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PRINTED: 05/03/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: RUBY SILVER

ALTERNATE NAMES:

ARIZONA CENTRAL MINES  
ZERO  
NC4 ~~NCR~~ LODE  
PATENTED CLAIMS MS 1132  
PATENTED CLAIMS MS 3876

YAVAPAI COUNTY MILS NUMBER: 1146A

LOCATION: TOWNSHIP 12.5N RANGE 2 W SECTION 29 QUARTER SW  
LATITUDE: N 34DEG 26MIN 30SEC LONGITUDE: W 112DEG 29MIN 30SEC  
TOPO MAP NAME: GROOM CREEK - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

SILVER  
LEAD

BIBLIOGRAPHY:

BLM MINING DISTRICT SHEET 244  
YAVAPAI MAGAZINE MAY 1918 P3-6, OCT. 1920 P11  
~~ADMIN NCR LOBE MINE FILE~~  
LINDGREN, W. ORE DEPTS JEROME & BRADSHAW MTN  
QUADS USGS BULL 782 1926 P 117  
AZ MINING JOURNAL APR. 1919 P 15  
CLAIMS EXTEND INTO SEC. 32

Nc4 LODE MINE

See: USGS Bull. # 782 p. 117, 122, 125, 129, 144

See: ABM Bull. # 140 p. 101

See: Arizona Mining Journal Jan. 1, 1922 p. 25 ;  
April, 1919, p. 15;

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
OWNERS MINE REPORT

Date April 15, 1940

1. Mine **No. 4 Lode Mine**
2. Mining District & County **Yavapai County, Arizona**
3. Former name **Arizona Central Mines, Old Zero Mine.  
Ruby Silver, etc.**
4. Location **Hassayampa District**
5. Owner **Eli S. Perkins**
6. Address (Owner) **912 N. Second St.  
Phoenix, Arizona**
7. Operator **Inoperative.**
8. Address (Operator) **Same**
9. President **Individual**
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Principal Metals **Silver, Lead, Copper, Gold**
14. Men Employed **None**
15. Production Rate **None**
16. Mill: Type & Cap. **None**
17. Power: Amt. & Type **None**
18. Operations: Present **Dormant**
19. Operations Planned **A 2500 foot tunnel has been projected and surveyed.  
See map.**
20. Number Claims, Title, etc. **Hold 14 patented claims and 7 unpatented.**
21. Description: Topography & Geography **Rugged hills, brushy, 10 miles south of Prescott, near Hassayampa River, on Jersey Lily county road. Road good except 2 miles; that needs repairs. Elevation 5000 to 6000 feet. On south slope of Spruce Mountain. Near Blue-Dick, Mark Twain, Dos Oris, Buzzard, Raven, and other mines with history of high grade production. Some production is still coming from the district. Oro Flame, near by, is producing, and Jersey Lily is starting in a small way.**
22. Mine Workings: Amt. & Condition **All above 300-foot leve. About 1200 feet of old tunnels, mostly stoped out for surface ore. Other workings too badly caved to inspect. Conditions of all old workings such that work must be done to get ore above stopes. The proposed tunnel will do needed prospecting on virgin ground and get under old workings by from 160 to 250 feet. In first 450 feet of new work, one foot of depth will be gained in every two of the proposed crosscut tunnel.**

