

FORM 477 4-12-24 1M

OFFICERS

J. R. WALKER
PRESIDENT
J. O. ELTON
VICE-PRESIDENT
J. B. WHITEHILL
SECY-TREAS.

WALKER MINING COMPANY

821 KEARNS BUILDING

DIRECTORS

J. R. WALKER
C. A. WALKER
J. O. ELTON
J. B. WHITEHILL
B. R. HOWELL

SALT LAKE CITY, UTAH,

March 25, 1929.

55
W 23-2

Mr. Frederick Laist, Gen. Met. Mgr.,
Anaconda Copper Mining Company,
Anaconda, Montana.

ACKNOWLEDGED WITHOUT
LAYING SAME WABLE BE CALLED
TO YOUR ATTENTION.

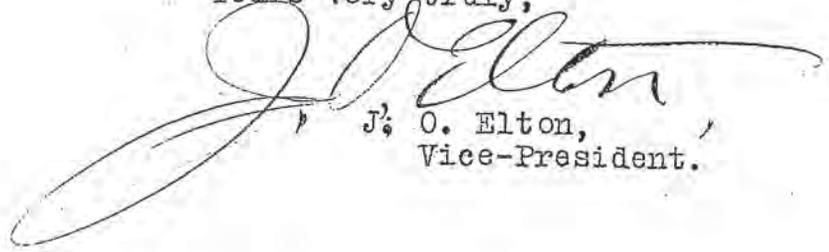
Dear Mr. Laist:

The enlargement at the Walker Mill has been authorized.

I count on leaving for the Walker Sunday afternoon March 31, and would like very much to have Mr. Morrow go out with me. I do not feel competent to pass on the general arrangement. Geisendorfer and McKenzie are making a lay-out which they think is the proper one to put in. If we can go out Sunday we would be there not later than Wednesday night, returning to Salt Lake at 4 o'clock P.M. on Thursday April 4.

I will appreciate it very much if you can spare Mr. Morrow because I need his advice.

Yours very truly,



J. O. Elton,
Vice-President.

JOE:VS

INTERNATIONAL SMELTING COMPANY

ANACONDA, MONTANA
April 6th, 1929.

FREDERICK LAIST
GENERAL METALLURGICAL MANAGER

Mr. J. O. Elton, Manager,
International Smelting Company,
Kearns Building,
Salt Lake City, Utah.

Dear Jim:

Morrow was just telling me about his trip to the Walker. I told him that it was perfectly all right with me to secure the increased capacity by crowding the flotation machines closer together.

From what he tells me, you prefer this and MacKenzie says the work can be done without appreciable loss of production, which was my principal objection to the proposal. He also tells me that the motors have been ordered in order to take advantage of low prices.

By the way, please let me know if you think it would be advisable to switch from Chief Consolidated into Walker. Chief Consolidated doesn't seem to be giving a very good account of itself.

With kind personal regards, I remain

Yours very truly,

FL/LV

July 29, 1929

Mr. D. D. MacLellan
Walker Mining Company
Spring Garden, Calif.

Subject:
WALKER MINE

Dear Mac:

Enclosed you will find some notes on the 700 Walker which were overlooked at the time the field notes were sent to you.

Murphy tells me that you suggested that 100 scale geological maps would be better than 50 scale for your purpose there. I had in mind 50 scale maps because there was a set nearly made and it would save you the trouble of making a new set. However if you think 100 scale maps will be more suitable go ahead and use your own judgment.

I would like to have you write me a letter at least once a month regarding the work you are doing on the surface and outside properties so that I can keep in touch with the situation.

Kindest personal regards,

Very truly yours,

T.L.P.

Tom Lyon

Encl.

February 26, 1930

Mr. D. D. MacLellan
Walker Mine
Spring Garden, Calif.

Subject

WALKER MINE

Dear Mac:

I am sending you two copies of a long section showing the probable, possible and positive ore in the Piute ore body as of July 1, 1929. These were made by Mr. Arietta for me to be used for income tax purposes.

Mr. VanEllis, who is handling the matter in New York, thinks that it would be well to have this information brought up to date as of January 1, 1930, and also have the 712 ore body calculated in the same manner as of January 1, 1930.

There is also a summary of expenditures incurred for the development of the Piute ore body. Please bring this up to date and also get a statement like this for the 712 ore body.

I would like for you to let me have this as soon as possible.

With kindest personal regards,

Very truly yours,

TL:P

Tom Lyon

Encl.

23

Calif

July 21, 1930

Mr. Jack Walbloom, Supt.
Walker Mining Company
Spring Garden, Calif.

Dear Jack:

This will introduce Mr. William E. Young, the man I spoke to you about during my recent trip to the mine. Mr. Young will be glad to have a job underground until something better shows up.

With kindest personal regards,

Very truly yours,

TL:P

Tom Lyon

September 8, 1950

Mr. D. D. MacLellan
Walker Mining Company
Spring Garden, Calif.

Dear Mac:

Mr. Geisendorfer was just in my office and would like to have you make a cross section through the north end of the 745 stope, giving the projection of the vein recently developed on the 600 level. He believes that the drift from the north end of the stope did not go far enough to reach the ore found on the 600. A pencil sketch on tracing paper will answer this purpose. Kindly let us have this information as soon as possible.

With kindest personal regards,

Very truly yours,

TL:P

Tom Lyon

Salt Lake City, Utah

October 8, 1930

Mr. J. G. Eiten, Manager
International Smelting Company
Offices

Subject:

WALKER MINE

Dear Sir:

As a result of my trip to the Walker mine last week, I beg to make the following recommendations covering the activities of the geologists, engineers and samplers:

ORGANIZATION

All geological, engineering and sampling work should be put under one head, following the system in vogue in Butte. This will provide a definite and orderly control of all surveying, map-making, sampling, etc., with the responsibility squarely placed on the head of the chief geologist-engineer.

D. D. MacLellan, present geologist at the mine, should be tried out in the position of chief geologist-engineer. Would suggest his salary be fixed at \$300 per month.

Samplers should be technically trained men wherever possible, put on a monthly basis at the rate of \$150 per month.

2- Mr. J. O. Elton

October 8, 1930

Subject: WALKER MINEORE RESERVES

Because of the substantial drop in metal prices, the Walker reserves should be immediately revised, to determine,

1- The amount of reserve actually above working levels, available under prevailing copper prices.

2- Establish an "available" ore reserve minable under present prices and set aside as too low grade to mine all blocks of ore now included in the Walker ore reserve but which should not be mined under 11¢ copper, including probable ore for 50 feet above drifts, where not actually developed by raises. Add ore above 50 foot limit as rapidly as raise advances above 50 foot limit. Do not include any ore under sills as probable ore. This ore should be added to ore reserve only as developed by drifts and raises as outlined above.

The above (1) and (2) are for operating purposes only. Estimates of developed, probable and possible should be made annually as in the past.

3- It might be well to further divide the available ore reserve under two heads,

(1) Prepared ore. Where sub-levels and finger raises were completed and mining ready to start.

(2) Ore reserve, not prepared for mining. Only drifts and raises in ore.

4- The "ton for ton" plan used in Butte should there be put into effect, that is, the amount of cross-cutting, drifting, raising and preparation work to be carried out daily under ordinary operating conditions should be sufficient to find, develop and prepare for mining, a ton of ore for every ton of ore mined.

3- Mr. J. O. Elton

October 8, 1930

Subject: WALKER MINE

The laying out of prospecting work to find new ore, together with the estimates of the amount of drifting and raising in veins necessary to maintain the ore reserve under the "ton for ton" program, should be done by the geologist.

