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Volume 8 ; Book 8

TOMBSTONE

Mining District

Cochise County

ARIZONA

Depositions of Dean (1980)
and Hewlett (1981)

Southwestern
Exploration
Associates

Mineral Exploration &
Natural Resource
Consultants

Tucson, Arizona

Notes on Dean Deposition

December 16, 1980

ORIGINAL

James A. Briscoe - Notes on Deposition of John Dean, November 24, 1980 concerning the Tombsone Exploration vs S.E.A. #188423 (conducted at the law offices of Kenneth L. Allen, P.C. by Mr. J.S. Kittle for S.E.A.)

1. Page 15, Line 9

Question - "When did Dean first talk to Hewlett?"

Line 12

Answer - "Approximately February of '79." This was considerably earlier than I was aware that he had talked. Dick Hewlett did not to my recollection tell me of meeting Dean in Tombstone at that date and of course this is before the signing of the agreement with Tom Schloss. It was after the signing of the agreement with Tom Schloss that Schloss suggested we bring in Dean as an additional consultant.

2. Page 18, Line 5 and Line 11

"Dean says that Hewlett confided in him in private conversation that sodium thiosulfate was less effective than cyanide he realized, but that he used the thiosulfate in order to generate investment enthusiasm."

First and most important possibly, is that Hewlett at no time ever expressed to me that comment. Of course, I was one of the "investors" and thus it is unlikely that he would have stated as much. As far as I know Hewlett never stated it to anyone else either so it is his word against John Dean's. However, I am not sure that there is any reason to disbelieve Dean on this point.

I am not sure that the idea that something new and different had to be applied to the Tombstone Heap holds much technical water anyway. It was my understanding with Hewlett that we would simply re-irrigate the Tombstone Heap with cyanide solution initially and then go to induced perculation with the possible addition of different chemicals. The reason for this stems from porphyry copper heap leaching experience. It has been found throughout many of the copper mines in the Arizona area where heap leaching is used to extract low-grade oxide copper values, that if the leaching process is stopped, and the heap allowed to drain, and dry-out to some degree and possibly oxidize further, that when leaching is reinstituted increased copper recovery is attained. There are several reasons for this that are probably important to discuss here. These are:

1. The leaching solutions only dissolve the copper off the outside of the rock fragment containing the copper material. When the leaching is stopped, leach solution saturating the rock fragments migrate from the center of the rock outwards by capillary action bringing copper from the interior of the rock to its surface. When the heap is re-leached this copper is then available for leaching.

2. Aeriation and oxidation occur within the material in the dump so that sulfide containing copper is oxidized forming sulfuric acid and copper sulfates and the insoluble copper sulfides are transformed into a soluble form. The same general thing happens in a precious metal heap leach, that is:

   1. The fragments become saturated with cyanide solution but only the precious metal on the exterior of the fragment is removed. When the leaching ceases, cyanide solution saturating the rock moves outward by capillary action as the rock fragment dries and is drained, to the outer portion of the fragment where it is available for the next leach cycle.

   2. Any sulfides in existence in the heap oxidize to form metal sulfates, and since gold and silver are generally associated with iron sulfide (pyrite) as well as other sulfides, this tends to convert it to metallic gold and silver or at least oxidized compounds which are soluble in cyanide solution. As a negative factor - the sulfates are acidic and in less there is sufficent limestone in the heap to neutralize the acidity thus created, additional lime must be added to the cyanide solution in the next leach cycle to keep the solution basic.

   Because of the variety of operating problems primarily lack of money and Hewlett's fixation on using different reagents such as thiosulfate, sodium chloride, and sulfuric acid, the Tombstone Heap Leach has yet to be reactivated. I believe that if it were completely re-irrigated, in spite of John Dean's contention that there is channeling which keeps all of the fragments within the dump from being in contact with the cyanide solution, it would be economically feasible to re-leach the heap as it now exists.

   One other facet that will probably be brought up later but may as well be addressed here is Hewlett's addition of sulfuric and nitric acid as well as common salt into the heap to aid in the disolution of silver and gold values. This acid was brought in from the Apache Powder Co. which produces it as a waste product, in tanker trucks. I would estimate several thousands of gallons of both sulfuric and nitric acid were put on the heap. One of Dean's contentions is that this acidizing may have damaged the heap for future cyanide leaching. This contention I strongly disagree with. Most of the rock material in the heap contains a substantial amount of calcium carbonate or limestone which tends to neutralize any acid put on it. Further, sulfuric acid is a naturally occuring element common in the environment of any mineral deposit containing oxidized sulfides of which Tombstone is one. Nitric acide is also a naturally occuring substance and NaCl or common table salt which is also added in some tons is a very common natural mineral and many of the silver minerals at Tombstone are indeed chlorides - AgCl. Thus I think that there

has been little if any permanent effect on the 71 Minerals Heap.

3. Page 18, Line 23

The date of the conversation which Hewlett told Dean that he realized that thiosulfate would not work as well as cyanide but used it as a investment ploy.

I tend to question this date. It was either very late May or mid-June. I tend to favor mid-June although I will have to consult my records. I believe I was in Japan in late May and early June. Be that as it may, if Tom Schloss knew about it in mid-May, before my departure it is hard to understand why he was adamently opposed to me firing Dick Hewlett when I returned from Japan in June. In spite of my early suggestions to fire Hewlett, Schloss informed me that since he was running the project he would not have Hewlett fired until I insisted on doing so in late July. That does not make sense in relation to his response quoted by Dean on Page 19, Line 4.

4. Page 20, Line 17

Use of zinc to precipitate the pregnant thiosulfate solution.

I cannot comment on the chemistry of this but Hewlett may have used it in desperation because of lack of adequate budget. This does not exonnerate Hewlett in not using proper chemistry but the alternative would have been to quit altogether. We simply cannot separate what happened in this situation because of the lack of availability of proper funding from the methodology or operating conditions at Tombstone.

5. Page 25, Line 21

"I obtained a bid on crushing from New Pueblo Contractors in April or May of 1979, approximately a year and three months before that. They were even willing to discount their crushing price for a participation in the project."

Page 26, Line 1 and the Answer - Line 8

That is absolutely incorrect as I previously mentioned we could have had a crusher on site, a portable crusher, of which many are in existance on a contract basis which would not have required purchasing the crusher, in May of 1979.

Line 17

Obviously John Dean agrees with the need for a crusher. Tom Schloss would not agree to the cost of crushing.

6. Page 28, Line 12-18

This is concerning ion exchange within the heap.

I am pretty dubious as to whether ion exchange would occur within the heap in any significant manner. Ion exchange is generally related to an extractive technique in which synthetic resins which have particular affinity for one

metallic element are used to strip or extract that element from a pregnant solution. In copper this is LIX-64 or liquid ion exchange reagent 64 which has a strong affinity for copper and extracts 99.999% pure copper because it will not react with any other element. Other resins are available for other elements including gold which Hewlett tried using at Tombstone. But, whether ion exchange is important within the heap I think this is subject to much doubt.

7. Page 30, Line 16

The heap had been leached four times previously.

I think we have to be more specific here and I am not really sure what John Dean means when he says, "The heap has been leached four times previously." I believe that is misleading. The heap was leached only by 71 Minerals Limited but there has probably been four lifts or four separate layers put one on top of the other. The first layer was leached and another layer put on a layer leached then another layer put on and that layer leached and then as a final operation, 71 Minerals pushed about 10 feet of the top material off and continued to leach the heap. Thus the lowest layer may have been in rather vague terms "leached four times." However, I think simply saying the heap was leached four times is very inaccurate and misleading.

9. Page 31, Line 3

Nothing in Dean's memos circa May, 1979 indicated that he had knowledge that the heap had been leached four times previously.

It might be added that all of this was known at the time we went into the project and was communicated on to Tom Schloss - except for the misleading statement of leaching the heap four times. It was also known that sodium hypochlorite was used to kill the heap. This however, could have been removed by simply sprinkling the heap with plain water to leach out any residue of sodium hypochlorite or in fact this may have occurred naturally through the action of rain water. I think the difficulties of reactivating the heap are over blown by John Dean.

10. Page 37, Line 24

"Could the copper be recovered?"

Page 38, Line 2 - Dean's answer. "Only if a new process were developed."

This is incorrect in that copper has formed an important by-product throughout the life of the Tombstone Mining District and no new process is needed. However, copper as well as lead and zinc are in the original sulfide form in which they were deposited from the hydrothermal solutions. They have been unoxidized by surface solutions as is the case with ore in the Contention Mine. Sulfide ores are not treatable by the cyanide process but can be treated by the floatation method and shipped to the smelter at Douglas or

other smelters or if they are rich enough, which some of them were, some of them could be shipped directly without further processing.

11. Page 38, Line 21

Dean's answer of medium-quality for gob is surprising.

Medium has no meaning. It is completely inpercise and impossible to define. What we are concerned with here is current economics. Some of the gob left by the miners that operated the mines from 1876-1940's by today's standards would be very high grade ore.

12. Page 40, Line 12

Interesting to compare S.E.A. fees with Dean's current fees.

What this translates to is 2 days @ $400 or $800 plus 6 days @ $300 for a total of $2,600 per month for eight days work. Hewlett who is also supposedly a consultant was paid $2,000 per month for a 30-day month. A disparity of $7,750.

Also, though not addressed here, I believe that Dean was only charging half of his $300 rate to Schloss.

13. Page 42, Line 20

Dean is really couching this euphemistically. As he described it to me "his payment is so slow that his pencil while writing reports seems to simply melt where he cannot make his hand move in order to get the reports done."

14. Page 44, Line 14

That statement is completly inaccurate. Tombstone is relatively close to the major metropolitan area of Tucson, the environment is very good, living conditions are good, and with the proper money outstanding technical talent could be obtained - in fact they are only 1 hour away from the headquarters of Mountain States Engineering who does consulting on a world-wide basis. Tombstone is by not of any strech of the imagination a hardship camp from environment or working conditions, etc.

15. Page 45, Lines 5-9

It is interesting to note here that Dean verifies that even large companies with large budgets have problems.

However, it was Hewlett, not Dean nor Schloss that first recommended the aglomeration technique. Thus it follows from Dean's statement that Hewlett's thinking was in the forefront of the mining industry.

16. Page 45, Line 18-20

That answer is ambigious since nobody was paid for any of the effort put in. The real situation that there was not money available nor the right environment to obtain qualified people

although obtaining such people would have been relatively easy had the money and the environment been proper. Obviously these are things that are beyond control of S.E.A. or Briscoe but were within Schloss' control. This is the continuing problem and the reason for the suit against TEI for mismanagement.

17. Page 46, Line 16-17

The reports that I have seen are only one page reports and can't take more than 3-5 minutes to read in detail. I can't imagine anyone so busy that had an interest in the project that could not afford 3-5 minutes of time.

18. Page 58, Line 19-20

The answer to this question is the crux of the whole problem. Tom Schloss has available to him money enough to get the proper equipment. It is simply not a viable excuse to say that they are doing the best they have with the equipment available. On the adverse of this, S.E.A. and JAB were doing the best they could with the available equipment but had no option to make better equipment available.

Line 24-25

If that is the case then, this is a perfect excuse as to the problems that S.E.A. was involved in on the project.

19. Page 61, Line 23-25, Page 62, Lines 1-3

What was omitted here in the question was the dates of employment. Ed Speer has only been working for them since approximately November of 1980. Ed Speer is an ex-SEA employee so it does not follow that S.E.A.'s employees were inexperienced (reference comment 15) if indeed one of the ex-SEA employees is now working on the project.

Bailey Escapule has a BS in Geology but no experience except with his ~~uncle~~ father's 's operation in Tombstone.

Can't comment on the lab man.

20. High Grading

John's understanding of this is inaccurate. The term means identifying high grade ore specimens or metal and hiding it and stealing it, not in taking a particular high graded sample.

I think the term he is thinking of is salting, something entirely different.

21. Page 66, Lines 12-14

What we have already established during the discussion of fire assaying that the assays taken at Tombstone - because of poor procedures in sampling are not reproducable and crisore or chrysor anywhere else. Further there are no umpire assays so if some material were substituted it would be essentially impossible

to detect.

22. Page 67-68, Lines 24-25 and Line 1

This is precisely the type of thing that I feel uncomfortable about.

23. Page 72, Lines 12-15

This is representative of the difficulties that are encountered in every direction in dealing with Schloss and trying to get a highly technical operation underway.

24. Page 72, Lines 24-25, Page 73, Lines 1-3

This is a chicken or the egg situation. If you cannot do the proper metallurgy or mining techniques because of the tight monetary considerations you can't operate properly and therefore it may forever be impossible to get a positive cash flow that would allow you to do the proper things in the first place. Thus proper financing is a must and in spite of the fact that Tom Schloss is supposed to be a fine ensier and a manager, he has fallen down on both accounts.

25. Page 75, Line 5

"After 1-1/2 years of advise, this is good management?"

26. Page 75, Lines 19-21

Again it is not difficult to attract good people to a project if the professional environment is good and if the pay is competative. Neither one of these criteria are met at Tombstone, therefore the project itself repels qualified professionals, not its potential nor any other aspect of the project location.

27. Page 77, Lines 24-25, Page 78, Line 1-9

John Dean is correct on this - "I never held myself out as being a metallurgist. However I did rely on Dick Hewlett's background with a degree in Chemical Engineering, and a Master's degree in Geology and Mining Engineering as well as his previous years work in the Tombstone Mining District."

28. Page 78, Line 22

This is from John Dean's perspective. The whole point in the Tombstone project was to secure a land position in a mining district that had good potential for future production. This was to be both from the 71 Minerals Heap and was only an intial stage, and was to follow on with production from the Contention Open Pit, the underground mines, and hidden targets known to Briscoe in the State of Maine mine area. All of this seems to have been submerged in the argument over the treatment of the heap leach project which has only a very, very, almost disappearingly small potential of the entire district. Through lack of initative Schloss allowed the exploraiton of the Escapule ground to slip through his fingers and that is now being actively drilled by Occidental Minerals.

The real thrust of the interest in the district then was profitability through production other than with the heap, although that was the intial prime interest.

29. Page 83, Lines 9-10

intents and

John has repeatedly said that Dick Hewlett was not qualifed as a professional without being specific. For all intensive purposes there was strong reason to believe that Dick may well have been qualified as a professional. Certainly as qualified as John Dean by way of education. This is subject to a great deal of discussion but in my estimation because of his previous work at Tombstone - he is really the person that was responsible for the activity at Tombstone in the first place. He should have been qualified to supervise the operation of the heap and indeed may be qualified. What he did was get sidetracked on some ideas that had not had sufficient test work done on them.

One Lines 12, 13, 14, Dean makes a reference to a mining engineer and I assume he means Hewlett, but in addition to his degree in Mining Engineering, Dick Hewlett also had a degree in Chemical Engineering. Further in the degree in Mining Engineering there are numerous metallurgical courses which are required for the degree - something that Dean does not have in his academic background. Thus the decision between qualifications and lack of qualifications is only questionably appropriate applied here. What we may say is Dick did not produce nor perform as we had hoped. Although repeatedly John Dean has not been able to produce or perform either since the operation is still not in the black - primarily because of lack of management capabilities on the part of Tom Schloss.

30. Page 84, Lines 1 and 2

The statement that either one of them would budge is incorrect. Indeed I did and offered a compromise solution - it was Tom Schloss that would not budge.