23. Geology & Mineralization See accompanying report of A. B. Colwell, dated Dec. 5, 1922. Only 100 feet of new tunnel work done since that report. This was done on the projected cross-adit.
24. Ore: Positive & Probable, Ore Dumps, Tailings Have no map giving assays nor tonnage. Low grade ore bodies are large. Low values require large operation unless projected tunnel should open high grades which we suppose will be found under the old stopes which extend along the vein for about 2000 feet.
- 24-A Vein Width, Length, Value, etc.
25. Mine, Mill Equipment & Flow Sheet Dormant, in prospect stages.
26. Road Conditions, Route Paved highway for 6 miles S. of Prescott on Hassayampa Trial Highway, and turn south on Groom Creek "play ground road" to Grace Sparkes' cabin across Hassayampa River. Road good to here, and then continue on Jersey Lily county road, is good but very crooked. It is dirt road. There is about 2 1/2 miles of this. I drive onto property in a Nash 8 Sedan. Road stopped by snows occasionally in winter but not a serious item.
27. Water Supply Spring water for camp use. Hassayampa river near by for ample water. Proposed tunnel might develop plenty water for mill or even smelter use. Many fissures will be cut.
28. Brief History Property was a bonanza in 1894, and produced more than a ton of pure silver if refinery sheets could be obtained. It has been allowed to stand idle most of the time because of changes of ownership and efforts at promotion. It was formerly owned by A. C. Gilmore and J. C. Bradbury of Prescott, Arizona.
29. Special Problems, Reports Filed Report of A. B. Colwell made in 1922 after a complete survey The property was once a mine, but neglect has returned it to nature as a prospect which must be put back on a producing basis, (if ever) the same as a prospector would do a new piece of ground. There are no debts on the property Taxes paid. Individually owned. Deal with one man.
30. Remarks Willing to allow operation on a "Brubstake" plan. Or would sell outright, or on long time contract.
31. If property for sale: Price, terms and address to negotiate. Prefer having same operated on some cooperative basis. I will furnish the mine and allow the investors to develop in a 50-50 arrangement. No money to me unless it comes out of the mine.
32. Signed..... Eli S. Perkins .....
33. Use additional sheets if necessary.

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

Date April 15, 1940

1. Mine Nc4 Lode Mine,
2. Location Hassayampa District
3. Mining District & County Yavapai County, Arizona.
4. Former name Arizona Central Mines, Old Zero Mine, Ruby Silver, Etc.,
5. Owner Eli S. Perkins,
6. Address (Owner) 912 N. Second St., Phoenix, Ariz.
7. Operator Inoperative--
8. Address (Operator) Same
9. President, Owning Co.
- 9A. President, Operating Co. Individual
10. Gen. Mgr.
14. Principal Minerals Silver, Lead, Copper, Gold.
11. Mine Supt.
15. Production Rate None
12. Mill Supt.
16. Mill: Type & Cap. None
13. Men Employed None
17. Power: Amt. & Type None
18. Operations: Present Dormant
19. Operations: Planned A 2500 foot tunnel has been projected and surveyed.  
See map.
20. Number Claims, Title, etc. Hold 14 patented calims, and 7 unpatented.
21. Description: Topography & Geography Rugged Hills, Brushy.  
10 Miles south of Prescott, near Hassayampa River, on Jersey Lily county road. Road good except 2 miles: that needs repairs. Elevation 5000 to 6000 feet. On south slope of Spruce Mountain. Near Blue-Dick-Mark Twain, Dos Oris, Buzzard, Raven, and other mines with history of high grade production. Some production is still coming form the district. Oro Flame, near by, is producing, and Jersey Lily is starting in a small way.
22. Mine Workings: Amt. & Condition : All above the 300-foot level.  
About 1200 feet of old tunnels, mostly stoped out for surface ores. Other workings too badly caved to inspect. Conditions of all old workings such that new work must be done to get ore above stopes. The proposed tunnel will do needed prospecting on virgin ground and get under old workings by from 160 to 250 feet. In first 450 feet of new work, one foot od depth will be gained in every two of the proposed cross cut tunnel.

