March 31, 1937

Mr. J. F. Dugan
General Superintendent of Mines
International Smelting and Refining Company
O f f i c e s

Dear Sir:

I have carefully considered the recommendations submitted by Mr. Drouhay for development work to be done at the Walker mine. I have discussed the matter with both you and Mr. Meyer and while we are in accord in the matter I believe it would be well, as a matter of record, to approve the recommendations with the following comments:

In the first place it appears that the greatest opportunity for developing the most ore with the least work would be to continue to sink the 706 winze and develop the North and Central ore bodies on the 1100 foot level. I discussed the matter with Mr. Meyer during his visit to Salt Lake last week. At that time Mr. Meyer suggested continuing the winze to the 1200 foot level before any lateral development work was done and stated that an additional six months would be necessary to do this work. I told Mr. Meyer at the time that I did not believe that the situation at the mine would justify a delay of six months in the development work of the 1100 level. I wish to recommend that the drift North and South from 706 winze on the 1100 foot level for the exploration of the North and Central ore bodies be regarded as the most important of all development work that is outlined and that this work be pushed to the utmost. If it is possible to continue sinking the 706 winze at the same time that the drifts are being run on the 1100,

2- Mr. J. F. Dugan March 31, 1937

with no sacrifice in the speed of the 1100 work, I believe that would be all right. However, I wish to again impress on you the importance of the development of the 1100 level and feel that this work should be done as rapidly as possible.

Very truly yours,

TL:P Tom Lyon

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March 31, 1957

Mr. Seth K. Drouhey, Geologist
Walker Mining Company
Walkermine, California

Dear Ned:

I have just written a letter to Mr. Dugan, a copy of which has gone to Mr. Bayer, approving the recommendations which you have made for development work.

I wish that you would send me each month a statement showing the recommendation numbers as you have them on the sheet submitted to me, when the work was started and the amount of work that was done and why those that have been started have been delayed, as it is almost impossible to keep up on everything unless we have some definite reports.

Please see that these are gotten out each month and send a copy to Mr. Dugan.

Very truly yours,

TL:P

Tom Lyon

cc: Mr. Dugan

FORM 396 12-36 2M

WALKER MINING COMPANY

WALKERMINE

PLUMAS COUNTY, CALIFORNIA

L. F. BAYER, MANAGER

April 12, 1937

Mr. Reno H. Sales, Chief Geologist
Anaconda Copper Company
Butte, Montana

Dear Mr. Sales:

I am enclosing several geological sketches that may interest you, also a revised list of our available Ore Reserve.

The composite map and sections show some interesting developments in the south extension of the North Orebody, and I thought perhaps you may wish to make a suggestion or two for farther prospecting. This block is being slowly proven up, but my main concern is having the ground fully prospected in time to place mill holes and finger raises far enough in the footwall to get all of the ore. Part of 1020 Stope is finished and mill holes are complete to the 900 level, so it will not be long before we are producing ore here. The 942 Drifts (70 feet above the 900 sill) have crosscut almost 100 feet of 1.48% Cu Ore, and they are not to the footwall yet. Although they need muck badly I wonder if it is not unwise to put stope preparatory work ahead of prospecting, especially where such a large block of ground is concerned. The original 920 Stope was stopped and mill holes from 1020 Stope are being placed so they can mine farther in the foot, but it is doubtful whether the one at 5 + 30 will be quite far enough. This footwall ore seems to rake to the south with depth. The south part of 1020 Stope will no doubt be flattened off and completed to the 900 level far enough into the footwall to allow for well placed mill holes, and all ore

Prosecution Team Exhibit 1 - Page 302

left below the 900 level will be recovered with a stope above the 100 footwall dirft. An intermediate level will no doubt be driven south from 915 Raise, and crosscuts will be driven at intervals south, along 904 Drift to prospect the downward projection of the ore in 761 Drift. Perhaps a crosscut or two into the footwall of the 1000 level near section C #3 would be worth while.

1017 DN and 1008 Crosscut East are still in waste, but the face of 1008 C Crosscut shows shearing with an occasional chalcopyrite or garnet nodule in the broken seams. The slip near the face of 1017 DN is barren of sulphides although one assay of 0.12 Oz Au is listed when the slip was first broken.

The crosscut east from the 1100 Station shows 15 feet of dense fine grained schist with irregular blotches of epedote on the hanging wall side of the fault. Pump trouble has made progress slow.

The Operating, or Available Ore Reserve, has been revised to include all reasonably assured ore blocks. Tonnages have been recalculated and the correction factors that were worked out for the Annual Ore Estimate have been applied to the assays. Breakage and Production assays are not corrected. The tabulation of available ore above the 700 level that I sent you two weeks ago was taken from this sheet. I hardly know how to handle discrepancies between breakage and production that accumulate in the broken Ore Reserve, but when a stope starts over producing I stop listing it, and when a stope gets empty I just drop the balance. All future additions to this reserve will be newly developed ore or pillars that the manager decides to rob.

I would appreciate any suggestions you may care to make.

Respectfully submitted,

Seth K. Droubay

SKD/w

April 28, 1937

Mr. S. K. Droubay,
Walker Mining Co.,
Walkermine, Calif.

My dear Droubay:

This will acknowledge receipt of your letter of April 12th, together with the various maps and ore reserve tabulations accompanying same.

I discussed with you at the mine such matters as occurred to me concerning these ore reserve figures.

Yours very truly,

RHS:KM

Re Walker

May 4, 1937.

Mr. J. F. Dugan,
820 Kearns Bldg.,
Salt Lake City, Utah.

Dear Jack:

When I was in Salt Lake you asked about Edw. L. Broadwater and suggested that you would like to have him at the Walker, possibly as an Assistant Geologist to take Warren's place next month.

Broadwater is now sampling at the Mt. Con. His base rate is $170.00 per month, present bonus amounts to $18.50, or approximately that.

Either you or Tom suggested that in case Broadwater would take the job at Walker, he should have a month or so of geological training in our Department here. The question arises, who is to pay for this preliminary training, Anaconda or Walker? Please advise me what you want done in the matter. I will speak to Broadwater as soon as I hear from you.

There is another young man working as a sampler by the name of Martin S. Byrnes, who worked for a while at the Flathead, I am told. In case Broadwater does not want to go to the Walker, would you want to consider Byrnes for the job?

In case neither of these men want to go to the Walker, I will endeavor to find someone for you, but it will probably happen that he will need this preliminary Butte training, so when you write be sure to advise me of that feature.

With best wishes, I am

Very truly yours,

RHS:KM

INTERNATIONAL SMELTING AND REFINING CO.

J. F. DUGAN
GENERAL SUPT. OF MINES

SALT LAKE CITY, UTAH,

May 6, 1937

Walker Min. Co.
Geol. Dep.

Mr. Reno H. Sales, Chief Geologist,
Anaconda Copper Mining Co.,
Butte, Montana.

Dear Reno:

Your letter concerning Edw. L. Broadwater, received.

I would suggest that you interview Broadwater, size him up, and see if you think he would be the man for Walker.

What I know of Ed is, that he is a fine fellow, ambitious, and a good worker. Don't know much about his background, except that he majored in geology at Missoula under Rowe and Dr. Deiss, and worked with Dr. Clap in the field a few summers correlating Montana formations.

If Broadwater is acceptable to you, give him a month or so preliminary geological training, or longer if necessary, and charge it to Walker, as they are going to benefit by the training he receives. If he does not seem to measure up to your standards, after working in the department a month or so, do not hesitate to pick someone else, and put Broadwater sampling again.

Regarding Martin S. Byrnes, he is a good deal the same type of fellow as Warren. He likes the operating end; and in the letter which I received from him a short time ago, said that he thought he was going to be given a chance filling in as a substitute shift boss during summer vacation periods of the other bosses. He told me he thought he would like to stay in Butte and learn more about the operating game.

After you interview Broadwater, please let me know your decision.

