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Jan. 27, 1969

Dear Sir

In regard to the letter you wrote me about the Blue Bird property. I have written a letter to the people I have been corresponding with on the property to see if they are still interested in the property. As soon as I hear from them I will let you know what they have in mind. What you have explained in your letter sound very good to me. I will keep in touch with you about the property.

Sincerely
Dale Cline

To:

Zeke Pickard

Palmer

Kline

Feb. 10, 1969

Dear Sir

I am writing you this letter to let you know we have made a deal on the fluorspar in this area. This man had spoken to me first about the property.

If something happens he doesn't the property I will contact you

Sincerely
Walt Clark

April 24, 1969

Mr. Dale Cline
Tonto Basin, Arizona
85553

Dear Mr. Cline:

Thank you for your phone call this evening. I hope everything goes well with your wife.

To recall some of the things I told you over the phone, I took the possible purchaser out to the properties today along with Mr. Curley Wininger, the drill contractor and Frank Jordan was there to take us around to the Blue Bird, the Fulmor property and also the Quartz Ledge--Toots property. We had a full day of it.

As I mentioned to you in earlier correspondence and in conversation, the unitization of the properties was a necessity and that the fluorspar situation would only fit one type of client or purchaser. Mr. Frank Welter, the possible purchaser, is this type of client.

Zinkle sure left the Blue Bird adit-upper- in very bad shape and the lower adit is caved so that entrance is not possible. It was the existance of this "proven" ore that I wanted to push for a down payment which I had mentioned to you before and which could be divided amongst all the owners. Unfortunately Zinkles work has reduced the Blue Bird to about the same position as the others--being a prospect now. None-the-less, the exposures of fluorspar available at the properties we saw as well as my explanations to Mr. Welter about the mineralization, the placement of a mill--not where Zinkle had it, but at the place just a short distance away from the Blue Bird in that little valley and the fact that all the properties could be purchased for an end price of $175,000.00 all added up to his interest in the deal.

The basic points of a deal which he would entertain are:
Unitization of the properties consisting of the Blue Bird, Quartz Ledge, Folmers, Conways and Zeke Packards claims. About 16 or 17 claims in all if I have the right figures, clear title with copies of last years Proof of Labor Affidavits and assurance of no leins against any of the properties. All this of course is in the normal routine of any sale of a property.

The deal which Mr. Welter would accept is as follows:

(1) End prine of $175,000.00.
(2) Free exploration time to the end of this year-1969
(3) A $15,000.00 payment on January 1, 1969, if work or purchase proceeds.
(4) A $1,000.00 per month payment thereafter or 5% of gross value of concentrates less transportation charges to railhead and less freight charges to destination.

which ever amount is the greatest.

(5) At their discretion they would pay off the properties at a faster rate than the $1,000.00 per month or the 5% rate if it benefits them tax-wise.

(6) During the free period-end of year, they would build roads, explore, probably by drilling and do the necessary geological mapping. They also guarantee to start such work within 30 days of the date of an agreement and option to purchase.

(7) Mr. Welter desires me to supervise the exploration and road building and do the necessary geological work and same would be done on all properties.

The above all represent the fundamentals of a deal which Mr. Welter could accept.

Lack of the "proven ore" now necessitates an exploration program on each of the properties. The "goal" indicated by Mr. Welter is to prove approximately 500,000 tons of ore before being justified to set up a mill which could handle about 350 tons of crude ore per day which must just come for three properties at one and the same time. This therefor is the reason for the "free period" and I can't say that I blame him for wanting the "free period", under the present circumstances. I myself have no fear that we couldn't develop that much by the end of the year. For that size mill it would require about $750,000.00 on a "new" equipment basis. Only the real large mills are the only ones that are "new" so this one would be much less--about half, but this is still quite an amount of investment and therefor the ore reserve must be there before it can be considered.

Because there are five owners, I indicated to Mr. Welter that he deal with me--and in essence you--and that the group and myself would have everything clear and understood between ourselves.

Dale, there was some question as to the price for each of the properties. You and I made up a price list as best as you could remember, then you advised me of another set of prices indicating that the Quartz Ledge and the Conway property had gone up in price and all this totaled to more than the $175,000.00. Having now seen all the properties, and judging all on their present merits and potentials as I seem them, I forward and suggest the following prices and accounting for the $175,000.00 total purchase price submitted to Mr. Welter.

Blue Bird	$65,000	Total Property prices	$159,000.00
Quartz Ledge	38,000	10% Reg. Commission	15,700.00
Folmers	22,000	Extra for Report	
Conway	22,000	to Welter	2,300.00
Z. Packard	10,000		$175,000.000
	175,000		

The normal commission must be split with another fellow who put me in contact with Mr. Welter and the additional $2,300.00 is for a report that I am preparing to Mr. Welters so he can present to his associates to provide the money for the exploration, etc. This is a new report wherein I must provide him a program of exploration, cost estimates, etc--in other words to help sell the property. I ofcourse receive no monies from the group until they have received monies from Mr. Welter. Since Welters deals with me, I cooperating with you and you representing the group, it would seem reasonable that any check received should be [illegible] necessa

I strongly urge the acceptance of the deal with Welters as well as what prices I have indicated as I think they are just and fair.

xxxxxxxxxxxxxxxx
xxxxxx

June 1, 1969

Mr. J. B. Folmar
Box "J"
Superior, Arizona

Dear Mr. Folmar:

Thank you kindly for your letter of May 27 as well as a copy of an AGREEMENT as prepared by your lawyer, indicating some changes which were made on the original AGREEMENT as I submitted to you and the group during my last visit to Tonto Basin.

I will submit this new AGREEMENT to Mr. Walters for his review. It is expected that I will see Mr. Walters sometime this coming week, thus, you shall be hearing from me shortly thereafter.

Thank you again for your letter.

Sincerely yours,

R. E. Mierits
Mining Consultant

May 11, 1969

Mr. Frank Welters
P O Box 175
Palm Desert, California
92260

Dear Frank:

Enclosed herewith is the Agreement I prepared for the fluor-spar properties at Tonto Basin, Arizona.

I visited the group today and presented them with this Agree-ment and they wish to have a lawyer look it over and indicate if there should be any changes--mostly in the terminology or "legal language" of the contents.

They themselves did not have any dis-agreement with the contents or the various articles. Would appreciate if you would review it and decide if you wish any changes. I tried to keep it as simple as possible and feel that it is as good an Agreement as a lawyer could come up with.

They will contact me within a few days after their lawyer has declared it okay, and if not, then they will advise the changes he has suggested. Some of the group record their Affidavits of Proof of Labor, tohers don't, so I have requested a written statement from the owners as to the fact that the property is in good legal standing, etc.

Had another flat tire going to Tonto Basin today. That makes two so the "khird" will be coming along--all good things coming in three's ????.

Will keep you informed on the progress by letter or orally on the phone.

Regards,

R. E. Mieritz

AN AGREEMENT

THIS AGREEMENT, entered into as of the _____ day of _____, 1969 by and between FRANK WELTERS and NOMINEE (herein called WELTERS) and Dale Cline, G.E. Foot, Jesse B Palmer, E.C. Conway - Ret. Wesley M. Packard. (herein called "THE GROUP");

W I T N E S S E T H :

WHEREAS, WELTERS desires to option and/or purchase those certain Fluorspar mining claims presently owned and in good good standing by "THE GROUP" and located in Gila County, near Tonto Basin (Punkin Center), Arizona, and

WHEREAS, WELTERS desires to explore, develop and mine these certain properties and concentrate and market any and all metals and minerals, discovered or undiscovered, within the claim boundaries upon the terms herein set forth;

NOW, THEREFOR, by reason of the premises and in consideration of the mutual covenants herein contained, it is agreed as follows:

1. Copies of the Location Notices and latest (year 1967-68) Proof of Labor Affidavits of those certain mining claims are attached herewith as Exhibit "A". The mining claims referred to in this paragraph 1 are sometimes called "THE UNIT"

2. The end purchase or total sale price of the "THE UNIT" is one hundred seventy five thousand dollars ($175,000.00)

3. WELTERS is granted an eight (8) month period of FREE EXPLORATION and would commence work within 30 (thirty) days of the effective date of this agreement,

(a) WELTERS WILL cause to be completed at least fifteen (15) eight hour man shifts per month on THE UNIT

during the seven (7) month exploration period following the first thirty days of the EXPLORATION PERIOD. Such work to include mining, geological and metallurgical professionals, drill contractors, mining and earth moving contractors, skilled and unskilled workers.

(b) Excess man shifts in any one month can not be accumulated and applied to any succeeding month to meet the minimum requirement of paragraph 3(a),

(c) If the minimum of Article 3(a) is not met, THE GROUP must provide a thirty (30) day written notice that the work was not completed and request of WELTERS a payment of five hundred dollars ($500.00) in lieu of the failure to perform the minimum monthly work,

(d) WELTERS will post a "non-liability" document on each property of THE UNIT to protect each property owner.

4. To permit further work on THE UNIT, after the initial eight month period, WELTERS will pay THE GROUP twenty five thousand dollars ($25,000.00) on the ____ day of _____, 1970,

5. WELTERS will pay THE GROUP one thousand dollars ($1,000.00) per month at the end of the ninth (9th) month through the fourteenth (14th) month from the date of this agreement,

6. Commencing with the end of the fifteenth (15th) month after the date of this agreement, WELTERS will pay THE GROUP fime thousand dollars ($5,000.00) per month or 5% (five) of gross sales value of the products or concentrates, whichever is greater, less truck and/or freight train transposrtation charges from mine or mill to the market,

7. All payments made by WELTERS to THE GROUP under articles 3(c), 4, 5 and 6 shall apply to retiring the total or end purchase price and when the total purchase price has been fully paid, quit claim deeds from THE GROUP to WELTERS will be affected,

8. WELTERS reserves the right to retire the full purchase end price at any time after the end of the initial eight month period,

9. In the event WELTERS returns THE UNIT to THE GROUP by thirty (30) day written notice of agreement cancellation, WELTERS will provide THE GROUP with all factual data for each of the properties comprising THE UNIT and same to be delivered within thirty (30) days after the final cancellation date,

10. THE GROUP agrees that they themselves, their assigns, relatives, or friends will not claim or cause to be claimed any claims within a two mile radius of any present holdings included in this agreement,

11. The time for performance or any act or making any payment required under this Agreement shall be extended by the period of any delay or inability to perform to the extent that such delay or inability to perform is due to fire, strikes, labor disturbances, riots, civil commotions, war (whether de facto or formally declared) Acts of God, any present or future law or Governmental regulation, commercial frustration or other cause beyond the control of the party in default. This paragraph shall be operative only if the party desiring an extension of time notifies the other in writing within thirty (30) days after obtaining knowledge of the delay or inability

to perform,

12. This Agreement shall extend to and inure to the benefit of and be binding upon the successors and assigns of WELTERS and THE GROUP.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first above written.

Frank Welters

May 3, 1969

Mr. Dale Cline
Tonto Basin, Arizona

Dear Dale:

Thanks very much for your time, also for Georges time and that of Gyp Toot. It is hoped that I have been able to explain and answer all the questions satisfactory.

The following is basically what we discussed and agreed on what I would present to Mr. Frank Walter when I see him next, Monday, May 5 in Bishop, California.

EXPLORATION PERIOD--Eight Months

This is the period for exploration and feasibility study of all the properties concerned. A surface geological mapping will occur, drilling, road building, sampling on surface and underground where possible and some underground development by drifting or cross-cutting. It was agreed that

(1) commence such work within 30 days of signing an agreement.
(2) fifteen man shifts must be completed each month during the eight month period--this being a minimum.
(3) if the minimum requirement not met by the purchaser, owners provide a 30 day written notice that the work must be done or agreement is cancelled.
(4) excess shifts worked in any month can not be accumulated and applied to any succeeding month to keep the agreement in effect.
(5) if purchaser returns properties to owners before expiration of eight month period, then purchaser will provide owners with all factual data obtained during the exploration period.
(6) Purchaser pays $25,000.00 at the end of the eight month period if he wishes to continue holding and working on the properties.

PREPRODUCTION PERIOD--Next six months

(1) purchaser agrees to pay $1,000.00 per month for each month during this period during mill construction and pre-mining preparation.

PRE-PRODUCTION OR PRODUCTION PERIOD

(1) after above mentioned six month period, purchaser agrees to pay $5,000.00 per month minimum or 5% of shipped concentrate value less freight costs and trucking costs from the mill area to the market, which ever is the greatest sum. Purchaser reserves the right to pay off the purchase price at any time after the eight month period. Purchaser agrees that the purchase price would be fully paid within two and a half years after the initial eight month exploration period.

The terms listed are those which I will submit to Mr. Welter. I personally feel that he will have no objection to them and it could be that a deal might be consumated very shortly.

When I return from Bishop either on Tuesday nite or Wednessday nite, I shall call you and we can then exchange our findings, and it is hoped that I can have some good news for you and the group.

As regards to one of the group, if his reactions are still reluctant or even if he feels it is not a good deal from his own personal standpoint, --that he is merely gonggalangg to satisfy the group and that he himself is not satisfied, then we will just drop him and will make a deal with the four property owners. The total purchase price would therefor be reduced by his end price but we might have to drop the $25,000.00 payment to $20,000.00. I will not advise Welter of this until I have your findings at hand.

