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PRINTED: 06-09-2010

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: DUCO BOY

ALTERNATE NAMES:

ARIZONA STANDARD MINING
OLD BRADSHAW WORKINGS
FOSTER CLAIMS
BUNKER HILL GROUP
MUTUAL OIL
SUNNYSIDE,SUNSET & SUNRISE

YAVAPAI COUNTY MILS NUMBER: 937

LOCATION: TOWNSHIP 9 N RANGE 2 W SECTION 32 QUARTER N2
LATITUDE: N 34DEG 04MIN 59SEC LONGITUDE: W 112DEG 29MIN 31SEC
TOPO MAP NAME: COPPEROPOLIS - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD
SILVER
LEAD
COPPER
ZINC
VANADIUM

BIBLIOGRAPHY:

USGS COPPEROPOLIS QUAD
BLM MINING DISTRICT SHEET 239
ADMMR DUCO BOY MINE FILE
WEED, W.H. THE MINES HANDBOOK VOL XVI 1925
P 245
CLAIMS EXTEND INTO SEC 29, 31 & 33
BLM MINERAL SURVEY MS 4180



T9N Raw Sec 32
CLAIM GROUP
DUCO BOY / BRADSHAW MINE



RESERVE INDUSTRIES CORPORATION

DUCO BOY MINE PROPERTY
C. S. Ferris, February 1988

INTRODUCTION

History

Mr. Ken A. Phillips, Chief Engineer with the Arizona Department of Mines and Mineral Resources, furnished a copy of that Department's files which indicate that the patented claims in section 32, T 9 N, R 2 W, Yavapai Co., Arizona are known as the "Duco Boy". Other names for the claim group are Bunker Hill Mine and Old Bradshaw Workings. The files include property reports by La Liberte (1933), Dailey (1931?), Keddington (1935?), and file memos by Gemmill (1952), Johnson (1970), and Phillips (1981). Based mainly on remarks by La Liberte, Ira Bradshaw, for whom the surrounding Bradshaw Mountains are named, discovered mineralization on the Bunker Hill group of claims in perhaps 1870. (Bradshaw was buried on the property in 1885 and his grave may be observed there today.) In 1923 the ten claims of this report were the main property of the newly-formed Arizona Standard Mining and Milling Co. Subsequently there was litigation, and a new group of owners joined these claims as the Duco Boy Mining Group. In 1933 the claims reverted to Mrs. Iva May Gerig Keddington, the daughter of a Mr. Gerig who controlled the Arizona Standard Mining and Milling Co. Mrs. Keddington caused the claims to be patented in 1935. Subsequently the Glenarm Land Co., of Phoenix, was listed as owner (Johnson, 1970), but Mrs. Keddington, who was sometimes known as Miss Iva May Gerig, is listed as owner in Phillips' 1981 report in which he states she sold it for \$89,000 on 5 January 1981 to Donald Hall and David Welton who evidently bought the property for Mutual Oil Company of America.

work done and some of the previous workings such as shafts and adits. Some distances and bearings are very useful; in other cases however distances are given with direction only general, such as northeast. Nonetheless, the Keddington statement and the survey are the only documents of any practical use. The claim plat was enlarged to the exact scale of the topographic map accompanying my report, and was of considerable use in the field.

GEOLOGY

Regional Geology

Geology of the Castle Creek district is described by Lindgren (1926, p. 182-184) and is summarized in CRIB Mineral Resource File 12, Record 02806, p. 7786. Tertiary volcanic flows, agglomerate, and tuffs were poured out on the deeply eroded basement complex of Precambrian granitic and metamorphic rock. The Precambrian complex is probably early Proterozoic (1750 million years or older), and consists of a belt of Yavapai schist intruded by Bradshaw granite. In the general vicinity of the claims the schist consists of amphibole gneiss, quartz-feldspar gneiss, and chloritic and micaceous schistose rocks (as bodies mostly too small to map) which are engulfed in granite. The granite has a number of phases ranging to granodioritic, porphyritic, aplitic, and pegmatitic. Black crystals of tourmaline are common in some of the pegmatites.

Tertiary volcanics include rhyolite, andesite, andesitic flow breccia or agglomerate, and basaltic vesicular andesite.

Geology of the Claim Area

There is no rhyolite within the claim block. My map distinguishes andesite and granite in their broader definitions, and outlines one area of schist. Schist and gneiss are common in the road cut just east of the shaft at Bunker Hill 4, but outcrops were too limited to map its extent. The presence of schist there is consistent with descriptions of mineralization found in the

No. 3 tunnel (adit) (Keddington 1935? and Dailey 1931?) at or near its intersection with the shaft.

Mineral Deposits

Castle Creek District. Although he does not mention the Bunker Hill and other claims in this group, Lindgren (1926, p. 183-187) does describe other veins and mines in the Castle Creek district. He recognizes copper-iron veins containing specularite and chrysocolla and locally gold and silver, and he recognizes lead veins. One finds both these types at the Duco Boy property. Lindgren thought both types were of Precambrian age. It is hard to prove the age of the copper-iron veins in granite. They could be entirely Precambrian. Some of the other veins, as discussed below, are in andesite which is of Tertiary age, however. Furthermore, there are copper shows in andesite (samples 8 and 35) and barite in granite (samples 18 and 36) which suggest the two vein groups are not entirely separate. It can be argued that the calcite common in veins in andesite (and largely absent from veins in granite) comes not from a distinctly different hydrothermal fluid but from a hydrothermal fluid altered chemically by the calcium rich andesite host rock. In any event, vein mineralogy tends to differ with proximity to andesite, and, contrary to Lindgren, at least some of the veins are of Tertiary age.

Reports. Reports by La Liberte, Dailey, and Keddington, as mentioned above, refer to a number of veins but in such an imprecise way that substantiation proved impossible in many instances. Nonetheless, they all noted the iron-copper vein on the Sunrise-Sunset claims and the Bunker Hill shaft. The most interesting data concern the Bunker Hill shaft and adit, and are to the effect that the vein widens from 1-1/2 feet at the surface to 5 feet at the bottom (156 feet), and that the three samples taken of the ore underground at the contact of granite and schist by Dailey averaged .37 oz. of gold per ton.

Sample Results. Analytical data are best utilized by grouping the samples according to type, location, or vein system. The sample locations appear on the map. Analytical values are reproduced from the Skyline Labs reports as an appendix to this report. Sample descriptions, simplified, are given with the discussions of results below.

At the east end in the center of the Sunrise claim is a specularite (steel-colored iron oxide) vein which is intermittently exposed. Locally it contains small zones of the copper minerals chalcocite, chrysacolla, malachite, and azurite. The trend of the vein is N 70° W, and it dips very steeply. The vein is actually just two or three feet wide at best, but iron mineralization extends perpendicularly along narrow cross fractures into the granitic country rock for another several feet. The specularite turns red upon weathering and migrates away from the veins to coat otherwise fresh granitic outcrops, boulders, and gravel. The result is that the vein appears to be as much as 100 feet wide. (This occurs also at several other locations at or near the claim block to the northwest.) Sample 1 consists of specularite and blue copper minerals with minor tabular barite. Copper is later than specularite. Vugs with quartz crystals are coated by small specularite plates. There is little or no calcite. Of the elements in the table, only gold and silver are shown because this sample was tested for a different suite of indicator elements at a time previous to the other samples in the group. Samples 1, 11, 12, 14, 16, and 17 had visible copper minerals. Where the copper-bearing part of the vein could still be seen in place, as at the site of sample 14, it is only a few inches wide. The vein is exposed in a spotty sort of way by old diggings, giving the impression that it is really a series of small pipes only a few feet wide. More likely, it is a series of cymoidal loops. In any case the width, while difficult to discern exactly, is only a few feet at most. Sample 13 was taken of thin quartz veins and crystals in granite on the north side of the vein. Cu, Ag, and Au

contents fall dramatically. Sample 15 is float of silicified hematitic breccia with thin quartz veins. It too is low in Cu, Ag, and Au. Sample 17 attempted to concentrate specularite from brecciated granite and the very minor copper show. Although this sample contained 0.23 OPT gold (7.9 ppm), the highest value found, the association of gold with copper is only general; there is not proportionately more gold as copper mineralization increases.

SUNRISE GROUP

Sample	Au	Ag	Cu	Zn	Pb	Ba	V (ppm)
1	.19	3.0	—	—	—	—	—
11	5.50	4.7	50,000	55	170	470	225
12	1.00	4.1	85,500	15	175	5,050	135
13	.03	0.8	340	50	75	280	35
14	.58	3.8	50,500	20	95	4,300	80
15	.04	1.0	80	60	65	1,250	30
16	2.10	7.6	144,000	50	560	11,500	430
17	7.90	2.2	6,850	215	120	500	75

The granite wall rock is brecciated and fractured. Alteration ranges from silicification to rotten and crumbly to argillic. The analyses show that metals do not increase in any kind of altered granite; rather they are highest in the iron-rich (specularite or hematite) parts of the vein where copper sporadically occurs. Barite is moderately high in 16, as zinc appears to be also, but the copper-iron veins are characterized by low vanadium, zinc, lead, and barium when compared to other types of veins on the property, as will be shown below.

SUNSET GROUP

Sample	Au	Ag	Cu	Zn	Pb	Ba	V (ppm)
2	.05	14.0	170	~ 5%	37,500	—	6,400
18	.24	19.0	4,800	12,500	8,300	9,450	1,050
19	.14	22.0	230	67,000	131,000	1,900	15,000
20	.07	10.0	215	40,500	46,000	1,250	7,800

In the southern part of the Sunset claim is an old 36 foot long trench trending N 03° E in andesite. It is only a few feet wide, largely caved in, and has fresh andesite on either side. But there are loose calcitic mineralized rocks in the trench and small piles of them along the east side above the trench and at the south end. Sample 18 is from the northern pile, 19 from the central, and 2 and 20 are from the southern end. Exposures are so limited that it simply is not known whether the vein trends in the same direction as the trench or not. Fresh andesite on the sides suggests that the trend is northerly. Silver values are between one third and two thirds of an ounce per ton. Sample 18 is different from the rest in having much more copper, less zinc, less lead, more barium, and less vanadium. Only minor copper was seen. Evidently these veins, rich in calcite, tend to be primarily lead-zinc veins with significant silver and minor gold. Locally there can be copper and barite which evidently correspond to lowered amounts of other base metals. Very late stage orange-yellow crystals on some of the rocks are a lead vanadate known as vanadinite. There appears to be a related lead phosphate, pyromorphite, as well. These minerals form from lead deposits, which helps to explain why galena was not seen, nor anglesite or cerussite, and why vanadium is high.

The Bunker Hill 4 group of samples are from diverse vein mineral assemblages. Number 21 is copper-stained granitic rock, variably altered. There is a circular dump of rocks at this site, and the copper-stained rocks constitute only a small proportion. It isn't known whether the rocks were dug from here (with later modification of the diggings) or if they were brought from somewhere else. Like copper-rich granitic samples from the Sunrise group, it tends to also run relatively high in gold and silver as well, and relatively low in lead, vanadium, barium, and zinc.

BUNKER HILL 4 GROUP

Sample	Au	Ag	Cu	Zn	Pb	Ba	V (ppm)
21	7.50	10.0	53,000	465	490	140	165
22	.01	1.0	940	225	130	280	40
23	.04	0.8	370	130	75	570	30
36	.01	1.8	1,200	190	65	9,050	25
3	.01	0.4	—	—	—	—	—
40	.01	2.0	1,700	2,000	890	730	65
10	.03	2.8	—	—	7,800	—	—
24	.03	8.9	30	7,350	670	40,000	90
25	.01	2.5	25	1,050	8,800	500	120
26	.12	14.0	40	46,500	61,000	6,950	4,150
27	.02	9.6	20	1,000	4,750	23,500	75
28	.03	4.0	200	930	5,100	13,500	90
9	.03	3.4	—	—	8,200	—	—

Samples 22, 23, and 36 are from a brecciated granite zone more than 30 feet wide, trending N 84 E. They are partly silicified and iron-stained but show no copper, although it is geochemically anomalous, and have rather little gold and silver. Sample 36 is relatively high in barium for a granitic rock with low zinc and lead, but the sample is not far down hill from the carbonate vein which is high in barium.

Samples 3 and 40 are from fractured, "rotten" (crumbly) altered granite east of the shaft. They were taken at different times for different purposes. (In fact, the first 10 samples were taken in November 1987 and tested for elements mostly different from those of samples 11 through 40, which were taken in January 1988.) They show low concentrations of precious metals, and sample 40 is something of a transition between the copper-rich samples and the Zn-Pb-Ba group, possibly because of its proximity to the nearby vein.

In contrast to the copper and iron stained veins in granitic rocks, samples 10, 24, 25, 26, 27, 28, and 9 are from a northwest trending calcite-rich vein which tend to be gray to black instead of rusty or red. The samples tend to be low in copper and high in barium, lead, and zinc. At the site of sample 24 the black carbonate vein outcrop (on which the shaft is sunk) is 2 to 3 feet wide, strikes N 55° W, and is approximately vertical. Sample 25 is dumped carbonate vein material. Sample 26 is very siliceous rock from the same vein dumped 36 feet northwest of the shaft. Sample 27 is an outcrop, 3 to 4 feet wide, of the vein which is in part siliceous, in part calcitic, and in part brecciated granite. All three types constitute the sample. Samples 28 and 9 are from a dump from the adit southwest of the shaft and are presumed to be of the same vein material. Evidently this vein is a zinc,-lead-barium-calcite vein with low but detectable gold and anomalous but far-from-economic silver. It is similar to the vein of the Sunset group, and even has one sample with visible late stage vanadium minerals and relatively high vanadium content.

LEXINGTON GROUP							
Sample	Au	Ag	Cu	Zn	Pb	Ba	V (ppm)
32	.01	9.6	15	880	55	182,000	45
33	.01	7.1	15	4,450	1,000	3,350	65
34	.02	4.1	20	2,400	8,100	4,250	80
31	.01	2.5	4,250	195	35	1,250	55
37	< .01	2.9	200	70	20	1,250	25

In a gulch in the center of the southeast half of the Lexington claim is an unexplored vein which strikes N 70° W, dips 67° S, is 9 feet wide, and consists of three visually distinct parts. The northern layer of the vein, sample 32, is 1 to 2 feet thick, stands out in relief, contains many white barite blades, and has late calcite crystals. The middle zone, sample 33, is 6 to 7 feet thick, softer, mainly crushed, brecciated altered granite fragments. The southern layer is 1 foot wide, black

calcitic (like the vein at the Bunker Hill 4 shaft), with white calcite veinlets. The vein does not show up on the west side of the gulch. The analyses show that in general this is a calcitic vein with anomalous silver, barely detectable gold, low copper, high barium, lead, and zinc much like the vein at the shaft. It is a well exposed composite vein, however, and it illustrates that different parts may vary greatly in lead or barium.

On the other hand, sample 31 is hematitic brecciated granite with some silicification and euhedral quartz. It is similar to some of the less mineralized parts of the Sunrise vein, sample 15 for example. Sample 37 is from a poorly defined zone of hematitic granite, some of it brecciated, with minor quartz crystals. It is simply iron veined and stained granite mildly anomalous in copper and barium and low in everything else.

BUNKER HILL 6 GROUP							
Sample	Au	Ag	Cu	Zn	Pb	Ba	V (ppm)
38	.01	1.2	265	400	22,500	1,100	15
39	< .01	4.2	580	1,250	2,750	540	80

These samples are from a filled-in shaft which, judging from the draw works remains, was a serious effort at one time. No veins could be observed in the granite wall rocks, but there is calcitic, black and reddish sheared altered granite on the dump (sample 39), and black, calcitic, vuggy vein fragments on top of a wall made of granite about 30 feet away. These presumably came from the shaft. The occurrence is essentially calcite, locally high in lead, and otherwise low in precious metals and only mildly anomalous in the others. Of course, much better ore may have been removed; but there is no sign that the mineralization was extensive.

BUNKER HILL 5 GROUP

Sample	Au	Ag	Cu	Zn	Pb	Ba	V (ppm)
29	.02	450.0	1,200	235	640	4,500	90
30	.02	4.7	105	340	45	104,000	65
35	.03	1600.0	79,500	1,250	40	270,000	115
8	.15	260.0	23,000	--	530	--	--

The samples in this group are widely distant from each other, but are in part structurally related and in part geologically and geochemically related. There are important differences as well. Samples 29 and 30 came from north-northwest trending, northeast-dipping calcite veins 2-1/2 to 3 feet wide which also contain silica. Sample 30 has visible barite. Sample 29 is not very remarkable except that it carries 13 OPT silver in calcite containing ribbons of silica. Samples 8 and 35 are copper-stained barite concentrations of unknown extent and orientation exposed in a bulldozer road near the eastern end of Bunker Hill 1. Width is probably narrow, but hardly any mineralization remains visible in place. Again, there are good silver values, 7.6 OPT in number 8 and a very nice 47 OPT in number 35. These are different from the other two in having visible copper and somewhat more barite. All four samples are in andesite. It is interesting that except for 8 and 35, all the other copper shows have been in hematitic granite.

Summary. There are two main kinds of veins: hematite-copper, and calcite-barite-lead-zinc. The hematite-copper veins trend westerly to west-northwesterly in granite and tend to be low in lead, zinc, and vanadium. Generally they are also low in barium. They have minor to moderate degrees of silicification. They are only a few feet wide at most, but there are associated mineralized cross fractures which extend several feet perpendicular to the veins. As the specularite weathers to hematite and is transported laterally from the veins, large reddish areas develop in the granite which is otherwise fairly fresh and unmineralized. Gold is notable strongest in those parts of the veins that contain

visible copper; where copper was observed in dump rock it was a relatively minor part of the total mineralization, and where it was observed in place it was less than one foot wide.

The calcite-lead-zinc-barite veins occur in both andesite and granite. Locally, silicification is important. Where attitudes could be obtained they also are northwesterly, but with a stronger north component than the hematite-copper veins. In addition to higher lead and zinc, they tend to be significantly higher in barium and in some cases vanadium. Copper is usually low. An interesting exception is the Bunker Hill 5 group which contains some high-copper, low-lead samples which are nonetheless high in barium and silver. This group is confined to andesite.

SUMMARY

The general area is underlain by a Proterozoic basement complex consisting of Yavapai schist and Bradshaw granite upon which Tertiary andesitic and rhyolitic rocks have been deposited. Rocks at the claim group are mapped simply as andesite and granite, with included schist and gneiss being common but not usually mappable.

Hematite-copper veins are seemingly confined to granitic areas, and calcitic lead-zinc veins with local concentrations of silver, barium, and vanadium tend to occur in or near andesite. The hematite-copper veins tend to strike west to somewhat north of west, while the carbonate veins range from west-northwest to nearly north.

Reports of good gold and silver mineralization could not be substantiated because of lack of access to workings or because locations were not found. Nonetheless, veins containing copper, silver, gold, lead, zinc, barium, and vanadium were found at a number of widely distant locations within the claim block. Observation and sample results indicate that:

1. Potential for bulk minable deposits is low.
2. The veins can locally carry significant silver.
3. As much as 47 OPT silver were found where there had not been old workings (sample 35).
4. Gold values to 0.23 OPT were found, but the higher gold values tend not to correlate with high silver values.
5. If reports about the Bunker Hill shaft and adit are true, the veins can widen with depth and carry better gold than I found.

There has been no drilling of the veins. Silicification in parts of the veins suggests the possibility of metal zoning downward. There has been no recent systematic examination of the veins known to exist in the vicinity of samples 10, 29, and 30. The high silver mineralization at samples 8 and 35 is very poorly defined; is it as small and isolated as it seems? The Sunset group of samples are likewise from a poorly known vein. Excavation, careful mapping at a scale of perhaps 1 to 2400, and lines of geochemical soil samples perpendicular to projected strikes of veins ought to provide better data about these interesting but elusive shows. The Sunnyside claim is on strike with the Sunrise vein and would appear to have a good chance to be mineralized.

CONCLUSION

What has been found so far seems to be uneconomic at practical scales of operation for most mining companies, but in fairness it must be pointed out that drilling is not known ever to have taken place, even where ore was said to have been extracted, and there are surface shows that have not been followed up conclusively. There is no evidence of past geochemical surveys or detailed mapping.

Careful prospecting, mapping, and soil geochemistry could be applied to find more veins, extend known veins, and develop more complete knowledge of the surface clues to mineralization. Veins

several feet wide, or vein concentrations and intersections could very reasonably be better exposed by backhoe or dozer. Where precious metals occur in a structure of minable width drilling would be justified, especially where veins have mixed carbonate and silica gangue. Drilling at the Bunker Hill shaft and adit might be undertaken, depending on the degree to which underground rehabilitation, mapping, and sampling is possible and the results of such work.

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REPORT OF ANALYSIS

JOB NO. MFG 061
December 3, 1987

Reserve Industries
Attn: C. S. Ferris
9555 Ralston Road
Arvada, Colorado 80002

Arden Anderson Project

Analysis of 10 Rock Samples

FIRE ASSAY							
ITEM	SAMPLE NO.	Au* (ppm)	Ag (ppm)	Pb (ppm)	Mo (ppm)	As (ppm)	Hg (ppm)
1	AAR-01	.19	3.0	150.	12.	25.	.82
2	AAR-02	.05	14.0	37500.	<2.	385.	48.00
3	AAR-03	.01	.4	N/R	<2.	10.	.16
4	AAR-04	.01	.2	20.	<2.	25.	.07
5	AAR-05	<.01	<.2	15.	<2.	10.	.03
6	AAR-06	.03	<.2	10.	<2.	25.	.03
7	AAR-07	.01	<.2	10.	<2.	<5.	.06
8	AAR-08	.15	260.0	530.	<2.	15.	.92
9	AAR-09	.03	3.4	8200.	2.	20.	.55
10	AAR-10	.03	2.8	7800.	<2.	85.	.50

ITEM	SAMPLE NO.	Cu (ppm)	V (ppm)
1	AAR-01	25000.	N/R
2	AAR-02	170.	6400.
4	AAR-04	10.	N/R
8	AAR-08	23000.	N/R

Gordon H. VanSickle

Gordon H. VanSickle
Manager

NOTES: 1) * = Fire Assay/A.A.Finish

2) N/R = Analysis not requested

FIRE ASSAY			
ITEM	SAMPLE NO.	Au (ppm)	Pb (ppm)
21	AAR-11	5.50	170.
22	AAR-12	1.00	175.
23	AAR-13	.03	25.
24	AAR-14	.58	95.
25	AAR-15	.04	65.
26	AAR-16	2.10	560.
27	AAR-17	7.90	120.
28	AAR-18	.24	8300.
29	AAR-19	.14	131000.
30	AAR-20	.07	46000.
31	AAR-21	7.50	490.
32	AAR-22	.01	130.
33	AAR-23	.04	75.
34	AAR-24	.03	670.
35	AAR-25	.01	8800.
36	AAR-26	.12	61000.
37	AAR-27	.02	4750.
38	AAR-28	.03	5100.
39	AAR-29	.02	640.
40	AAR-30	.02	45.
41	AAR-31	.01	35.
42	AAR-32	.01	55.
43	AAR-33	.01	1000.
44	AAR-34	.02	8100.
45	AAR-35	.03	40.
46	AAR-36	.01	65.
47	AAR-37	<.01	20.
48	AAR-38	.01	22500.
49	AAR-39	<.01	2750.
50	AAR-40	.01	890.