With kind regards and best wishes.

Yours very truly,

John F. Dugan

John F. Dugan.

JFD:H

Broadwater given 6 weeks preliminary work in our Geol. Dept, following which, on July 1st he reported to the Salt Lake office.
M. H. Sidel.

ANACONDA COPPER MINING COMPANY

25 BROADWAY

NEW YORK, May 27, 1937.

Mr. M. H. Gidel,

P. O. Box 26,

Butte, Montana.

Dear Murl:-

Whenever you feel that Broadwater has had sufficient preliminary work to enable him to carry on at the Walker, please get in touch with Jack Dugan and advise him when he can expect Broadwater to go to the Walker Mine.

Shea or Steele or someone there should check up pretty carefully on Broadwater's note-taking to be sure that he understands what it is all about.

Very truly yours,

Rene H Sales

RHS/G

Started in Geol. office May 19th, continuous training for 6 weeks.
Reported to International office July 1st
M. H. G.

Copy

June 8, 1937.

Mr. Tom Lyon,
820 Kearns Bldg.,
Salt Lake City, Utah.

Dear Tom:

Upon request of Mr. J. F. Dugan, we transferred Edward L. Broadwater from our Sampling Department to the Geological Department on May 19th, his time being charged to the Walker Mining Company. We have been coaching Broadwater in our methods of note-taking, posting, etc., and find that through his previous employment as a sampler, he has learned to do our type of work in good shape. Following a few days more of note-taking in the "Horsetail" mines and a review of details of keeping sampling records in the Chief Sampler's Office, we believe that we can release him next week, so that he can report to you for further instructions regarding his employment at the Walker Mine. As I understand it his initial base rate is to be the same as that received in Butte, namely, $170.00 per month subject to any bonuses which are being paid.

I think Broadwater will have no difficulty in mapping at Walker, and will be able to use his knowledge of sampling to the benefit of the operators at the mine. I reviewed with him the general geology of the Walker from the last set of maps which I posted in about 1923. However, the picture may be somewhat different now.

With kindest regards to you and Jack, I remain

Yours very truly,

MHC:KM

FORM 396 6-37 2M

WALKER MINING COMPANY

WALKERMINE

PLUMAS COUNTY, CALIFORNIA

L. F. BAYER, MANAGER

August 19, 1937

Mr. Reno H. Sales, Chief Geologist
Anaconda Copper Mining Company
Butte, Montana

Dear Sir:

I understand that you have returned from your trip abroad and thought you may be interested in seeing a sketch of develoment progress in our lower North Orebody, especially the extension of 1017 DN toward 712 Orebody. The last four monthly tabulations of our Available Ore Reserve are also enclosed to bring up to date the set I started sending you several months back.

1017 DN is still in the dark formation that contains an abundance of large epidote blotches, but is nearing the zone where mineralization should start in. Although we have done very little crosscutting along the way, it has been the main concern to get under 712 where we can crosscut both the footwall and the hanging wall and locate a position to start a raise to the 700 level. The last few rounds in 1043B XCE was in a slightly sheared formation that looks more favorable, but it may be the fact that it is nearing the faults.

966B and 944B Crosscuts have assured us a nice block of ore between them and the 700 level where the vein was followed with 761 DN. The copper contents is not so high, but the gold should run at least 0.06 Oz per ton. 920 and 920A Stopes are producing from this block.

The 900 level and 800 level drifts of Piute are being extended north and south. The 800 level looks good and is holding up to grade, especially north of the winze, where the ore is about 30 feet thick. The 900 level is not so encouraging, but looks best in the North heading. Here the last 50 feet indicates

a fair block of ground up to the 800 level.

The Shaft is about 120 feet below the 1100 level and is in the dark crystaline schist. The last 25 feet has shown stringers of fair ore along the hanging wall, that appear to be the edge of the mineralization that follows the faulting from the 1000 level on through the 1100 level.

The Diamond Drill question has not been agreed on as yet but I still have hope of seeing one purchased.

Respectfully yours,

Seth K Dorlay.

SKD
W

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F. 512 1-15-37 2M

INTERNATIONAL SMELTING AND REFINING CO.

ANACONDA
from mine to consumer

GEOLOGICAL DEPARTMENT
KEARNS BUILDING

TOM LYON

SALT LAKE CITY, UTAH

August 24, 1937

Mr. Tom Lyon

O f f i c e s

Subject:

WALKER MINE

Development

Dear Sir:

As per your instructions I visited the Walker mine during the first week of August. The following report summarizes the present conditions as regards development work and maintenance of ore reserves at this mine.

Development work at the Walker mine, which had been lagging behind the necessary amount of work for some time, has picked up during the last two months and for the months of June and July amounted to 1100 feet and 1348 feet per month respectively. As a result the month of July was the first month to show an increase in the available ore reserves between the first and last of the month. This was due to the pushing of development work on the 800 and 900 levels in the Piute ore body and to the completion of the 761 drift in the footwall vein of the north ore body. The above development program led to an increase in the available ore reserves of the Piute ore body and led to the addition of a large tonnage of ore (100,000 tons) in the footwall vein at the south end of the north ore body, west of blocks 820 and 920. The presence of a wide low-grade (1% copper, 0.05 oz. gold, 0.75 oz. silver) vein in this area has been proven and doubtless some large stopes with low mining costs, such as 720 stope, can be opened up here. These will serve to help replace the similar large low-grade stopes in the Piute ore body which have been providing a large part of the recent production from the mine but which will be largely exhausted within the next few months. The larger portion of the ore produced from the mine during the last two months has come from the

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Piute ore body above the 700 level and from the North ore body below the 700 level. New stopes are being opened up in the latter area (920, 930 and 1040 stopes) to replace those being mined but, as mentioned above, in the Piute area above the 700 the reserves are being rather rapidly depleted. The total reserves of available ore as of August first amount to about 1,327,000 tons, according to Mr. Droubay's report, of which about 550,000 tons are located above the 700 level and 750,000 tons are below the main tunnel. At present time about one-third of the tonnage produced, or about 450 tons per day, are being hoisted from the lower levels. As the reserves of readily accessible ore above the 700 are depleted an increasingly large percentage of the production is going to have to be hoisted. This will require enlarged and improved hoisting facilities as the present capacity for hoisting ore to the 700 level is only about 750 tons per day.

The most important development projects now being carried on are the 1017 drift north, the 1082 winze below the 1100 level, and both the 800 and 900 level drifts in the Piute ore body. The 1017 drift north has just reached the downward projection of the 712 ore body, assuming a southerly rake to the south edge of the ore body. If the rake below the 700 is directly down the direction of dip however, the south end of the ore will still lie about 350 feet ahead of the face. The 1017 drift is now being driven on line and about 150 feet west of the projection of the hanging wall vein of the 712 ore body on the 700 level. No crosscutting to either the hanging wall or footwall faults has been done for a distance of 900 feet along the drift. 1043 crosscut still lacks about 75 feet of reaching the hanging wall fault and should be completed. The country rock of 1017 drift north of the north ore body has consisted of massive finely-crystalline hornfels with many spots of epidote and is similar to some of the rock found on the footwall of the ore bodies on the 700 level. 1043 crosscut east has passed out of the massive epidote hornfels however about 75 feet east of the hanging wall

fault and in the face shows more schistose country rock with some scattered chalcopyrite. Thus it appears that the mineralization in this area may have followed the east fault zone to the east of the massive hornfels and further prospecting to the main hanging wall fault zone is most advisable. Diamond drill prospecting along the 1017 drift would give much quick and valuable information in this area between the north and 712 ore bodies and possibly save much expensive crosscutting here.