23. Geology & Mineralization : See accompanying report of A. B. Colwell, dated Dec. 5, 1922.  
Only 100 feet of new tunnel work done since that report. This was done on the projected cross-adit.
24. Ore: Positive & Probable, Ore Dumps, Tailings  
Have no map giving assays nor tonnage.
- 24A. Dimensions and Value of Ore body .  
Low grade ore bodies are large. Low values require large operation unless projected tunnel should open high grades which we suppose will be found under the old stopes which extend along the vein for about 2000 feet .
25. Mine, Mill Equipment & Flow-Sheet  
Dormant--in prospect stage.
26. Road Conditions, Route  
Paved highway for 6 miles S. of Prescott on Hassayampa Trail Highway, and turn south on Groom Creek "play ground road" to Grace Sparkes' Cabin across Hassayampa River. Road good to here, and then continue on Jersey Lily county Road, 2 Miles to property. Groom Creek Play Ground road from Highway to Grace Sparkes' cabin is good but very crooked. It is dirt road. There is about 2½ miles of this. I drive onto property in a Nash -8 Sedan-- Road stopped by snows occasionally in winter but not a serious item.
27. Water Supply Spring water for camp use. Hassayampa river near by for ample water. Proposed tunnel might develop plenty water for mill or even smelter use. Many fissures will be cut.
28. Brief History Property was a bonanza in 1894, and produced more than a ton of pure silver if refinery sheets could be obtained. It has been allowed to stand idle most of the time because of changes of ownership and efforts at promotion. It was formerly owned by A. C. Gilmore and J. C. Bradbury of Prescott, Ariz.
29. Special Problems, Reports Filed Report of A. B. Colwell made in 1922 after a complete survey. The property was once a mine, but neglect has returned it to nature as a prospect which must be put back on a producing basis, (if ever) the same as a prospector would do a new piece of ground.  
There are no debts on the property. Taxes paid. Individually owned. Deal with one man.
30. Remarks Willing to allow operation on a "Grubstake" plan. Or would sell outright, or on long time contract.
31. If property for sale: Price, terms and address to negotiate.  
Prefer having same operated on some co-operative basis. I will furnish the mine and allow the investors to develop in a 50-50 arrangement. No money to me unless it comes out of the mine.

32. Signature

*E. S. Perkins*

33. Use additional sheets if necessary.

REPORT OF PROF. D.A. LYONS  
Professor of Geology & Mineralogy, Stanford University.

This group of claims is situated about eleven miles south of Prescott, in Yavapai county, Arizona, being about  $1\frac{1}{2}$  miles South East of the Hassayampa River. These claims are named as follows: Zero, Zero North, Blue Jay, Quartz Reef and Mammoth.

A wagon road runs to the Zero, Mammoth and Quartz Reef properties, and on the Zero property there is a mess house, barn and an excellent spring of water.

There is no millsite or water on or adjoining the Mammoth and Quartz Reef properties. However, ores from these properties could be easily trammed by an aerial gravity tram to the Hassayampa River where a good millsite and water are to be had. From present indications it would seem that sufficient water can be obtained from the Zero Mine itself for boiler and mill purposes.

The Zero Property

The Zero ledge is a wide fissure vein consisting of a gangue of silicon, lime, baryta and some magnesia. The vein is well defined throughout. It is of a permanent nature, and the foot wall is well in place, showing no faulting or sliding; in fact, it is as clean-cut a vein as one can find anywhere. It is very much like the Yosemite vein in Bingham Canyon, Utah, which outcrops for over a mile and a half in a straight line, the walls being four to twelve feet apart. The width of the Zero vein varies from six to twenty feet and shows, whenever exposed in the workings, a putty gouge or slickensides.

About 1,600 feet of work has been done on the Zero ledge, i.e., on the Zero property. The lower tunnel has a depth of about 200 feet at the present face. From this tunnel to the surface, ore amounting to about \$45,000 in round numbers has been taken out at a cost of \$14,000.

The following is a copy of smelter returns (Philadelphia Smelting and Refining Company) of ore shipped from the Zero Mine:

| Tons  | Oz silver<br>per ton   | % Lead | Value<br>per ton | Silver<br>per ounce | Gross<br>Value |
|-------|--|--------|------------------|---------------------|----------------|
| 11.0  | 500.0  | 33.0   | 320.00           | 62 $\frac{5}{8}$    | \$3,300.00     |
| 43.5  | 340.7  | 36.0   | 205.80           | 66 $\frac{5}{8}$    | 9,005.00       |
| 28.0  | 207.7  | 17.6   | 114.83           | 66 $\frac{5}{8}$    | 3,248.71       |
| 7.0   | 222/5  | 30.2   | 144.94           | 65                  | 1,102.40       |
| 5.5   | 266.3  | 34.2   | 179.12           | 66                  | 1,033.98       |
| 34.0  | 231.7  | 23.2   | 133.71           | 63                  | 4,581.44       |
| 19.0  | 268.1  | 34.9   | 164.17           | 63 $\frac{1}{4}$    | 3,152.93       |
| 4.5   | 323.5  | 39.3   | 199.21           | 61                  | 750.84         |
| 153.5 | tons at a total valuation of<br>or an average of \$170.00 per ton. |        |                  |                     | \$26,174.05    |