ITEM	SAMPLE NO.	Ag (ppm)	Cu (ppm)	Zn (ppm)	Ba (ppm)	V (ppm)
21	AAR-11	4.7	50000.	55.	470.	225.
22	AAR-12	4.1	85500.	15.	5050.	135.
23	AAR-13	.8	340.	50.	280.	35.
24	AAR-14	3.8	50500.	20.	4300.	80.
25	AAR-15	1.0	80.	60.	1250.	30.
26	AAR-16	7.6	144000.	50.	11500.	430.
27	AAR-17	2.2	6850.	215.	500.	75.
28	AAR-18	19.0	4800.	12500.	9450.	1050.
29	AAR-19	22.0	230.	67000.	1900.	15000.
30	AAR-20	10.0	215.	40500.	1250.	7800.
31	AAR-21	10.0	53000.	465.	140.	165.
32	AAR-22	1.0	940.	225.	280.	40.
33	AAR-23	.8	370.	130.	570.	30.
34	AAR-24	8.9	30.	7350.	40000.	90.
35	AAR-25	2.5	25.	1050.	500.	120.
36	AAR-26	14.0	40.	46500.	6950.	4150.
37	AAR-27	9.6	20.	1000.	23500.	75.
38	AAR-28	4.0	200.	930.	13500.	90.
39	AAR-29	450.0	1200.	235.	4050.	90.
40	AAR-30	4.7	105.	340.	104000.	65.
41	AAR-31	2.5	4250.	195.	1250.	55.
42	AAR-32	9.6	15.	880.	182000.	45.
43	AAR-33	7.1	15.	4450.	3350.	65.
44	AAR-34	4.1	20.	2400.	4250.	80.
45	AAR-35	1600.0	79500.	1250.	270000.	115.
46	AAR-36	1.8	1200.	190.	9050.	25.
47	AAR-37	2.9	200.	70.	1250.	25.
48	AAR-38	1.2	265.	400.	1100.	15.
49	AAR-39	4.2	580.	1250.	540.	80.
50	AAR-40	2.0	1700.	2000.	730.	65.

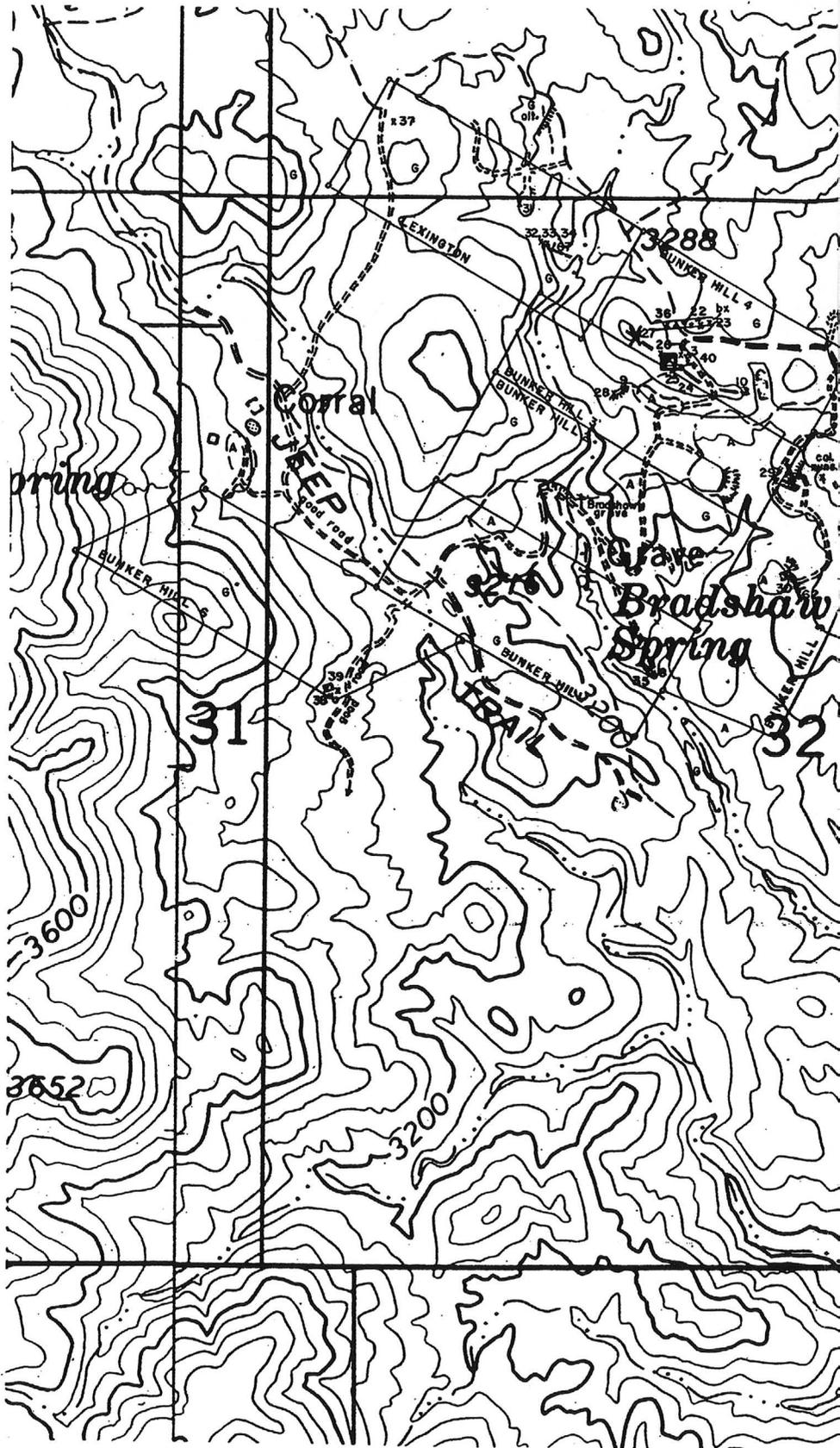


Gordon H. VanSickle
Manager

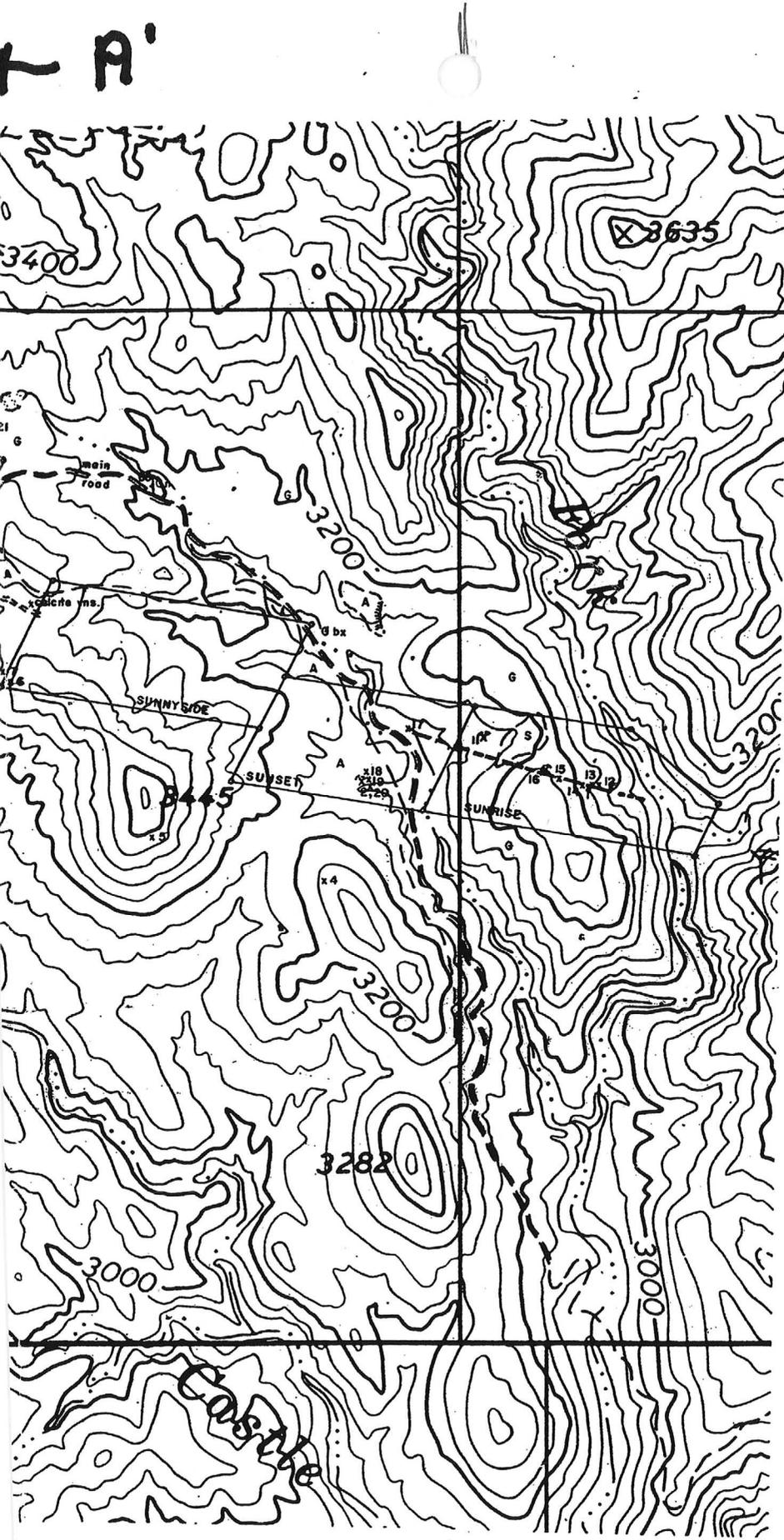
SHAFT 9 FT. DEEP
 SAMPLE 29
 2.5 FT. CALCITE VEIN WITH RED SILICA RIBBONS
 ANDESITE
 TRENCH
 DOZER CUT NO VEINS
 PIPE BHC
 EEC

0 50
 FEET

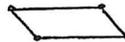
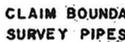
SHAFT FILLED IN.
 PIPE, CABLE, BRACES PRESENT
 WINCH DRUM
 GRANITE
 ROCK WALL
 PIPE BHC-1

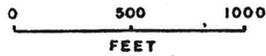


DUCO BOY MINE PROPE
 YAVAPAI CO., ARIZONA
 T. 9 N., R. 2 W.



EXPLANATION

-  CLAIM BOUNDARIE
-  SURVEY PIPES
-  62 VEIN, SHOWING DIP
-  APPROXIMATE LOCATION OF VEIN
-  BRECCIATED ZONE
-  bx BRECCIA
-  DUMP OR EDGE OF DOZED AREA
-  ROAD
-  x 13 SAMPLE SITE, NUMBER
-  * PROSPECT PIT
-  ■ SHAFT
-  — ADIT
-  A. ANDESITE (TERTIARY)
-  G GRANITIC ROCKS (PRECAMBRIAN)
-  S SCHIST (PRECAMBRIAN)
-  Gn GNEISS (PRECAMBRIAN)
-  55 STRIKE AND DIP OF FOLIATION



ATTACHMENT
FOR FERRIS FEB 1988
REPORT

TY
PREPARED FOR
ARTHUR ANDERSEN & CO.
BY C.S.FERRIS, FEB. 1988
RESERVE INDUSTRIES CORP.



ARTHUR ANDERSEN MINING CLAIM GROUP
YAVAPAI COUNTY, ARIZONA

C. S. Ferris
3 December 1987

INTRODUCTION

The accounting firm of Arthur Andersen and Co. has received as payment for services to Mutual Oil of America a group of ten mining claims patented via mineral survey number 4180. The patent number is 1100095. The claims are contiguous and form, as a group, an irregular polygon mostly in the northern half of section 32, T9N, R2W, but with projections extending into sections 31, 29, and 33 (see map). This is about 20 miles east of Wickenburg.

I was asked to look at the ground and thereby determine, if possible, whether it possesses potential for hosting a mineral deposit economic by today's standards, especially a bulk-minable gold deposit. It is recognized that inasmuch as the claims are patented they are essentially real estate and have some value as such apart from mineral potential. It was learned that Arthur Andersen officials have not visited the property. Therefore, my report will also discuss the general appearance of the land, and access.

ACCESS

Access is difficult. Recently access by vehicle has been rendered nearly impossible by torrential rains having washed out roads which had remained passable for years, at least with four-wheel drive vehicles.

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There is a new paved road, from Morristown (about 10 miles south-east of Wickenburg) eastward to the Lake Pleasant Park and to U.S. hwy. 17. It is not on the USGS PHOENIX 1° x 2° sheet (1:250,000) but Morristown, Lake Pleasant, and Castle Creek (which runs through the property farther north) are on the map, so it seems logical to take this new highway (state no. 74) to Lake Pleasant and pick up the Castle Hot Springs road from there and go northwestward to the claim block via Castle Creek. However, the appropriate signs for doing this are not posted and there are plenty of wrong alternatives, so initial entry from Lake Pleasant is not advised.

A more certain approach is the Castle Hot Springs Road from Morristown (or east of Morristown where it crosses state hwy. 74). It can be followed northeasterly across the Red Picacho and Garfias Mountain 7 1/2 minute USGS topographic quadrangles to Castle Creek. However, instead of going up Castle Creek directly as shown on the northeasternmost part of the Garfias Mountain map, one should turn northward (left) where a small green sign says Castle H.S. This occurs where a short segment of the Castle Hot Springs road arcs northward into southern section 30, southeast part of the Copperopolis 7 1/2 minute quadrangle map. The road winds down to a spot marked "well", which is now a county road maintenance station. From there it goes northwesterly up Castle Creek. This was washed out by flash floods but the mining equipment operator restored the road to 4WD traffic as far as "Briggs" and then northward to his operation in central sec. 33, T.9N., R.2W., a mile east of the Arthur Andersen property. At the time of my visit a large mobile gravel crushing or washing plant had partly slid off the road north of Briggs (point A, topo map), obstructing it to all but narrow vehicles. Regardless, there is a jeep road in southern sec. 33 at the point marked 3038 which goes through the property. However, the road is badly washed at point B and a very large boulder is in the way. Only expert maneuvering of narrow 4WD vehicles (of which my full size Blazer was not one) can achieve passage, and then only at considerable risk of falling

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into a gulch. Otherwise, most of the jeep road is not too bad. I gained access by parking near Briggs and hiking up through the Box and either taking the stream northwestward to the center of section 32 or by taking the first gulch to the east just north of the Box and following it north to the jeep road. From Wickenburg, then, one drives 9.8 miles on hwy. 80-89-93 to hwy. 74; 0.9 miles on hwy. 74 to Castle Hot Springs road turn off; 20.2 miles on Castle Hot Springs road to turn off down to road maintenance station on Castle Creek; 7.7 miles on that turn off up the creek to Briggs. The 20.2 mile segment and the 7.7 mile segment each take 40 minutes.

Another way in is on the Constellation road, which begins next to the Mobil station east of the Hassayampa River bridge in Wickenburg. It is rougher than the Castle Hot Springs road. It goes easterly past the Monte Cristo and Gold Bar mines, north in O'Brien Gulch to "corner spring", then up Amazon Gulch a few hundred yards to a jeep trail going up through SE/4 sec. 22, sec. 23, NE sec. 26, western sec. 25, northern sec. 36, and north to the Crown point mine as marked on the Morgan Butte 7 1/2 minute USGS topographic map. From Wickenburg to the jeep road is 16 miles; use the Wickenburg, Sam Powell Peak, and Morgan Butte 7 1/2 minute topographic maps. There is reason to believe most of this road is in fairly good condition, but I found it essentially washed out a short distance up hill from Amazon Gulch so did not drive it. There are other roads in the area (visible from a distance) which are not on the maps.

Finally, according to some local 4WD enthusiasts, there is a road leading northeast from the property (true enough, and it's in good condition) which goes eventually to a junction with roads eastward to the Crown King mine and westward to Yarnell. Such roads are not shown on the Prescott 1° x 2°, 1:250,000 map so I did not have the corresponding 7 1/2 minute maps. It does appear that there is a road south from Kirkland Junction (between Prescott and

Wickenburg) that may connect with the road leading northeastward from the claim block. This would certainly be the longest route.

Two locals who have been on the property in recent years are Harry Dunfee and Lynn Brown. Brown seems to have left Wickenburg, and Dunfee could not be reached although he has a phone with a message machine: (602/684-3356). So I couldn't learn much about access from them.

An alternative to driving in is to use a helicopter. There are none for hire at Wickenburg but there are several in the Phoenix area. A Bell 206 B or Hughes 500 costs about \$420/hr. flying time. On day trips there is one hour free standby, then standby time is \$60/hr. Figuring 40 minutes flying each way and six hours on the ground the cost would be \$860.

Apart from the lack of convenient vehicle access, the property itself is a cactus-lover's delight set astride a deep gulch, with a spring and narrow-leaf cottonwood trees, the gulch being the east fork of Castle Creek. Local topographic relief is about 250 feet, with the average elevation perhaps 3200 feet. Several exploration bulldozer roads may be considered a blight or a convenience; in any case the surface has not been badly affected by the roads.

LOCATION

The claim group is centered in the northern half of section 32, R.2W., T.9N., which is covered at a scale of 1:24,000 on the U.S.G.S. Copperopolis 7 1/2 minute topographic quadrangle. I have reduced a copy of the patent survey map to this scale and traced the claim block outline onto the topographic map.

In the field the short, 2-inch diameter iron posts with brass caps which are described in the patent (no. 110095) of the mineral survey (4180) can be found rather readily because long, narrow, white PVC poles have been attached to them. The poles have fallen

over, but the white color is noticeable. Post X-BH5-2-4180 was located in the field and plotted simply by topographic estimate on the map. The plot is very close to the traced outline of the correct corner, i.e., the SW corner of Bunker Hill No. 5. One other corner was plotted in the field which may be worthy of note as it is not exactly specified in the patent. The cap is marked W.E.C. S.S.D. x 4180, which I think means west end center of the Sunnyside claim. This point is the point along the second course "...from which the discovery bears south eighty-one degrees fifteen minutes east one thousand fifty-four and seven tenths feet 'distant;" I believe. If so it is in about the right place. A few other survey points were seen but not mapped in. I am fairly sure that enough points remain that the property boundaries can be exactly ascertained without a new survey being conducted.

GEOLOGY

No attempt was made to map the geology of the area. There was neither time nor a proper mapping base. However, certain geological observations were made. Rocks underlying the area are Precambrian granite and a partly schistose metamorphic sequence locally containing layers of granite. These are partly covered or displaced by Tertiary volcanics, including banded rhyodacite flows, aphanitic andesite, and vesicular basalt or andesite. Rubble made of volcanic fragments forms solidified valley fill formations.

Veins appear to be best developed in granite. There is local brecciation and silicification of the volcanics (mostly south of the claim group) but, with the exception of barite which was found in both volcanics and granite, the mineralization/alteration of the volcanics seems quite different from that of the granite.

SAMPLING

Ten samples were taken of silicified rocks, vein quartz, and vein material including specularite, copper minerals, wulfenite (?),

barite, quartz, and calcite. Results and descriptions are given below. Sample location numbers are on the map.

AAR-1 Quartz-rich granite variably veined and replaced by specularite and minor tabular barite, with later vein and fracture fillings by blue copper minerals, vein system several feet wide. Some vugs contain quartz crystals on which are plates of specularite (Fe_2O_3). Quartz-specularite veins extend outward into wall rock beyond the copper zone. Transported red hematite, derived from specularite, is all over everything including copper minerals; it makes the vein easy to trace at the surface but causes it to appear wider than it really is. Copper minerals include the sulfide, chalcocite; the carbonates melachite and azurite; the sulfate, chalcantite; and the silicate, chrysocolla.

Au	Ag	Pb	Mo	Cu	As	Hg (PPM)
0.19	3.0	150	12	25,000	25	0.82

AAR-2 Very old cut in altered granite exposes vein matter consisting of discoid calcite, hematite, quartz, barite blades, much soft, dark, porous material - probably manganese, and a late coating of small tubular to sphenoid yellow-orange crystals similar to wulfenite (lead molybdate). Vein about 3 feet wide.

Au	Ag	Pb	Mo	As	Hg	Cu	V (PPM)
0.05	14.0	37,500	<2	385	48	170	6400

and about 5% Zn.

AAR-3 Periodic channels of rotten granite with veins and inclusions of mafic rock within 60 feet interval across iron post gate. Metamorphic layers essentially weathered or altered to dirt, granite to gravel. Iron stained. Question is whether this could be propylitic alteration, with weathering superimposed. *

Au	Ag	Mo	As	Hg	(PPM)
0.01	0.4	<2	10	0.16	

AAR-4 Minor silicification and silica veins in argillized andesite and andesitic agglomerate. Silicified volcanic fragments are cemented by white silica. White silica bands are broken and

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cemented by, and alternated with, black silica. The silicified zone is within a broader argillic band that runs N-S along the west side of three prominent hills. Silicified zone intermittent; a few ft. wide.