If a deal is made, it will be necessary to have a copy each of all the location notices as well as a copy of each of the Affidavits of Proof of Labor for the past year--not the current one, but 1967-68. This is to keep every kthing legal and protect the purchaser as well as the seller. We would also need some declaration from the owners that that their claims are free and clear of debt or liens--I am thinking mostly of the Walnut since Andy got into a bit of difficulty with his loan. The purchaser will provide a non-liability for your protection.

That is about all I can say at the moment. I believe we have covered all the problems which created some of the questions and provides safe guards to both the owners and purchaser.

Best regards,

R. E. Mieritz

RICHARD E. MIERITZ
CONSULTING MINING ENGINEER
1304 E. Thomas Rd.
PHOENIX, ARIZONA

Richard E. Mieritz
MINING CONSULTANT
~~307 E. INDIAN SCHOOL RD.~~
PHOENIX, ARIZONA
AMHERST 5-~~1607~~ 7631

March 13, 1958

Mr. Andrew J. Zinkl
National Fluorspar and Chemical Co.
1602 North Campbell Street
Prescott, Arizona

TONTO BASIN FLUORSPAR DISTRICT
Gila County, Arizona

Dear Mr. Zinkl:

At your request I completed a cursory examination of a fluorspar district in the Tonto Basin Area, Gila County, Arizona on March 6 and again on March 11 and 12th instant. The examination was completed accompanied by Messrs C. Shapley, Joe and Javier Lopez. The following is my report on the examination and my findings.

CONCLUSIONS

It is my opinion, based on the examination of several properties in the Tonto Basin Area, that a fluorspar mining and milling industry is not only feasible but definitely warranted. This opinion is based on the observation of outcrops, the mineralogical occurance of the mineral, the strength and width of the structures and the existance of a reasonable elevation difference of the exposures.

Development of these properties must be attacked by expensive but positive underground methods. Also, side-hole diamond drilling from underground workings may expose hidden parallel or converging structures, this criteria being in evidence on the surface.

Considering all exposures observed and a minimum depth of 100 feet, a reserve in excess of 100,000 tons of 60% CaF_2 can be inferred. This tonnage can be multiplied several times by deeper and longitudinal development.

A conservative estimate of profit is at least $8.00 per ton of crude ore mined and milled to acid grade before taxes and royality, or some $30,000 to $40,000 per month.

The Bureau of Mines metallurgical report on this material indicates the material is very amendable to a flotation product of acid grade. There is no reason to doubt their findings.

RECOMMENDATIONS

The writer recommends options be obtained on all prospects herein mentioned and discussed and any other properties in the area.

Develop these prospects by the best means possible until a reserve has been assured, say 100,000 tons.

Attempt to have the properties mined by contract using local miners under some agreeable arrangement but such mining to be done under your organizations supervision both geologically and mining-wise.

Install a mill of 150 to 200 ton capacity to produce products commanding the better price at the instant demand. Acid grade markets for $50.00 or more per ton, Metallugical grade @ $36.38.00 per ton and Ceramic grade @ $68.00 per ton on the West Coast. The Government is currently buying acid grade for $53.00 per ton at contractors milling point.

GENERAL

Several Fluorspar properties in the district comprise some 30 to 40 claims. No attempt was made to learn the names of the individual claims since Mr. Shapley is well informed on this matter.

The PackardGroup of claims, four in number, is the sole property developed to any extent. The remaining properties are merely prospects with surface outcropping exposures indicating the presence and existance of fluorspar veins.

Development of the Packard property by tunneling, surface pits and sampling was completed by the Bureau of Mines in 1945 under their Strategic Minerals Program. Salient factual data is adequately presented in the U. S. Bureau of Mines Report of Investigations, R. I. 3880, May, 1946. For this reason I shall confine my comments to the merits of the property and district and feasibility of a possible operation.

The initial examination consisted of observing the 172 foot adit, tracing the main fluorspar fissure for approximately 1000 feet on the surface, tracing a second fissure for 300 feet and taking three samples in the adit, two of which were to check the Bureau of Mines sampling and the third to provide a bit of information to determine the minimum or economic width of mineralization that might be considered for mining and milling operations.

Generally speaking, the fluorspar mineralization strikewise is both strong and consistant, however, pinching to two inches and swelling to five feet or more was observed. This characteristic however is not singled to short distances for the swelling, on the contrary, the wide widths are continuous for long strike lengths as contrasted to the short lengths for the "pinches".

Any tonnage estimate at this time would be meaningless, however, applying vertically and horizontally the existance

of outcrops and the geologic conditions surrounding same, roughly 100,000 tons of 60% CaF_2 material can be inferred. Approximately one third of this figure can be attributed to the Packard property. The balance of this reserve must be distributed to the other properties herein discussed. Through proper develoment of this property and others, a goodly supply of fluorite could be developed; from a district standpoint, perhaps in excess of 500,000 tons might be available.

Exploration and development by underground methods is required. The near vertical dip of the fissures and hillside slopes necessitate drill holes in excess of 400 feet plus expensive road building. Then too, there is not sufficient evidence to forecast the positions of the pinches, which if intersected by too many drill holes could prove a costly misinterpretation.

Presence of the unforgiveable mineral silica is not "married" to the fluorite. This fortunate condition permits metallurgical amendability by gravity and flotation processes which liberates a product acceptable as acid grade and commands the premium price. Differential grades as metallurgical and ceramic can also be produced dependent on the existing demand.

Initial exploration and development expenditures could approach $100,000 which would include access road construction, underground development, surface trenching, sampling, geologic mapping and supervision. The present access roads, with a bit of repair, are usable. A new road for ore haulage to a mill site must be built to service the various properties.

There is little doubt in the writers mind that a successful operation could be had here with proper development. Concentrates must be trucked to Globe for eastern shipment and to Miami or Phoenix for western shipment.

Shrinkage stope mining could be used successfully here because of the good walls that are exhibited in the adit and trenches and because of the rock type itself, a good granite.

In estimating the following production costs I have assumed a high overall contract cost for mining since stope preparation has been included in the cost. A concentration ratio of 1.75 tons crude to 1 ton concentrate is assumed.

Mining (Includes stope prep.)Contract	$ 5.50
Milling	$ 4.00
Exploration and Roads (100,000 tons)	$ 1.00
Trucking to R. R. @ $6.00/ton conc.	$ 3.40
RR Freight-West Coast-East same dist.	$ 4.20
Amortization of Equipment ($250,000 for 100,000 tons)	$ 2.50
Total cost one ton crude	$20.60

Total cost one ton crude	$20.60
Acid grade value per tond Conc. $50.00	
Value per ton crude ore, 1.75 :1 Conc.	$28.60
Possible profit per ton crude ore before taxes and royalty	$ 8.00
If sold to Government, add $7.60- trucking and freight	$ 7.60
Possible profit per ton crude	$15.60

Any saving affected in the mining, milling, purchase price of equipment and exploration or development costs would materially increase the profit per ton of crude.

The calcium fluordie and silica assay results and the descriptions of the three samples taken in the adit of the Packard property are tabulated as an appendix. Their comparison to the Bureaus' results is also made.

Quartz Ledge Prospect

This property is approximately five miles north of the Packard claims and about four miles north of a good mill site location.

Three veins were examined on this property. Two of major width and strike lengths which converge in strike are similar to the Packard as to structure and character. The further west vein dips away from the other at a high angle of 60°to 70° and would be the only vein that could be prospected by surface diamond drilling. Each of the veins are surface trenched to a shallow depth and were traced for some 500 feet. The steep dipping vein is prospected to a depth of 65 feet by an incline shaft which currently was inaccessible but fluorspar is visible over a five foot width for some thirty five feet in depth. The vertical dipping vein is prospected by a 20 foot shaft, also in-acessible, but it does exhibit a strong five foot zone of fluorspar at the bottom.

One five foot sample was cut from a fairly large trench drifted on the outcrop and exhibited 3.5 feet of fluorspar as split veins with 1.6 feet of crushed country rock and fluorspar. The assay results will be tabulated in the appendix when the results have been received.

Zeke Packard Property.

This property is some eight miles south of the chosen millsite area just slightly higher than the large alluvial fans common to Tonto Basin.

Fluorspar mineralization two to three feet in width is exposed by shallow surface pits for some 300 feet. The vein however was traced for more than 500 feet up slope and gains in strength strike-wise and width. No other development exists. Hand specimens of the vein material appears to be

of excellent quality.

Surface pits were not of sufficient depth to warrant a sample since leaching can dilute the calcium fluoride by subtraction of same and such results would mean little.

Conway Prospect

This property is some seven miles southerly from the proposed millsite location. I did not examine this property but have been told that exposures exist of good widths and strike lengths.

A short while ago, A Mr. Soloman mined a fair tonnage from this property as a metallurgical grade but his crude ore shipment was refused because the silica ran 2% above the maximum 5% that was allowed. This indicates that a good grade if fluorspar does exist.

Kline Prospect

No examination of this property was completed. Its position is approximately three miles south of the proposed millsite location. Strong fissures of good width fluorspar, three feet or more, is reported. The grade when reduced to a mining width should exceed 60% CaF_2.

Milling Facilities

Water in quarties of 100 gallons per minute can be easily developed by use of any of the several wells in an area almost west of the Packard property on the west slope of the range or the east side of the valley.

Ample elevation difference exists on the old alluvial fans to provide a good gravity feed for the mill. Strong solid foundations to provide a good footing for primary crushing of hard rock are not available, however, the material which will find its way through the crusher unit is not considered as hard nor tough, consequently, the well packed alluvial fans will be quite suitable for any foundation that may be required.

Disposal of tailings is not a problem due to the presence of many large arroyas into which the tailings can be dispoeed. Only one ton of waste would be disposed of for each ton of concentrate produced.

Power must be developed at the mill site.

Registered Professional Engineer (Mining) CERTIFICATE EXPIRES RICHARD E. MIERITZ DEC. 31, 1959 ARIZONA, U.S.A.

Respectfully submitted,

Richard E. Mieritz

Richard E. Mieritz
Mining Consultant
Phoenix, Arizona

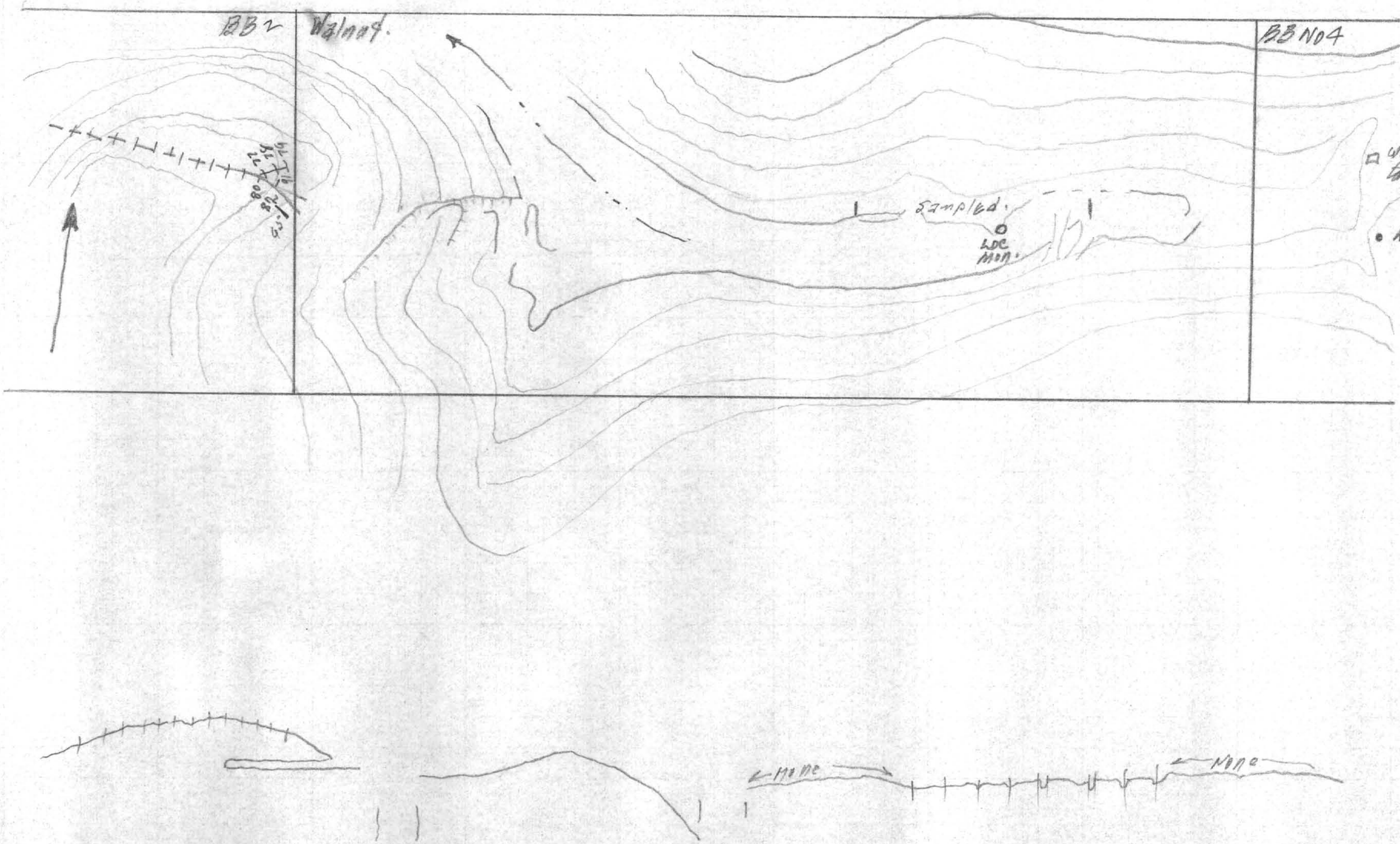
APPENDIX

SAMPLE DESCRIPTIONS, RESULTS & COMPARISONS

Sample Description	Sample Width	% CaF_2	% SiO_2
101-Face of 172 foot adit 2.75' Fluorspar, 1.25' Granite	4.0'	49.65	45.16
Values reduced to 2.75'		72.3	
4911-B. of M. sample, 10 feet back of face, 2.4' Fluorspar	2.4'	66.13	18.20
102-Fifty feet back of face, 4.5' fluorspar. Near B. of M. sample 4902	4.5'	76.66	20.00
4902-B. of M. sample, 54 feet back of face	4.5'	77.15	20.34
103-Eighty six feet back of face, 4.0 foot sample, 1.5' fluorspar and 2.5' granite	4.0'	14.05	60.41
values reduced to 1.5 feet (probably diluted)		37.50	
4899-Bof M. sample near sample 103	2.0'	60.85	34.26

The above samples were taken from the Packard Adit. Sample 103 taken as a check sample as well as to provide information for a possible mining width.

