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ADA C.

YAVAPAI COUNTY

SEE: Colvo. file

NO EXACT LOCATION
~15 NE WICKENBURG
NJP 1/2009

excerpts from REPORT OF THE "ADA C." CLAIMS.

LOCATED IN THE BLUE TANKS MINING DISTRICT,
YAVAPAI COUNTY, ARIZONA***BY HERBERT STRICKLAND
ASSOCIATE OF ROYAL SCHOOL OF MINES

Phoenix, Arizona, ----December 4th, 1919

THE PROPERTY

This proposition is known as the "Ada C. Group" of lode mining claims---five full-sized claims--save that the locator took pains to see that they did not exceed 1500' in length and 600' in breadth. 20-2/3 acres to the claim, or very close to it.

They are named, respectively, the "Diorite," trending N. W. to S. E., the "Ada C. #1", "Ada C. #3", and the "Ada C. #4." These last named four trend N. E. and S. W. and 1200' wide N. W. to S. E. and the S. W. 1200' of combined endline overlaps by 50' the N. E. sideline of the "Diorite" claim.

This group is situated in the Blue Tanks Mining District, Yavapai County, Arizona, and at a point some 15 miles E. N. E. from Wickenburg, a town on the Phoenix to Ashfork Brank of the Santa Fe Railroad.

TOPOGRAPHY

This district is mountainous, and the roads running in every direction through it, follow the gulches and skirt the flanks of the hills and are seldom level even for moderate distances. The grades are however, such as to permit transportation by modern automobiles and trucks in a satisfactory manner.

GEOLOGY

These claims are located in a district of very excellent formation, being largely and fundamentally of granite of various kinds, and in this particular spot it has been very greatly altered so that its identification becomes difficult, the mica being very largely eliminated. This main formation is intersected by diorite dykes and overlaid, more or less, by strongly altered schists. In the eastern section of the ground occupied by this group this rock, schist, is very fine textured and almost white, so highly is it changed, and, doubtless, this decomposition was

originally brought about by the intensity of the chemical action in the deep areas of the earth's crust, of the solfartaric waters surcharged with mineral matters in solution which was ultimately deposited in vast rents, they becoming in time filled with such minerals and the products of the decomposition of the enclosing wall rocks.

---

The actual mineral deposits covered by these claims are combined true fissure and contact veins, apparently; the distinction between the two formations being that a true fissure vein had its origin in a fissure in the earth's crust, formed with such violence that the entire rocks were split open and often across their own direction of bedding or foliation, as the case may be; the contact vein would seem to have resulted from a more gradual upheaving of the formation, whereby the different beds of rock have been opened out between themselves and the mineral deposited there. In other cases these two forms of fissures have been combined. Other "Contact deposits," lying between two different forms of rock-beds, have apparently had their origin in the etching out of the rock the more susceptible to such chemical action, the solvent solution replacing certain elementary minerals, constituting the rock, by other minerals, such as ores of gold, silver, copper, lead, or other metals.

**********

On our visit we approached from the N. W. where we passed over adjoining properties following the same great vein on which, in part, the "Ada C. Group" is located. Despite the fact that we had been given to understand that it was a very large vein we had conceived of no such a huge thing as stood there before us--the creek skirting it along its southwesterly or hanging wall which rose several feet above it, leaning back, so to speak, against the formation underlying it on its dip into the earth. Here from the outset, we saw high mineralization of wulfenite in a great vein many feet thick. We passed alongside of it and crossed diagonally up-grade until we were on top of it and then followed it for a mile or so onto the "DIORITE" claim, and, as we had

progressed, had abundant opportunity to gauge its immensity and strength. In this neigoborhood it divides into two brandhes--the one continuing forward in a S. E. direction and the other going more toward N. E.

*********

THE DIORITE CLAIM

As before stated this claim trends 1500' N. W. to S. E. and 600' N. E. and S. W. The discovery hole is at 300' to S. E. from the N. W. end-line. It is located on an outcropping of schist which the locator found to assay a little in gold and that was all that the law required to permit of making a location, metallic minerals in place. This claim parallels the big dyke, or vein, carrying the wulfenite on the S. W. or "hanging" side, and in part it covers this immense outcropping; the main purpose of taking up this ground was to hold territory under which this great deposit lies on its dip of somewhere about 45 or 50 degrees to the horizontal. There is certainty that a shaft being sunk anywhere on this claim would drop into the big vein and it would be a good thing were a series of diamond drill-holes put down from point to point and toward the S. W. side line of this claim in order to so investigate what is the nature of the deposit and its mineral contents at depth.

**********

These figures we obtained by scale, not mathematically, but they are close enough to indicate the pertinent meaning; viz; that a vertical drill hole, with its corresponding solid core, will at a depth of, say 400', reach a point which would otherwise require sinking a shaft 560', the one to be attained at perhaps per foot and the other at probably $30.00 or even more, taking all expenses into account, this is presuming on a dip of 45 degrees in the shaft. But if it inclines 50 degrees, a dril hole 475' vertical depth will show the nature of the vein at a depth of no less than 612' below the croppings.

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THE "ADA C" #2 CLAIM

This claim is located in a N. E. and S. W. direction and in following it from the "Diorite" we ascend a gentle slope. As stated above, it is located across the big lead vein so that it overlaps onto the said "Diorite" location with a view to leaving no chance for

a fractional piece of land to be later discovered as existing between them and so inviting someone to make thereon another location and, with it, trouble for the owners now on record as such. This is a wise policy as everyone who knows what trouble a small vacant patch of ground may make, or cause to be incurred.

In the vicinity of the S. W. corner the great "LEAD" vein splits into two branches like a great letter Y; one branch trends diagonally across the "Ada C. " #2 claim and disappears under surface detritus at N. E. corner. The other branch trends N. W. to S. E. following across the southern ends of this claim and the "Ada C" #2 with end lines coincidental, lies with the "Ada C." #1 claim and these two locations were originally located to cover a splendid looking true fissure vein of honey-combed quartz which is readily followed by its outcroppings from point to point protruding above the surface. In its course it passes through the northern branch of the "Y", and, at its southern end, this quartz vein butts against the N. E. and S. E. main section of the great lead vein or dyke but does not intersect it. This is proof positive that the earlier formation was the lead vein and the quartz vein more recent.