1082 winze shaft had reached a depth on August 5th of 106 feet below the 1100 level. It is planned to continue sinking to the 1200 level where sump and station will be cut. If the north and central ore bodies are found to extend down to this level this will be the next main haulage and operating level. However it is believed that before extensive exploration is carried on here it would be strongly advisable to develop the ore zone on the 1100 level. It now appears probable that the Piute ore body may have decreased in size and strength quite abruptly between the 800 and 900 levels and should the central and north ore bodies show similar changes below the 1000 level (which it is not predicted that they will do but which is quitepossible) exploration and development work in the 1100 level, prior to exploration on the 1200 would be most advisable and might save considerable expense in carrying on the work at the lower elevations.

On the 1100 level the vein under the fault as exposed on the station shows a width of 25 feet averaging 0.98 per cent ore. The crosscut into the hanging wall was stopped at a distance of 70 feet beyond the fault but still shows some mineralization in the face. This crosscut should be driven further to determine if any of the lode still exists further in the hanging wall of the steep fault just east of the shaft.

On the lower levels in the Piute ore body the drifts north and south have opened up ore for a distance of over 600 feet. 886 drift south after passing through a low-grade area shows good ore again in the face. 887 drift north

continues in ore, the last 30 feet showing an average assay of 2 per cent copper. 801A crosscut has proven a width of over 30 feet of ore in the block north of the Piute shaft and has enlarged the ore reserves in block 815 from 29,000 tons of 2 per cent copper ore to 40,000 tons of 1.4 per cent copper ore. On the 900 level, 904 drift north has shown only low-grade mineralization for 180 feet north of the shaft , but shows much stronger mineralization in the face and is now in good ore. On neither the 800 nor 900 drifts north is there as yet any indication of the ore cutting off against a footwall fault which swings northeasterly, as happens at the north end of the 700 level. 903B drift south continues in low-grade mineralization, 965 raise showing 15 feet of one per cent ore. Thus the general aspect of this development indicates the possibility that the Piute ore shoot may rake to the north, and if the north drifts on the 800 and 900 levels continue to develop ore the short north drift on the 1000 level should be extended northerly beyond the present 800 and 900 levels.

In addition to the work now being carried on as above mentioned there are several other areas which offer opportunities for the development of important blocks of ore and where development work should be carried on as soon as feasible. These include the 517 ore body in the footwall of the 712 ore body; the 710 ore body (at the south end of 712) above the 500 level or between 605D stope and the surface; and the south end of the south ore body between the 700 and 1000 levels, including both the footwall and hanging wall veins. All of these areas offer opportunities for the development of important tonnages of new ore. Detailed recommendations for all this work will be made out in the near future.

The geological work at the Walker mine is being well handled under the direction of Mr. Droubay, who is working in close corporation with, and giving much valuable advice to the operating department. The development headings are mapped nearly every day and the valuable stope sections are posted up as soon as the

engineering measurements are available. Closer underground direction of the development headings by either the operating or geological departments is needed, however and closer check on the carrying out of geological recommendations is advisable. For the latter purpose the use of geological recommendation sheets is being resumed.

Respectfully submitted,

M. B. Kildale

MBK:P

M. B. Kildale

Aug. 25, 1937

Mr. Seth K. Droubay,
Walker Mining Company,
Walkermine, Calif.

My dear Droubay:

I was glad to have your letter of August 19th and the report, maps, and other information therein contained.

I have not had time to study this information, but as soon as I have done so I will write you further.

Yours very truly,

RHS:KM

Oct. 7, 1937.

Mr. Seth K. Droubay,
Walker Mining Company,
Walkermine, Calif.

Dear Droubay:

The ore reserve sheets you submitted with your last letter are in a slightly different form from previous sheets and they are rather puzzling. I assume the figures on the back of the sheets apply only to the columns of figures on the front side. Please tell me about these so I can determine what the reserve figures given mean.

Yours very truly,

RHS:KM

FORM 396 6-37 2M

WALKER MINING COMPANY

WALKERMINE

PLUMAS COUNTY, CALIFORNIA

L. F. BAYER, MANAGER

October 11, 1937

Walker Mine

Mr. Reno H. Sales, Chief Geologist
Anaconda Copper Mining Company
Butte, Montana

Dear Sir:

Please find enclosed the September 1st and October 1st tabulation of our Available Ore Reserve; also several Geoligical sketches that may be of interest to you.

In answer to your letter of October 7th, I will explain what the tabulated figures mean. The Reserve Sheets previous to March 1st did not include all of our Ore Blocks, but as copper advanced in price, I revised the Reserve to include all the reasonably assured ore that could be mined. The figures listed under "Prepared", represent the tonnages of Net Available Ore above our prepared stopes, that may be broken through the regular course of mining. Those listed under "Available" represent tonnages of Net Available Ore that are not prepared but are blocked out, each figure amounting to roughly one-half of the Gross Ore that would be listed in the corresponding block. The figures in the "Broken" column are tonnages of broken ore in the stopes.

Each month the breakage and the production of the stopes are taken from the Engineers reports and a new sheet is made up. Broken ore is subtracted from the "Prepared" figures, and the differences between breakage and production are added or subtracted from the broken ore. Newly developed ore is added and blocks that are prepared for mining are transferred. No attempt is made to account for the discrepancies that occur when a stope is finished. If more rock can be mined than I estimate, then additional tons are measured and added. If the estimate is too great, then any balance is dropped--to be included with pillars. The figures on the back of the

sheet refer to those on the front side and briefly account for any changes that have been made during the month. Assuming that nothing was written off or no stopes over-produced, the grand total shown on any one sheet should equal the grand total on the previous sheet less the production plus the ore developed. The increase or decrease figure represents any change in the grand total from the preceding month. The "Total Tons To Mill" figure is the Engineers total of all ore delivered to the Mill, including that from headings, over production from stopes and any odd tonnages taken from places not listed in the reserve. The three assays are for comparison. The one taken in the Mill should be the most accurate; the Production Assay is a weighted assay from the daily samples of chute and beadings taken from the Engineers report, while the Calculated Assay is weighted from the production tonnages and the corresponding Broken Ore assays that are shown on the sheet. Newly developed or transferred ore is also listed on the back. The Breakage and Production assays are the only ones that have not been corrected with factors that were worked out; namely.800 for Piute tonnages and .914 for tonnages in the rest of the mine. In other words, the sheet is an attempt to give a month to month picture of operations, showing if we are finding, preparing and breaking rock in the right proportions.

Although there is evidence of mineralization in 1043 and 1056 Crosscuts East as shown by the sketch of the North headings, as yet we have not encountered the extension of the 712 Orebody. The Crosscuts were driven in hopes that the ore would have a southerly rake or, that enough of the mineralization would be found to follow. We will continue driving 1043 XCE and 1017 DN and have stopped 1055 XCW. The lower levels of Piute are looking about the same. Both the 800 and 900 North Headings are out of ore, but neither have gone far enough to be sure we are to the end of the orebody. The rotten grey sheared schist in the end of the 800 level may be the same formation that is under the footwall fault on the 700, and may be a clue as to why the ore seems to have been ended. In Immediate association with this light grey sheared formation is a smooth, fine grained rock, resembling the dikes of the south end and the footwall of upper Piute, yet

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it may be an unsheared portion of the grey member. The south end of the 800 still looks good while the south 900 is still poor.

Respectfully yours,

Seth K Droubay.

SKD
W

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Oct. 27, 1937

Mr. Seth K. Droubay,
Walkermine, Calif.

My dear Droubay:

I am in receipt of your letter and reserve report dated Oct. 11th.

In connection with the Piute developments, it seems to me that we should undertake an exploratory drift in the Piute Vein northerly from the present north face of either the 800 or 900 level. As I recall it, the upper levels ran into oxidized ore as we were approaching the old north slope under a basalt covered surface. We should explore this vein northerly whenever we feel we are deep enough to get under cover under the old surface. I think possibly the records of the drilling done to the north by J. R. Walker and associates, would show us the elevation of the old surface.

I suggest the above development because the vein is still big and strong the last we see of it on these levels and there is a chance of a zone of enrichment below the old surface oxidization to the north, furthermore there is a chance of better primary ore in the vein, or at least a chance of a continuation of the Piute type of ore.