Much of this ore from the levels above the lower tunnel was taken out by parties working the mine under lease.

The appearance of the vein walls and the gangue are excellent. Here we have a fissure vein with definite walls, showing no tendency in the least towards

converging or coming together, filled with good vein stuff wholly unlike the walls. Moreover, the walls are unlike each other and between the vein and the walls is considerable gouge.

Most important of these features is the fact that the constituents of this gouge material are the most favorable for the deposition of sulphides, and as for that, the beginning of the sulphide zone has just been reached when the last work was stopped. At the bottom of the sump from the lower tunnel level a small drift was run a few feet to the north and this drift showed iron sulphides when crosscut. These sulphides are not rich, but, it must be remembered that this is just the beginning and in depth we feel sure that it will be more abundant, richer in value and contain more copper.

As the Zero stands now, it is purely an engineering problem. A good vein with no faulting or twisting, which has to be sunk on. A shaft sunk in the gulch below the lower tunnel, or a station cut out in the lower tunnel and the sump continued we consider the most feasible way to work the property. The experiment will cost money, but it is a mighty good risk.

#### Mammoth and Quartz Reef Ledges.

The Mammoth and Quartz Reef claims are on the same ledge, which is a quartz vein and well defined throughout both claims, i. e., 3000 feet. This quartz vein is from ten to eighty feet wide. On the Quartz Reef a tunnel has been driven upon the vein for a distance of about 150-ft, and crosscuts have been made at various intervals on this vein for the purpose of ascertaining the width of the ledge. The ledge runs parallel to the Zero vein, and is likewise paralleled at its widest point by a large reef of bird's-eye porphyry which carries much iron. The tunnel mentioned above is very near the surface and hence is of very little practical value so far as development work is concerned, and although it has exposed streaks of ore, here and there, in the vein which are of fairly good value, yet these streaks are small compared to the width of the ledge itself. However, the ledge carries some values throughout its entire width, and the indications are such as to lead one to believe that with depth these values would increase.

As before stated, the Mammoth and Quartz Reef ledge is a parallel with and about 350-ft from the Zero vein. The Zero tunnel is some 300-ft below the outcrop of this ledge. A crosscut driven from the lower tunnel on the Zero vein to the Mammoth would serve to determine the value of the latter at this point. It would also be the means of locating any other veins which may exist between the Zero vein and the Mammoth vein which do not outcrop at the surface. The length of this crosscut would be approximately 350 feet.

(Signed) D. A. Lyons, E. M.,  
Stanford University, California.

July 1, 1904.

REPORT ON GROUP OF CLAIMS  
Owned by the  
N. C. 4 SILVER MINING CO.

The purpose of this report is to give a clear idea of the geology and mineral possibilities of your property without going into the details of its history and former operations, which can be secured from the officers of the company.

The accompanying maps and cross-section are made from surveys on the ground and show correctly the location of roads and improvements; also the position of the main gulches and relative elevation of surface points.

The property consists of thirteen claims, grouped as shown on the map, situated eight miles south of Prescott in an air line, or about twelve miles by road. It is in the Hassayampa Mining District about two miles north of the Jersey Lily and Blue Dick Mines.

The formation underlying the property is largely Yavapai schist with the somewhat later diorite intrusion showing in the eastern part. The latter being undoubtedly the edge of the main diorite intrusion lying further east.