At a point 60' N. E. of the S. W. end line of this claim is situated the main shaft now down some hundred feet. Its description will follow after we mention other matters; for instance, the discovery work on this claim, "Ada C." #4 is an open cut across the out cropping at a point within two hundred and forty feet of the N. E. end Line The monument, however, is situated on the vein but 60' further southward or 300' from the N. E. endline. From the discovery cut we brought away a few pieces of this quartz and had an assay made but found, that, despite its elegant appearance, it was below a pay grade, in face proved almost barren showing less than $1.00 per ton in gold and less silver. It was one of the surprises of our life because such light brown colored spongy quartz coming from such a strong persistent vein of from three to four feet in thickness is so very liable to carry good commercial

gp/

value in gold. The former superintendent informs us that he had thoroughly sampled this vein and that the average of his assays thereon had been Seven Dollars per ton.

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Two hundred feet, or so, further to N. E. and at a point some 40' from the N. E. end line is a shaft described to us as being 80' deep. It is an old working of perhaps 25 years back, at a time when this district was far more remote from bases of supplies as the burro and the mule hauled wagon were the only available means of transportation for men and materials. Today the automobile and the truck bring such districts into comparatively easy access, a wonderful change for the better In those days the ore would have to be far richer than is the case today if a profit was to be made on working it, and it is not commense sense to suppose that under such conditions sane men would sink shafts with no value in the vein to encourage them. These considerations naturally lead us to believe that the superintendent's statement of an average value of some $7.00 per ton might easily be verified by another sampling.

THE MAIN SHAFT--Returning toward the southern end of Ada C. #2, we find the main shaft. This is equipped with a well built substantial gallows frame and engine house containing an "Ott & Sembauer" Hoisting Engine of some 8 H. P. and with which a depth of300 to 400' may be attained. It is a gasoline hoist and the firm is A 1; while these engines must be started running with gasoline, distillate is substituted after they have become heated up to the right degree to insure its vaporization. The shaft is an encline toward the S. W. following the vein in the direction of its dip. The sinking started following what might be easily mistaken for a foot-wall, which can be seen under the ladderway to be smooth and well defined, but an excavation was made beneath this wall and it is all well mineralized formation; the hanging wall presents the same features and it is certain that neither is truly the wall of this enormous dyke or vein, whichever greater depth may perhaps enable one to determine it to be. The entire shaft is in mineral and it consists of lead carbonate, or cerrusite, lead sulphate, or anglesite, and more or less galena, or sulphide. There is everywhere

manifested a diffusion of lead molybdate, or wulfenite and it was the presenseof this material in such good quantity, and the demand for molybdenum for war purposes, that led to the attempt to open up this property and make a mine of it.

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We found sulphate of baryta (heavy spar) occurs in small pockets or bunches and it is a hard proposition to eradicate it in a mill as it is so closely of the same specific gravity as the lead, but th superintendent assured us that below 35' from the top or "collar" of the shaft, it disappeared entirely and to us his assurance is acceptable.

*******

It is evident, from these considerations that within a very little more of sinking in the shaft, "permanent water level"must he met with , perhaps as much as 20' and likely enough less than that. Every mining man knows that when this level of permanent water, as distinguished from surface or seepage water, is reached great changes are to be expected in any mineral bearing vein and for the following reasons our atmosphere contains a small increment, about 0.40 per cent of its volume, of carbon do-oxide gas, or, some prefer to call it carbonic acid gas, which is soluble in water. The oxygen gas in our air is also soluble but not to the same degree. But the proportion which is soluble attains to a greater power of oxidizing power than the normal oxygen of the air possesses. The carbonic acid gas dissolved in water acts as a true acid, however weakly, its lack of energetic action being made up for, in the effects produced, by the incalculable period of time during which it has had the chance to "get in its work" of decomposing the alkaline elements in the minerals constituting the rocks, literally rotting them by removing in solution a portion of their constituents. The oxygen in surface water also does its part, oxydizing all oxidizable matter with which it comes in contact and the contact of water is exceedingly close, whether it be vegetable, animal or mineral matter. So rapidly does this effect take place that at only seven miles below the discharge point of the sewerage system of the City of Denver, Colo. into the Platte River, the most delicate tests known fail to show the

slightest animal or vegetable impurity. Now, when such oxydizing water, as rain, or snow melting filters its ways down through the outcroppings of a vein containing any kind of sulphides or tellurides, the first thing to happen is the conversion, slowly but surely, of the sulphides into the sulphates and all of the sulphates of the alkalies, and most of the metals, are soluble in water but, when lead sulphide is thus oxidized, it's converted into the insoluble sulphate of lead. The iron, copper, and zinc sulphates are exceedingly soluble and but for the effect on their solutions, in the descending waters, of the oxygen contained in the latter, might easily go on indefinitely in solution and escape ultimately into some spring exuding from the rocky formation at some lower level. This perhaps they do in a measure but the carbonic acid in the water precipitates the dissolved metallic sulphates converting thus the iron pyrites into carbonate and this, if later heated by depression in to the earth's interior, would give up the carbonic acid and become iron oxide or haematite. Thus it occurs that gold in a vein, originally existing as auriferous pyrites, become gold enmeshed in either iron carbonates or haematite and when the zone of surface oxidation is passed, in sinking on such a vein, all these effects cease to be manifested. Copper sulphides of all forms are similarly converted into soluble copper sulphate and it is frequently the case that copper veins near enough to the surface, will show pockets and steaks of this beautiful "blue stone" or blue vitriol", identical in composition with the artificial Copper sulphate, but the carbonic acid in turn changes this into copper carbonate or malachite. Thus it is that at water level a vein becomes more solid, its porous nature, due to the above explained elemental elimination, and the metals are found in their primordial condition and as deposited within the vein at great depths in the earth and only appearing on the surface, or near enough to it so that they become available to man's uses, by the everlasting wear and tear of the surface and the washing down to lower levels, and finally into the ocean of the detritus thus produced through the medium of the excess water, or "run off" every time it rains.