104- A five foot sample taken from a surface cut on the Quartz Ledge Prospect. Sample was about five feet below surface. Fluorspar as two widths of 2.3' and 1.1' with mixture of granite and fluorspar of 1.6' in the middle.	5.0'	31.75	52.56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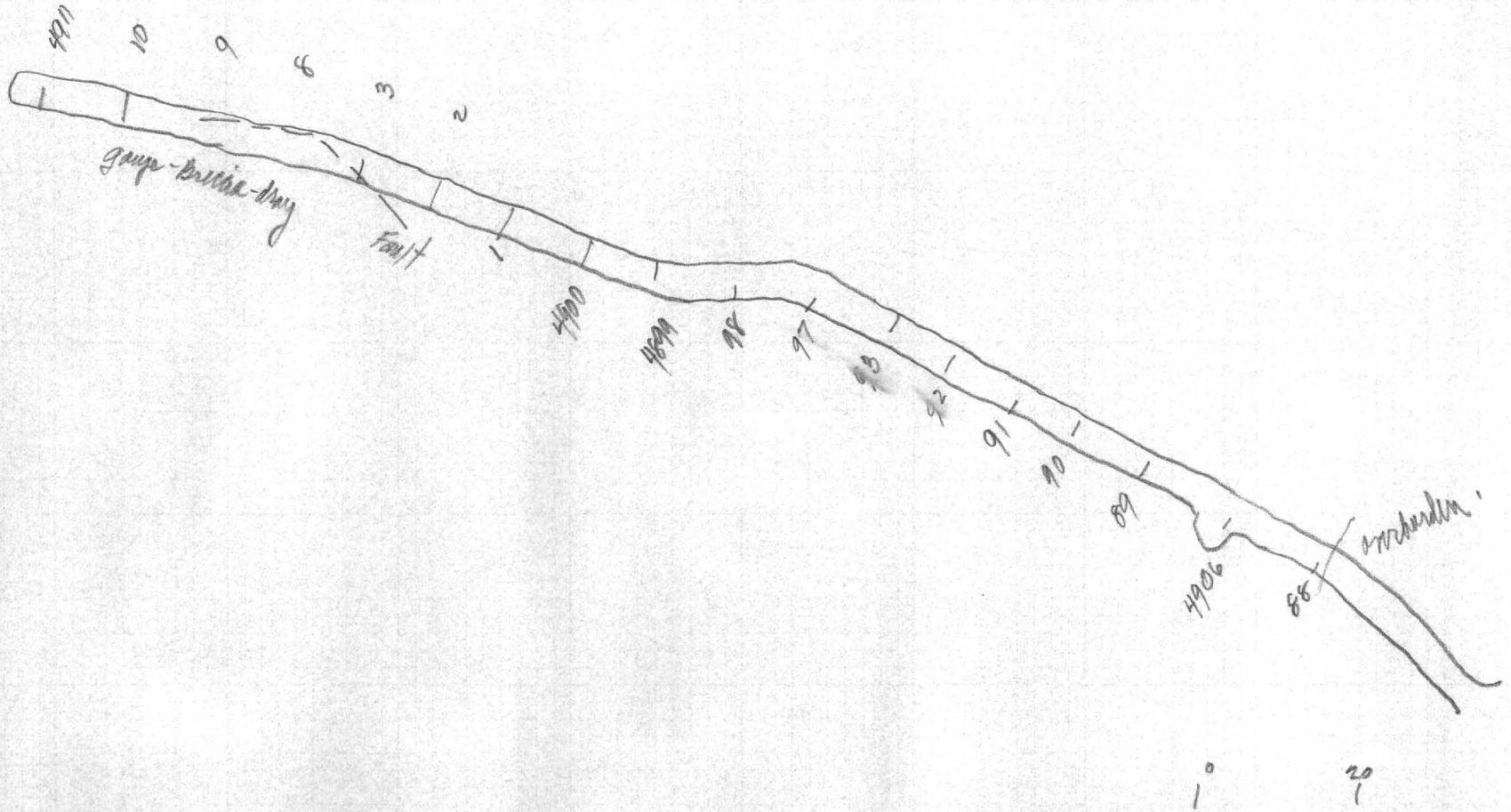
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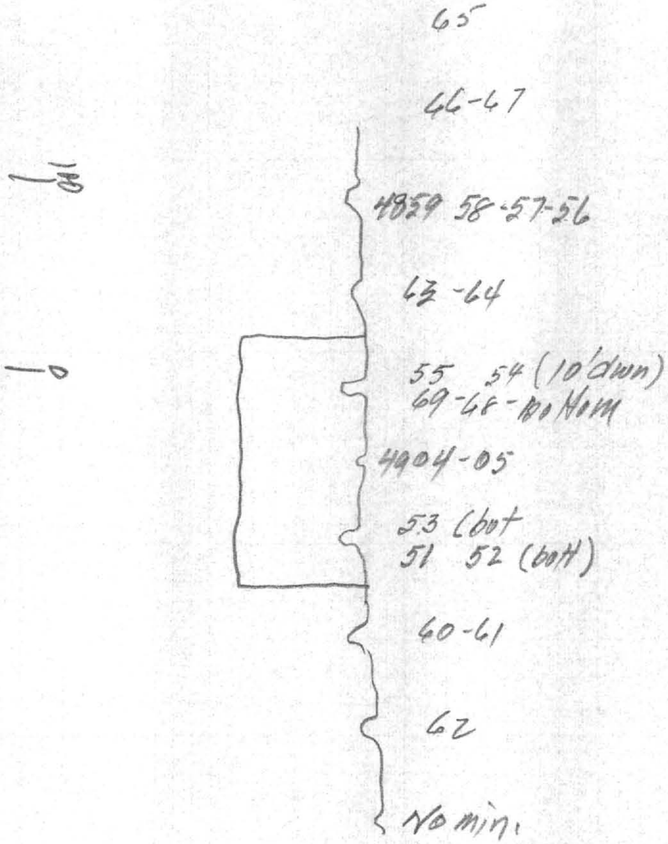

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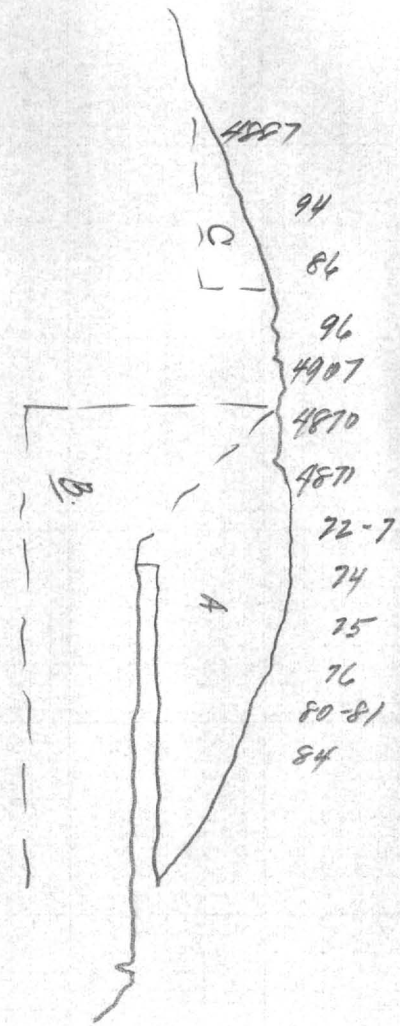

4887
C
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QUESTIONNAIRE (General)

DATE_____
TELEPHONE_____

NAME_____ ZIP CODE_____

ADDRESS_____

Prospect or Mineral Deposit Information

1. Kind of Ore_____ 2. Name of Property_____

3. Location: State_____ County_____ Mining District_____

   Township_____ Range_____ Section_____

   Distance and direction from nearest town_____

4. Railroad Shipping Point_____ Railroad_____

5. Haulage Road Distance, Mine to Railroad Shipping Point_____

6. Type and Condition of Haulage Road_____

7. Brief description of deposit (Formations present: vein, fissure, replacement-type; igneous or sedimentary; open pit or underground; topography, etc.). Write on back if necessary.

8. Chemical Analyses, if any, of ore_____

9. Geophysical Surveys Performed; if by contract, what Contractor_____

10. Estimated Reserves: Tonnage_____

_____

11. Tonnage available for immediate shipment_____

_____

12. Approximate monthly rate of shipment_____

_____

13. Claims Patented ( ); or held by Assessment ( ). Name and No. of claims_____

_____

_____

Property owned by Corporation ( ); Company ( ); Association ( ); Partnership ( ); Individual ( ).

Ownership Name_____

_____

Property held under lease by_____

14. Have shipments been made from this deposit_____

When_____ Amount_____

To Whom Shipped_____

_____

15. Have maps or reports been prepared on this property_____

_____

If so, by whom_____

_____

FLUORSPAR

Specifications (Chemical) Metallurgical Grade

	% Minimum	% Maximum
Effective CaF_2	75.0	
SiO_2		5.0
$CaCO_3$		3.0
R_2O_3		2.0
MgO		0.5
S		0.05

Minimum effective CaF_2 is calculated as follows:

$$\text{Effective } CaF_2 = \%\ CaF_2 - 2\text{-}1/2 \times \%\ SiO_2$$

Shipments are to be free from ice, snow, or excessive moisture.

Physical Characteristics

The ore should be crushed to minus 1-1/8" plus 20 mesh with a maximum of 15% remaining on a 1-1/8" square opening wire mesh screen and a maximum of 15% passing through a 20 mesh screen.

February 13, 1969

Mr. Dale Cline
Tonto Basin, Arizona
85553

Dear Mr. Cline:

Thank you for your two letters, the last of which was February 10, 1969 wherein you advised that you have consumated a deal on the fluorspar properties in the Tonto Basin area, one of which is owned by you and your family.

As you say, if for some reason something happens to your present deal, it would be appreciated if you would advise me.

Perhaps I can help in another way,--? The man or organization you have dealt with may require some professional help or advise and if you care to, it would be appreciated if you would mention my name. As you know, I have made quite a study of the area and from Andy Zinkels report and the little work they had done, the ore reserves of the Blue Bird had been increased--all based on my original report of the initial examination.

Thanks again for your letter. Please say hello to your mother and Aunt.

Very truly yours,

R. E. Mieritz

ARIZONA REG'D MINING ENGINEER
~~1536 WEST THOMAS ROAD~~
PHOENIX, ARIZONA 85013
TELEPHONE ~~279-7354~~

REPLY TO:
5822 NORTH 22ND PLACE
PHOENIX, ARIZONA 85016
TELEPHONE 955-7353

Richard E. Mieritz
MINING CONSULTANT

GEOLOGY
EXPLORATION
EVALUATION
FEASIBILITY
OPERATION

March 29, 1969

Mr. Dale Cline
Tonto Basin,
Arizona, 85553

Dear Mr. Cline:

I returned to Phoenix yesterday evening after stopping in El Paso, Texas the day before and talked to the Chemical Co. people who might have been interested in the fluorspar properties.

Unfortunately they have turned down the proposition solely on the fact that the present economics are just so close to a marginal situation that the operational costs would just balance the revenue and could even go into a loss column if the market took a turn for the worse. It might be they could take another look at in when the new "east side" road is complete and the trucking cost could be reduced a bit.

It is the economics of the properties that seem to "hold back a sale"--and this as I indicated to you before <u>is</u> the greatest problem--<u>not</u> the merit of the properties.

As I promised, I would advise you as soon as I had learned whether the company would want to deal or not. At this moment they can not see their way through the economics to warrant further interest. If you have other people interested, please move forward with them. I am sorry I could not do any good for you at this time but if the chance comes up again, I will contact you once again.

