Judge Brown 3950 0016

(327)
Item 17

IN THE DISTRICT COURT OF THE UNITED STATES

FOR THE DISTRICT OF NEVADA.

BEFORE HONORABLE FRANK H. NORCROSS, JUDGE

NEVADA CONSOLIDATED COPPER COMPANY, a corporation,
Plaintiff,

vs.

CONSOLIDATED COPPERMINES CORPORATION, a corporation,
Defendant.

No. F-157

&

FRIDAY, JUNE 26, 1931

VOLUME LXXI

GAGAN & LEHNER,
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329 P. O. Building,
San Francisco.

I N D E X

FRIDAY, JUNE 26, 1931.

MR. COLBY: If the Court please, in connection with the appeal in the main case, and the statement of the evidence, I believe we had until the First of July in which to submit the amendments and the exceptions to the statement. Judge Brown and I have had several conferences and finally completed the statement of evidence. We have agreed upon all the alterations;so that is taken care of, with the exception of making the corrections in the record that is to be filed. As far as the Exhibits are concerned, we have not had an opportunity to go through them and check them up. I have felt that Mr. Chandler was in a much better position to do that than I because he followed them closer, particularly as to the letters and the various drafts of contracts. I think, however, that that will take a comparatively short time. Most of the Exhibits seem to be in the record. I think Judge Brown wants an Order extending his time to make these corrections in the statement of the evidence.

MR. BROWN: Yes. And you can take an Order extending Mr. Chandler's time, too, if you want it.

MR. COLBY: Yes, I think that will be necessary.

MR. BROWN: Say to the 10th of July.

MR. CHANDLER: You had better make it the 15th.

MR. BROWN: All right, the 15th.

MR. CHANDLER: I will not use all of that time, perhaps, if I am able to attend to it earlier. It is my purpose to stay over after this adjournment to take care of that matter.

MR. BROWN: In going over the statement of the evidence we have made a great many typographical and other corrections, some insertions, and so on, and inserted questions and answers on some pages instead of the narrative form. The Clerk tells me that that will all have to be engrossed and rewritten where the

corrections have been made. There are hundreds of pages involved. To write up this record before it is lodged with the Clerk of the Circuit Court of Appeals will take a good deal of time. The 15th of July, to which our time is now extended, will by no means be sufficient. When will your Honor be back here after August?

THE COURT: I will be in the vicinity here most of the month of August.

MR. BROWN: The record when finally completed, as I understand it, will have to be certified by the Court. I would ask an extension of time in which to lodge the record to the 1st of September, giving the Clerk and ourselves plenty of time to get that record in shape and get your Honor's certificate to it.

THE CLERK: That will not allow you to get on the October calender in the Circuit Court of Appeals.

MR. BROWN: That may be.

MR. WALLACE: While you are taking that extension, Judge, it may be that you can attend to it before that time. However, if you do not you will have your time provided for both ways.

MR. BROWN: Yes, we may be able to dispose of it before that time. I suggest that an Order be made extending the time to propose amendments to the statement of the case to and including July 15th and until September 1st to engross the record.

THE COURT: That Order may be entered.

J. C. KINNEAR,

DIRECT EXAMINATION Resumed.

MR. WALLACE: Q. At adjournment last evening, Mr. Kinnear, we were speaking about the effect of varying the gate opening which furnished feed to the mill from the fine ore bins. I want

you to assume that the same single mill at one time was treating a particular ore with a certain gate opening, and at a different time that the same mill, and by mill I am speaking of grinding mill within the concentrator, was treating a different kind of ore and with a different gate opening; would this difference in gate opening as between the two different times necessarily indicate the volume of tonnage that was being handled in the mill at either time?

A. No, sir.

Q. Or would it indicate any overcrowding of the mill at either time?

A. No, sir.

Q. Or any improper discrimination as between the different ores that were being treated? A. No, sir.

Q. Were the various mills and sections in the concentrator kept at all times in the same condition with respect to each other?

A. No, sir.

Q. What was the practice in that regard and how would their condition differ from each other, and why?

A. Take for example Section 7, before this section was remodeled it consisted of two mills; the feed to these two mills was by means of pulley feeders onto two belts. After the section was remodeled it became a section of three mills, two in the primary and one in the secondary. After the remodeling these three mills were still fed by the same feeders, so that the feeder opening would have to be proportionately increased to the extent of the tonnage which would be necessary to feed to the three mills rather than to the two. In that case the feeder gate opening would be larger, would be wider-- rather it would be higher than when the section consisted of only two mills.

Q. Would it be fair to compare the gate opening in one mill with that used in the other without knowing the condition of the mills at the time the comparison was being made?

A. No. It is necessary to know the condition of the mills and also the character of the material being fed.

Q. Did you ever receive instructions from anyone above you to underfeed xanthate to any mill or mills while treating Coppermines' ore? A. No, sir.

Q. Did you ever give any such instructions to any of your subordinates? A. No, sir.

Q. Who supervises the regulating of the feed to the mills and the supply of xanthate used, in the ordinary practice?

A. The mill foreman under the direction of the mill superintendent.

Q. Who was the mill superintendent during the period since the making of this contract with Coppermines?

A. Mr. Riser first, who is now dead, and at the present time Mr. Jardine.

Q. What was Mr. Jardine's position in the early part of the years of the contract? A. Assistant superintendent.

Q. That is, he was assistant to the superintendent of the mill?

A. Yes, to Mr. Riser.

Q. So in the whole period Mr. Jardine was either superintendent of the mill or assistant superintendent of the mill? A. Yes, sir.

Q. How, if you know, have our recoveries on our own ores compared with those gotten up and used in the ettlement with Coppermines generally over the period of the contract?

A. Generally speaking, the recoveries on Coppermines' ores were higher than ours, and on the average about the same.

Q. And that includes Coppermines' Morris Brooks ores--all of the five different kinds of ores that you enumerated in one of your schedules, Plaintiff's Exhibit 14th-79, I think it was, on

yesterday? A. Yes.

Q. What did you do for them in the way of ratio of concentration or compacting of the ore as compared with results on Nevada's own ore? A. Over the entire period the ratio of concentration obtained on Coppermines' ores was higher than that obtained on Nevada's.

Q. I will ask you to state how this higher ratio of concentration would affect Coppermines. A. It would reduce the smelting cost by lessening the number of tons of concentrates to be smelted.

Q. How would it affect Nevada in its dealings with Coppermines? A. It would eliminate the profit which accured to Nevada on each ton of concentrate smelted by the amount lessened.

Q. Of course, it would benefit Nevada on the other hand in its own costs of smelting its own ores? A. Certainly.

Q. Have you seen an analysis of the several thousand shift boss reports that has been prepared for use in the defense in this case? A. Yes, sir.

Q. Are you familiar with the data appearing on the analysis tabulations and with the results disclosed? A. I am familiar with the summary which Mr, Hatch and Mr. Jardine have made of the shift boss reports.

MR. WALLACE: I will state that because we are coming to a close here for our recess, I can not put this proof in at the present time. It will be put in later.

MR. THATCHER: That is all right.

