



## **CONTACT INFORMATION**

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05/09/95

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: MORENCI MINE

ALTERNATE NAMES:

CAYNGA  
ARIZONA CENTRAL  
COPPER MOUNTAIN  
EAST AND WEST YANKIE  
NORTHWEST EXTENSION  
DELAWARE  
MONTEZUMA  
MANGANESE BLUE  
RYERSON  
HUMBOLDT  
KING  
COPPER KING  
JAMESON  
JOY  
RATON  
SHANNON  
HORMEYER  
IDA  
THOMPSON  
BON TON  
LAS TERRAZAS  
DETROIT  
LIVERPOOL  
IOLANTHE  
FAIRPLAY  
MEXICAN  
STANDARD  
DARK HORSE  
STARGO  
OLIVETTE  
NEW YORK AND ARIZONA  
CANSLER  
KELLY FITZGERALD MANGANESE  
MOLINAR  
ALASKA  
ANTIETAM

CONTINUED ON NEXT PAGE

CONTINUATION OF MORENCI MINE

BRUNSWICK  
VEILED PROPHET  
STELLS  
GOLD BELT  
FAIRBANKS  
SHIRLEY  
TRINIDAD  
VIRGINIA  
MAMMOTH  
MARKEEN COPPER CO.  
NEW ENGLAND MINING CO.  
CLIFTON CONSOLIDATED  
STORM GROUP  
XIV GROUP  
AMERICAN CELTIC COPPER CO.  
CLAY  
TRILBY  
OROVILLE  
GRIMES COPPER CO.  
PYRAMID  
MANSFIELD  
CORONADO  
SOUTHSIDE  
WESTERN COPPER

GREENLEE COUNTY MILS NUMBER: 47

LOCATION: TOWNSHIP 4 S RANGE 29 E SECTION 16 QUARTER N2  
LATITUDE: N 33DEG 05MIN 25SEC LONGITUDE: W 109DEG 22MIN 00SEC  
TOPO MAP NAME: CLIFTON - 15 MIN

CURRENT STATUS: PRODUCER

COMMODITY:

COPPER SULFIDE  
COPPER OXIDE  
COPPER NATIVE  
GOLD  
SILVER  
SILICON  
VANADIUM  
CALCIUM LIMESTONE  
CLAY  
ABRASIVE GARNET ANDRA

BIBLIOGRAPHY:

JOHNSON, MAUREEN, C., PLACER GOLD DEPTS. OF  
AZ. USGS BULL. 1355, 1972, P. 15-19  
CLELAND, ROBERT G., A HISTORY OF PHELPS DODGE  
1952  
DUNNING, CHARLES H. ROCK TO RICHES 1959  
TITLEY, SPENCE, R. GEOLOGY OF THE PORPHYRY  
COPPER DEPOSITS P. 221-232  
ADMMR BLUE CRYSTAL CLAIMS