Incidentially, they thought the price of $175,000.00 including what we discussed for the commission, was quite satisfactory--as well as the down payments, and the six and twelve month payments.

Thank you for being patient with me during this period. My regards to your mother and Aunt.

R. E. Mieritz

ARIZONA REG'D MINING ENGINEER
~~1338 WEST THOMAS ROAD~~
PHOENIX, ARIZONA 85013
TELEPHONE ~~279-7354~~

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Richard E. Mieritz
MINING CONSULTANT

GEOLOGY
EXPLORATION
EVALUATION
FEASIBILITY
OPERATION

March 19, 1969

TONTO BASIN FLUORSPAR PROPERTIES

(16 ?claims)

The total purchase price for five separate fluorspar properties as a group (district) is $175,000.00.

A down payment of $12,000.00 is required at the time of signing an option to purchase.

No further payment required until the end of the sixth month after signing the agreement, then a payment of $25,000.00 is required.

Another payment is required at the end of the 12th month after signing the option to purchase and this payment will be $35,000.00.

The balance of $103,000.00 can be paid over the next two years, that is, during the second year and third year of the agreement.

All payments, including the down payment apply to the total purchase price of the group of $175,000.00

Purchaser responsible for annual asscessment work during "live" period of Agreement.

Purchaser keeps properties free and clear of liens of any kind.

All sample data, drill hole information, maps, and other factual data must be provided the seller if purchaser cancels purchase agreement.

Thirty days written notice of cancelation must be provided by purchaser to seller.

Down payment provides the purchaser access to the properties for the first six months. Second payment provides purchaser entry to the properties for the 7th through 12th months, etc.

Separate agreements will be made for each property but through R. E. Mieritz, who acts for the group.

R. E. Mieritz

TONTO BASIN FLUORSPAR

	Cline & Self	New Prices	Adjusted Prices	%
Blue Bird	$65,000.-	$65,000.-	$65,000.-	46.4%
Qtz. Ledge	25,000.-	50,000.-	35,000.-	25.0
Folmers	15,000.-	15,000.-	15,000.-	10.7
Conway	20,000.-	25,000.-	20,000.-	14.3
Z. Packard	10,000.-	10,000.-	5,000.-	3.6
Totals	135,000.-	165,000.-	140,000.-	100.0%
Com. Reg.	17,500.00	17,500.-	17,500.-	
	152,500.-	182,500.00	157,500.-	
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	$ 9,000.-	$22,500.-	$30,500.-	$ 62,000.-
Comm.	$ 3,000.-	$ 2,500.-	$ 4,500.-	$ 10,000.-
	$12,000.00	$25,000.-	$35,000.-	$ 72,000.-

First year receive 40% of Purchase price. Bal. of 55% can be distributed over next two years, 35% second year, 20% on third year.

ARIZONA REG'D MINING ENGINEER
1338 WEST THOMAS ROAD
PHOENIX, ARIZONA 85013
TELEPHONE 279-7354

REPLY TO:
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Richard E. Mieritz
MINING CONSULTANT

GEOLOGY
EXPLORATION
EVALUATION
FEASIBILITY
OPERATION

March 19, 1969

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R. E. Mieritz

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Richard E. Mieritz

MINING CONSULTANT

GEOLOGY
EXPLORATION
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FEASIBILITY
OPERATION

This is to acknowledge that two reports have been provided the undersigned. These are Andy Zinkl's report on the Tonto Basin Thompson dated July 14, 1959 and R. E. Mieritz's report to A. Zinkl on the same properties dated March 13, 1958

Jim Wilson
Jim Wilson

Received
3/27/69

March 1, 1969

Mr. Dale Cline:
Tonto Basin, Arizona
85553

Dear Mr. Cline:

I have finally had an opportunity to discuss the Tonto Basin fluorspar area with the people I had in mind and it appears that the area, the fluorspar itself and the mode of occurance is definitely of interest to them. They have indicated that they would be the "explorers, the operators and the purchaser" of the entire group of claims.

It is this that I wanted to determine as I explained in my January 19 letter to you. This company is a user of fluorspar and would do their own operating.

Now knowing their situation, and of course knowing you have made a deal with a group in California, I won't bother you any more on this matter but I do want you to know that if for anyreason the present "deal" should fall by the wayside, please contact me immediately by letter or telephone and I could have the Companys Engineer out there in a very short period of time. I myself would come to see you to discuss what type of deal could be worked out--that is, the details, etc.

It is hoped you didn't mind my giveng Mr. R. W. Wininger, a drill contractor, your name. I told him to mention my name to you. He is a friend of long standing, 20 years, and of course is seeking business.

Please advise me as soon as possible if and when the present deal should fall through.

Sincerely,

R. E. Mieritz

Fluorspar

Gordon Campbell - 10008 N. Central. 943-9650

Bro. - Robert Campbell - on own - Knows Chem Co.

January 19, 1969

Mr. Dale Cline
Tonto Basin, Arizona
85553

Dear Mr. Cline:

You may remember my name, perhaps not, as it was about eleven years ago that we met. Your Aunt Mrs. Rhoda Packard did remember me when I talked to her yesterday about noon. We had a very nice chat. Also stopped by your ranch to see you but were busy working on a well. Chatted with your mother for a short while also.

The purpose of making the visit to Tonto Basin yesterday was to learn what the "status" of the fluorspar claims was, that is, whether National Fluorspar (Andy Zinkle) still had them or whether they were back in your hands again. The reason for determing the status was the fact that I had an inquiry the other day from a Chemical Co. who was looking for fluorspar and immediately the Tonto Basin area came back to me. I examined most of the deposits in that area in March 1958 for Mr. E. G. Frawley and I believe your Aunt still has a copy of the report.

The inquiry I had merely requested if I knew of any fluorspar. They really provided no data other than just that request. As a result, I have checked with your Aunt before I attempt to get and further data from the Chemical company as to what their requirements are as to monthly tonnages, grade or type that they want--whether they will operate, whether they will explore, etc.

Whether such information at hand, I can then determine--as I explained to both your Aunt and Mother, whether the Tonto Basin area could and would be of interest to the Chemical company. If the Tonto Basin area could be of interest to that company, I would like, with your permission and the others (Conway, Toot, etc) put together a "package deal" for the company. I personally feel--quite frankly, that the individual properties could not "sell separately"--not even the Packard Blue Bird--even with all its development. In other words, a "package" similar to what was put together initially for Mr. Frawley and secondly for Mr. Zinkle. Your Uncle in 1958 was the spokesman for the group and perhaps you have taken over that position--I don't know, but I did ask your Aunt to contact the others to see wow they would feel about the situation.

If I learn shortly that the requirements of the Company would "fit" the Tonto Basin Area, then I would appreciate having a meeting with all the group at Tonto Basin to arrive at a fair deal for all concerned--the Tonto Group, the Chemical Company and myself. At this meeting I could present my views on the situation as I see it, etc.

Mr. Cline, I explained to your Aunt and Mother that the mining industry is going through a change. What is happeningiis that the independent miner or small operator (companies also) can not stay in business because they can't make a decent profit--and the ore doesn't "grow in richness" as time goes on. The users of the metals and non-metals are seeking their own supplies of the raw materials rather than depending on the suppliers of these metals and non-metals. An example of the copper users, several years ago they got caught in a squeeze--getting only what the copper companies would give them. As a result, these users--Wire copmanies, utensils companies, radiator companies, and the like are <u>actually</u> getting their own copper properties, spending their own money developing them and putting them into production. You can see the trend. This is now happening with the non-metalics--like fluorspar, but the point is that the proce does not go up with the demand, oh, perhaps a little bit but not enough to warrant a "private" operator to mine, ship and make a profit, at least a profit that is not sufficient. By doing as the users are now deing--developing their own source--they have this little cushion--of profit. The big point is they are looking for a source for the next five to ten years and this is the main reason they are getting into the raw material business.

If the Tonto Basin fluorspar "fits" into the Chemical companys requirements, I will advise you and we can arrange for a meeting as previously explained. However, I would like to have your views on this before "moving out" too far with the Chemical Company. If it appears that the requirements of the Company are much too high for the Tonto Basin, I will also advise you of this.

I would appreciate if you could at your earliest advise me how you and the "group" feel on what I have suggested here in the letter.

You may write me at the address on the letterhead. I gave Mrs. Packard my card.

Regards,

R. E. Mieritz,
Mining Consultant

SOVEREIGN INDUSTRIES, INC.

1015 FINANCIAL CENTER
CENTRAL AVE. AT OSBORN RD.
PHOENIX, ARIZONA 85012
(602) 264-2591

COOLIDGE, ARIZONA 85228
BOX 1437
(602) 723-4341

January 21, 1969

Mr. R. E. Mieritz
5822 N. 22nd Place
Phoenix, Arizona 85006

Dear Mr. Mieritz:

After speaking with you Saturday evening I called my brother in regards to the fluorspar requirement of his company and he forwarded me the enclosed general questionnaire with regard to your deposit. We would appreciate it if you would fill out the questionnaire and return it to Gordon A. Campbell, Chief Engineer of Sovereign Industries, Inc., at the above Phoenix address.

My brother represents a very large national concern and should the characteristics of your fluorspar meet his companies demand he would contact you directly.

I sincerely hope that any future arrangements may be of mutual benefit to all concerned.

Yours very truly,

SOVEREIGN INDUSTRIES, INC.

Gordon A. Campbell
Chief Engineer

GAC:mm

Encls.

ARIZONA REG'D MINING ENGINEER
1338 WEST THOMAS ROAD
PHOENIX, ARIZONA 85013
TELEPHONE 279-7354

REPLY TO:
5822 NORTH 22ND PLACE
PHOENIX, ARIZONA 85016
TELEPHONE 955-7353

Richard E. Mieritz
MINING CONSULTANT

GEOLOGY
EXPLORATION
EVALUATION
FEASIBILITY
OPERATION

TONTO BASIN FLUORSPAR

	Cline & Self	New Prices	Adjusted Prices	%
Blue Bird	$65,000.-	$65,000.-	$65,000.-	46.4%
Qtz. Ledge	25,000.-	50,000.-	35,000.-	25.0
Folmers	15,000.-	15,000.-	15,000.-	10.7
Conway	20,000.-	25,000.-	20,000.-	14.3
Z. Packard	10,000.-	10,000.-	5,000.-	3.6
Totals	135,000.-	165,000.-	140,000.-	100.0%
Com. Reg.	17,500.0	17,500.-	17,500.-	
	152,500.-	182,500.-	157,500.-	
Com. Ex.	2,500.-	2,500.-	2,500.-	
	$155,000.-	185,000.-	160,000.-	
Bal. to split	$ 20,000.-	$10,000.- OVER	$15,000.-	

Blue Bird.	$ 65,000.-	plus	$ 6,960.-	$ 71,960.-
Qtz. Ledge	35,000.-	"	3,750.-	38,750.-
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Totals	$140,000.-		15,000.-	$155,000.-

Shop No. 5711
File No. 1261 Mi Mar. 7, 1958

VALUES
Latest Quotation

1 oz. Gold .....
1 oz. Silver .....
1 lb. Copper .....
1 lb. Lead .....
1 lb. Zinc .....

THIS CERTIFIES
Samples submitted for assay contain as follows:

CHAS. A. DIEHL
(Registered)

Arizona Assay Office

Phone ALpine 3-4001

MR. RICHARD E. MIERITZ

815 North First Street
Phoenix, Arizona
P. O. Box 1148

Short Ton .....2000 Lbs.
Short Ton Unit .....20 Lbs.
Long Ton .....2240 Lbs.
Long Ton Unit .....22.4 Lbs.

MARKS	SILVER PER TON Ozs.	SILVER PER TON Tenths	VALUE PER TON	GOLD PER TON Ozs.	GOLD PER TON 100ths	VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	% SILICA	% PERCENTAGE CaF_2	% PERCENTAGE $CaCO_3$	REMARKS
FLUORSPAR											
101								45.16	49.65	2.13	Face.
102								20.00	76.66	1.58	5' width
103								60.41	14.05	1.85	1½' CaF_2 - 2½ waste

Charges $ 37.50

Assayer ARIZONA ASSAY OFFICE

Shop No. 5748
File No. 1262 M1 Mar. 12, 1958

VALUES
Latest Quotation

1 oz. Gold .....
1 oz. Silver .....
1 lb. Copper .....
1 lb. Lead .....
1 lb. Zinc .....

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104											52.56	31.75	6.42		5' outcrop. 3' Sig CaF_2

Charges $ 12.50

Assayer ARIZONA ASSAY OFFICE

ARIZONA REG'D MINING ENGINEER
1338 WEST THOMAS ROAD
PHOENIX, ARIZONA 85013
TELEPHONE 279-7354

REPLY TO:
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Richard E. Mieritz
MINING CONSULTANT

GEOLOGY
EXPLORATION
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OPERATION

TONTO BASIN FLUORSPAR

	Cline & Self	New Prices	Adjusted Prices	%
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	$12,000.-	$25,000.-	$35,000.-	$ 72,000.-

First year receive 40% of Purchase price. Bal. of 55% can be distributed over next two years, 35% second year, 20% on third year.