To summarize this, let us state that there is sufficient ground for expecting to find the silver lead ore in this vein to become solely galena, or lead sulphide, so soon as permenent water level is reached The wulfenite, withstanding as it does the oxidizing and carbonating action so thoroughly that it is not even decomposed on, or very close to, the surface and in this particular case at least only to a depth of two or three inches, as we were able to see ourselves, will in all probability continue to be one of the lead minerals to unknown depth. The bulk of the vein as seen in the shaft so far, is highly ferruginous of a light brown color on account of the reasons given above, in extenso, will be replaced by iron sulphide, or pyrites, below water-level and this will be very easily concentrated and can be kept separate from the lead minerals altogether, marketed at other points possibly than the lead, or even converted into sulphuric acid at some point on the rail-road and when the sulphur is burned out for this purpose, the resultant sulphuric acid sent to copper leaching plants and the iron to smelters as a flux.

Some of the material obtained, under adverse conditions, in the shaft and up and down the center, was assayed after the evident lead ore had been picked out. This was for the purpose of getting somewhere about the value of the vein matter in bulk and as it would be delivered to a mill and it yielded the following results;-
Gold, a trace, silver 21.8 ounces per ton, lead, two per cent. Comparing this with the rich sulphide lead ore we saw in sacks at the shaft, that ran 97 oz. to 59.7 per cent lead. We have calculated what percent of lead would then be correspond to 21.8 oz. silver, in event that silver and lead necessarily ran together, and the result if 13.4 % but actually it ran but 2%. This leads to the supposition that there is silver in the ore independently of the lead.

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We observed throughout the property no signs of zinc and in this silver lead vein, no signs of copper; it is therefore an ideal ore for the concentration mill superintendent as also for the smelterman What our views are as regards the present value of this ore to the

smelter will develop later.

Some 50' eastward from the main shaft there is an open cut run eastward for a few feet and then a short crosscut tunnel run northerly by way of investigation and possibly as assessment work. The work is all open to day light and shows wulfenite sprinkled throught the vein filling. Eastward of this, about another 50' is another open cut trending across the deposit for 15' or so and it presents the same general characteristics. At a point 40' to northward of the main shaft, and on Ada C. #2 territory, wulfenite is seen in the croppings and the vein in this neighborhood is all of 50' wide on the surface, or, measured perpendicularly to its dip, some 40' actual thickness between wall, truly a wonderful size for a lead silver proposition. We will now continue our description of the "Ada C." #2. The above described main shaft is situated at the S. W. end of this claim; passing along in a northeasterly direction, we come to a point, somewhat south of its center, where the newer quartz ledge, on which this location and Ada C. #1 were made, intersects the N. E. branch of the big silver lead vein and as these intersections of two veins occur are frequently centers of enrichment in mineral content, it will be an interesting point for future operators of the property to bear in mind should they ever drift northward on this quartz ledge after it has been met in workings at depth, as when driving a level eastward from the main-shaft and at a distance therefrom of some seventy-five feet or more. This quartz ledge meets the northern side of the N. W. and S. E. main silver ledge but does not appear to pass through it but this point of contact will also be a most interesting one to investigate at depth.

"ADA C. #1 CLAIM"

This is the N. E. extension of the Ada C. #2 claim and its discovery monument is situated at a point 300' northerly from the S. W. end line. The work consists of an open cut running easterly into the main quartz ledge which is here three or fou r feet thick. It is a very attractive appearing ledge, the kind to inspire a wish to see it developed. Associated with the quartz is a considerable quantity of purple and white fluor spar, a very beautiful variety and which, if developed in any reasonably quantity may find a market as an ornamental

stone.

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We were unableto bring away true samples of it and the lack of greater quantity prevent it being regarded as a commercial quantity but what we did bring with us assayed as follows Gold 0.08 oz. silver 0.20 oz. per ton and cu 46.17%, being of aggregate value $186.28 per ton. From the point going southward, at about 150' we find a point where the main quartz vein splits and a branch of it courses more to the east and trends toward the N. E. corner of the location. This branch is itself of interest, showing various thicknesses from a few inches to 2' or more. Where this joins the main quartz vein there is a showing of copper silicate (Chrysocolla) At a point some 40' northward from S. W. end line is an old shaft said to be 80 or 90' deep sunk on the main quartz ledge which shows very elegantly going down as far as one can see it and on the dump there is a showing of copper ore mixed through the mass. We were unable to enter this shaft, but it would appear that those who went down so far on this vein had some adequate reason for so considerable an outlay of expense and labor. At a point some 25 or 30' northeasterly from the discovery cut is another old shaft said to be down ninety feet and is on the branch running out from the main quartz vein. It, like the 80' shaft, is in no condition to enter since there is no windlass on it and no ladder way down it. The dump shows the presence of copper ore, but as to quantity it is impossible to write. We will now pass on to the--

ADA C. #4

This claim is contiguous to the Ada C. #1 on the east, but so located that its northeast end line extends N. E. something like 40' beyond that of the Ada C. #1, and this arises from the fact that Ada C. #'s 1 and 3 overlap the "Diorite" by 50' whereas the parallel claims, Ada C. #s 4 and 3 only overlap it by 10 feet. Thus, forty feet northward of the N. E. corner of Ada C. #1 is the N. W.corner of Ada C. #4 and in a straight line with the S. E. sideline of Ada C. #1 On this no substantial work has ever been accomplished. Its discovery cut and monument are at a point 100' southward from the N. E. end line and the cut is driven eastward into a strong quartz ledge which throughout

this claim and the Ada C. #3 to the southward, is three or four feet in thickness. There is here, and at other points on the claim where shallow holes have been made, manifestation of copper in the usual oxidized surface forms. The superintendent, under whosedirection former operations were carried on, states that he has traced this vein for fully one and a halfmiles persistency in length argues favorable for the same characteristic in depth. We traced this vein southward through these two locations and found it to be quite an easy matter. The quartz shows a considerable amount of oxidized pyrites, that is, while the cube forms are retained, oxidization is complete, the material being iron carbonate. with depth this will change to iron sulphide, or pyrites proper. We had a few pieces of this iron assayed but without showing more than a trace of gold. Following southward we come to the

ADA C. #4 CLAIM OR #3 ?

