such, the mine receives to many visitors on weekends. This mine has for some time been just outside of the Grand Wash Wilderness Area, and just above the Lake Mead Recreational Area. But forth coming it is now within the new National Monument Area. The local BLM/National Monument are hard at work, designing new laws to govern this area. Hopefully they will have the wisdom to make sensible decisions to educate people to view, and not destroy or deny access to it.

I have spent a little time in the Kingman area, recovering some records pertaining to the mine, but there is little available, the only two documents I have copied were a research paper from 1914, and the copy of the original mining claim. Beyond that I have little to go on, only a visit to a fellow that did a survey in the 90s'.

In the aviation spectrum, I have taken on the job to protect and educate. I instruct local aviators on access to the mine and its' dangers. I have had the opportunity to write an article in a well distributed aviation magazine, with good response. I have led a few tours via flight to the mine over the past couple years, on one occasion, more than a dozen aircraft flew in to visit the mine. But it saddens me to see it in decay and uncertainty. It remains well outside the reach of most Arizona visitors, as it is poised on the north side of the big ditch. So with the aid of the Utah Back Country Pilots Association, and the Arizona's Pilot Association, I am the contact man seeking help.

I could use information, also I could use a little political help in preserving this area for future generations of visitors. At this point it is hard to guess whether to conceal its' existence for protection, or expose it to get manageable help. I have always opted for education and free view to the public at large, but so far I am a little worried about its' existence....

01/22/2003

B-17

As I had mentioned above, I have very good equipment to visit the mine with. My aircraft is well suited for this type of access. I would welcome any credible critic to take time and go out to the mine and make an assessment of recommendations to preserve this area, before new laws are enacted by the BLM/National Monument.

Can you help or advise?

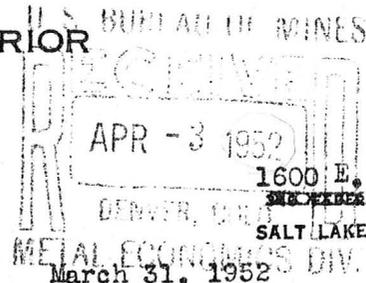
Hal Hilburn

01/22/2003

B-18

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF MINES
REGION IV



FROM
USBM Files
IFOC
COLOR TAB ON FOLDER ARE 09-21-055

STATISTICS BRANCH
MINERAL PRODUCTION AND
Salt Lake Section
ECONOMICS DIVISION

Mr. A. J. Martin
U. S. Bureau of Mines
Denver Federal Center
Denver, Colorado

Dear Jack:

I have your memorandum of March 28 requesting the past production of the Grand Gulch mine in Mohave County, Arizona.

The Grand Gulch mine is located in the Bentley (Grand Wash Cliffs) district in Mohave County, 30 miles west of the old Mount Trumbull postoffice. When shipped in carload lots the ore is hauled a distance of 110 miles north to Cedar City, Utah, the nearest shipping point.

During the early years of the mine's operation it was owned and operated by W. P. Jennings of Salt Lake City now deceased. At the present time, the property is owned by the Grand Gulch Mining Co., J. W. Andrews, Receiver, 204 McIntyre Building, Salt Lake City, Utah.

The property is developed by a vertical shaft to the 550-foot level. The ore occurs as small fissures in limestone and is a silicate copper, usually containing an average of about 18 percent SiO_2 , 1 to 2 percent iron, about 1 percent sulphur, 1/2 to 2 ounces of silver, and around 17 percent copper.

The production since 1901 is given on the enclosed table. During recent years, various lessees have shipped small lots of high-grade copper ore.

Very truly yours,

Paul Luff
PAUL LUFF
Commodity Specialist

Encl.



gite

B20

Production of Grand Gulch mine, Mohave County, Arizona
1901-1951

<u>Year</u>	<u>Ore</u> <u>(tons)</u>	<u>Gold</u> <u>(oz.)</u>	<u>Silver</u> <u>(oz)</u>	<u>Copper</u> <u>(lbs)</u>	<u>Lead</u> <u>(lbs.)</u>
1901	387	--	1,935	371,520	--
1902	398	--	1,991	383,318	--
1903	--	--	--	--	--
1904	--	--	--	--	--
1905	50	--	153	30,226	--
1906	460	--	1,157	201,490	--
1907	946	--	2,937	506,766-	--
1908	538	--	1,998	333,029	--
1909	502	--	1,890	311,475	--
1910	710	--	2,840	503,496	--
1911	344	--	464	215,175	--
1912	1,152	--	1,332	430,864	--
1913	1,562	--	1,256	512,234	--
1914	1,049	--	2,172	487,997	--
1915	823	--	1,176	451,189	--
1916	3,159	--	862	853,705	--
1917	2,417	--	927	642,483	--
1918	931	--	406	277,500	--
1919	184	--	644	99,286	--
1920-1941	--	--	--	--	--
1942	36	--	105	18,379	305
1943	27	--	59	11,958	336
1944	--	--	--	--	--
1945	--	--	--	--	--
1946	10	--	21	3,889	--
1947	--	--	--	--	--
1948	4	--	10	1,187	--
1949	9	--	11	3,812	--
1950	--	--	--	--	--
1951	3	--	3	632	74

~~1,157~~
1,157,01

24,349

6,651,610

715

31402000.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine GRAND GULCH Date October 17, 1957
District Bentley - Mohave County Engineer Frank P. Knight
Subject:

Information from members of Kingman ASMOA meeting reports that a Mr. Covey(?) is starting work at this property which is 54 miles East of St. Thomas, Nevada, 8 miles W of Pidgeon Sp., northern Mohave County.