MR. WALLACE: Q Assuming the data was correctly taken from the shift boss reports as the data is used in these tabulations by Jardine and Hatch, and assuming that the calculations contained in the tables were correctly made mathematically as

they led to the result, what have you to say as to whether those records themselves disclose any overcrowding or over feeding of the mills in the concentrator while they were separately treating the ores of Coppermines? A. They do not.

Q. Now a few questions concerning the 1930 production claim of Coppermines. This matter is dealt with in Exhibits 14th-O and 14th-P, and in the testimony from pages 2217 to 2230, in Volume XXXI, and pages 2232 and 2235 of Volume XXXII. Do you know what it was that was actually done with respect to the matter that is complained of? A. Yes, generally.

Q Will you tell the court about it?

A. By the middle of the year 1929 the excess demand for copper, that is, the large demand for copper, had ceased. In order to avoid shutting down a portion of the plant and the resultant unemployment, we endeavored to secure from the mine a lower grade of ore than we had been treating in the past, in order that we could continue with the same tonnage but treat a lower grade and make less copper in total, but we found that this ore at that time was not available to the shovels.

Q. What did you do to meet the situation and your needs?

A. We continued to mill the same tonnage as before at about the same grade, and on our books we reduced the grade of the heads so that the tonnage shown as milled with the lessened grade would show a lessener copper production than was actually being produced in the mill. This difference between what was actually going through the mill and what our books showe d, was put into a conentrate storage pile in the form of concentrate.

Q. Where was it located, how was it held actually?

A. In a storage pile bwtween the mill and the smelter.

Q. Where did the balance of the concentrates that were produced in the concentrator, go?

A. They went from the mill to the smelter and were converted into finished blister.

Q. How did the concentrates that went to the smelter compare with what your books showed after a lowering of the heads, to be the apparant production of the mill? A. The blister produced to concentrates which went to the smelter were the equivalent of the lessend production in the mill as shown on the books.

Q. And this excess, which was actually passed out into the storage pile in the form of concentrates, how was that carried at that time on the books? A. That was carried in an account called concentrates storage.

Q. How long did the storage pile increase under that process; when did the change commence in a way, if it did, and why?

A. Until some time in 1930.

Q. And then what happejed? A. During that period we accumulated a considerable supply of concentrates between the mill and the smelter. In 1930 for accounting reasons it was dedided to make the production of the plant, the blister production of the plant, rather than the production of copper in the form of concentrates as had been done in past practice.

Q. What did you do under that determination? A. At that time we set up a new account called "Metals in Process". In order to get this tonnage of copper which was in the form of concehtrates in the storage pile we, in 1930, raised the grade of heads on our books thereby carrying this copper which was in ore and the storage account through mill production and into this Metal in Process account.

Q. Did that take the concentrate storage pile or the material in it, out of that other account, Metals in Process?

A. Yes, it came from the concentrate storage account and into what we now call the Metals in Process account.

Q. Was that an immediate change, taking the storage concentrates back into the mill flow in that way, or was it done gradually?
A. It was spread over the year 1930 so that at the end of 1930 we had put into products and into the Metals in Process account all of the copper we had taken out of it in the year 1929, and arrived at a balance.
Q. You just reversed the 1929 process to get the pile of concentrates back into the mill again? A. Yes, sir.
Q. And is that, as you understand it, the matter that is complained of by Coppermines here? A. As I understand it, that is the matter.
Q. Whose concentrates were those out there in the stored pile?
A. Nevada's.
Q. How did that action affect Coppermines? A. Not in any way. It was only a bookkeeping adjustment of Nevada's ores and concentrates.
Q. Was this practice that you have described, of creating that storage of concentrates, a new one in Nevada's operations, begun first in 1929? A. No, sir, it had done that before in the past.
Q. How far back do you know of its having been done?
A. Back as far as 1910 or 1911.
Q. Do you remember an occasion when the reserve supply secured under this practice in concentrate storage helped out the smelter, when the mill could not go? A. Yes.
Q. When was it? A. When our mill burned down in 1922 we had a concentrate storage pile amounting to about 30,000 tons, and that 30,000 tons kept our smelter going together with some other ores that we got from the mine that we did not have to concentrate until we were able to rebuild a sufficient amount of the concentrator to continue operations.
Q. A charge is made here that Nevada did not recover enough

copper out of Coppermines' ores. I want to get your views on that. Could Nevada let copper from Coppermines' ores pass out of the mill through the tailings while part of that ore was being mixed in the milling with Nevada's ores, without at the same time sending into the taili gs several times as much of Nevada's own copper?

A. Whenever the mixed mass, whenever too much went to tailings, the loss to Nevada would be several times the loss to Coppermines.

Q. When the Wilfley tables were taken out of use, as you told us, I believe, was done in the month of June, 1927, and on June 6th, as I recall it, were the tables suspended from use only on the pilot unit treating Coppermines' ore, or was the suspension and disuse on all sections throughout the concentrator?

A. On every section of the mill.

Q. If ceasing to use the Wilfley tables would have represented an injury to Coppermines, how would it have affected Nevada in the case of the mixed ore? A. It would have harmed Nevada to a greater extent.

Q. Did it, in your judgment, harm either of them?

A. No, sir.

Q. Why did the use of the Wilfley tables thus cease on June 6th, 1927? A. Early in 1927 it was necessary, for production reasons, to curtail our tonnage and the tons per ball mill were reduced to such an extent that we were able to grind much finer in the ball mill circuit than we had previously; therefore we were recovering more mineral in the flotation circuit than we had in the previous period and there was not enough mineral left to warrant running the tables, so consequently we shut them down.

Q. You told us you started to use them again in March, 1928,

in connection with what you spoke of as the retreatment plant. Why did you again begin using the Wilfleys at that time?

A. Our tonnage was again increased in and about March, 1928 and on account of this increase our grinding was coarser and we again started up the tables to catch whatever mineral was not caught in the flotation operation. The mineral caught on the tables after flotation was then sent to a re-treatment plant where it was re-ground and re-floated and the grade of this table concentrate increased.

Q. And why didyou again discontinue the use of the Wilfley tables as you did some time in 1930?

A. We had made changes in our grinding circuit so that we were giving the ore sufficient grinding for flotation and consequently the tables were not necessary.

Q. Has the concentrator and concentrator practice been improved in efficiency, or has it retrograded, in your opinion, since the year 1925? A. It has improved.

Q. To what do you attribute these improvements?

A. Added experience and advancement in the art in general.

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Q. Do you recall about what you were getting in the way of compacting in the year 1925? A. About ten tons of ore into one ton of concentrate.

Q. Were these improvements the result in any manner of experimenting, and if so how? A. They were the result of continual experimental work.

Q. Did the experimenting involve any different use of the feeds to the mills, trying out the effect of the feed or the effect of different quantities of Xanthates?

A. Different quantities of xanthates, different quantities of lime, different grinding, and so forth.

Q. What ratio of concentration are you getting at the present time, or when you last had a report on it? A. Twenty tons of ore to one ton of concentrate.

Q. Is that on Nevada's own ores? A. All the ores in the mill generally.

Q. Including those of Coppermines? A. About that, yes.

Q. Aside from the performance of New Cornelia that has been referredto this testimony occurring in the early part of the present year, what has been the performance as to copper recovery of the McGill concentrator when compared to other concentrators in the country treating disseminated porphyry ores?