This is located on the same quartz ledge as the last one described and presents much the same features. Its discovery monument is situated at center of the claims and the corresponding work was done at a point 60' northward and consists of an open cut run eastward. It is not on the main ledge but on a small stringer in some manner, in all probability, directly connected with it. To the eastward of this is a twenty foot hole on a copper bearing ledge and probably the main one. There is no showing of copper in paying quantities at any point we saw, but it is at least interesting to find it from point to point throughout the quartz ledges on these four locations. It is evident to us that these veins are of a later age than the big lead one, that they are entirely devoid of lead as the lead vein is free of any trace of copper that we could see. They can all be developed from the main workings on the lead vein.

The quartz vein on which Ada C. #1 and 2 were located has a hanging wall of diorite and a foot wall of schists; this latter rock is prominently identified with copper ores throughout the world and diorite, a basic rock which cooled and crystallized at great depth, is a good associate of any vein whether bearing copper, lead, gold, or silver, or all of them. It would seem as though the metals were

originally in some way identified with this diorite rock and later separated from it and accumulated on one side of it against the adjacent formation.

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PLAN FOR DEVELOPMENT

We have already explained our views as to the desirability of sinking the shaft another twenty or thirty feet. We would suggest that this being done a station should be cut out and a level started in a S. E. direction with a view to approaching the quartz vein at some 75' distance, but a survey should be made to make sure that this point of junction has been fully reached. By doing this, a crosscut could be started both ways; the northern one would not only show what was at the hanging side of the vein but would also be ready for extension as a drift following the quartz ledge indefinitely and enable the manager to investigat e the conditions to be found at the intersection of this ledge and the northeastern branch of the lead vein, and from the intersection, it could then follow both. On the other hand, the crosscut at 75' to eastward of the main shaft could easily be driven to the southern or foot wall.

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We are entirely adverse to making great predictions and, much more so, definite promises especially in view of the present scant development of the property, but we can confidently state that below water level the ore will be sulphide, in the one great vein Galena or Lead sulphide, and in the other, copper in one form or another of sulphide.

It is usual to consider vein quartz to weigh one ton to each 12 cubic feet "in situ", i. e. where nature placed it; but in view of the lead, iron, lime, etc., in these veins twelve cubic feet will weigh more, but for our purpose now, we will consider 12 cubic feet to equal a ton weight. In running a level, therefore, four feet wide and seven feet highthere would be produced for every foot in length two and one third tons of ore. In our opinion such a level could be easily contracted for at not exceed $7.00 per foot even by hand work. That is to say that including mucking and hoisting the total cost would not exceed $8.00 per foot or $3.40 per ton. It can be unanswerably

argued, in our experience, that $5.00 per ton should cover all expense of mining, even in development work, save in sinking, and milling the product. If now we can recover and market $5.00 worth of clean mineral out of $7.00 crude ore, the expense should be covered. But when it comes to "stoping" or winning the ore developed above the levels a good average miner should be able to produce far more ore in a shift as it is all above him and gravity comes into play. In a vein, or stope, four feet wide, he should be able to stope down a fatham of the vein, that is to say six feet square as measured on the walls, or 36 sq. feet which, at 4' thick, becomes 144 cubic ft. or 12 tons. This then assumed to yield $5.00 per ton in gross smelter receipts would be no less than $60.00. 12 tons stoping at the same costs, approximately, as 3 and 1/3 extracted in driving a level. When, however, we are dealing with a deposit 40 or 50' in thickness and utilize machine drills and electric blasting it stands to reason that the vaatly cheaper production will yield a profit at a proportionately lower gross value per ton.

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IN CONCLUSION

We reiterate that we believe in the future greatness of this property. Not only are the veins of good workable size, and the lead vein a phenomenally large one, but climatic transportation and marketing conditions are excellent. It is not a long haul to R. R. and that down grade, but it is then a short haul to the smelter. The price of silver is higher than it has been for many decades and the demand for it beyond what it has been known to be in times past. We therefore feel fully warranted in the views we have expressed herein and our good wishes for the success of its future operators are accompanied by our assurance that we see nothing else in sight, provided always that good business judgment is exercised, it being required in mining as in every other line of business.

Respectfully submitted by

Herbert Strickland

Associate of Royal School of Mines

Phoenix, Arizona

Dec. 4th, 1919

COPY

Walter L. Gibson
successor
to
Falkeneau Assaying Co.

ASSAY OFFICE 824 Washington St.
Oakland, California,
June 2, 1921

Received from "ADA C" Mine

| Identification | Assay No. | Silver troy oz. per ton. |
|---|---|---|
| Footwall sample | 70966 | 48.60 |

No. 2

Signed --Walter L. Gibson
per L. C. W.

May 25, 1921

| Identification | Assay No. | Lead | Silver troy oz. per ton. |
|---|---|---|---|
| Ore | 70912 | 8.50% | 32.50 |

Signed--Walter L. Gibson

No. 3

C. A. LUCKHARDT CO. 53 Stevenson St.
April 6th, 1917 San Francisco

Deposited by Mrs. Clement from "ADA C" MINE

| Office No. | Gold oz. per ton | Silver oz. per ton | % of Mo $O_3$ (Molybdicacid) |
|---|---|---|---|
| 106923 | 31% concentrates .20 | 1.20 | 29.1 |

Signed A. H. Ward

Note by J. M. C. Oct '37

~~While~~ I have made no personal examination of this property but it appears to be merely a prospect of doubtful value & the same applies to the Tulare.

Strickland's Report is by no means convincing & does not make a favorable impression. Apparently all these claims have been idle for many years. 1934

(Wickenburg Dist)

# ADA C. CLAIMS.

By Herbert Strickland, Associate of Royal School of Mines. Dec.4,1919

Located in the Blue Tanks Mining District, Yavapai County, Arizona.