Under the above plan the mine will maintain its ore reserve, always in sufficient amount, with enough of it prepared for mining, to assure production at whatever rate desired, provided of course, that the ore body does not fail.

5- Stopes breakage should be measured regularly by engineers and samplers, in order that a close check be maintained on ore breakage and broken ore remaining in stopes.

Very truly yours,

MIS:P

23

October 10, 1930

Mr. J. O. Elton, Manager
International Smelting Company
Offices

Subject:

WALKER MINE

Dear Sir:

We have gone over mine development plans at the Walker, and desire to make the following recommendations:

- 1- Complete 706-A shaft to the 1000 level, then continue same to the 1100 level and drift north and south on vein.
- 2- Extend 1017 north on lines as a lateral to the North and 712 ore bodies and crosscut vein at intervals, to be determined as work proceeds.
- 3- Open up 10th level on Piute ore body from Piute winze.
- 4- Continue sinking Piute incline shaft.

We think the above suggested developments are of major importance and should be continued as far as possible without interruption. It might be advisable to continue 706-A shaft to the 1200 level instead of stopping at the 1100.

We feel that it is extremely important to determine, as early as possible, the behavior of these various ore bodies at depth, and particularly in view of the serious consideration now being given to driving a tunnel from the Five Bears property on the Genessee Valley side.

It is very evident that there is not enough ore in sight or indicated to justify the Five Bears tunnel project. The construction of this tunnel will take three years or more, which makes it necessary to start in on a

2- Mr. J. O. Elton

October 10, 1930

Subject: WALKER MINE

program of getting advanced information concerning the downward persistence of the ore bodies, and it will be necessary to develop the veins far in advance of what is needed in the ordinary course of mining.

The detail as to the point of starting and course of the 1017 drift north is a matter for further consideration.

Very truly yours,

RHS:P

Cathy

23

Oct. 15, 1930

Mr. J. O. Elton,
820 Kearns Bldg.,
Salt Lake City, Utah.

Dear Sir:

I have had prepared a set of maps covering the Walker Mine, which I think will make clear to you the geographic relation between the present Walker mine workings and the various deep tunnel sites on the Genessee Valley side of the Walker Mine area.

In this set of maps each sheet indicates a certain level in the mine. The Piute winze has been projected downward and the projected position of the winze shown on the various level sheets. The crosscut distances to possible tunnel sites at the various level elevations are indicated. The contour line shown on each sheet represents the intersection of a horizontal plane drawn through the working level elevation with the surface.

It is readily apparent that the Ward Creek Canyon presents the best point for a tunnel to the Piute workings. The distance from Ward Creek Canyon is not only shorter, but the crosscut from this Canyon will cut through the better formations, that is, formations in which we are most likely

Mr. J. O. Elton---2

Oct. 15, 1930.

to find ore.

It is evident that a crosscut tunnel from the Five Bears property will be a two or three years job. I have already indicated to you in a former letter that the Walker ore reserve is not sufficient to justify the expense of this tunnel. It is very important, therefore, that the developments suggested be carried on as rapidly as possible, in order that we may learn at the earliest possible date whether the Walker ore bodies are promising enough at depth to justify the Five Bears tunnel.

Yours very truly,

RENO H. SALES

RHS:KM
CC: Mr. T. Lyon ✓

22

Nov. 5, 1950

Mr. H. A. Geisendorfer, Manager,
Walker Mining Company,
Spring Garden, Calif.

Dear Sir:

Mr. Strandberg has accepted the offer I
made to him to be Engineer at the Walker Mine at
a salary rate of \$250.00 per month.

He is free to leave Butte at any time.
Please advise me when you want him to leave for
Walker.

Yours very truly,

RENO H. SALES

RHS:XM

CC: Mr. J. O. E.

Mr. T. L. ✓

WALKER MINING COMPANY

SPRING GARDEN

PLUMAS COUNTY, CALIFORNIA

November 15, 1930

H. A. GEISENDORFER, MANAGER

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

Dear Mr. Sales:

I have your letters of the 5th, -- the one stating that Mr. Strandberg's salary would be \$250.00 per month, the other that you had received my letter calling attention to certain gold properties in California.

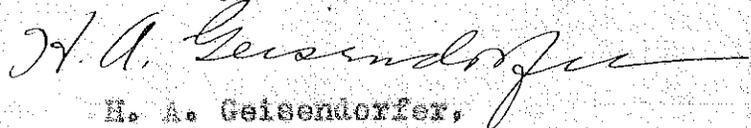
Mr. Strandberg arrived last night and seems to like the place and he, in turn, sizes up very good.

Mr. Ellis is rather up in the air about leaving before he receives a letter from you regarding a job at Butte but his letter will probably be along any day now. He is free to leave on the 16th.

Mr. Arrieta is also leaving in a few days.

With best wishes,

Sincerely,



H. A. Geisendorfer,
Manager.

HAG:G
CC-J.C.B.
P.L. —

Sacramento, California
December 16, 1930

Mr. Fred Standberg
Walker Mining Company
Walkermine, California

Dear Stran:

Yesterday I mailed notifications to both Atkinson and Daly that their services would not be required by the Walker Mining Company after December 31, 1930.

Beginning with the first of the year, you will be responsible for the stope measurement as well as for that of the development. How you will take care of this work is, of course, entirely up to you; one way would be to delegate the stopes to Peterson, who as first helper will get the same pay, \$175.00 per month, that Atkinson has been getting. Pete could for that matter take over all of the stope engineer's duties and responsibilities excepting the title "stope engineer", which, I believe, we should let lapse. That high-sounding title somehow gave Atkinson the idea that he was the head of an independent department, and quite the equal of the chief engineer. Hence most of the trouble which he made for Arrieta. So, to avoid similar ambiguity in the future, the position which shall rank next to yours in authority shall be known by some such title as senior, or first, helper, which will immediately imply subordination to the chief engineer.

Beginning with the first of the year, then, we shall try to run the department with only three men, yourself and two helpers; who the helpers shall be will always be left entirely up to you - since you are to be responsible for the surveying and mapping, you shall be allowed to choose whomsoever you wish to help you do the work. The helpers, likewise, shall be responsible to you only. Seeing that they are now on our pay-roll, however, you might as well try Peterson and Young as helpers, unless either one has already shown an unfitness for his work. To do all of this work with three men will require that the helpers be good men, who will not require much coaxing or watching. I believe that you will find that for the first few weeks, Young will have to be shown a very great deal; I also believe, however, that you will find him apt and very willing, and a nice man to work with.

I believe it would be advisable to have Pete do as much work as possible with Atkinson before he leaves, in order that he, Pete, be given a chance to familiarize himself with the control points in the stopes, etc.

Regarding Atkinson and Daly, they may now begin to lay down, seeing that they are losing their jobs anyway at the end of the year; if they do fire them at once, paying them only for such time as they have actually worked. I have warned Atkinson already, and he does not deserve to be babied any further.

I expect to be back at the mine later this week, although I am not staging the quick comeback which I had hoped I would on coming here.

In the meantime, should you really want to get in touch with me, wire me collect at the Travelers Hotel, Sacramento.

With best wishes and kindest personal regards, I remain,

Yours sincerely,

D. D. MacLellan

Dear Tom:

I had a touch of the Flu, and on the mine doctor's advice came down here to help break it up.

As you see by the enclosed letter I am letting the Russian Atkinson go, and am going to try running the department with 3 ^{instead of 7} men. We had the lawyers take Atkinson's deposition in S.F. so that he cannot do us any harm now.