Au	Ag	Pb	Cu	Mo	As	Hg (PPM)
0.01	0.2	20	10	<2	25	0.07

AAR-5 Reddish brown jasperoid dike in silicified to partly silicified brecciated rock. Some drusy and euhedral quartz. Country rock is argillic volcanics; much of upper part of this hill is flow banded rhyolite. Brecciation probably tectonic, not hydrothermal.

Au	Ag	Pb	Mo	As	Hg	(PPM)
<0.01	<0.2	15	<2	10	0.03	

AAR-6 Small (3 ft.) silicified outcrop in andesite quartz crystals in vugs. Some silicified rock with patches of calcite, ranging to predominantly calcite. Thin iron stain; outcrop not a jasperoid.

Au	Ag	Pb	Mo	As	Hg	(PPM)
0.03	<0.2	10	<2	25	0.03	

AAR-7 Silica float, 50 ft. downhill from AAR-6. Quartz crystals on silicified and argillized rock; light color, no breccia; silica partly to completely fills spaces within the rock.

Au	Ag	Pb	Mo	As	Hg	(PPM)
0.01	<0.2	10	<2	<5	0.06	

AAR-8 Dozer has turned up vein material of white barite blades ($Ba SO_4$) with blue copper stains, coatings, and clots after cores of chalcocite. Breccia of argillic andesite (?) with hematite-silica-manganese as porous matrix. Chalcedonic silica as well as quartz shows brecciation. Clear calcite with euhedral quartz in a few pieces. Vein a few feet wide apparently; hard to tell at present.

Au	Ag	Pb	Mo	Cu	As	Hg (PPM)
0.15	260	530	<2	23,000	15	0.92

AAR-9 From adit dump. Dark calcite and calcite-replaced rock cut by white calcite veins. Dark due to Fe and Mn. Some granitic fragments with calcite and euhedral quartz veins and coatings.

Au	Ag	Pb	Mo	As	Hg	(PPM)
0.03	3.4	8,200	<2	20	0.55	

AAR-10 Dump rocks from small, old pit about 40 ft. north of pond. Fractured granite with limonite-carbonate veins and boxwork of barite in more or less silicified rock; barite-silica rock; coarsely crystalline calcite with minor yellow-orange translucent crystals (wulfenite?), manganese oxide, and hematite. Much calcite and plenty of barite, overall.

Au	Ag	Pb	Mo	As	Hg	(PPM)
0.03	2.8	7,800	<2	85	0.50	

MINERALIZATION

Obviously the claim block contains some veins mineralized by iron, copper, and barium minerals in a gangue of calcite, quartz, and amorphous manganese oxide. The sampling is admittedly sparse. It was designed to determine, if only tentatively, whether the area holds potential for gold and silver mineralization at an economic scale. There could be gold and silver peripheral to a porphyry copper-molybdenum system, or as low grade, bulk minable epithermal to "hot springs" deposits, or in high grade veins.

The several vein samples show but little gold, however AAR-2 carries 1/3 ounce per ton silver, and AAR-8 carries 7.6 ounces of silver. The veins (AAR-1, 2, 8, 9, and 10) all have significantly more mercury than the other samples (see especially AAR-2!) and some contain elevated arsenic (see AAR-2 and 10). It is entirely possible that locally in these veins there is high grade mineralization, but there is no evidence at present to suggest that commercial volumes are present.

The lack of molybdenum in any of the samples suggests the mineralization and alteration is not involved with a porphyry copper system at depth. Furthermore, alteration is too localized

for a large hydrothermal system. The lack of molybdenum also means that the yellow-orange mineral of AAR-2 and -10 is not wulfenite. High vanadium in AAR-2 suggests the mineral is vanadinite. Usually, however, vanadinite is deeper red and the crystals are hollow prisms.

CONCLUSION

Several mineralized veins are present but they do not appear to hold economic quantities of gold and silver, nor do they appear to be part of a larger but more subtle system of bulk-minable precious metals. Prudence would lead one to better expose, re-sample, and measure the veins with the high silver values. At present it seems unlikely that sufficient volume is present, but in fact the extent of the silver mineralization simply is not known.

Silicified volcanics are geochemically discouraging and lack geological earmarks of epithermal mineralization. Tactite or skarn formation is limited and seems unrelated to mineralization.

It is tempting to write the area off as probably uneconomic, although the sampling was limited and no geologic map was made. With the proper base maps and aerial photographs it would not be hard to map the geology, the vein outcrops, and possibly to project the veins to intersections worthy of further sampling. Access improvement would be a big help.

Otherwise, the area is scenic, could probably have water developed, and grows cactus very well. Road improvements should improve its real estate value.

October 21, 1981

Mutual Oil of America
P. O. Drawer 1446
Santa Fe, New Mexico 87501

TO: Mr. John Turner, President
FROM: Dennis V. Krantz, Consulting Geologist
RE: Geology Report, Bradshaw Mine

INTRODUCTION

The Bradshaw patented claims and surrounding area were mapped and sampled from September 9, 1981 through September 30, 1981. The patent also known as the Duco Boy or Bunker Hill and Foster groups is located primarily in Section 32, Township 9 North, Range 2 West, Gila and Salt River Meridian in the southwest foothills of the Bradshaw Mountains. Map (1) It is reached by gravel road 22 miles from Morrystown, Arizona to near Castle Hot Springs, then north 9 miles to the old townsite of Briggs over a jeep road that follows the bed of Castle Creek and varies considerably in condition depending on weather. The road leaves the creek bed at Briggs and after a mile branches to the east toward Copperopolis and west to the Bradshaw Mine. The jeep road is in fair condition for 2 miles beyond Briggs at which point maintenance ends and the road is frequently washed out occasionally necessitating detours through the creek bed. During times when flash floods are common this road will require maintenance from the Castle Creek turnoff all the way to the property. It is marked in orange on Map 1.

A road to the property from the north is marked in blue on Map 1. It leaves the highway at Kirkland Junction and runs through Wagoner and Goodwin Spring to Crown Point. It is longer than the southern route and in a similar condition.

The Constellation Road from Wickenburg runs to within 2 or 3 miles of the property to the west but the jeep roads connecting the two are impassable due to washouts. It is marked in brown on Map 1.

For more extensive work on the property that requires heavy equipment one of these routes will need improvement. The Constellation Road would be first choice because it is the shortest and the Castle Hot Springs Road is second choice. For either road, cost could be shared with ranchers or other mining operations that use the road.

Several springs in the area run year round and a windmill at Copperopolis provides intermittent water. From December through April running water is available in most of the streams and from June through September the climate is very harsh, hot and arid. For this study a camp was set near the property in conjunction with a claim staking group under the direction of Lynn Brown.

Ten patented claims form the core of the property with unpatented claims covering Section 27, 28, 29, 30 and 34. The patented group was mapped at a scale of 1" = 400' and Sections 27, 30 and 34 were looked at superficially using U.S. Geologic Survey topographic maps as a base.

REGIONAL GEOLOGY

The majority of rocks exposed in southern and western Arizona are igneous and metamorphic units of Precambrian Age. In the Bradshaw Mountains older Precambrian Pinal Schist is invaded by somewhat younger Precambrian Granite. The granite forms the bulk of the outcrop area suggesting that the blocks of schist are only remnants of a once more pervasive roof of a batholith. A large block of schist southwest of the Bradshaw Mine trends northeast - southwest, a prominent Precambrian structural trend. (Lindgren, 1922) The granite and schist are both invaded by pegmatites and other dikes that range in composition from diorite to quartz monzonite and probably represent differentiates of the same parent magma that produced the main body of granite and are therefore of a similar age. The pegmatites locally contain large tourmaline crystals.

Potassium-argon dates of micas from the schist fall in the 1200 to 1500 million year range while lead isotope dates of zircon are as high as 1700 m.y. (Titley and Hicks, 1966) Dates for the granite intrusive fall into a group similar to the younger dates for the schist indicating that the 1200 to 1500 m.y. dates of the micas were set by the metamorphism that was accompanied by intrusion of the granite.

The Bradshaw Mountains are near the Colorado Plateau but still in the basin and range province of north to west trending folds and faults. Within the Precambrian granites and schists an older northeast structural trend is shown by the orientation of larger masses of schist as well as pegmatites and dikes invading the granite.

The younger northwest structural trend began with the Larimide orogeny in mid-Cretaceous time and continued until Pliocene or Pleistocene time. During this time the regional structural elements of the Colorado Plateau and the Basin and Range provinces developed, represented in the Bradshaw Mountains by the dikes and flows of andesitic, rhyolitic, and basaltic composition as well as a northwest structural trend. This period of activity is

particularly important since it is related to many of the ore deposits of the western United States, including the porphyry copper deposits of Arizona and New Mexico. (Titley and Hicks, 1966)

LOCAL GEOLOGY

In the immediate area of the Bradshaw Mine the host rock is primarily Bradshaw Granite with only local inclusions or "float blocks" of Pinal Schist. The schist is fine-grained, primarily muscovite quartz in composition with minor biotite and plagioclase. The rock gives a sugary appearance upon weathering of the micaceous minerals. The granite varies from fine- to coarse-grained and shows variation in composition suggesting that it is an intrusive complex consisting of several phases differentiated from a common source.

The granite and schist are cut by pegmatite dikes that range in width from one inch to ten feet. Their composition is generally 50% quartz, 25% plagioclase, and 25% K-feldspar with trace to 5% mafics, mostly biotite. A characteristic mineral of some coarse-grained pegmatites is tourmaline crystals up to one inch in diameter.

The Precambrian basement complex is intruded by dikes and sills and locally covered by andesite and rhyolite flows. The dikes and sills, mostly of andesitic composition, are brecciated with a high percentage of fragments near the borders grading to a more uniform fragment poor porphyritic core. Andesite flows are prominent to the south of the Bradshaw Mine and appear to be primarily valley fillings that were fed by dikes of similar composition. They are predominately agglomerates with numerous sub-rounded inclusions of granite and schist but also contain breccias and tuffaceous units. Rhyolite flows are generally tuffaceous. The age of the andesites and rhyolites is considered to be mid-Cretaceous (100 m. y.) or younger.

Basaltic flows of a young age form extensive caps in parts of central Arizona but are rare in the southwestern Bradshaw Mountains. Poorly exposed dikes of apparently basaltic composition parallel the andesite dikes in the Bradshaw Mine area and probably are later intrusions along the same structural weaknesses. They are aphanitic with abundant amygdules filled with quartz and feldspar crystals indicating a fluid emplacement at low, near surface pressures.

The Bunker Hill claims were staked to cover an area where granite and schist country rock has been cut by andesite breccia dikes containing later intrusive masses of basalt. At the surface the dikes are heavily stained with limonite and other oxides and carbonates of iron and copper and are only locally identifiable as andesite. The largest of these dikes extends

from the northwest end of the Lexington claim across the Bunker Hill No. 4 and No. 5 claims and across the Foster group to the east. The strike to the west is N 60 W and turns to a more east-west orientation on the Sunnyside, Sunset, and Sunrise claims. Assuming offset by faulting this dike could be the same as the major dike at Copperopolis. A second prominent dike orientation is N 25 E exposed in the eastern part of the Lexington claim and at the shaft on Bunker Hill No. 6 claim. This orientation also occurs at Copperopolis.

The best dike exposures are in stream beds on the Lexington, Bunker Hill No. 4, and Sunrise claims. The breccia portions weather more easily leaving only the basalt portions as outcrop on hilltops and the dikes are entirely covered by float where they cross the side of a hill.

A post mineral fault striking N 10 W and dipping 60 W offsets the dikes with apparent right lateral displacement in the southeast part of the Lexington claim and roughly follows the stream south thru the main part of the Bunker Hill group of claims. It is apparently responsible for two springs as well as the location of the stream itself. A fault with the same approximate orientation offsets the main Copperopolis dike about 1300 feet east of the townsite and others are probably present between Copperopolis and the Sunrise claim.

ECONOMIC GEOLOGY

The greatest intensity of mining activity has been on the vein that runs from the southeast part of the Lexington claim to the south-central area of the Bunker Hill No. 4 claim. It was developed by a shaft from the top of the hill on the Bunker Hill No. 4 claim and with several shallow cuts on the same hill. A crosscut was driven northeast from the Bunker Hill No. 3 claim to intersect the shaft and the ore shoot. An adit was driven from the stream bed at the southeast end of the Lexington claim to the southeast toward the shaft. None of the workings are accessible now and it is not certain if the lower drifting ever intersected the shaft. A shaft on the Bunker Hill No. 6 claim develops a structural zone striking N 25 E and a shaft on the Bunker Hill No. 5 develops another zone striking N 25 W. Both are inaccessible. The visible effects of mining are a result of the activity from 1915 to 1925 by the Arizona Standard Mining and Milling Co. and have obscured whatever was done by Mr. Bradshaw in the 1870's and 1880's. (Mrs. Iva Gerig, personal communication) Although material was not shipped to a mill the dumps were later stolen so the present material cannot be used to gauge the extent of the workings.

Due to extensive surface weathering and the amount of time that has passed since active mining has occurred both

natural exposures and exposures that were made by mining activity are largely obscured. The iron dike has tentatively been correlated from the northwest end of the Lexington claim to the central part of the Sunrise claim. However no judgement can be made regarding continuity of the vein with respect to economic grade mineralization or consistency of width. The effect of intersections of dikes striking N 60 W and those striking more north-south also cannot be definitely established but this relationship is seen in the area of the Lexington and Bunker Hill No. 4 claims as well as at Copperopolis, both areas of extensive mining. It may also be present on the Sunrise claim and on the Melinda Jane claim west of Copperopolis.

Two major types of ore deposits are present in the Bradshaw Mountains. (Lindgren, 1922) The first is a gold-quartz vein of Precambrian age that probably had a source in the granite itself. This type is represented by the Golden Aster or Lehman Mine near the center of section 27. (Samples No. 119, 120, 121, and 122) The vein strikes N-S to N 10 W and dips 25 to 30W. Individual stopes are 4 to 6 feet high but the thickness of mineralization appears to be somewhat less. Another probable example of this type of mineralization is the Crown Point Mine northwest of the Bunker Hill. It is a gold-quartz vein 2 to 3 feet wide striking N 60 W, dipping 60 N. (Sample No. 105) It is on line with the dike on the Lexington claim but has an entirely different character.

The second type of deposit is silver-gold-copper in iron stained dikes. This type is represented by the Bradshaw Mine and the mines surrounding Copperopolis. These veins are andesite dikes that have undergone secondary alteration and mineralization by a hydrothermal system and have then been reduced to their present state by extensive surface weathering. It is postulated that the source of the metals was the cooling body of magma that produced the andesite dikes themselves and that they were transported into the dikes by a hydrothermal convection system driven by the heat of the cooling magma. The generally unaltered unmineralized condition of the basalt indicates that it is a post mineral intrusion.

Secondary minerals of economic significance are malachite, azurite, cerussite, vanadinite and possibly native silver. Specular hematite and limonite are pervasive. Supergene copper minerals occur in ribs and bands up to 12 inches wide within the much wider iron rich dike. Possible primary metallic minerals are pyrite, chalcopyrite, galena, argentite, tetrahedrite, bornite, chalcocite, and covellite.

The early production of Mr. Bradshaw was reported to have been in the form of "plate silver" that may have been a pocket of native silver or silver that was roasted out of the ore on

the site. Evidence of the use of an arrastra was present as late as the 1940's. (Mrs. Gerig, personal communication) Mrs. Gerig also related stories her father had told her that Mr. Bradshaw's ore came from "up the wash somewhere" and she thinks that it was "the middle wash". Mr. Gerig told her that in the mid-1920's, just before he suffered his stroke, he uncovered a high grade outcrop of silver in the east wash which he covered up to prevent its being stolen. The location was probably at the east end of the Bunker Hill No. 3 or No. 4 or in the northwest part of the Bunker Hill No. 5 claim. There is much evidence of prospecting in this area but no evidence of deep mining.

DISCUSSION

For major work on the property, access will need improvement and three possibilities are outlined on Map 1. Due to interest in the area by other prospectors and promoters road work may need to be postponed until a secure land position is established.

Due to the extreme effects of surface weathering and deterioration of old workings prospecting will be set back to a basic level. The following items are suggested for near future work on the property.

1. The iron rich prospecting targets in a host of granite will be particularly susceptible to detection by geophysical methods. In this rugged topography an airborne geophysical survey could well be cheaper and would certainly be much faster than a ground survey. It could also be done before road improvements are put into the area.

2. Immediately after road work is completed the same equipment can be used to open up existing tunnels and shafts for examination and sampling and possibly obtain some near surface ore grade material to start an early cash flow from the property.

3. Heavy equipment can also be used to make open cuts on the surface to test the continuity and grade of the vein. This should not prove to be too difficult since all that is necessary is to break the surface layer of float. A particular area of interest is the ground to the east of the shaft on Bunker Hill No. 4 where Mr. Gerig is reported to have made a rich find which he later covered up.

4. With the above information coredrill sites can be placed and coredrilling started. From locations south of the vein it can be quickly drilled to depths of 300 feet below the

outcrop to evaluate the surface oxidized zone. Later deeper drilling from the same areas will probe the unoxidized area of primary mineralization.

The above sequence is designed primarily to apply to the patented ground which is presently the area of greatest interest. However unpatented claims in sections 28 and 29 will need work for federal requirements of annual labor before February, 1982. This area was not mapped as part of this project but some reconnaissance fieldwork was done to establish a framework for use in mapping the area from air photos. An air photo map can be used in conjunction with results of a geophysical survey to direct the location of open cuts with a bulldozer. In addition to qualifying for annual labor requirements on the property, this will be a second field check on the accuracy of the air photo map.

Development of the property to a greater extent will depend in large part on the results of the program outlined above. A logical extension of a coredrilling program is to start drifting and underground exploration of ore zones if sufficient grade and tonnage have been proven with the surface coredrilling program.

Respectfully submitted,

Dennis V. Krantz

Dennis V. Krantz
Consulting Geologist

REFERENCES

- Lindgren, W, 1922, Ore deposits of the Jerome and Bradshaw Mountains Quadrangles, Arizona: U. S. Geol. Sur. Bull. 782.
- Titley, Spencer R., and Hicks, Carol L., 1966, Geology of the porphyry copper deposits, southwestern North America: The Univ. of Arizona Press, Tucson, Arizona.
- Wilson, Eldred D., Cunningham, J. B., and Butler, G. M., 1934, Arizona lode gold mines and gold mining: Arizona Bur. Mines Bull. 137.

APPENDIX

SAMPLE NUMBER

Au - Ag

SAMPLE LOCATION

100

0.20-8121.6

High grade material from top of shaft on Bunker Hill # 4, reduced 10:1 with acid by Lynn Brown.

101

0.01-0.51

Bunker Hill # 3 Tunnel dump - grab from small (6' X 6' X 30') pile of granite with intense iron stain.

102

0.008-.33

Bunker Hill # 3 Tunnel dump - grab of black fine grained basaltic material with open stockwork quartz veinlets.

103

0.012-5.47

Bunker Hill # 3 Tunnel dump - grab from the main body of the dump. Fine grained andesite with weak iron stain.

104

0.016-0.78

Chip of outcrop above # 3 Tunnel. Basalt dike (?) with quartz in vugs and veinlets.

105

0.010-0.37

Crown Point Dump - grab of quartz with Hematite on fractures and partings.

106

0.086-20.74

5' Chip in stream bed NW of shaft - Breccia, probably andesite with intense iron stain.

107

0.02-0.42

Chip in stream bed near # 106. Black basaltic material with quartz crystals and some felted feldspar crystals.

108

0.002-0.53

18" chip north of # 106. Basaltic dike with quartz crystals and secondary siderite Strike N 25 W Dip 75 W.

109

0.012-0.97

5' chip across brow of tunnel between # 106 and # 4 shaft. Breccia with intense iron stain.

110

0.012-0.43

2' chip of basaltic dike in stream bed NW of springs. Quartz in vugs and veinlets.

111

0.004-0.12

Northwest end of Lexington Claim - 2½' chip of breccia with intense iron stain.

112

0.004-0.06

10 feet SW of # 111. 6' chip of iron stained breccia

113

0.010-1.95

Shaft on Bunker Hill # 6 claim - grab of basaltic dike with some quartz crystals/

114

0.010-1.33

Bunker Hill # 4 shaft - grab of dump material. Hematite, vanadinite, siderite in basalt dike.

SAMPLE NUMBER

Au - Ag

SAMPLE LOCATION115
0.010-0.61

Bunker Hill # 4, First prospect NW of shaft. Same vein as # 114 but more weathered.

116
0.018-0.44

Sunrise Claim. Iron stained andesite breccia with copper stain in 4" seams.

117
0.016-0.33

5' chip in prospect on Sunrise claim. Andesite breccia with iron and copper stain.

118
0.004-1.80

Prospect on Sunrise Claim - iron stained breccia with some quartz and vanadinite crystals.

119
2.30-0.10

Golden Aster (Lehman) Mine. Chip across several flat 8" to 12" wide quartz veins underground in # 2 level.

120
0.032-0.15

Golden Aster Mine. 2' chip in footwall of # 119 iron stained granite.

121
0.752-0.47

New Golden Aster Mill Site. Grab of coarse material at loading chute.

122
0.058-0.31

New Golden Aster Mill Site. Grab of ground up material in tank.

123
0.020-0.28

Copperopolis Mine, Shaft at top of Hill. Iron and copper stained material.

124
0.026-0.06

Copperopolis Mine, Trench on east side of Hill. Same type of material as # 123



Chevron Resources Company

700 South Colorado Blvd., P. O. Box 599, Denver, CO 80201

October 31, 1977

Mr. Ron Hanna
Triangular Mining Company
1722 W. Mitchell Drive
Phoenix, AZ 85105

Dear Ron:

In connection with my late August/early September trip to the Copperopolis Duco Boy area, I am sending along our sample results, as I promised. Please excuse the delay.

The samples were all taken on or near the Duco Boy claims. As you know, we had some problems with logistics that caused us to cut short our examination of your properties. However, we did take ten samples, primarily of wall rock in cuts, or dump samples. Three were taken during the course of a field traverse northwest of the main shaft area. See location map.