Later intrusives are represented by an andesite dike 20 to 50 feet wide which runs in a SE and NW direction across the property, and is in turn intersected by two small quartz porphyry or rhyolite dikes running Northerly and Southerly, which constitute the veins or perhaps were only the determining factor in their location.

Yavapai Schist, as is well understood by mining men in Arizona, is a term used to designate a series of rocks, which have been folded into more or less tight vertical folds and submitted to long periods of erosion before the basal Cambrian sandstone was deposited. The term, therefore does not indicate any particular kind of rock, but must include a great variety of sedimentary, igneous and metamorphic material which has been disrupted and folded to its present vertical position. Owing to the long periods of pressure and high temperature to which they have been submitted, it is now impossible to distinguish between many of the rocks or to say by ordinary field examination, whether they were sedimentary or igneous in origin. For this reason it is not practicable to map a given Yavapai Schist area and designate just where one kind of rock ends and another begins.

The Yavapai Schist underlying the N C 4 property is mostly of igneous origin, as it is distinctly porphyritic in structure, but includes many dark colored lenses of greenstone or Chloritic Schist and several narrow beds of fine granular siliceous rocks resembling sandstone.

The formation, whether igneous or sedimentary, is characterized by a North and South schistosity or lamination.

The degree of schistosity varies, but is most marked in a belt or zone running through the claims from South to North, between the Zero vein on the West and the Whale vein on the East.

This may be properly called a mineralized zone, limited by the porphyry dikes on either side, cut through diagonally by quartz filled fissures, showing marked schistosity in its interior and capped on the ridge by the white quartz and discolored porphyry cropping to be mentioned later.

As before stated, the Schist formation shows a porphyritic structure frequently grading into a porphyritic granite, and on the east side of the Whale vein becoming more massive and granitic. The surface has a rusty appearance due to disseminated specks of hematite, and in the Schist area disintegrating easily from alteration and kaolinization of the feldspars.

While more or less indefinite in outline, the mineralized belt may be said to extend from the south end of the Whale claim to the N.W. Cor of the property, a distance of 3000 feet.

Probably the first of the post-Cambrian intrusions is the andesite dike which cuts the Schist in a tortuous E and W course as shown on the map. It has a blocky unshisted structure, flesh colored fine grained ground mass, dotted with white feldspar crystals and showing no quartz. Its course appears to have been deflected by a pre-existing fissure at the Zero vein, or it may have been faulted at that point later. It also shows evidence of faulting and disrupting at Whale gulch, where it is in contact with a tongue of diorite.

At a later period there occurred the intrusion of quartz-porphyry dikes, which in the main, followed the direction of the schistosity and had much to do with the formation of the Zero and Whale veins. These dikes are from six to ten feet wide, white in color, tho frequently spotted with iron and manganese oxides. They are greatly altered and show no crystalline structure except frequent quartzes. Where exposed in underground workings they absorb water and cave indefinitely, but stand well when dry.

Both the old Zero and Whale mines workings are in these dikes, and the lead and silver ores wherever shown on the property are in connection with one or the other of them.

There remain two conspicuous features to be mentioned, viz., the dark colored iron and manganese stained porphyry outcrop at the top of the ridge, and the prominent outcrop of white quartz to the west of it. I am inclined to think that the two phenomena are related, the quartz mass being a segregation of the silica derived from the porphyry. The latter appears to be an enlargement of the East (Whale) porphyry dike, possibly due to an East and West fissuring of the pre-Cambrian Schist, of which there is some evidence on the road further up the ridge.

The porphyry outcrop is in the shape of a long oval probably 100 by 300 feet in size, the long axis being Easterly and Westerly. It shows no sign of schistosity or structure, being simply a mass of iron and manganese stained ochereous material, breaking into irregular chunks.