A. It has been the best in many years.

Q. Have you investigated to see how many disputes or matters of difference there were that required conference and consideration in the operation under the contract since the ore of Coppermines began to flow to the mill? A. You mean in connection with recoveries and assays?

Q. Yes? A. I have had a search made.

A. I find that there were 83.

Q. 83 different occurrences of that kind? A. 83 settlements in which differences have occurred.

Q. They were composed in some way? A. Yes, sir.

Q. Who in those settlements and conferences incident to them, and the negotiations and the discussions, represented the interests of Nevada? A. Mr. Mohr.

Q. Did you find out in how many of these instances Nevada voluntarily yielded to Coppermines? A. Yes, sir.

Q. How many? A. In 74.

Q. Did you secure or obtain a balancing of the results of these compositions, as to the effect one way or the other as between Nevada and Coppermines, to see where the general advantage lay?

A. Yes.

Q. What was the result? A. It was equivalent to somewhat over 66,000 pounds of copper in Coppermines' favor.

Q. Now I want to consider with you the matter of the gold claims here. Have you examined the Bureau of Mines' Bulletion No. 410 which the witness Lewis referred to and presented?

A. Yes, I have.

Q. I think we have spoken of it here as the Lever tests on certain ores in Nevada, and some of those tests, I don't know whether it was No. 9, or that there were 9 samples, were made on Nevada's own ore. Do you recall that?

A. Yes, sir.

Q. Did you analyse that report so far as it related to Nevada's ores? A. Yes, sir.

Q. What features impressed you as a result of your analysis?

A. They confirmed what we had known, that you cannot get a higher gold recovery without sacrificing ratio of concentration.

Q. Why is not the high ratio of concentration sacrificed to get the gold? A. It would not be an economical thing to do.

Q. Will you explain why it would not be economical to do it?

A. The increased smelting cost, as the result of the lowered ratio of concentration, would more than over-balance the extra gold recovery.

Q. How do the Lever tests, so-called, demonstrate this to your way of thinking? A. The Lever tests show that if you get a ratio of concentration of about 16 to 1, the gold recovery is about 64 per cent. In order to get a 75 per cent gold recovery you would lower the ratio of concentration to about 10 or 11 to 1.

Q. That is about where you told us you were, I think, in 1925, in your concentrator operations?

A. Yes, that is about the same ratio.

Q. If after working your ratio of compacting up to about 20 tons of ore into one ton of gold you were to return to the 10 to 1 ratio which you were getting in 1925, or to the practice of six years ago, what would be the economic result as against your practice of today? A. It would mean a distinct loss.

Q. And with respect to all ores as to which the change was made?

A. Yes, all ores.

Q. Nevada's as well as Coppermines', if that change were made?

A. Yes.

Q. As you see those Lever tests then do they oppose or do they confirm and support the present concentrating practice of Nevada? A. They do.

Q. Which is it? A. They conform to the present concentrating practice of Nevada.

Q. Now as to the Laine- tests, do you recall that Mr. Laine in

in his testimony said that he did not consider the assays in his tests for precious metals as very dependable?

A. I remember that.

Q. Do you agree or disagree with him in that regard?

A. I agree.

Q. Why are such precious metal assays not dependable?

A. Because the quantities of gold dealt with are so small, and in some cases the fractional part of a ton is one-thirty millionth part of a ton, you simply cannot get anything reliable when dealing with such small or infinitesimal quantities of precious metals.

Q. How do you get down to the calculation involved, one-thirty millionth part of a ton, in connection with these precious metal assays? A. I have used the fractional difference we have in assaying the gold, namely, one-one thousandth of an ounce, and one-one thousandths of an ounce is about one-thirty millionth of a ton.

Q. A ton of gold or of ore? A. Of ore.

Q. That one-one thousandth of an ounce, was that the quantity that Mr. Lewis spoke of when he referred to the percentage of change that would be made in the percentage of gold recovery?

A. Yes, sir.

Q. He used as his fraction one-one thousandth of an ounce?

A. He stated that the difference of one-one thousandths of an ounce above and below an assay of one-two hundredths of an ounce would mean about 5 per cent in recovery.

Q. A difference of 5 per cent in the recovery?

A. The difference, yes.

Q. And it is that same one-one thousandth of an ounce that you tell us now in connection with the gold contained in a ton of

these ores would represent about one-thirty millionth part of a ton of ore? A. Yes.

Q. Is this eccentricity of ratio and inaccuracy a necessary concommitant of these individual assays for precious metals?

A. Yes, sir.

Q. Over what period must you accumulate them and average them, if there is any period, in order to get anything that is dependable at all out of those assays? A. You must take a great many assays over a long period.

Q. Did you hear or read the testimony of Mr. Lewis to the effect that Bowl Classifiers in his opinion had a tendency to lower gold recoveries? A. I did.

Q. In that connection I want to ask you if there were any Bowl Classifiers in use in your concentrator during the year 1927, prior to October 11, at which time you made a settlement as appears in the evidence here with Coppermines as to past gold recoveries in its ores? A. There were no Bowl Classifiers in the concentrator at that time.

Q. What do those tests of yours conducted from early in the year 1927 in the manner you have described show as the average recovery of gold from the tests?

A. 69.8 per cent recovery of gold.

Q. That was an eight or nine months period in 1927 that you were making those tests? A. I think it was about six or seven months.

Q. Mr. Lewis made some calculations and I think submitted a table for another six months period, the last half of 1930; do you recall that? A. Yes, sir.

Q. In that last half of the year 1930 were the Bowl Classifiers in use in the concentrator? A. Yes, they were.

Q. How did the gold recoveries compare according to the assays and tests in the two periods, your own tests in 1927 and the last half of the year 1930? A. The gold recoveries shown by Mr. Lewis in his tabulation over a six months period were 72 per cent.

Q. As against the other, 69.8? A. Yes, practically 2 per cent in favor of the period during which the Bowl Classifiers were in operation.

Q. And this showing of 72 per cent-- I think Mr. Lewis by eliminating some seven lower assays, or assays given on the list contained in the 7 settlement that showed lowest, brought it up to an average of 75 per cent; where do you get your 72?

A. 72 is the average of all the settlements.

Q. Taking them all and omitting none? A. Taking them all.

Q. That was a numerical average? A. I think Mr. Lewis' 72 was a numerical average.

Q. Did you read over the papers in the Exhibit that was presented in evidence by the Defendant with respect to the laboratory tests made on some different samples of Coppermins' ore in August, 1927 by the Mineral Separations? A. Yes, I looked at that.

Q. Should such a test in your opinion ever be used to contradict actual mill results on upwards of a million and a half tons of ore treated progressively in regular mill operations over a period of about three years after the tests? A. No, sir.

Q. Would your answer be the same or different if we were speaking of copper recoveries instead of recoveries of precious metals?

A. The same answer.

Q. Why, in your opinion, is it improper to use such a laboratory test? A. Because you have no assurance that the material of the test will correspond or be representative of the vast tonnages to be mined in the future and actually milled.