31. Page 89, Line 7-9

The aglomeration was one of the primary things that we were interested in when the project first was suggested.

32. Page 89, Line 17-19

That is a matter of opinion. I think it has been particularly ineffective since the technique was known at least a year and a half ago and was recommended by Hewlett.

33. Page 92, Lines 3-14

This is an error in perspection on Ken Allen's part as well as John Dean's part. Tombstone property was not promoted on the basis of any metallurgical process. It was promoted on the viability of it as an economic _____ of precious metals.

deposit

34. Page 92, Lines 24-25

Hewlett finishing his work for Phd. - I think this is

completely incorrect. I was never under the impression that he had his PhD, although he had completed all course work except for language requirement.

35. Page 97, Lines 9-13

In fact Dick Hewlett was operating directly with Tom Schloss and excluding my managment perogative something that can be proven via telephone converstation notes with Tom Schloss. In fact I had very little effective control on the project.

36. Page 99, Lines 1-6

In fact in 1970, Hewlett had proposed leaching of mine dumps to Schloss and he was well aware of the process and the fact that I had recommended against it.

37. Page 99, Lines 7-15

It is unclear whether I reviewed this. If I agreed with it, it would have had my professional stamp and signature. Again, Schloss and Hewlett collaborated closely and in fact I did not even see some of the documents that were sent between them ~~and~~ at Mr. Schloss' request until later.

END

Important - not

DEAN Deposition

Deposition of JOHN DEAN
November 24, 1980
Tucson, Arizona

I N D E X

Events:	Page
Examination by Mr. Kittle	3
Examination by Mr. Allen	84
Re-examination by Mr. Kittle	95
Re-examination by Mr. Allen	98

IN THE SUPERIOR COURT OF THE STATE OF ARIZONA

IN AND FOR THE COUNTY OF PIMA

TOMBSTONE EXPLORATION, INC., a Delaware corporation, et al., Plaintiffs,	)	
vs.	)	NO. 188423
SOUTHWESTERN EXPLORATION ASSOCIATES, INC., an Arizona corporation, Defendants.	)	

APPEARANCES:

LAW OFFICES OF KENNETH L. ALLEN, P.C.
By Mr. Kenneth L. Allen
For the Plaintiffs

COREY & KITTLE, P.C.
By Mr. Jay S. Kittle
For the Defendants

BE IT REMEMBERED that pursuant to notice for taking depositions in the above styled and numbered cause, the deposition of JOHN DEAN was taken upon oral examination at the law offices of Corey & Kittle, P.C., 509 Transamerica Building, in the City of Tucson, County of Pima, State of Arizona, before Kenneth W. Schippers, a Notary Public in and for the County of Pima, State of Arizona, on the 24th day of November, 1980, commencing at the hour of 10:00 a.m. on said

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day, on behalf of the defendants in a certain cause now pending in the Superior Court of Pima County, Arizona.

STIPULATIONS

It was stipulated and agreed by and between counsel that this deposition could be taken at this time and place; that notice of filing the deposition would be waived; that objections would be in accordance with the Rules of Civil Procedure of the Superior Court of the State of Arizona; that signature of the witness to the deposition would not be waived.

MR. KITTLE: Let's go on the record here and note that this is the time and place set forth in the notice of deposition for taking the deposition of Mr. John Dean.

JOHN DEAN,

having been first duly sworn to state the truth, the whole truth and nothing but the truth, testified on his oath as follows:

EXAMINATION

BY MR. KITTLE:

Q Mr. Dean, I thank you for coming over here this morning. I understand you have been down in the Tombstone

area recently, have you, looking over the project?

A Yes, Thursday and Friday.

Q And prior to that time you had some kind of meeting in the Reno area, did you?

A Yes, the American Institute of Mining Engineers, Nevada section, gave a precious metals symposium.

Q We tried to arrange to have your deposition taken here on Saturday but I understand from Mr. Allen that that didn't work out very well for you so we'll do what we can here today as fast as we can so you can catch your plane and get on home.

For the record would you please state your full name and your current address?

A It's John G. Dean, North Scituate, S-c-i-t-u-a-t-e, Rhode Island.

Q Mr. Dean, what is your profession?

A I'm a consulting chemist and metallurgist.

Q And could you please tell us a little bit about your academic background?

A Yes, I have a Ph.B. and a M.S. in chemistry from Brown University and a Ph.D. in chemistry from Columbia University.

Q And now I have to ask what is a Ph.B.?

A That's a Bachelor of Philosophy.

Q What's the difference between a Ph.B. and a B.A.

in philosophy?

A Well, at that time a Ph.B. gave you -- you could major, for example, in chemistry and minor in economics or mathematics. Gave more flexibility as to the course requirements.

Q And in what year did you complete your doctorate work?

A In 1936.

Q And what was the subject of your doctoral dissertation?

A It was on the chemical characteristics of thallium salts in solution.

Q Thallium salts in solution are used in certain metal extraction processes, are they?

A Yes, they are but that wasn't the subject. The subject was to explore the anamolous behavior of thallium as a metal and try to relate that to fundamental chemical considerations.

Q And I believe you said that you have a master's degree in metallurgy, is that correct?

A No, I have a master's degree in chemistry.

Q And do you have formal academic training in metallurgy?

A Not by -- Not by current course requirements. My area of expertise is between chemistry and metallurgy. It's

chemical metallurgy, which has become a major activity in the mining field in the last 20 years, say.

Q Is it fair to say then that your expertise in this area of chemical metallurgy is largely something that you have developed since you have completed your formal academic work perhaps in connection with your professional assignments?

A I think that would be 80 percent correct.

Q Are there any other percentages in there that would be meaningful to have the record reflect?

A Well, my training at Columbia University involves a lot that's metallurgy. By working with this thallium problem I studied electromotive -- electrochemistry and actually worked with cyanide solutions. It was a lot that related to what's involved in the chemical extraction of metals.

Q Your doctorate degree was obtained from Columbia, is that correct?

A Yes.

Q As briefly as you can can you tell us or summarize the professional experience you have had since completing your academic work that has assisted you in developing your expertise in this chemical metallurgical field?

A Yes. Well, I worked nine years for the International Nickel Company and was in charge of their chemical section, and one of the very first projects was the sulphuric acid

1 extraction of nickel from oxidized ores and from that base
2 I went on to have a series of jobs, assignments that related
3 to the chemical extraction of metals including gold and
4 silver.
5 Q Have you worked on other heap leach projects
6 during the period of time since your academic training?
7 MR. ALLEN: Excuse me a second. Could I just --
8 you asked him one question about his experience. Were you
9 through with your experience other than just with the nickel
10 company or whatever?
11 THE WITNESS: No. You want to pursue that?
12 MR. KITTLE: Yes. I figured they were really part
13 of the same subject.
14 MR. ALLEN: I don't have any objection. I didn't
15 mean to interrupt you. I thought maybe you were going
16 somewhere else and didn't give him time to finish.
17 Q (By Mr. Kittle) Let's continue on then before
18 focusing on heap leach experience that you might have had.
19 Perhaps you can tell me generally of additional experience
20 that you have had.
21 A Yes. Well, subsequent to my nine years with
22 International Nickel I worked eight more years for the
23 National Lead Company, their nickel processing subsidiary,
24 on a U.S. Government-owned nickel plant in Cuba which
25 involved the ammonia leaching of nickel and cobalt, and then

1 subsequent to that I worked for American Metal Climax as
2 acting manager at one point of their molybdenum chemicals,
3 and then from that point that adds up to 20 years, something
4 like that, and subsequent to that I have been a consultant
5 with perhaps 60 projects relating to the chemical extraction
6 of metals.
7 Q Could you name a few of the companies that you
8 have done consulting work for, let's say within the last
9 10 years?
10 A Yes. Kennecott Copper, Golden Cycle Corporation,
11 Handy & Harmon. There are some that are -- are not pertinent
12 short term, but perhaps that's enough.
13 Q That gives us a pretty fair idea.
14 Focusing now a little more specifically on heap
15 leach activities and focusing on that period of time before
16 you became a private consultant were there projects either
17 for National Nickel or -- I think it was National Nickel?
18 A National Lead and International Nickel.
19 Q International Nickel where your responsibilities
20 involved heap leach activities?
21 A Possibly in a minor way but heap leaching has only
22 been important with gold and silver in the last 10 years at
23 the most. It was practiced prior to that for copper and the
24 closest I came in actual experience was in the work with
25 Golden Cycle where both in situ leaching and heap leaching

1 were under study.

2 Q And that was when you were working as a private

3 consultant?

4 A Yes.

5 Q That leaching, was that presumably for gold?

6 A Yes.

7 Q Are there any carryover technologies that you know

8 of between the heap leaching processes that might have been

9 used in copper for a number of years and the heap leaching

10 processes that are used for silver and gold?

11 A Yes, there are many. The chemistry is different

12 but the physical problems are the same.

13 Q Could you outline for us in basic terms what you

14 would describe as the basic physical factors that need to

15 be taken into account in a heap leaching project?

16 A Yes. The very first factor is the amenability of

17 the ore to chemical treatment and the amenability must relate

18 to the particle size. It's a matter of recoveries in

19 relation to how finely you have to grind the ore and having

20 established that you can get a reasonable recovery at a

21 certain grind. Then the next consideration is to prepare

22 the heap so that you will get permeability so that your leach

23 solution will have complete contact with the metal values

24 in the heap.

25 And then from that point forward it's a matter of

1 chemistry of dissolution, the recycle of the solution,
2 control of reagent cost and achievement of recoveries.
3 Q Are there any special factors that have to be taken
4 into account in preparing the heap itself? I have in mind
5 that sometimes it's important to have an impermeable base of
6 some kind under it but I don't know how important that is.
7 A That's exceedingly important because from a
8 recovery point of view the solution at the base is the metal
9 rich solution and if you lose it into the ground you are
10 losing values. Also if you lose chemicals into the ground
11 it's not -- it's a problem with environmental consideration,
12 particularly cyanide.
13 Q Would it be fair to say it could be an economic
14 factor, too, if those chemicals could be recovered and used
15 again?
16 A Yes, it is. On all counts it's economical from
17 the point of view of recovery of reagents, from the point
18 of view of achieving product recovery and from environmental
19 considerations.
20 Q Now you mentioned the importance of permeability
21 of the heap. What are methods used for increasing or
22 decreasing the permeability of a heap?
23 A Well, the most recent and very successful develop-
24 ment is one that has been pioneered by the U.S. Bureau of
25 Mines in Reno, and that is a pelletizer technique whereby the

1 ore is mixed with a bonding agent such as lime or cement and
2 may also have the addition of reagents like cyanide and the
3 mixture is pelletized so that the fines distribute them-
4 selves on the coarse particles and then when this material
5 is subsequently put on the heap so it doesn't break down the
6 pellets the permeability is much better and the extractions
7 are much more rapid, much more complete.
8 Q Now is permeability synonymous with providing
9 aeration to the leaching process?
10 A It's a positive factor that facilitates aeration.
11 Q Is aeration an important factor in a successful
12 heap leach process?
13 A In some heaps it is very important and others it's
14 of less importance because all the materials are already
15 oxidized.
16 Q In terms of the Tombstone heap leach is aeration
17 a factor there?
18 A It's a moderate factor.
19 Q You mentioned placing the pellets on the heap
20 subsequently, or some words to that effect. How are pellets
21 placed on the Tombstone heap for leaching?
22 A By means of conveyor belts and they may be spread
23 by bulldozer. Bulldozer, although it looks like a very
24 heavy piece of equipment, it has broad tracks and a broad
25 base and the pressure in pounds per square inch is surprisingly

1 low in contrast to a tire vehicle. That is just points of
2 contact, heavy impaction.
3 Q Now going back for a moment to one of the first
4 factors you mentioned, and I believe that was the amenability
5 of the ore to leaching, I would presume that this factor
6 could present certain challenges in a heap that had diverse
7 ores to be processed, is that a safe assumption?
8 A Yes, that's a very special problem. If there's
9 no uniformity it's very difficult to predict what your
10 recoveries are going to be except on a big scale.
11 Q How would you describe the degree of ore uniformity
12 prevelant at the Tombstone heap leach?
13 A It's medium -- moderate uniformity.
14 Q Does this mean then that because the uniformity
15 is only moderate that it presents special challenges for
16 assuring that the leaching solutions used are appropriate
17 for the various ores which are being processed?
18 A Not exactly. In heap leaching there's only about
19 so much you can do because of cost considerations and once
20 you have done the optimum sequence of events you take what
21 you get in the way of recoveries.
22 Q One of the factors that this particular lawsuit
23 focuses on is a system called the induced percolation system.
24 Would you please give us your definition of that term?
25 A Well, I think that's a private name that doesn't

1 mean very much. I think the basis of the concept stemmed
2 from the Bureau of Mines work in Reno, which I mentioned;
3 but as far as I can tell from the presentation it did not
4 incorporate this pelletization or aglomeration by mechanical
5 means. It did refer to the use of lime and cement to
6 facilitate the percolation but it didn't seem to spell out
7 how you applied them in any useful detail.
8 Q The presentation that you refer to, are those
9 materials which were prepared by Richard Hewlett?
10 A Yes.
11 Q Is it correct to say that the so-called induced
12 percolation system relates to the mechanical aspects of
13 preparing ore for leaching rather than the chemical aspects
14 of what takes place when minerals are actually extracted?
15 A I would say it was dominently physical preparation.
16 Q Can you tell us, please, in language that we non-
17 geological professionals can understand what it was that
18 Richard Hewlett was talking about in a system that he seemed
19 to have devised or was working on that was any different
20 from other systems for leaching heaps that were then currently
21 induced back in 1979?
22 A Well, at that time there was very little pre-
23 treatment of the ore, either chemically or physically, prior
24 to putting it on the heap and the heap leaching process, I
25 think, had started with simply putting the ores that was

1 mined and maybe crushed or scooped from gob or waste dumps
2 onto a pile and separating it with leaching agent at the top.
3 As far as I know there was no organized preparation of the
4 material to offset problems like percolation.
5 Q Did Hewlett's system, if we can call it that for
6 a moment, involve certain aspects of pretreatment that other
7 people were not using in 1979?
8 A Well, I think you could say that except that they
9 were under study at that time at the Bureau of Mines.
10 Q How would you describe the element or elements of
11 Dick Hewlett's approach which were distinct from other
12 approaches generally in use in 1979?
13 A Well, I presented this possibility of improving
14 the percolation aspect by pretreatment with a number of
15 materials such as lime, cement, sulphuric acid, diatomaceous
16 earth and maybe others. His program was one of pretreating
17 the ore to improve the subsequent percolation.
18 Q Based on your experience at Tombstone and else-
19 where does, in heap leach process, does cement help increase
20 the permeability of certain ores?
21 A Yes.
22 Q Does lime?
23 A Yes.
24 Q How about sulphuric acid?
25 A That has not been established.

