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08/12/97

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: RENFRO GROUP

ALTERNATE NAMES:

ROMAN EAGLE SHAFT
PINAL DEVELOPMENT CO CLAIMS

GILA COUNTY MILS NUMBER: 22B

LOCATION: TOWNSHIP 3 S RANGE 14 E SECTION 25 QUARTER NW
LATITUDE: N 33DEG 08MIN 51SEC LONGITUDE: W 110DEG 52MIN 39SEC
TOPO MAP NAME: SONORA - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

COPPER
GOLD
SILVER

BIBLIOGRAPHY:

USGS SONORA QUAD
ADMMR RENFRO GROUP FILE
WEED W H THE COPPER HANDBOOK 1916 P 922
1922 VOL XV P 369
ARIZONA MINING JOURNAL APRIL 1920 P 32
MARCH 1920 P 20
USGS IS REANING PEAK HOT TAMALE PEAK

PRELIMINARY REPORT ON RENFRO GROUP.

INTRODUCTION

The facts that neither a topographic map of the area covered by this report, nor satisfactory surveys of the claims themselves, were available, rendered its study difficult and conclusions tentative. Never the less, I shall attempt to depict the salient geological features in their bearing on ore deposition. The interpretation of the relations of the main rock masses is made easy by the rugged topography, bare slopes and numerous well defined contacts. As above stated the absence of an adequate map alone makes the presentation vague.

TOPOGRAPHY.

Rising precipitately from Dripping Springs Wash at a point where the canon begins to box, a continuous ridge comprised of thick bedded quartzites and limestones runs in a northerly direction and forms in general way a natural eastern boundary to the area. To the north further high ridges predominate. Westerly a series of smaller, usually rounded hillocks fade into the peneplain on which Troy is situated. In a southerly direction the Dripping Springs Wash defines the area. Erosion has carved a deep wash, which emanating from the ridges to the south has to the east exposed the entire sedimentary series, while to the west and south denudation has almost completely removed them. This eroded vally forms in a general way the center line of the area and enters the Dripping Springs Wash. Minor depressions characterize the steep eastern slope usually instigated by lines of faulting. As a result of the weathering of quartzites the slopes are usually covered with small angular fragments of rock. The relatively more rapid weathering of the limestone overlying the quartzite often throw the latter rock into sharp relief and produce steep projecting promontories. A large mass of intrusive diabase now exposed by erosion produces smoothly rounded slopes.

GENERAL GEOLOGY.

The sedimentary rocks attain a total thickness of some 800 feet and comprise quartzites, quartzite conglomerate, limestones and highly metamorphic slates and schists. The quartzite occupies nearly one half of the sedimentary area and was derived from the metamorphism of thick bedded, fine grained sandstone, although conglomeratic developments occur locally. It is overlain by 80-ft of fine bedded sediments originally consisting of alternating shale and limestone, with occasional quartz or sandy layers. Metamorphic processes have altered the shale partly to chlorite schist, the limestone to talc and other hydrous silicates of magnesia, and the sandstone to quartzite. Capping this heterogeneous series and attaining in greatest development a thickness of 325-ft there obtains the massive, compact, dark colored dolomitic limestone series that forms the crest of all the higher ridges.

Beneath the quartzite there appears locally and eminently in the northern half of the area, a lenticular mass of older sediments composed of highly altered limestones and schists resting unconformably beneath the other sediments. This local series, a remnant left by erosion in the sea of igneous rock will be considered more in detail later.

The igneous rocks comprise granites, granite porphyry and diabase. The two former are strongly developed in the southern part of the area and are different textural phases of the same parent magma. They are the oldest igneous rocks in the region and were intruded while the area was still buried under the thicker mass of sediments. Portions of the magma were squeezed upward through the sedimentary rocks along lines of weakness, giving rise by more rapid cooling to porphyritic phases. The normal granite is a relatively fine grained, holocrystalline mass of quartz, orthoclase and biotite. Weather has either altered the mica to chlorite, or removed it entirely, giving the rock a vesicular appearance. The feldspar is quite often changed to sericite. At a considerably later period the region was invaded by a batholithic intrusion of diabase, which spread from the central stock in generally easterly and westerly directions, along lines of faulting produced during the earlier granitic intrusions. Where exposed by erosion it presents every textural gradation from a coarse crystalline, ophitic aggregate of plagioclase feldspar and augite to a compact, crypto-crystalline greenish mass. It was a most important mineralizing agent.