I do not know the present status of the Walker Mine operation. The above suggested development is subject to present conditions prevailing at the property as to allowable expenditures for development.

Yours very truly,

RENO H. SALES

RHS:KM
cc:Messrs. Bayer
Elton
Lyon

FORM 396 6-37 2M

WALKER MINING COMPANY

WALKERMINE

PLUMAS COUNTY, CALIFORNIA

L. F. BAYER, MANAGER

November 1, 1937

Mr. Reno H. Sales, Chief Geologist
Anaconda Copper Mining Co.
Butte, Montana

Dear Sir:

I am in receipt of your letter dated October 27th wherein you recommended prospecting north from the Piute Orebody. As it happened, I had just brought up to date a map showing the lava capping and drill holes so I am mailing you a print.

The map is interesting in that it shows how the drilling was done too far west to cut any extended Piute mineralization unless it turns sharply west.

We have received news that the mine is to be closed but no details are known. Several hundred men are getting their time today, and we are all more or less concerned over the outcome.

Respectfully yours,

Seth K Dradbury

SKD
W

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Nov. 4,1937.

Mr. Seth K. Droubay,
Walkermine,
Plumas County, Calif.

Dear Droubay:

I thank you for your letter of Nov. 1st, also the very interesting geological map covering the territory north of the Piute.

There is no doubt in my mind that this north country is well worth prospecting, and from your section it appears that the 900 would be a good level to extend for general exploration purposes.

I regret very much that Walker may be closed down in the near future.

Yours very truly,

RHS:KM

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November 8, 1937.

Mr. Frederick Laist, Vice President,
International Smelting & Refining Co.,
25 Broadway, New York City.

AIR MAIL
SPECIAL DELIVERY

Dear Mr. Laist:-

Subject: Walker Mine

On Thursday of last week Mr. Bayer made a proposal for operating the Walker mine at part capacity that I feel that I must put up to you. At first I was inclined to dismiss it without consideration. Tom Lyon felt the same way. After talking it over with Messrs. Young, Lyon and Dugan I felt it had enough merit to justify sending them to the mine to check up with Bayer. They spent Saturday and a part of Sunday at the mine; returning last night. I had each one of them write a memorandum , copies of which I am enclosing with this letter.

I am asking that you carefully read these memorandums before you pass judgment on the suggestion.

Considering the Walker mine by itself I feel sure that you will agree with me that it should be operated to produce 130,000 pounds of copper per month from ore that cannot be considered in the ore reserve. Please consider the following points:

1. There is a good chance of paying shut down expenses or that the monthly loss will be considerably less than if the property is shut down.

2. Many key men will be retained.

3. Repairs to both mine and mill will be kept up and the mine will be ready to resume operations without a large start up expense.

4. There will be considerably less hardship on the families who have in their winter wood and other supplies, and no place to go. Many of these families have all of their earthly possessions in camp with them and no cash on hand to get to another job.

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Mr. Laist --#2 11-8-37

5. Mine and mill supplies can be worked off and converted into cash or copper.

6. The amount of copper is small, 130,000 pounds, when considered as so much custom concentrates, amounting to less than 300 tons per month.

7. From the International Smelting & Refining Company's standpoint, would it not be better to loan the Walker Mining Company $9,600.00 per month for which copper will be on hand at a cost of 11.37¢ per pound, rather than to put up $6,000.00 per month and have nothing except a promise to pay?

After you have read this with the enclosed memorandums I would like to have you tell me what to do.

Yours very truly,

J. O. Elton.

JOE :S
Encs.

cc A.B. Young
Tom Lyon
J. F. Dugan

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November 8, 1937

Mr. J. O. Elton, Manager
OFFICES

Subject: Walker Mine

Dear Mr. Elton:

Messrs. Dugan and Lyon and myself have just returned from a trip to Walker Mine for the purpose of investigating the proposal of Mr. L. F. Bayer in connection with an alternative to complete shutdown of operations. Mr. Bayer's proposal is as follows:

That there be mined and milled per month 9,000 tons from the upper portions of the Piute ore body above the 700 level. In order to do this the wage scale to be paid miners is assumed to be $4.00 per day, the men to work seven days per week. The Fagergren section of the mill is to operate three to four days per week at full ball mill capacity for such section. The returnable copper produced from such an operation would be about 180,000 pounds per month. The attached sheets show a net cost of producing copper of 11.37¢ per pound, and a money outlay for Walker of $9600.00 per month for the next six months after crediting gold and silver and assuming no copper sold as against a shutdown expense of about $6000.00 given in Mr. Dugan's estimate to Mr. Laist of October 25th. Cash requirements for such an operation of approximately $9600.00 per month contemplate a withdrawal from supplies on hand of approximately $3000.00. This can be done, according to Mr. Bayer, for six months, after which more or less of these supplies will have to be purchased new, thus bringing the figure of $9600.00 gradually up to $12,600.00. The statements were made up and checked in our presence and the estimate for them appears reasonable.

The grade of ore as produced is assumed as follows: Copper .86%, silver .56 ounces and gold .037 ounces. The mill metallurgy is based on some recent actual runs on this type of ore on the Fagergren machines. I would not look for any difficulty in this regard. Mr. Lyon points out that the mining of this ore (the upper portion of the Piute ore body) will not in any way harmfully effect the future operations of the mine when it is opened up. However, there is a danger that if the mine is completely shut down for a period of a year a great deal of this ore will be lost and never be recovered. The mine assays given above reflect only about 75% of the actual assay of the reserves from this part of the mine, the 25% having been taken as a safety factor against dilution.

It should be remembered that in speaking of money requirements I have considered only the Walker Mining Company. From the standpoint of International Smelting & Refining Company the item of gold and silver value for a month amounting to $10,400.00 is also a cash requirement for the smelting company until such time as the blister copper produced is refined and the contained gold and silver released for sale, which is a matter of some 60 or 90 days.

In conclusion I should like to point out that although such a program would call for three to four thousand dollars a month more cash outlay for the Walker Mining Company it would have the following effects.

1. Create employment for 60 more men. These would be married men with families and include many key men.

2. It is done by the mining of ore that would probably be lost in the event of a shutdown and the withdrawal of which does not in any way hurt the mine or ore reserves.

It is my belief that the figures set forth herewith are reasonably accurate. However, if the program were adopted and it were shown that the Walker management could not achieve these figures within the limits of reasonable accuracy, I would recommend that the mine be shut down without further ado.

Yours very truly,

A. M. YOUNG
Assistant Manager

AMY/B
cc Messrs. Dugan
Lyon

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November 8, 1937

Mr. J. O. Elton, Manager
International Smelting and Refining Company
O f f i c e s

Walker

Dear Sir:

Pursuant to your request I visited the Walker mine Saturday, November 5th to find out whether or not the mining of 300 tons of ore per day would in any way jeopardize the operations when mining is resumed on a large scale.

The area from which it is expected to extract the ore is the top portion of the southern end of the Piute ore body, as shown on the accompanying long section. You will note that the stopes in this area have reached a point a short distance below the outcrop. It is believed that after the Spring run-off a large portion of these backs will cave, in which case the ore now in the back of the stope, and the broken ore in the stope, will be so badly diluted that it will not be profitable to extract and mill it.

If part of the shut down expense could be eliminated by the mining of this ore, it would be in my opinion a good thing to do.

The operation recommended by Mr. Bayer will employ 78 men who will all be married men and whose families are now residing at the Walker. In many cases these men have spent their own money in the erection of houses and laying in the winter supplies and are now absolutely without capital to finance a search for work. If the mine could be kept open and employ these men, it would save a lot of suffering for themselves and families during the coming winter.

Very truly yours,

TL:P Negative of long section on file in blue print room

Tom Lyon

F. 512 1-15-37 2M

INTERNATIONAL SMELTING AND REFINING CO.