1 Q Does the diatomaceous earth help increase
2 permeability?
3 A It does, yes.
4 Q Would it be correct to say that the appropriate
5 type of pretreatment for a certain mix of ores would
6 depend on the mineral content of the ores being treated?
7 A Yes, primarily the physical distribution of clays
8 and sands.
9 Q When did you first have a chance to talk personally
10 with Dick Hewlett about his ideas of pretreating ores that
11 would be involved in a heap leach process?
12 A Approximately February of '79.
13 Q Can you tell us where you met and briefly what took
14 place?
15 A Yes. I was a consultant for a company called
16 Eocene Research which was trying to leach the tailing dumps
17 of the Tombstone area and it was when I was there on one
18 of my periodic visits that Hewlett came into the laboratory,
19 I chatted with him for maybe a half an hour, he did most of
20 the talking telling me about his ideas.
21 Q And those ideas are pretty much as you've related
22 concerning the pretreatment with substances such as cement
23 or lime or sulphuric acid or diatomaceous earth?
24 A They extended somewhat beyond that in terms of
25 the substitution of sodium thiosulphate as a reagent for the

1 sodium cyanide that's currently used.

2 Q Okay. Now focusing for a moment on that term

3 reagent, my recollection of chemistry is that's something

4 that's important to have present in the chemical process but

5 which itself does not enter into the process. Does that

6 mean that this sodium thiosulphate is separate and distinct

7 from whatever substance is being used for the leaching?

8 A No, it's the dissolution chemical. It's the

9 chemical that dissolves the metal that you are interested in.

10 Q And when Hewlett mentioned the use of this sodium

11 thiosulphate what other chemicals was he talking about using

12 with it?

13 A He was talking about using ion exchange as a means

14 of recovering the precious metals from the thiosulphate

15 solution. He was also talking about using zinc and activated

16 carbon.

17 Q With reference to zinc and activated carbon would

18 those then be substances which would be added to a leaching

19 solution to promote the extraction of valuable minerals?

20 A No, they would be added to the pregnant solution

21 to get the precious, the dissolved precious metals back out

22 of the solution after it had run off the heap.

23 Q Okay. Can you tell us what you mean by the term

24 pregnant solution?

25 A Pregnant solution is common term in leaching

1 metallurgy to describe the material which has been contacted
2 with the ore and has been removed with the values dissolved
3 in it.
4 Q And in a heap leaching process in the Tombstone
5 area without particular reference to the one under our
6 discussion here this morning, what chemicals would normally
7 be present in a pregnant solution?
8 A Well, the previous operation, which is known as
9 mineral 71, had a typical cyanide leach. The pregnant
10 solution would contain excess sodium cyanide and dissolved
11 silver and gold complex cyanides along with other impurities
12 of minor significance.
13 Q Now was Richard Hewlett talking about a pregnant
14 solution that would contain either different chemicals or
15 different amounts of chemicals?
16 A Yes, specifically sodium thiosulphate as a
17 substitute for sodium cyanide.
18 Q Had you heard about the possibility of that
19 substitution prior to your conversation with Richard Hewlett?
20 A Well, the sodium thiosulphate process was used
21 for many years in the previous century before it was
22 displaced by sodium cyanide which turned out to be more
23 effective chemically and costwise.
24 Q If the sodium thiosulphate had been used at an
25 earlier time and was displaced by the sodium cyanide method

1 what was it about the sodium thiosulphate method that
2 Richard Hewlett thought might be more advantageous in the
3 Tombstone area than the use of sodium cyanide such as mineral
4 71 had used?
5 A Well, I'm afraid this is one of the basic points
6 in this action and since he confided to me that he didn't
7 think it was more effective, he said I had to have something
8 new to stimulate investment interest.
9 Q And this statement was made to you back in February
10 when you --
11 A No. No, this was after he had applied -- he had
12 applied the sodium thiosulphate and it, I was there when the
13 first test came to recover the metal and there was practically
14 no metal and so in a private conversation I asked him why
15 he uses sodium thiosulphate when surely he knew that sodium
16 cyanide was more effective, and he said, Yes, I knew that
17 but I never could have sold the idea on the basis of sodium
18 cyanide because it sounded like just coming around one more
19 time since the heap had already been leached four times with
20 sodium cyanide.
21 Q When did that private conversation take place to
22 the best of your recollection?
23 A May of '79.
24 Q And where did it take place?
25 A At the heap in Tombstone.

1 Q Did you share that information with Mr. Schloss?
2 A Yes, I did.
3 Q What was his reaction?
4 A The son of a bitch.
5 Q That's pretty direct.
6 A That's off the record.
7 Q Were there any other aspects of the process that
8 Hewlett was involved with that were different from prevailing
9 methods that you think are important for this lawsuit? You
10 have mentioned the critical factor of the sodium thiosulphate.
11 Were there any other chemical components or mechanical
12 processes which were different?
13 (Off the record.)
14 Q (By Mr. Kittle) I'm trying to get a little better
15 understanding whether there were any additional factors in
16 the process that Hewlett had been talking about in addition
17 to the sodium thiosulphate factor which he indicated were
18 new and different and valuable?
19 A There were two unconventional additional aspects;
20 one was pretreatment right on the heap with sulphuric acid
21 and at the time I was there in May there was a large tank
22 of sulphuric acid positioned on the top of the heap and this
23 had been sprayed around on the ore and also metal drums had
24 been flattened by bulldozers and put, positioned around in
25 a grid around this tank so that the acid would spray over

1 the drums and dissolve the iron and this was all designed
2 to liberate values from the, that were locked into the heap
3 ore that had not been removed by previous cyanization leaches.
4 Q That was a technique that Hewlett had recommended,
5 was it not?
6 A Yes, it was. It seemed totally -- It didn't make
7 chemical sense because the ores of the Tombstone district
8 are very rich in limestone and limestone reacts vigorously
9 with sulphuric acid to form calcium sulphate and carbon
10 dioxide and in order to get beyond this reaction into some
11 additional reaction the amount of sulphuric acid would be
12 astronomical. So it didn't seem to make chemical sense with
13 those ores. If there hadn't been as much limestone there
14 might have been something in it.
15 Q You mentioned a second unconventional factor that
16 was involved. What was that?
17 A The second one was coupling the use of zinc to
18 precipitate the precious metals from the pregnant thiosulphate
19 solution. This method is the practice with sodium cyanide
20 solutions but with sodium thiosulphate in its previous
21 success as a leaching agent it had been coupled with sodium
22 sulphide precipitation of the dissolved silver and as far
23 as I know there was no record of having applied zinc to a
24 field leaching situation such as this.
25 Q In what manner did he propose to apply zinc to this

1 heap?

2 A He applied zinc to the pregnant thiosulphate

3 solution and it looked as though what happened was

4 precipitation of zinc sulphide.

5 Q The zinc, which was added to the pregnant solution,

6 was it added in the form of pure zinc or some sort of zinc

7 compound?

8 A Pure zinc powder.

9 Q Let me skip way back here and ask you a couple of

10 questions before I forget them altogether. I understand

11 that at the time of trial you will be called as an expert

12 witness for the plaintiffs in this action and it would be

13 helpful for me to know what publications you may have had,

14 say, in the last 10 years. Have you written any books on

15 the subject of chemistry or metallurgy or chemical metallurgy?

16 A Well, as a consultant I have purposely, by design,

17 not divulged what I know but I have written articles on the

18 chemistry of the metals.

19 Q Without taking up time here this morning would it

20 be possible for you to send us a list of articles that you

21 have had published in the last 10 years so that we would have

22 an opportunity to review them if it seemed helpful?

23 A I'm sure it would.

24 Q I'm assuming if they have been published that they

25 are no longer confidential information?

1 A No, but I can tell you that they are not directly
2 pertinent except to establish professional competence. I've
3 not published articles on heap leaching or even the
4 dissolution of gold and silver with cyanide, but I do have
5 what might be a pertinent affiliation. For many years I
6 have had an associate who did publish definitive works and
7 he has collaborated with me on many projects. He is now
8 retired but I have all his books and files. His name is
9 F. L. Bosqui, B-o-s-q-u-i.
10 Q And where does Mr. Bosqui reside these days?
11 A He resides in Westport, Connecticut.
12 Q Now leaping back to activities in the Tombstone
13 area can you tell us if back in May of '79 Richard Hewlett
14 privately confided to you that his recommendation of sodium
15 thiosulphate was primarily to introduce something new and
16 different into the process to make it saleable? How much
17 longer did the use of sodium thiosulphate in this particular
18 heap leach continue after the conversation that you had with
19 Richard Hewlett?
20 A I think it was terminated that same day.
21 Q And am I correct in assuming that the chemicals
22 then that began to be used in place of sodium thiosulphate
23 was the sodium cyanide?
24 A Yes.
25 Q Following the use of sodium cyanide did you observe

1 any improvement in the results that were being obtained at
2 the Tombstone heap leach?
3 A Yes, the zinc precipitation worked and we began
4 to get product.
5 Q Did you determine at that time that the Tombstone
6 heap leach was worth working on even though it had been
7 determined that the sodium thiosulphate technique was not
8 going to be useful?
9 A Yes, the main interest at that point was to
10 utilize the aglomeration process because it was very evident
11 from working with the established heap that it was full of
12 channels that diverted the leach solution from penetrating
13 the fines in the heap.
14 Q Would you define for us what you mean by the term
15 aglomeration?
16 A Yes, aglomeration is, applied in this situation,
17 involves the actual movement of the ore with a bonding agent
18 in such a way that the fines distribute themselves on the
19 coarser particles and are bonded in position sufficiently
20 so that when you replace the material on the heap the coarse
21 pieces don't roll off to the edge all the time and leave the
22 fines in the middle where the solution cannot penetrate but
23 distribute the fines throughout the pile.
24 Q So when the coarse particles do roll off they
25 carry the fines with them?

1 Q So although this may have been covered in Richard
2 Hewlett's suggestions for pretreatment it was not anything
3 that had been dealt with in detail in written materials that
4 he had prepared prior to the commencement of this project?
5 A No, I did not see it in written material and I did
6 not see it in the practice of what he did after he got there.
7 There was no provision for rotating or using a pelletizing
8 technique.
9 Q To the best of your recollection when did the
10 pelletizing technique first begin to be used on this particular
11 heap leach in Tombstone?
12 A About October of -- maybe August of this year.
13 Q 1980?
14 A Yes.
15 Q Can that pelletizing process be utilized without
16 first crushing the material which is to be leached?
17 A Yes, but only with partial effectiveness.
18 Q To the best of your knowledge when were the ores
19 at this particular heap leach first crushed on a regular
20 basis for the pelletizing process?
21 A Approximately shortly ahead of this, perhaps July
22 of '80.
23 Q So prior to that time the leaching efforts had
24 taken place without benefit of crushing the material first?
25 A Yes.

1 Q I have before me here a copy of a memorandum dated
2 May 1, 1979, which I believe you sent to Tom Schloss of
3 Famco, F-a-m-c-o, in which on page 2 you seem to indicate
4 that in order to treat the main heap it would seem that at
5 least one substantial crusher will be required. If this
6 was your recommendation back in May of 1979 why was it not
7 until July of 1980 that a crusher was finally utilized?
8 A I think it's primarily a matter of getting one
9 there. A new crusher is exceedingly costly and I think there
10 was a search for used ones and finally one was found and put
11 in operation but it was very ancient and it had a lot of
12 down time. It wasn't a simple thing to bring into being.
13 Q Would it be fair to say that without the use of
14 the crusher as you had recommended that the results being
15 obtained through the extraction of valuable minerals would
16 not be as successful as if a crusher had been in use?
17 A Absolutely.
18 Q Again referring to your May 1, '79, memorandum
19 you indicate that one of the big problems at the Tombstone
20 heap leach that we are concerned with would be treating the
21 tailings and dumps and prior heaps where you had to cope with
22 uncertain mixtures of ore types and pretreatments. Do those
23 particular problems that you allude to have anything to do
24 with the sorts of leaching processes recommended by Dick
25 Hewlett or are they separate problems?

1 A Well, they have something to do with it.
2 Q And how would you relate these kinds of difficulties
3 with the recommendations that Hewlett had made?
4 A Well, basically his chemistry never seemed to
5 work. There were elements of potential interest but as to
6 their application a great deal of work would be necessary.
7 Q Would it be fair to say that even if his chemistry
8 had always worked that these kinds of problems still would
9 have been present to deal with?
10 A To some degree, yes.
11 Q Also so that I can learn more of the terminology
12 that's involved here, you state in your letter to minimize
13 surprises from the loss of reagents that you had to be on
14 guard against the leakage. That I think I understand. What
15 is meant by the term absorption, a-b-sorption? How does
16 absorption work?
17 A Well, absorption in this case has to do with the
18 loss of values that you have dissolved but by the time you
19 get the solution through the heap into your pregnant collec-
20 tion pond you have lost part of the values.
21 Q And how have those values been lost?
22 A Well, if there's anything in the heap that will
23 react either with the cyanide or the precious metals it can
24 actually destroy the cyanide and it can precipitate the
25 precious metals.

1 Q So would that mean that the precious metals would
2 be precipitated and would remain within the heap rather than
3 being dissolved and coming out with the pregnant solution?
4 A Right.
5 Q What is meant by the term of adsorption with an
6 a-d?
7 A Adsorption is primarily a physical attachment of
8 the values. A case in point is the use of activated carbon
9 to recover gold and silver from pregnant solutions. Carbon
10 has the capacity to actually precipitate the metals on its
11 surface from the pregnant solution and the same property is
12 shared by pieces of timber or charcoal or wood that might
13 happen to be in these old mine dumps. It can also occur
14 with natural carbon that may be present in the ore itself
15 and in some areas this natural carbon is a problem as an
16 adsorbant.
17 Q It would be a problem because again the minerals
18 sought to be recovered would adsorb to the carbon and remain
19 in the heap?
20 A Exactly.
21 Q Rather than permitting the valuable minerals to
22 become a part of the valuable pregnant solution to leave the
23 heap later to be precipitated?
24 A That's exactly right.
25 Q What happens in a heap leach when ion exchange

occurs?

A Well, ion exchange is intermediate between the two phenomena that we have been discussing. Some materials have a capacity to give up their natural ions and exchange them with other ions that are more agressively bonded to the material so in water softening is a classic case of ion exchange where sodium is in the ion exchange position in the material and when a hard water containing calcium flows through it the calcium is exchanged for the sodium, removed from the water, thereby reducing the hardness substituting sodium for calcium in the water.

Q So if I understand this factor correctly it would mean that if that type of ion exchange were taking place within the heap and if it involved the precious minerals which you sought to recover once again it would mean that those precious minerals would be remaining in the heap rather than becoming a part of the pregnant solution?

A Yes.

Q In the same memorandum of May 1, '79, you used the term decomposition as a factor that has to be taken into account. Would you please explain what you mean by decomposition?

A Yes. In that context since this heap had been treated repeatedly by Mineral 71 with cyanide at the time they shut down the operation they complied with environmental

1 regulations to attempt to decompose the residual cyanides
2 by applyinghypochloride, the same material they use in
3 swimming pools to kill the bacteria, and this reacts with
4 the cyanide to form a cyanate which is relatively nonpoisonous
5 and also has no capacity to dissolve precious metals, so if
6 any of this remained in the heap from this previous treatment
7 it would again do exactly the same thing when it contacted
8 the cyanide, it would destroy it by oxidation and render it
9 ineffective.
10 Q So that particular kind of problem then instead of
11 causing the minerals to remain in the heap instead attacks
12 leaching solution to neutralize it and prevent it?
13 A Exactly.
14 Q From putting those minerals into solution?
15 A Exactly.
16 Q When did you first learn that this particular heap
17 had been leached four times previously?
18 A When I was consulting for Eocene Research in
19 Tombstone.
20 Q That would have been prior to February of 1979?
21 A Yes, that would have been as much as a year before.
22 Q Did you share this information with Tom Schloss?
23 A Yes.
24 Q To the best of your recollection when did you
25 discuss that factor with Tom Schloss?