Q. Why is that, in view of the samples taken for such a test?

A. The sample taken consists of from 25 to 100 pounds from the then exposed faces, and no matter how carefully the sample is taken you can not be sure that it will represent the material that will be mined in a series of years, and should not be used to discredit mill results on the tonnages when milled.

Q. Those tonnages, the greater part of them would be uncovered in later periods more or less distant from the time of taking samples from the faces: Is that correct? A. Yes, sir.

Q. As to any of these ores of Coppermines, were they subject to thange in character in the process of extraction?

A? We found the Morris Brooks ore to be of a changeable nature.

Q. Were there any other considerations that make against the application of such a laboratory test as that San Francisco test of August, 1927? A. The grinding was far finer than we use in the mill.

Q. Anything else? A. What I have stated as to the independability of the precious metal assays would also apply in this test.

Q. Independability. That is a good word; you mean unreliability?

A. Unreliability.

Q. Have you read Mr. Lewis' testimony as to what we have been pleased to refer to--at least I have been pleased to refer to it as the Lewis formula? A. I have.

Q. When did you first hear of such a method ofcalculating recoveries? A. When Mr. Lewis testified.

Q. Had you ever known or heard of that rule or process being used by any mining company in connection with actual operations?

A. No, sir.

Q? Could it operate, in your opinion, correctly to determine percentages of recoveries? A. No, sir.

Q. What reason is there for his selected base, as he calls it, of 1.20 per cent grade in copper, and .06 grade in oxide?

A. In my opinion it is purely arbitrary.

Q. Might he with as good reason, in your opinion, have taken a 1.25 grade instead of a 1.20? A. Yes.

Q. Or a 1.15 grade instead of either? A. Yes.

Q. Might he have taken .05 or .07 with as good reason as .06, as an oxide base? A. Yes.

Q. Is there any reason that you know of that would exclude any one of these different percents in favor of another for a base purpose, under his principle? A. I do not know of any reason.

Q. If, by the application of that formula, Mr. Lewis should, in a single instance get conformity with a result derived by the usual practices and formulas, would that conformity be inevitable or accidental? A. I would think it would be a matter of coincidence.

Q. Does the Richards formula, for example, work only one way or does it work either way and upon all kinds of figures?

A. It works on all grades of ore.

Q. You have in mind the testimony of Mr. Lewis when he said that his formula would not work upwards but only downwards from the base? A. Yes, sir.

Q. Is the Richards formula in general use by mining companies?

A. It is.

Q. How long have you been connected with disseminated porphyry properties? A. Twenty one years.

Q. In that time did you ever hear of a concentrator working on ore from disseminated porphyries making a recovery of 95 per cent on ores like the Pit ores of Nevada and Coppermines, and having a 1.20 per cent grade for any sustained period of time, say six months or longer? A. I never have.

Q. And before this present year and the occurrence that you have spoken of at New Cornelia, did you ever hear of a recovery above 95 per cent in any concentrator treating porphyry ores at any time? A. I never did.

Q. Now with respect to the gold claim of Coppermines, you have spoken of the Richards Exhibit 14th-ZZ in certain particulars. Are you familiar with it with respect to its treatment of the gold claim? A. Yes, sir.

Q. Have you read Mr. Richards' testimony with respect to that exhibit? A. I have.

Q. You recall that he said that under the direction of Mr. Lewis he made his calculation by holding us to a minimum gold recovery in every case of 75 per cent of the gold contents as determined by the head assay, and that he charged us as a consequence with the difference between what we recovered and 75 per cent if we got less than 75 per cent, and that he took for Coppermines the whole of the recovery including the excess, if we got 75 per cent or more. Should Nevada, in your opinion, be held to any such obligation with respect to the gold recoveries from Coppermines' ores?

MR. THATCHER: That is objected to as immaterial, irrelevant and incompetent and argumentative.

MR. WALLACE: I do not think it is argumentative at all. I am taking the opinion of this witness as to the possibility of redoveries.

THE COURT: I will overrule the objection. The matter can be

argued.

A. No.

MR. WALLACE: Q. Why not? A. We never did recover a minimum of 75 per cent.

Q. Average? A. Average, and I do not believe we could achieve even an average of 75 without a sacrifice of the ratio of concentration.

Q. If you sacrificed the ratio of concentration, would it be justified to get the gold? A. No, sir.

Q. I do not know that you have told us just how those tests of yours in 1927 were conducted as to the quantity of the sample. What did you do in that regard? I am referring to the gold tests on Coppermines' complaint about recoveries.

A. The samples were carefully taken in sufficient quantity and an analysis run on large enough samples to be sure that the results were representative as to the recoveries that we made.

Q. You were limiting your efforts entirely to precious metals--gold and silver? A. Yes.

Q. When you got that result of 69.8 that you told us represented the average results from all these tests, was it achieved without undue sacrifice in the ratio of concentration? A. It was.

Q. If the performance on gold recovery during the last half of 1930 be considered as a whole without excluding, as Mr. Lewis did, the seven lowest settlements and the assay results disclosed with respect to the lots of ore there involved, what average gold recovery would it show? A. Excluding lot 72, as I have, which is the last settlement for the year 1930 and for which we do not have comparative Coppermines assays, the average recovery based upon Nevada's assays, weighted recovery, is 73.06 and according to Coppermines' assays, 73.18. This covers settlements numbered 47 to 71, inclusive, for the last half year of 1930, on Emma

Nevada mine ore.

Q. And your reason for excluding the lastlot, No. 72, was what? A. Because in making this up I was preparing a table showing the comparative results based upon Nevada's assays on their sample and Comppermines' assay based upon part of the same sample and not having Coppermines' assay I excluded it from my list.

Q. In other words, there was nothing to compare it with?

A. There was nothing to compare it with.

Q. Have you prepared an Exhibit showing the gold recoveries on the lots based in those settlements 47 to 71, all but one of the settlements made with Coppermines in the last half of the year 1930? A. Yes, sir.

Q. Have you in that same Exhibit undertaken to show the corresponding recoveries as they would appear if based on Coppermines' assays of gold on their portions of the same samples severally? A. Yes, sir.

Q. Will you give me that table? A. Yes, sir.

MR. WALLACE: I will ask to have this marked as Plaintiff's Exhibit 14th-84 for identification.

(Document here marked Plaintiff's Exhibit 14th-84 for identification.)

Q. The table you have handed me is a single sheet and it has been marked by the Clerk Plaintiff's Exhibit 14th-84 for identification. Will you explain the object of this table and the manner of its preparation? A. The object of this table is to show the variation in the percentage recovery of the gold on settlements onEmma-Nevada shaft ore of Coppermines for the last half of the year 1930 based on Nevada's assay of the control

sample as compared to Coppermines' assay of a portion of the same controlled sample.

Q. Where did you get your percentages of recovery shown in the table? A. The percentages of recovery shown in column No. 1 are those shown on the settlement sheets rendered by Nevada to Coppermines corresponding to the numbers in the first column.

Q. That is, the settlement numbers?

A. The settlement numbers, yes, in the first column.

Q. Are those the settlements, or some of the settlements with Coppermines that are listed and used in Richards Exhibit 14th-ZZ?