As Geisy is at times somewhat given to misunderstand, maybe it would be as well if he did not know that I am sending you a copy of Straubing's letter. He also is getting a copy.

I expect to start for the mine in a couple of days or so. Feeling just about O.K. Shall write fully from there.

Yours
D.D.M.

Dec. 21, 1930

Mr. H. A. Geisendorfer, Mgr.,
816 Kearns Building,
Salt Lake City, Utah.

Dear Friend:

A few days ago I notified Atkinson and Daly that their services would not be required by the Walker after Dec. 31. I also notified Strandberg that I wanted to try carrying on the work of the department in the future with only three men, instead of four, as formerly. My idea is to abolish the position of stope engineer, make Stran responsible for everything in engineering, surveying, and mapping, and give him two helpers for whose work he will be responsible. Of the two helpers, one will be over the other, and neither will have any one definite job, but should be ready to fit in at anything which the department may require. As it was before, the stope engineer had certain definite duties, and when these were discharged he went visiting. Being an "engineer" it was beneath his dignity to make prints of maps, or take inventory of broken ore, or do anything else except measure stopes and development. Helpers, on the other hand, have neither dignities nor set duties, but must do as they are told. Max Petersen and Bill Young naturally fall into the positions of first and second helpers respectively.

Regarding the position of first helper, I believe that it should be made somewhat desirable - that it should be

12/21/30

^{towards}
something which the second helper and the samplers would always aspire, and for which they would work. With this in view, I was wondering whether we could afford to start Petersen out at the beginning of the year at a monthly salary of \$175.00. The position of stop engineer, which we are now abolishing and the duties of which will pass to Petersen, has drawn \$175 per month up until the recent cut, since which it has drawn \$157.50 per month. Should we start Pete out with \$175 per month at the beginning of the year, it would be with the understanding that we were restoring the former salary in his case earlier than in those of the other members of the staff, so that were they later to have their former salaries restored, he would still continue to draw \$175.00. Personally, I believe that it would be wise to do this; Pete is doing very well, and Strandberg likes him.

If you have any objections to paying Pete this much will you please let me know.

Since you left camp I had a rather severe set-to with the flu; on Doc Lawler's advice, I went to Sacramento for a week, and am now back on the job, just about O.K. again.

I have not been underground yet since my return, but everything appears to be percolating normally. The weather is quite cool, but clear.

Please convey to your family, and accept for yourself, my best wishes for an old-fashioned Merry Christmas and a happy and prosperous New Year.

Sincerely Yours,

D. D. MacLellan

D. D. MacLellan.

BDMaL:C
CC-Tom Lyon.

Dear General Tom:

On account of having been off for 2 weeks am now swamped,

but shall write you tomorrow or the day after, at great length.

hope that the changes suggested herein go through. As the old order was Leisy's idea, he may object.

By cutting out one man in the engineering dept, even if we increase Peterson's pay by \$17.50 we save \$126.50 per month on salaries.

Everything O.K.

Mac

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December 24, 1930

Mr. D. D. MacLellan
Walker Mining Company
Spring Garden, Calif.

Dear Sir:

I have just received a copy of your letter to Geisendorfer regarding helpers salaries. In a matter of this kind, which is a direct reflection on the costs of the Walker Mining Company, Mr. Geisendorfer's O. K. will be necessary. I am perfectly willing that you should go ahead as you have planned providing it is all right with Mr. Geisendorfer.

I am very anxious to learn what has happened on the 1000 level. Please let me know in detail as soon as possible, and also write me frequently and keep me advised of anything new which may turn up.

With kindest personal regards and wishing you a Merry Christmas and prosperous New Year.

Very truly yours,

TL:P

Tom Lyon

WALKER MINING COMPANYSPRING GARDEN
PLUMAS COUNTY, CALIFORNIA

July 6, 1931

H. A. GEISENDORFER, MANAGER

Mr. Tom Lyon,
818 Kearns Building,
Salt Lake City, Utah.

Dear Friend Tom:

Geisy told me very confidentially yesterday that there was a strong likelihood that the Walker would shut down around the 15th of this month. In discussing who would be kept on in such a case, he mentioned Strandberg and myself, along with some 20 others. What I am now wondering is whether it would not be advisable, in case operations here were reduced to three or four development faces in the mine, to keep Stran and his two helpers, and keep up the current mapping and also finish all of the claim surveying in the north end. We have been working at those claims already, and have finished 26 of the 30 Shoshone claims which remained to be surveyed. There are about 30 Victor claims still to be surveyed. With our present crew of three men, and with the mine working at full capacity as at present, we could finish all the claim surveying about the first of October. There are at present five or six days in each month during which the surveyors haven't too much to do, so that some outside job such as claim surveying, which they could take up whenever they had leisure, would come in handy. In case of a partial shut-down, we would have much more time.

Geisy's idea always has been the hiring of a special

Mr. Tom Lyon - #2.

7/6/31

crew of five men and a cook, which would have to be transported out to camp, and be kept in supplies all summer. Since the new Genesee road has been opened, the crew could be on the claims one and a half hours after they left here, which is probably earlier than they could be had they walked from the nearest suitable camp ground.

Geisendorfer's son is in camp now; they created a job for him in the blacksmith shop. In the event of a partial shut-down Geisy may want me to place him into the engineering force -- as this will necessitate laying somebody else off. I believe that I will frankly tell him that I do not want to do that.

Regarding my own work here, it was my intention to remap the entire mine for the new set of geology maps, which, with the making of geologic sections will keep me quite busy for three or more months. However, I haven't any especial preference in the matter, although I would like to finish those maps.

There is a man named Milo Carlston who has worked a little while at Bingham whom Geisy fetched here a year ago, and whom I may have to lay off. He would like to get work somewhere else if he could. He asked me to inquire if there would be anything for him to do with you in the S.L. office. He has done some geologic work for Dick Hunt and some surveying at the Flin-Flon and elsewhere. He is about Farmin's age and married. He is not a bad sort at all, but would have to be

Mr. Tom Lyon - #3.

7/6/31

shown. If you can use him let me know. I told him that I did not think that there was much chance.

Everything goes normally.

With best regards,

Yours,



D. D. MacLellan.

DDMacL:G

Calif

July 11, 1931.

Mr. J. H. Cooper, Asst. to Mgr.,
Walker Mining Company,
Walkermine, Plumas Co., Calif.

Dear Cooper:

It has been decided to continue as we are now running, but to exercise every economy, and try to balance the budget as nearly as possible. Get together with McKenzie, and see if any saving can be effected anywhere along the line, also do the same with Jack Wallblom.

To effect a saving will recommend discontinuing the following development work until more prosperous times, in the order listed: 631 D Drift South, 595 A Crosscut West, 502 B Raise, 981 A Drift North, and 1047 A Drift North. As soon as 1017 Drift North is started with 2 shifts of four men each, close down work in 904 until 1017 D N is in ore, as it will be quite impossible to hoist both ore and waste through 703 at the same time.

All these headings need not be closed down at once, but as fast as these men are needed elsewhere, instead of hiring new men, close the working place above specified and use the men as needed instead of hiring new ones.

Lumber and pole contracts will continue as now, and work on dam and by-pass will also continue.

If deed to Sobrero ground and Proof of Labor have not yet been returned from Quincy, please call Mr. Culp, and when received fill in the four copies duplicating the original, and send the four copies and deed to Mr. Tom Lyon.

Hoping everything is going smoothly, and that you are feeling better.

With best wishes.