A This same time period.

Q Where around February of 1979?

A No, I didn't talk with him until later in February. In February that was my last visit to this Eocene project and then I talked with Tom maybe April, late April, early May.

Q Would it be fair to say that when a heap had been leached previously that it would present additional difficulties that would have to be coped with by anybody trying to leach it again?

A Yes.

Q Again referring to the same memorandum of May 1, '79, you indicate that you want to minimize the research required to perfect the final gold and silver recovery depth. What kind of research did you envision you were involved with when this memorandum was written?

A I have not yet started any specific research but I do have a laboratory for this purpose and I was contemplating the possibility of doing some work.

Q In your laboratory do you have one of those atomic absorption photospectrometers?

A No, I don't.

Q Do you have one of those available to you?

A Yes.

Q Is that a piece of equipment that can be helpful in performing the kind of research that you refer to here?

A Very helpful.

Q What kind, to the best of your knowledge, what kind of research was Richard Hewlett involved with back in early May of '79 on this particular heap leach project?

A Well, he was doing some small-scale experiments but I don't know whether he had any facility. He was, however, using the atomic absorption unit of Eocene Research and that's probably how I happened to meet him. He was sharing the use of that either on some sample charts or some other basis.

Q Given the complexity of the various ores in this heap and the various factors that you refer to such as absorption and adsorption and ion exchange and decomposition and so forth, would it have been possible for any one geologist or researcher back in May of '79 to have one definitive process which would have assured the successful recovery of precious minerals from this heap leach?

A Well, that's a very difficult question but I think from the work of the Bureau of Mines it would have been possible to project some good potential.

Q And what work by the Bureau of Mines specifically do you have in mind?

A I have in mind their aglomeration, pretreatment cyanide leach and they do have a test technique. They do run tests. Dick was there. He was told by the Bureau of

1 Mines that his sulphuric acid idea was unsound. They
2 recommended that he do the same thing they were doing.
3 Q To the best of your knowledge when was he told
4 that the sulphuric acid technique was not sound?
5 A I would say several months before this period of
6 May.
7 Q Perhaps back in --
8 A '78, probably.
9 Q When did you first conclude that the sulphuric
10 acid approach on this heap leach was really not practical?
11 A When I finally obtained a sample of the ore and
12 applied sulphuric acid.
13 Q And approximately when would that have been?
14 A Probably June of '79.
15 Q And did you share that information with Tom Schloss?
16 A Yes, I think I have a report to that effect.
17 Q I presume that shortly afterwards the sulphuric
18 acid addition was terminated, is that correct?
19 A It was terminated as of the same period that the
20 thiosulphate was terminated.
21 Q And that, as I recall, was early May of '79?
22 A I believe so.
23 Q In this May 1, '79, memorandum, you indicate, quote,
24 My enthusiasm from preliminary appraisal centers in the IPS
25 system which incorporated additives selected to induce

1 percolation and liberate values. Can you explain what it
2 is that you had in mind there, this IPS system? Was that
3 this system that Hewlett had been talking about?
4 A Well, that was the system with this added
5 aglomeration, physical movement of the ore.
6 Q And that related to the bonding agents of cement
7 or lime?
8 A Coupled with the physical mixing.
9 Q The pelletizing?
10 A Yes.
11 Q That would normally involve some degree of crushing?
12 A Either crushing or control, screening or control
13 of the distribution of particle size.
14 Q Lastly the only question I have on this memo was
15 a statement where you commented on the complex factors
16 involved and importance of following them all the way through
17 to a unified and clarified plan. Is it fair to say that in
18 the early part of May 1979 that what was being done at the
19 Tombstone heap leach was an attempt to arrive at particular
20 systems which would be optimally effective for treating the
21 various ores in this particular heap?
22 A Yes, in the memoranda by Hewlett there were a great
23 many possibilities discussed but it wasn't clear what the
24 single high priority plan was.
25 Q Isn't it correct that when the project started that

1 the avowed game plan was to try to focus on what the best
2 approach was and to determine whether there was one effective
3 approach?
4 MR. ALLEN: Excuse me. I'm going to object to the
5 foundation unless you establish what the game plan was
6 before the investment agreement was made in this case.
7 Q (By Mr. Kittle) Let's go back. You've made
8 reference to reviewing written materials that Dick Hewlett
9 prepared. You made reference to conversations with Dick
10 Hewlett prior to May of '79 and your memorandum would
11 demonstrate that as of May of 1979 you were involved as a
12 consultant and were concerned with the activities there.
13 Let me ask you from those various contacts and your
14 conversations with Tom Schloss as well as the directives
15 given you by your employer, did you have an idea what the
16 objectives of the heap leach project were at that time?
17 A Well, the objective was to evolve a technique
18 which would get values of economic interest from an already
19 leached heap.
20 Q What would happen if no such technique were
21 discovered?
22 A The project would fail.
23 Q Would it be safe to assume that since the project
24 has been continued now some 18 months beyond this point that
25 some feasible system has been arrived at in that the project

1 is not a failure?

2 A Well, it should be added the project encompasses

3 not only the heap but the possibility of open pit and under-

4 ground mining and the project has been sustained primarily

5 in recent months by the open pit mining which produces ore

6 that had not been leached and by installation of a crusher

7 and a pelletizer.

8 Q Could you describe in general terms what the open

9 pit mining activities consist of?

10 A Yes, right adjacent to the heap there is a visible

11 fault which extends for, I guess, several thousand feet and

12 had been honeycombed by previous underground mining operations,

13 but showing on the surface there is low grade ore and this

14 ore has been mined by simple bulldozing and scraping and

15 loading and crushing and that's what has been sustaining

16 the operation.

17 Q And then the materials obtained from those open

18 pit operations are then leached much as the old heaps have

19 been leached?

20 A Yes, except they present a uniform particle size

21 with aglomeration and the leaching progresses very rapidly

22 in days instead of months.

23 Q Now you mentioned the possibility of some under-

24 ground mining. What would that consist of?

25 A Well, in the underground mining of the previous

1 operations they were on some occasions terminated by the
2 unfavorable price of the metals rather than running out of
3 ore; so some of the underground mining phases just stopped
4 because of economic considerations of the time rather than
5 depletion of the reserves and so there appears to be some
6 high grade ore in view in the old workings.
7 Q So the underground mining operations would consist
8 primarily of going in and continuing underground mining
9 operations which had been started by someone in the past?
10 A Right.
11 Q Rather than initiating new underground mining
12 operations?
13 A At least that's where it would start with the
14 previous workings.
15 Q Now, when you mention some of the high grade ores
16 which are encountered either through the open pit activities
17 or the underground, what kind of minerals are you talking
18 about and what kind of content per ton might be involved?
19 A Well, the ore from the contention cut which is
20 currently being mined is quite low grade oxidized minerals,
21 heavily leached because of surface exposure. The under-
22 ground material is, I think, richer in precious metals but
23 also contains copper and maybe other metals.
24 Q Could the copper be recovered at the same time that
25 the precious metals were being recovered to produce additiona

1 salable minerals?

2 A Only if a new process were developed.

3 Q Sometime ago in our talk here this morning you used

4 a term which I am not real familiar with and maybe others

5 are not. You used the term gob. What is gob?

6 A That is a miner's term and I think it refers to

7 ore that's been mined but not removed, either dumped outside

8 the mine or left in the mine at the moment it was not of a

9 sufficient value to ship to a smelter. So it was mined but

10 left in some state short of processing or shipping.

11 Q Is gob sometimes left in old mine shafts in the

12 underground operations?

13 A Yes, it's -- if they can dump it inside they don't

14 have to hoist it. If they can dump it in a worked-out area

15 they often do that.

16 Q Has very much gob been located in the Tombstone

17 properties --

18 A I think there's quite a bit.

19 Q Are the mineral values involved in the gob that's

20 being worked of medium high quality --

21 A Medium.

22 Q For silver and gold?

23 A Medium high quality somewhere between heap leaching,

24 milling and shipping, smelting ore.

25 Q Now you have introduced a new concept there and

let me be sure that I'm following you. Am I correct that ore being recovered with sufficiently high quality that it would warrant milling the ore rather than crushing and leaching?

A Yes. Heap leaching is usually applied to very low grade ores as an economical way to get some of the values out, usually nothing like 90 percent while milling, which involves fine grindings and tank leaching is applied between that level of low grade ore and very rich ore which may be advantageously smeltered correctly.

Q So ores which would be suitable for milling would generally then be of higher grade than ores which would be generally used for heap leaching?

A Yes.

Q I'm referring to a copy of an agreement between you, Tombstone Exploration, Inc., and Austin Exploration & Mining. The copy I have doesn't bear original signatures. First let me ask you if you recognize that document and if the original of it was signed?

A I've never seen this particular document. However, it looks like it's some version of a proposal that I submitted to Tom Schloss.

Q Did you enter into some kind of written agreement with Tom Schloss concerning your duties as a consultant and the form of your compensation?

1 A Yes, but rather late, November 1979, I think.
2 Q How would you describe your duties as set forth in
3 the agreement that you did have with Tom Schloss?
4 A Well, the agreement that I have I believe is still
5 in force and I'm a consultant to the project with a minimum
6 of two days a month and a maximum of six to eight days.
7 Q And your compensation then is based on a daily
8 consulting fee, is that correct?
9 A Yes.
10 Q And in the agreement that you have with Schloss
11 how much is your fee per day for professional consulting?
12 A $400 for the first two and 300 thereafter.
13 Q Is this more or less representative of compensation
14 that might be charged these days by other professional
15 consultants with qualifications like yours?
16 A Yes, it's probably slightly less than the going
17 rate but due to inflation it's hard to say.
18 Q Am I right that you also have some percentage
19 interest in the Tombstone Exploration venture?
20 A In the agreement in force with Schloss there's one
21 sentence which provides for 3 percent stock interest qualified
22 at such time as stock is distributed.
23 Q Has any stock been distributed to date?
24 A No.
25 Q How did that clause come to be a part of the

1 agreement? Is that a normal part of your professional
2 consulting agreement?
3 A No, that's very unusual but I think it was in
4 return for overtime that I would apply that wouldn't be
5 reimbursed on a per diem.
6 Q Instead of being paid in money for work that you
7 had done you would get paid in some shares in the corporate
8 stock, is that right?
9 A Yes, I think it was in return for help beyond
10 contractual billing.
11 Q But am I right that that was help that you had
12 already rendered rather than help yet to be rendered in the
13 future or did it cover both?
14 A Well, unfortunately it wasn't spelled out. In
15 my -- the original contract ran for a minimum of six months
16 starting in November of '79 and I thought within that time
17 frame plus previous overtime work that that would offset any
18 obligation I might have in return for this stock interest.
19 It's still going on, however, and there's no provision for
20 added stock interest.
21 Q How does Tom Schloss interpret that provision of
22 your agreement?
23 MR. ALLEN: If you know what he thinks.
24 THE WITNESS: I think his position is that he's
25 putting large amounts of money into the project and he's, I

1 think he's considering that I'm supposed to be putting in
2 large amounts of time as my contribution to avoid dilution.
3 Q If your consulting agreement with Schloss should
4 be terminated do you still retain your 3 percent stock
5 ownership interest?
6 A I would think so.
7 Q Do you have any statements for professional services
8 rendered to Tombstone Exploration, Inc., as of the moment
9 which have not been paid in full?
10 A Only minor expenses.
11 Q Just by way of review to be sure I understand how
12 you do get paid, and putting aside the stock interest that
13 you have and what would be involved in maintaining that, do
14 you normally send monthly statements to Tom Schloss for the
15 work you did on the project during the previous month?
16 A Yes.
17 Q And then how is payment made on those statements?
18 A By check from Tombstone Exploration, Incorporated.
19 Q Are they paid in a timely fashion?
20 A A little bit of delays here and there.
21 Q Let me ask a couple of questions generally about
22 how the operation is run down there. First of all, I am
23 assuming, and if I'm assuming incorrectly I hope you will
24 let me know, I'm assuming that now you have been involved
25 with the project for over a year and worked with Tom Schloss

that you have developed some idea for how the project is being operated down there, recognizing the lack of accuracy with any term we might use, can you say that the project is being operated efficiently?

MR. ALLEN: Object on lack of foundation.

Go ahead and answer.

THE WITNESS: What was that?

MR. ALLEN: Go ahead and answer. I was just making an objection for the record.

Q (By Mr. Kittle) This is something at trial we can squabble about. What I'm trying to find out is if -- first let me ask you: Have you had chances during your employment over the past 18 months to observe how the business side of the operation at Tombstone heap leach are being conducted?

A What do you mean by business side?

Q That's a good question and what I have in mind is how decisions are made of what personnel to employ, how decisions are made what equipment to use, how decisions are made to use one method of processing material over another, how decisions are made concerning the valuation of precipitants recovered, how decisions are made to safeguard those precipitants, how decisions are made to ship them and to smelt them. Given that laundry list of subjects are there any of those areas where you've not had some chance to

1 observe and form an opinion?

2 A Well, the --

3 MR. ALLEN: Let me just on general principals

4 object to that form as being multiple and if you understand

5 it, John, answer it. If you can't -- I'm just objecting.

6 THE WITNESS: It's a very important consideration

7 in this decision process, is that in a situation like

8 Tombstone you have to do the best you can with a difficult

9 problem. It's nice to think about highly qualified talent

10 but it's almost impossible to recoup professional people

11 with such an uncertain situation in not the greatest, most

12 attractive environment. In other words, I can dream of

13 people that I would like to see there but it's just not

14 possible to get them even if you had the money, but also

15 there have been sharp cost limitations and this extends on

16 the purchase of equipment, the construction of working space,

17 everything. It's basically a poor boy operation where they've

18 tried to use secondhand equipment, marginally trained people

19 but with some practical experience. So it's far from a

20 conventional big company mining operation and it's in the

21 nature of the operation rather than the design.

22 Q (By Mr. Kittle) Do you think that more valuable

23 minerals would be recovered if the operation were run more

24 along the lines of how a major company would do it?

25 A Well, here again we are actually pioneering this

1 heap leaching technique and we think we are in the forefront
2 of the method because we, at this meeting that I've just
3 attended in Reno, I listened for example to a paper by
4 Occidental Minerals in which they had set up a large heap
5 without aglomeration and were now finding that they had
6 problems so the big companies have made mistakes by not
7 getting aboard this technique fast enough, so we are
8 actually pioneering it with some mechanical innovations that
9 nobody else yet has.
10 Q You've made reference to making the best of a
11 difficult situation. Are there any aspects of that difficult
12 situation that can be attributed directly to Richard Hewlett?
13 A Not in any major way.
14 Q Any aspects of the difficult situation which you
15 can attribute either to Jim Briscoe personally or Southwestern
16 Exploration Associates or his two companies, Austin Minerals
17 or SEA Hydromet?
18 A Only in terms of applying people to the project
19 which really weren't qualified but happened to be available
20 within the SEA organization.
21 Q Today in November of 1980 do you see either Jim
22 Briscoe or any of his related companies as having a duty to
23 apply people to the Tombstone project?
24 MR. ALLEN: Wait a minute. I'm going to object,
25 calling for a legal conclusion, lack of foundation.