The combined effect of both plutonic invasions produced a tilting of the sediments to an angle of 20 to 30 degrees to the southeast, developed a series of approximately east-west fractures, and profoundly modified the chemical and mineral

characters of the sedimentary rocks. And it is along these fractures thus formed that ore bearing solutions have made their ingress. As mentioned under topography, erosion has to the north entirely removed the sedimentary series, in the central area exposed the diabase, while to the south the thick sedimentary capping still remains. For convenience in the discussion of the ore deposits, I shall group the forty-three claims under consideration as follows:

- (a) Those within the granite area
- (b) Those lying in the diabase zone
- (c) Those capped with sedimentaries

ORE DEPOSITS.

(a) Under this heading I include the Outlet, Los Angeles, Anaconda, Port Arthur, S&ar and Garter, W.E. Bryan and Paris, and to a lesser degree the Mother Lode, and East Extension of the Bryan. All of those are full claims. The major portion of the included area is granite, with very subordinate diabase to the north, and quartzite to the east. Approximately 300-ft of development work has been done, of which nearly half is on the Port Arthur. The deepest opening is an inclined shaft 43-ft deep. The ore is developed along a series of fractures in the granite, striking north 70 degrees west, and dipping quite steeply to the north. These fractures are true faults although of relatively slight displacement, and not mere joint planes in the granite. The ore consists almost wholly of chrysocolla with subordinate cuprite. The fractures are mineralized for several inches on each side and samples taken at various points showed copper content from three to fifteen percent. The oxidized ore persists to the deepest workings. How extensive these deposits are cannot be predicted from the present shallow openings. The period of mineralization was earlier than on claims subsequently to be described and the character of the ore and gangue different. I would strongly suggest sinking a shaft preferably in the northeast corner of the Port Arthur claim on the quite prominent fault that passes through that point. This shaft would demonstrate the persistence of this type of ore body and determine that this mineralization which covers a large area is practically a continuation of the Rattler ore body on the Troy Arizona property adjoining the group. I regard these claims as a very favorable group in themselves and undoubtedly will warrant extensive development.

(b) Under this heading I shall group the West Extension of the Bryan, Oversight Cedar Springs Extension and a second eastward extension of the Cedar Springs, Copper Boom, Copper Fleece and Promotor. Also the Eastward Extension of the Prince of Wales and the Kentucky. All are full claims with the exception of the Oversight and the Kentucky. The former is a fraction 600 x 600 feet; the latter a small triangular section in the southwest corner of the Prince of Wales. The predominant rock mass is diabase, which intrudes itself into the granite to the north, and the quartzite to the east and south. From the field evidence it seems quite certain that the intrusion represents one single eruption. It tilted the sediments to the south and induced tensional strains and resulted in extensive fracturing and displacement of the sedimentaries along eastward planes. And it is along this series of major fractures seen in their strongest development to the southwest that the two large orebodies have been opened up, as will be considered more fully later. It is due to hot ascending solutions rising along these fault planes and metasomatically replacing limestone with ore that copper minerals have been introduced. And since in the area under consideration the sedimentaries have been largely removed, the importance from the economic standpoint hinges mainly on the persistence of those major fractures in the diabase and the degree to which precipitation has taken place from ascending solutions. In Globe the conditions are very much the same, and at that place the best development of sulphides has been along similar fractures and entirely in the diabase, this rock being apparently as favorable to ore deposition as the overlying sediments. Present development on the claims under consideration seems to make conditions analogous. Along the line of fracture there has in every case been developed masses of magnetite, hematite, calcite together with the copper minerals and from the abundance and richness of the latter it seems quite advisable to develop this group of claims beyond their present prospect stage.

In particular I would suggest the very careful prospecting of the Oversight claim and further work on the second eastward extension of the Cedar Springs.

(c) The third and by far the most important group of claims both from the standpoint of present development and immediate possibilities include the Cedar Springs No. 2, Golden Rule, Roman Eagle, Good Luck, Old Year, New Year, Independent, Helen, Ashler, Golden Fleece and Uncle Sam. All with the exception of the Good Luck are full claims.