Future Program -

The completion of the company's initial program, to prove that these deposits will be developed into profitably producing mines, now opens the way for daily production on a larger basis of at least seventy-five (75) tons per day.

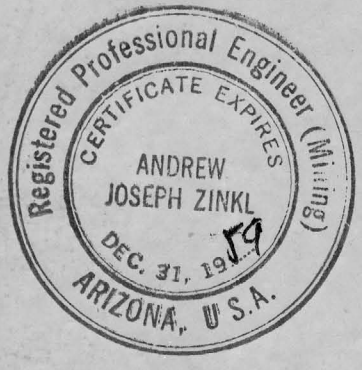
An investment of $50,000.00 is recommended to relieve present financial pressures and to install the additional and larger equipment at the mill. This investment would enable the operator to produce from thirty to thirty-five (30 to 35) tons of acid grade filter cake per day and ten to twelve (10 to 12) tons of metallurgical grade product per day. A profit of two hundred to two hundred and fifty ($200.00 to $250.00) dollars per day would be realized from this production.

The company is flexible on an agreement with an investor. Participation can be as a (1) joint venture; (2) money-back first plus percentage of interest; (3) return of investment in products for use or resale; (4) outright purchase of physical assets and retention of interest by present company; or (5) any other type of fair and equitable agreement.

This project has an excellent future. The ore reserves are evident, the metallurgical results are excellent and the future predicted for the fluorspar industry is tremendous.

Andrew J. Zinkl

Andrew J. Zinkl
Registered Mining Engineer



History -
(con't)

This grade of concentrate averaged $1.87 per ton premium pay over and above the G.S.A. base price.

On January 1, 1959, the G.S.A. stockpile program ended and the operation was stopped. Company metallurgist, Jack Ballam, conducted laboratory test work on the monthly composite head sample to obtain additional metallurgical results for redesign of the milling facilities. The redesign of the mill includes metallurgical grade equipment and minor changes in the flotation circuit to obtain better recovery.

Reconstruction of the mill was started with the removal of some of the equipment as being too small for the proposed new tonnage of seventy-five (75) tons per day. No new equipment has been purchased for the increased capacity.

The National Fluorspar and Chemical Co. have invested a total of $100,000.00 on this venture to date.

Ore Reserves -

In addition to the 10,000 tons ready for stoping on the upper Bluebird level, the initial stage of this project substantiated the estimates of Mr. Mieritz of approximately two hundred thousand (200,000) tons of ore in sight with a probable ore potential of one half million (500,000) tons. It further substantiated his estimate that the grade will average sixty (60%) per cent fluorite.

Facilities -

The Bluebird mine is fully equipped to produce at the rate of eighty (80) to one hundred (100) tons per day. At least 20% of this tonnage will be obtained from development headings.

The mill had been fully equipped to operate at the rate of forty (40) tons per day. However, as previously stated, operational test work indicated certain changes and additions are needed and as a result, some of the equipment has been removed in preparation for replacement by larger units.

No buildings were erected at the mine or the mill during the past production period.

Two contiguous mill site locations were staked and are in good standing as the proper notices have been recorded in the County Recorder's office in Globe.

Water rights from a neighboring well have been obtained from a local rancher. This well is adjacent to Tonto Creek, and has been tested at the rate of five hundred (500) gallons per minute.

Reports -
(con't)

4. Report on the metallurgy of the ore by independent consultant George Freeman. This report covers gravitational work on metallurgical grade fluorspar, as well as flotation work on acid grade concentrates.

5. Flotation test work data sheets by Jack Ballam, company mill superintendent and metallurgist, following operating experience at the mill.

6. Record of settlement sheets as paid by the General Service Administration on concentrates shipped under their stockpile program.

7. Underground sample map on the new ground opened by the company on the Bluebird property. This map extends the sample record of the U.S.B.M. in their R.I. #3880.

History -

The National Fluorspar and Chemical Co. moved into this mining district in June of 1958 to determine the fluorspar production potential of the area. From June, 1958 to January, 1959, their program accomplished the following:

1. Roads were built to three properties.

2. A 40 ton per day flotation plant was erected and put into operation.

3. Over two hundred (200) feet of drift were driven on two levels on the Bluebird property and one level on the Red Bluff property. One stope was put into operation on the 100 level and two more stopes (shrinkage) are ready for timbering.

4. Approximately one thousand (1000) tons of ore were mined from development work and stoping. This ore was delivered to the flotation mill. An additional ten thousand (10,000) tons of ore were developed and are ready to mine. This ore will average 60% fluorite.

5. Shipments to the G.S.A. of acid grade filter cake for one month of operation, December, 1958, were as follows:

Wet tons shipped	357.83 tons
Moisture content	8.71%
Dry tons shipped	326.69 tons
Calcium fluoride	98.40%
Calcium carbonate	0.77%
Silica content	0.63%
Iron Oxide	0.08%
Sulphur	0.008%
Zinc	trace
Lead	trace

NATIONAL FLUORSPAR & CHEMICAL CO.
TONTO BASIN, ARIZONA

REPORT ON TONTO BASIN FLUORSPAR OPERATIONS

Location -

The fluorspar properties of the National Fluorspar and Chemical Co. are located seventy-five (75) miles northeast of Phoenix, Arizona and fifty (50) miles west of Globe, Arizona.

Ownership -

There are five seperate properties under lease and option. These properties are owned by local residents and are held as unpatented mining claims. There are a total of sixteen (16) claims comprising three hundred and twenty (320) acres. All assessment work has been kept current by the company. The 1959 work has been duly recorded with the County Recorder at Globe, Arizona.

A total payout of $175,000.00 purchases all five properties. A monthly aggregate payment of $300.00 is due on these claims. These payments are applicable on the purchase price. A royalty of $1.50 per ton of ore is applicable against both the regular monthly payments and the total purchase price. The five groups of claims are under seperate agreements; they are worked individually and payments are to the respective owners. Royalty and monthly payments are not combined as a group, but are paid individually.

The company has packaged these seperate agreements in an effort to obtain maximum ore reserves and maximum production efficiency.

Reports -

Several reports are available on the geology and metallurgy of the ore in these deposits. The reports are listed below;

1. Report of Investigation #3880, by the U.S. Bureau of Mines, covering the geology, sampling and metallurgy of the Packard group of claims. (These are the claims presently being worked by the company.)

2. Report of Investigation #4133, by the U.S. Bureau of Mines. Data on the claims considered here will be found on pages 4, 5 and 6 of this report.

3. Report of geology and ore reserves by independent geologist - Richard Mierits - covering the deposits in the area.

NATIONAL FLUORSPAR AND CHEMICAL CO.
TONTO BASIN, ARIZONA

SUMMARY

The following pages contain the essential details of the fluorspar operation of the National Fluorspar and Chemical Co. at their properties in Tonto Basin, Arizona.

The reports referred to herein are available to any person or group sincere in their interest in this project.

The work accomplished to date by the present operators was in accordance with their original plan to develop the deposits and prove the metallurgy on a small scale production basis. The second phase of their original program which is to increase production facilities and put the mines into regular production is now ready to get under way.

Financial assistance is needed at this time to get the mill into production again. The company is open to any equitable type of agreement with an investor.

Although the domestic fluorspar industry has been depressed during the past six months, due to foreign imports, an increasing interest has been expressed by West Coast consumers in the Tonto Basin products. At the present time, the company is closing arrangements with several users which will enable it to go into production at their intended rate of seventy-five (75) tons per day.

The author is general manager of the project for the company. All reports referred to herein are in his hands and will be available to interested groups.

Andrew J. Zinkl
Registered Mining Engineer

July 14, 1959

Andrew J. Zinkl
1602 North Campbell St.
Prescott, Arizona

March 13, 1958

Mr. E. G. Frawley
Transworld Mining Syndicate
Room 340
411 North Central Ave.
Phoenix, Arizona

TONTO BASIN FLOURSPAR DISTRICT
Gila county, Arizona

Dear Mr. Frawley:

At your request I completed a cursory examination of a flourspar district in the Tonto Basin Area, Gila County, Arizona on March 6 and again on March 11 and 12th instant. The examination was completed accompanied by Messrs. C. Shapley, J. and Javier Lopez. The following is my report on the examination and my findings.

CONCLUSIONS

It is my opinion, based on the examination of several properties in the Tonto Basin Area, that a flourspar mining and milling industry is not only feasible but definitely warranted. This opinion is based on the observed outcrops, the mineralogical occurance of the mineral, the strength and width of the structures and the existance of a reasonable elevation difference of the exposures.

Development of these properties must be attacked by expensive but positive underground methods. Also, sidehole diamond drilling from underground workings may expose hidden parallel or converging structures, this criteria being in evidence on the surface.

Considering all exposures observed and a minimum depth of 100 feet, a reserve in excess of 100,000 tons of 60% CaF_2 can be inferred. This tonnage can be multiplied several times by deeper and longitudinal development.

A conservative estimate of profit is at least $8.00 per ton of crude ore mined and milled to acid grade before taxes and royalty, or some $30,000 to 40,000 per month.

The Bureau of Mines metallurgical report on this material indicates the material is very amendable to a flotation product of acid grade. There is no reason to doubt their findings.

RECOMMENDATIONS

The writer recommends options be obtained on all prospects herein mentioned and discussed and any other properties in the area.

Develope these prospects by the best means possible until a reserve has been assured, say 100,000 tons.

Attempt to have the properties mined by contract using local miners under some agreeable arrangement but such mining to be done under your organizations supervision both geologically and mining-wise.

Install a mill of 150 to 200 ton capacity to produce products commanding the better price at the instant demand. Acid Grade markets for $50.00 or more per ton, Metallurgical Grade @ $36 to 38.00 per ton and Ceramic Grade @ $68.00 per ton on the West Coast. The Government is currently buying acid grade for $53.00 per ton at contractors milling point.

GENERAL

Several fluorspar properties in the district comprise some 30 to 40 claims. No attempt was made to learn the names of the individual claims since Mr. Shapley is well informed on this matter.

The Packard Group of claims, four in number, is the sole property developed to any extent. The remaining properties are merely prospects with surface outcropping exposures indicating the presence and existance of fluorspar veins.

Development of the Packard property by tunneling, surface pits and sampling was completed by the Bureau of Mines in 1945 under their Strategic Minerals Program. Salient factual data is adequately presented in the U. S. Bureau of Mines Report of Investigations, R. I. 3880, May, 1946. For this reason I shall confine my comments to the merits of the property and district and feasibility of a possible operation.

The initial examination consisted of observing the 172 foot adit, tracing the main fluorspar fissure for approximately 1000 feet on the surface, tracing a second fissure for 300 feet and taking three samples in the adit, two of which were to check the Bureau of Mines sampling and the third to provide a bit of information to determine the minimum or economic width of mineralization that might be considered for mining and milling operation.

Generally speaking, the fluorspar mineralization is strike-wise both strong and consistant, however, pinching to two inches and swelling to five feet or more was observed. This characteristic however is not singled to short distances for the swelling, on the contrary, the wide widths are continuous for long strike lengths as contrasted to the short lengths for the "pinches".

Any tonnage estimate at this time would be meaningless, however, applying vertically and horizontally the existance of outcrops and the geologic conditions surrounding same, roughly 100,000 tons of 60% CaF_2 material can be inferred. Approximately one third of this figure can be attributed to the Packard property. The balance of this reserve must be distributed to the other properties herein discussed. Through proper development of this property and others, a goodly supply of fluorite could be developed; from a district standpoint, perhaps in excess of 500,000 tons might be available.

Exploration and development by underground methods is required. The near vertical dip of the fissures and hillside slopes necessitate drill holes in excess of 400 feet plus expensive road building. Then too, there is not sufficient evidence to forecast the positions of the pinches, which if intersected by too many drill holes could prove a costly misinterpretation.

Presence of the unforgiveable mineral silica is not "married" to the fluorite. This fortunate condition permits metallurgical amendability by gravity and flotation processes which liberates a product acceptable as acid grade and commands the premium price. Differential grades as metallurgical and ceramic can also be produced dependent on the existing demand.

Initial exploration and development expenditures could approach $100,000 which would include access road construction, underground development, surface trenching, sampling, geologic mapping and supervision. The present access roads, with a bit of repair, are usable. A new road for ore haulage to a mill site must be built to service the various properties.

There is little doubt in the writers mind that a successful operation could be had here with proper development. Concentrates must be trucked to Globe for eastern shipment and to Miami or Phoenix for western shipment.

Shrinkage stope mining could be used successfully here because of the good walls that are exhibted in the

adit and trenches and because of the rock type itself, a good granite.

In estimating the following production costs I have assumed a high overall contract cost for mining since stope preparation has been included in the cost. A concentration ration of 1.75 tons crude to 1 ton concentrate is assumed.

Mining (Includes Stope Prep.)Contract	$ 5.50
Milling	$ 4.00
Exploration and Roads (100,000)tons	$ 1.00
Trucking to RR.$6.00/tc.	$ 3.40
RR Freight-West Coast-East same dist.	$ 4.20
Amortization of Equipment ($250,000 for 100,000 tons)	$ 2.50
Total cost one ton concentrate	$20.60
Acid grade value per ton Conc. $50.00	
Value per ton crude ore.,1.75::1 conc.	$28.60
Possible profit per ton cnude ore before taxes and royalty.	$ 8.00
If sold to Government, add $7.60- trucking and freight	$ 7.60
Possible profit per ton crude	$15.60

Any saving affected in the mining, milling, purchase price of equipment and exploration or development costs would materially increase the profit per ton of crude.