CONTINUED ON NEXT PAGE

CONTINUATION OF MORENCI MINE

ADMMR MORENCI MINE FILE  
ADMMR U FILE CUI CU3  
ADMMR NEW YORK AND ARIZONA FILE  
ADMMR KELLY FITZGERALD MANGANESE FILE  
ADMMR STEVENS LEASE  
ADMMR GOLD BELT MINE FILE  
LINDGREN, WLADEMAR, THE COPPER DEPTS. OF THE  
CLIFTON-MORENCI DIST. AZ. USGS PP 43, 1905  
ADMMR GREENLEE CORRESPONDENCE FILE  
EMMONS & HAYES CONTRIBUTIONS TO ECONOMIC  
GEOLOGY USGS BULL. 213, 1902, P. 133-141  
ARIZONA MINING JOURNAL APRIL 1920, P. 43 &  
JUNE 15, 1922, P. 4  
RAND, L.H. & STURGIS, THE MINES HANDBOOK,  
VOL. XVIII, 1931, P. 253  
ADMMR U FILE AG2  
E.D. WILSON, AZ. LODE GOLD MINES AND GOLD  
MINING AZBM BULL. 137, 1934, P. 135-137  
AZBM BULL. 180, 1969, P. 119  
C.M. HARRER, RECONN. OF IRON RESOURCES IN AZ  
USBM IC 8236, 1964, P. 60-62  
STEVENS, HORACE J., THE COPPER HANDBOOK,  
VOL. III, 1903, P. 183  
MNG. & ENGR. WORLD NO. 4 V. 45, 7-22-22, P.152  
ELSING, M.J. & HEINEMAN, AZ. METAL PRODUCTION  
AZBM BULL. 140, 1936, P. 93  
USBM MINERALS YEARBOOK 1944, P. 227-246  
DIRECTORY OF ACTIVE MINES IN AZ. ADMMR 1980,  
P. 17-18  
HINTON, R.J., 1000 OLD AZ. MINES 1970, P. 7,  
8, 40 & 44  
ELEVATORSKI, E.A., AZ. IND. MIN. 1978, P. 34  
WEED, WALTER HARVEY, THE COPPER HANDBOOK,  
VOL. XI, 1912-1913, 1918, P. 74-75  
TRANSACTIONS OF THE AIME VOL. II, 1915,  
P. 267-280  
AEC PRELIM. RECONN. REPT. 1953, P. 1 (U.S.)  
GREELEY, MICHAEL H., THE PRIMARY COPPER  
INDUSTRY OF AZ. IN 1977-78, ADMMR 1979,  
P. 20, 21, 26 & 30  
ANTHONY, J.W. & OTHERS, MINEROLOGY OF AZ.  
1977, P. 48  
PHELPS DODGE CLAIMS INCLUDE THE MAJOR PORTION  
OF T4S-R29E, IT ALSO INCLUDES SECS. 1, 2,  
3-T5S-R29E, SEC. 5-8, 18, 19-T4S-R30E,  
SEC. 21, 26-28, 32-35-T3S-R29E, AND  
SEC. 1, 12, 13 -T4S-R28E  
USDL MSHA MINE NO. 0200305 1/30/78  
BLM MINING DISTRICT SHEETS 841, 840, 830,  
831, 842, 839, 843, 837, 838  
WILLIS, CHARLES, E. MINES OF TOMORROW NO. 10,  
THE STARGO MINES CO. INC. AZ. MINING JOURNAL  
AUG. 1920, P. 34  
KOSCHMAN, A.H. & BERGENDAHL PRINCIPAL GOLD-  
PRODUCING DIST. OF U.S. PP. 610, 1962, P.38-9  
PHOTO FILE - P1

NAME OF MINE: GOLD BELT ✓  
OWNER:

COUNTY: Greenlee  
DISTRICT:  
METALS: Au ✓

OPERATOR AND ADDRESS

MINE STATUS

Date:	OPERATOR AND ADDRESS	Date:	MINE STATUS
2/47	Mike Miscati, Clifton ✓	2/47	Shipping

DEPARTMENT OF MINERAL RESOURCES

News Items

referred to each of the following items has, etc

Date August 3, 1939.

Mine Gold Belt

Location 4 Miles West of Morenci

Owner James Horton

Address ? Tennessee

Leased to Mike Moscatto & G.I. Pace

Operating Co. Clifton, Arizona.

Address

Pres.

Genl. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Gold and silver

Men Employed 4

Production Rate

Mill, Type & Capacity

Power, Amt. & Type

Signed *Herbert ...*

(Over)

Present Operations: Have already shipped some  
ore, and are continuing to mine for further  
shipments.

New Work Planned

Miscl. Notes

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

~~December-10,-1957~~

February 18, 1958

To the Owner or Operator of the Arizona Mining Property named below:

GOLD BELT  
(Property)

GOLD SILVER COPPER  
(ore)

We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

FRANK P. KNIGHT,  
Director.

Enc: Mine Owner's Report





REASON  
Unpaid  
U  
In  
M. d. Left no  
No s ch office  
Do not remain in  
POSTAGE DUE 2 CENTS

Mr. James M. Horton  
Henderson, Tenn.