A. I am not sure whether the Richards Exhibit No. 14th-ZZ goes beyond that last half year but in any case they are the numbers of the settlement sheets which have been rendered to Coppermines covering the Emma-Nevada shaft ore.

Q. And the data you have put in the column headed "1" as to the percentage of recoveries is found in those settlement sheets, respectively? A. Yes, sir.

Q. The first column gives the number of the settlement sheets?

A. Yes, sir.

Q. And the second column does what? A. The second column, headed "No. 1", gives the percentage of recovery as shown on the settlement sheets rendered to Coppermines by Nevada covering settlements 47 to 71, inclusive, on Emma-Nevada shaft ore.

Q. And there is a memorandum at the head of your table, headed "1", what does that apply to? A. It applies to the one above the column which I have just spoken of.

Q. It reads "Based upon Nevada's assay of control samples"; how is it based on those assays? A. In figuring this percentage of recovery the assay which Nevada has made for gold upon the control sample is used in calculating the percentage of

recovery.

Q. And the corresponding entry under "2", above the column reading "Based upon Coppermines' assay of control sample" has a like meaning? A. Yes. In the second column we have the figures of the same settlements based upon Coppermines own assay of a part of the same control sample. That assay used in connection with the calculation of the recoveries shown in the column headed "2".

Q. Where was that data as to Coppermines' assay obtained from?

A. Obtained from the assay certificates of Coppermines which they have given us.

Q. And which are now marked here for identification Plaintiff's Exhibit 14th-81? A. Yes.

Q. And then there was some calculation of course by some formula to reach this figure of recovery, for instance, the first settlement, and the forty-seventh? A. Yes, it was calculated.

Q. Was the same process of calculation or a different one used as was used in getting the percentage result in column 1 as declared in the settlement sheet? A. The same calculation was used.

Q. And the right-hand column simply announces the different per cent between the two?

A. The difference in per cent recovery between Column 1 and Column 2.

Q. Now going down to the bottom you have a side heading, "Weighted average", and a figure on that line of weighted average under each the Column "2" numbered "1" at the top and the Column 3, numbered "2" at the top. What do they mean?

A. They are the weighted average of the percentage recovery of the lots 47 to 71.

Q. What is the weighted average first with respect to the settlements numbered 47 to 71, and the lots of ore dealt with in each such settlement, and then with respect to the same ore in the same settlement as the average is developed under the column headed "2"? A. Under the column headed "1", the weighted average is 73.06 per cent; the weighted average under column 2, is 73.18; the weighted difference is .12 of one per cent.

Q. What does that mean as to similarity or dissimilarity of result in percentage of copper recovered, dependent on whether the assays of Nevada--of the control sample-- are used as a basis, or the assay of Coppermines taken from the same sample as that from which Nevada's assay was made, is used as a base?

A. When you take the weighted average of the whole period they check very closely, although there are wide discrepancies in the individual settlements.

Q. Does that illustrate again what you said about the advantage of having these assays available over a long period of time for averaging? A. Yes.

THE COURT: At this time we will take a recess for ten minutes.

(After recess:)

MR. WALLACE: Q Shortly before recess, Mr. Kinnear, I asked you this question, which you answered:

"Q. In that time" --and the time I referred to was your connection with dissemniaated porphyries for twenty-one years--"did you ever hear of a concentrator working on ores from disseminated porphyries making a recovery of 95 per cent, on ores like the Pit ores of Nevada and Coppermines, and having a 1.20 per cent grade, for any sustained period of time, say six months or longer? A. I never have."

I meant to make that question applicable to low grade disseminated porphyry ores. Would you answer be any different if thus limited?

A. That is what I referred to, low grade porphyry ores.

Q. Now to come back to this Exhibit 14th-84, you pointed out the close conformity of the weighted average of the two columns, or the whole period, whether the ecoveries were based on Coppermines' assays or on those of Nevada. You also spoke of the differences between the two recoveries, in some instances upon some settlement lots being fairly large, but that over the period they would sort of balance out. To illustrate that to the court will you take the two settlements numbered 52 and 67 and contrast them both with respect to their difference and with respect to the balancing feature?

A. Considering Settlement 52, the percentage of gold recovery based upon Nevada's assay of the control, is 79.86. In column 2 we find the percentage of gold recovery based upon Coppermines assay of part of the same sample, 62.72, showing a difference in recovery between Nevada's determination and Coppermines' determination of 17.14 per cent.

Q. Which shows the higher grade? A. Nevada shows the higher by 17.14 per cent.

Q. Now the other one, No. 67? A. On No. 67 the recovery, based on Nevada's assay of the control sample shows 73.13 per cent. In column 2 we find the percentage of recovery based upon Copperkines' assay on part of the same control sample, 83.81, in this case Coppermines' determination being the higher by 10.68 per cent.

Q. What have you to say about the settlement sheets, the seven with respect to which Mr. Lewis, in his determination in which he reached that average of 7_5 per cent gold recovery, excluded the issues on lots in the seven settlements showing the lowest assays? A. Mr. Lewis, in making his average of 75 per cent,

excluded those lots which, according to Nevada's assay, were below 70 per cent; six of them are included in this list that I have prepared; the seventh one is the lot 72, which does not appear here. They are samples appearing against Lots 56, 57, 61, 62, 63, and 71.

Q. Do you show what the results would be, based on Coppermines' assay of their parts of the sample in those cases, except the one where you had nothing for comparison? A. Yes. In the case of lot 56, which is one of the seven which Mr. Lewis excluded as being below 70 per cent, we have, based upon Nevada's assay, a percentage recovery of 67.32 and based upon Coppermines' assays a recovery of 69.59.

Q. Within .40 of 70 per cent in the case of Coppermines? A. Yes.

Q. Now the next one? A. The next one is No. 57. Nevada's assay shows a recovery of 68.75; Coppermines' assay shows a recovery of 72.05.

Q. And that is the second one excluded by Mr. Lewis as he said because the assay showed below 70 per cent? A. Yes, sir.

Q. But Coppermines' assay showed above 70 per cent? A. Yes, sir.

Q. Now the third. A. The third, Settlement No. 61, Nevada's assay shows a recovery of 65.99 and Coppermines, on their assay, 72.28 per cent.

Q. Again Coppermines' assay shows above 70 in the third of these settlements which Mr. Lewis excluded because the assay was below 70? A. Yes.

Q. Now take lot 62. A. According to Nevada's assay, a recovery is shown, of 69.65, and according to Coppermines' assay on a portion of the same sample, a recovery is shown of 79.25.

Q. So that in this settlement which Mr. Lewis excluded because the assays were below 70, Coppermines' own assay shows nine and a fraction per cent above 70?

A. Yes.

Q. Now take 63. A. In the case of lot 63, Nevada's assay shows 68.52 per cent recovery; Coppermines' assay on the same sample or a part of the same sample, shows 69.05.

Q. Below 70, in the case of Coppermines, but very near the 70 line; is that right? A. Yes.

Q. In the last of your six comparable lots, what is the situation?

A. Lot 71, the recovery based on Nevada's assay of the sample is 60.04, and based upon Coppermines& assay of a part of the same sample, 67.55.