THE PROPERTY: This property is known as the Ada C. Group of lode mining claims---five full sized claims---save that the locator took pains to see that they did not exceed 1500' in length and 600' in breadth. 20-2/3 acres to the claim, or very close to it.

They are named, respectively, the "Diorite," trending N. W. to S. E., the "Ada C. #1", Ada C. #2 "Ada C. #3", and the Ada C. #4." These last named four trend N. E. and S.W. and 1200' wide N.W. to S.E. and the S.W. 1200' of combined endline overlaps by 50' the N.E.sideline of the Diorite Claim.

This group is situated in the Blue Tanks Mining District, Yavapai County, Arizona, and at a point some 15 miles E. N. E. from Wickenburg, a town on the Phoenix to Ashfork Branch of the Santa Fe. Railroad.

TOPOGRAPHY: This district is mountainous, and the roads running in every direction thru it, follow the gulches and skirt the flanks of the hills and are seldom level even for moderate distances. The grades are however, such as to permit transportation by modern automobiles and trucks in a satisfactory manner.

GEOLOGY: These claims are located in a district of very excellent formation being largely and fundamentally of granite of various kinds, and in this particular spot it has been very greatly altered so that its identification becomes difficult, the mica being very largely eliminated. This main formation is intersected by diorite dykes and overlaid, more or less, by strongly altered schists. In the eastern section of the ground occupied by this group this rock, schist, is very fine textured and almost white, so highly is it changed, and, doubtless, this decomposition was originally brought about by the intensity of the chemical action in the deep areas of the earth's crust, of the solfartaric waters surcharged with mineral matters in solution which was ultimately deposited in vast rents, they becoming in time filled with such

minerals and the products of the decomposition of the enclosing wall rocks.

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The actual mineral deposits covered by these claims are combined true fissure and contact veins, apparently; the distinction between the two formations being that a true fissure vein had its origin in a fissure in the earth's crust, formed with such violence that the entire rocks were split open and/often across their own direction of bedding or foliation, as the case may be; the contact vein would seem to have resulted from a more gradual upheaving of the formation, whereby the different beds of rock have been opened out between themselves and the mineral deposited there. In other cases these two forms of fissures have been combined. Other "Contact Deposits" lying between two different forms of/rock-beds, have apparently had their origin in the etching out of the rock the more susceptible to such chemical action, the solvent solution replacing certain elementary minerals, constituting the rock by other minerals, such as ores of gold, silver, copper, lead or other metals.

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On our visit we approached from the N.W. where we passed over adjoining properties following the same great vein on which, in part, the "Ada C. Group" is located. Despite the fact that we had been given to understand that it was a very large vein we had conceived of no such a huge thing as stood there before us--the creek skirting it along its southwesterly or hanging wall which rose several feet above it, leaning back, so to speak, against the formation underlying it on its dip into the earth. Here from the outset, we saw high mineralization of wulfenite in a great vein many feet thick. We passed alongside of it and crossed diagonally up-grade until we were on top of it and then followed it for a mile or so onto the Diorite Claim and as we had progressed, had abundant opportunity to gauge its immensity and strength. In this neighborhood it divides into two branches--the one continuing forward in a S. E. direction and the other going more toward the N. E.

THE DIORITE CLAIM:

As before stated this claim trends 1500' N. W. to S.E. and 600' N. E. and S.W. The discovery hole is at 300' to S. E. from the N.W. end line. It is located on an outcropping of schist which the locator found to assay a little in gold, and that was all that the law required to permit of making a location, metallic minerals in place. This claim parallels the big dyke, or vein, carrying the wulfenite on the S. W. or "hanging" side, and in part it covers this immense outcropping; the main purpose of taking up this ground was to hold territory under which this great deposit lies on its dip of somewhere about 45 or 50 degs. to the horizontal. There is certainty that a shaft being sunk anywhere on this claim would drop into the big vein and it would be a good thing were a series of diamond drill holes put down from point to point and toward the S. W. side line of this claim in order to so investigate what is the nature of the deposit and its mineral contents at depth.

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These figures we obtained by scale, not mathematically, but they are close enough to indicate the pertinent meaning; viz; that a vertical drill hole, with its corresponding solid core, will at a depth of, say 400', reach a point which would otherwise require sinking a shaft 560', the one to be attained at perhaps per foot and the other at probably $30.00 or even more, taking all expenses into account, this is presuming on a dip of 45 degs. in the shaft. But if it inclines 50 degs, a drill hole 475' vertical depth will show the nature of the vein at a depth of no less than 612' below the croppings.

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THE ADA C. #"2 Claim.

This claim is located in a N. E. and S. W. direction and in following it from the Diorite, we ascend a gentle slope. As stated above, it is located across the big lead vein so that it overlaps onto the said Diorite location with a view to leaving no chance for a fractional piece of land to be later discovered as existing between them and so inviting someone to make thereon another location, and, with it trouble for the owners now on record as such. This is a wise policy

as everyone who knows what trouble a small vacant patch of ground may make, or cause to be incurred.

In the vicinity of the S. W. corner the great "Lead" vein splits into two branches like a great letter Y; one branch tends diagonally across the Ada C. #2 claim and disappears under surface detritus at N. E. corner. The other branch trends N. W. to S. E. following across the southern ends of this claim and the Ada C. #2 with end lines coincidental lies withthe Ada C. #1 claim and these two locations were originally to cover a splendid looking true/fissure vein of honey-combed quartz which is readily followed by its outcroppings from point to point protruding above the surface. In its course it passes thru the northern branch of the "Y", and, at its southern end this quartz vein butts against the N. E. and S. E. main section of the great lead vein or dyke but does not intersect it. This is proof positive that the earlier formation was the lead vein and the quartz vein more recent.