AIR MAIL

TOM LYON

GEOLOGICAL DEPARTMENT
KEARNS BUILDING

SALT LAKE CITY, UTAH

November 18, 1937

Mr. Reno H. Sales
The Biltmore Hotel
Los Angeles, California

Dear Reno:

We have been authorized to keep the Walker going on a break-even basis, mining about 300 tons a day from the upper portion of the Piute ore body. We also have authorization to continue leasing operations at the Delaware on a break-even basis. This is all the news that amounts to anything.

Very truly yours,

Tom Lyon

TL:P

FORM 396 6-37 2M

WALKER MINING COMPANY

WALKERMINE

PLUMAS COUNTY, CALIFORNIA

L. F. BAYER, MANAGER

November 29,1937

Wacker Mine

Mr. Reno H. Sales, Chief Geologist
Anaconda Copper Company
Butte, Montana

Dear Sir:

I have submitted the Annual Ore Reserves for Walker Mine dated Nov. 1, 1937, and you will no doubt receive a copy in the near future. I took into consideration the use of the term,"Available Ore", that has been misused in the last few tabulations and changed the headings so that they are not so misleading. I had hoped to talk over the whole set-up with Mr. Lyon and make more changes than I did, but the closing of the mine made rather a rushed job of out of it, and I had no chance to rebuild the thing as I would have liked to.

There are still several bad features about the Reserve that I hope to see corrected next time. The extraction figures do not include all ore from headings, and do not add up to the total tons delivered to the mill. Also, any dilution from wall rock through caving or poorly directed mining is credited to breakage and production, causing the block to over produce which makes it necessary to credit additional ore as developed. Also, ore that is lost in nonrecoverable pillars must be shown as written off, while any ore recovered above that which is estimated as recoverable must be placed in the column for developed ore. I suppose these headings should read,"Written Off or Lost in Pillars", and,"Developed or Pillars Recovered above Estimate".

The assay correction factors remain unchanged. Although you told me that assay results should not be adjusted to figures that are subject to a yearly change, the results worked out so well that I decided to leave them go and make all the changes at once.

They are milling about 300 tons per day from the upper Piute country. This ground is getting heavy so it is a case of getting all the ore possible before it caves.

I am enclosing the last tabulation af the Available Ore Reserve. The figures taken from this and shown at the bottom of the Annual Ore Reserve do not include broken ore.

Respectfully yours,

Seth K Droubay

S. K. Droubay

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Anaconda Copper Mining Company

25 Broadway
New York

December 7, 1937.

Walker Mine

Mr. Seth K. Droubay,
Walker Mining Company,
Walkermine, Plumas County,
California.

My dear Droubay:

I am in receipt of your letter of November 29th, together with your latest tabulation of the available ore reserve.

I will be interested later to discuss with Tom Lyon the annual ore reserve figures for November 1st.

Very truly yours,

Chief Geologist.

RHS:EB

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FORM 396 5-38 2M

WALKER MINING COMPANY

WALKERMINE

PLUMAS COUNTY, CALIFORNIA

L. F. BAYER, MANAGER

May 24, 1938

Mr. Reno H. Sales, Chief Geologist
Anaconda Copper Mining Company
Butte, Montana

Dear Sir:

Please find enclosed two Available Ore Reserve sheets, also sketches showing the North end of the Piute Orebody that may interest you.

The Reserve Sheets cover the six month period that we have operated on a curtailed basis, up to May 1, 1938. It was necessary to drop all tonnages that were listed above the 600 level South of the Piute Shaft, due to the stopes caving through to the surface. Also, it is questionable just how many of the 55,103 tons of 745 to 765 Recoverable Pillars will be available now that the country above has caved. It may be necessary to leave this rock to steady the ground while mining between the 700 and 800 levels if the 700-600 Sub-level Pillar is not considered strong enough.

The 600 level North of the Piute Shaft has been reopened and three sections of ground in the extreme North end are being mined. We have done a little exploratory work North from 683D Drift on the 600 level, to guide the stoping, and exposed the condition that seems to cut off the vein, or offset it to the East, which ever the case may be. The vein is light colored and quite chalky where not oxidized, and contains an abundance of Magnetite. It is very broken and oxidized where cut with 659E Drift but is more solid and shows little oxidation in the faces of 662E and 666E Drifts. It seems to show very little of the recrystalizing effect of the post mineral granite that is so pronounced

Prosecution Team Exhibit 1 - Page 332

farther South, especially in the South and Central Orebodies.

I examined the Diamond Drill Core from the holes drilled North of Piute, which give the location of the old surface under the lava. In making sections through these holes and considering an easterly trend of the vein, it appears that the lowest point of the sub-surface where the vein may out-crop would be near the 700 level rather than just above the 800 level as shown on the map I sent you last November 1st. Also, before any long range exploration work is carried out to the North, it may be wise to locate additional claims to the East where there is a possibility of an easterly trend causing the sub-surface out-crop to pass out of company property.

Respectfully yours,

Seth K Drouhay.

SKD/W

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ANACONDA COPPER MINING COMPANY

25 Broadway, New York

New York, N. Y.
June 8, 1938.

Mr. Seth K. Droubay,
Walker Mining Company,
Walkermine, California.

Walker

My dear Droubay:

This will acknowledge your letter of May 24 together with ore reserve sheets covering the six months period up to May 1, 1938.

I am glad you mention the northerly extension of the Walker ore zone and that you think it might be advisable to cover some of that area with lode locations. I feel quite sure, however, that you cannot make a legal mineral discovery in basalt which is the surface rock in that area. I think we would be compelled either to drift from one of our Piute levels or diamond drill from the surface.

In any case, will you please prepare a map covering that north end showing the possible position of the sub-basalt apex of the Walker vein, and indicate on the map what locations would be necessary to protect the subsurface apex, and the vein on its dip.

In this connection, I note in one of our old sets of maps that we will hit granite somewhere in this north Walker vein projection. If you have any ideas where the granite contact might be beneath the basalt, I wish you would indicate it on your map.

Please send a copy of your letter and map to Lyon at Salt Lake and address me at Butte as I expect to leave here within the week.

Yours very truly,

CHIEF GEOLOGIST.

RHS:F
CC: Tom Lyon

FORM 396 5-38 2M

WALKER MINING COMPANY

WALKERMINE

PLUMAS COUNTY, CALIFORNIA

L. F. BAYER, MANAGER

June 15, 1938

Walker Mining Co

Mr. Reno H. Sales, Chief Geologist
Anaconda Copper Mining Company
Butte, Montana

Dear Sir:

In answer to your letter of June 8, 1938 I am mailing to you and to Mr. Lyon a map showing the possible extension of the Walker vein with reference to our property lines.

The geology shown does not confirm exactly with that indicated on the photostatic print, but is taken from some of McLellans notes. He, apparently, took them during the survey. Just how far the underlying Granite extends toward Piute, it is hard to tell, but the two small outcrops encountered along the property lines indicate that it may come in quite far. In scouting this country, I have noted quite a number of these isolated exposures. McLellan also mapped some schist along the Granite contact in the area covered by the proposed new locations. I could not confirm this so did not show it.

The sub-surface seems to be around 6200 feet in elevation or the same as our 700 level. In giving the vein a N 20 Degree E trend, similar to that exposed on the 600 level, the sub-surface outcrop could be as indicated on the map. If this is the case it may be better to make the end lines normal to the strike of the vein as indicated with the penciled lines rather than as shown with the blue dotted lines.

Respectfully yours,

Seth K. Droubay

SKD
W

cc Tom Lyon

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Walker

July 6, 1938.

Mr. Seth K. Droubay,
Walker Mining Co.,
Walkermine, Calif.

Dear Droubay:

This will acknowledge your letter of June 13th, together with a tabulation showing Walker Mine ore reserves as of June 1, 1938, also a geological map showing the possible position of the Walker vein northerly from the Piute Mine workings. I will discuss the matter of extra locations with Lyon on my next trip to Salt Lake.