1 Go ahead and answer if you know the answer, John,
2 if you've got an answer.
3 THE WITNESS: It's been my understanding that
4 since he resigned from the project he has no obligations.
5 Q (By Mr. Kittle) To the best of your knowledge
6 and recollection when did he resign from active management
7 of the project?
8 A I think it was approximately a year ago. November
9 '79.
10 Q Let me ask you a couple of questions about the
11 kind of reports that are prepared by Mr. Schloss and his
12 company concerning the operations down there. Do you, first
13 of all do you assist in the preparation of those reports?
14 A Not usually.
15 Q Do you have copies of them available to you?
16 A Not usually but I think it was on the basis that
17 it was a misuse of my time to read them.
18 (Recess.)
19
20 Q (By Mr. Kittle) Let's go back on the record. I'm
21 looking at a copy of your letter to Jim Briscoe dated
22 June 28, 1979, commenting on the handling of samples and
23 feed materials. In this letter you comment on the importance
24 of particle size both in sampling but throughout assaying
25 and metallurgical testing. There seem to be three processes

1 involved there and perhaps you can explain them to me. What
2 do you have in mind when you talk about the importance of
3 particle size in sampling?
4 MR. ALLEN: Excuse me. Just so you understand
5 for the record you have a right to look at that if you don't
6 know for sure what context it's being used in, you have a
7 right to look at the letter and see what context it's being
8 used in.
9 THE WITNESS: I don't think I need to look at this
10 particular letter. The handling of samples is a highly
11 professional statistical mathematical consideration and
12 if you don't conform to it the work can be meaningless and
13 many, many mining operations have failed because of improper
14 handling of samples.
15 Perhaps the most important factor is particle size.
16 This has to do with the probability of getting a representa-
17 tive portion when you sample a given amount of material.
18 If -- It's usually based on the largest piece present, and
19 let's say the largest piece in a given pile of ore is 4 inches
20 in diameter. Well, then, according to sampling theory
21 tempered by the nature of the ore and a lot of other factors,
22 the minimum sample can be as much as two tons that you must
23 take of this size and before you can subsample that you have
24 to reduce the size and mix a split, and it's all worked out
25 among professionals as a standard operation. It's very, very

1 difficult to get any mining company to follow it unless they
2 have lots of resources and they have had some bad
3 experiences.
4 Q (By Mr. Kittle) What kinds of techniques to the
5 best of your knowledge are used currently at the Tombstone
6 project to control particle size for sampling --
7 A Well, they have a crusher and a pulverizer for
8 this purpose.
9 Q Now, the crusher, I believe you indicated was
10 something that was acquired a month or two ago?
11 A No. No, the crusher I'm referring to is the
12 laboratory crusher and not the main crusher. They have had
13 that perhaps for a year.
14 Q Can you explain the importance of particle size
15 when it comes to assaying?
16 A Well, it's an extension of exactly the same
17 sampling theory. When you do a fire assay the amount of
18 ore that you typically take is very small, 30 grams, table-
19 spoonful. So in order to get -- it's exceedingly important
20 that you have a representative tablespoon when you are
21 ready to do this fire assay so you have to bring the ore
22 down in steps, splitting it with each reduction in particle
23 size in accord with sampling theory until you finally get
24 down to a minus hundred measure which is the first point at
25 which you can split out a meaningful 30 gram sample.

1 Q What kinds of assay techniques have been used at
2 the Tombstone project? You mentioned fire assay.
3 A Fire assay and atomic absorption.
4 Q Can you explain how a fire assay works?
5 A Yes. A fire assay follows the chemistry that
6 occurs in a chemistry operation. The sample is mixed with
7 a flux, fluxing mixture which involves lead which acts as
8 a solvent with gold and silver and then after the lead
9 button is obtained it's treated to remove the lead and
10 finally apart the silver and gold and actually the final
11 weight is of first a gold and silver alloy and then
12 residual gold.
13 Q How would you describe the strengths and also the
14 weaknesses of the fire assay method?
15 A The fire assay method is, has been in use for
16 400 years as the most reliable method of determining the
17 total amount of gold and silver present. However, it tells
18 you very little about how much you are going to succeed in
19 leaching. This was one of the problems in the original
20 presentations of the process, Dick Hewlett's proposals of
21 going directly from a fire assay to a dollar figure without
22 any figure for recovery and cost.
23 This is one of the oldest problems in the
24 promotion of gold and silver properties, is it's very
25 commonly presented in terms of the fire assay results

multiplied by the current price of gold and silver and in between those two things is an absolute sea of uncertainties.

Q Is this a problem that you have discussed with Tom Schloss at one time or another?

A Yes, violently.

Q When do you first recall discussing this with him?

A From the very beginning of the project.

Q Is this the assay system that he relies on primarily?

A It depends on -- It's the assay system that he relies on for the product and it's also used in evaluating the feed ores but tempered by the leaching tests and the aa.

Q When you say you have discussed this subject violently, what do you have in mind there?

A Well, as a scientist I like to deal with the best values I can get and I feel uncomfortable with a lot of compromises.

Q What kinds of compromises have you seen present in the Tombstone heap leach operation?

MR. ALLEN: Excuse me. I've been trying to stay out of the thing. We have to get some times out. You are talking in generalities. I think there's no foundation as to when these conversations or when these things you are asking about are taking place to make it meaningful.

1 Q (By Mr. Kittle) If there is any uncertainty let's
2 talk about the times, the earliest times that you had any of
3 these discussions with Mr. Schloss which, as I understand it,
4 you have indicated occurred right at the outset of your
5 professional involvement with him sometime in the early
6 months of 1979?
7 A Well, the first time when they came up was when
8 I read the Hewlett material and he repeatedly went from fire
9 assay to dollar figures.
10 Q And do you remember what month that was when you
11 read the Hewlett material for the first time?
12 A May. April or May of '79.
13 Q Did I understand you to say that even though you,
14 back in May of '79, expressed strong reservations about use
15 of this fire assay method that that method has continued to
16 be used at Tombstone heap leach operation for one purpose
17 or another?
18 A Well, it was not used -- they did not have a fire
19 assay furnace until possibly November of '79 and so there
20 was no occasion to discuss it before that except to consider
21 getting it and then since that time the fire assay has been
22 in place and has been used both to evaluate ores and to
23 evaluate precipitates but there's always the problem of the
24 sampling theory.
25 Q I can understand the shortcomings of using a fire

1 assay method with regard to the ore especially in a heap
2 leach operation. What do you see as the deficiencies of
3 that assay method with regard to valuing the resulting
4 precipitates?
5 A Primarily the problem of getting a representative
6 sample.
7 Q So that is not so much a deficiency of the assay
8 method?
9 A No.
10 Q But we go back to the category that you commented
11 on a few moments ago, namely the sampling, is that correct?
12 A Yes, the assay method when properly applied usually
13 doesn't involve arguments.
14 Q What aspects of the sampling of precipitates
15 currently in use by Tombstone Exploration, Inc., do you have
16 any reservations about?
17 A Well, the problem of getting a representative
18 sample. It's almost impossible by the nature of the handling
19 and the limited equipment.
20 Q Are there any sampling techniques that you know of
21 which could economically be utilized in the project which
22 are not being utilized?
23 A Yes, there would have to be installed a little
24 plant actually for handling the precipitate to blend it and
25 subsample it.

1 Q Would it be fair to say in the absence of these
2 improved sampling techniques that the assays being obtained
3 currently are open to some degree of question about their
4 accuracy?
5 A Yes, but I think it can work either way. It's
6 not shaded one way or the other and it's a fair approxima-
7 tion.
8 Q So if it might be a little rich one time statisti-
9 cally it might be a little lean the next time and over a
10 great number of assays you would imagine that you would get
11 a fair approximation of the value of the precipitates being
12 assayed?
13 A Yes.
14 Q Let me ask you about the meaning of metallurgical
15 testing. What is involved there?
16 A Well, in this framework it means exploring the
17 extractions and modifying the process to improve the
18 extractions.
19 Q Now focusing just on those three processes and the
20 importance of particle size can you think of any difficulties
21 that must be confronted in a heap leach operation like the
22 present one or specifically which are confronted by the
23 present heap leach operation that are attributable either to
24 Dick Hewlett or Jim Briscoe?
25 A Well, their influence is way in the past now and

1 since Hewlett was terminated and Jim resigned, I don't think
2 you could say that they were adversely affecting the present
3 operation.
4 Q This may be a little bit off the subject but you
5 have been involved with the project for some time now and
6 have had conversations with Tom Schloss. The lawsuit says
7 that it has been a bad investment for them and they are
8 unhappy with it. How can you personally account for the
9 continued investment of money by Tom Schloss in an activity
10 that he says in his complaint is unsatisfactory?
11 MR. ALLEN: Object to the foundation. Go ahead.
12 THE WITNESS: Well, I think, at least speaking for
13 myself, I think that the project is economically viable.
14 Q (By Mr. Kittle) Let me go back to that, some
15 other methods of assaying just to be sure that I've completed
16 that topic. We talked about the fire assay method and its
17 strengths and weaknesses. I gather that another assay
18 method is the atomic absorption method. What do you view
19 the strengths and weaknesses of the aa method?
20 A The atomic absorption method is applied to actual
21 solutions in contrast to the fire assay which is normally
22 applied to the solids. So if -- you always have the problem
23 of atomic absorption, of making a solution so the first
24 pitfall is maybe you didn't get all the metal values into
25 the solution. Maybe there's some still in the ore.

1 The second pitfall is that in the process of getting
2 the metal values in the solution it takes such a vigorous
3 chemical attack that you get other foreign materials in
4 large amounts, including your residual dissolving reagent
5 such as aqua regia and these in turn can affect the reading
6 of the atomic absorption. So it takes a laboratory technique
7 to eliminate interference from these other contaminants.
8 The big advantage of the atomic absorption is when
9 it's properly handled it can evaluate almost instantly the
10 precious metals content of a cyanide solution.
11 Q Am I correct then that the atomic absorption
12 method of assay gives the person making the inquiry a more
13 accurate picture of metals which can be recovered by the
14 heap leach process than does the fire assay method?
15 A Yes, it can give a very precise value of the
16 content of the pregnant solution, say.
17 Q When you used the atomic absorption assay method
18 do you still have sampling difficulties just as you would
19 with the fire assay method?
20 A No, because you have homogeneous solutions. That's
21 why it's so helpful because if you, for example if you
22 leach a given class of ore and then you want to find out how
23 much extraction you achieve by fire assay then you have to
24 fire assay the heads and tails and both of those operations
25 is subject to all this sampling theory and although the fire

1 assay may be accurate the sample may not be representative.
2 That's the big problem with that.
3 Q Am I correct that you've indicated that presently
4 Tom Schloss is using a fire assay method for evaluating
5 resultant product from this heap leach operation?
6 A Yes, but he's also using it to evaluate what's
7 present in the ore.
8 Q Do you know if Tom Schloss is using the atomic
9 absorption method to evaluate the resulting product?
10 A I don't think he is.
11 Q Have you made any recommendation to Tom Schloss
12 concerning which method of assay you believe to be preferable
13 for the resulting product?
14 A Yes, and I've also made recommendations on sampling.
15 Q Which assay method do you recommend for the
16 resulting product?
17 A Fire assay.
18 Q Given the deficiencies that can go along with the
19 fire assay method for evaluating the resulting product why
20 would it be preferable for evaluating final product to the
21 atomic absorption method?
22 A Because again you have the problem of getting a
23 solution. The atomic absorption method can only be applied
24 to a homogeneous clear solution so you have a step of
25 dissolving your product and getting it into solution and if

1 you fail in any way to dissolve everything there you have
2 an error.
3 Q Can the atomic absorption method be used to
4 advantage on the pregnant solution which is being obtained
5 from the heap?
6 A Yes, that's its finest application.
7 Q Is that assay method being used presently for
8 pregnant solution coming off this heap leach?
9 A Yes, it is.
10 Q And just so that I know where the equivolent comes
11 from, what atomic absorption photospectrometer is used for
12 those particular tests?
13 A I think it's a Perkin, P-e-r-k-i-n, Elmer, E-l-m-e-r.
14 Q Whose piece of equipment is it and where is it
15 located?
16 A It's located in Tombstone and it belongs to TEI.
17 Q So that's a unit which they now own. How long
18 has TEI had the atomic absorption photospectrometer to the
19 best of your knowledge?
20 A At least a year.
21 Q Have you seen any of the reports that are produced
22 periodically by TEI concerning the results from this heap
23 leach operation?
24 A I've seen one or two quarterly reports.
25 Q From a reading of the reports which you've seen

are you able to determine what portion of the viable mineral is being recovered is silver and what portion is gold?

A I can't be sure of that. I haven't seen one in quite a while.

Q Back to sampling procedures just for a monent and recognizing their importance in the assay process, what sampling methods have you recommended concerning an evaluation of the ore which is being processed?

A Well, I've recommended that insofar as practical they conform to a sampling theory in terms of subdividing, splitting, crushing.

Q Is barrel testing a form of sampling?

A That's a form of testing a sample.

Q It's not a method of producing a sample itself?

A No.

Q As far as you know are your recommended procedure for sampling being followed currently down at the Tombstone heap leach?

A Let me say in terms of the available equipment they are doing the best they can.

Q Ideally what kinds of sampling procedures would you like to be, like to see utilized which are not being utilized?

A Well, it's a very costly, involved matter. It's beyond, probably beyond the financial capabilities of the

1 operation.

2 Q If ideally, if TEI had more accurate sampling

3 procedures would that guide it more effectively in making

4 decisions about which ore to process?

5 A Yes, I think it would.

6 Q Would it guide it any more effectively in deciding

7 how to process ore which is processed?

8 A Not at the moment unless -- not until we come up

9 with some variations on the process for specific feed

10 materials. It might then be useful.

11 Q Can -- First let me ask: Do you know how the

12 resulting precipitates in Tombstone heap leach project are

13 dealt with after they result from the process?

14 A Yes, I'm quite familiar with that.

15 Q Could you please describe what those methods are?

16 A They are shipped to a company called Chrysoar.

17 Q How is that spelled?

18 A C-h-r-y-s-o-a-r. Where they are smeltered to a

19 dore and then electrolytically refined to gold and silver.

20 Q Dore is a combination, an alloy of silver and gold?

21 A Yes.

22 Q Does Chrysoar then report to TEI concerning the

23 quantity and the value of the resulting silver and gold?

24 A Yes, Chrysoar also handles the sale which they

25 report.