The calcium fluoride and silica assay results and the discriptions of the three samples taken in the adit of the Packard property are tabulated as an appendix. Their comparison to the Bureaus' results is also made.

Quartz Ledge Prospect.

This property is approximately five miles north of the Packard claims and about four miles north of a good mill site location.

G.E. Toots (?)

Three veins were examined on this property. Two of major width and strike lengths which converge in strike are similar to the Packard as to structure and character. The further west vein dips away from the other at a high angle of 60°to 70° and would be the only vein that could be prospected by surface diamond drilling. Each of the

veins are surface trenched to a shallow depth and were traced for some 500 feet. The steep dipping vein is prospected to a depth of 65 feet by an incline shaft which currently was inacessible but fluorspar is visible over a five foot width for some thirty feet in depth. The vertical dipping vein is prospected by a 20 foot shaft, also inacessible, but it does exhibit a strong five foot zone of fluorspar at the bottom.

One five foot sample was cut from a fairly large trench drifted on the outcrop and exhibited 3.5 feet of fluorspar as split veins and 1.6 feet of crushed country rock and fluorspar. The assay results will be tabulated in the appendix when the results have been received.

Zeke Packard Property

This property is some eight miles south of the chosen millsite area just slightly higher than the large alluvial fans common to Tonto Basin.

Fluorspar mineralization two to three feet in width is exposed by shallow surface pits for some 300 feet. The vein however was traced for more than 500 feet up slope and gains in strength strike-wise and width. No other development exists. Hand specimens of the vein material appears to be of excellent quality.

Surface pits were not of sufficient depth to warrant a sample since leaching can dilute the calcium fluoride by subtraction of same and such results would mean little.

Conway Prospect

This property is some seven miles southerly from the proposed millsite location. I did not examine this property but have been told that exposures exist of good widths and strike lenghts.

A short while ago, a Mr. Soloman mined a fair tonnage from this property as a metallurgical grade but his crude ore shipment was refused because the silica ran 2% above the maximum 5% that was allowed. This indicates that a good grade of fluorspar does exist.

Kline Prospect

No examination of this property was completed. Its position is appreximately three miles south of the proposed millsite location. Strong fissures of good width fluorspar, three feet or more, is reported. The grade when reduced to a mining width should exceed 60% CaF_2.

J. B. Folmer - 4 mi east of Blackhead.

Milling Facilities

Water in quantities of 100 gallons per minute can be easily developed by use of any of the several wells in an area almost west of the Packard property on the west slope of the range or the east side of the valley.

Ample elevation difference exists on the old alluvial fans to provide a good gravity feed for the mill. Strong solid foundations to provide a good footing for primary crushing of hard rock are not available, however, the material which will find its way through the crusher unit is not considered as hard nor tough, consequently, the well packed alluvial fans will be quite suitable for any foundation that may be required.

Disposal of tailings is not a problem due to the presence of many large arroyas into which the tailings can be disposed. Only one ton of waste would be disposed of for each ton of concentrate produced.

Power must be developed at the mill site.

Respectfully submitted,

Richard E. Mieritz

Richard E. Mieritz,
Mining Consultant.
Phoenix, Arizona

APPENDIX

SAMPLE DESCRIPTIONS, RESULTS & COMPARISONS

Sample Description	Sample Width	% CaF_2	% SiO_2
101-Face of 172 foot adit. 2.75' Fluorspar, 1.25'Granite	4.0'	49.65	45.16
Values reduced to 2.75'		72.3	
4911-B. of M. sample, 10 feet back of face, 2.4'Fluorspar	2.4'	66.13	18.20
102-Fifty feet back of face, 4.5' Fluorspar. Near B. of M. sample 4902	4.5'	76.66	20.00
4902-B. of M. sample, 54 feet back of face	4.5'	77.15	20.34
103-Eight-six feet back of face, 4.0' foot sample, 1½' Fluorspar and 2½ feet granite.	4.0'	14.05	60.41
Values reduced to 1½ foot (probably diluted)		37.50	
4899-B. of M. sample near above sample	2.0	60.85	34.26

The above samples were taken from the Packard Adit. Sample 103 taken as a check sample as well as to provide information for a possible mining width.

104-A five foot sample taken from a surface cut on the Quartz Ledge Prospect. Sample was about five feet below surface. Fluorspar as two widths of 2.3' and 1.1' with mixture of granite and fluorspar of 1.6' in the middle	5.0	31.75	58.56

R. I. 3880 MAY 1946

UNITED STATES
DEPARTMENT OF THE INTERIOR
J. A. KRUG, SECRETARY

BUREAU OF MINES
R. R. SAYERS, DIRECTOR

RICHARD E. MIERITZ
CONSULTING MINING ENGINEER
1301 E. Thomas.
PHOENIX, ARIZONA

REPORT OF INVESTIGATIONS

EXPLORATION OF THE PACKARD FLUORSPAR PROPERTY

GILA COUNTY, ARIZ.

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5 00

BY

JOSEPH B. CUMMINGS

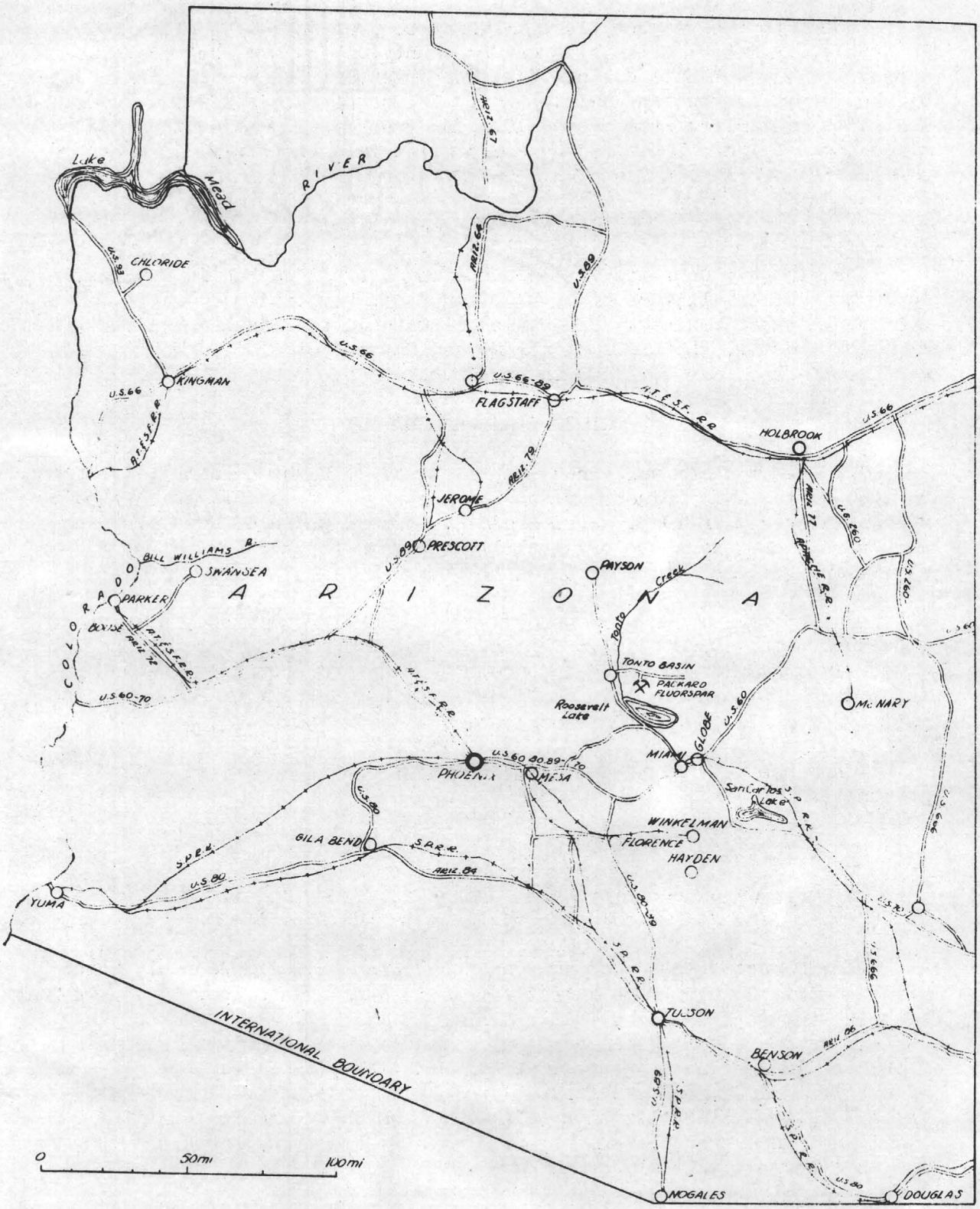


FIGURE 1.- General location map.

R. I. 3880,
May 1946.

REPORT OF INVESTIGATIONS

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

EXPLORATION OF THE PACKARD FLUORSPAR PROPERTY, GILA COUNTY, ARIZ.[1]

By Joseph B. Cummings[2]

INTRODUCTION

Occurrences of fluorite on the Packard property were first examined by an engineer[3] of the Bureau of Mines in July 1943 as the result of receipt of an application for an access road. In August of the same year the showings were examined by a geologist[4] of the Federal Geological Survey. The property was again examined by an engineer[2] of the Bureau of Mines in March 1944. This last examination resulted in a proposal that access be gained by construction of a truck trail and that the Bureau of Mines undertake to explore the fluorite showings.

The truck trail was constructed by the Public Roads Administration, which began the work on February 17, 1945, and completed it 8 days later.

The Bureau of Mines exploratory program was completed on May 16, 1945. It consisted of stripping overburden, trenching, test pitting, tunneling, sampling, and topographic mapping.

In addition to being described in some detail, the extent of the work as well as results are shown in accompanying tables and figures.

OWNERSHIP, EXTENT, LOCATION, AND ACCESSIBILITY

Mrs. Rhoda A. Packard, Mrs. Nora I. Cline, and C. B. Pettingill, all of Tonto Basin, Ariz., own the property, which comprises four contiguous, unpatented lode mining claims recorded at Globe, Ariz., as the Walnut and the Bluebird 2, 3, and 4. The claims are situated in T. 6 N., R. 11 E., Gila County. David L. Roscoe of Tombstone, Ariz., holds a lease and option to purchase.

1/ The Bureau of Mines will welcome reprinting of this paper provided the following footnote acknowledgment is used: "Reprinted from Bureau of Mines Report of Investigations 3880."

2/ Mining engineer, Tucson Division, Mining Branch, Bureau of Mines, Tucson, Ariz.

3/ P. S. Haury, mining engineer, Tucson Division, Mining Branch, Bureau of Mines, Tucson, Ariz.

4/ H. E. Rothrock, geologist, Federal Geological Survey.

5/ Thos. L. Chapman, mining engineer, Tucson Division, Mining Branch, Bureau of Mines, Tucson, Ariz.

Access to the property is by Highway 88 from Globe, 34 miles to Roosevelt, thence 24 miles by a graded county road along the west side of Roosevelt Lake to Tonto Basin. Here the Greenback Ranch road, constructed by the Forest Service and maintained by the county, crosses Tonto Creek and continues easterly to the foothills. The truck trail leaves the road 8.5 miles east of Tonto Basin and runs 2.5 miles in a southerly direction to the property. (Fig. 1.)

PHYSICAL FEATURES AND CLIMATE

The fluorite deposits lie in and along a small canyon in a rough, rocky area at an altitude of about 3,400 feet. Vegetation is scant and of the usual desert variety. The summer climate is dry and hot and the winter climate moderate. Rainfall at the Forest Service Station in Tonto Basin was 11.4 inches from May 1944 through March 1945.

HISTORY AND PRODUCTION

The Walnut claim was first located by E. E. Highwood and T. J. Grantham in 1938 as the Tonto Fluorspar No. 1. Pettingill relocated the ground as the Walnut claim in 1943. Mrs. Rhoda A. Packard and Mrs. Nora I. Cline, who are sisters, made the original locations on the Bluebird 2, 3, and 4 claims on September 18, 1942.

In 1943 the claims were under lease and option to Ernest Douglas of the Southwestern Mineral Co., Duncan, Ariz. No work was done during the short time that Douglas held the property. Roscoe secured his lease in about July 1944 and recently applied to the Reconstruction Finance Corporation for a $12,000 development loan.

There has been no production from the property, and it is idle at present.

GEOLOGY AND OCCURRENCE OF ORE

The area in which the property lies is largely underlain by granitic rocks, which are gneissic in the vicinity of the fluorite occurrence itself.

The ore occurs as relatively narrow lenses occupying a fault which strikes east and dips nearly vertically, in some places, however, diverging from the vertical in either direction by as much as 10°. Bed rock is largely concealed along the fault by a mantle of soil and talus ranging from 2 to 15 feet in thickness. When work began, two outcropping lenses of ore about 1,000 feet apart were indicated, the intervening area showing only slight mineralization (fig. 2). Trenching and test pitting for 2,000 feet uncovered these lenses and disclosed a third shoot some 75 feet west of the most westerly of the two that outcrop.