<u>SAMPLE</u>	<u>HClO₄ Cu%</u>	<u>Pb ppm</u>	<u>Zn ppm</u>	<u>Ag ppm</u>	<u>Au ppm</u>	<u>V ppm</u>	<u>U</u>
26818	0.19	485	95	5.1	0.03	15	
26819	0.44	630	235	1.5	0.02	20	
26820	0.0019	200	89	0.2	0.03		0.6
26821	0.007	235	735	3.8	0.02		
26822	0.37	200	265	0.6	0.02		4.4
26823	0.0175	800	4150	2.3	0.03	185	
26824	0.007	650	990	2.6	0.02	15	
26825	0.0031	600	905	1.1	0.03	15	
26826	0.0047	805	840	0.2	0.03	35	
26827	0.012	940	29	66	0.06		

The Pb value of 26827 is incorrect, and due to laboratory failure. The sample is about 30-35% galena. This sample was from the dump, but was the only one found on the whole dump with such high Pb content.

Hopefully, these results may be useful to you in your future work in the area.

Sincerely,
Conrad A. Kuharic
C. A. Kuharic

CAK:cw

Mariposa Spectrographic Laboratory

MARIPOSA, CALIFORNIA 95338

M. Russell Hart
Triangular Mining Co.
345 East Pierson St.
Phoenix, Arizona 85012

November 4th, 1975 PM

Dear Mr. Hart:

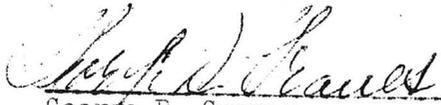
Enclosed, find our spectrographic analyses reports covering your samples as submitted and marked.

The #1 sample is a good Gold ore, Mr. Hart. The sample employed in the spectrograph showed up to 0.60 ounce per ton, which at today's prices could be recovered economically providing sufficient ore is present to exploit. The Copper is secondary and should be prospected further to learn if a primary mineral may be present, or more secondary mineralization. Note also, that we found a small quantity of Tungsten.

The #2 sample does not contain Wulfenite, Mr. Hart. The Lead mineral is Massicot, but could contain a small quantity of Cerussite. Note the rather large content of Vanadium in the sample, also. The Vanadium is probably present in a secondary form, but we could not identify it, since we pulverized the entire sample.

Again, our thanks, Mr. Hart.

Sincerely,


George R. Graves

1cc

LABORATORY REPORT

Mariposa Spectrographic Laboratory

CHARGES: \$5.00

5029 FOURNIER ROAD, MARIPOSA, CALIFORNIA 95338

LAB NO. 25675

Telephone (209) 966-2591

Date 11/4/75 PM

SUBMITTED BY:

Qualitative Spectrographic Analysis

Triangular Mining Co.
545 East Pierson St.
Phoenix, Arizona 85012

ELEMENTS FOUND AND ESTIMATED PERCENTAGE RANGE OF CONCENTRATION

SAMPLE MARK

#1
(copper rich)

ELEMENT	Not Less Than %	Not More Than %	ELEMENT	Not Less Than %	Not More Than %	ELEMENT	Not Less Than %	Not More Than %
Aluminum	.002	.007	Lithium			Thallium		
Antimony			Magnesium	.007	0.03	Thorium		
Arsenic			Manganese	.0006	.002	Tin		
Barium	.006	0.02	Mercury			Titanium	.0006	.002
Beryllium			Molybdenum	.0006	.002	Tungsten	0.02	0.08
Bismuth	0.40	0.80	Nickel	---	.0004	Uranium		
Boron			Osmium			Vanadium	.001	.006
Calcium	0.01	0.04	Palladium			Zinc	0.01	0.05
Cadmium			Phosphorus			Zirconium		
Cesium			Platinum	Not detected in sample		RARE EARTHS:		
Chromium	---	.0004	Potassium			Cerium		
Cobalt			Rhenium			Dysprosium		
Columbium			Rhodium			Erbium		
Copper	8.0	15.0	Rubidium			Europium		
Gallium			Ruthenium			Gadolinium		
Germanium			Scandium			Holmium		
Gold	.0009	.002	Silicon (as SiO ₂)	40.0	60.0	Lanthanum		
Hafnium			Silver	.0007	.003	Neodymium		
Indium			Sodium			Praseodymium		
Iridium			Strontium	.0005	.001	Samarium		
Iron	10.0	20.0	Tantalum			Ytterbium		
Lead	0.10	0.20	Tellurium			Yttrium		

Remarks: This material is principally composed of Quartz and Hematite, along with considerable Copper in the forms of Copper-silicate, probably as Chrysocolla. Some Cuprite and possibly a Copper sulphide. Note Gold at up to 0.60 ounce per ton and a small quantity of Tungsten.

Respectfully Submitted

[Signature]

(Spectrographer)

MARIPOSA SPECTROGRAPHIC LABORATORY

percent to ton (2,000 lbs.)
1.0% = 20.0 Lbs. AVOIR.
0.10% = 2.0 Lbs. AVOIR.
0.01% = 3.2 oz. AVOIR.
.001% = 0.32 oz. AVOIR.
0001% = 0.032 oz. AVOIR.

LABORATORY REPORT

Mariposa Spectrographic Laboratory

CHARGES: \$5.00

5029 FOURNIER ROAD, MARIPOSA, CALIFORNIA 95338

LAB NO. 25676

Telephone (209) 966-2591

SUBMITTED BY:

Date 11/4/75 PM

Qualitative Spectrographic Analysis

Triangular Mining Co.
345 East Pierson St.
Phoenix, Arizona 85012

ELEMENTS FOUND AND ESTIMATED PERCENTAGE RANGE OF CONCENTRATION

SAMPLE MARK

2
(wulfenite rich)

ELEMENT	Not Less Than %	Not More Than %	ELEMENT	Not Less Than %	Not More Than %	ELEMENT	Not Less Than %	Not More Than %
Aluminum	.002	.007	Lithium			Thallium		
Antimony			Magnesium	0.03	0.10	Thorium		
Arsenic	0.15	0.30	Manganese	0.03	0.10	Tin		
Barium	0.30	0.60	Mercury			Titanium	.0006	.002
Beryllium			Molybdenum	.0006	.002	Tungsten		
Bismuth	---	.002	Nickel	.0004	.0005	Uranium		
Boron			Osmium			Vanadium	0.5	1.5
Calcium	0.01	0.06	Palladium			Zinc	2.0	4.0
Cadmium	.002	.005	Phosphorus	0.01	0.05	Zirconium		
Cesium			Platinum	Not detected in sample		RARE EARTHS:		
Chromium	.001	.006	Potassium			Cerium		
Cobalt	---	.0004	Rhenium			Dysprosium		
Columbium			Rhodium			Erbium		
Copper	.005	0.01	Rubidium			Europium		
Gallium	.002	.005	Ruthenium			Gadolinium		
Germanium			Scandium			Holmium		
Gold	Not detected in sample		Silicon (as SiO2)	50.0	70.0	Lanthanum		
Hafnium			Silver	.001	.005	Neodymium		
Indium			Sodium			Praseodymium		
Iridium			Strontium	.003	.008	Samarium		
Iron	2.0	4.0	Tantalum			Ytterbium		
Lead	8.0	15.0	Tellurium			Yttrium		

Remarks: This material contains considerable Lead in the mineral form of Massicot and minor Cerussite. No Wulfenite is present. Note concentration of Vanadium and some Zinc. Silver is present at about 1.5 ounces per ton.

Respectfully Submitted

Samuel J. Bauer

(Spectrographer)

MARIPOSA SPECTROGRAPHIC LABORATORY

percent to ton (2,000 lbs.)
1.0% = 20.0 Lbs. AVOIR.
0.10% = 2.0 Lbs. AVOIR.
0.01% = 3.2 oz. AVOIR.
0.001% = 0.32 oz. AVOIR.
0.0001% = 0.032 oz. AVOIR.

Abstracted 1-9-81 JAP

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine DUCO BOY MINE (BRADSHAW MINE) Date January 5, 1981

District Castle Creek / Black Rock (Yavapai County) Engineer Ken A. Phillips *KAP*

Subject: Office Visit With Don Hall and Dave Welton
Regarding Their Purchase and Subsequent Sale of Above Mine.

Principal Minerals: Silver, Gold, Vanadium, Lead.

Other Possible Names: Ira Bradshaw's Mine

Patented claims generally included in the group include:

- Lexington
- Sunnyside
- Sunset
- Sunrise
- Bunker Hill
- Bunker Hill #2 thru #6 (10 in all)

Location: N $\frac{1}{2}$ Sec. 32 and small portions of Sections 29, 31 & 33, T9N, R2W. See attached maps.

Topographic Quadrangle: Copperopolis, Ariz 7 $\frac{1}{2}$ '

References: Duco Boy mine file, Arizona Department of Mineral Resources. Mineral Survey M.S. 4180

Land Position: Patented mining claims.

Ownership: Donald H. Hall, 2926 N. 86th Drive, Phoenix, Arizona 85037
David E. Welton, 3440 Stillwater, Phoenix, Arizona

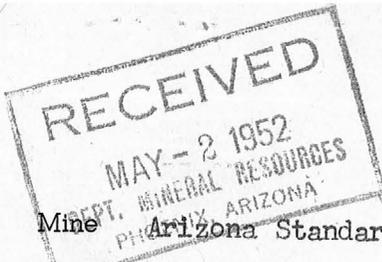
The above owners have signed an agreement to sell the property to Mike Reibold or his nominee. Messrs Hall and Welton report they feel certain that Mr. Reibold is a buyer for Mutual Oil Company of America. Hall and Welton have retained a 5% net smelter royalty.

Previous Owners: Iva May Gerig Keddington, 1345 West Monroe, Phoenix, Arizona 85007, sold the property to Hall and Welton on January 5, 1981, for \$89,000.00. (Copies of Purchase Contract, Escrow Instructions and Yavapai County Assessor's Maps attached.)

Comments: Messrs Hall and Welton are interested in seeing the property developed as a mine. Further, they feel that Mutual Oil Company of America has such hopes.

KAP:mw

cc: DMR Tucson



DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Arizona Standard M. & M. Co.

Date April 24, 1952

District Near Briggs on Castle Creek

Engineer Mark Gemmill

Subject: Supplementing report of Apr. 1, 1952

On April 13th. I visited the property at the request of Mr. Leslie Taylor who was interesting in doing something with the mine if it looked good enough. He provided transportation in his fourwheel drive truck. The road into the property is difficult and slow. So much time was consumed in reaching the property that we did not have a lot of time there before having to leave to get out of the very bad part of the road before dark. We looked at only the westerly part of the claims which was reported to be the best part. We were able to enter the adit tunnel which xcuts the country and connects with the shaft at about 100' below the collar. At this point there are short drifts both ways. At the tunnel level the ore shoot which appears to be 100 to 150 ft. long on the surface, is only about 15 ft. long. It appears to be just a chimney. The shaft continues down for another 508 or so but the timber and ladders were in dangerous condition so we did not go down. It is reported that there is some drifting at the bottom of the shft.

Mr. Taylor took some samples but I understand that the results were disappointing and that he did not intend to persue investigation of the property any further. We did find some spots of high grade lead but aside from this saw very little that looked like ore. It was disappointing not to see all the ground but ll claims are quite an area and there was not time.

The property is not without merit as a propect but should be gone over thoroughly to get some accurate information. Anyone interested in examining it should go in with a camping outfit prepared to stay a few days, as it will take considerable time to go all over it.

Copy

REPORT ON OLD BRADSHAW MINING PROPERTY
YAVAPAI COUNTY, ARIZONA

DEPT. OF MINERAL RESOURCES

RECEIVED
FEB 24 1942

This property is located in a great mineralized basin one and one-half miles wide and approximately the same length. The property comprises of ten claims of rich silver, lead, gold copper and vanadium ores and is located in Township 9 N. R. 2 W., G. & S. R. B. & M., Yavapai County, Arizona

The leads, veins, dikes and ore bodies lie as follows:
The apex stands well to the west of the mineralized zone and is high and well defined.

Extending to the North and East from the apex there is a vein carrying 37% copper traceable for one-fourth mile.

Just to the south of this vein and extending easterly the full length of the property there is a copper in porphyry lead ranging in width from 75 to 150 feet and dipping to the south toward what is known as Hematite Dike at an angle of 60 degrees. Another fine copper cropping extends across the property east from the apex making junction with Hematite Dike just east of the apex.

Hematite Dike is next in order south of the last named copper cropping is 30 feet wide and extends easterly across the entire property.

Making junction with Hematite Dike immediately east of the apex referred to and extending easterly across the property to the south of said Dike is a galena lead surface outcropping upon which the following work has been done: East of the apex and west of the center of the property an open cut approximately 20 feet in length, 6 feet deep and 5 feet wide was run. Ore taken from this cut assayed 17 ounces silver, \$12.00 gold (at \$20.67 per ounce) and 5% copper, proving, in my opinion, that the Hematite Dike is the central ore body in this great mineralized basin.

At approximately 400 feet to the east and on the lead outcropping the Bunker Hill shaft is situated and reaches a depth of 156 feet. This shaft down to the 85 foot level exposed great lead boulders set in porphyry. At the 85 foot level there is a sixteen inch vein carrying lead values of \$4.25 per ton. At the bottom of the shaft this vein, which dips toward the Hematite Dike, has widened out to five and one-half feet and carries lead values of \$43.70 per ton, indicating quite conclusively that the size and values of the ore body increases with depth. This ore is manganese ferro base and runs approximately 30% lead and 5% vanadium. A 178 foot tunnel was driven to intersect the Bunker Hill shaft at the 85 foot level but missed it by 18 feet. In cutting this 18 feet to the shaft a rich vein of ore, 2 feet and 6 inches wide, was cross cut. On the opposite side of the Bunker Hill shaft is an old incline tunnel 200 feet in length from which it is claimed that Mr. Bradshaw took out \$35,000 in pure native silver (10 burro loads). The mouth of this tunnel is caved, but I believe that it can easily be cleaned out and worked. Engineers and mining men who have seen the property invariably refer to it as a chimney.

Some 700 feet farther along this same lead is the New Discovery Shaft which reaches a depth of approximately 45 feet exposing steel galena boulders carrying 78% of this metal and \$27.40 in gold and silver (gold at \$20.67 per ounce). While working this shaft for development a body of high grade vanadium was encountered at 30 feet from the surface which continued high grade to the bottom of the shaft. No assays were taken at the time as the owners were not interested in vanadium ore.

A short distance to the south of the New Discovery shaft there are fine copper croppings with hematite and copper glance bounded on the north by a fine granite box porphyry.

Farther east along the galena lead surface outcropping described in the sixth paragraph on page one hereof is the Foster shaft, 97 feet in depth, carrying high grade gold, silver, copper, lead and vanadium ores with the best of indications in the two and one-half foot vein from top to bottom of the shaft that it runs true to structure. It is claimed that Mr. Foster took many thousands of dollars in values from this shaft. In fact, 100 tons of high grade ore was stolen from this shaft and afterwards traced to the Wickenburg. At the bottom of the shaft a drift has been run some 50 feet in length, the ore from which assayed from \$15 to \$285. per ton.

Just North of the Foster shaft across the Hematite Dike there occurs twelve well defined leads running high in gold, silver, copper and vanadium. These leads make junction with the copper-hematite lead on the North in a fine granite porphyry. Rising from Castle Creek on the east a tunnel can be driven to the west cutting all of these leads and giving an approximate depth of from 350 to 400 feet.

Going back to the Apex and to the south of this lead, dioritic porphyry hills with fine gossan croppings, extending east across the property, will be found. Just to the south of these gossan croppings is a well defined galena lead showing boulders of lead pushed up from below. Boulders ranging from 50 pounds to 700 pounds and, in many cases over a ton, as indicated by the photograph accompanying this report, occur.

Farther east along this lead is situated the Annex shaft, carrying steel galena running 76% and 17 ounces of silver. The ore is reached in the bottom of the shaft. The shaft is approximately 100 feet deep at the bottom of which the ore is found in place.

A short distance South of the gossan croppings there are numerous leads in the porphyry covering a width of 650 feet. These leads dip 50 degrees to the north and carry very good values. In the assessment shaft on one of these leads steel galena running 76% and gold-silver \$12.00 was encountered.

The property is bounded on the south by fine box granite porphyry. Spring water is abundant and is available the year around.

REMARKS:

The Bunker Hill Group was discovered by a man named Bradshaw some sixty years ago, the Bradshaw Mountains having been named in his honor. Mr. Bradshaw was buried on the property in the year 1885. After his death the property was taken up by others interested. In the year 1923 a million dollar corporation was formed on ten of these claims covering the Bunker Hill and Foster groups, etc. under the name of the Arizona Standard Mining & Milling Company. Mr. A. C. Mollett did considerable work on the property and was to purchase the property, and did buy out the interests of a Mr. Greaves. As he never bought out the interests of E. G. Gerig, certain funds were reimbursed Mollett and the property taken over by Mr. Gerig's daughter. Mr. Gerig was the controlling owner of the property, and it now is in the hands of Iva May Gerig Keddington, daughter.

In the writer's opinion, when the property is properly developed, it should rank with some of the best mines of the Southwest. At the present time it will require approximately \$5000 to complete a road from the property of the Arizona Standard Mining & Milling Company to the Monte Christo Mine. This road will, when completed, connect with a good highway leading to Wickenburg, reducing the distance from 34 to 22 miles.

RESPECTFULLY,

(Signed) Eugene R. LaLiberte

EUGENE R. LA LIBERTE

1927

DUCO BOY

YAVAPAI COUNTY

KAP WR 12/31/87: Received a call from Nick Ferris, Reserve Industries, 9555 Ralston Road, Arvada, Colorado 80002, phone (303) 424-3007 regarding information on the Duco Boy Mine (file) Yavapai county. He has been hired by the Arthur Anderson accounting firm to evaluate the property. He explained that the Arthur Anderson firm has acquired the property as a payment from Mutual Oil who has gone out of business.

KAP WR 1/15/88: Obtained a copy of the MS 4180 which covers the claims of the Arizona Standard Mining and Milling Co for the Duco Boy Mine (file) Yavapai County. The claims were surveyed for patent in 1935. The survey shows numerous small shafts, pits, cuts and drifts all of which are numbered. The numbers refer to descriptions in the surveyor's notes which describe only the size and shape of the excavations for the purpose of establishing that at least \$500 worth of improvements had been done on each claim. The notes were not worth copying.

MG WR 2/12/88: Discussed the Duco Boy property (file) Yavapai County with Mr. Nick Ferris, a consulting geologist in Colorado. Mr. Ferris is evaluating the patented property for the owner, Home Savings and Loan.

DUCO BOY MINE
(OLD BRADSHAW WORKINGS)

Yavapai County

KAP WR 5/12/80: Mr. Edwards reported he plans to evaluate the Ira Bradshaw or Duco Boy property in Yavapai County.

KAP WR 5/23/80: The Duco Boy property in Yavapai County was discussed with Mr. Robert Edwards of Arcadia, California. He plans to evaluate the potential of the property prior to possible lease or purchase.

RRB WR 2/6/81: E.M. Riebold, Agent for Mutual Oil of America, Inc., Drawer 1446, Santa Fe, New Mexico, reports that they have purchased the Duco Boy Mine (old Bradshaw Workings) Yavapai County.

Lynn Brown Reported he is working for Mutual Oil on the Duco Boy Mine, Yavapai County. He also reported typical (?) assays to be 3-6 oz. Au, 25-80 oz. Ag and 18-25% Cu. He did not give any information as to sampling method or who ran the assays. KAP WR 12/11/81.

KAP WR 4/15/83: Jim McCarthy reported that Mutual Oil is building a road from the Constellation Road to their properties in the southeast corner of T9N R2W (probably includes the Duca Boy Mine; the crown Point mine and the Mutual Oil perperties).

MG WR 10/12/84: Lorraine Burgin of the U.S. Bureau of Mines (Denver) reports that the Mutual Oil Co. of America has announced discovery of one billion ounces of gold in a deposit within 200 feet of the surface. The deposit is apparently in Arizona. Our files indicate Mutual is most active on the adjacent properties of Duco Boy, Mutual Oil and Crown Point (all in Yavapai Co).

NJN WR 9/20/85: Donald Hall (c) 2926 N. 86th Dr., Phoenix, Arizona 85037 visited. He used to ~~own~~^{own} the Ducco Boy (f) mine, Yavapai County. He sold it to Mutal Oil Co. (c) who has now been bought by Home Savings and Loan. Home has since sold the mine to an unknown party. Mr. Hall has additional data on the property which he will bring in for us to copy.

ARIZONA DEPARTMENT OF MINERAL RESOURCES
Mineral Building, Fairgrounds
Phoenix, Arizona

*Unattached
File*

1. Information from: Lynn Brown
Address: Drawer 1446, Santa Fe, New Mexico
2. Mine: MUTUAL OIL 3. No. of Claims - Patented _____
Unpatented 34
4. Location: _____
5. Sec 30 Tp 9 N Range 2 W 6. Mining District Black Rock
7. Owner: Mutual Oil Company of America
8. Address: Drawer 1446, Santa Fe, New Mexico 87501
9. Operating Co.: _____
10. Address: _____
11. President: _____ 12. Gen. Mgr.: _____
13. Principal Metals: _____ 14. No. Employed: _____
15. Mill, Type & Capacity: _____
16. Present Operations: (a) Down (b) Assessment work (c) Exploration
(d) Production (e) Rate _____ tpd.
17. New Work Planned: Additional claim staking and exploration.