Sincerely,

H. A. Geisendorfer,
Gen. Supt. of Mines.

HAG:W

cc: D.D.Mac.

T. L. /

23

September 30, 1931

Mr. D. D. MacLellan
Walker Mining Company
Walkermine, California

Dear Mac:

I do not know whether you have ever had a letter from me outlining precisely what your duties are at the Walker mine. I am writing you now as a matter of record and to avoid any controversies as to just what you are expected to do. The instructions will be brief and anything not covered by this letter will have to be left to your judgment.

1- You will be directly responsible for the engineering work, which of course includes the underground records of tonnage broken, etc.

2- You will be responsible for the development work at the mine. Recommendations for the development shall be properly written and handed to the operators who will, of course, do the work as they are able.

When a drift is being run on any vein you will, of course, watch this drift, and if the drift is being run off the vein you will notify the Superintendent in writing. You will not, however, unless especially requested by the Superintendent, give the miners any directions, but take the matter up in the proper manner with the Superintendent, and he will be responsible for giving the necessary

2- Mr. D. D. MacLellan

September 30, 1931

directions to the miners.

Early this spring I believe I requested that a survey be made of the broken ore remaining in the mine. I presume that you have done some work on this problem. I want the survey completed within the shortest reasonable time. It may be necessary to re-measure the total excavations in the mine and deduct the amount of waste, of which I believe there is a record, to check the total amount of ore that has been broken since operations started. I would like to have the broken ore calculated from every possible angle so that a reasonably accurate estimate can be made.

You will instruct Strandberg to carefully watch the stopes for both over and under production and keep Mr. Cooper or Mr. Geisendorfer constantly advised as to this item; also to hand period and breakage reports to Mr. Cooper. If Mr. Cooper makes any adjustments along the line for over production, I am asking Mr. Geisendorfer to have him advise the engineering department what means he has used so that the production record may be accurately kept. You will also caution Strandberg that the stope measurements must be made as accurately as humanly possible. The engineering department will also be responsible for the ore and concentrate inventory at the end of each period, unless otherwise ordered by Mr. Geisendorfer.

With kindest personal regards,

Very truly yours,

TL:P

Tom Lyon

cc: Mr. Geisendorfer

December 9, 1931

Mr. D. D. MacLellan
Walker Mining Company
Walkermines, Calif.

Dear Mac:

I suppose you have been following the newspaper accounts of the attempt made by the copper producers to get together, and the negative results which were obtained.

I believe that during the next two weeks the Walker will be placed on a one-half time basis, in which case, of course, the overhead will have to be cut to some extent.

I have a big job here and can use you to advantage for the next few months, which will relieve the Walker to that extent. I wish you would prepare to leave the Walker about the first of the year. I want you to tell Strandberg of this and have him take the geological notes in the few places which will be operating during your absence. He will be able to see the faces when they are fresh, and as you know observations are valuable at that time.

If you have not completed your broken ore reserve estimate by the time you leave, please have Strandberg complete it.

This is confidential information and I do not want it known by anyone except yourself and Strandberg until some public announcement is made by the management.

With kindest personal regards,

Very truly yours,

TL:P

Tom Lyon

Waltersville Calif. 22
Ja 28-32.

Mr Tom Lyon
Kearns Bldg.
Salt Lake City Utah.

Dear Tom:

Since Mac left the first of the year, I am uncertain as to what my territory here at the Walker includes. Who I am to be responsible to and what I am to be responsible for.

Our Asst to the Manager, has already taken over the directing of the Samplers. One sampler is leaving the first of Feb, and the plan is to get along with just one under the present contractment, which should work out O.K. providing he knows who to take his orders from.

Since the first of the year Max Petersen has taken on a rather non-chalant attitude about his work - Seems Geise told him that this cut was, not exactly a cut but more a part time arrangement, and if he wanted to take time off it was alright - well he came over here on a Saturday morning, jumped around for a bout a half hour, then went home, at noon I called him and told him he could either work full time, cause there is plenty to do, or get out, well he came back but since then has been sitting around with a chip on his shoulder, and will probably fall out soon as the roads open, providing that I am still here.

What I would just bring is to look in some one else, as a helper, and move Bill Young, who is a hundred percent man in Max's place. There are plenty technical men here who would I think be glad to get on a monthly basis.

As you probably know I am not satisfied here, about nine months prior to the time I came here, my wife left Butte for St-Paul because of the illness of her daughter, two months later her daughter died, and she remained with her folks in St Paul, all of this took what money I had and left me in debt, so we agreed to live apart for a while to get squared up, it was during this time that I agreed to come here for a period of six or eight months, and while the idea of living apart has never been satisfactory, we have carried on thinking that something definite would come of my remaining here.

My furniture is still in storage in Butte and is such that it would be out of place here, and I do not feel that I can afford to lose three thousand dollars worth of furniture, or set up another home here with things breaking as they are.

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The attitude of the management here is such that they don't want an engineer around, much less one from Butte, who when he comes here is only another dam Anacosta man to try to get rid of.

If the past year is an example of the conditions that I am supposed to work under then I do not want to continue with the Walkers, but will ask that I be transferred back to Butte, providing they will harm me.

If you feel that you can give me any information as to my status, or suggestions for my problem I would appreciate it.

I know that the conditions we are in must be considered - but I also feel that I am entitled to know what is expected of me. I want to co-operate with whatever is right so far as I can. I do not want to take any stand on matters here outside of my jurisdiction and find that I will not be backed up, later. so let me know is expected of me.

Very truly yours.

F. W. Dean Berg

January 20, 1932.

Mr. J. H. Cooper,
 Assistant to Manager,
 Spring Garden, California.

Dear Cooper:

The reports for third period have just been received, and I note in the last sentence in the first page, that 203 tons 2.67% copper for the ten-hundred, which according to the detailed report, should be 203 tons of 0.67. Will you please correct this on your sheets?

I understand that certain of the monthly men out there think, due to the cut, that they can lay off more than heretofore, but since the cut was only a 15% cut, and not a part time arrangement, I wish you would please post a notice to this effect at the office, as I understand some of the office men are taking the cut as a part time arrangement, which is not the case. You might tell Mr. Peterson that it is a straight cut, and not a part time arrangement.

As to the sampling, please leave that in the status in which it formally was with the engineering department, but tell Standberg that if one sampler cannot handle it, we will expect help from his engineering department.

Regarding the boardinghouse, I wish you would get coils installed in the furnace, and the extra hot water tank in the basement for heating water for dishwater, as soon as possible, so that the boarding house can cut their range down to one burner, and thereby save about 40% of the present oil consumption, and with the use of practically no more wood. Will you please get some action on this?

It has been snowing here now for practically a week and has been snowing all day. The roads around North Lily

Mr. Cooper - 2

January 30, 1932.

are blocked temporarily, so you can see the conditions here. I am wondering how much snow you are having there.

Hoping this finds you all O.K. and with best wishes.

Sincerely,

H. A. Geisendorfer,
Manager.

HAG:H

WALKER MINING COMPANY
SPRING GARDEN
PLUMAS COUNTY, CALIFORNIA

Feb. 5, 1932

H. A. GEISENDORFER, MANAGER

Mr. Tom Lyon,
808 Kearns Building,
Salt Lake City, Utah.

Dear Tom:

I want to get started on some new long sections for the Walker, and would like to know what you want from the geological end. Which would be the best scale to use, 50 or 100? From the standpoint of calculating ore reserves, would it be better to cut the orebody up so that the long section for a stope or group of stopes was oriented with the plane in which the underground notes are taken? If the long section is of no value in calculating ore reserves, but is only a record to show the area stoped we can make one plane fit the entire orebody.