*Gold Belt Claims, G. Del. Min. Dist.  
(Phelps Dodge Claimed these in 1957)*

REPORT ON HORTON GROUP OF CLAIMS

By: Lewis A. Smith

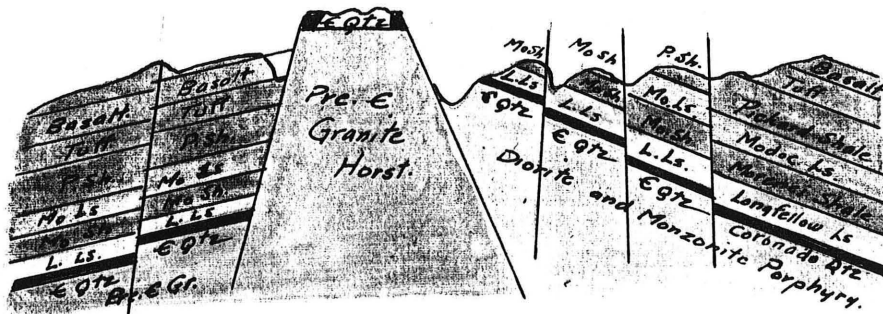
Herewith is a preliminary report on the Horton property five miles west of Morenci, Arizona:

LOCATION

This property comprises a group of 20 mining claims located approximately five miles west of Morenci, Arizona. It lies adjacent to the properties of the Phelps Dodge Corporation and Dover Copper Company. The accompanying <sup>Map</sup> plan (I) shows the <sup>Location</sup> layout of the claims. (See *Dover Cu Co. Claim Map file*)

GENERAL GEOLOGY

The geology of the area comprises a series of sedimentary formations pitching to the southwest and overlying Monzonite Porphyry bordering a large granite Horst on the north. (See typical section below).



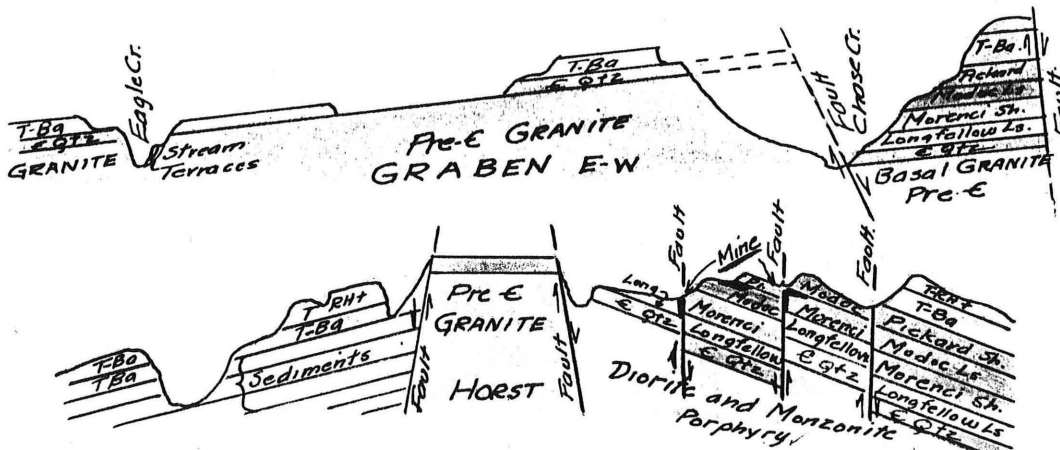
The Horst is paralleled by a series of well developed step faults stepping off to the south and to the north away from the Horst. The series of formation in the area comprise the following: (From bottom to top).

1. Monzonite and Diorite Porphyrys
2. Cambrian Quartzite(Coronado Quartzite)
3. Ordovician Limestone(Longfellow Limestone)
4. Devonian(Morenci Shale)
5. Carboniferous Limestone and Shale(Modoc Formation)
6. Cretaceous Shale(Pickard Shale)
7. Tertiary Lavas(Basalt and Rhyolitic Tuff)
8. Quaternary (Stream Terraces and Weathered Detrital Material)

The se formations are badly disrupted by faulting but ,in general,may be considered a continuation of the Morenci Sedimentary Series,which extend from Bunkers nearly to Eagle Creek, on the south border of the Horst.They occupy an area of approximately six miles in length and more than a mile in width.