Development work embraces 220 feet of tunnels and adits on the Roman Eagle, a 40 ft shaft on the New Year and considerably more than the required amount of assessment work on the remainder. All lie eminently in the zone of sedimentary rocks. Three prominent and roughly parallel fractures strongly mineralized and accompanied by extensive replacement of the adjacent sedimentaries cross the area. The most powerful and northerly strikes in a northerly direction north 75 degrees west across the Roman Eagle, Golden Rule, and Cedar Springs No. 2. Some 400 ft south a second fracture determines the orebody in the New Year, Old Year and Good Luck. A third crosses the Helen and Independent. All three faults are normal with the downfall on the south or hanging wall side. I propose to discuss the features of the Roman Eagle fault at some length and the same remarks will apply with modification to the others. The fracture is exposed by a 150 ft tunnel driven along the hanging wall to a point 250 feet from the apex of the hill. At the foot of the 150 ft tunnel a winze 60 ft has been sunk on ore, while the lower tunnel is at present being extended to intercept the winze. A shorter tunnel exposed the footwall at a 25 foot lower elevation. Three short adits open up the foot wall immediately above the main tunnel. The foot wall rock is all of limestone. The hanging wall rock is all schistose material. The total displacement is approximately 80 feet. From three to six inches of gouge indicate the strength of the faulting movement. The ore consists of massive cuprite and chrysocolla disseminations in a calcareous gangue. The former mode predominates on the hanging walls, the latter on the foot walls. Ten feet of high grade ore lie exposed on the footwall and unquestionable 100 tons of ore are now ready for shipment. This claim is beyond the prospect stage. The ore body is characteristic of replacements similar to Globe, Bisbee and other Arizona camps. The ore bearing solutions ascending along fault fissures have precipitated their metallic content either in the fissure or in the adjacent rocks. At a lower level any shaft must pass through a considerable thickness of quartzite but aside from the tightening of the fissure I see no reason for diminution in the value. This vein and its westward equivalent on the Golden Rule should be energetically developed.

CONCLUSIONS.

I have attempted to demonstrate in the above report that from a geological standpoint the included area is favorable for the development of copper deposits of considerable magnitude. That the conclusions drawn should be verified by a more elaborate study with the aid of maps I deem essential. It is a significant fact that mines of proven value exist both east and west along the line of the general system of fracturing.

Respectfully submitted,

(Signed) I. Win E. Adams, M.E.

1907

RENFRO GROUP

PINAL & GILA COUNTIES

See: BANNER DISTRICT MISCELLANEOUS (Geology File)