Yours very truly,

F. W. Strandberg,
Chief Engineer.

FWS:G

February 6, 1932

Mr. F. W. Strandberg
Walker Mining Company
Walkermine, California

Dear Fred:

I have your letter of January 28th.

I have taken the matter of sampling up with Mr. Geisendorfer and I will quote you a paragraph of Mr. Geisendorfer's letter written to Mr. Cooper on January 30th - " As to sampling, please leave that in the status in which it formerly was with the engineering department, but tell Strandberg that if one sampler cannot handle it we will expect help from his engineering department."

I have also taken the matter up of part time work subsequent to the cut. In order that you may understand the situation, I will tell you something of the history of the salary reduction. It was first contemplated making a straight 25 per cent cut in salaries which would bring the total cut to 35 per cent. At the time that was discussed the opinion was that men receiving this big a cut would not be expected to work full time. Hunter and I both pointed out that regardless of the mine operation then contemplated, it would be necessary for both the engineering department and the accounting department to be on the job all of the time, so that instead of a straight 25 per cent cut, a 15 per cent cut was made. I am quoting another paragraph from Mr. Geisendorfer's letter to Mr. Cooper. "I understand that certain of the men out there think that due to the cut they can lay off more than

2- Mr. F. W. Strandberg

February 6, 1932

heretofore, but since the cut was only a 15 per cent cut and not a part time arrangement, I wish you would please post a notice to this effect at the office as I understand some of the office men are taking the cut as a part time arrangement, which is not the case. You might tell Mr. Peterson that this is a straight cut and not a part time arrangement."

Regarding the attitude of the men you have working for you, I wish to say that so far as I can see there is no reason why you should keep any many who does not do his work willingly and cheerfully. Of course, both you and I know that a high labor turnover in the engineering department during the past has been somewhat responsible for the records. However, it is a matter for your judgment as to how much time it is necessary to spend getting a man to do his work promptly.

The copper situation is terrible. We are not selling the metal that we are producing even at these low prices, and unless something happens during the next few months every copper mine in the United States will be down tight. In the face of these conditions it is hard to make any plans as to the future. If I were you, I would not go to the expense of moving your wife to the Walker until things straighten out as you know the Walker is a low grade property, and under present metal prices simply cannot make ends meet and may go down any time.

I would like to hear from you from time to time regarding things out there so that any misunderstandings you may have will be straightened out before any serious difficulty is encountered.

Kindest personal regards,

Very truly yours,

TL:P

Tom Lyon

March 8, 1932

Mr. J. O. Elton, Manager
International Smelting Company
Salt Lake City, Utah

Subject:

WALKER MINE

Dear Sir:

Regarding the status of the ore reserves and development at the Walker mine, I would like to call your attention to the fact that the bulk of the probable and possible ore included in our calculation for January 1, 1931 is located beneath the 700 level. This ore has not been developed as rapidly as it should have been, which of course is due to the drop in metal prices, making it necessary to curtail development. I presume that when the mine reopens the price of copper and the demand will be such that the mine can be operated at capacity. I wish to say that if these conditions come and the operation of the Walker mine at capacity is necessary, it will be very difficult because of our deficiency in lower level developments. If it is at all possible during the shut down I would like to see the 1000 level driven northerly under the North ore body and raise from that level through to the 700 as it is very important that this block of ground be in shape so that stopes may be opened rapidly.

The bulk of the ore reserve above the 7th level is in the Piute ore body which has been extensively stoped between the 6th and 7th levels. Due to the fact that this ore body is flat many more pillars will have to be left and the stoping operations cannot be expected to be carried on as rapidly

2- Mr. J. O. Elton

March 8, 1952

as though the ore body were more nearly vertical, consequently proportionately greater length of stopes will have to be operated to furnish an adequate tonnage. I wish to recommend that if there is any possible way of getting the above mentioned development work done while the mine is closed down, that it be done.

Very truly yours,

TL:P

Tom Lyon

Approved for Release by NSA on 05-08-2014 pursuant to E.O. 13526

March 12, 1932

Mr. Reno H. Balos
P. O. Box 26
Butte, Montana

Dear Reno:

Mr. Elton has just turned your letter of March 11th, regarding the Walker, over to me and asked me to advise you of my views on the matter.

I do not know whether or not you have a copy of the 1931 ore reserve calculations, consequently I am sending one from this office. If you have one, please return this copy. I am also sending a copy of recent long sections so that you can see what stoping has been done since the 1931 report. As Mr. Elton is leaving for the East Tuesday I will not have time to have these colored, consequently I am sending them as they are, but you can get a pretty good picture of what has happened to our ore reserves during the past year by comparison with the long sections in the report.

If you will recall that at the time we wanted the shaft of the Central Ore Body sunk to the 1000 and development to the northward from there, the operators pleaded that it was necessary to maintain their stopes in the Central Ore Body below the 700 in order to get their production, and that it was next to impossible to handle the ore and waste through that shaft.

If we await the reopening of the mine on the 1000 we will be limited to a small amount of work on account of handling both ore and waste and probably find ourselves tied up in a short time on account of the lack of development work on the 1000.

2- Mr. Reno H. Sales

March 12, 1932

I presume Mr. Elton has told you about the financial set-up of the company; also of the supplies which are now on hand and the necessity for keeping a small crew located at the mine. I can think of nothing better that they could do with the money that it is necessary to spend during the shut down period than to complete the development which I have outlined as I do not feel that the mine can go on a 100 per cent production and maintain it unless this work is done during the shut down. Also you know that when the mine opens the problem will be to get ore for sometime and the development work will follow along slowly and not reach its maximum until some six months after the mine has been reopened. It is also well to keep in mind that during the past three months we have operated on a curtailed basis so that no difficulty was experienced in maintaining the tonnage, but if we should attempt now to go into full production I do not believe we could do so economically as we simply have not the necessary stopes opened to do this efficiently.

I hope that this information will make things clear to you.

Very truly yours,

Tom Lyon

TL:P

Encls.

cc: Mr. Elton

ANACONDA COPPER MINING COMPANY

RENO H. SALES, CHIEF GEOLOGIST
F. A. LINFORTH, ASSISTANT CHIEF GEOLOGIST



BUTTE, MONTANA

GEOLOGICAL DEPARTMENT

March 14, 1932.

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

Dear Tom:

I am in receipt of your letter of March 12th, enclosing therein copy of the Walker ore reserves for January 1st, 1931. Naturally, I find we have a copy of the 1931 reserves. Your office copy will be returned.

Since I asked for the 1932 reserves, I assume such a report has not yet been made. Is a January 1st, 1932 report in progress?

I am advised by Strandberg that he was paid up to the time he left the Walker Mine. It seems to me that this is cutting things pretty fine on the part of the management of the Walker Mining Company. They should have at least included the time necessary for him to return to Butte. It strikes me that when the Anaconda Engineering Department releases one of its very best engineers for the benefit of the Walker Mining Company, the least that company could do would be to pay the man up to the time of his getting back in Butte. As a matter of fact, it would have been no less than fair for them to have paid him for the month of March. Even our action in taking him back rather than leaving him stranded at the Walker had no weight. It won't be difficult for me to keep this action of the Walker management in mind for future reference.

Yours very truly,

Reno H. Sales

RHS:KM

March 14, 1932.

Mr. J.O. Elton,
820 Kearns Bldg.,
Salt Lake City, Utah.

Dear Sir:

I am in receipt of a letter from Tom Lyon this morning, together with a copy of the Walker ore reserves and maps for Jan. 1, 1931.