18. Misc. Notes: Mr. Brown reported his firm has located the Mutual Oil 81 - 100
Group of claims and fourteen Dolyda claims in the immediate vicinity of the
Crown Point Mine.
The Dolyda Claims are located in the name of Dolyda Mining Co.
P.O. Box 48468
Phoenix, AZ. 85075

Date: March 23, 1981

KAP:mw

Ken A. Phillips Ken A. Phillips
(Signature) (Field Engineer)

REFERENCE 1 F1 < AZ DEPT MIN R FILE DATA (UNDER DUCCO BOY) >

REFERENCE 2 F2 < USBM-ABG-MT FILE DATA >

REFERENCE 3 F3 < USGS Bull 782, p. 183-184 >

REFERENCE 4 F4 < >

U.S. CRIB-SITE FORM

RECORD IDENTIFICATION

RECORD NUMBER B10 < > RECORD TYPE B20 < X.I.M. > DEPOSIT NUMBER B40 < >

REPORT DATE G1 < 8.1.11 > INFORMATION SOURCE B30 < 1.2 > FILE LINK IDENT. B50 < USBM-004025 >

REPORTER(SUPERVISOR) G2 < LARABA PETER > (last, first, middle initial) < DEWITT ED > (last, first, middle initial)

REPORTER AFFILIATION G5 < ABG-MT > SITE NAME A10 < BUNKER HILL MINE >

SYNONYMS A11 < DUCCO BOY, OLD BRANSHAW WORKINGS >

LOCATION

MINING DISTRICT/AREA A30 < CASTLE CREEK DISTRICT >

COUNTY A60 < YAVAPAI > STATE A50 < AZ > COUNTRY A40 < U.S. >

PHYSIOGRAPHIC PROV A63 < 1.2 >

DRAINAGE AREA A62 < 15070102 >

QUADRANGLE NAME A90 < COPPEROPOLIS > LAND STATUS A64 < 0.0 >

SECOND QUAD NAME A92 < > QUADRANGLE SCALE A100 < 24000 >

ELEVATION A107 < 3340 FT > SECOND QUAD SCALE A91 < >

UTM

NORTHING A120 < 3772160 >

EASTING A130 < 362360 >

ZONE NUMBER A110 < 12 >

ACCURACY

ACCURATE (circle)

ESTIMATED EST < >

GEODETIC

LATITUDE A70 < > N

LONGITUDE A80 < > W

CADASTRAL

TOWNSHIP(S) A77 < 09N > RANGE(S) A78 < 02W >

SECTION(S) A79 < 32 >

SECTION FRACTION(S) A76 < SW OF NE OF NW >

MERIDIAN(S) A81 < GILA AND SALT RIVER >

POSITION FROM NEAREST PROMINENT LOCALITY A82 < 4 MILES NNW OF BLACK BUTTE >

LOCATION COMMENTS A83 < UTM COORDINATES TO SHAFT ON BUNKER HILL GROUP OF PATENTED CLAIMS >

* ESSENTIAL INFORMATION

+ ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED

COMMODITIES PRESENT C10 < C.U., P.A.G., P.A., V.P.S., V.V., M.O., V.P.S., V.V., M.O., V.P.S., V.V., M.O., V.P.S., V.V., M.O. >
 ORE MINERALS C30 < SILVER, GALENA, SPHALERITE, GOLD >
 COMMODITY SUBTYPES C41 < >
 GEN. ANALYTICAL DATA C43 < >
 COM. INFO. COMMENTS C50 < >

SIGNIFICANCE

MAJOR PRODUCTS MAJOR < A.U., V.P.S., V.V., M.O., V.P.S., V.V., M.O. >
 MINOR PRODUCTS MINOR < A.G., P.A.G., P.A., V.P.S., V.V., M.O., V.P.S., V.V., M.O. >
 POTENTIAL PRODUCTS POTEN < P.R., V.P.S., V.V., M.O., V.P.S., V.V., M.O. >
 OCCURRENCES OCCUR < V.P.S., V.V., M.O., V.P.S., V.V., M.O. >

*PRODUCTION

PRODUCTION YES (circle) PRODUCTION SIZE SML MED LGE (circle one) | NON-PRODUCER PRODUCTION UND NO (circle one)

STATUS

EXPLORATION OR DEVELOPMENT

PRODUCER STATUS AND ACTIVITY A20 < H > | NON-PRODUCER STATUS AND ACTIVITY A20 < >

DISCOVERER L20 < MR. BRADSHAW (BRADSHAW MOUNTAINS NAMED AFTER HIM) >
 YEAR OF DISCOVERY L10 < 1870 > NATURE OF DISCOVERY L30 < B > YEAR OF FIRST PRODUCTION L40 < 1933 > YEAR OF LAST PRODUCTION L45 < 1935 >
 PRESENT/LAST OWNER A12 < GLENARH LAND CO. PHOENIX (1970) >
 PRESENT/LAST OPERATOR A13 < L WALLACE >
 EXPL./DEV.COMMENTS L110 < 10 PATENTED CLAIMS, BUNKER HILL 1-5, SUNNYSIDE, SUNSET, SUNRISE, FOSTER, BRADSHAW WORKINGS >

DESCRIPTION OF DEPOSIT

DEPOSIT TYPE(S) C40 < VEIN >
 DEPOSIT FORM/SHAPE M10 < TABULAR >
 DEPTH TO TOP M20 < > UNITS M21 < > MAXIMUM LENGTH M40 < > UNITS M41 < >
 DEPTH TO BOTTOM M30 < > UNITS M31 < > MAXIMUM WIDTH M50 < > UNITS M51 < >
 DEPOSIT SIZE M15 < SMALL > M15 < MEDIUM > M15 < LARGE > (circle one) MAXIMUM THICKNESS M60 < 5 1/2 > UNITS M61 < FT >
 STRIKE M70 < N60W TO N70W > DIP M80 < 80 >
 DIRECTION OF PLUNGE M100 < > PLUNGE M90 < >
 DEP. DESC. COMMENTS M110 < >

DESCRIPTION OF WORKINGS

Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one) OVERALL LENGTH M190 < > UNITS M191 < >
 DEPTH BELOW SURFACE M160 < 150 > UNITS M161 < FT > OVERALL WIDTH M200 < > UNITS M201 < >
 LENGTH OF WORKINGS M170 < 178 > UNITS M171 < FT > OVERALL AREA M210 < > UNITS M211 < >
 DESC. OF WORK. COM. M220 < ALSO INCLINE TUNNEL 200 FT LONG, 3 MAIN SHAFTS, BUNKER HILL, NEW DISCOVERY ANNEX >

GEOLOGY

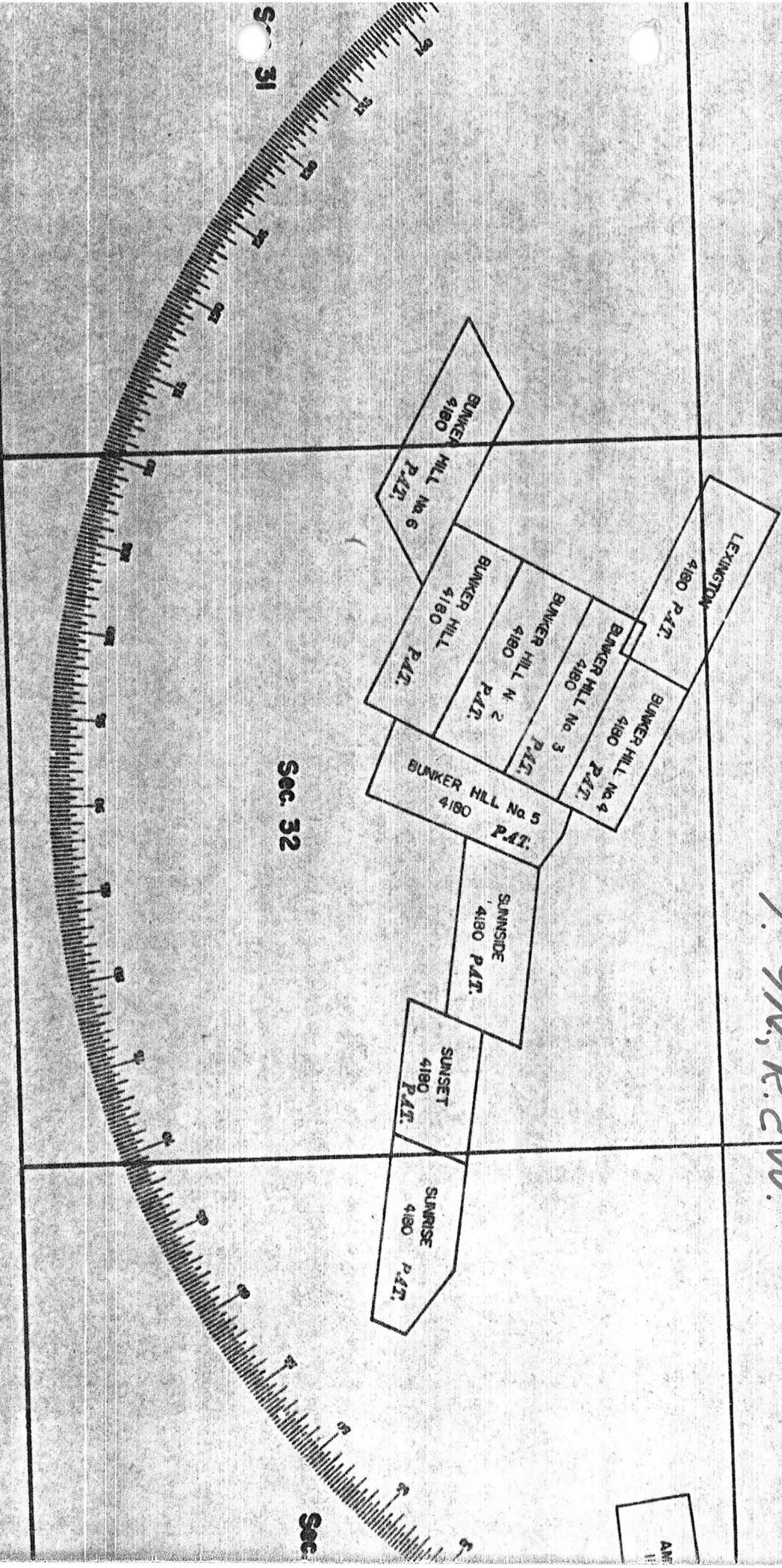
* AGE OF HOST ROCK(S) K1 < P.R.O.T., T.E.R.T., W, UNDATED, PROBABLY 1750 MILLION YEARS OR OLDER; UNDATED, PROBABLY MID-TERTIARY >
 * HOST ROCK TYPE(S) K1A < QUARTZ-MICA SCHIST, AMPHIBOLE SCHIST, GRANITE; RHYOLITE >
 * AGE OF IGNEOUS ROCK(S) K2 < P.R.O.T., T.E.R.T., W, AS LINE K1 >
 * IGNEOUS ROCK TYPE(S) K2A < GRANITE; RHYOLITE, ANDESITE TO RHYOLITE FLOWS >
 * AGE OF MINERALIZATION K3 < P.A.L.E.O.-M.I.O., W, UNDATED, PROBABLY MIOCENE >
 * PERT. MINERALS (NOT ORE) K4 < QUARTZ, CALCITE, BARITE >
 * ORE CONTROL/LOCUS K5 < FAULTING, SHEARING >
 * MAJ. REG. TRENDS/STRUCT. N5 < FOLIATION IN PRECAMBRIAN SCHIST TRENDS N20E TO N50E, TERTIARY VOLCANICS DIP NE, STRIKE NW >
 * TECTONIC SETTING N15 < >
 * SIGNIFICANT LOCAL STRUCT. N70 < >
 * SIGNIFICANT ALTERATION N75 < MINOR FE-STAINING >
 * PROCESS OF CONC./ENRICH. N80 < OXIDATION AT NEAR-SURFACE >
 * FORMATION AGE N30 < P.R.O.T., W, UNDATED, PROBABLY 1750 MILLION YEARS AND OLDER >
 * FORMATION NAME N30A < UNNAMED PRECAMBRIAN SCHIST >
 * SECOND FM AGE N35 < >
 * SECOND FM NAME N35A < >
 * IGNEOUS UNIT AGE N50 < P.R.O.T., W, AS LINE N30 >
 * IGNEOUS UNIT NAME N50A < GRANITE >
 * SECOND IG. UNIT AGE N55 < P.A.L.E.O.-M.I.O., W, UNDATED, PROBABLY MID-TERTIARY >
 * SECOND IG. UNIT NAME N55A < RHYOLITE DIKES, UNNAMED >
 * GEOLOGY COMMENTS N85 < DEPOSIT IS QUARTZ VEIN LOCALIZED ALONG LOW-ANGLE FAULT WHICH PROBABLY DISPLACES TERTIARY VOLCANIC ROCKS TO THE SOUTHWEST. DEPOSIT AGE PROBABLY MIOCENE >

GENERAL COMMENTS

GENERAL COMMENTS GEN < BUNKER HILL IS SOMEWHAT UNLIKE OTHER DEPOSITS IN THE CASTLE CREEK DISTRICT AND MAY BELONG IN THE BLACK ROCK DISTRICT DUE TO THE HIGH-ANGLE VEINS AND LACK OF SPHALERITE-CHRYSOCOLLA >

BLM MINING DIST MAP #239
DUCCO BOY MINE
BRADSHAW GROUP
(IRA BRADSHAW'S MINE)

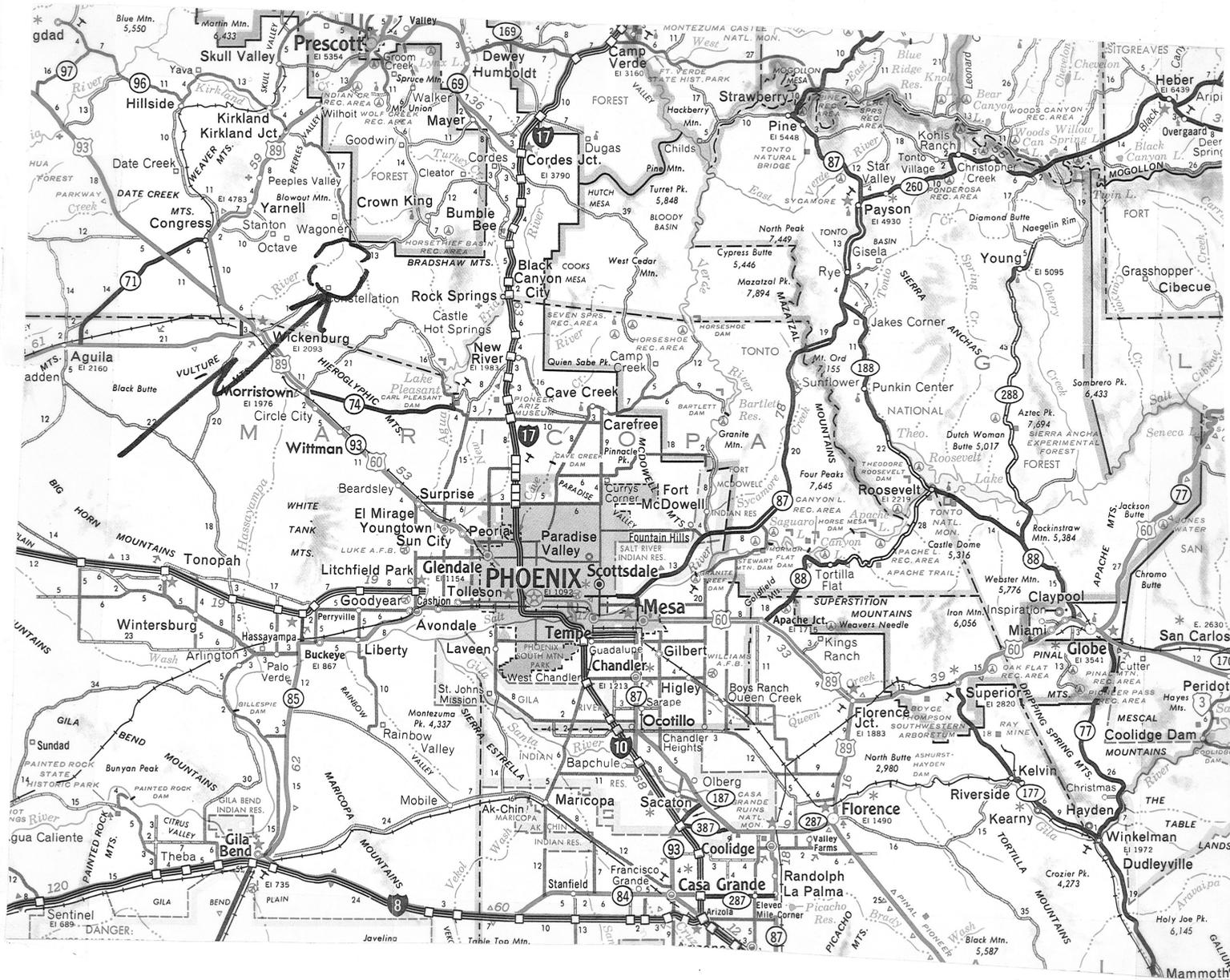
T. 9N., R. 2W.



REGIONAL LOCATION 1-7-81

DUCO BOY MINE

(BRADSHAW GROUP)
(IRA BRADSHAW'S MINE)



Arizona Testing Laboratories

817 West Madison · Phoenix, Arizona 85007 · Telephone 254-6181

For **Well-Hall**

Date **December 31, 1980**

ASSAY CERTIFICATE

LAB NO.	IDENTIFICATION	OZ. PER TON		PERCENTAGES			
		GOLD	SILVER	COPPER			
9366	J B Lexington Drift N Center Ridge TP		410.				

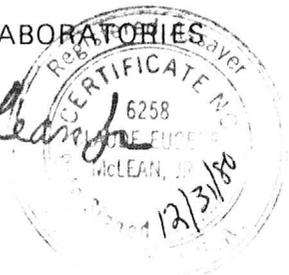
The above sample was taken from an unknown location on the Ira Bradshaw property.

Respectfully submitted,

ARIZONA TESTING LABORATORIES

Claude E McLean Jr

Claude E. McLean, Jr.



ARIZONA DEPARTMENT OF MINERAL RESOURCES
Mineral Building, Fairgrounds
Phoenix, Arizona

1. Information from: Assessors office Yavapai County
Address: Prescott
2. Mine: Bunker Hill 1-5, Lexington, Sunnyside, Sunset, Sunrise
3. No. of Claims - Patented 9
Unpatented —
4. Location: South of Waggaer - 14 mi from Crown King
5. Sec 36, 32 & 33 Tp 9 N Range 2 W
6. Mining District: Tiger ~~Castle Dome~~
7. Owner: Glenarm Land Co
8. Address: 2233 N 7th St. Phoenix
9. Operating Co.: Used to be Arizona Standard Mining & Mfg. Co.
10. Address: _____
11. President: _____
12. Gen. Mgr.: _____
13. Principal Metals: Pb, Zn, Cu, Ag, Au, U₃O₈, V₂O₅
14. No. Employed: —
15. Mill, Type & Capacity: — none
16. Present Operations: (a) Down (b) Assessment work (c) Exploration
(d) Production (e) Rate _____ tpd.
17. New Work Planned: 1

18. Misc. Notes: See Vol XVI Copper Handbook.
#79 Au; 11.55 Ag; 73% Pb; 19% Cu.

Date: Sept. 21 1970

F. T. Johnson
(Signature) (Field Engineer)

PORTION OF COPPEROPOLIS, ARIZ 7 1/2' Q&AD

3452 II SE (MORGAN BUTTE)

T 8 N

T 9 N

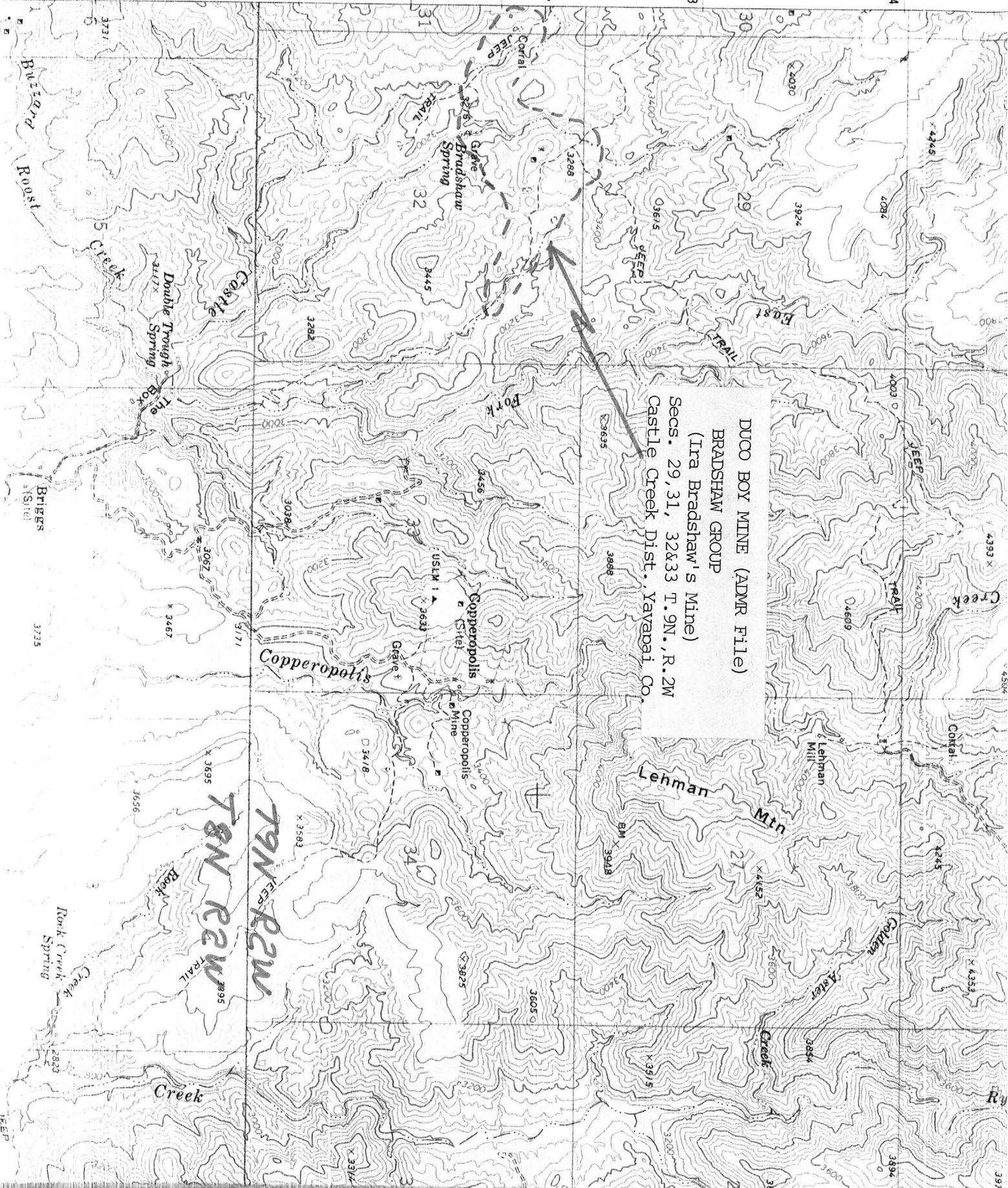
3771

3772

5'

3773

3774



DUCO BOY MINE (ADMR FILE)
 BRADSHAW GROUP
 (Ira Bradshaw's Mine)
 Secs. 29, 31, 32&33 T. 9N., R. 2W
 Castle Creek Dist., Yavapai Co.