I am indeed pleased to learn thatthey have found some work for you with Stephens for the summer.

Yours very truly,

RHS:KM

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ANACONDA COPPER MINING COMPANY

RENO H. SALES, CHIEF GEOLOGIST
M. H. GIDEL, ASSISTANT CHIEF GEOLOGIST

ANACONDA
from mine to consumer
REG. U.S. PAT. OFF.

GEOLOGICAL DEPARTMENT

BUTTE, MONTANA

Aug. 5, 1938.

Mr. Tom Lyon,
820 Kearns Bldg.,
Salt Lake City, Utah.

Walker

Dear Tom:

I have just received from your office a letter from Mr. Kildale and a roll of maps prepared by him, including the following:

1. 200 scale geological set of prints of the Walker Mine.

2. Geological map and two cross-sections (prints) of the Rico District in Colorado.

3. Pencil tracing, sketch map (100 scale) showing relation of new orebody found in the Mountain View, to the Yankee Tunnel workings.

I have reviewed with Mr. Sales the twelve recommendations for proposed development in the Walker Mine, which we discussed a week ago. He tentatively approves of same, expressing some doubt, however, as to what success may be had in finding ore in several of the prospects. In this conclusion I think we also agree but feel that we should not overlook any possibilities of finding some new ore. Mr. Sales agrees that the long distance drill prospecting should be done while the mine is operating in the future, and particularly favors testing the downward projection of the best looking, or the North orebody below the 1000 level. Mr. Weed expects to review with Mr. Kelley the proposed plan of prospecting in the Walker Mine, in which case we will probably receive instructions later.

Please tell Mr. Kildale to send to this office the several maps and list of development projects for Tintic now being prepared for Mr. Weed, so that we can incorporate same with other data we are getting together here.

Thanking you and Mr. Kildale for the above mentioned maps, I remain

Yours very truly,

M. H. Gidel

M. H. GIDEL

MHG:KM

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ANACONDA COPPER MINING COMPANY

RENO H. SALES, CHIEF GEOLOGIST
M. H. GIDEL, ASSISTANT CHIEF GEOLOGIST

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GEOLOGICAL DEPARTMENT

BUTTE, MONTANA

Aug. 10, 1938.

Mr. Tom Lyon,
820 Kearns Bldg.,
Salt Lake City, Utah.

Dear Tom:

Mr. Gidel has handed me a memorandum dated July 22nd, covering certain recommendations for development in the Walker Mine.

I have gone over this list carefully and wish to make the following suggestions as to this program. I will take up the recommendations in order:

THIRD LEVEL.

I doubt the advisability of extending Drift 363-B northerly. It should not be done in any case without a thorough review of the information we now have on the 460 stope operation and on 363-B Drift itself. Unless 460 stope caved, I see no reason why it should not have continued up to above the Third Level. We should be reasonably sure that the 300 is not at or near the oxidized zone, in which case there might be little or no tonnage above that level. If a careful study of the record seems to justify the work, I will certainly approve it.

SIXTH LEVEL.

The continuation of 619 Drift southwesterly on the vein disclosed in 517-B Drift, is probably good prospecting. I have mapped 517-B Drift carefully and I seriously doubt whether the extension of 619 Drift will block out any ore. I got a very poor impression of that vein on the 500,

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but there is a chance that the 600 will be better, and, if it does show up favorably, the workings should be continued out into new country as long as there is something worth while to follow.

In any case, should the 619 find ore, a raise will be necessary to the 500 before a stope can be started.

SEVENTH LEVEL.

As to that first recommendation, I do not see why it would not be better to drift northerly on the ore streak shown in the east crosscut. If the vein is worth anything, the ore recovered might help to pay the expense of development. From my knowledge of the geology, I do not have much hope that this piece of work will find enough ore for a stope.

I cannot approve the second recommendation, because a drill hole was run crosscutting this same ground at a point less than 150 feet north of the proposed crosscut location. It found no ore. Furthermore, 6 sub-level drift followed the ore from the south until it became too low grade to justify further drifting.

I cannot see much chance for success in the next recommendation, which is a crosscut easterly from 712, 400 feet north of 706-A Winze, but the reported ore showing in Drill Hole No. 8 may be better than I think it is.

I agree that 765-A Drift southeasterly on the east branch of the Piute Vein is good prospecting. A crosscut drill hole farther to the south did not show up anything worth while, but I think we should have a working out into that hangingwall country somewhere in the 765-A Drift, which will enable us to really learn what happens to the Piute zone going south.

I have little or no hope that your last recommendation for the Seventh Level will find anything worth drifting on, but it will settle for

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all time whether or not there is a continuing branch northerly under the Piute workings.

EIGHTH LEVEL.

I agree that 818-A Drift should be continued northerly on the Piute Vein until the supposed fault is reached, and that if a cut-off is found the working should be extended through the fault. Because of the nearness of the oxidized zone, I cannot subscribe to a further search for the faulted end of the Piute Vein, if there be one, at the elevation of the 800. This exploratory work should be left for the 900, at which level, should the vein be found to extend northerly, we would be able to develop some tonnage, assuming the oxidized zone does not go lower than we anticipate. I feel that whatever we may do on the 800 north of the fault, we will have to duplicate anyhow at the 900.

TENTH LEVEL.

We are naturally forced to continue 1017 Lateral northerly with crosscuts at intervals, as suggested in your first recommendation for this level. I must say that the Tenth Level country thus far opened up in this 712 area has been extremely disappointing.

Your recommendation No. 2 for the Tenth Level is probably all right, but I do not see why a crosscut should be for more than 100 feet as a maximum.

In addition to the above recommendations, I would like to suggest another, which perhaps comes more nearly under the head of general development. I think we should plan to either drill into the footwall

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Mr. Tom Lyon---4 Aug. 10, 1938.

country under the above-mentioned 517-A and 619 drifts at the Tenth Level, or preferably extend 1055-B crosscut. This with the hopes that the southwest striking zone may have strength and that it might develop more favorably at greater depths. No doubt, the extension of 1017 Lateral plus the crosscuts therefrom, will keep the 1000 busy, but in such a case we should plan to do the drilling just suggested at any time we happen to have a diamond drill crew on the ground.

Yours very truly,

Reno H Sales

RHS:KM
cc:Messrs.Weed
Gidel
Dugan

ANACONDA COPPER MINING CO.

COPY

Aug. 17, 1938.

Mr. C. E. Weed,
Manager of Mines,
Building.

Dear Sir:

The development recommendations for the Walker Mine decided upon yesterday in the conference at which you, Mr. Gidel and myself were present, are listed below in order of preference:

(1) Eighth Level - Continue 818A Drift northerly on Piute Vein

(2) Eighth Level - Continue 886 Drift south on Piute Vein.

(3) Sixth Level - Continue 619 Drift southwest.

(4) Third Level - Continue 363B Drift northwesterly on Main Vein. This recommendation is subject to a further study of details and to conditions in 460 stope.

(5) Seventh Level- Drift northerly on vein disclosed in 743 Crosscut.

(6) Tenth Level - Continue 1017 Lateral 200 feet northwesterly on present course, then crosscut north 70° east through projection of 712 orebody.

Of the other recommendation in Gidel's memorandum of July 22nd, we eliminated the proposal to crosscut north 60° east from 712 Drift at a point 380 feet southeast of 706A Winze.

As to the remaining recommendations covered by Mr. Gidel's memorandum, these are to be carried out in order of convenience to the mine operation.

It is further suggested that at such time as the Ninth Level of the Piute is unwatered, Drift 904B North be extended in preference to the

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ANACONDA COPPER MINING CO.

COPY

Mr. C. E. Weed---2 Aug. 17, 1938.

proposed footwall crosscut, as given in Gidel's memorandum.

Yours very truly,

RENO H. SALES

RHS:KM
cc:Mr.T. Lyon

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INTER-DEPARTMENTAL CORRESPONDENCE

MINING DEPARTMENT

INTERNATIONAL SMELTING AND REFINING COMPANY

818 KEARNS BUILDING SALT LAKE CITY, UTAH

SUBJECT:

September 17th 1938.