Q. Is it true then that in the case of the six comparable lots that you have in your exhibit 14th-84, of the seven which Mr. Lewis excluded because they showed assays below 70 per cent gold recovery, three of them, according to the assays of Coppermines, show recoveries above 70 per cent? A. Yes, three above 70 and three below 70.

Q. Now taking the sixth of these seven lots as a whole, the six that you have on your Exhibit 14th-84, the comparable six, what is the average recovery on all six, according to the assays of Coppermines? A. 71.63 per cent.

Q. Why, in dealing with the period, should one exclude the seven lowest assays any more than the seven highest assays?

A. There is no reason why the lowest ones should be excluded any more than the highest ones.

Q. If you excluded the six highest shown on your table for that last six months, Plaintiff's Exhi it 14th-84, would it make a substantial change downward in the results of the general average?

A. Yes.

Q. How do you account for the fact that there is so much differ-

ence in the computed gold recoveries on the individual settlement sheets, as appears throughout this exhibit 14th-84?

A. A slight variation in the heads assay for gold produces a marked difference in the percentage of recovery.

Q. Let us take that Settlement sheet 52 again in Exhibit 14th-84, where the difference is 17.14 per cent as between the recoveries based on Nevada's control assays on the one hand, and based on Coppermines' on the other, what fraction or difference or percentage of difference--express it as you will--would be adequate to meet this difference of 17.14 per cent, as between the two ratios?

A. About three one-thousandths of an ounce difference in the assay.

Q. Three one-thousandths of an ounce of gold will make the difference in the assay? A. Yes, it will make the difference in the percentage here shown.

Q. How does this feature bear against the practice here of excluding individual assays in a period when trying to find out what the fair performance was within that period?

A. The individual assays are unreliable and we should take the average of a great many assays over a long period in order to arrive at a result which will be representative.

Q. Have you prepared any table to show the recoveries as declared in the settlement sheets between Nevada and Coppermines from October 11, 1927 when all the previous gold recoveries were adjusted down to the end of the year 1930?

A. To June, 1930, in order to conform to the Richards Exhibit 14th-ZZ.

Q. All right, will you let me see that? A. Yes.

MR. WALLACE: I will ask to have this marked Plaintiff's Exhibit 14th-85 for identification.)

Q. Will you take this Exhibit which you have just furnished me and which has now been marked Plaintiff's Exhibit 14th-85 and tell the Court what it was meant to illustrate and how it was prepared? A. The tabulation was prepared for the purpose of showing the average percentage recovery of gold in all the different lots of Coppermines' ores recovered by the Richards Exhibit 14th-ZZ from October 11, 1927 to June, 1930, inclusive. In Column 1 is shown the four kinds of ore dealt with in the Richards Exhibit, namely, Ora, Emma Mine, Emma Pit and Morris Brooks. In the second column is shown the settlement number dealt with in the case of each ore. Ora, 32 to 50; Emma Mine, 1 to 46; Emma Pit, 1 to 26; Morris Brooks, 39 to 162,---

Q. If I may interrupt you right there for a moment, I note as to the Emma Mine that the settlement numbers are 1 to 46; I recall that in Exhibit 14th-84 the settlement numbers begin where you leave off on the Emma Mine ore, or at No. 47 and go on to No. 71, disregarding No. 72 for which you had no comparison; why is that? A. These lots come after this period June, 1930; that is for the last six months of the year 1930.

Q. It is the other half of the year? A. Yes.

MR. THATCHER: Q. That is the only ore you were milling at

time? A. Yes.

MR. WALLACE: Q. Now you may proceed with your explanation. A. The next column shows the total dry weight in tons of each of the four kinds of ore together with a total at the bottom covering 2,591,002.53. The next column shows the total gross gold content in the ore as received according to Nevada's assays; also at the foot of that column a total showing the total gold content in all the four ores in ounces, 47,656.76. In the next column there is shown the net gold returned to Coppermines on the settlement sheets, also expressed in ounces separately for each kind of ore. The total is 31,579.781 ounces. From the figures in the last two columns, dividing one by the other, we arrive at an average recovery over the whole period of 66.25 per cent.

Q. Which you have declared in your Exhibit 14th-85, have you?

A. Yes, sir.

Q. You have a statement in your table opposite 66.25 per cent reading "Average recovery of gold based on heads assay and gold recovered in concentrate." What do you mean by saying "gold recovered in concentrate." What was your practice as to settlements? A. The settlements were made on the basis of the gold which was recovered in the concentrate produced by the milling of the ore; that is, we had the weight of the concentrate, we had an assay value of the concentrate, and from those two figures we determined the total number of ounces of gold which were in the concentrate and it was upon that basis that the settlements through this period were made.

Q. And not on a basis of the gold contained in the tons of ore as determined by the deads assay on the ore?

A. No, sir, that was not used.

Q. What do you mean by "heads assay" in your characterization here; what kind of a heads assay was that?

A. That is a heads assay showing the gold which was in the heads as received and determined by using the figures in the columns 3 and 4, that is, dividing the total gross gold content in the ore in ounces by the total dry weight in tons. That gives us a figure for the average gold in the heads expressed in ounces per ton as the ore received.

Q. What figures is that? A. That is .018 ounces per ton.

Q. Is that based on gold in the dry tons of ore as determined by the heads assay of the ore?

A. Yes, sir.

Q. I want to know what use in your settlements you make of the assay determinations, if any, of the contents of gold in the tons of ore as determined from the contents in the concentrates?

A. In the settlements we make no use of that figure at all. It Ws simply used as a reference figure to arrive at a recovery based upon the gold which was in the heads and based on the gold which is in the concentrate as determined by the weight of the concentrate and the assay value of the concentrate for gold.

Q. That is, you need this figure termed "average gold in the heads" in ounces per ton of ore" and shown as 1.08 for the purpose of making some calculations?

A. Yes, for the purpose of making a calculation showing the percentage of recovery only.

Q. But with respect to the actual recovery of gold that you settled for do you use that figure at all? A. No, sir.

Q. How do you arrive at this gold that you actually settled for which in your table shows as 31,579.781 ounces?

A. It is the gold which is determined to be in the concentrate.

Q. In the concentrate? A. In the concentrate, yes, by the weight of the concentrate times its assay value for gold.

Q. You do not show the weight of the concentrate?

A. I have not, in this sheet, no, sir, but it is on the settlement sheet.

Q. The weight of the concentrate and any data that you use in calculating these ounces of gold that you are going to settle for and pay for you get from the settlement sheets? A. Yes.

Q. In each instance? A. Yes.

MR. WALLACE: Is that explanation clear to your Honor?

THE COURT: I think so.

MR. WALLACE: Q. Have you prepared, Mr. Kinnear, another Exhibit or table carrying a long sheet of assays?

A. Yes, sir.

Q. Does that furnish any data in connection with Exhibit 14th-84?

A. Yes.

Q. And it will be a convenience to have that in considering the Exhibit 14th-84, will it? A. Yes, sir.

MR. WALLACE: I ask to have it marked Plaintiff's Exhibit 14th-84-A.

(Document here marked Plaintiff's Exhibit 14th-84-A for identification.)