T9N R2W

T8N R2W

T8N R2W

T8N R2W

T8N R2W

T8N R2W

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Arizona Standard M. & M. Co
District near Briggs on Castle Creek
T. 9N. , R. 2W.
Subject: present status of property

Date April 1, 1952

Engineer Mark Gemmill

1345
1952

The owner of this property in Miss Iva May Gerig living at 1301 W. Monroe Str. Phoenix who gave me the following information.

The property has been idle for several years and she would like to sell or lease it. The road to it is rather difficult. At present the road goes via Morristown on the Castle Hot Springs road to Castle Creek and then up Castle Creek to the location of old settlement of Briggs and then out of the wash up into the hills nearby.

I have been intending to go out to see the property but Castle Creek is running now and it will be impossible to get up that way until the water has gone down. Miss Gerig told me that there is another way to get to the property via the Swallow mine but that road might be all washed out.

Recently I put a man looking for properties in touch with Miss Gerig and I understand that he intends to look at it as soon as road conditions will permit

STATEMENT REQUIRED RELATIVE TO KIND AND

CHARACTER OF VEINS OF LODES AND

LOCATION

The ten claims of the Arizona Standard Mining & Milling Company, on which Iva May Gerig Keddington has made application for patent (U.S. Patent No. 4180 received) consists of 18 shafts, 42 cuts, 7 tunnels, 2 raises, 3 drifts, 2 trenches, 9 road hillside cuts, 2 road trench cuts.

This property is located in Sections 29, 31, 32 and 33, T.9 N., R. 2 W. of G. & S. R. B. & M., Yavapai County, Arizona. The property can be reached by a Thirty-five mile drive from Castle Hot Springs Junction (Morristown) taking the Castle Hot Springs road for about 23 miles, or about 1 1/2 miles before you get to the Castle Hot Springs Hotel, turn west and follow up the Castle Creek about ten miles, at which point a road leads out of the wash and in about 1 1/2 miles reaches the property. This is about 2 miles after you pass Briggs Camp.

The geology of the district is apparently granitic-porphyry or diorite porphyry and schist with various faults and intrusions. The outcroppings occur along the intrusions of porphyry into the schist, making deposits of red hematite of iron mineralized with gold, silver, lead and at places copper.

The discovery shaft of the Bunker Hill lode, the center of which being the discovery point, is on the lode line 599.5 ft. from the west end center; 6 x 6 ft. 9 ft. deep. There is about a 1 ft. vein and approximately 3 tons of ore was extracted. Another shaft on this claim, the center of which is on the lode line of the Bunker Hill lode 103 ft. from the east end center, 6 x 15 ft., 9 ft. deep, has a vein approximately 1 1/2 ft. wide where about 20 tons of ore were taken. Other improvements on this claim are as follows: A cut the face of which bears North 62° 42' W. 705 ft. from Corner No. 3 of the Bunker Hill lode; 5 ft. wide, 9 ft. face runs N. 55° W. 12 ft. to face; a road cut on a hillside, beginning at a point which bears S. 31° 45' E. 371 ft. from Corner No. 2 Bunker Hill lode, 6 ft. wide, 1 1/2 ft. face, bears E. 70 ft., thence N. 63° W. 75 ft., thence S. 30° E. 75 ft.

The discovery cut of the Bunker Hill No. 2 lode, the face of which being the discovery point is on the lode line 614 ft. from the west end center; 4 ft. wide, 4 ft. face, runs S. 80° E. 16 ft. to face. This claim also has a spring in rock cut, the face of which bears N. 55° 58' W. 718 ft. from Cor. No. 3 Bunker Hill No. 2 lode; 4 ft. wide, 6 ft. face, runs N. 66° W., 6 ft. to face and portal

The property consists of ten claims, each with various tunnels, shafts and open cuts.

LOCATION.

The property is located north and east of Wickenburg, Yavapai County, Arizona, and is reached by a thirty-five mile drive from Castle Hot Springs Junction, (Morristown) taking the Castle Hot Springs road for about 23 miles to a large wash at a point about a mile and a half from Castle Hot Springs Hotel, turn up this wash (west) and follow it for about ten miles at which point a road leads out of the wash and in about two miles reaches the property, about two and one-half miles above Briggs Camp.

DEVELOPMENTS.

The Bunker Hill No. 6 shaft was first visited. This shaft is well timbered with plank and square sets from top to bottom, at least to below the water at about 60 feet. There wasn't any drifts accessible to take a sample. The shaft has been sunk in granitic-porphyr, or diorite-porphyr and schist formation and apparently intersects some good ore, as a dump of several tons of ore showing good lead values is to be seen.

✓
BUNKER HILL TUNNEL

This tunnel (No. 3) has been driven in a northerly direction about 250 feet to cut a deposit of hematite ore with lead, gold, silver, and is a massive deposit on a contact of granitic-porphyr and schist. A drift to the left has been driven on this contact all apparently in the ore for a distance of fifty feet, at which point a winz was sunk to a depth of 50 feet with a drift to the south about 20 ft. No. 2 sample was cut in this drift over the top and down both sides with a prospect pick. Sample No. 3 was cut just east of the winz in the drift on the tunnel level. No. 4 sample was taken over the entire length of an ore pile on the dump extending out from the mouth of the tunnel, said ore in rich form some 55 feet long, 5 feet high and about 8 feet wide, or about 150 tons of ore allowing 15 cu. feet per ton.

The croppings are extensive and have been exposed on the north apex of the hill at which point a shaft and other works expose the croppings.

The contact strikes easterly and westerly with about a 50 degree dip to the south, with the schist forming the hanging wall and the porphyry the foot wall.

(Foster group)
(Sunnyside, Sunset and Sunrise)

About 6000 feet in an easterly direction from the Bunker Hill is found the location shaft of the Southwest claim. This shows a good prospect with copper, gold, silver. No. 5 sample cut about 10 inches of glance ore at 8 feet depth, in the same formation, but lower elevation than Bunker Hill. About 1500 feet in westerly direction of the Southwest claim is found the location of the Sunset claim, the location work about 15 feet deep showing 2 feet of good looking ore. No. 6 sample apparently copper, gold, silver ore, with the same easterly and westerly strike and dip to the south of about 40 degrees.

GEOLOGY.

The geology of the district is apparently granitic-porphyry or diorite-porphyry and schist with various faults and intrusions. One fault noticeable about 300 feet easterly of the Bunker Hill tunnel.

Transportation

These properties are located among the easterly and higher slopes of the range to the northeast of Wickenburg and could be reached much more readily by the construction of a road a distance of about 5 miles along the contour and over the range to connect with the Copper State mine, making the distance about 17 miles from the railroad.

Mineralization

The outcroppings occur along the intrusions of porphyry into the schist making deposits of red hematite of iron mineralized with gold, silver, lead and at places copper. The iron looks to be a mineral bearing iron.

There aren't any deep workings near this property to my knowledge, but I believe it is safe to estimate a depth of mineralization along some of these intrusions to some 2000 feet depending on the contour and elevation of said croppings.

The formation isn't a hard rock and should be mined at a very reasonable rate.

Water

There is a living spring, which is located on the Bunker Hill #2, and it is claimed to furnish water for camping purposes. There are 3 or 4 washes running through the property, and there is one point which would be an ideal dam site.

RECOMMENDATIONS: Should the samples have sufficient values, I would recommend further investigation of this property.

Respectfully submitted,

(Signed) J. W. Dailey
Tucson, Arizona

(Copy)

E. A. JACOBS
REGISTERED ASSAYER

TUCSON ARIZONA Jan. 11, 1931

Sample Marked	Gold ozs. per ton ore	Gold value per ton ore	Silver ozs. per ton ore	Copper % Wet Assay	Lead % Wet Assay
1	.22	4.40	2.7	1.55	
2	.38	7.60	0.8		0.2
3	.25	5.00	1.2		2.4
4	.47	9.40	1.0		0.2
5	.14	2.80	0.7	2.82	

Gold figured \$20 per oz. Troy

Owner of property:
Iva May Gerig
1215 N. 1st Street
Phoenix, Arizona

of tunnel, 4 1/2 x 6 ft. in size, running E. 66° W. to breast. There has also been a road cut on the hillside which tends to the development of three lodes; namely, Bunker Hill No. 2, Bunker Hill No. 3, and Bunker Hill No. 4.

The discovery cut of the Bunker Hill No. 3 lode, the face of which being the discovery point is on the lode line 657.5 ft. from the west end center; 8 ft. wide 16 ft. face, runs N. 50° E., 30 ft. to face and portal of tunnel 4 1/2 x 6 1/2 ft. in size, running N. 62° 26' E. 25 ft. from this tunnel a large dump has been extracted. This dump is approximately 50 ft. long. This cut and tunnel tends to develop Bunker Hill No. 4 lode as well as Bunker Hill No. 3 lode. Another working on this claim, a cut, the face of which bears N. 26° 46' W. 165 ft. from Corner No. 3 Bunker Hill No. 3 lode, 6 ft. wide, 8 ft. face, runs N. 60° W. 34 ft. to face and portal of tunnel 6 x 5 ft. in size, running N. 5° W., 13 ft.; thence 5 x 4 ft. in size, running N. 45° W. 5 ft. to breast. On this claim there is also a shaft, the center of which bears S. 32° 15' W. 120 ft. from Corner No. 2 Bunker Hill No. 3 lode; 10 x 12 ft. 9 ft. deep, having an approximate 2' vein where approximately 14 tons of ore was extracted.

The discovery cut of the Bunker Hill No. 4 lode, the face of which being the discovery point is on the lode line 572.7 ft. from the West end center; 4 ft. wide, 5 ft. face, runs N. 25° W., 15 ft. to face. There is a shaft, the center of which bears S. 63° 52' E. 441 ft. from Corner No. 4 Bunker Hill No. 4 lode; 6 x 7 ft., 143 ft. deep, partially timbered, has a 3 to 5' vein and approximately 30 tons were extracted, valued at approximately \$9000. A drift, from point A in tunnel of improvement of Bunker Hill No. 3 lode, 5 x 6 ft. in size runs N. 63° 13' W., 13.5 ft. to raise 4 x 4 ft. 6 ft. high above ceiling of drift, and 29.5 ft. to center of shaft designated in preceding sentence, has an approximate 3 ft. vein at which point approximately 50 tons of ore was taken. Another drift from point A in tunnel of improvement of Bunker Hill No. 3 lode, 5 x 6 ft. in size, runs NE to breast. Another drift from point A in tunnel of improvement of Bunker Hill No. 3 lode, 4 1/2 x 6 ft. in size runs SE 10 ft. to raise 6 x 7 ft., 6 ft. high above ceiling of drift, and 32 1/2 ft. to breast. On this claim there is also a shaft, the center of which bears SE 188 ft. from Corner No. 4 Bunker Hill No. 4 lode, 7 x 7 ft., 8 ft. deep. There is also a cut, the face of which bears SE 219 ft. from corner No. 4 Bunker Hill No. 4 lode, 5 ft. wide, 8 ft. face.

The discovery shaft of Bunker Hill No. 5 lode the center of which being the

discovery point is on the lode line 738.6 ft. from Corner No. 5 8 x 8 ft. 7 ft. depth, approximately 2 ft. vein. Another shaft, the center of which bears SW 167 ft. from Corner No. 1 Bunker Hill No. 5 lode, 11 x 11 ft., 5 ft. deep. There is also a shaft, the center of which bears SE 242 ft. from Corner No. 5 Bunker Hill No. 5 lode, 8 x 8 ft. 5 ft. deep. There are also other cuts and shafts on this claim, which are small workings.

The discovery cut of the Bunker Hill No. 6 lode, the face of which being the discovery point is on the lode line 720 ft. from the west end center, 6 ft. wide, 12 ft. face running SW 27 ft. to face, width of vein approximately 2 feet. There is a timbered shaft, the center of which bears NW 134 ft. from Corner No. 1 Bunker Hill No. 6 lode, 5 1/2 x 7 1/2 ft. 74 ft. deep.

From the discovery cut of the Lexington lode the face of which being the discovery point, is on the lode line 1017 ft. from the west end center, 6 ft. wide, 10 ft. face. There is a cut on this claim, the face of which bears NW 540 ft. from Corner No. 3 Lexington Lode, 6 ft. wide, 8 ft. face, running NW 15 ft. to face. Another cut which bears NE 277 ft. from Corner No. 4 Lexington lode, 8 ft. wide 12 ft. face, running SE 18 ft. to face and portal of tunnel 4 x 5 ft. in size, running SE 48 ft. thence SE 32 ft. to brease, where approximately 20 tons were taken.

On the Sunnyside lode there is a shaft, the center of which bears NE 619 ft. from Corner No. 2 Sunnyside lode, 7 x 7 ft. 21 ft. deep, 2 to 3' vein. On this claim there is also a cut, the face of which bears SE 631 ft. from Corner No. 2 Sunnyside lode, 4 ft. wide, 7 ft. face, 3 x 6 ft. in size running NW 54 ft. to brease, beyond which tunnel is caved, where approximately 60 tons of ore were taken.

On the Sunset lode there is a shaft, the center of which bears SW 510 ft. from Corner No. 2 Sunset lode, 5 x 12 ft. 8 ft. deep. There are also other cuts and small shafts on this claim.

The Sunrise lode, the center of which being the discovery point is on the lode line 854 ft. from Corner No. 4, 61° 07' W., 622 ft. from Corner No. 5 Sunrise lode, 12 ft. wide 8 ft. face, running NW 18 ft. to face, approximately 2 ft. vein. Another cut, the face of which bears NW 603 ft. from Corner No. 5 Sunrise lode; 6 ft. wide 10 ft. face. Also another cut on this claim, the face of which bears NW 183 ft. from Corner No. 5 Sunrise lode; 6 ft. wide, 10 ft. face, running NW 20 ft. to face and portal of tunnel 6 x 6 ft. in size, running NW 19 ft. to breast.

Any estimated values are based on assays that have been made in gold, silver, lead, vanadium and copper.

To the best of my knowledge, I certify that the ten claims of the ARIZONA STANDARD MINING & MILLING COMPANY, a corporation in the State of Arizona, are of such size and value in metaliferous ore to justify further development work and extraction of ores for shipment.

(Signed) IVA MAY GERIG KEDDINGTON
Iva May Gerig Keddington, Pres.
ARIZONA STANDARD MINING & MILLING COMPANY

ESCROW INSTRUCTIONS

TRANSAMERICA TITLE INSURANCE COMPANY

177 West Camelback Road

Phoenix Arizona 85015

Phoenix, ARIZONA, January 2, 1981

Escrow No. 03025346-2

ESCROW OFFICER Marian Bangs/jr

Phone _____

Iva May Gerig Keddington, a single woman

HEREIN CALLED SELLER

Home address is 1345 West Monroe, Phoenix, Arizona

Phone _____

and _____ Zip Code _____

Donald Hall and David Welton and/or NOMINEE

HEREIN CALLED BUYER

Home address is 2926 North 86th Drive, Phoenix, Arizona

Phone _____

Zip Code _____

Buyer hereby employ Transamerica Title Insurance Company to act as Escrow Agent in connection with a sale by Seller to Buyer on the following terms and conditions which shall be complied with by said parties on or before February 16, 1981, except as otherwise specified herein. The property herein referred to is situated in Yavapai County, Arizona, and is described as follows, to-wit: See attached Exhibit "A" for legal description

ITEMS PRICE TO BE PAID BY BUYER		ALL ITEMS CHECKED THUS (P) OR (X) ARE THE OBLIGATIONS WHICH EACH PARTY WILL PAY	BUYER	SELLER
which is represented by:	\$ 89,000.00	TAXES 1980 and prior, is any		X
NEAREST MONEY TO BE DEPOSITED IN CROW held in Big Red Realty Trust Account.	\$ 500.00	1981 and future	X	
CASH PAYMENT TO BE DEPOSITED IN CROW and released to Seller on or before January 12, 1981, or before close of escrow	\$ 8,400.00	Prorate to close of escrow		
ENCUMBRANCE OF RECORD beginning with a payment due _____ with proximate unpaid balance of _____ any, to be paid at close enough escrow by Seller	\$ None	IMPROVEMENT LIEN ASSESSMENTS		
ENCUMBRANCE OF RECORD beginning with a payment due _____ with proximate unpaid balance of _____ any, to be paid at close enough escrow by Seller	\$ None	Not applicable		
variation in amount of Encumbrance(s) will be reflected in _____		Prorate to		
reserve funds held under said Encumbrance(s) shall be _____		IRRIGATION PROJECT ASSESSMENTS		
		Not applicable		
		Prorate to		
		HOMEOWNERS ASSESSMENTS		
		Not applicable		
		Prorate to		
		FIRE INSURANCE POLICY		
		Not applicable		
		Prorate to		
		MIP INSURANCE Prorate to	Not applicable	
		INTEREST Prorate to	Not applicable	
		RENTS Prorate to	Not applicable	
		RECORDING FEES:		
		Deed		X
		Encumbrance	Not applicable	
		Release of Encumbrance		X
		AFFIDAVIT OF VALUE		X
		STATEMENT FEES	Not applicable	
		TERMITE INSPECTION & TREATMENT	Not applicable	
		AGENT'S COMMISSION \$		
		TO:		
		By separate Agreement		
		ESCROW CHARGES $\frac{1}{2}$ & $\frac{1}{2}$	X	X
		TITLE POLICY INSURING		
		Owner		X
		Mortgagee or Beneficiary	Not applicable	
		ACCOUNT ACCEPTANCE FEE	Not applicable	
		ACCOUNT SERVICE FEE	Not applicable	

If personal property is involved in this escrow, escrow agent assumes no liability for transfer of property nor any lien thereon or title thereto.

- NO PERSONAL PROPERTY.
- PERSONAL PROPERTY. BILL OF SALE TO BE DELIVERED AT CLOSE OF ESCROW.
- PERSONAL PROPERTY. BILL OF SALE TO BE DELIVERED WHEN ENCUMBRANCE BEING CREATED IS PAID IN FULL.
- PERSONAL PROPERTY. BILL OF SALE WAIVED.

NEEDS OF CASH PAYMENT SHALL BE PAID TO THE SELLER(S) HEREIN AS FOLLOWS:

PARTIES HEREBY ACKNOWLEDGE THAT THEY HAVE READ AND UNDERSTAND THE MATTERS CONTAINED ON REVERSE SIDE OF THESE INSTRUCTIONS, INCLUDING BUT NOT LIMITED TO PARAGRAPHS 7 THRU 9 INCLUSIVE, CONCERNING THE CANCELLATION OF THIS ESCROW.

Iva May Gerig Keddington
 Iva May Gerig Keddington Date _____
 Seller Date _____

Donald Hall 1/5/81
 Donald Hall Date _____
 Buyer Date _____

David Welton 1/5/81
 David Welton Date _____
 Buyer Date _____

PHOENIX, ARIZONA
PURCHASE CONTRACT AND RECEIPT

RECEIVED FROM Donald Hall & David Welton &/or nominee. Phoenix, Arizona December 31, 19 80
the sum of Five hundred and No/100 ***** DOLLARS (\$ 500.00),
as earnest money and part purchase price (which the Seller acknowledges that the broker has accepted the earnest money subject to collection and the Seller hereby instructs the broker to deposit the earnest money in the broker's trust account and/or a duly licensed escrow company) of the following described property, situated in the County of Yavapai, State of Arizona, (together with all improvements thereon) to wit: Mineral Survey No. 4180 on file in the BLM, as granted by Patent recorded in Book 173 of Deeds, page 66, records of Yavapai County, Arizona, (Assessors Maps Attached)
for the full price of Eighty nine thousand and No/100 *****
DOLLARS (\$ 89,000.00) upon the following terms and conditions:

The balance of the purchase price to be paid as follows, to-wit:
\$ 500.00 by above deposit in the form of check to Big Red Realty Trust Acct.
\$ 8400.00 additional earnest money to be paid direct to Title Co, escrow and to be further released to Seller on or before January 12, 1981.
\$ 80,100.00 payable on or before close of escrow.
\$ _____
\$ _____

The unpaid balance of any mortgage or agreement for sale mentioned herein is approximate. Any difference shall be reflected in the deferred balance to be paid the Seller so that the full purchase price will be as stated.

It is HEREBY AGREED First, that in the event the said purchaser shall fail to pay the balance of the cash payment, or complete said purchase, as herein provided, within five (5) days after the date upon which Seller shall have complied herewith the Seller may demand specific performance of this contract, or may retain the amount paid herein as liquidated and agreed damages, or pursue any other remedy at law or equity as he may elect. In the event that it is necessary for either Purchaser, Seller or Broker to file suit or take other legal action to enforce any right or rights under this agreement, then the party prevailing in such action shall have the right to have a reasonable amount as and for attorneys' fees included in any judgment or decree rendered on such action.

Second: Purchaser and Seller agree that if the title to the above property be defective, ninety (90) days from the date hereof shall be given to the seller, or his agent, to perfect same. If said title cannot be perfected within said time limit the earnest money received for herein shall, upon the demand of Purchaser, be returned to Purchaser and this contract cancelled.

Third: That the evidence of title is to be a Title Insurance Policy issued by a duly qualified title insurance company, insuring the Purchaser in the full amount of the purchase price shown herein, and to be issued and paid for by the Seller, said title insurance policy to show title to said premises to be subject to the usual exceptions contained in the regular form of title insurance policy, and subject to building and other restrictive covenants of record pertaining to the use of said premises, and encumbrances, taxes and assessments or other matters affecting said property, but not affecting merchantability.

Fourth: Escrow shall close on or before Feb. 16 1981, or upon removal of any exceptions to the title by the seller as provided in paragraph 12 above.