Northeast cross shearing was noted at both ends of the Walnut claim. Thin stringers of fluorite, with normal strike, extend from the Bluebird No. 2 ore shoot through the west zone of cross shearing. These cross shears may have influenced the localization of the ore shoots.

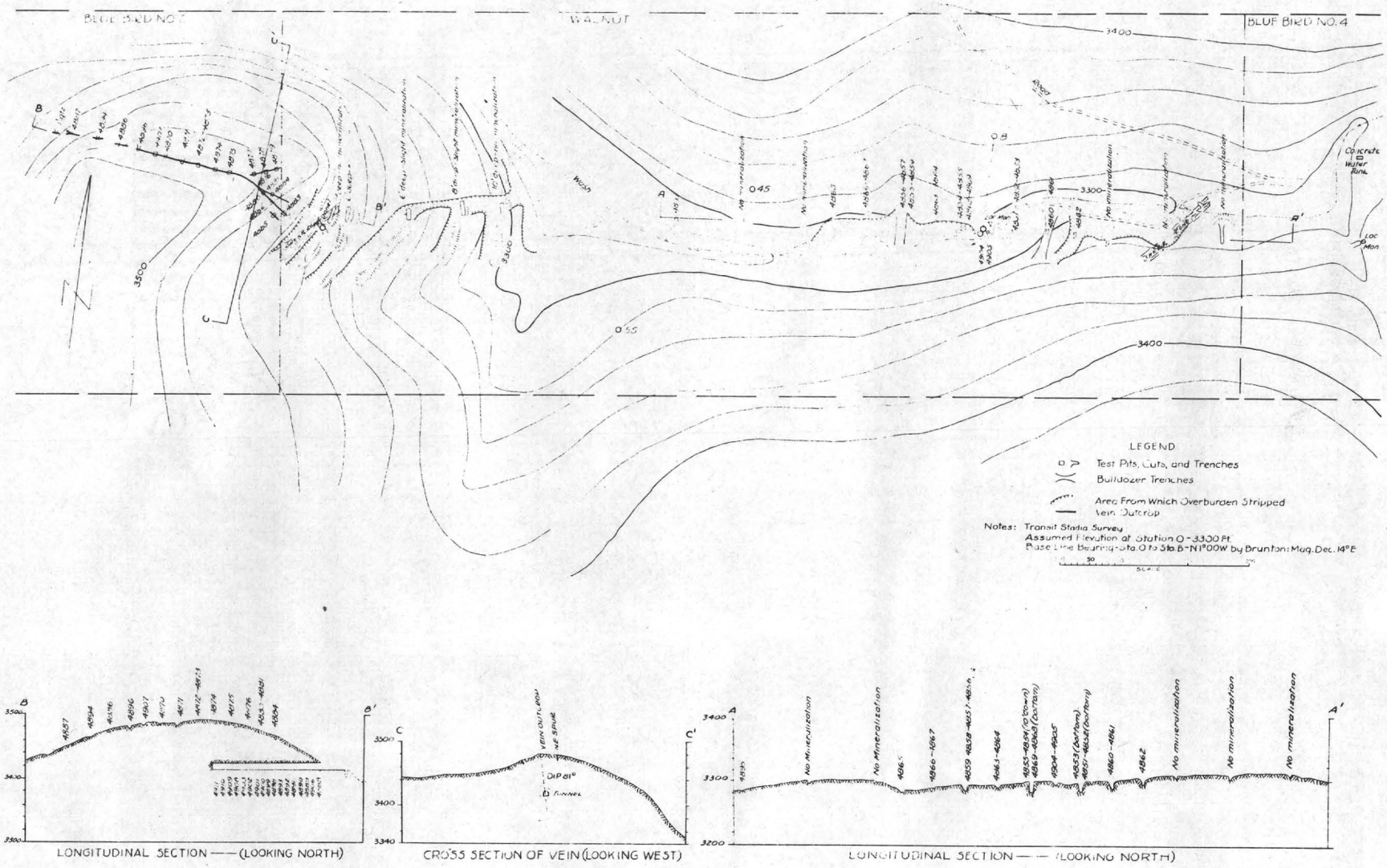


FIGURE 2.- Packard fluorspar property, Gila County, Ariz.

A minor post-mineralization fault is suggested by gouge, breccia, and drag, which were encountered underground 132 feet in from the portal of a tunnel driven on the Bluebird No. 2 claim (fig. 2). The fault comes in from the southeast, turns into the plane of the vein, and dies out 30 feet west. It is not in evidence on the surface.

Fluorite is the only mineral of value in the ore. For the most part, it is in free grains of 10- to 20-mesh size. In the Bluebird No. 2 ore body, masses of white fluorite an inch in diameter occur fairly free of gangue. Most of the fluorite in the ore shoot on the Walnut claim is purple, and contains seams of quartz. In all three ore shoots gangue is chiefly quartz, with which are small amounts of muscovite, hydro-muscovite, and kaolin.

DEVELOPMENT AND MINE WORKINGS

Little work had been done before the Bureau of Mines project. On the Walnut claim, development consists of a 14-foot shaft and a 5-foot test pit 35 feet west of the shaft. On the Bluebird No. 2 claim is a small cut near the west end of the vein. On each of the other two claims there is a single, shallow test pit.

WORK DONE BY THE BUREAU OF MINES (FIG. 2)

Work was confined to the Walnut and Bluebird No. 2 claims.

Stripping Overburden and Trenching

The overburden was stripped with bulldozers along the strike of the fault for 275 feet west of the 5-foot test pit on the Walnut claim. A trench was cut across the fault 50 feet east of the 14-foot shaft. Starting 25 feet east of this trench, the overburden was stripped along the strike of the fault for 175 feet eastward. Within the area stripped, the overburden ranges from 4 to 15 feet in depth, involving the removal of about 3,000 cubic yards of material.

Nine test pits and trenches were dug by hand to depths ranging from 6 to 20 feet in solid formation, at 25- and 50-foot intervals along the area stripped. Four additional trenches were put down by hand beyond the areas from whidh overburden was stripped. One is about 100 feet east of the stripped area. The other three are west of the stripped area, one near the west end of the stripping and two at 100-foot intervals farther west.

Seven side-hill cuts across the fault zone were made with a bulldozer at intervals of 25, 50, and 75 feet, beginning about 25 feet east of the Bluebird No. 2 outcrop and going 330 feet eastward. These are 2 to 8 feet in depth and involved removal of approximately 1,000 cubic yards of material. Small trenches were dug by hand to an average depth of 6 feet in the bottoms of six of these bulldozer cuts. Shallow trenches and test pits were excavated by hand along the vein outcrop on the Bluebird No. 2 claim at 25-foot intervals for a distance of 400 feet. Four additional test pits were put down at 25- and 50-foot intervals, along the strike of the fault, for 150 feet west of the most westerly exposure of the vein.

Tunneling

A tunnel was started at the east end of the vein exposure on the Bluebird No. 2 claim and was driven 172 feet westward along the vein. The face of the tunnel is 70 feet vertically below the vein outcrop.

Surveying

A transit-stadia survey was made of all surface excavations, and a transit-tape survey of the tunnel. A topographic survey was made of a 600-foot strip 2,400 feet long, covering the fault.

Sampling

Samples were taken in all trenches and test pits in which fluorspar was noted. Forty-three channel samples, aggregating 116.3 linear feet, were cut in these excavations. Approximately 2.5 pounds of material was taken per linear foot. The vein was sampled in sections where a marked difference in grade was evident. Starting at the portal of the tunnel, channel samples were cut at 10-foot intervals, across the back, throughout the length of the tunnel.

A composite sample, weighing 238 pounds, was taken from the tunnel and a 20-foot shaft and submitted to the Bureau of Mines Laboratory at Salt Lake City for metallurgical testing.

All channel samples were assayed for fluorite, silica, lime, barium, and insoluble. The composite sample was assayed for gold, silver, iron, magnesia, alumina, lime, barium sulfate, and calcium fluoride. The returns from the composite sample are shown under the heading "Metallurgical Tests." The channel samples are tabulated in tables 1, 2, and 3. The locations of samples taken in trenches and test pits are shown by sample number in figure 2 and those of samples taken in the tunnel by sample number in figure 3.

Three separate ore shoots are indicated at the surface. The aggregate length of these ore shoots is about 500 feet, and the average widths are 2.8, 3.0, and 5.4 feet.

METALLURGICAL TESTING

The analysis of the metallurgical sample is as follows: 72.2 percent CaF_2; 0.9 percent $CaCO_3$; 19.6 percent SiO_2; 0.50 percent Fe; less than 0.01 percent $BaSO_4$; 0.3 percent MgO; trace of Au and 0.05 ounce per ton Ag.

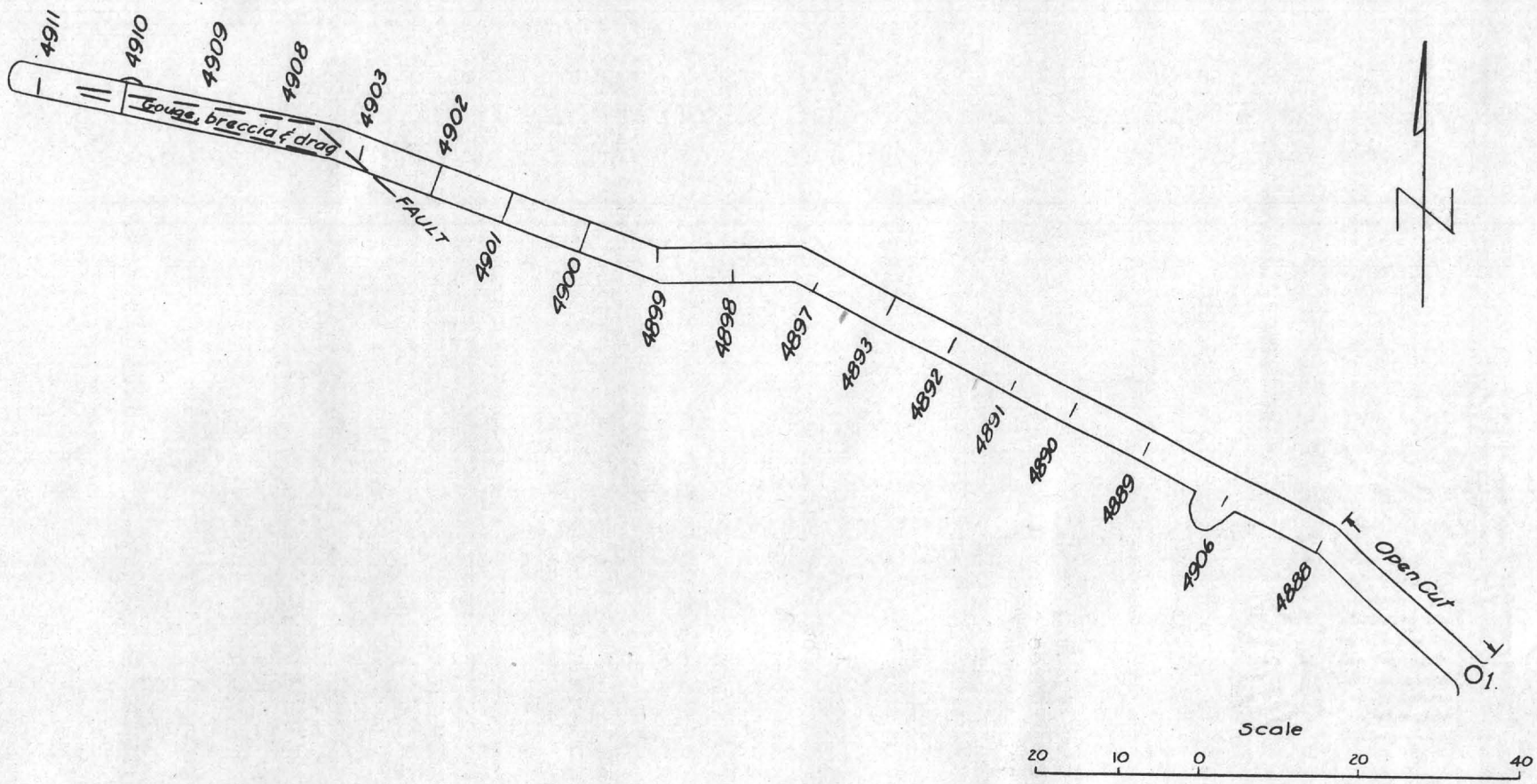
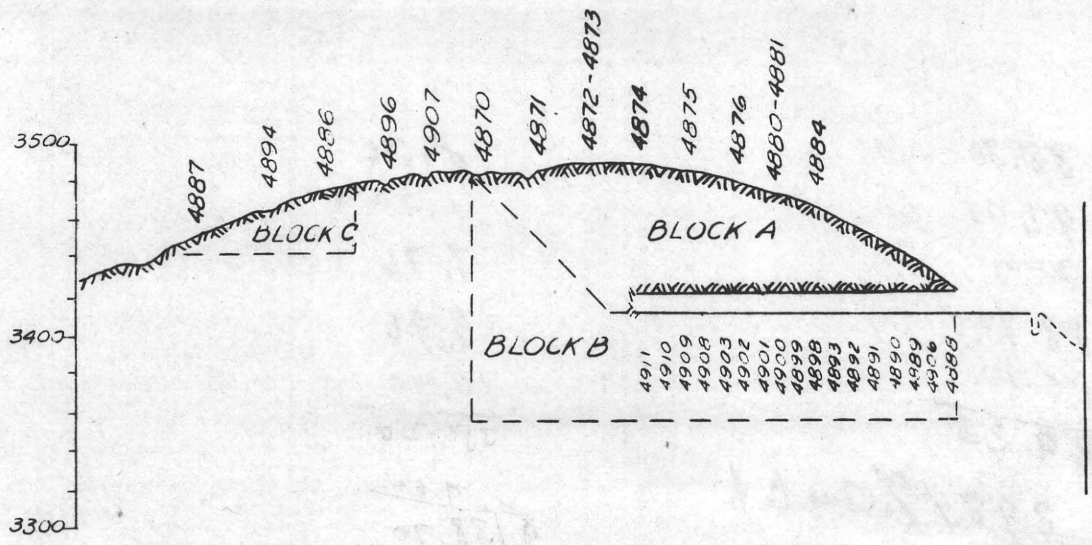
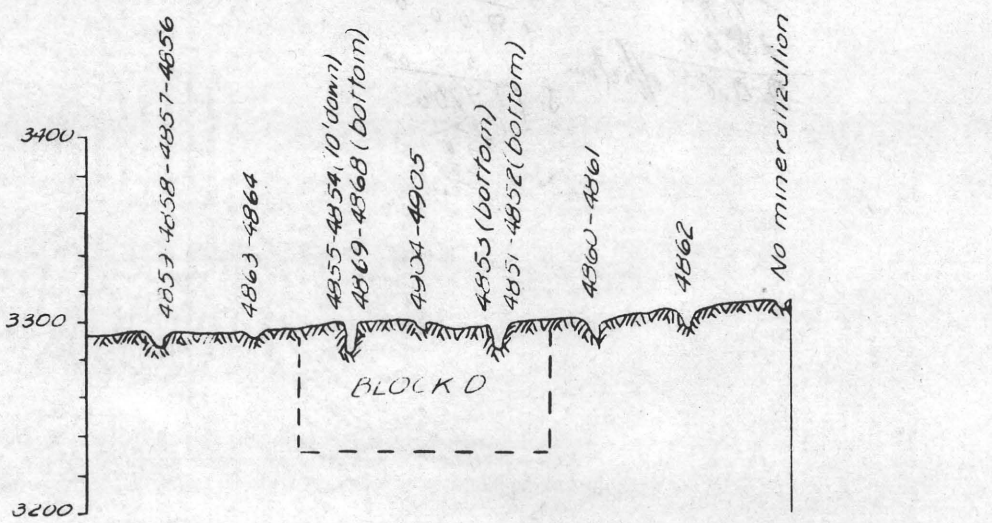