1 Q What are methods in use to help TEI assure that
2 the values arrived at by Chrysoar are reasonable and fair to
3 TEI?
4 A Well, TEI weighs and fire assays the precipitates
5 they ship. And this figure is collated with the results
6 obtained by Chrysoar.
7 Q And if I recall what you said here just a few
8 moments ago the fire assay tests done by TEI might be some-
9 what inaccurate with regard to any one fire assay but it is
10 the reasonable assumption that the average of many fire
11 assays will give a value which is pretty close to the true
12 value, is that a fair statement?
13 A Yes.
14 Q Do you know if there are often any substantial
15 variations between the values determined by TEI by the fire
16 assay method and the values for a similar body of material
17 determined by Chrysoar?
18 A Yes, I believe there are some variations and that
19 may relate in part to the sampling difficulties. It may
20 also relate to the quality of the precipitates because just
21 as in the case of the ore if you apply the fire assay it
22 doesn't tell you how much you are going to recover. It
23 tells you what's there. In the smelting process as the
24 precious metals content of the precipitates goes down, the
25 dores suffer. And there are losses in the dust and the slag

1 and in the actual metal recovered. So the quality of the
2 precipitate has something to do with the final recovery as
3 well as the fire assay.
4 Q When you've been aware that some difference did
5 exist between the values determined by Chrysoar and the
6 values determined by TEI were there any occasions that you
7 remember when the values by Chrysoar were higher than the
8 values determined by TEI?
9 A I don't have any detail on those discrepancies.
10 Q Are you presently familiar with the people employed
11 by TEI and presently working on the project?
12 A In general terms, yes.
13 Q To the best of your knowledge approximately how
14 many people are currently employed?
15 A Well, it's different every time I come out. Seems
16 to be quite a good many this trip. I would say from 15 to
17 35 maybe, in that range.
18 Q Are any of those employees that you know of that
19 have any academic training in chemistry or geology or
20 metallurgy?
21 A Yes, a few of them do.
22 Q Do you recall their names?
23 A Yes, there are two geologists, Bailey Escupuhl
24 (phonetically) and Ed Speer (phonetically), and I believe
25 they are both graduate -- they at least have a bachelor's

1 degree in geology and there's one new laboratory man I
2 believe that has a bachelor's degree in chemistry or
3 metallurgy.
4 Q Do you believe that the personnel that they have
5 down there are generally technically competent to perform
6 the tasks asked of them?
7 A Well, if you consider in the frame work which I've
8 already mentioned of the difficulty of getting professional
9 people and the salary limitations compared with the ideal
10 they miss it by a very wide mark. There is, however, a lot
11 of practical experience that's presented.
12 Q You mentioned a few moments ago the processes
13 involved in the metallurgical test work, how would you
14 characterize the accuracy and validity of the present
15 metallurgical test work being done down by TEI?
16 A Steadily improving.
17 Q Have you had any reason as a consultant in the
18 past working on this project to be concerned about the
19 accuracy of the tests being performed?
20 A Yes.
21 Q Do you have any way of making a reasonable estimate
22 about the value of a percentage interest in this project;
23 for example, you've indicated that you have a 3 percent
24 interest in TEI. Are there any guidelines available which
25 would help you determine how much a 3 percent interest of

1 TEI might be worth?

2 A Well, I know there are accounting methods that are
3 quite sophisticated and involve financing of equipment,
4 et cetera; but from my own personal point of view the only
5 valuation that I could put on it was in terms of earnings
6 and at the moment I regard my 3 percent interest as 3 percent
7 of nothing.

8 Q What kind of earnings are resulting from the
9 project currently as far as you know?

10 A I think the project is in the red. I don't think
11 there are any earnings.

12 Q What is done with the materials, the minerals
13 which are recovered by Chrysoar? Are they being sold or are
14 they being retained?

15 A They are mostly being sold to produce some kind
16 of cash flow.

17 Q Do you know the approximate value of the minerals
18 being sold by Chrysoar to help finance the operation?

19 A Not at the present, no.

20 Q Have you heard anything mentioned about those
21 values in the past?

22 A I've heard just very round numbers of 100,000 or
23 200,000.

24 Q For what unit of time?

25 A Oh, six months.

1 Q And approximately how long ago might it have been
2 that you heard that figure being tossed around?
3 A Well, just recently this week. I heard a figure
4 of something like 200,000 to date but I don't know what it
5 meant.
6 Q One question that I forgot to ask you and would
7 like some assistance with has to do with the procedures
8 followed for dealing with the precipitate from the moment
9 it precipitates out from the pregnant solution until it is
10 received by Chrysoar back in New York. Do you know what the
11 steps of those different procedures are?
12 A Yes, the precipitates are first filtered and then
13 dried and then packaged and shipped and there is a locked
14 room provided to facilitate security at night, but it's
15 hardly practical to at all times have them secured by being
16 locked up. They are always in the process, accessible to
17 people, but there's always somebody watching, I think, so
18 I think it's -- it would have to be fairly sophisticated
19 to siphon it off.
20 Q Are there any times when you know that those
21 precipitates are left alone with only one employee only
22 rather than two?
23 A Not to my knowledge.
24 Q I hear a term used which evidently is an old one
25 in the mining industry and I don't fully know how it works.

1 Can you define the term high grading for me?
2 A Well, as it's usually applied to mining it
3 involves taking a sample of the ore that's obviously very
4 rich and then implying that it's a representative sample of
5 a much larger amount.
6 Q Would there be any advantage in the Tombstone
7 operation to an attempt at high grading?
8 A Well, I don't know what context you mean, but --
9 (Discussion off the record.)
10 Q (By Mr. Kittle) Back on the record. Relating to
11 this question about high grading can you envision that it
12 would be to the advantage of anyone associated with TEI in
13 attempting this high grading gimmick at any point in the
14 operations down there?
15 A Well, if they wanted to make it seem very promising
16 they could deal with analyses and extraction results on
17 high grade material.
18 Q The final test about the value is really the one
19 which Chrysoar determines, isn't it?
20 A The final test of the economic value of the product?
21 Q Yes.
22 A That's definitely what Chrysoar is able to recover
23 and sell.
24 Q What do you know about how the precipitates are
25 shipped to Chrysoar?

1 A I think they've been shipped by both United
2 Parcel and the U.S. Post Office.
3 Q What safeguards exist that you know of to assure
4 that part of the shipment isn't diverted or removed?
5 A Well, this security of the locked room with only
6 two or three employees to certain personnel plus the fact
7 that there's always more than one observer.
8 Q How about after the material is delivered to the
9 shipping company?
10 A I think the packages are weighed and sealed and
11 it would be a matter of, they had always had the weight to
12 account for it. If they substituted some other material it
13 would show in the quality of the precipitate when it was
14 received.
15 Q Switching over to a new subject and that is your
16 work generally as a professional consultant, I imagine that
17 in your work you meet with a number of different kinds of
18 clients under a number of different situations and that some
19 follow your suggestions quite closely, others may take it
20 into account and do something different. How would you
21 characterize, if you can, how Tom Schloss and TEI generally
22 respond to advice which you give?
23 A Well, I think there's no question but what Tom
24 reserves the right to do what he thinks is best after I
25 tell him what I believe.

1 Q Do you think it's fair to characterize him as an
2 independent decision maker who does not follow the advice
3 of his advisors lavishly but instead takes them into account
4 and makes up his own mind?
5 MR. ALLEN: I want to object to the form of that
6 as being too general. He can't speculate as to how he
7 follows somebody else's advice.
8 Q (By Mr. Kittle) I'm intending to ask only about
9 advice which you give him and only that advice which relates
10 to the Tombstone heap leach project.
11 A Well, I would say that he discusses it quite
12 thoroughly but definitely doesn't hesitate to do something
13 different.
14 Q Have there been any occasions in the past 18 months
15 that you can recall where you were disappointed to see him
16 take some course of action other than what you had
17 recommended?
18 A Yes.
19 Q What occasions can you think of?
20 A Well, primarily recommendations about sampling and
21 test methods.
22 Q If you can recall what recommendations did you
23 make concerning sampling which were not implemented?
24 A Well, as I mentioned previously I feel uncomfortable
25 when the sampling doesn't conform to the professional

1 procedures and I feel it's my job to protest about that.
2 Q How about metallurgical test methods, what
3 recommendations have you made there which you were disappointed
4 were not followed?
5 A Well, the methods of testing the leaching recovery
6 have been subject to somewhat the same limitations as the
7 assay tests in terms of improper samplings and sample
8 preparation, compromises in the interest of saving time or
9 due to lack of processing, sample processing equipment.
10 Q Does Tom Schloss have any special expertise that
11 you know of which would give him a basis for substituting
12 his own judgment for yours in matters of procedure at the
13 Tombstone project?
14 MR. ALLEN: As to what point in time, today?
15 Q (By Mr. Kittle) Let's talk about any time that
16 you are aware of in the past 18 months.
17 MR. ALLEN: I object to the form of the question as
18 being too general. It lacks specificity to have any
19 probative value at all.
20 Go ahead if you can answer it.
21 THE WITNESS: I don't think he has any expertise
22 that would give him a sound technical base for going
23 contrary to what I might recommend.
24 Q (By Mr. Kittle) Do you know if he has any
25 assistants down there who might have that kind of background?

1 A I don't think so.
2 Q I'm referring to a memorandum you wrote back on
3 July 3rd, 1979, addressed to Dick Hewlett, TEI, and copies
4 to Schloss and to Briscoe. You comment on presence of
5 manganese in some of the ores and which might have certain
6 values locked up in insoluable matrices. Also the presence
7 of gerocyte (phonetically) and some sulphides. You go on
8 here to talk about setting up an experimental heap and the
9 things that are important to have present.
10 Is it fair to interpret from your memorandum here
11 that back in early July of '79 that part of your efforts
12 were devoted toward establishing an experimental heap?
13 A Yes.
14 Q And can you please describe what it is that you
15 hope to learn about establishing that experimental heap?
16 A Well, you hope to be able to compare recoveries
17 by variations in process details.
18 Q This would be with a view toward opting for the
19 best system to use? Could it also result in a determination
20 that perhaps the available ores were not economically
21 feasible to leach?
22 A It would be one way of evaluating what you could
23 achieve by different techniques.
24 Q Were there any other specific goals that you had
25 in mind back in early July of '79 in working on the project

1 in addition to establishing this experimental heap?
2 A Well, my goal was to establish a test technique
3 that would allow exploring relatively small recovery
4 improvements but laying the basis for cumulative progress.
5 Q As far as you know were your goals at that time
6 consistent with the goals of Tom Schloss?
7 A Yes, I think so.
8 Q Had he articulated any other goals to you which
9 were different?
10 A No.
11 Q A week or so later in a memorandum from you to
12 Hewlett, TEI, and copies to Schloss, Famco and SEA you
13 comment on the Tombstone pilot leach serving as a guide to
14 leaching experiments on manganese rich ore. Is it correct
15 to assume that some of the ores that you were trying to
16 leach down there did contain manganese?
17 A Yes, the ores from certain mines are richer in
18 manganese.
19 Q Would it also be correct to assume that part of
20 the purpose of the experimental heap would be to determine
21 effective ways of dealing with this manganese rich ore?
22 A Yes.
23 Q Back at that time as reflected in this July 10,
24 1979, memorandum you commented on numerous problems associated
25 with the manganese rich ore but also went on to say that with

1 their high metal values they appear to have real potential
2 and merit perhaps extended research attention. Is that
3 still your opinion today?
4 A Yes.
5 Q In a July 13, '79, memorandum from you to Ed
6 Speer, SEA, and copies to Schloss and Briscoe and Hewlett
7 you comment that an extractive research program had best be
8 postponed. What did you have in mind concerning this term
9 extractive research program?
10 A Well, that was primarily a variation in reagents
11 with pretreatments of the ore, different pretreatments.
12 Q When you used the term reagents, does that pertain
13 to substances like sodium cyanide and sodium --
14 A Usually goes beyond that but it may include sodium
15 cyanide.
16 Q Could you give us some examples of reagents?
17 A Well, the ones that I have in mind I think would
18 be proprietary, something that isn't being used but might
19 improve the recoveries.
20 Q Are any of those proprietary reagents presently
21 being utilized on the Tombstone heap leach project?
22 A No.
23 Q Is Tom Schloss -- First of all let me ask: Are
24 there any such proprietary reagents which you think may have
25 applicability of the activities at the Tombstone heap leach

1 project?

2 A Yes.

3 Q Is Tom Schloss aware of that?

4 A Yes.

5 Q Have you and he had any discussions about the

6 possibility of utilizing some of those reagents?

7 A Yes.

8 Q And what are reasons that you know of why the

9 reagents to date have not been utilized?

10 A Primarily because of difficulties in getting

11 test data that would prove their usefulness.

12 Q And is it correct that some of those difficulties

13 in obtaining test data would relate back to Schloss's

14 unwillingness or inability to follow some testing recommenda-

15 tions that you have made?

16 A I think that's partially true.

17 Q Can you think of any other reasons why those,

18 why the testing difficulties would exist?

19 A Well, one of the difficulties has been sampling

20 to get meaningful samples.

21 Q Would that difficulty in part relate to the fact

22 that your recommendations concerning sampling have not been

23 fully implemented?

24 A Well, only in part because the procurement of

25 representative samples is quite a difficult, costly business

1 and I think the feeling has been that with our tight
2 monetary considerations we shouldn't divert extensive funds
3 in that direction until we get a cash, positive cash flow.
4 Q Would it be safe to assume then that for the time
5 being the benefits which might result from the use of these
6 proprietary reagents cannot be demonstrated as so dramatic
7 as to warrant the risk of expending additional money to
8 prove that?
9 A I think that's true.
10 Q Referring once again back to this July 13, '79,
11 memorandum, you indicated that it appeared that you faced a
12 real conglomerate of minerology on the heap complicated by
13 mixing and previous operations as well as leaching to varying
14 degrees of effectiveness. Do those conditions still exist
15 today at the heap leach project?
16 A Yes.
17 Q I'll move on to a memorandum of June 17, 1979,
18 from you to Briscoe, SEA, copies to Schloss, Hewlett and
19 WES. Who is WES? Speer, Ed Speer?
20 A Probably. Is his first initial W?
21 Q Probably. In this particular memorandum you were
22 commenting on various pretreatments and indicated -- I'm
23 going to quote a paragraph from the memorandum -- There
24 seems to be very limited potential for applying pretreatments
25 especially those involving a sequence of reagents in typical

1 heap leach -- typical heap leaching. There seems to be no
2 potential for applying combination leaching methods to the
3 present heap because of the conglomeration of minerals
4 present and excessive consumption of reagents in an
5 unproductive way; that is interreaction between calcite and
6 limestone with sulphuric acid before attack on the gerocyte.
7 Is it still your opinion that it is not productive
8 to apply pretreatments to the heap minerals which would be
9 leached?
10 A No, unproductive to apply the minerals -- the
11 reagents that are under discussion with Dick Hewlett.
12 Q Namely the sodium --
13 A Thiosulphate and the sulphuric acid. But that
14 leaves open the possibility of applying these proprietary
15 reagents.
16 Q Would it still leave open the possibility of
17 applying the sodium cyanide?
18 A Yes. That's probably common to all of it.
19 Q Toward the end of your memorandum you also indicate
20 that realistic tank and heap leaching tests are probably
21 essential for conclusive planning. As far as you know are
22 realistic tank and heap leaching tests presently in use at
23 the Tombstone project?
24 A With some qualifications, yes.
25 Q And what would those qualifications be?