Fifth: Until possession is given, Seller agrees to maintain property including heating, cooling, plumbing and electrical systems, built in appliances, and/or swimming pool and equipment, in working order, and to maintain grounds and leave premise in clean condition.

Sixth: In the event there is any loss or damage to the property during the time of the date hereof and the recordation of a deed, or Agreement for sale to the purchaser of the property by reason of fire, vandalism, flood, earthquake or Act of God, the risk of loss shall be upon the Seller.

Seventh: That the Purchaser has investigated the said premises, and the Broker and the Seller are hereby released from all responsibility regarding the valuation thereof, and neither Purchaser, Seller nor Broker shall be bound by any understanding, agreement, promise, representation or stipulation expressed or implied, not specified herein.

Eighth: That the taxes, insurance, rents, etc., affecting said premises shall be prorated in the following manner:

Taxes: Close of escrow Irrigation Assessments: NA
Insurance: NA Sewer/Paving Assessments: NA
Interest: NA Other Special Assessments: Seller if any
Rents: NA POSSESSION: Close of Escrow

Ninth: This contract shall become binding only when executed by the purchaser and by the seller, and shall be in force and effect from the date of such execution:

Tenth: Time is declared to be the essence of this contract:

Eleventh: That the Purchaser and the Seller, within ten (10) days after the acceptance of this offer, shall execute instructions to the escrow agent to carry out the terms hereof. The earnest money and all other funds and documents necessary to complete same, as herein provided, shall be deposited in said escrow and the Purchaser and Seller shall each pay one-half (1/2) of the escrow fee, and all other costs properly chargeable to each in accordance with the prevailing custom;

Twelfth: That this deposit is accepted subject to prior sale, and subject to approval of Seller;

Thirteenth: That this offer shall be accepted by the Seller on or before Jan 2, 19 81

I (or we) agree to purchase the above described property on the terms and conditions herein stated. Broker Big Red Realty
By Red Johnson

Donald H. Hall Purchaser's Signature 2926 N. 86th Dr. Phoenix, Az. Purchaser's Address
David E. Welton Purchaser (wife or husband) 3440 Steele Rd. Ph. Az. Purchaser's Phone

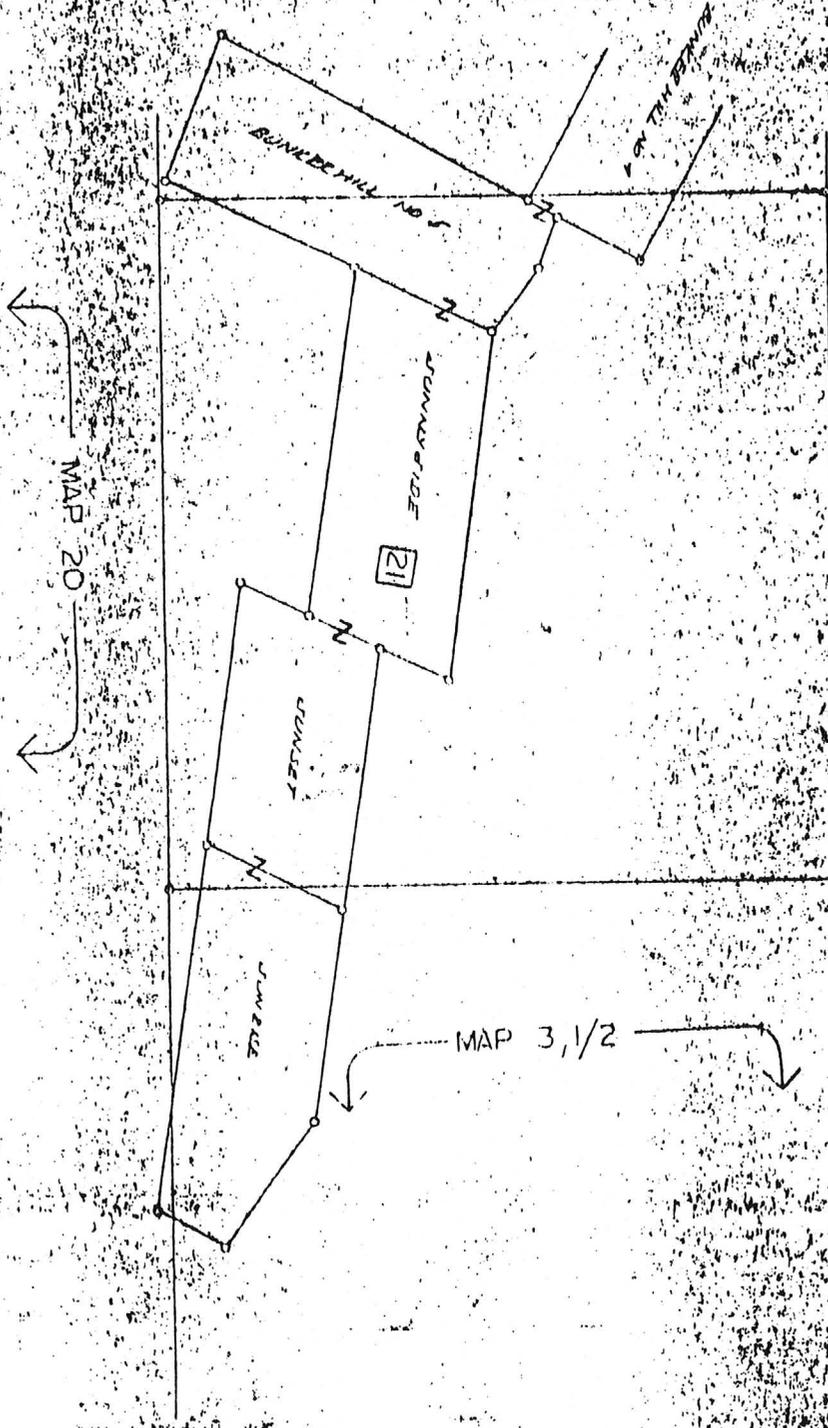
I (or we) agree to sell the above described property on the terms and conditions herein stated and agree to pay the above signed Broker as commission the sum of _____ DOLLARS (\$ _____), or one-half (1/2) the deposit in case same is forfeited by the purchaser, provided same shall not exceed the full amount of the commission.

ACCEPTED: Jan 2, 1981
Jan Mayberry Giddington Seller 1345 W. Monroe Seller's Address
Seller (wife or husband) Seller's Phone



20, 34/35
 MS A1B0
 CASTLE CREEK/BLACK ROCK
 DISTRICTS

MAP 20-34/1



NE 1/4
SEC 32
SEC 33

MAP 23

MAP 3, 1/2

MAP 20

M.S. 4180

204-2035/151
CASTLE CREEK/BLACK ROCK
DISTRICTS



7-83 Arizona Safety Limes

Standard Mining &
Milling Co.)
Located in Sections
29, 31, 32 & 33
T9N. R2W. of G4SR134M
10 patented claims
U.S. Mineral
Survey 4180

1345
7301 W Monroe
Phoenix Ariz
2-3686

Veterans Administration
Phone B-37

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
MINE OWNER'S REPORT

Miss Gerig

Date October 9, 1946

Arizona Standard Mining & Milling Company

1. Mine: "DUCO Boy and/or The old Bradshaw Workings & Foster claims"
Sections 29, 31, 32 and 33 of G.S.P.B.M. Yavapai County, Ariz.

2. Location: Sec. _____ Twp. 9 N. Range 2 W. Nearest Town Wickenburg
or take road from Morristown to Castle Hot Springs Hotel, then NW 10 Mi. to property
Distance _____ Direction _____ Road Condition Poor (last 10 miles)

3. Mining District & County: Yavapai County, Castle Creek District (Black Rock)

4. Former Name of Mine: Originally Bradshaw workings, also commonly called Duco Boy

5. Owner: Iva May Gerig (Also known as Iva May Gerig Keddington)

Address: 1301 West Monroe, Phoenix (temporary address)

6. Operator: Property not working

Address: _____

7. Principal Minerals: Lead, silver, gold copper, (vanadium on NW claim)

8. Number of Claims: 10 patented Lode yes Placer _____

Patented yes Unpatented _____

9. Type of Surrounding Terrain: mountainous

10. Geology & Mineralization: granitic-porphyry or diorite porphyry and schist

11. Dimension & Value of Ore Body: various dimensions

12. Ore "Blocked Out" or "In Sight":

Ore Probable:

13. Mine Workings—Amount and Condition:

No.	Feet	Condition
Shafts..... 18		Some caved
Raises..... 2		
Tunnels..... 7		Need cleaning out
Crosscuts.....		
Stopes.....		

14. Water Supply: Spring on property - Dam site between hills

15. Brief History: Originally old claims of Ike Bradshaw, who is buried on property.
 Incorporated by E. G. Gerig in 1923 "Arizona"
 Iva May Gerig (daughter of E.G. Gerig) secured patent from U.S. Gov't.
 U.S. Patent No. 4180 in 1935.

16. Signature: *Iva M. Gerig, Owner & President
 Arizona Standard Mining & Milling Co.*

17. If Property for Sale, List Approximate Price and Terms: The property is for sale.
 Would like cash offer.

35,000.00

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Date *January 17, 1940*

Mine *Ariz. Standard Mining & Milling* Engineer

District *Castle Creek*

Location *Near Briggs on
Castle Creek, Ariz.*

Former name *Bradshaw*

Owner *Iva May Gerig Ketterington*

Address *Coronado Hotel
807 N. 1st. St.,
Phoenix, Ariz*

Operator

Gen. Mgr.

President

Mill Supt.

Mine Supt.

Principal Metals *Lead - Silver*

Men Employed *NONE*

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present

DUCO MINE

Ag, Cu, Pb

Yavapai 13 - 7 T 9 N, R 2 W

Operations Planned

Mrs. I.M.G. Keddington, c/o Mrs. Jas. Mercer, 1232
E. Belleview, Phoenix '33

Number Claims, Title, etc.

10 Patented

Description: Topog. & Geog.

Rolling hills - on Castle Creek.

Mine Workings: Amt. & Condition

*Amount not determinable
Many cuts & small shafts, & tunnels*

Geology & Mineralization

Veins outcrop in Bradshaw Granite
Short & narrow outcrops of Black Calcite & quartz
Strike N 60 W. Dip 79+ degrees. Galena & pyrite
Ore: Positive & Probable, Ore Dumps, Tailings (Probably contains lead Oxides &
Sulfates = Barite

Mine, Mill Equipment & Flow Sheet

None

Road Conditions, Route

Murrhistown to Castle Creek 29 miles good road
thence up Castle Creek (heavy sand,) 13 miles to
Briggs; walk 2 miles to property

Water Supply

Spring

Brief History

I. Bradshaw located property prior to 1885
Died 1885. & buried on property.
Inactive many years.

Special Problems, Reports Filed

Potent Map & Surveyors description

Remarks

Corporation owned by Mrs. Ketterington
See Bulletin 782 - U.S.G.S.

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

For Sale - Bond & Lease

H.M. Fennemore, Atty.
Phoenix, Ariz.

Signed.....

Carl G. Bantel Jr.

COPY.

ARIZONA STANDARD MINING & MILLING CO.
(Duco Boy Mine Property)

The property consists of three group of claims, being ten claims, (all now patented), which consists of 18 shafts, 7 tunnels, many cuts, 3 drifts and tranches.

LOCATION:

The property is located north and east of Wickenburg, Yavapai County, Arizona, and is reached by a thirty-five mile drive from Castle Hot Spring Junction, (Morristown), taking the Castle Hot Spring road for about 23 miles to a large wash (Castle Creek) about two miles from Castle Hot Springs, turn up this wash and follow it for about 10 miles, at which point a road leading out of the wash and in about two miles reaches the property, about 2 miles above Briggs camp.

DEVELOPMENTS:

The Bunker Hill No, 6, or New Discovery Shaft, was first visited. This shaft is well timbered with plank and square sets from top to bottom, at least below the water level about 60 feet. There aren't any drifts accessible to take any samples from. The shaft has been sunk in a granitic-porphyry or diorite-porphyry and schist formation and apparently intersects some good ore, as a dump of several tons of ore showing good lead values is to be seen.

Bunker Hill Tunnel, this tunnel has been driven in a northerly direction about 250 feet to cut a hematite ore with lead, gold, silver, and is a massive deposit on a contact of granitic-porphyry and schist. A drift to the left has been driven on this contact, all apparently in the ore for a distance of 25 feet at which point a winze was sunk to a depth of 50 feet, with a drift to the south about 20 feet.

No. 2 sample was cut in this drift over the top and down both sides with a prospect pick.

No. 3 sample was taken just east of the winze in the drift on the tunnel level. No. 4 sample was taken over the entire length of ore pile on the dump extending out from the mouth of the tunnel, said ore in rick from some 55 feet long, 5 feet high and 8 feet wide, or about 150 tons of ore, allowing 15 cu. feet per ton.

The croppings are extensive and have been exposed on the north apex of the hill at which point a shaft and other works expose the croppings.

The contact strikes easterly and westerly with about a 50 degree dip to the south, with the schist forming the hanging wall and the porphyry the foot wall.

FOSTER GROUP,
(Sunnyside, Sunrise, Sunset)

About 6000 feet in an easterly direction from the Bunker Hill is found the location shaft of the west south claim, this shows a good prospect with copper, gold, silver. No 5 sample cut about 10 inches of glance ore at 8 feet depth in the same formation but lower elevation than Bunker Hill. About 1500 feet in a westerly direction of the southwest claim is found the location of the Sunset Claim, the location work about 15 feet deep showing 2 feet of good looking ore. No 6 sample apparently copper, gold, silver ore with the same easterly and westerly strike and dip to the south of about 40 degrees.

GEOLOGY: Geology of the district is apparently granitic-porphyry, or

diotite-porphry and schist with various faults and intrusions. One fault noticeable about 300 feet easterly of the Bunker Hill tunnel.

These properties are located among the easterly and higher slopes of the range to the northeast of Wickenburg and could be reached more readily by the construction of a road a distance of between 3 and 4 miles along the conture and over the range to connect with the Copper State Mine making t the distance about I7 miles from the Railroad.

MINERALIZATION:

The outcroppings occur along the intrusions of porphyry into the schist ~~mapa~~ making deposits of red hematite of iron mneralized with gold, silver, lead, and at places copper. The iron looks to be a mineral bearing iron.

There aren't any deep workings near this property, but I believe it is safe to estimate a depth of mineralization along some of these intrusions to some 2000 feet depending on the conture and elevation of said croppings.

The formation isn't a hard rock and should be mined at a very reasonable rate.

WATER:

There is a living spring which was pointed out and is located near the main Bunker Hill tunnel and is claimed to furnish water for camping purposes.

It wasn't possible to visit all of the workings in the length of time we had, but should the samples have sufficient values, I would recommend futher investigation of this property.

Signed) J. W. Dailey.

 E. A. JACOBS
 REGISTERED ASSAYER

Sample marked,	Gold Ozs per ton	Value per ton	Silver Ozs per otn	copper %	Lead %
1	.22	\$4.40	2.7	1.55	
2	.38	7.60	.8		0.2
3	.25	5.00	1.2		2.4
4	.47	9.40	1.0		.2
5	.14	2.80	.7	2.82	

GOLD FIGURED \$20.00 per oz troy.

(Figuring smelter settlment on gold at \$32.32 per oz, the average value of above samples is \$9.32 per ton.)

REPORT ON

ARIZONA STANDARD MINING & MILLING CO.
Yavapai County, Arizona

This property is located in a great mineralized basin, and one and one-half miles wide and approximately the same length. The property comprises of ten (10) claims of rich, silver, copper, vanadium and lead ores and is located in Township 9 N. R. 2 W. C. & S. R. M. Survey, Yavapai County, Arizona. (All ten claims now patented, A.C.N.)

The leads, veins, dikes and ore bodies lie as follows: The apex stands well to the west of the mineral zone and is high and well defined. Extending to the north and east from the apex is a vein carrying 37% copper traceable for one-fourth mile.

Just to the south of this vein and, extending easterly the full length of the property there is a copper in porphyry lead ranging in width from 75 to 150 feet and dipping to the south towards what is known as Hematite Dike at an angle of 60 degrees. Another fine copper cropping extends across the property east from the apex making junction with Hematite Dike just east of the apex.

Hematite Dike is next in order south of the last named copper cropping, is 30 feet wide and extends easterly across the entire property.

Making junction with Hematite Dike, east of the apex referred to and extending easterly across the property to the south of said Dike is a galena lead surface outcropping upon which the following work has been done: East of the apex and west of the center of the property an open cut approximately 20 feet in length, 6 feet deep and 5 feet wide was run. Ore taken from this cut assayed 17 ozs. silver, \$12.00 gold (at \$20.67), and 5% copper; proving, in my opinion, that the Hematite Dike is the central ore body in this great mineralized basin.

At approximately 400 feet to the east and on the lead outcropping the Bunker Hill shaft is situated and reaches a depth of 156 feet. This shaft down to the 85 foot level exposed lead boulders set in porphyry. At the 85' level there is a 16 inch vein carrying lead values of \$4.25 per ton. At the bottom of the shaft this same vein, which dips toward the Hematite Dike, has widened out to 5½ feet and carries lead values of \$43.70 per ton, indicating quite conclusively that the size and values of the ore increase with depth. This ore is Manganese ferro base and runs approximately 30% lead and 5% vanadium. 178 foot tunnel was driven to intersect the Bunker Hill shaft at the 85 foot level but missed it by 18 feet. In cutting this 18 feet to the shaft a rich vein of ore, 2 feet and 6 inches wide was cross cut. On the opposite side of the Bunker Hill shaft is an old incline tunnel 200 feet in length from which it is claimed that Mr. Bradshaw, (Bradshaw Mountains named from this man) took out \$35,000 in pure native silver (10 burro loads.) The mouth of this tunnel is caved, but I believe that it can easily be cleaned out and worked. Engineers and mining men who have seen the Bunker Hill property invariably refer it to a chimney.

Some 700 feet along this lead is the New Discovery shaft which reaches a depth of approximately 50 feet exposing steel galena boulders carrying 78% of this metal and \$27.40 in gold and silver (gold at \$20.67.) While working this shaft for development a body of high grade vanadium ore was encountered at 30 feet from the surface which continued highgrade to the bottom of the shaft. No assays were taken at this time as the owners were not interested in vanadium ore.

A short distance to the south of the New Discovery shaft there are fine copper croppings with hematite and copper glance.

Farther east along the galena lead surface outcroppings described in the sixth paragraph on page one hereof is the Foster shaft, 97 feet deep, carrying high grade gold, silver, copper, lead-vanadium ores with the best indications in the two and one-half foot vein from top to bottom of the shaft, that it runs true to structure. It is claimed that Mr. Foster took many thousands of dollars in value from this shaft. In fact, 100 tons of highgrade ore was stolen from this shaft and afterwards traced to the mill at Wickenburg. At the bottom of the shaft a drift has been run some 50 feet in length, the ore from which assayed \$15.00 to \$285.00 per ton.

Just north of the Foster shaft across the Hematite Dike, there occurs twelve well defined leads running high in gold, silver, copper and vanadium. These leads make junction with the copper-hematite lead on the north in fine granite porphyry. Raising from Castle Creek on the east giving an approximately depth from 350 to 400 feet.

Going back to the apex and to the south of this lead, diorite porphyry hills with fine gossan croppings, extending east across the property will be found. Just to the south of these gossan croppings is a well defined galena showing lead boulders pushed up from below. Boulders ranging from 50 pounds to 700 pounds and in many cases over a ton, as indicated by photograph accompanying this report, occur.

Farther east along this lead is situated the Annex shaft, carrying steel galena running 76% and 17 ozs. silver. The ore is leached in the bottom of the shaft. The shaft is approximately 100 feet deep, at the bottom of which the ore is found in place.

A short distance south of the gossan there are numerous leads in the porphyry covering a width of 650 feet. These leads dip 50 degrees to the north and carry very good values. In the assessment shaft on one of these leads steel galena running 75% lead, and gold-silver \$12.00 was encountered.

The property is bounded on the south by a fine box granite porphyry. Spring water is abundant, is available the year around.

REMARKS:

The Bunker Hill Group was discovered by a man named Bradshaw some sixty years ago. The Bradshaw Mountains having been named in his honor. Mr. Bradshaw was buried on the property in the year 1885. After his death the property became involved in litigation which was cleared up in about 1922.

In the year 1923 a million dollar corporation was formed on ten of these claims covering the Bunker Hill, Foster, etc, under the name of the Arizona Standard Mining & Milling Co. when litigation again started. This was legally settled and all stock called in. Subsequently the different owners pooled their respective claims and called them the Duco Boy Mining Group, vesting them under one head, Mr. A. C. Mollett, thus clearing up all legal entanglements. In 1933 the Bunker Hill Group comprising six claims and the Foster Group of three claims reverted back to Mrs. Iva May Gerig Keddington, the daughter of Mr. Gerig who controlled the Arizona Standard Mining & Milling Co., the former owner of said claims.

In the writers opinion, when this property is properly developed, it should rank with some of the best mines of the Southwest. At the present time it will require approximately \$5000 to complete a road now started from the Duco Boy property to the Monte Christo Mine. This road will, when completed connect with a good highway leading to Wickenburg, reducing the distance from 34 to 22 miles.

There are now approximately 300 tons of ore on the dumps.

Resp. (signed) Eugene R. LaLiberte

(Revised as of Sept. 20th, 1933)

Number 1.

Sunset,
Shaft 9 ft. deep, vein top 14 inches
vein bottom 2 feet
copper, silver, lead.

Number 2.

Mollett
S.W. of 115 shaft
gold, silver, lead.

Number 3.

Silver Bell
1000 feet S. E. Bunker Hill
shaft 8 feet, vein 2 feet
gold, silver, copper

Number 4.

Bunker Hill
135 foot level
18 inches to 5 feet at bottom
of shaft, average
vanadium, silver, gold, lead;

Number 5.

Bunker Hill
highgrade first 35 feet.

Number 6.

30 foot shaft, water at 15 ft.
ore 12 feet, 1000 feet west of Big Jim.

Number 7

Alconda
2 foot vein, 12 feet deep
gold, silver, lead, vanadium.

Number 8.