STRUCTURAL GEOLOGY

The central geologic feature in the area is an enormous Horst,which is a wedge(in a large Graben) thrust up through the porphyrys and sedimentaries with a maximum throw of about 1500 feet.Erosion has removed all of the sedimentary series from the Horst with the exception of from 0 to 40 feet of Cambrian Quartzite (See accompanying sections which follow)



Page 3  
Report on Horton Group of Claims

From these sections the general structure can be seen. It is to be noted in Section I that the sedimentary series pitches about 35° to the southwest and strikes approximately N 45° W, and disappears to the southwest under the Eagle Creek Volcanic Series. Nearly all of the faults shown above are vertical and parallel to the faults bordering the Horst, and are characterized by strong walls. These faults contain quartz veins replacing the limestone. The veins contain hematite, limonite and manganese dioxide, and run as high as \$30.00 per ton in gold over a three foot width. In a few cases narrower veins run considerably higher. Lead and zinc are found replacing favorable limestone beds. In one place in the center of the area, relatively extensive replacement deposits in limestone and shale contain copper-bearing Wad. Considerable profitable mining was done in 1917 and 1918 when the price of copper was high. The Wad carries about 20% manganese <sup>or 8% Cu as Melanconite</sup> and very low silica. The reserves of this material are approximately 40,000 tons. In case of serious need, such as might arise during a war, this low-grade manganese ore might be of some value as an iron flux. It is too low-grade to be of use in batteries or in the manufacture of ferro-manganese. In places this Wad ore contains considerable amounts of Chrysocolla and ~~possibly~~ some Melanconite, but thus far sulphides of copper have not been recognized. Due to the fact that the sediments in this section are relatively thin the replaceable area for future development is necessarily limited. Epidotization and Kaolinization accompany the other mineralization.

However, in the eastern part of the area the sediments become more widespread and considerably thicker, offering more chance for future development. Here, only relatively minor development has occurred on the quartz veins along the large faults which parallel the Horst and cut vertically through the sedimentaries. The prospecting of favorable replaceable limestone beds has not been done thus far. It is to be recommended that this be done.

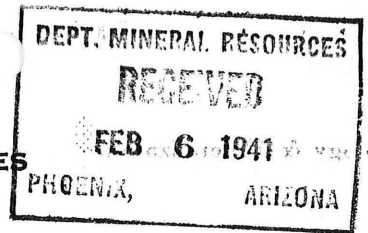
Due to the limited time spent in the area, it was not possible to properly work out the north-south series of faults, which probably would act as dams to the mineralizing solutions across the larger east-west faults, causing local concentrations. Another favorable prospecting locality would be on the contact between the porphyry and the sedimentary series.

#### CONCLUSION

It is recommended that more detailed work be done in order to more definitely establish existing possibilities in this area. The present examination was necessarily cursory. It is to be noted that there will be a market for the siliceous gold ores at the new Phelps Dodge smelter at Morenci in the near future.

*Later (1957) Claims were examined by Phelps Dodge Geologists and reported favorably. Whether the option was exercised is not known.*

46-6le



DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
MINE OWNER'S REPORT

Date Oct 18, 1940

- 1. Mine Gold Belt
- 2. Location 4 miles west of
- 3. Mining District & County Clifton-Morenci Morenci
- 4. Former name Gold Belt Greenlee County
- 5. Owner James M. Boston
- 6. Address (Owner) Benderson Terr
- 7. Operator G. L. Pace
- 8. Address (Operator) Morenci Ariz
- 9. President, Owning Co.
- 9A. President, Operating Co.
- 10. Gen. Mgr.
- 14. Principal Minerals Gold Silver Copper
- 15. Production Rate 25 or 30 tons per
- 16. Mill: Type & Cap.
- 17. Power: Amt. & Type
- 11. Mine Supt.
- 12. Mill Supt.
- 13. Men Employed 3 sub-leasers
- 18. Operations: Present

19. Operations: Planned modern compressor in use  
will make several shipment from new  
tunnel on vein. all veins continue for another 10  
feet, now will start sinking to another level.