Q. Will you take this Exhibit 14th-84-A and explain how it is made; and how it is a convenience in connection with Plaintiff's Exhibit 14th-84? A. This table shows the assays and arithmetical averages of the assays for gold made by Nevada and by Coppermines, respectively, on each of the 168 lots Coppermines Emma-Nevada shaft ore, each assay in the case of each lot being made for a different part of the same sample. These lots are

the ore treated in the last half of the year 1930, and are covered by settlement sheets 47 to 71, both inclusive, and are the individual lot assays which go to make up the settlements shown in Exhibit 14th-84. In the first column headed No. 1 is the lot number; in the second column headed No. 2, is Nevada's assay of the head sample in ounces per ton. In column No. 3 is Coppermines' assay of the heads for gold on a different part of the same sample. In column 4 is the difference between Column 2 and Column 1, or the differences in ounces per ton between Coppermines' assay and Nevada's assay on parts of the same sample.

Q. And the latter is expressed in thousandths of an ounce in gold? A. Yes, sir.

Q. So that taking the first item, for example, opposite lot 156, where the difference between the two assays is .001, that difference is one one thousandths of an ounce in gold?

A. One one thousandths of an ounce in gold.

Q. And is the same difference with respect to which Mr. Lewis stated that in his opinion it would represent a difference in percentage of gold recovery of five per cent?

A. About five per cent, yes.

Q. There are about 168 of these different assays identified by lot number? A. 168, yes.

Q. Where did you get the data for those heads assays of Nevada?

A. The heads assays of Nevada are taken from the settlement sheets which have been given to Coppermines by Nevada covering the settlements embraced in this period.

Q. And they are in those settlement sheets that are referred to--I don't know whether they are taken up in the Richards Exhibit ZZ, or not--are they? A. They are not in the Richards Exhibit ZZ

but they are in one of the Richards exhibits, which is the blut print of the settlement sheets.

Q. They can be found in those settlement sheets, in one of the Richards Exhibits? A. Yes.

Q. Where did you get the data with respect to the heads assay on the other part of the sample in each case that Coppermines had an assay? A. Those assays are contained in the assay certificates which were furnished to us by Coppermines.

Q. And are now marked in evidence here as one of the exhibits, Plaintiff's Exhibit 14th-81, with several letter subheads, I believe? A. Yes, sir.

Q. Looking down through this right-hand column what is the range of departures between the two assays, the single lots, expressed in thousandths of ounces?

A. The range is from a check on both samples--

Q. That is, both samples even? A. Yes, to eight-one thousandths shown in Lot 302.

Q. And that range, taking the maximum there converted into per cent, would represent what possible difference in per cent of recovery between those two assays on Lot 302?

A. According to Mr. Lewis' testimony it would amount to about 40 per cent difference.

Q. And yet the assays were made from different parts of the same sample? A. Yes.

Q. Despite these varying differences and as a result of the balancing off occurring during the last half of 1930, the period involved, what is the outcome, and if you show it on your Exhibit 14th-84-A, you may use those figures? A. The arithmetical average of the two columns is shown down at the bottom of the page and checks out to the fourth decimal place. The

arithmetical average in the case of Nevada's assays is .01934; in the case of Coppermines' assays it is .01931, there being a difference of 3 in the fifth decimal place.

Q. And that would mean three-one hundred thousandths of an ounce?

A. Three-one hundred thousandths of an ounce.

Q. In other words, that is the difference between the averages over the whole period, three-one hundred thousandths, despite the fact that in some of the assays there is such a difference that it would represent as high as 40 per cent difference in recovery and from a low in balance or 5 per cent difference in recovery and upward? A. Yes.

MR. WALLACE: I offer in evidence Plaintiff's Exhibit 14th-82, 14th-84, 14th-84-A and 14th-85.

MR. THATCHER: There is no objection.

THE COURT: They may be admitted.

MR. WALLACE: That is all.

(Plaintiff's Exhibits 14th-82, 14th-84, 14th-84-A and 14th-85 in evidence.)

CROSS-EXAMINATION

MR. THATCHER: Q. Is there a screen analysis upon Nevada's and Coppermines' ores here at the present time?

A. I will have them here for you.

Q. That is all right. We are going to recess shortly and it does not make very much difference so long as we get them.

A. When do you want them, and where? I will get them for you. I am having them collected at Reno today.

Q. That will be satisfactory. The concentrator daily report for January, 1925 and 1926, where are they? A. I do not know whether we have them in Reno or not, but if they are there I will get them; in any event I will get them for you.

Q. They will be made available to us? A. Yes.

Q. My recollection is that what is called the pre-muck period, as to which you have referred in connection with your concentrator daily report as of January, 1925, and to a procedure which was followed from January, 1925 until about August or September of the same year in adjusting your heads, tails and concentrates as between the Ruth ore and the Pit ore?

A. You say in the pre-muck period? Q. Yes?

A. That was not done on daily reports.

Q. No, but you referred to daily reports? A. Yes.

Q. We would like to have them. In the course of your examination upon moisture, and the Exhibits which you prepared, they have been prepared from actual reports and records and determinations on both for Nevada ore and Coppermines ore?

A. Yes, they have.

Q. Will you make available to us, the moisture reports, the determinations, the records on both Nevada's and Coppermines' ores from May 1922 to June 1st, 1931? A. I will make available to you the same data which I used in the preparation of these tables.

Q. Now with reference to the speed of thepulleys, or the pan feeders to the ball mill, is there any record kept of that speed or variation in speed? A. I do not know definitely, but I will say that I think our mill superintendent has some memorandum or record of some sort of the changes that have been made in the pulley feeders to alter the speed.

Q. If there is such a record it will be made available to us, will it, during the recess? A. Yes.

Q. Is there any record showing the results, the recoveries in the scavenger cells? I think I asked Mr. Boyd for that some time ago but I do not recall ever getting it. Willyou investigate that, Mr. Kinnear, and let us know whether there is such a record? A. I don't think you can get a record that will show how much the scavenger cells were recovering, due to the fact that there is such a slight difference -- in some cases it is not even shown within the limits of assay determination, the difference between the heads and the tails in the scavenger cells.

Q. Were any reports made of the tests on the scavenger cells? A. I do not know. I don't recall. If we have them you can have them.

Q. If you have them they will be made available to us? A. Yes.

Q. Have you any report on the tests that were made in the retreatment unit? A. Yes. As I recall it we made a test on the retreatment unit to determine the credit which Coppermines will be

given for their proportion of the copper recovered in the re-treatment unit. I think that is somewhere.

Q. That is probably embodied in the written report of those tests? A. I think it is; I do not recall at the moment.

Q. Will you make that available to us also? A. Yes.

Q. In 1927 you made a number of tests, quite a number of tests according to the record, for the determination of gold and silver recoveries? A. Yes.

Q. Were reports made of these tests also? A. I don't remember the nature of that report other than the fact that when that work was completed, Mr. Mohr, who was looking after that, gave me the figure of 69.8 as being the fair figure for the basis of additional settlements with Coppermines covering the period prior to October, 1927.