Pinal Development Company

INCORPORATED UNDER THE LAWS OF ARIZONA

Capital Stock
\$1,500,000.00
Par Value
\$1.00

OFFICERS

PRESIDENT-TREASURER

J. C. DEVINE RAY, ARIZONA

VICE PRESIDENT

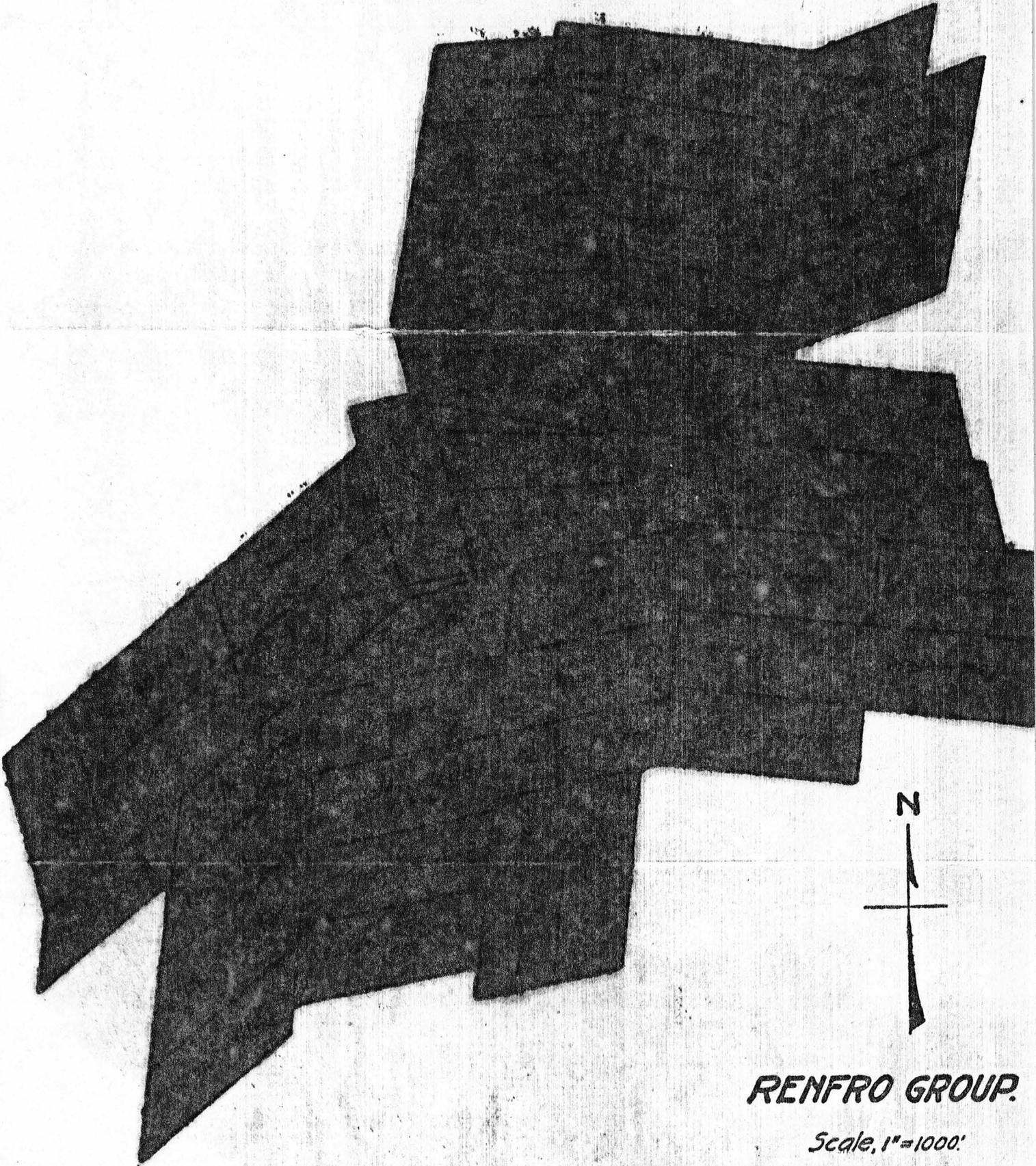
CHARLES HOLLISTER RAY, ARIZONA

SECRETARY

G. T. CARPENTER RAY, ARIZONA

GENERAL OFFICES

Ray Arizona



RENFRO GROUP.

Scale, 1"=1000'

*Remko Group
file*

Hinal

Development

Company

WE want this prospectus to catch the eye, rivet the attention, and appeal to the best judgment of just one, big, broad-guaged business man, a man with enough discrimination in his make up to see an opportunity and sufficient push and enterprise to take advantage of it.

**FORTUNES ARE MADE,
not SAVED. A lifetime of
SAVING will not make you
as MUCH as ONE GOOD
I N V E S T M E N T .**

The Pinal Development Company

THE COMPANY

IS a newly organized corporation, incorporated under the laws of Arizona, with an authorized capital stock of One Million Five Hundred Thousand Dollars, divided into One Million Five Hundred Thousand shares of the par value of one dollar each. The stock is fully paid and non-assessable and all stock-holders of this corporation and their private property shall be exempt from the corporate debts and obligations of this corporation.

MANAGEMENT

The Board of Directors comprise the following:

MR. J. C. DEVINE
MR. C. T. CARPENTER
MR. E. M. BLAKE
MR. J. H. ROBINSON
MR. R. H. BOXALL
MR. CHARLES HOLLISTER
MR. F. C. NORMAN

Mr. Devine is President and Treasurer and is personally directing the development of the property, and stock-holders are assured that not only will every cent go in the ground, but that the Company will have the advantage of Mr. Devine's knowledge and experience in economical management. The Company is ably directed. Mr. C. T. Carpenter is Secretary. The members of the board of directors are men of extensive and varied mining experience and men of executive ability. The Company very respectfully refers to the Gila

Arizona is the
leading copper
producing State

Valley Bank & Trust Company of Ray, Arizona, the manager of these chain of banks, Mr. E. M. Blake, being also a director in the Pinal Development Company, and they will gladly vouch as to the integrity of the above named directors.