There does not seem to me to be a question about the advisability of doing the development work suggested by Lyon. From the point of view of Walker management, it is largely a question of finance.

The important factors, as I see it, may be set forth as follows:

1. To get the mine ready for full production, for reasons set forth in Lyon's letter of March 8th.
2. As an additional reason this development would demonstrate the North ore body on the 1000 level, an important matter in connection with plans for the future.
3. It would give a proportionate return at least for shut-down expenses.

It has also occurred to me in this connection that if it be decided to allow the mine to fill with water to the 700 level, some useful development work could be done on intermediate levels above the 7th, to further prove important blocks of ore now classed in the ore reserve as "Probable and Possible". I have in mind the undeveloped ore blocks at the south end of the Piute ore shoot above the 600 level, the North ore body south of stopes 310, 410 and 510; and the relatively unexplored ore blocks in the 712 ore body above the 5th and 6th levels. There is also a small tonnage of possible and probable ore as yet unproved in what is known as the East Split of the 712 ore body, partially developed by Sub-level drift 611.

As I have above stated, there is no question from the point of view of mine operation and development, as to the advisability of doing the development work suggested during the shutdown period. It remains for the management to consider the proposition from the point of view of effect on the financial position of the Walker Company.

Yours very truly,

RHS:KM
CC:Mr. Tom Lyon
Mr J.O. Elton to N.Y.

RENO H. SALES

ANACONDA COPPER MINING COMPANY

RENO H. SALES, CHIEF GEOLOGIST
F. A. LINFORTH, ASSISTANT CHIEF GEOLOGIST



BUTTE, MONTANA

GEOLOGICAL DEPARTMENT

March 24, 1932.

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

Dear Tom:

Strandberg has turned in the expense account herewith enclosed, which I have approved. He returned in his automobile via Portland.

I assume that the Walker Mining Company paid Strandberg's expenses at the time he went from Butte to the mine. I am a little doubtful as to who should stand the expense of his return.

As far as I am concerned I am not going to debate very much about who should stand this expense account, but, as I wrote you before, I am not at all pleased that the Walker Mining Company should pay him only for the four days he worked in March and then turn him loose. They should have paid him at least to the time he arrived in Butte, or to March 15th. That was the least the Walker Mining Company could have done.

If they do not feel inclined to pay him beyond the 4th, it will probably be up to them to break in a new man when they start up again.

Please take this up with Elton when he returns. If I were sure that he had returned by this time, I would have addressed this letter to him.

Very truly yours,

Reno H. Sales

Encl.
RHS:KM

April 1, 1932

Mr. Reno H. Sales
P. O. Box 457
Butte, Montana

Dear Reno:

I have just taken up the Strandberg matter with Mr. Elton. He has approved the expense account and Mr. Hunter will mail Strandberg a check for that amount. Geisendorfer is out of town and Mr. Elton does not care to take the responsibility of the matter of pay after March 4th.

The Walker situation has been very unpleasant for me during the past year and I hope that if the mine is ever opened again we can get together on some common ground before the situation gets to a point where it was at the time of the shut down.

I am enclosing a newspaper clipping which does not look so hot to me.

Very truly yours,

Tom Lyon

TL:P
Encl.

Calif.

WALKER MINING COMPANY
WALKERMINE
PLUMAS COUNTY, CALIFORNIA

H. A. GEISENDORFER, MANAGER

July, 13, 1936.

Mr. Tom Lyon, Chief Geologist,
Walker Mining Company,
818 Kearns Building,
Salt Lake City, Utah.

Dear Sir:

The enclosed sheets show the geology for development work during the month of June. The maps are taken from the engineering department monthly report, so will show the same progress, and could be inked on the geology maps there. In case the engineers do not have a transit survey right up to date, I will show the Brunton extension with dotted lines.

I am also enclosing two additional recommendation sheets for your files.

Mr. Sales spent several days examining the mine and maps and seemed satisfied with the manner in which stoping and development work is being directed.

Respectfully yours,

Seth K. Droubay
Seth K. Droubay

SKD
m
Enc.

WALKER MINING COMPANY**WALKERMINE
PLUMAS COUNTY, CALIFORNIA**

L. F. BAYER, MANAGER

February 14, 1937

Mr. Reno H. Sales
Butte, Montana

Dear Sir:

Development work has carried on so slowly the past two months that I have not prepared any sketches for you during that time. There has been no work of special interest but the enclosed sheet will show what has been done on the 900 and 1000 levels. I have shown two raise sections that reveal the action of the faulting to some extent. A sheet showing the January 1st and February 1st additions to the available ore reserve is also enclosed.

Mr. Bayer felt that I should give the stopes more detailed attention so requested that I be given an assistant. Tom Lyon gave his approval so Bill Warren was transferred into the department. There is plenty of work for the two of us and I am sure that the change will be justified, and that Bill will be an asset to the department.

The two cross-cuts you requested to be driven on the 1000 level between the North Orebody and 706 Winze have been started, and will no doubt be completed in the near future. There has been very little advance in 706 Winze and as yet the hanging wall fault has not been cut on the 1100 level. Mr. Bayer wanted to know how this hanging wall fault was likely to be in relation to the ore between the 1100 & 1200 levels, and if this ground will support open stopes. He had anticipated developing the 1100 with small drifts using the 1200 level for haulage. I recommended that he see the results of the 1000 level cross-cuts and the action of the fault on the 1100 level before making up his mind definitely.

The breakage and production assays are still higher than our mill heads. Piute is producing about half of our ore and it is apparent that it runs closer to 1.00 % Cu than 1.30% Cu. However, the gold and silver content is good and the mining costs are low.

SKD
Encl.

Respectfully yours,

Seth K Droubay

AIR MAIL

Salt Lake City, Utah
March 5, 1937

Walker Mine

Mr. J. O. Elton
Room 1801
25 Broadway
New York City, N. Y.

Dear Jim:

On my way here I studied Droubay's ore reserve report on the Walker computed as of February 1, 1937. This report gives the reserve also as of January 1, 1937.

This ore reserve set-up shows that on January 1 the ore reserve amounted to 844,156 tons, divided as follows:

Prepared ore	303,193 tons
Broken ore	120,768 "
Reserve, but not prepared for mining	<u>420,200 "</u>
T o t a l	844,156 tons

During January 36,623 tons were produced.

The February 1 ore reserve shows:

Prepared ore	267,174 tons
Broken ore	131,750 "
Reserve, but not prepared for mining	<u>420,200 "</u>
T o t a l	819,115 tons

These figures show that on a production of 36,623 tons in one month, the net ore reserve decreased 25,043 tons, in other words there was not sufficient development to maintain a ton for ton development program.

Droubay's table also shows that of the 36,623 tons mined during January, 23,801 tons came from above the main haulage tunnel level.

At this rate I am not sure that the figures given cover all possible

2- Mr. J. O. Elton

March 5, 1937

ore to be expected from above the tunnel, but it is my impression that they do include most of it. According to the above figures, there was available for mining slightly less than 300,000 tons of ore in reserve above the tunnel level. At the January rate of 28,000 tons per month there would be approximately enough ore there to last one year.

I have given this matter some thought in view of your statement that you were considering adding to the Walker concentrator to increase its daily capacity to 2,000 tons per day. If I am correct in this matter of ore reserve figures, it is apparent that the present mill will practically exhaust the ore above the tunnel within another year.