The quartz outcrop may be termed a Westerly extension of the porphyry. It forms a conspicuous landmark, rising eight or ten feet above the surface with a length of 125 feet in an Easterly and Westerly direction. It bears no resemblance to the quartzite lenses frequently noticed in the Turkey Creek and Mayer Districts, as its long axis is directly across the schistosity instead of parallel to it. Structurally it shows traces of North and South schistosity and appears to be a siliceous replacement of the country rock. At the west end it turns Northerly down the hillside and continues to the gulch, where it is abruptly terminated, possibly by a fault. It is also developed to a depth of 100 feet by the Boyle tunnel shown on map. In the tunnel the quartz stands vertical with the schist and is apparently a replacement of the latter. Near the face of the tunnel, unoxidized stringers of sulphides are beginning to show with traces of copper.

The normal course of the East porphyry dike should bring it in the vicinity of this tunnel, but surface croppings show that it has been deflected locally a hundred or more feet to the East.

The first mining done on the property, several years ago, was on the old Zero (now Ruby Silver) vein, and consisted in the extraction in the easiest way possible of a rich shoot of silver-lead ore (152½ tons averaged 268 oz silver and 29% lead). Commencing near the top of the ridge where it was opened by surface cuts and then by lower tunnels until the bottom of the shoot was apparently reached at a depth of 200 feet by the tunnel running in from the gulch.

The same dike or vein has been extensively prospected at shallow depths for a distance of 2000 feet North, and several small lenses of similar ore mined.

The conditions most favorable to ore deposition appeared to exist at the intersection of the quartz-porphry dikes with the andesite dike. The same conditions undoubtedly continue to greater depths, and I see no reason why properly directed development work should not disclose the downward extension of the ore shoot. The Boyle tunnels show extensive silicification of the schist and traces of copper and gold mineralization, but at some distance from either of the quartz-porphry intrusives. You have heavy masses of quartz at one place on the surface and ore-bearing porphyry dikes at another, not far distant. In my opinion they are related, and future development should be directed toward getting under these outcrops at a point where the extensive silicification of the schist may be found in conjunction with the porphyry intrusions.

Gold values and traces of copper are frequently found in small quartz veins running through the pre-Cambrian schists, but in the district silver-lead ores are nearly always more or less closely associated with the later intrusives.

The extension of the Boyle tunnel would reach favorable territory, but at a depth of only 150 feet. The better plan has been suggested of a crosscut tunnel from the gulch on the Water Fall claim. This would necessitate a tunnel 2000 feet or more in length, which would cut under the quartz cropping at a depth of 587 feet and reach a depth of 680 feet if produced to a point under the upper road.

The advantages of working by tunnel are obvious: low cost compared to shaft sinking, both in equipment and operation, and relief from pumping expenses, are the most important.

Two thousand feet of tunnel can be run for what it would cost to sink a shaft 500 feet, with the added advantage of accomplishing valuable development work the full length of the tunnel.

In my opinion the expenditure necessary for this purpose is warranted by the surface indications and the results of superficial development so far accomplished.

(Signed) A. B. Colwell, E. M.,  
Jerome, Arizona.

Prescott, Arizona,  
December 5, 1922.

May 27, 1957

NC-4 LODE MINE (file)  
( ZERO, ZERO NORTH,  
BLUE JAY, QUARTZ REEF &  
MAMMOTH )

YAVAPAI COUNTY

No information on this property.