Q. Prior to that time it really had been the custom of Nevada to rather estimate their recoveries on gold and silver?

A. That was done in this manner--I think I explained it in my testimony in one of the other counterclaims. It had been Nevada's practice on its own ores for as far back as I can remember to show a recovery of gold and silver in the concentrator by referring back to the gold which was in the blister and arriving at ounces of gold per pound or per ton of copper and applying that same ratio to the concentrate in the mill and in that manner arrive at a recovery.

Q. Yes, I recal that. That was your statement before.

A. The exact mechanics of that I do not remember. In general that is the way it was done.

Q. I think that is the outline you gave us, and we can get that in the testimony. At the same time that you were making these tests on Coppermines' ores, didyou enter into a series of tests

for the purpose of determining for general mill recovery, your own mill recovery, the gold and silver in your own ores?
A. I don't know. I do not remember the detail of that.
Q. Will you look xthat up and ascertain whether that is correct, and if you did make such tests and if you took such assays will you make those available to us? A. Yes.
Q. I want to state now just a few things here. Do you recall your Exhibit 14th-78--have you that exhibit before you? A. Yes.
Q. Let me call your attention to page 4977:
"Q. Now, recurring to your chart, Plaintiff's Exhibit 14th-78, will you tell me again when this excess deduction with respect to Coppermines' ores began? A. It started in February 1927.
"Q. Was this extra deduction that was made in the case of Coppermines' ores from February 1st, 1927 to December 5, 1929, made for the same cause as were the deductions made in the case of Nevada's ore? A. No, sir. "
Now, you say it was not made for the same cause as were the deductions made in Nevada's ores. Will you please explain that to me? A. The extra deduction which was made on Coppermines' ores was made for the purpose of adjustment due to the fact that we felt we were not getting complete drying in the assay office bucking room.
Q. And that was the reason for making the deduction in Coppermines' ores? A. Yes,
Q. What was the reason for making the deduction in the case of Nevada's ores? A. The reason for making the deduction in the case of Nevada's ores was to take care of all the drying which went on from the time the car was weighed until the moisture determination was actually made.
Q. Coppermines' moisture determinations and Nevada's moisture

determinations in the first period of the contract were made in the concentrator bucking room; is that correct? A. In the concentrator bucking room, yes.

Q. What was the equipment there? A. Hot plates.

Q. And the sample was placed upon a hot plate and dried and by that method you found the moisture content? A. Yes, sir.

Q. Just describe what that hot plate was? A. It was a hot plate under which there was fire.

Q. By a hot plate, do you mean a plate of iron or steel?

A. A plate of iron. I think they were cast iron, I am not sure.

Q. And exposed to the air? A. Yes.

Q. That is, at the top? A. Yes.

Q. And with fire underneath? A. Yes.

Q. And the sample was weighed and then deposited upon this hot plate? A. Yes.

Q. Do you recall to what temperature, or do you know to what temperature this hot plate was heated? A. I have not the least idea.

Q. That was kind of called the "hot stove" period, wasn't it?

A. It was pretty hot.

Q. I mean that was generally known as the hot stove period in the moisture determination? A. I never heard it classed as such.

Q. Is that a proper way, in your opinion as a chemist--You are a chemist, are you not? A. I was once.

Q. Yes, you were a chemist at Goldfield. A. I remember that.

Q. Is that the proper way to make a moisture determination?

A. No, sir.

Q. As a matter of fact, it is a very improper practice, isn't it?

A. It is not good practice.

Q. And it does not result in a true determination? A. Well, I don't know about the true determination part; I never tested one against the other but I would say it was not good practice.

Q. It is not good practice? A. No, sir, but it was as good as we had available at the time.

Q. Is it not your opinion that that would result in excess moisture deductions over what the true determination should be-- I mean the hot stove method? A. I don't know, Mr. Thatcher, whether it would or not.

Q. Is it not comparable to a considerable extent with what you do in your roasters? A. No, I do not think it is.

Q. It is a little one-- not a big one, I mean it isn't the same thing, is it? A. There might be a slight increase in the moisture determination made in that way.

MR. THATCHER: If the Court please, I don't know whether I can pursue my crossexamination any further without the various papers that I have asked for. I can determine that during the recess and advise the Court. I prefer to take my cross-examination up after the recess.

MR. BROWN: Which recess do you mean, the noon recess or the long recess?

MR. THATCHER: I will determine during the noon recess and advise the Court. I doubt very much whether I can go on very long in my cross-examination this afternoon without the material I have asked for. The direct examination has been so broad and really has covered in full the whole case for the Plaintiff in the matter of their defects. Subject to corroborative detail it presents as I view it pretty nearly the whole defense. I don't want to start a cross-examination of this witness and get just to a certain period and have to stop. I prefer to take up the cross examination after I have had an opportunity to examine the material.

THE COURT: Have you any other witness that you intend to

put on today?

MR. WALLACE: No other oral testimony, your Honor. I do not understand that Mr. Thatcher is making up his mind right now about this matter.

MR. THATCHER: No, but as a matter of fact that is about the way I feel about it. I might as well advise counsel now. I think we could just as well recess now as 4:00 o'clock this afternoon. It will give us all a chance to pack up our papers anyway.

THE COURT: Suppose we take a recess until the regular time and counsel can determine in the meantime whether they want to proceed any further.

MR. WALLACE: Very well, your Honor, we will do that.

THE COURT: Then we will be in recess in this case until this afternoon at 2:00 o'clock.

(A recess was here taken until 2:00 p. m.)

AFTERNOON SESSION:

MR. THATCHER: In going over the whole matter, if the Court please, we would much prefer to defer cross-examination until we can get the information which we have requested.

MR. WALLACE: I think, then, that that doubtless will end the presentation of proofs at this time, if that is satisfactory.

MR. THATCHER: That is satisfactory.

MR. WALLACE: Will we take up now the matter of these counter-claims?

MR. THATCHER: Yes, that is perfectly agreeable.

MR. WALLACE: These counter-claims that we tried, other than the Watson, which was argued and the subject of a later Exhibit which your Honor will not be bothered with, fortunately or unfortunately, as the case may be, there remain the third counter-claim, which is the Ora, the fifth being the Watson, which is out of the way, the sixth was the Puritan, which was dismissed; then the seventh and eighth, constituting the water counter-claim; the ninth was withdrawn; the tenth, which was the $132,000 of specified items, that being tied up in some way, I don't know just how, with the 14th, at least it is outstanding; and the 12th, which is the power; the 13th is the freight rates. The result of it all is that there is the the third, and the Ora,and the seventh and eighth, the water, and the freight rate counter-claims that we think we can submit, and unless the Court should desire oral argument it is our feeling that these counter-claims may be submitted on briefs, each side to file a brief by the 1st of September and then each

may reply and file that reply by the 1st ofOctober, or sooner, if desired.

THE COURT: That will be agreeable to the Court.

MR. WALLACE: That will leave the fourteenth, and the tenth in some form, and the twelfth in some form, ahead of us.

THE COURT: An Order to that effect may be entered. Now, pursuant to the discussion we had in Chambers, I will fix a definite date for the resumption of the trial as of the first Monday of November. That will be November 2, 1931, at 10:00 a.m.

(An adjournment was here taken until Monday, November 2, 1931, at 10:00 a. m.)