20. Number Claims, Title, etc. 19, Gold Belt 1-2-3-4-5-6-7-8-9-  
Comstock 2-3-4-5-11-12  
Elcapitan - Bonanza - Sarah A Terry

21. Description: Topography & Geography

22. Mine Workings: Amt. & Condition Some 3000 feet of shafts tunnel  
drifts and stope, some of old workings in bad  
working condition. No lead trace at present at

and

24. Ore: Positive & Probable, Ore Dumps, Tailings *one at old stamp mill \$14 value small dump at west Elcapito \$9.30 22% copper in old digging - pocket, -*

24A. Dimensions and Value of Ore body *at present we are ship amount 100 tons the vein ranges from 18 in to 4 ft. and requires some sorting possible 10% other digging larger veins but lower value.*

25. Mine, Mill Equipment & Flow-Sheet *remains of old stamp mill on premises*

26. Road Conditions, Route *private road used only by light trucks and cars. 3 1/2 miles north west of county road.*

27. Water Supply *Spring not developed but year around water for domestic use and primary mining purposes.*

28. Brief History *second business in line at Clifton but property has produced better than half million dollars in profit*

29. Special Problems, Reports Filed *roads - distance from smelter haulage expense. - water for milling*

30. Remarks *all patented claims - not one place to find shipping one but dozens. with new custom smelter at Morehead I am safe in saying 30 places will be profitable*

31. If property for sale: Price, terms and address to negotiate. *asking one hundred thousand do James M. Houston Henderson Tenon, will make terms of sale*

32. Signature *G. H. Pace*

33. Use additional sheets if necessary.

*Moronee Ariz*

MG-66

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
MINE OWNER'S REPORT

Department of Mineral Resources

Date Oct. 10, 1940

- 1. Mine  Gold Belt
- 2. Location 4 miles West of Morenci, Arizona
- 3. Mining District & County Clifton Morenci
- 4. Former name Gold Belt
- 5. Owner  James M. Horton
- 6. Address (Owner) Henderson, Tenn.
- 7. Operator  G. I. Pace
- 8. Address (Operator) Morenci, Arizona
- 9. President, Owning Co.
- 9A. President, Operating Co.
- 10. Gen. Mgr.
- 14. Principal Minerals  Gold,  Silver,  Copper
- 11. Mine Supt.
- 15. Production Rate 25 or 30 ton per month.
- 12. Mill Supt.
- 16. Mill: Type & Cap.
- 13. Men Employed 3 sub lessers.
- 17. Power: Amt. & Type
- 18. Operations: Present

19. Operations: Planned Modern compressor in use. Will make several shipments from new tunnel on vein. If values continue for another 100 feet. We will start sinking to another level.

20. Number Claims, Title, etc. 19- Gold Belt 1-2-3-4-5-6-7-8-9-10  
 Comstock 2-3-4-5-11-12  
 Elcapeton-Bonanza-Sarah A. Terry

21. Description: Topography & Geography

22. Mine Workings: Amt. & Condition  
Some 3000 feet of shafts, tunnels, drifts, and stopes. Some of old working in bad working condition. No head-frame at present at shafts--most tunnels and drifts in good condition. The mines are dry and can be examined in short order.



MINNE OWEN'S REPORT

Ore: Positive & Probable, Ore Dumps, Tailings

Ore at old stamp mill \$14 value.

Small dump at West Elcapeton-\$9.30

22% copper in old digging--pockety.--

A. Dimensions and Value of Ore body

At present we are shipping around 1 oz. of Gold ore-  
The vein ranges from 18 inches to 4 feet, and  
requires some sorting-possibly 10%. Other diggings,  
larger veins, but lower values.

6. Mine, Mill Equipment & Flow-Sheet

Remains of Old Stamp Mill on premises.

5. Road Conditions, Route

Private road used only by light trucks and cars. 3 1/2 miles  
Northwest of county road.

7. Water Supply

Spring not developed but year around water for domestic use, and  
primary mining purposes.

8. Brief History

Record burned in fire at Clifton, but property has produced better  
than half million dollars in past.

9. Special Problems, Reports Filed

Roads--distance from Smelter---handling expense--water for  
milling.

0. Remarks

All patented claims--not one place to find shipping ore, but dozens. With  
new custom smelter at Morenci, I am safe in saying 50 places will be  
profitable.

1. If property for sale: Price, terms and address to negotiate.

Asking \$100,000 James M. Horton, Henderson Term.

Will make terms for sale.

Signature... (Signed) G. I. Pace  
Morenci, Arizona

3. Use additional sheets if necessary.