At a point 60' N. E. of the S. W. end lines of this claim is situated the main shaft down some hundred feet. Its description will follow after we mention other matters; for instance, the discovery work on this claim "Ada C."#4 is an open cut across the outcropping at a point within two hundred and fifty feet of the N.E. end line. The monument, however, is situated on the vein but 60' further southward or 300' from the N. E. endline. From the discovery cut we brought away a few pieces of this quartz and had an assay made but found, that, despite its elegant appearance, it was below a pay grade, in face proved almost barren showing less than $1.00 per ton in gold and less silver. It was one of the surprises of our life because such light brown colored spongy quartz coming from such a strong persistent vein of from three to four feet in thickness is so very liable to carry good commercialvalue in gold. The former superintendent informs us that he had thoroughly sampled this vein and that the average of his assays thereon had been Seven Dollars per ton.

200 feet or so further to the N. E. and at a point some 40' from the N. E. end line is a shaft described to us as being 80' deep. It is an old working of perhaps 25 years back, at a time when this district was far more remote from bases of supplies as the burro and the mule hauled wagon were the only available means of transportation for men and materials. Today the automobile and the truck bring such districts into comparatively easy access, a wonderful change for the better. In these days the ore would have to be far richer than is the case today if a profit were to be made on working it, and it is not common sense to suppose that under such conditions sane men would sink shafts with no value in the vein to encourage them. These considerations naturally lead us to believe that the superintendent's statement of an average value of some $7.00 per ton might easily be verified by another sampling.

THE MAIN SHAFT Returning towards the southern end of Ada C. #2, we find the main shaft. This is equipped with a well built substantial gallows frame and engine house containing an Orr & Sembauer Hoisting Engine of some 8 H. P. and with which a depth of 300 to 400 feet may be attained. It is a gasoline hoist and the firm is A-1; while these engines must be started running with gasoline, distillate is substituted after they have become heated up to the right degree to insure its vaporization. The shaft is an incline toward the S. W. following the vein in the direction of its dip. The sinking started following what might be easily mistaken for a footwall, which can be seen under the ladderway to be smooth and well-defined, but an excavation was made beneath this wall and it is all well mineralized formation; the hanging wall presents the same feature and it is certain that neither is truly the wall of this enormous dyke or vein, whichever greater depth may perhaps enable one to determine it to be. The entire shaft is in mineral and it consists of lead carbonate, or cerrusite, lead sulphate, or anglesite, and more or less galena, or sulphide. There is everywhere manifested a diffusion of lead molybdate, or wulfenite and it was the presence of this material in such good quantity, and the demand for molybdenum for war purposes, that led to the attempt to open up this property and

make a mine of it.

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We found sulphate of baryta (heavy spar) occurs in small pockets or bunches, and it is a hard proposition to eradicate it in a mill as it is so closely of the same specific gravity as the lead, but the superintendent assured us that below 35' from the top of "collar" of the shaft, it disappeared entirely and to us his assurance is acceptable.

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It is evident, from these considerations that within a very little more of sinking in the shaft, "permanent water level" must be met with, perhaps as much as 20' and likely enough less than that. Every mining man knows that when this level of permanent water as distinguished from surface or seepage water is reached, great changes are to be expected in any mineral bearing vein and for the following reasons our atmosphere contains a small increment, about 0.40% of its volume, of carbon dioxide gas, or, some prefer to call it carbonic acid gas, which is soluble in water. The oxygen gas in our air is also soluble but not to the same degree. But the proportion which is soluble attains to a greater power of oxidizing power than the normal oxygen of the air possesses. The carbonic acid gas dissolved in water acts as a true acid, however weakly, its lack of energetic action being made up for, in the effects produced, by the incalculable period of time during which it has had the chance "to get in its work" of decomposing the alkaline elements in the minerals constituting the rocks, literally rotting them by removing in solution a portion of their constitutents. The oxygen in surface water also does its part, oxydizing all oxidizable matter with which it comes in contact and the contact of water is exceedingly close, whether it be vegetable, animal or mineral matter. So rapidly does this effect take place that at only seven miles below the discharge point of the sewerage system of the City of Denver, Colorado, into the Platte River, the most delicate tests known fail to show the slightest

animal or vegetable impurity. Now, when such oxidizing water, as rain, or snow melting filters its way down thru the outcroppings of a vein containing any kind of sulphides or tellurides, the first thing to happen is the conversion, slowly but surely, of the sulphides into the sulphates and all of the sulphates of the alkalies, and most of the metals, are soluble in water but, when lead sulphide is thus oxidized, its converted into the insoluble sulphate of lead. The iron, copper, and zinc sulphates are exceedingly soluble and but for the effect on their solutions, in the descending waters, of the oxygen contained in the latter, might easily go on indefinitely in solution and escape ultimately into some spring exuding from the rocky formation at some lower level. This perhaps they do in a measure, but the carbonic a cid in the water precipitates the dissolved metallic sulphates converting thus the iron pyrites into carbonate and this, if later heated by depression in to the earth's interior would give up the carbonic acid and become iron oxide or hematite. Thus it occurs that gold in a vein, originally existing as auriferous pyrites, become gold enmeshed in either iron carbonates or hematite and when the zone of surface oxidation is passed, in sinking on such a vein, all these effects cease to be manifested. Copper sulphides of all forms are similarly converted intol soluble copper sulphate and it is frequently the case that copper veins near enough to the surface, will show pockets and streaks of this beautiful blue stone or blue vitriol, identical in composition with the artificial copper sulphate, but the carbonic acid in turn changes this into copper carbonate or malachite. Thus it is that at water level a vein becomes more solid, its porous nature, due to the above explained elemental elimination, and the metals are found in their primordial condition and as deposited within the vein at great depths in the earth and only appearing on the surface, or near enough to it so that they become available to man's uses, by the everlasting wear and tear of the surface and the washing down to lower levels, and finally into the ocean of the detritus thus produced thru the medium of the excess water or "run off" every time it rains.

To summarize this, let us state that there is sufficient ground for expecting to find the silver-lead ore in this vein to become solely galena, or lead sulphide, so soon as permanent water level is reached. The wulfenite, withstanding as it does the oxidizing and carbonating action so thoroughly that it is not even decomposed on, or very close to, the surface and in this particular case at least only to a depth of two or three inches, as we were able to see ourselves, will in all probability continue to be one of the lead minerals to unknown depth. The bulk of the vein as seen in the shaft so far, is highly ferruginous of a light brown color on account of the reasons given above, in extenso, will be replaced by iron sulphide, or pyrites, below water level and this will be very easily concentrated and can be kept separate from the lead minerals altogether, marketed at other points possibly than the lead, or even converted into sulphuric acid at some point on the railroad and when the sulphur is burned out for this purpose, the resultant sulphuric acid sent to copper leaching plants and the iron to smelters as a flux.