1 A Sampling considerations and particle size.
2 Q So you still have some reservations about the size
3 of the particles being used in the tank and heap leaching
4 tests, is that correct?
5 A Yes, but I think it's being rectified.
6 Q And you still have some reservations about the
7 sampling procedures that are being used?
8 A Yes, due to the lack of equipment.
9 Q Referring to a memorandum from you to Jim Briscoe,
10 copies to Schloss and Hewlett, July 24, 1979, you conclude
11 your memorandum by stating, I quote, My general impression
12 is that we'll have to beef up our technical capability,
13 capabilities by orders of magnitude to do a conclusive job
14 and that the economic success of the program cannot be taken
15 for granted. It seems particularly important at this critical
16 stage to project both a clear plan and a realistic budget.
17 Following this memorandum are you aware of any steps which
18 were taken to beef up the technical capabilities?
19 A Well, I think there was a search for personnel but
20 as I mentioned it's very difficult to attract qualified
21 people by my standards to the project.
22 Q As far as you know was anything done to project a
23 clear plan and a realistic budget?
24 A Not enough.
25 Q I apologize for not being able to locate the

1 precise memorandum that you authored sometime back in '79
2 but I think you recognize the phrase when I repeat it, and
3 I think that you made the observation that heap leaching is
4 really an art rather than a science.
5 First of all, let me be sure, have I recalled that
6 phrase correctly?
7 A I think so. It's like baking a cake.
8 Q Is that still pretty much your opinion here today?
9 A Well, I think we have made a lot of progress since
10 then with this pelletizing technique. I think it's less of
11 an art now. I think we really know how to do it.
12 Q So even in the last 18 months there have been some
13 advances in the technology of heap leaching that really
14 didn't exist in the early summer of '79, is that correct?
15 A That's true.
16 Q Looking back over the difficulties that have had
17 to be confronted at TEI or at the Tombstone heap leach
18 project, what difficulties specifically, if any, can you
19 lay at the doorstep of Dick Hewlett?
20 MR. ALLEN: I'm going to object to the form of
21 that as to being, what context you are relating difficulties
22 to but if you understand the question, go ahead. I think
23 the form --
24 THE WITNESS: I think I understand the question
25 and I think the main problem was that Dick misapplied

1 deliberately the initial funding ineffectively as far as
2 establishing a cash flow.
3 Q (By Mr. Kittle) Now are you referring to that
4 $25,000 initial funding?
5 A Yes.
6 Q And in what specifics do you believe that he
7 misapplied that $25,000?
8 A He used a process that one well versed in the
9 art would know couldn't work. It's as simple as that. And
10 furthermore he knew it wouldn't work, either.
11 Q Prior to early June of 1979 did you know it
12 wouldn't work?
13 A Well, let's say I knew it was unlikely to work.
14 Q Had you ever communicated that to Tom Schloss?
15 A I communicated it to him as soon as I had enough
16 information as to what was going on.
17 Q Do you know of anything specific that would help
18 us determine that when Hewlett made these recommendations to
19 Tom Schloss that Jim Briscoe knew that the recommendation
20 was not a practical one?
21 A I think one of the very basic considerations here
22 is that he would have to be quite sophisticated in the
23 specific branch of metallurgy to know that it wouldn't work.
24 Jim Briscoe to this day I don't think has the knowledge or
25 neither does Tom Schloss to understand the chemistry and the

1 chemistry even would pose a problem for one experienced in
2 the art. It's a very complicated matter and I think one of
3 the great pitfalls throughout this project has been people
4 making judgments in areas they weren't qualified to judge.
5 Jim certainly doesn't pose as a metallurgist. He certainly
6 doesn't pose as a specialized branch of metallurgy very
7 involved sophisticated use of chemical leaching process.
8 So I don't see how anybody could expect Jim to evaluate it
9 unless he went to consultants.
10 Q Do you have any idea where Dick Hewlett is today?
11 A The last time I saw him was at a strange encounter
12 in Searchlight, Nevada, where I think he was doing the same
13 thing to somebody else, if that will be of any help to you.
14 MR. ALLEN: It doesn't. He's not there any more.
15 MR. KITTLE: You checked?
16 MR. ALLEN: You bet.
17 THE WITNESS: If I could offer a little initiative
18 in the commentary as I followed the questioning, I don't
19 think it's a simple matter at any point in this process to,
20 you know, detect open dishonesty except in this one initial
21 phase where it appears that an exotic process hard to
22 evaluate was thrown into the picture to awaken investment
23 interest. From that point forward there may have been
24 incompetence, unqualified people trying to do things, a
25 whole lot of problems but no design of dishonesty.

1 Q (By Mr. Kittle) That is a helpful perspective
2 to have. Can you think of any occasion at all from the
3 earliest moments of this project until the time of Briscoe's
4 withdrawal from active management and supervision where you
5 could point to any professional incompetence on his part?
6 MR. ALLEN: I'm going to object to the form and
7 foundation as calling for -- invading the province of the
8 jury.
9 Go ahead if you know.
10 THE WITNESS: Well, I would say that Jim has a
11 certain basic enthusiasm of interest in geology and
12 extractive metallurgy which he may impart to others just by
13 personality rather than by conservative factual information.
14 He's an optimistic geologist. He radiates enthusiasm
15 beyond what many geologists would do with the same input of
16 information. I think it's more of a fact of enthusiasm than
17 deliberate misrepresentation.
18 Q (By Mr. Kittle) Can you think of any documents
19 that you have originated which you have received from any
20 of the people involved in this lawsuit which would shed any
21 additional light on the kinds of inquiries we have made here
22 today?
23 A Well, I've subsequent to Jim's resignation from
24 the project, he produced a new brochure designed to bring
25 in geological consultant clients and he sent me several

1 with the thought that I would distribute them to companies
2 that I might have contact with and in a limited way I did
3 that and the general reaction was one of, you know, extreme
4 enthusiasm for the initial signals of encouragement on a
5 given prospect but not, you know, not any dishonest promotion
6 but just call it enthusiasm, let's say.
7 Q Did those materials that you referred to relate to
8 a specific group of mineral properties?
9 A They were very broad gauged but primarily the
10 metals.
11 Q And related to exploration projects that Briscoe
12 and his company might carry on?
13 A Yes, and use of advanced photographic techniques.
14 That sort of thing.
15 Q Did those materials apply in any way that you could
16 recall to the Tombstone project?
17 A Yes, from the very beginning Jim indicated his
18 personal feeling was that there was, could be a major copper
19 porphyry deposit in the general area of Tombstone and he
20 felt that he had certain signals from his aerial reconnais-
21 sance plus his study of the geological reports on the area.
22 Q Has any additional data been developed since that
23 time that you know of that would shed any additional light
24 on his expressions of optimism?
25 A Yes, the Occidental Minerals Company has drilled,

1 done some deep drilling in the area and I don't have a
2 firsthand report but I understand they have abandoned the
3 effort.
4 Q Are you aware of any additional mineral properties
5 which were to be included in the Tombstone project other
6 than those properties which are not now presently worked?
7 A Not specifically.
8 Q Can you think of any additional written materials
9 that you may want to make use of at the time of trial to
10 shed light on the kinds of questions we have been discussing
11 here today?
12 A Yes, as we've discussed I just attended this three-
13 day conference in Reno and there were about 30 papers on the
14 subject of gold and silver exploration and recovery,
15 including heap leaching; papers on the sampling of properties
16 on the assaying of samples, on pelletizing the whole cross-
17 section of the field, and in black and white these proceedings
18 will be made available by the Nevada section of the AIME
19 early next year. Everything we needed to know is going to
20 be in print.
21 Q That will probably be embodied in one publication,
22 will it?
23 A I believe it's going to be a booklet.
24 Q And that will generally be available to the public?
25 A Yes, I think they are trying to sell it as a

1 publication but I went to this conference as a kind of
2 joint -- I mean partially sponsored by myself because I felt
3 it was important and it confirmed it completely that it's
4 general knowledge now, these things that we have been coping
5 with are now, have been thoroughly explored and full,
6 conclusive information is available on how these should be
7 done.
8 Q Was Jim Briscoe also at that conference?
9 A I think he was there briefly. I don't think he
10 attended the papers but perhaps he'll be planning to get
11 the proceeding.
12 Q Just out of curiosity, if you were up at Reno last
13 week and down in Tombstone Thursday and Friday was there
14 any reason why we couldn't have had this deposition on
15 Saturday the way you first requested?
16 A I preferred it on Saturday -- You mean this last
17 Saturday?
18 Q Yes.
19 A I preferred it on Saturday but I thought there was
20 a trouble with the stenographer.
21 Q I'm not sure one way or the other. Anything else
22 you can think of that would shed any more light on these
23 various topics; any additional comments you would like to
24 offer?
25 A Well, from a very careful study of this problem from

1 both sides and many experiences that are pertinent to this
2 kind of a dispute I would urge a settlement at the earliest
3 possible moment out of court. I don't think it's ever --
4 anybody's ever going to have a black-and-white case. It's --
5 Like heap leaching it's still an art and although Dick
6 seemed to recommend the wrong things he might have thought
7 that was just the first step and that he was going to do the
8 right thing eventually but didn't know how to do it then and
9 again I would say that he was not qualified as a professional
10 to do what he was doing and I don't understand this problem
11 but I know I wouldn't go to a lawyer to have my wisdom tooth
12 removed. It's just about that ridiculous. If you go to a
13 mining engineer to study heap leaching it isn't going to be
14 productive.
15 So people have misapplied the whole operation, had
16 promotional aspects -- it's a real tangle of motives and I
17 don't think there's any such thing as a simple black-and-
18 white answer. For whatever that's worth. I sat down --
19 Is this still on the record?
20 Q Yes, that's fine. Go ahead.
21 A I sat down in a conference which I requested with
22 Jim and Tom and it was about the time when President Carter
23 was dealing with Sadat and Begin and so I said Anwar, you
24 sit there and so on, and I tried to get home to them the
25 impossible gap in their points of view and recommended they

1 came as close as they could to compromising and I would
2 divide by two the difference and that was it, but neither one
3 would budge so now we have got this on our hands.
4 Q Well, I appreciate your candor. I think that, yes,
5 we are trying to develop as clear a picture as we can
6 concerning your views of the litigation here. I think that
7 also we are continuing to explore any avenues which may exist
8 for helping the parties resolve this controversy without
9 having to go into the courtroom and --
10 A I think that's very sound.
11 MR. KITTLE: I appreciate your candor and I have
12 no further questions.
13
14 EXAMINATION
15 BY MR. ALLEN:
16 Q John, let me ask you a couple of questions. In
17 your capacity with TEI since May, late April, May of 1979,
18 were you able to determine from your expertise standpoint,
19 from the metallurgical and chemical standpoint as to what
20 type of testing and preplanning or research had been done
21 by Hewlett and Briscoe in regard to that project before Mr.
22 Schloss got involved?
23 A No, there seemed to be a lot of data but it seemed
24 to be always data taken by Mineral 71 and it was supposed
25 to be available to Hewlett but he never presented it. It

1 was as though he had been in charge of that operation and
2 whether he was recalling it by memory or whether he had the
3 files in his person I don't know, but there was never any
4 data presented.
5 Q Did you when you first became involved with the
6 property on behalf of Tom, not back when -- what was the
7 company you were with?
8 A Eocene Research.
9 Q Eocene. Not that time, when you first became
10 involved with Mr. Schloss, were you aware of what Jim Briscoe
11 presented himself as or represented himself and his company
12 as to the world, so to speak?
13 A No, I had never encountered Jim.
14 Q So your first involvement with Mr. Briscoe would
15 be in regard to this particular property?
16 A Yes.
17 Q Are you aware today what -- during that period of
18 '79 he held himself out as what type of company he had?
19 A Well, I've seen his brochures and I've made tours
20 of his office and I've met, talked with some of his personnel.
21 Q Is what he does, this Southwest Exploration
22 Associates, Inc., and what his brochures purport that he
23 does, is that something that other people do in the industry
24 to your knowledge?
25 A Yes, I believe it's legitimate technique of

1 exploration which he seems to have developed to a very high
2 degree but in big companies it's just one instrument of
3 exploration. They couple it with others.
4 Q Based on your knowledge of his operation and the
5 industry itself and during the period of time that you dealt
6 with him, was there any question in your mind that he was
7 the supervisor or controlling force of that company,
8 decision maker of the company?
9 A Certainly not up until the split with Tom.
10 Q I mean his company. Mr. Briscoe's company himself.
11 In other words, was he the manager or the chief executive?
12 A He was the manager of the project up until -- I
13 would say he ceased to be the manager before he resigned but
14 up until sometime after Dick Hewlett was discharged.
15 Q And that's in relation to the Tombstone project
16 you are talking of?
17 A Yes.
18 Q My question -- I appreciate that -- my question is
19 more or less related to his own company, SEA, was he the
20 chief executive --
21 A He was absolutely -- in fact he had all these
22 subsidiary companies of which each one he was president and
23 he seemed to be the only one that was speaking.
24 Q In the industry itself, such a company as this,
25 as you understand Mr. Briscoe's company as being, is it

1 standard practice that that chief executive officer is the
2 one that makes the decisions on behalf of the company, if
3 you know?
4 A I think so, yes.
5 Q And if they use a consultant or employee again
6 just based on your knowledge of the custom and practice in
7 the industry, is that work usually reviewed by the chief
8 executive --
9 A Oh, absolutely. Absolutely.
10 Q In his capacity as you understood it back in '79
11 industry information such as with the Bureau of Mines and
12 this type of information that you have told us a lot about
13 today would be available to such a person, wouldn't it, I
14 mean if he chose to find it out?
15 A Well, the only limitation would be whether he had
16 the right qualifications to understand it because it was a
17 different field. It wasn't geology. But the Bureau of Mines
18 works in the public domain. They have to disclose.
19 Q And forgetting about the technical metallurgical
20 and chemical aspects your information in the Bureau of Mines
21 was that the system that Mr. Hewlett used didn't work?
22 A That's right. They had advised against it.
23 Q And that's -- if something doesn't work that's
24 not too difficult to understand. Why it doesn't work may be
25 technically difficult but the way they presented it to you

1 was understandable in a layman's way, wouldn't it have been
2 if it says it didn't work?
3 A Yes.
4 Q Now appreciating your candor just as Jay does and
5 everything you've told us, you've said that there are
6 certain things that have occurred since you've been
7 consulting for Tom that you would have rather seen done
8 differently or advice you've given, not followed as you would
9 have liked to have seen it followed, correct --
10 A Yes, as a consultant I have no authority,
11 administrative authority. I can say what I think and then
12 it's up to somebody else to do whatever with it.
13 Q I'm just curious about this based on some of my
14 own experiences, but based on your experiences, John, in
15 the industry a consultant many times may not be followed or
16 his advice may not be followed by management not because of
17 disrespect of the consultant, isn't that a fair statement?
18 A Yes, economic factor can be a very important
19 consideration.
20 Q You've also told us today that you believe that
21 the Tombstone project as you understand it and know it is
22 economically viable today?
23 A That's the best efforts, yes.
24 Q To come to those opinions you have done, yourself,
25 as a metallurgist, chemist, consultant and mining consultant,

1 done a lot of test work yourself, correct?
2 A Yes.
3 Q There have been a lot of changes made down there
4 since Mr. Briscoe and Mr. Hewlett have gone off the scene,
5 correct?
6 A Right.
7 Q The process of pelletizing -- and I can't remember
8 all the -- amag-- what do you call the other term, the
9 moving of it around?
10 A Aglomeration.
11 Q All of those have gone into effect, correct?
12 A Correct.
13 Q So just based on your observations is it correct
14 that Mr. Schloss has spent considerable sums of money down
15 there during the last year -- let's say from July to July,
16 in developing this property?
17 A Yes, I would say he's not only spent a lot of money
18 but I would say it's been unusually effective in terms of
19 a limited amount of time that's been involved.
20 Q Now, going back to when you came in on the scene
21 in April or May as you saw it right then, with the limited
22 information I realize that you had, did you have enough
23 information to determine whether or not the process was
24 economically viable in April or May?
25 A No, the reason was that it was a new application

of an old process to a new heap leaching situation. It was rather difficult to evaluate it.

Q Would you agree with me, John, that it has taken considerably more than $25,000 of tests and research work and investments to make it economically viable in your opinion?