FIGURE 3.- Tunnel plan, showing location of samples.



LONGITUDINAL SECTION —— (LOOKING NORTH)



LONGITUDINAL SECTION —— (LOOKING NORTH)

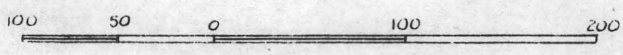


FIGURE 4.- Sections showing ore reserves.

88.80
97.05
88.77
88.91
85.70
449.23

89.84 % Ave. CaF_2

5 | 449.23
40
49
45
42
40
23

8.36
1.72
7.76
9.96
10.40
38.20

7.64
5 | 38.20
35
32
30
20

7.64
2.5
3820
1528
19.000

89.84
19.00
70.84 effective

28.00
5 | 14.00
10
40
40

4

32

TABLE 1. - Tunnel samples, Bluebird No. 2 claim

Sample number	Length of channel, ft.	Percent				
		CaF_2	SiO_2	R_2O_3	$CaCO_3$	$BaSO_4$
4888	3.0	88.80	8.36	1.54	1.16	-
4906	3.0	97.05	1.72	.44	.82	0.10
4889	2.5	88.77	7.76	2.04	.78	-
4890	1.5	88.91	9.96	.10	.92	-
4891	2.5	85.70	10.40	1.54	.71	.10
4892	2.7	74.38	21.92	1.80	.86	-
4893	2.7	92.40	6.22	.62	1.04	.10
4897	1.2	56.82	38.92	1.72	.68	.10
4898	1.5	72.68	23.30	1.68	.79	.10
4899	2.0	60.85	34.26	2.14	.86	.10
4900	5.0	85.96	11.48	.92	.86	.10
4901	5.2	79.43	18.26	1.06	.79	.10
4902	4.5	77.15	20.34	1.06	.64	.10
4903	2.0	73.40	24.58	.88	.71	.10
4908	5.5	47.50	40.96	3.92	1.25	.28
4909	3.2	34.37	57.04	3.06	.75	.52
4910	3.5	4.27	72.16	6.40	.93	.14
4911	2.4	66.13	18.20	1.40	.57	.10

TABLE 2. - Vein outcrop samples, Bluebird No. 2 claim

Sample number	Length of channel, ft.	Percent				
		CaF_2	SiO_2	R_2O_3	$CaCO_3$	$BaSO_4$
4887	2.5	49.07	47.86	1.34	0.61	0.10
4894	3.0	59.30	36.42	1.94	.36	.10
4886	2.8	72.79	25.50	.80	.61	.10
4896	1.2	2.71	91.26	3.70	.39	.10
4907	1.5	18.85	75.88		.68	.60
4870	3.0	83.14	14.98	.80	.93	.10
4871	3.5	86.20	11.62	.92	1.00	.10
4872	2.7	83.28	8.32	.96	1.14	2.66
4873	2.0	67.07	28.40	.80	.75	.16
4874	1.2	62.54	32.46	2.68	1.00	.10
4875	2.5	68.43	27.14	1.58	1.22	.10
4876	3.5	67.45	28.52	1.38	1.29	.10
4880	2.0	85.39	10.94	.82	1.32	.10
4881	1.0	73.70	22.04	1.18	1.97	.10
4884	2.0	84.31	14.34	.54	.64	.10
4877	.6	20.47	74.36	2.64	.86	.10
4878	2.0	26.24	66.00	3.92	.64	.10
4879	1.0	37.37	60.10	1.88	.60	.10
4882	1.4	90.81	7.30	.78	.99	.10
4883	1.5	76.84	19.10	.76	2.08	.10
4885	2.0	71.65	26.58	.88	.71	.10

TABLE 3. - Walnut claim samples

Sample number	Length of channel, ft.	Percent				
		CaF_2	SiO_2	R_2O_3	$CaCO_3$	$BaSO_4$
4851	2.1	90.8	7.4	0.7	0.8	0.1
4853	4.0	75.8	22.1	1.2	.7	.1
4854	3.0	57.3	34.8	3.0	1.5	.1
4855	1.5	23.6	61.2	6.7	1.3	.1
4858	3.0	86.99	9.88	.60	.96	.1
4869	3.0	21.69	66.44	4.20	1.39	.1
4904	2.0	88.94	7.24	2.10	1.57	.1
4905	4.4	22.21	60.96	10.62	1.82	.1
4860	1.5	85.90	12.48	.50	1.11	.1
4861	.3	29.61	63.48	3.24	1.46	.1
4862	1.0	19.35	67.50	5.12	1.29	.1
4863	3.0	28.19	52.74	7.32	1.36	.1
4864	2.5	49.26	37.16	4.14	1.18	.1
4865	2.0	7.0	77.4	7.1	3.2	.1
4857	10.0	.1	82.7	7.4	4.5	.1
4858	7.0	1.9	72.3	10.1	6.9	.1
4859	8.0	.1	80.2	11.9	4.3	.1
4866	6.5	4.29	73.36	9.0	2.61	.1
4867	3.0	7.28	68.52	9.82	3.50	.1
4865	.5	93.15	5.40	.30	1.14	.1
4895	1.0	42.80	48.94	4.92	.72	-

Following is a summary of the results of the concentration tests: The fluorspar in the ore ground to 65-mesh was readily concentrated to acid-grade specifications by flotation with fatty-acid reagents. Over 93 percent of the fluorite was recovered in a product assaying 98.7 percent CaF_2, 0.34 percent $CaCO_3$, and 0.5 percent SiO_2. A plus 99-percent CaF_2 concentrate was also made at a 90-percent recovery of the fluorite. Treatment of the ore at minus 1-inch-mesh size by gravity methods also proved feasible. A combined sink-float, jig and table concentrate, assaying 92.2 percent CaF_2 and 5.0 percent SiO_2, was obtained at a recovery of about 84 percent of the fluorite. It was found possible to effect an additional recovery of fluorite by flotation of the gravity reject product.

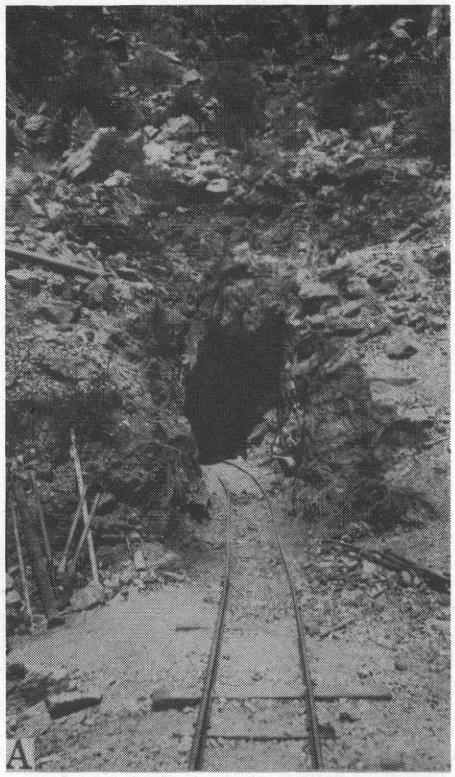
OPERATING CONDITIONS

Buildings and Equipment

There are no buildings or equipment at the property.

Water

A small spring at the property would furnish enough water for mining purposes and camp use. The nearest known source of water in adequate quantity for milling is Tonto Creek, approximately 10 miles distant by road.



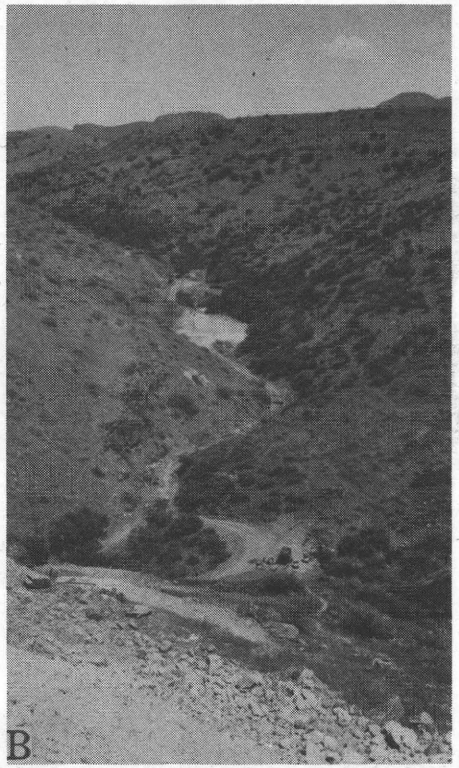


Figure 5. - A, Tunnel portal at west end of vein outcrop, Bluebird No. 2 claim; B, new portal of tunnel, looking east along strike of fault, air compressor used for trenching and tunneling operations in right foreground.

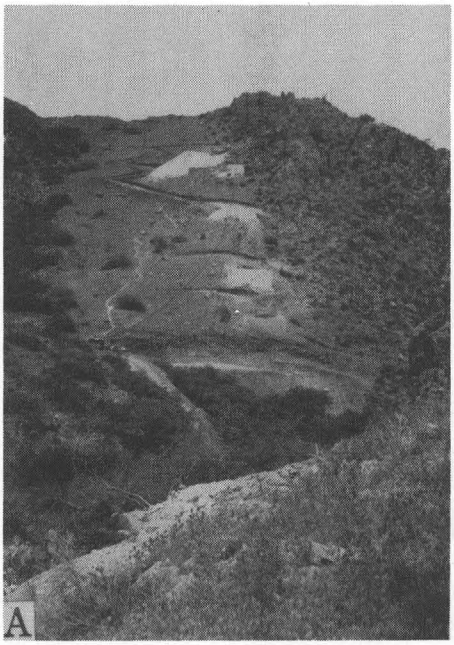


Figure 6. - A, Looking west along strike of fault, tunnel dump in background; B, area stripped, looking west along fault at east end of fault in foreground, side hill cuts across fault in background.

Power

The nearest source of electric power is the Roosevelt Dam hydroelectric plant, utilization of which would require the construction of approximately 20 miles of transmission line.

Transportation

The nearest railhead is Claypool, Ariz., near Globe and about 70 miles distant. The 2.5 miles of truck trail from the property to the Greenback Ranch road would need improvement and partial rebuilding to make it suitable for hauling ore, the cost of which is estimated at $5,000.

Timber

There is no timber suitable for mining purposes near the property.

PHOTOGRAPHS

Figures 5 and 6 show views of the locality.