WALKER MINING COMPANY

Mr. C. E. Weed, General Manager of Mines,
Anaconda Copper Mining Com any,
B u i l d i n g.

Dear Sir:

The following information was just telephoned to me by Mr. Beyer, Manager of Walker:

Regarding the Piute orebody development, the station pump has been installed on the 900 level and is now pumping.

Cleaning of the 800 level north and south of the shaft has been started. The 800 north drift has sloughed some, necessitating putting in a few sets of sill timber.

The crosscut south on the 700 level in the Piute area has been all cleaned up and track l yed.

Actual development work will be started on the 700 and 800 levels September 19th or 20th.

All pumping is being done on the night shift to take advantage of the off-peak period. Crushing and milling operations will be conducted on Sundays, to take advantage of a no-demand electric load on such days.

Yours very truly,

John F. Dugan.

JFD:S.

CC: Messrs. Elton,
Laist,
Sales,
Lyon,
Weed - N.Y.

F. 423 3-9-38 2M

INTER-DEPARTMENTAL CORRESPONDENCE

MINING DEPARTMENT

INTERNATIONAL SMELTING AND REFINING COMPANY

818 KEARNS BUILDING SALT LAKE CITY, UTAH

SUBJECT: September 23, 1938

Mr. C. E. Weed, General Manager of Mines,
Anaconda Copper Mining Co.,
25 Broadway,
New York City.

Dear Sir:

This is to advise you that actual development work was started yesterday, September 22, 1938, at the Walker mine.

Drilling was started in 886 D South in the Piute (Sales' recommendation No. 2).

They are also timbering in 886 D North, catching up a bad piece of ground which had sloughed during the shutdown, and as soon as completed drilling will be started on the North end (Sales' recommendation No. 1).

707E-D North from 743 XC has also been started (Sales recommendation No. 5).

I shall keep you closely advised as to progress made.

Yours very truly,

John F. Dugan

John F. Dugan.

JFD:H
cc: FL
JOE
RS
TL

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Salt Lake City, Utah

November 18, 1938

Walker

Mr. C. E. Weed
Room 1726
25 Broadway
New York City, N. Y.

Dear Sir:

I have discussed the Walker mine development situation with Lyon and Kildale. The following program is recommended with individual projects listed in order of their importance.

1- Explore the Walker vein zone northerly on the 1100 foot level. It is proposed that this work will be followed later by diamond drilling to test the vein at deeper levels.

2- From the Piute shaft extend the 900 level northerly into unexplored territory beneath the basalt covering. This project may mean upwards of a thousand feet of work, depending upon geological disclosures.

3- Continue 1017 drift northerly, supplemented by crosscutting, to prospect the downward continuation of the V18 ore body.

4- Continue the 800 Piute drifts northerly and southerly as at present. Should the Piute vein be terminated by a fault in the face of the north drift, further consideration should be given before prospecting is undertaken to recover the faulted segment. The distance the 800 south drift is to be extended will naturally depend upon the behavior of the vein as to strength and mineral character.

5- Continue 607 drift southerly to prospect the footwall branch.

In my opinion it is extremely important that the suggested 1100 and 900 developments be pushed. What is most needed at the Walker is a demonstration of the downward continuation of the Walker vein ore, or the development of additional ore on the Piute vein to the north in unexplored territory. Unless one of these projects is successful, the Walker mine is going to be in a bad way in the not distant future. It is therefore of extreme importance that the 900 and 1100 projects be gotten under way at the earliest possible date and

2- Mr. C. E. Weed November 19, 1958

continued to completion.

I will discuss these matters further with you upon my arrival in New York.

Yours very truly,

HHS:P

Reno. H. Sales

cc: Mr. Kelley
Mr. Elton
Mr. Lyon
Mr. Dugan

ANACONDA COPPER MINING COMPANY

25 BROADWAY

Office of the President

NEW YORK, November 28, 1938.

Mr. Reno H. Sales, Chief Geologist, Walker Mine

Anaconda Copper Mining Company,

B U I L D I N G.

Dear Reno:-

I am in receipt of a copy of your letter addressed to Mr. C. E. Weed, under date of November 18th, relative to the Walker Mine, and have noted contents thereof.

Very truly yours,

CFK/G

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FORM 396 3-31-37 2M

WALKER MINING COMPANY

WALKERMINE

PLUMAS COUNTY, CALIFORNIA

L. F. BAYER, MANAGER

December 5, 1938

Walker

Mr. Tom Lyon
Chief Geologist, Intnl. Smelting & Refining Co.
818 Kearns Building
Salt Lake City, Utah

Dear Tom:

The question of future ore for the Walker Mine has been discussed a good many times by all who are directly or indirectly concerned with the company. Now that the Piute Orebody above the 700 haulage level is nearly exhausted of available ore it is important, especially from an operating viewpoint, that serious consideration be given to this problem.

Although we list over 4,000,000 tons gross ore in our reserve statement as of November 1, 1937, and over 1,000,000 tons available ore in the monthly statement of June 1, 1938, it is questionable how much of this can be produced fast enough to keep the mill up to a desirable capacity.

Mr. Bayer and myself have talked the situation over a good many times and have checked the physical properties of each ore block separately. Being more or less directly responsible here on the property, we have tried to get an estimate of how far ahead the mill can be kept running at a satisfactory tonnage. Unless we have a generous downward extension of the 712 Orebody and a decided rake south to our Piute Orebody with depth, it means that we can measure the life of the mine. It will also mean that daily production tonnages will gradually become more difficult to obtain.

In the past there were the numerous large stopes of the Central and North Orebodies from which tonnages could be kept up, and the richer ore from the South and 712 Orebodies to hold up the grade. As these were depleted above the 700 level, the choice spots below were mined out and, up until about 1931, mill heads could be kept above 1.5% copper. About this time there was a decided drop in the grade of production. However, cheap mining costs in the large stopes, especially in the upper levels of Piute, which came in later, made it possible to keep running at a profit. Piute produced at about 1% copper, and with a better grade ore distributed throughout the rest of the mine, an approximate 1.25% copper head was kept during the year 1937.

We are now, for the first time, faced with the problem of supplying the majority of our production from below the 700 haulage level. The lower levels of Piute contain large tonnages of ore, but the vein is so flat that a slower method of mining must be used. Hoisting facilities are such that it is questionable whether we can, with production from these lower levels, replace the 600 to 800 tons per day that formerly came from above.

The Main Orebody becomes more narrow with depth, and the majority of the vein below the 800 level is messed up with the No. 1 hanging wall fault. With the exception of a few stopes that are being operated now, most of the more desirable blocks of ground have been produced.

This means that in the very near future all of our production will come from stopes that are not only lower in grade, but must be mined under more adverse conditions than was done in the past. Even by supplementing this with as much pillar robbing as possible, it will be expensive to maintain a desirable production figure. We are feeling the effects of this even now.

The only way to remedy the condition that is rapidly approaching is to be assured of enough ore below the 700 level to warrant spending money on adequate haulage and hoisting facilities. If this is not proven in the next few months with large tonnages under 712 Orebody and in the lower south end of the Piute Orebody, the next best chance will be to find it north of Piute, or below the 1000 level in the Main Orebody. If these prove unsuccessful we may be forced to lay out a plan whereby we take all that we can get from the mine and get out.

In talking over the question of exploration work below the 1000 foot level with Mr. Bayer we feel that, from a money viewpoint, as well as gathering advance information, a long hole diamond drill program, substituted for the near-future resumption of operations in sinking 1080A Winze and exploring along the 1200 foot level, would be much to the advantage of the company. To my knowledge this drilling can be contracted with holes up to 1200 feet in length at a total cost to us of less than $1.80 per foot, on a basis of a 5,000 foot minimum contract.