THE PURPOSE

The purpose of this Company is to acquire properties of merit that need development in order to prove their value, and only such as will stand the rigid examination of our engineer will be taken over. With this object in view the Pinal Development Company, after looking over several properties, finally through the strong recommendation of Mr. Devine, who is thoroughly acquainted with this particular property, decided to take over THE RENFRO GROUP OF MINING CLAIMS. We therefore, take pleasure in describing this property to you and urge you to get in now and share the real earnings of money.

**Arizona mines during
year 1915 produced
450,000,000 pounds
:: of copper ::**

Pinal Development Company

Developing

The Renfro Group of Mining Claims

LOCATION

IN the Mescal Mountains, 4000 feet above the sea, and lying in the County of Pinal, State of Arizona, is the Dripping Springs Mining District, a highly mineralized belt, copper predominating, the course of which embraces such large producing properties as Ray Consolidated Copper Co., Globe, Miami, Superior and others. **THE RENFRO GROUP OF MINING CLAIMS** is situated in this district and is being energetically developed by the Pinal Development Company. This property is four miles from the Arizona & Eastern R. R., being accessible by a good automobile road direct to the portal of the mine, and is fifteen miles from the smelter of the American Smelting & Refining Company, at Hayden, Arizona.

TOPOGRAPHY

The Renfro property consists of forty-three claims, or an area of about 860 acres. A general outline of the topography of the claims herein follows: Rising precipitately from Dripping Springs Wash, at a point where the canyon begins to box, a continuous ridge comprised of thick bedded quartzites and limestone runs in the southerly direction and forms in a general way a natural eastern boundary to the property. To the north, further high ridges predominate. Westerly a series of smaller, usually rounded hillocks grad-

**The output of
Arizona mines
during 1915 was
estimated at
\$88,551,000**

ually slope to the mesa below. To the south, Dripping Springs Wash defines the area. Erosion has carved a deep wash, which, emanating from the ridges to the south has to the east exposed the entire sedimentary series while to the south and west, denudation has almost completely removed them. This eroded valley forms in a general way the center line of the area and enters Dripping Springs Wash.

GEOLOGY

The above mentioned sedimentary rocks attain a total thickness of over 800 feet and comprise quartzites, quartzite conglomerate limestones and highly metamorphic slates and schists. The igneous rocks comprise granites, granite porphyry and diabase. Three prominent faults strongly mineralized and accompanied by extensive replacement of the adjacent sedimentaries cross the area. The ore bodies exposed along these faults are replacement deposits similar to those found at Globe, Bisbee and other Arizona Copper Camps.

ECONOMIC CONDITIONS

The economic conditions are very favorable for mining operations; the railroad is near, roads are good, water and fuel are abundant and labor is plentiful. Ore can be mined at an exceptionally low cost per ton.

PRESENT DEVELOPMENT

Up to the present time, the development work on the property consists of a tunnel 950 feet in length and is being further driven to strike the Roman Eagle vein.

An incline shaft has been sunk on the

**Arizona mines
during 1915
paid dividends
amounting to
\$11,000,000**

Port Arthur to a depth of 43 feet. The ore exposed in this shaft consists of massive cuprite and crysocola with subordinate bornite in a silicious gangue. Along the Roman Eagle fault, a 150 foot tunnel has been driven to a point 250 feet from the apex of the hill. At the face of this tunnel a winze has been sunk 60 feet on the ore. A shorter tunnel exposes the foot wall at a twenty-five foot lower elevation.

PROPOSED DEVELOPMENT

We are now cross-cutting to intercept the ore at a depth of 500 feet from the out-crop of the vein. We have outlined 1500 feet of development, but expect to get ore in commercial quantity within the first 500 feet. We already have begun breaking ore on the vein near the surface and will make early shipments to the Hayden Smelter. This ore consists of oxides and carbonates and can be graded to an average of ten percent.

**Invest in Copper.
Invest with new
Corporations.
Invest with Pinal
Development
C o m p a n y .**

In Conclusion

THIS is a very attractive proposition and is placed before the public, not as a prospect for it is far beyond the prospect stage, but as a property only requiring sufficient development to make it another large producing Arizona Copper Mine. Without hesitation it may be said that as far as humanly possible with any mines in their early stages, the element of risk has been eliminated.