Some of the material obtained, under adverse conditions, in the shaft and up and down the center was assayed after the evident lead ore had been picked out. This was for the purposeof getting somewhere about the value of the vein matter in bulk and as it would be delivered to a mill and it yielded the following results:- Gold, a trace; silver 21.8 oz. per ton, lead 2%. Comparing this with the rich sulphide lead ore we saw in sacks at the shaft, that ran 97 oz. to 59.7% lead. We have calculated what percent of lead would then correspond to 21.8 oz. silver, in event that silver and lead necessarily ran together, and the result is 13.4%, but actually it ran but 2%. This leads to the supposition that there is silver in the ore independently of the lead.

We observed throughout the property no signs of zinc and in this silver-lead vein, no signs of copper, it is therefore an ideal ore for the concentration mill superintendent as also for the smelterman. What our views are as regards the present values of this ore to the smelter will develop later.

Some 50' eastward from the main shaft there is an open cut run eastward for a few feet and then a short crosscut tunnel run northerly by way of investigation and possibly as assessment work. The work is all open to day light and shows wulfenite sprinkled through out the vein filling. Eastward of this, about another 50' is another open cut trending across the deposit for 15' or so and it presents the same general characteristics. At a point 40' to northward of the main shaft, and on Ada C. #2 territory, wulfenite is seen in the croppings and the vein in this neighborhood is all of 50' wide on the surface, or, measured perpendicularly to its dip, some 40' actual thickness between wall, truly a wonderful size for a lead-silver proposition. We will now continue our description of the Ada C. #2. The above described main shaft is situated at the S. W. end of this claim; passing along in a northeasterly direction, we come to a point, somewhat south of its center, where the newer quartz ledge, on which this location and Ada C. #1 were made, intersects the N. E. branch of the big silver-lead vein and as these intersections of two veins occur are frequently centers of enrichment in mineral content, it will be an interesting point for future operators of the property to bear in mind should they ever drift northward on this quartz ledge after it has been met in workings at depth, as when driving a level eastward from the mainshaft and at a distance therefrom of some seventy-five feet or more. This quartz ledge meets the northern side of the N.W. and S. E. main silver ledge, but does not appear to pass thru it, but this point of contact will also be a most interesting one to investigate at depth.

Ada C. #1 Claim.

This is the N. E. extension of the Ada C. #2 claim and its discovery monument is situated at a point 300' northerly from the S. W. end line. The work consistsof an open cut running easterly into the main quartz ledge, which is here 3 or 4 ft. thick. It is a very attractiwe appearing ledge; the kind to inspire a wish to see it developed. Associated with the quartz is a considerable quantity of purpose and white fluorspar, a very beautiful variety and which, if developed in any reasonable quantity may find a market as an ornamental

stone.

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We were unable to bring away true samples of it and the lack of grater quantity prevent it being regarded as a commercial quantity, but what we did bring with us assayed as follows: Gold 0.08 oz. silver 0.20 oz. per ton and cu. 46.17%, being of aggregate value of $186.28 per ton. From the point going southward, at about 150' we find a point where the main quartz vein splits and a branch of it courses more to the east and trends towards the N. E. corner of the location. This branch is itself of interest, showing various thicknesses from a few inches to 2' or more. Where this joins the main quartz vein there is a showing of copper silicate (chrysocolla) at a point some 40' northward from S. W. end line is an old shaft said to be 80 or 90' deep sunk on the main quartz ledge which shows very elegantly going down as far as one can see it, and on the dump there is a showing of copper ore mixed thru the mass. We were unable to enter this shaft, but it would appear that those who went down so far on this vein had some adequate reason for so considerable an outlay of expense and labor. At a point some 25 or 30' northeasterly from the discovery cut is another old shaft said to be 90' and is on the branch running out from the main quartz vein. It, like the 80' shaft, is in no condition to enter since there is no windlass on it, and no ladder way down it. The dump shows the presence of copper ore, but as to quantity it is impossible to write. We will now pass on to the----
Ada C. #4*****This claim is contiguous to the Ada C. #1 on the east, but so located that its northeast end line extends N. E. something like 40' beyond that of the Ada C. #1 and this arises from the fact that Ada C. #1 and #3 overlap the Diorite by 50' whereas the parallel claims, Ada C. #4 and 3 only overlap it by 10 feet. Thus 40' northward of the N. E. corner of Ada C. #1 is the N. W. corner of Ada C. #4 and in a straight line with the S. E. sideline of Ada C. #1. On this no substantial work has ever been accomplished. Its discovery cut and monument are at a point 100' southward from the N. E. end line and the cut is driven eastward into a strong quartz ledge which

throughout this claim and the Ada C. #3 to the southward, is 3 or 4 ft. in thickness. There is here, and at other points on the claim where shallow holes have been made, manifestation of copper in the usual oxidized surface forms. The superintendent, under whose direction former operations were carried on, states that he has traced this vein for fully one and a half miles persistency in length and argues favorable for the same characteristic in depth. We traced this vein southward thru these two locations and found it to be quite an easy matter. The quartz shows a considerable amount of oxidized pyrites, that is, while the cube forms are retained, oxidization is complete, the material being iron carbonate. With depth this will change to iron sulphide or pyrites proper. We had a few piedes of this iron assayed but without showing more than a trace of gold. Following southward we come to the

ADA C.#4 Claim or (#3?)

This is located on the same quartz ledge as the last one described and presents much the same features. Its discovery monument is situated at center of the claims and the corresponding work was done at a point 60' northward and consists of an open cut run eastward. It is not on the main ledge, but on a small stringer in some manner, in all probability, directly connected with it. To the eastward of this is a twenty foot hole on a copper bearing ledge and probably the main one. There is no showing of copper in paying quantities at any point we saw, but it is at least interesting to find it from point to point throughout the quartz ledges on these four locations. It is evident to us that these veins are of a later age than the big lead one, that they are entirely devoid of lead as the lead vein is free of any trace of copper that we could see. They can all be developed from the main workings on the lead vein.