He is to open pit it and hand sort high grade copper-silver ore, estimated to average 10% copper. The property has produced about 4,500,000 pounds of copper, valued at \$700,000. Roads are bad and trucking, freight and treatment charges are very high. Not considered a promising venture by those at meeting.

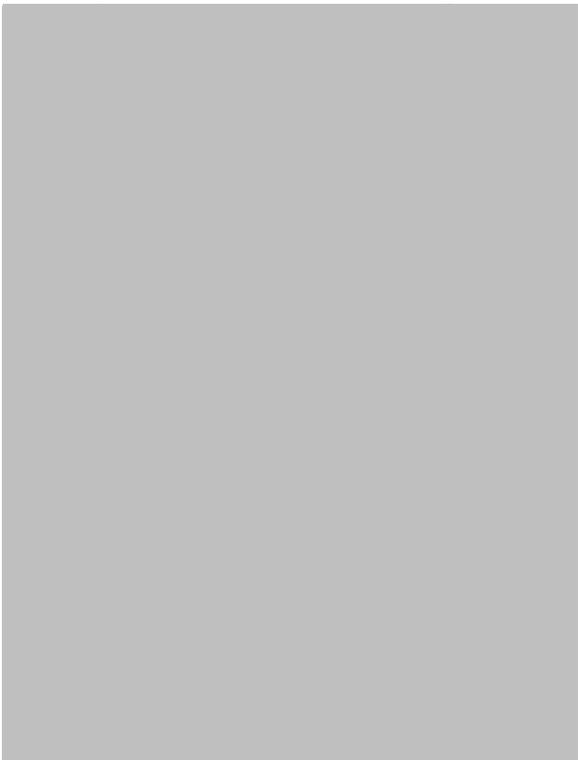
Property reported in U. S. G. S. Bulletin 580D

Ore bodies around vertical plug like mass in sandstone 300'x 180'. Beds slumped.

Typical sink hole

Lenses of ore around periphery. of sink. Some ore filling is spring deposited tufa. Replacement rocks: malachite, azurite, brochantite with small residual blebs chalcocite. Chalcocite along beds of arenaceous limestone. Chalcocite in some places completely replaces the limestone.

PAY DIRT 8-18-61



STATE OF ARIZONA
DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA



GRAND GULCH

October 17, 1957

Bentley - Mohave County

Frank P. Knight

Information from members of Kingman ASMDA meeting reports that a Mr. Covey(?) is starting work at this property which is 34 miles East of St. Thomas, Nevada, 8 miles W of Pidgeon Sp., northern Mohave County.

He is to open pit it and hand sort high grade copper-silver ore, estimated to average 10% copper. The property has produced about 4,500,000 pounds of copper, valued at \$700,000. Roads are bad and trucking, freight and treatment charges are very high. Not considered a promising venture by those at meeting.

Property reported in U. S. G. S. Bulletin 580D

Ore bodies around vertical plug like mass in sandstone 300 x 180'. Beds slumped.

Typical sink hole

Lenses of ore around periphery. of sink. Some ore filling is spring deposited tufa. Replacement rocks: malachite, azurite, brochantite with small residual blebs chalcocite. Chalcocite along beds of arenaceous limestone. Chalcocite in some places completely replaces the limestone.

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DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

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Property reported in U. S. G. S. Bulletin 580D

Ore bodies around vertical plug like mass in sandstone 300' x 180'. Beds slumped.

Typical sink hole

Lenses of ore around periphery of sink. Some ore filling is spring deposited tufa. Replacement rocks: malachite, azurite, brochantite with small residual blebs chalcocite. Chalcocite along beds of arenaceous limestone. Chalcocite in some places completely replaces the limestone.

PAY DIRT 8-18-61

B-22

STATE OF ARIZONA
DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA



GRAND GULCH

October 17, 1957

Bentley - Mohave County

Frank P. Knight

Information from members of Kingman ASMA meeting reports that a Mr. Covey(?) is starting work at this property which is 54 miles East of St. Thomas, Nevada, 8 miles W of Pidgeon Sp., northern Mohave County.

He is to open pit it and hand sort high grade copper-silver ore, estimated to average 10% copper. The property has produced about 4,500,000 pounds of copper, valued at \$700,000. Roads are bad and trucking, freight and treatment charges are very high. Not considered a promising venture by those at meeting.

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