Big Jim, Foster 2½ foot vein 97 feet deep.
Surface ore and some deep workings
vanadium, copper, gold, silver, lead.

Number 9.

600 ft. W. Bunker Hill in wash
B. H. West Ext, copper, gold, silver.

Number 10

Castle Creek
½ mile N. Briggs

Number 11.

In wash W. of Foster.

Number 12.

Ground ore
vanadium, silver, lead, gold.

Samples handed in by Franck C. Reed, follow:

John Herman Laboratory,
339 S. Los Angeles, St.

Los Angeles, California
Ore treatment Tests.

Made for Frank C. Reed.
Date Mar. 11, 1930.

Certificate of assay
giving results per ton of 2000 lbs.

Owners Mark	Gold Ozs.	Value \$	Silver Ozs.	Value \$	Copper%	Value \$	Lead%	Value	V ₂₀₅	Total Value
1	.14	\$2.89	.1	.05	12.8	\$44.80				\$47.7
2	trace		3.0	1.35			24.	28.80		30.15
3	.04	.83	.9	.41			38.3	45.96	3.3%	47.20
4	.04	.83	.9	.41	.3	1.05				2.29
5	trace		2.1	.95		41.1	49.32			50.20
6	trace		2.9	1.31	1.6	5.60	63.6	76.32		83.23
7	.03	.62	2.0	.90			11.5	13.80		15.32
8	trace		2.0	.90	.6	2.10	70.0	84.00	2%	87.00
9	trace		trace	.1	.35	none				.36
10	trace		trace							
11	.06	1.20								
12	trace		10.1	4.53			66.1	79.32		83.87

I DO NOT GUARANTEE SATISFACTION I GUARANTEE ACCURACY

Charges

Gold \$20.67

John Herman, Chemist

Made for Mr. U Mollett--Date Aug. 27, 1935.
Silver 1.0 oz., Lead 46.5%, total value \$93.70

Made for A. C. Mollett

Jan. 30, 1937.

From Foster--Silver 2.0 oz., Lead 8.3%, value \$13.86

From Bunker Hill, silver .1 oz., lead 57.5%, value \$96.55.

John Herman, Chemist

C O P Y

Prescott, Arizona, December 29, 1939.

MEMORANDUM

Re- Mrs. Iva May Gerig Keddington,

Kindly notify the above that I will be in Phoenix January 12 and 13 when I shall contact her and try to arrange a trip to her property the following week.

The weather here has made it impossible to get much field work done so I am trying to get myself organized and catching up on many loose ends which have been left hanging since we first started. This area has about dried up in so far as making contacts is concerned though I have been kept busy examining the County records for requested information.

Mrs. Iva May Gerig Keddington called at the office this morning, and said that she had given you papers and a map covering the Arizona Standard Mining and Milling Company, of which she is the owner, located in the Castle Creek District, Yavapai County, while you were in Tucson. She also stated that you had promised to make out a Mine Owners Report from the information given and send to this office for filing. She also said that you had promised to make an inspection of the mine.

She left an Owners Mine Report with me this morning, but was unable to give a detailed description of the property. However, I assured her that it would answer the purpose until one was received from you giving more detailed information.

She is anxious to sell, and is also anxious to have you visit the property. She also requested that you let her know three or four days in advance of the inspection of the property so that she could arrange to go with you. Her address is c/o Mrs. James Mercer,
1232 E. Belleview, Phoenix, Arizona,
temporarily, as she is visiting friends.

J. S. COUPAL, Director

jrf.

October 25, 1941

Mrs. Iva May Gerig Keddington
C/o Mrs. James Mercer
1232 E. Belleview
Phoenix, Arizona

Dear Mrs. Keddington:

I have finally been able to locate the maps on your property which were in the effects of the late Carl G. Barth, Jr., and I am forwarding them to you under separate cover.

Very truly yours,

J. S. Coupal

JSC:LP

6 January 1940

Mrs. Iva May Garig Keddington,
c/o Mrs. James Mercer,
1232 N. Belleview,
Phoenix, Arizona.

My dear Mrs. Keddington:

After your visit to the office on December 27, I wrote to Mr. Carl G. Barth, Jr. regarding the inspection of your property. I am in receipt of a letter from him in which he advises that he will be in Phoenix on January 12 and 13, and that he will contact you at that time and arrange a trip to the property the following week.

Will you please let me know if the above address will reach you at that time, or if you have a telephone number whereby you may be reached.

With best wishes, I am

Yours very truly,

Jess R. Fickas
Secretary to Mr. Coupal

jrf

33 January 194-

Miss Eva May Gerig,
401 North Eighteenth Avenue,
Phoenix, Arizona.

My dear Miss Gerig:

Complying with your telephone request to Mrs. Fickes,
I am sending you under separate cover maps which you
gave to Mr. Carl G. Barth.

You will note that this map was returned unclaimed.

Regretting the delay, and with best wishes, I am

Yours very truly,

J. S. Coupal

JSC-jrf

M 7-29

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date Dec. 27, 1939

Mine Ariz. Standard Mining & Milling Co.

Iva May Gerig Keddington

District Castle Creek District

Location 10 miles NW of Castle
Hot Springs Hotel, Yavapai Co.

Former name Sometimes called Duco Boy
or Bradshaw

Owner Iva May Gerig Keddington

Address c/o Mrs. James Mercer
1232 E. Belleview

Address Phoenix, Ariz.

Operator

Gen. Mgr.

President

Mill Supt.

Mine Supt.

Principal Metals Silver, lead, gold, vanadium,
molybdenum

Men Employed

Production Rate Not in production

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present

Operations Planned

Number Claims, Title, etc. 10 patented

Description: Topog. & Geog.

Mine Workings: Amt. & Condition

18 shafts

7 tunnels

road cuts, etc.

(over)

Geology & Mineralization Papers & Map given to Mr. Carl Barth

Ore: Positive & Probable, Ore Dumps, Tailings

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route From Morristown, take road toward Castle Hot Springs Hotel.
About $1\frac{1}{2}$ miles before reaching hotel, turn NW up Castle Creek to Briggs,
continue about 2 miles up creek until you reach property.

Water Supply Spring on property - ideal dam site

Brief History Bradshaw originally worked property and is buried on property.

Special Problems, Reports Filed

Remarks I won corporation outright

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

Wish to sell property. Will bond and lease to reliable persons who understand
mining conditions. Property incorporated but inactive. H. M. Fennemore, Atty. for Corp

Signed..... Iva May Gerig Keddington.....

Use additional sheets if necessary.

11-24

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date Dec. 27, 1939

Mine *Green Standard Mining Co. ✓*
Milling Co. *Lva May Herig Keddington*
District *Castle Creek District*
Former name *Sometimes called ✓*
Owner *✓ Dueso Boy or Breckshaw*
Operator *Lva May Herig Keddington*

Location *10 mi N.W. Castle
Hot Springs Hotel, Navajo*
Address *of Mrs James Mercer*
Address *1232 E Bellevue*
Address *Phoenix Ariz*

President
Gen. Mgr.
Mine Supt.
Mill Supt.

Principal Metals *silver, lead, gold, vanadium, molybdenum ✓*
Men Employed

Production Rate *not in production*
Mill: Type & Cap.

Power: Amt. & Type

Operations: Present

Operations Planned

Number Claims, Title, etc. *10 patented*

Description: Topog. & Geog.

Mine Workings: Amt. & Condition

*18 shafts
7 tunnels
road cuts etc*

Geology & Mineralization

^{+map}
Papers given to
Michael Barth

Ore: Positive & Probable, Ore Dumps, Tailings

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route

From Morristown, take road toward
Castle Hot Spring Hotel. about $1\frac{1}{2}$ before reaching
Hotel, turn N.W. up Castle Creek to Briggs, continue
about 2 mi up creek until you reach property.

Water Supply

Spring on property.
Ideal dam site

Brief History

Radshaw originally worked property,
and is buried on property.

Special Problems, Reports Filed

Remarks

Iron Corporation outright

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

Wish to sell property. Will bond & lease to
reliable persons who understand mining
conditions. Property incorporated but inactive.
H. M. Tennessee, atty for Corp.

Signed

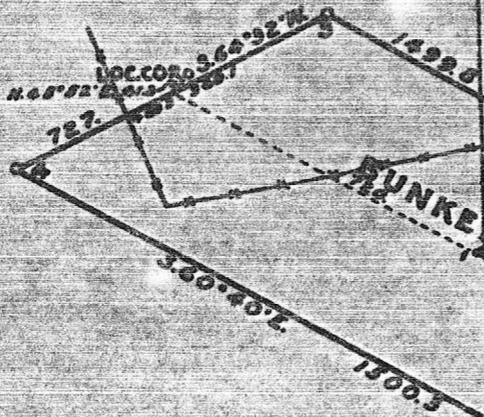
Ira May Geig Reddington

See additional sheets if necessary.

N.E. 1/4 Sec. 31

N.W. 1/4 Sec. 32

N.E. 1/4 Sec. 32



SUNNYSIDE SUR. 4180

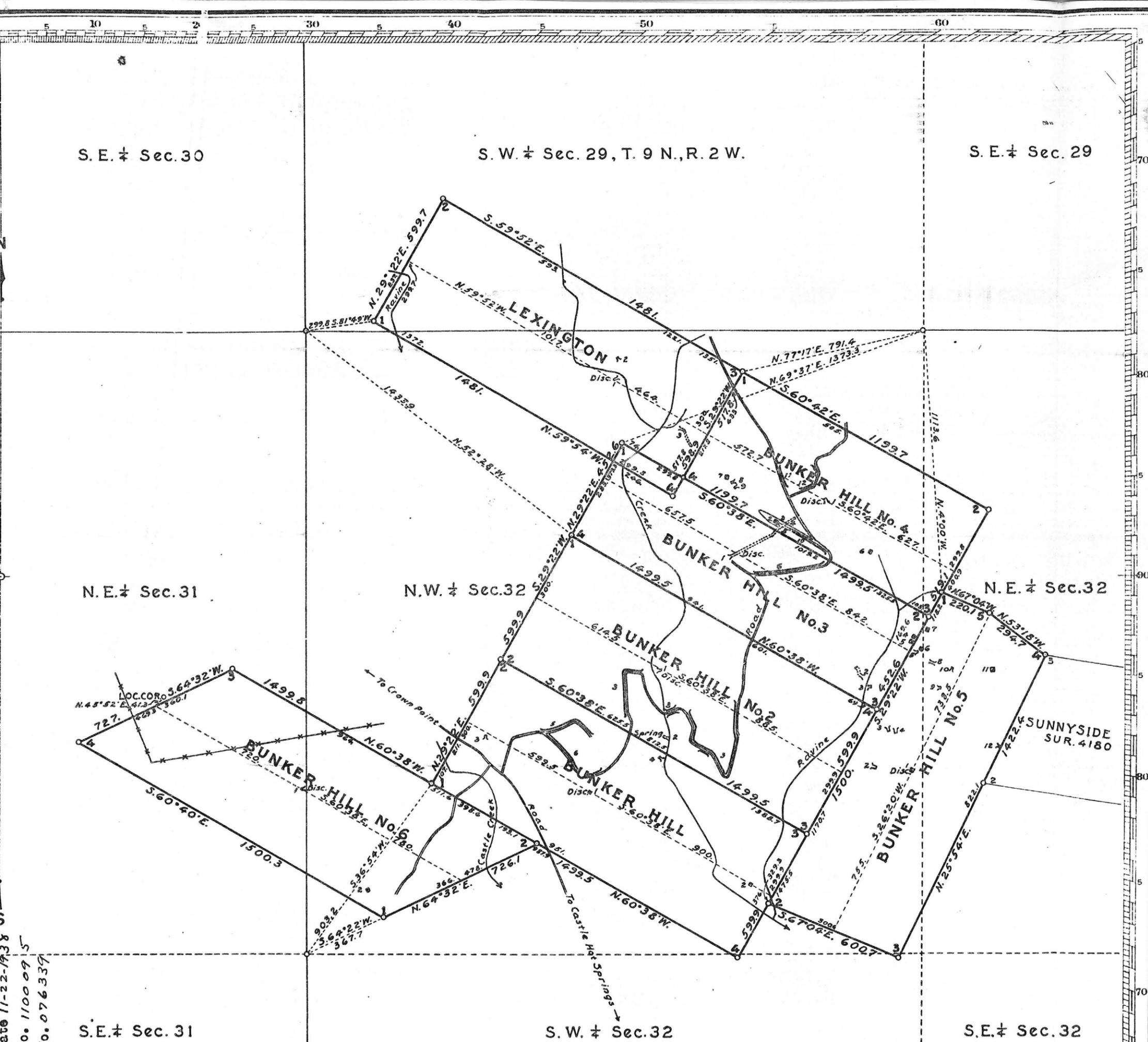
S.E. 1/4 Sec. 31

S.W. 1/4 Sec. 32

S.E. 1/4 Sec. 32

Patent No. 1100915
 Serial No. 076359





Mineral Survey No. 4180 Sheet No. 2

Lot No. _____ Land District _____

PLAT
OF THE CLAIM OF

KNOWN AS THE

IN _____ MINING DISTRICT,

COUNTY,

Containing an Area of _____ Acres.
Scale of _____ Feet to the inch.

SURVEYED _____ 19 _____ BY _____

U.S. Deputy Mineral Surveyor,

The Original Field Notes of the Survey of the Mining Claim of
known as the _____

from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon said Mining Claim by claimant _____ or _____ grantors and that said improvements consist of _____

that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

0. 1100095
0. 076339

S. E. 1/4 Sec. 31

S. W. 1/4 Sec. 32

S. E. 1/4 Sec. 32

PLAT

OF THE CLAIM OF
THE ARIZONA STANDARD MINING & MILLING Co.

KNOWN AS THE
BUNKER HILL, BUNKER HILL No.2, BUNKER HILL No.3, BUNKER HILL No.4, BUNKER HILL No.5, BUNKER HILL No.6, LEXINGTON, SUNNYSIDE, SUNSET AND SUNRISE LODES.

IN CASTLE CREEK MINING DISTRICT,
YAVAPAI COUNTY, ARIZONA.

Containing an Area of _____ Acres.
Scale of 400 Feet to the inch.

Variation 14°25'-15°25' East.
SURVEYED MAY 10-22, 1935. BY

Emmet R. Marx U.S. Mineral Surveyor

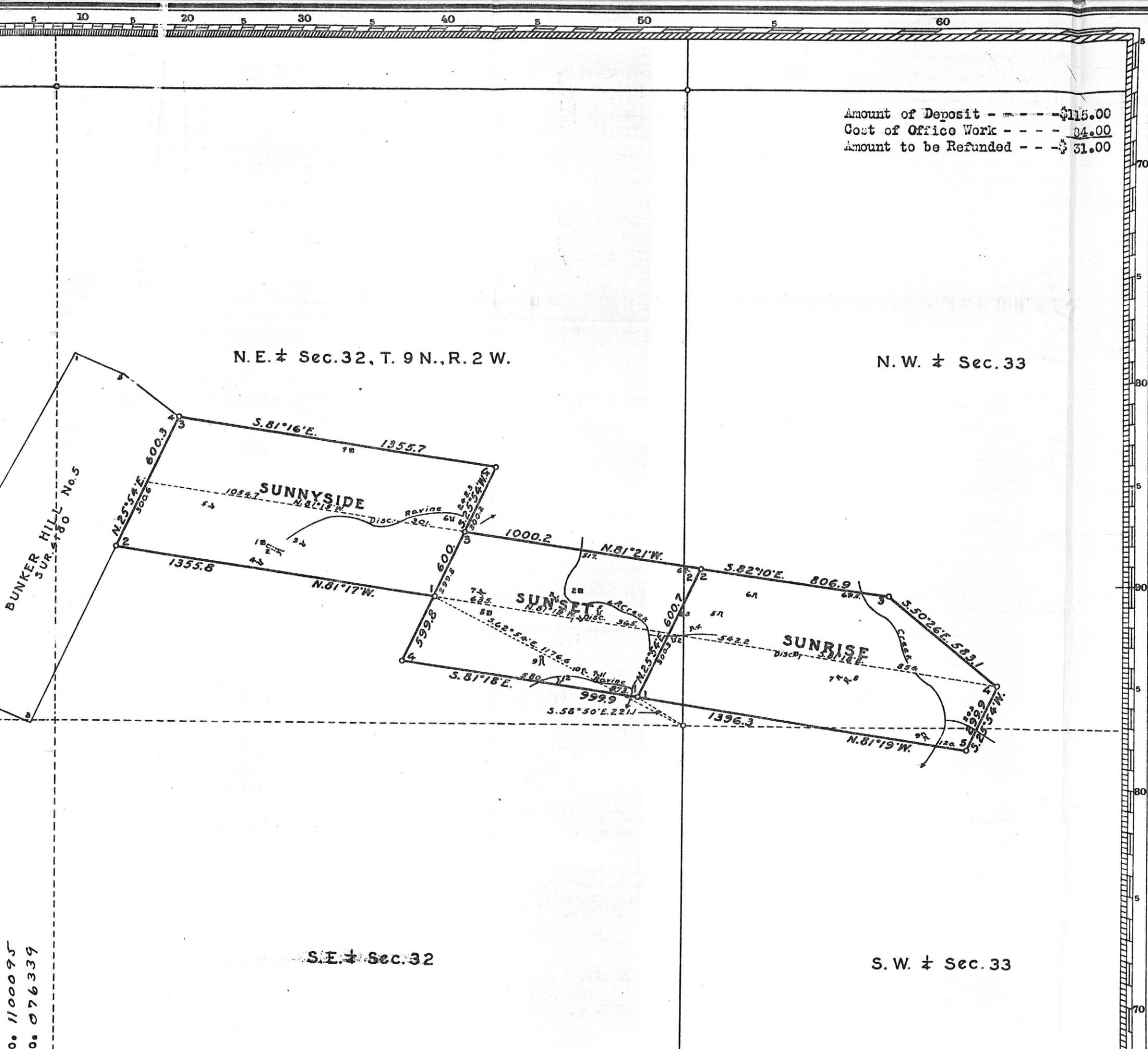
The Original Field Notes of the Survey of the Mining Claim from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon, or for the benefit of, each location embraced in said mining claim by claimant The Arizona Standard Mining and Milling Co.

or grantors and that said improvements consist of 18 Shafts, 42 Cuts, 7 Tunnels, 2 Raises, 3 Drifts, 2 Trenches, 9 Road Hillside Cuts, 2 Road Trench Cuts. Value \$13635.00

that the location of said improvements is correctly shown upon this plat, and that no portion of or interest in said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.



0. 1100095
0. 076339

N. E. 1/4 Sec. 32, T. 9 N., R. 2 W.

N. W. 1/4 Sec. 33

S. E. 1/4 Sec. 32

S. W. 1/4 Sec. 33

Doc 1004 1110

Amount of Deposit - - - - \$115.00
Cost of Office Work - - - - 4.00
Amount to be Refunded - - - \$31.00

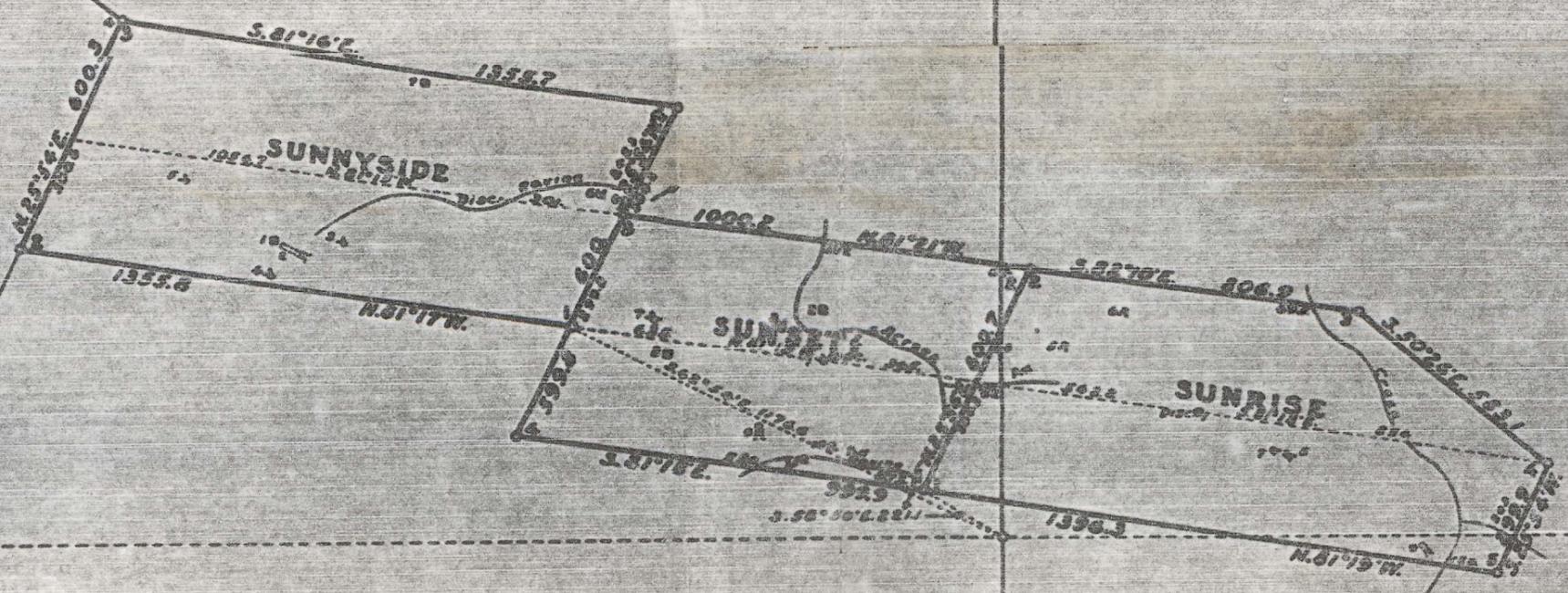
N.E. 1/4 Sec. 32, T. 9 N., R. 2 W.

N.W. 1/4 Sec. 33

S.E. 1/4 Sec. 32

S.W. 1/4 Sec. 33

DUNKER HILL
SUB. 5780 No. 3



Patent Date 11-27-1935
Patent No. 1100095
Serial No. 076339