By spending about $17,000 on this drill program we could, within a few months' time, find out whether the vein exists on our 1200 and approximately 1600 foot levels. To gain this information by additional sinking of 1088A Winze and extending laterals north 1300 feet and south 300 feet along the 1200 and 1600 foot levels, and doing the necessary crosscutting, would cost us in the neighborhood of $190,000. The $17,000 would be worthwhile insurance on the larger amount.

In checking over the records of past diamond drilling carried out on properties of the Walker Mining Company, it is seen that this work has played an important part in the finding of ore, and has saved a great deal of expense by eliminating exploratory work that otherwise would have been done. In no case did a drill hole penetrate a later developed orebody without giving indications that the orebody existed. No holes have given inaccurate results.

The early surface holes Nos. 1 to 5 drilled through the upper part of the North Orebody and proved the extension of a known vein. Early tunnel holes Nos. 1 and 3 crosscut veins on which later work developed 750A stope and the stopes in the south end of the South Orebody. Surface hole G, drilled in 1926, located 17 feet of 4.12% copper ore, which resulted in the development of our 712 Orebody. Surface hole H cut the lower north end of the same orebody,

showing mineralized quartz up to 1.5% copper (estimated). In 1928 underground holes Nos. 15 and 16 drilled from the 712 orebody were responsible for developing the 705A hanging wall streak and the 517 footwall vein.

It may be said that out of the 34 holes drilled, totaling 17,223 feet, eleven gave positive results wherein actual veins were located. In addition to this there were many slightly mineralized zones located that will help guide future development, and much negative information that has saved many feet of drifting. The records of this drilling serve as a permanent and valuable guide for the company.

In considering the two solutions to the question of future ore for Walkermine the following basic cost estimates were compiled and may be used in estimating costs of exploration along or below the 1000 foot level.

Sinking 1082A Winze	$100.00 per ft. (minimum)
Large-size x-cuts and laterals 7x9	20.00 " " "
Small x-cuts 5x7	15.00 " " "
Diamond drilling first 500 feet	1.50 " " "
" " 500 to 600 feet	1.60 " "
" " 600 to 700 feet	1.70 " "
" " 700 to 800 feet	1.80 " "
" " 800 to 900 feet	1.90 " "
" " 900 to 1000 feet	2.00 " "
Diamond drilling, air, water and misc.	0.20 " "
Head room for drilling	150.00 per station

As crosscutting into the hanging wall is rather expensive, the cheapest way of proving up our vein below the 1000 level in our Main Orebody, would be to drill 6000 feet of drill holes from two common stations, involving 450 feet of 5x7 crosscutting. There would be a 300 foot crosscut out from the middle of our North Orebody, with two very steep 1000 foot holes and two flatter 500 foot holes fanned. The other four holes would be the same, drilled from a 150 foot extension of 1101 XCE. This is indicated as Set-up C on the maps, and is shown with green crayon. The exact strike and dip of such holes would have to be determined by additional sections. Such a drilling program would cost:

400 ft. crosscuts at $15 per foot	$6750
4000 ft. hole under 501 feet at $1.50 ft.	6000
2000 ft. hole over 500 feet	3600
6000 ft. hole at 20¢ per ft. for air and misc.	1200
2 stations	300
	$17850

Of course, more satisfactory positions for collaring holes could be obtained by additional crosscutting, as indicated on the maps. The long, steep holes could be substituted for more numerous short holes, or vice versa.

To drift along our 1200 level and obtain comparable information will cost:

Lateral north 1300 ft. at $20	$26000
Lateral south 300 ft. at $20	6000
Crosscuts north and south 900 ft. at $20	18000
Skip pockets on 1200 level	5000
	$55000

The same figure may be used for exploration on our 1600 foot level if 500 feet of shaft sinking at $100 per foot is added.

To explore 1200 foot level	$55000
To explore 1600 foot level	55000
Sinking 1082A Winze	50000
	$160000

The figures for drifting look rather high, but when waste disposal, pumping, and the congested condition of our hoisting facilities are taken into consideration they are not far off.

I trust that I have not been too presumptive in calling attention to a problem that should be solved.

Respectfully yours,

S. K. Droubay

S. K. Droubay

cc-Mr. Sales
cc-Mr. Dugan
cc-Mr. Bayer

F. 512 1-15-37 2M

INTERNATIONAL SMELTING AND REFINING CO.

AIR MAIL

GEOLOGICAL DEPARTMENT
KEARNS BUILDING

TOM LYON

SALT LAKE CITY, UTAH

December 8, 1938

Mr. Reno H. Sales
Room 1726
25 Broadway
New York City, N. Y.

Subject:

WALKER MINE

Dear Reno:

I am in receipt of a letter dated December 5 from Droubay at the Walker mine, a copy of which has been sent to both you and Mr. Dugan. Mr. Dugan is home sick with a severe cold and I haven't had a chance to discuss the situation with him.

In the first part of Mr. Droubay's letter he calls our attention to a number of facts of which we have been aware for a long time, and as you and I both know the chances of prolonging the life of the Walker mine lie in two places - first, at depth below the Central and North ore bodies, and second, the possible continuation of the vein zone north of the Piute.

Development below the 700 level in the Central and North ore bodies has always been the most difficult for this department to keep going as the operators always had some very good reason why this downward development should not be done. During the last period of operation both Mr. Elton and I used every effort to get the winze down below the 1000 level and finally succeeded in getting it deep enough so that development work could be done both to the north and south. The downward projection of the south end of the North ore body stopes on the 1000 level is approximately 600 feet south of the shaft and continues for a distance of from 600 to 700 feet.

Regarding the diamond drilling program, the drilling necessary to establish the ore bodies below the 1000 level will involve considerable time

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in addition to the expense. I believe that the time element is probably the most important in the operations at the Walker mine and that in order to keep the tonnage up to capacity, it will be necessary to develop ore very rapidly from now on. I am afraid that if drilling is done before the 1200 level is driven that a great deal of time will be lost. It appears to me that the ore body exposed on the 1000 should reach the 1200 level,although this is not an established fact. However, the 1200 drift can be driven to the north and reach the ore body probably in 600 feet. If the ore body exists on the 1200 and is drifted on, the material coming from the development work should be good enough for ore which would eliminate the necessity of handling waste from this level. As I see it, the first 600 feet will probably be the most costly and difficult to drive. This work should be started at once and pushed as rapidly as possible. The work to the north of the Piute should also be pushed as rapidly as possible. If drilling is contemplated, I believe that the 1200 level would be the level from which drilling to greater depth should be done.

Kildale and I have gone over the situation and we both feel that the 1200 level should be driven before any drilling campaign is started.

Regarding the extension of the 712 ore body to the 1000 level, I have always been very dubious about the existence of this ore body on the 1000 level; that is, I do not anticipate any ore of great importance at this location, and I believe that if necessary we should suspend operations on the 1000 level looking forthis ore body and drive the 1200 level instead.

Very truly yours,

Tom Lyon

TL:P
cc: Mr. Dugan
Mr. Bayer

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ANACONDA COPPER MINING COMPANY

Butte, Montana

Geological Department
RENO H. SALES, Chief Geologist
M. H. GIDEL, Asst. Chief Geologist

ANACONDA
from mine to consumer

AIR MAIL

New York, N. Y.
December 17, 1938.

Mr. Tom Lyon,

820 Kearns Building,

Salt Lake City, Utah.

Dear Tom:

We have considered the Walker Mine development proposals. For the present, we approve the hanging wall crosscut on the 1000 foot level to be driven from 1017 Drift at a point just to the north of coordinate 15800 and as indicated on Droubay's map in green color.

We think this work should be started immediately.

As to other development proposed by Droubay, this matter will be given further consideration. For the present, however, we do not approve of the work on or from the 1100 foot level as outlined by Droubay.

Very truly yours,

Reno H. Sales

RENO H. SALES

RHS:F
CC: Mr. C. E. Weed.

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