As I see the Walker situation I very seriously doubt the advisability of spending money to increase the capacity lest the mine find itself within a comparatively short period with a condition where it will be impossible to produce ore enough even to fill the present mill for, it is doubtful that without production from above the tunnel level, the mine could be made to produce more than a thousand tons a day through present hoisting facilities.

It is my opinion that the Walker mine is woefully behind in development in the matter of ore reserves. The operation is going to be up against a situation where it will be hard pressed for ore even with present mill capacity, certainly it will be in a precarious position when the upper level ore reserve is exhausted.

The greatest need at the Walker mine, in my opinion, is a central underground hoisting plant of adequate capacity to supply the mill. With the grade of ore the mine has I see no reasonable chance that the property can be made to continue successful without a hoisting capacity from below the tunnel level that will insure high speed operations at a maximum mill capacity. I think it vastly more important that we spend money, if we have it to spend, preparing this property for future operations. There is no question in my

E. Mr. J. O. Elton

March 5, 1937

mind that if we speed up our mill capacity now we will find ourselves without adequate ore reserves and in a possible position where development work will have to be carried on on an operation running less than at mill capacity.

It is a serious question whether the showing below the tunnel level is good enough to justify a new central shaft and hoisting installation. If it is no time should be lost in completing such a shaft, and certainly if the shaft is not warranted the greatest possible effort should be put forth in developing the mine to a point where it is justified. It seems to me that a more rapid depletion of our present ore reserve will only put the mine in a worse predicament. It is well within the range of probability that by the time the mill extension is completed and gotten under way, the mine will be unable to produce the necessary tonnage for more than a relatively short period.

Very truly yours,

RWD:IP

cc:Mr.J.R.Hobbins
3/12/37.

WALKER MINING COMPANY

WALKERMINE
PLUMAS COUNTY, CALIFORNIA

613

March 9, 1937

L. F. BAYER, MANAGER

Mr. Tom Lyon, Chief Geologist
International Smelting
& Refining Company
Salt Lake City, Utah

Dear Sir:

Please find enclosed geological sketches for February development, a March 1st sheet for addition to the available ore reserve, also tables and long sections for preparing the 1937 Ore Reserve booklet.

Very little development work was done during February, but I am sure that this next month will show a decided change. Now that the company is on its feet again, Mr. Bayer has talked of starting all headings and raises that have promise of finding ore. He has asked me to plan a development program that will be similar to the system in vogue at Butte wherein a ton of ore will be found and prepared for every ton that is mined. I think that by tabulating the life of each prepared stope, and estimating the development required to prepare known orebodies, we will be able to work out something very practical. This can be carried in conjunction with monthly operating ore reserve sheet.

In regards to the Statement of Ore Reserves---Perhaps I have gone too far in trying to prepare a comprehensive estimate that is possible for the operating department to comply with, in regard to both tonnage and grade, but I have tried to make it into something with which we will not fool ourselves. I am not aware of what excuses will have to be made to the Stockholders and Directors, but from the experience of this past year, it looks as though it is better to be in a position to credit exploration work with the finding of new ore rather than make excuses for

Page #2

ore blocks that have failed to materialize after being fully explored. When large tonnages of high grade ore from the Central, North and 712 Orebodies were available, many lower grade stopes could be run for volume rather than grade without lowering the mill heads appreciably. Now that this better ore is gone, we must confine our stoping to closer limits and therefore measure our ore blocks accordingly. I trust that these changes will meet with your approval.

Our monthly reports show that there is quite a discrepancy between breakage, production and mill head assays. In the past, for practical purposes, production assays have been reduced by $12\frac{1}{2}\%$ to correct for the difference between these and the mill heads. Experience during the past year indicates that the error in Piute is greater than that of the rest of the mine, also, we have been fairly well assured that Piute has in reality, produced at about 1.00% Cu. rather than the anticipated 1.28% Cu. So with these figures in mind, a ratio is worked out wherein production assays are corrected to fit the mill heads:

Total tons to mill (1936) = 464,065 at 1.247% Cu. (Mill assay) and 1.460% Cu. (Production Assay).

Tonnage from Piute = 219,922 tons @ 1.00% Cu. (Actual).

Tonnage from the rest of the Mine = 244,143 tons @ 1.469% Cu. (Actual).

Production assay for Piute = 1.25% Cu. for rest of mine = 1.606% Cu.

Therefore $\frac{1.00}{1.25} = .800$ correction factor for Piute and $\frac{1.469}{1.609} = .914$ correction factor for the rest of the mine.

These factors have been applied to all assays as shown on the long sections but were not used directly in the cases of ore in place. Here, a re-calculated assay was made for each block and then corrected rather than just multiplying the pre-existing assay by its factor. In a good many cases the averages had previously been cut to some extent, so to guard against any possible double reductions, all blocks were re-checked.

Page #3

There are two sets of long sections enclosed; one to be photostated and the other showing color distribution. I would like to have the colored set returned if it is convenient, for I would like to keep a record of the figures shown on them. The other set may be colored and retained there for reference. I would also like a booklet of the reserves after they are made up.

I sincerely hope that the changes made in the ore statement will be accepted and that it will prove to be dependable.

Very truly yours,

Seth K. Droubay

SKD
W

March 21, 1937

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

Copy to Mr Sales.

Dear Sir:

Please find enclosed a copy of the proposed development program, a sheet showing ore available for mining above the 700 level, and two letters from owners of mining properties. I answered the letters stating that I had sent them on to the Salt Lake office and that they would hear from there in case the company was interested.

The development program was drawn up during Mr. Dugans recent visit, and I have tried to make it self explanatory if reference is made to the 1937 Ore Reserve long sections. Work necessary to prepare reasonably assured ore blocks for mining is tabulated under the heading of Mining Development, and general prospecting is listed as Prospecting Development. Most of the mining development would be run in ore so a good portion of the cost would be returned from the values of the muck.

The sheet listing ore available for stoping above the 700 level, is a tabulation of our proven, recoverable rock that does not have to be hoisted. It does not include pillars except in the cases of a small tonnage that is now being recovered in the North Orebody, and those that will be taken from the Piute Orebody above the 700 sorting level south of the shaft. Very little ore north of the Piute Shaft is listed because it is uncertain how much of this blocky, caving ore can be recovered. An additional large tonnage of ore may be developed in blocks 720A and 610A of the North Orebody.

I have included this list because it may be useful in considering any additional capacity for our mill. We are using this rock at the rate of over 20,000 tons a month, and our mining costs will be higher when it is gone.