MARK JEMMILL

See: U.S.G.S. Bull # 782 p117, 22,25,29,44

A.B.M. BULL. #140, p. 101

NC-4 LODE MINE

Ag, Pb, Cu, Au

Yavapai

13 - 4

T 12 $\frac{1}{2}$  N, R 2 W

Eli S. Perkins, 235 N. Mt. Vernon, Prescott

'40

MAP OF

Nch LODE MINE

Yavapai County



Mr. Eli S. Perkins

912 N. second St.

Phoenix, Arizona

*6244533  
Dnt Permitt*

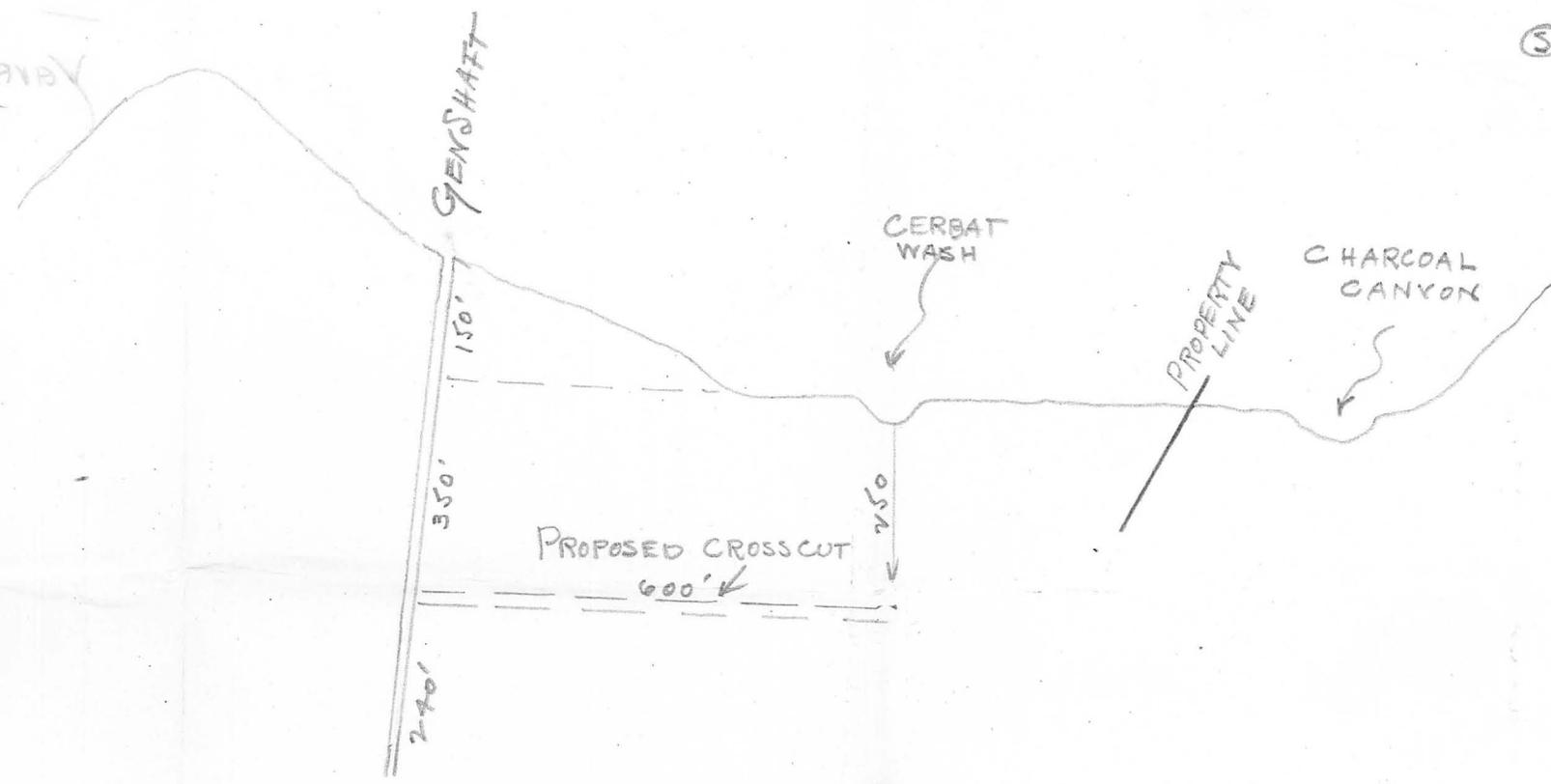
- Reason for non-delivery:
- Moved-left no address
  - Unknown
  - No such number
  - Refused
  - Unclaimed
  - Deceased

Initials: R. No:

*12100*

McF Lake Mine (2)

YARRA CO



150'  
350'  
240'

PROPOSED CROSSCUT  
600'

CERBAT  
WASH

PROPERTY  
LINE

CHARCOAL  
CANYON

Rough cross section of Balden Sun property showing position of Cutat & Charcoal and proposed cross cut.