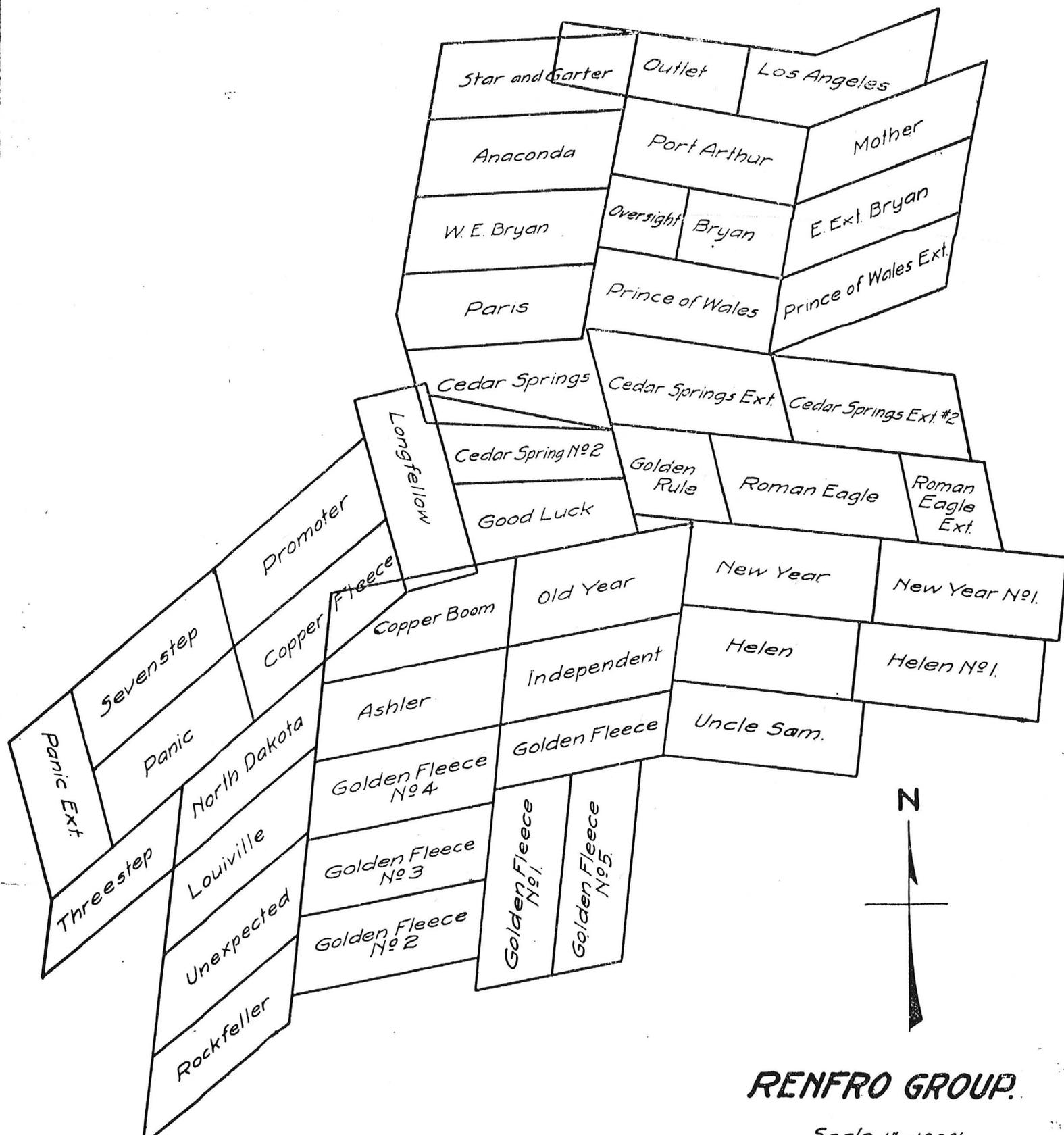
Therefore, to those desiring to invest in a good mining stock, we feel that in offering you this opportunity that not only are we expeditiously developing the mine but are eventually returning to the investor many times his investment. We respectfully invite all desiring to personally look over the ground to communicate with us and we will make arrangements accordingly. If there is any information you may desire that is not contained in this prospectus, kindly let us forward same to you.

Respectfully Submitted,

PINAL DEVELOPMENT COMPANY.

J. C. DEVINE,
President.

C. T. CARPENTER,
Secretary.



RENFRO GROUP.

Scale, 1" = 1000'