The quartz vein on which Ada C. #1 and 2 were located has a hanging wall of diorite and a foot wall of schists; this latter rock is prominently identified with copper ores throughout the world and diorite, a basic rock which cooled and crystallized at great depth, is a good associate of any vein whether bearing copper, lead, gold, or silver, or all of them. It would seem as tho the metals were originally

in some way identified with this diorite rock and later separated from it and accumulated on one side of it against the adjacent formation.

PLAN FOR DEVELOPMENT.

We have already explained our views as to the desirability of sinking the shaft another 20 or 30 ft. We would suggest that this being done a station should be cut out and a level started in a S.E. direction with a view to approaching the quartz vein at some 75' distance but a survey should be made to make sure that this point of junction has been fully reached. By doing this, a crosscut could be started both ways; the northern one would not only show what was at the hanging side of the vein but would also be ready for extension as a drift following the quartz ledge indefinitely and enable the manager to investigate the conditions to be found at the intersection of this ledge and the northeastern branch of the lead vein, and from the intersection it could then follow both. On the other hand, the crosscut at 75' to eastward of the main shaft could easily be driven to the southern or foot wall. *******

We are entirely adverse to making great predictions and, much more so, definite promises especially in view of the present scant development of the property, but we can confidently state that below water level the ore will be sulphide, in the one great vein Galena or lead sulphide, and in hthe other, copper in one form or another of sulphide.

It is usual to consider vein quartz to weigh one ton of twelve to each/cubic feet "in situ", i. e. where nature placed it; but in view of the lead, iron, lime, etc., in these veins 12 cu. ft. will weigh more, but for our purpose now, we will consider 12 cu. ft. to equal a ton weight. In running a level, therefore, 4' wide and 7' high there would be produced for every foot in length 2 and 1/3 tons of ore In our opinion such a level could be easily contracted for at not to exceed $7.00 per foot even by hand work. That is to say that including mucking and hoisting the total cost would hot exceed $8.00 per foot or $$3.40 per ton. It can be unanswerably argued, in our experience, that $5 per ton should cover all expense of mining, even in development work, save in sinking, and milling the product. If now we can recover

and market $5.00 worth of clean mineral out of $7.00 crude ore, the expense should be covered. But when it comes to stoping or winning the ore developed above the levels a good average miner should be able to produce far more ore in a shift as it is all above him and gravity comes into play. In a vein or stope, 4 ft. wide, he should be able to stope down a fatham of the vein, that is to say six ft. square as measured on the walls, or 36 sq. ft. which, at 4' thick, becomes 144 cu. ft. or 12 tons. This then assumed to yield $5.00 per ton in gross smelter receipts would be no less than $60.00. 12 tons stoping at the same costs approximately as 3 and 1/3 extracted in driving a level. When, however, we are dealing with a deposit 40 or 50' in thickness and utilize machine drills and electric blasting it stands to reason that the vastly cheaper production will yield a profit at a proportionately lower gross value per ton.

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In Conclusion: We reiterate that we believe in the future greatness of this property. Not only are the veins of good workable size and the leadvein a phenomenally large one, but climatic, transportation, and marketing conditions are excellent. It is not a long haul to R. R. and that downgrade, but it is then a short haul to the smelter. The price of silver is higher than it has been for many decades and the demand for it beyond what it has been known to be in times past. We therefore feel fully warranted in the views we have expressed herein and our good wishes for the success of its future operators are accompanied by our assurance that we see nothing else in sight, provided always that good business judgment is exercised, it being required in mining as in every other line of business.

Respectfully submitted by

Herbert Strickland

Associate of Royal School of Mines.

Phoenix, Arizona

December 4th, 1919.

Walter L. Gibson, successor to
Falkeneau Assaying Co.

824 Washington St.
Oakland, California
June 2, 1921.

Assay Office

Received from ADA C. mine.

| Identification | Assay No. | Silver troy oz. per ton. |
|---|---|---|
| Footwall sample | 70966 | 48.60 |
| No. 2 | | May 25,1921. |
| Ore | 70912 8.50% lead, | 32.50 |

No. 3 C. A. LUCKHARDT CO. 53 Stevenson St. April 6th, 1917.
San Francisco.

Deposited by Mrs. Clement from Ada C. Mine.

| Office No. | Gold oz. per ton | Silver oz. per ton | % of $MoO_3$ |
|---|---|---|---|
| 106923 | 31% concentrates.20 | 1.20 | 29.1 |

signed (A. H. Ward)

1937

ADA C.

Note by G. M. Colvocoresses

October, 1937.

I have made no personal examination of this property but mm very familiar with the district and have obtained considerable data on the Ada C. from responsible parties who worked on the mine which has now been idle for many years.

It appears that this is merely a prospect of no great ~~merit or~~ promise and does not merit any further consideration. The report by Strickland is by no means convincing and I judge his conclusions to be entirely based on hopes that are by no means justified by the actual conditions.

G. M. C.

February 17th, 1936

Mrs. A. C. Clement
Hotel Court
555 Bush Street
San Francisco, California

RE: ADA C. MINING CLAIM

Dear Mrs. Clement:

While recently examining a property in the vicinity of Wickenburg I was guided by an Italian miner named Guy Bodiroga, who had worked in that district for many years. I asked him if he knew your property and he was not familiar with the Ada C. Claim but said that he knew the Vulcan Mine well and that he was quite sure that he could find the Ada C.

I am merely mentioning this fact because when you first wrote me you seemed anxious to have someone obtain some samples from your vein and probably Bodiroga could secure these for you at comparatively small expense if you are not particular as to how they are secured or what they represent. If you care to follow the matter up I suggest that you write directly to Guy Bodiroga, Wickenburg, Arizona, and explain to him just what you want.

Yours very truly,

GMC

GMC:DF