Very truly yours,

SETH K. DROUBAY

SKD/w

Outline of Proposed Development

Development Proposals	Notes	Prospecting Development			Mining Development				
		Raises	X-Cuts	Drifts	Raises	X-Cuts	Drifts	Tons Dev'd	% Cu
South Orebody									
1. Continue 768 Raise to the 500 level and explore upper projection of 775 Block to 300 level; also drive raise in N end of 775 Block for development of upper areas.	768D N end Above 500 level	260'		200'	150' 240'		80' 150'	84,500	1.00
2. Develop blocks 810A, 850, 910A, and 950. (To be accomplished by drifting south from Central Orebody on 800 and 900 levels.)	800 level 900 level				345'	300'	670'	48,600	1.46
3. Raise from 800 to 700, South of 810 Stope (in 810 Stope block).					150'		100'	4,000	1.40
4. Explore S extension of 1010 Stope by extending 1021 Drift South and raising to 900 level.					170'		180'	5,000	1.50
5. Explore upper extension of 750A by drifting N from 602B Raise (to be accomplished after 768D Raise has been completed, to make 500 level accessible.)					140'		200'	8,500	1.36
6. Explore West Vein (footwall) for lower projection of 775 Block.		1050'		2000'					
Totals		1310'		2200'	2655'	600'	3880'	135,600	1.23
Central Orebody									
7. Explore downward projection of Central Orebody and North Orebody, on 1100 level by drifting and cross-cutting N. and S.	North South		600'	1400'					
8. Explore hanging wall side of fault by cross-cutting on 1000 level by 706W _{mine} and intervals North.			400'	700'					
9. Develop Block 580. (480) small block North of the Central O.B. Raise.			230'					3,500	2.87
Totals			1230'	2100'	100'			3,500	2.87
North Orebody									
10. Extend 1017 DN and cross-cut hanging wall (see Project #3).			800'	1500'					
11. Extend 904 DN and also drift N on 800 level (see project #4). (Drift from Raise)	800 900				500' 500'		500' 500'	189,000	1.35
12. Extend 761 Drift North and prepare 720A and 610A blocks for mining; explore southerly extension of these blocks, especially above the 600 level; run development raise at 0 : 00 to prepare 780B Block for mining.	610A) 720A) 78B South Ext.				1060' 225'	300'	1000' 100'	200,000 12,500	1.10 1.05
			800'	600'					

Outline of Proposed Development
Page #2

Development Proposals	Notes	Prospecting Development			Mining Development				
		Raises	X-Cuts	Drifts	Raises	X-Cuts	Drifts	Tons Dev'd	% Cu
North Orebody Contd.									
13. Explore hanging wall vein in 340 Block by raising from 300 to 200 levels (at 12 : 00).					140'		200'	8,000	1.50
14. Explore hanging wall vein exposed on 600 level in 666 XCE.					50'		100'	2,000	1.40
15. Explore footwall of 920 Block by cross-cutting from 900 sill (at 915 St.) 1067A Raise, and 915B Raise to prove up added width of vein to include with 920 Stope. (Assay may be higher + 1.3%)						400'	200'	75,000	1.00
Total			1600'	2100'	2475'	700'	2600'	486,500	1.21
710 and 712 Orebodies									
16. Explore 710 Orebody above 700 level.			400'	1000'					
17. Drift North on 300 level over 405 and 405B Blocks.			250'	400'					
18. Drift North on 400 level over 505B Block.						200'	300'	15,000	1.03
19. 517 Footwall split (see Project # 10). a. Extend raises above 500 level at points along fissure. b. Prospect fissure on 600 level from 620E XCW.	Above 500 600 Prospect		150'	300'	300'		300'	9,000	2.24
20. Explore hanging wall vein in 605C Block above and below 600 level (small high grade vein).					50'		100'	2,000	1.90
Total			800'	1700'	350'	200'	700'	26,000	1.51
Piute Orebody									
21. Drift North and South on 800 level.	North South				500' 1000'	150' 300'	500' 800'	80,000 230,000	1.50 1.14
22. Drift North and South on 900 level and cross-cut footwall.	North South X-Cut Vein)		200'	300'	1000'	400' 150'	800'	100,000	1.12
23. Drift South on 1000	{ to explore 150' west of Piute shaft }		300'	600'					
Total			500'	900'	2500'	1000'	2100'	410,000	1.21
Grand Total		250'	4130'	7000'	8080'	2500'	9280'	1,121,600	1.22

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March 20, 1937

Mr. J. O. Elton, Manager
International Smelting and Refining Company
Office

Dear Sir:

In analyzing the operations of the Walker mine during the year 1936 a number of interesting facts have developed. In the first place the mill at the Walker mine has a capacity of approximately 1500 tons a day. Due to holidays, power shut downs, repairs, etc., we actually put through an average of 1245 tons a day for 365 days.

The cost of producing copper at the Walker mine during 1936 was .0839¢ per pound. This does not include depreciation.

423, 704 dry tons of ore, having a grade of 1.25 per cent copper, were milled during the year. In 1935 69,524 tons of ore, having a grade of 1.17 per cent copper, were milled. The grades of the ore for 1935 and 1936 were lower than in any year during the life of the Walker mine, the reason being that during the time metal prices were decreasing the higher grade ore was mined, leaving only the lower grade ore bodies available on which to commence mining. It is hoped that during the year 1937 that the grade will be increased. In addition to the ore produced from stopes, the copper bearing material obtained from development work and stoping preparations, which averaged considerably under one per cent copper, is also sent to the mill. Although each ton of this material shows a profit, it crowds out a ton of higher grade material which would show more profit. Also there are many places in the mine where after stopes have been prepared the grade of the ore has proved disappointing, and although it would be profitable to mine this low grade material at the

2- Mr. J. O. Elton

March 26, 1937

present time under present metal prices, there would be no use of crowding out the higher grade ore in order to produce the low grade material. Consequently a larger tonnage will have to be produced and milled in order to reduce costs and increase profits.

The development work for a long period of time before the mine was shut down was curtailed materially and it is now necessary to do a large amount of development work to get the mine back into good shape as far as ore reserves are concerned.

During the year 1936 \$87,000 was expended in development work, the bulk of this money was spent on the lower levels.

The ore reserve for the Walker mine as of January 1, 1937 has just been calculated. Attached is a table giving a summary of this reserve. This shows that the total of all classes of ore above the 700 level amounts to 1,439,759 tons, and that the ore below the 700 level amounts to 2,055,100 tons, a total of 3,494,859 tons. At the present time 64 per cent of the production of the mine is coming from above the 700 level and 35 per cent below the 700 level; while the breakage is 75 per cent above the 700 level and 25 per cent below the 700 level. As the ore above the 700 level is well developed, and we do not anticipate finding much additional tonnage above this level, it will be necessary to develop and equip the mine for producing ore from below the 700 level. The mining of ore below this level would of course naturally increase the costs with our present equipment. In order to obtain the necessary funds for the proper development of the mine below the 700 level, it will be necessary to increase our profits on the ore extracted above the 700. While metal prices are high as much ore as can possibly be produced should be mined. In order to reduce our costs and obtain a greater tonnage, it will be necessary to enlarge the mill as this is the "bottle neck" of the operation. As before

3- Mr. J. C. Elton

March 26, 1937

stated, the present mill, while having a capacity of 1500 tons a day actually milled 1243 tons a day during the year 1936.

I wish to recommend that the mill capacity be increased an additional 500 tons a day. This addition I understand will cost approximately \$100,000 and will probably bring the average daily production of the mine up to 1700 tons a day for the year.

The present fixed charges including superintendents are approximately \$100,000 per year, the cost of tramming concentrates is \$25,000 per year. Very little additional expenses will have to be added to the above items if the production is increased 500 tons per day. During the year 1936, 910,750 pounds of copper were paid for. The overhead and tramming expense on this production would amount to \$125,000 per year, or .015¢ per pound of copper paid for. If the grade were maintained the same as at present and the mine production increased 500 tons per day, in which approximately 20 pounds of copper per ton would be paid for, an additional 5,650,000 pounds of copper would be produced during the year. This would reduce the overhead cost to less than 1¢ per pound and further reductions in the mining and milling operating costs would be made, besides increasing the total profits on the operation.

The present ore reserve at the Walker mine justifies the mill extension which will be paid for during a period of high metal prices and while the production is largely coming from the ore left above the 700 level. By increasing the mill capacity at this time we will be able to make a much greater profit and be in position to adequately develop the lower levels so that ore may be extracted from elevations below the 700 level at a cost much less than would otherwise be possible.

I am sending a copy of this letter to Mr. Dugan and asking him to write your regarding the matter.

Very truly yours,

Tom Lyon

TL:P