A More like that amount every month.

Q My next question was and more than 200,000 also, correct?

A Yes.

Q Would you compare the, and it's hard because we've covered a lot of ground today, but a lot of the testing procedures and assay procedures and things like this that Mr. Kittle was talking to you about as to their accuracy, and I can't remember some of the terms that he used, but you remember that discussion with him, covered about an hour, I think. Could you compare the operations over the last, oh, since November of '79 up through today by Tombstone Exploration, Inc., as compared to those procedures, testing operations, et cetera, carried on by Mr. Briscoe and Mr. Hewlett from February until they went off the scene?

A Yes, I think there's been steady modification until there's very little in common as what was used originally.

Q Would you say from a metallurgical standpoint,

1 chemical standpoint that the testing practices, assay
2 practices and reporting practices of the Tombstone Exploration
3 operation under Mr. Schloss was certainly more viable and
4 better than that carried on by the Briscoe-Hewlett operation
5 as predecessors to this?
6 MR. KITTLE: I'll object to lack of foundation
7 there concerning any understanding of what the Briscoe
8 procedures were.
9 You can go ahead and answer it.
10 THE WITNESS: I can answer in terms that the
11 equipment was not there even to carry out the tests if you
12 knew what you wanted to do. There was no test equipment.
13 Q (By Mr. Allen) Under the Briscoe regime?
14 A Yes.
15 Q As a consultant, John, over the last how many
16 years --
17 A More than 20.
18 Q -- more than 20 years you are familiar, are you
19 not, with the responsibilities of a consultant in making
20 their investigations and analyzations of the particular --
21 and your recommendations, just basic guidelines that you are
22 guided by as far as ethics, responsibilities, et cetera?
23 A Yes.
24 Q If someone with the qualifications of Mr. Hewlett,
25 and you are familiar with those from reading his resume, is

1 that correct --

2 A Yes.

3 Q From reading those qualifications would it be

4 improper for such a consultant to promote a property such as

5 the Tombstone heap leaching knowing that tests hadn't been

6 run on his process to show that it was effective, number one,

7 or, number two, that they had been run and it wasn't effec-

8 tive without making a disclosure of that ineffective process

9 to the prospective investors?

10 MR. KITTLE: May I ask Mr. Allen to clarify what

11 he means by the term promote since it could be subject to a

12 number of interpretations?

13 MR. ALLEN: Try to sell the particular project by

14 using that process. That's what I meant by it.

15 MR. KITTLE: I asked for that clarification because

16 I think it's important to know what it was that was being

17 offered and what the conditions of the offer were, but please

18 go ahead.

19 Q (By Mr. Allen) Can you remember the question?

20 A I think so. All I can say is that if I were

21 investing in the project I would want to run a check on

22 Mr. Hewlett and that would go right back to his educational

23 background because in his resume he's presented as having

24 finished the work for the Ph.D. in not one but two fields,

25 mining engineering and something else, but he doesn't have

1 a degree and over the years I've repeatedly run into this,
2 someone who has represented that he has completed the work
3 but some trivial thing went wrong like he didn't complete
4 his language requirements, so to me that would be a red
5 alert. I would say, well, I want to hear that from the
6 school or the professor, whomever, because maybe it's
7 perfectly true but usually it isn't. Usually don't complete
8 the work and then walk away from it because it represents
9 too much time and money. So -- but even assuming that he
10 had the degrees I'm not sure they were the right ones.
11 So if I had been in Jim's position and I was going
12 to enforce what Dick was proposing I would certainly have
13 firsthand run a check. And on top of that there was David
14 Robb (phonetically, who has been on the staff of the
15 University of Arizona for many years, confided to Schloss
16 that Dick had a very bad reputation in professional circles
17 predating this project, and as an example he cited that Dick
18 was supposed to have developed some new process for metal
19 extraction and he took his entire class out to see it with
20 great enthusiasm and right while he was there some of his
21 own students said this couldn't work, it's a promotion, and
22 apparently it was. It didn't work.
23 Everybody in the area knows David Robb and I
24 believe Jim even studied with him so it would have been
25 possible to, in very simple steps, have phone calls to have

1 run a check. So for whatever that's worth --
2 Q All right. As to what the relationship or what
3 may or may not have gone on between Briscoe and Hewlett as
4 to Briscoe's knowledge of what was going on in Hewlett's
5 project or projections of what his process would do, you
6 don't have any firsthand knowledge of whether Jim knew about
7 it or didn't know about it, do you, or do you?
8 A No, I think Jim has taken the position that he
9 knew there were some irregularities. Maybe he didn't know
10 what they were but that he felt Dick had learned his lesson
11 and was ready to amend his ways. It was a second chance,
12 as I understand.
13 Q In other words, even though he had had this
14 previous history --
15 A Let's help him out. He's an innovative, energetic
16 fellow with some knowledge.
17 Q Based on your own knowledge did Jim ever disclose
18 to Schloss or any other investors in the project of his
19 knowledge of Mr. Hewlett's past?
20 MR. KITTLE: I object to the form of that question
21 because no foundation has been laid to demonstrate what
22 Jim's knowledge of Hewlett's past was.
23 Q (By Mr. Allen) It's okay. Go ahead and answer
24 the question.
25 A Well, all I can say is that one of the unusual

1 things about this situation is prior contact between all
2 the parties dating back several years and that's why I
3 think it's a very muddy situation because if you had worked
4 with Dick and didn't know that he was unusual in his
5 approach to things, why, then you really did need a
6 consultant.
7 Q Unless, of course, you were relying upon Mr.
8 Briscoe?
9 A Right.
10 MR. ALLEN: That's all.
11
12 RE-EXAMINATION
13 BY MR. KITTLE:
14 Q Couple of real quick ones here and I know you have
15 a plane to catch. Isn't it correct that from the materials
16 you've reviewed prepared by Dick Hewlett that his employment
17 down there on the Tombstone heap leach project was as an
18 officer and shareholder of SEA Hydromet?
19 A Yes, that's my understanding.
20 Q Was there anything that Dick Hewlett did directly
21 or indirectly that led you to believe that when he acted he
22 was acting for any person or any company other than SEA
23 Hydromet?
24 A No, I wouldn't think so.
25 Q One point of clarification on the information

1 available to the Bureau of Mines and referencing that report
2 on heap leaching, when did the report become available and
3 where did it become available?
4 A Well, there were several reports and they became
5 available over the last three years, say.
6 Q Do you have any knowledge that Jim had read those
7 reports prior to becoming involved in this heap leach
8 operation in Tombstone?
9 A I don't have any knowledge of that but I do know
10 that Dick not only visited the Bureau but was on the phone
11 so much with them that he became a nuisance. This was told
12 to me by the acting head of the Bureau.
13 Q That's Dick Hewlett?
14 A Yes.
15 Q Touching on that point of the procedures in effect
16 while SEA was employed as a management firm and versus the
17 latter time when SEA was no longer involved, isn't it fair
18 to say that throughout this project even from day one that
19 the procedures and processes of each day built on the
20 procedures and processes of earlier days and that the
21 improved techniques that are in existence today are in part
22 based on the experimental efforts from those earlier days
23 when Briscoe Company was managing?
24 A Yes, I think that it's been a cumulative develop-
25 ment of the technique and although the results were published

1 prior to that they were at a research level and since then
2 have been applied by a number of companies and the results
3 have been published.
4 Q Isn't it also fair to say that just as some of
5 your recommendations as a professional have not been totally
6 followed or recommended by Tom Schloss that it's wholly
7 possible that many of the recommendations of Jim Briscoe and
8 his company were not followed by or utilized by Tom Schloss?
9 A Well, at the time Jim Briscoe was making the
10 recommendations he was in charge so I don't think that
11 Schloss was a factor in making it difficult to carry them
12 out unless it was an economic thing like hiring an expensive
13 person.
14 Q Of course, holding the purse strings on the project
15 would be a fairly realistic constraint on implementing
16 recommendations, wouldn't it?
17 A Quite definitely.
18 Q One last point and I think it's evident to the
19 two of you and I want to be sure I've understood this
20 correctly, the allusion to the involvement of all of these
21 parties over a long period of time does include Tom Schloss's
22 involvement with Hewlett relating back to Mineral 71, am I
23 correct?
24 A Yes, and before. I mean they have been involved
25 for eight or ten years.

1 Q So Hewlett was not a completely unknown commodity
2 to Tom Schloss, either?
3 A No, but in this frame work he might have been an
4 unknown because it didn't involve heap leaching gold and
5 silver. It was mercury and some other process so I don't
6 know that you carry it forward.
7 MR. KITTLE: I think I've run out of questions.
8
9 RE-EXAMINATION
10 BY MR. ALLEN:
11 Q Just one or two questions, John, in regard to the
12 review of materials you have done have you seen the proposals
13 and representations made by Briscoe and Hewlett to Schloss
14 and Lee prior to them putting the money in in regard to this
15 heap leach operation?
16 MR. KITTLE: Could I get one clarification on what
17 Mr. Allen means by the money? Is he referring to the initial
18 capital contribution of $25,000 or something else?
19 MR. ALLEN: Where they made any investment in this
20 project, period.
21 THE WITNESS: No, I don't think I've seen that.
22 The main thing I've seen is the voluminous technical material
23 from Dick. That was my first point of contact.
24 Q (By Mr. Allen) Are you aware or did you review
25 a document from Mr. Hewlett which I believe from Mr. Briscoe's

1 testimony is something he reviewed and sent to Mr. Schloss
2 and Mr. Lee sometime in April when they are attempting to
3 get an additional $25,000 investment and it had four basic
4 areas of what had been concerns of theirs or risk factors
5 or reserves, metallurgy and recovery rates were three of
6 them. I think the others were -- five -- governmental
7 regulation problems and signing of the lease and there was
8 a report made by Hewlett again according to Mr. Briscoe,
9 reviewed by him, and sent out to my client which stated that
10 none of those factors any more represented a risk except for
11 signing of the documents, I believe; that the mineral
12 recovery had been proven and it was no longer a risk by the
13 process of Mr. Hewlett; that the ore reserves were no
14 problem and that the metallurgy was no problem, no risk.
15 Did you see that document?
16 A I think at least some of that was in the Hewlett
17 memorandum.
18 Q In April of 1979 based upon your review and work
19 done there from late April up and through the present in
20 your opinion was there proven metal recoveries at that point
21 in time, in April of 1979, by the Hewlett process?
22 A Absolutely not.
23 Q And the metallurgy certainly was a problem, wasn't
24 it?
25 A Absolutely. In fact it didn't work.

MR. ALLEN: That's all. Thank you.

MR. KITTLE: I have no further questions.

1 STATE OF ARIZONA)
) ss.:
2 COUNTY OF PIMA)

3 BE IT KNOWN that I, KENNETH W. SCHIPPERS, took the fore-
4 going deposition pursuant to notice at the time and place
5 stated in the caption hereto; that I was then and there a
6 Notary Public in and for the County of Pima, State of Arizona;
7 that by virtue thereof I was authorized to administer an
8 oath; that the witness, JOHN DEAN, before testifying was duly
9 sworn to testify the truth, the whole truth and nothing but
10 the truth; that the testimony of said witness was reduced to
11 writing under my direction; that the foregoing 100 pages
12 contain a full, true and correct transcription of the notes
13 of said deposition.

14 I FURTHER CERTIFY that I am not of counsel nor attorney
15 for either or any of the parties to said action or otherwise
16 interested in the event thereof, and that I am not related
17 to either or any of the parties to said cause.

18 IN WITNESS WHEREOF I have hereunto subscribed my name
19 and affixed my seal of office this 9th day of December, 1980.

20

21 Kenneth W. Schippers
Notary Public

22

23 My Commission Expires:
24 March 25, 1981.

25

Arizona Court Reporting

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DEPOSITIONS
STATEMENTS
GENERAL REPORTING

June 12, 1981

Re: Tombstone Exploration, Inc. -v-
Southwest Exploration Ass., Inc
Case No. 188423
DEPOSITION OF: RICHARD F.
HEWLETT Taken June 2, 1981

Dear Mr. Rappeport,

The deposition in the above-captioned case, taken on June 2 , 1981, is prepared and available to be read and signed in our office by your client.

We are located at 177 North Church Avenue and are open Monday through Friday between the hours of 8:30 a.m. and 5:00 p.m.

We would appreciate it if you would take care of this as soon as possible since the original transcript must be filed with the Court. If the deposition is not signed by your client within 32 days from the date of your receipt of this letter, we are required to file it with the Court along with a statement as to the reason, if any, that you did not sign it.

Any changes in the form or substance which your client desires to make on this deposition can be made at our office and they will be entered upon the deposition along with a statement of the reasons given by them for making such changes.

Very truly yours,

_____

BARON ERASEABLE BOND
25% COTTON

IN THE SUPERIOR COURT OF THE STATE OF ARIZONA

IN AND FOR THE COUNTY OF PIMA

TOMBSTONE EXPLORATION, INC., a Delaware corporation, et al., Plaintiffs, -vs- SOUTHWEST EXPLORATION ASSOCIATES, INC., an Arizona corporation, et al., Defendants.	NO. 188423

DEPOSITION OF: RICHARD F. HEWLETT

June 2, 1981

APPEARANCES:

MR. KENNETH L. ALLEN, Attorney at Law,
239 North Church Avenue,
Tucson, Arizona 85701,
for the Plaintiffs;

MR. JAY KITTLE, Attorney at Law,
509 Transamerica Building,
Tucson, Arizona 85701,
for Defendants Southwest Exploration & Briscoe;

RONALD L. LUNSFORD
COURT REPORTER
TELEPHONE 623-3375

COPY

1 APPEARANCES: (cont'd.)

2 MR. JACK J. RAPPEPORT, Attorney at Law,

3 205 North Bentley Avenue,

4 Tucson, Arizona 85716,

5 for Defendant Hewlett.

6

7 ALSO PRESENT:

8 Mr. Jim Briscoe

9 Mr. Tom Schloss

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INDEX

WITNESS	PAGE
HEWLETT, Richard F.	
Cross-Examination by Mr. Allen	4
Cross-Examination by Mr. Kittle	114
Further Cross-Examination by Mr. Allen	129
Further Cross-Examination by Mr. Kittle	134
Further Cross-Examination by Mr. Allen	138

EXHIBITS	MARKED
Plaintiffs' Exhibit 1	55
Tombstone Study by R. F. Hewlett	
Plaintiffs' Exhibit 2	62
Hewlett's Report dated 2-20-79	
Plaintiffs' Exhibit 3	82
Hewlett's Report dated 4-11-79	
Plaintiffs' Exhibit 4	109
Letter to Hewlett from Briscoe dated 6-22-79	

BE IT REMEMBERED that pursuant to Notice of Taking Deposition in the above-styled and numbered cause, the deposition of RICHARD F. HEWLETT was taken upon oral examination at 239 North Church Avenue, in the City of Tucson, County of Pima, State of Arizona, before me, Don L. Gautier, a Notary Public in and for the County of Pima, State of Arizona, on the 2nd day of June, 1981, beginning at the hour of 2:00 o'clock P. M. on said day.

(Witness sworn.)

RICHARD F. HEWLETT,

having been first duly sworn to tell the truth, the whole truth and nothing but the truth, was examined and testified as follows:

CROSS-EXAMINATION

BY MR. ALLEN:

Q Mr. Hewlett, would you state your name and address for the record, please.

A Richard Floyd Hewlett, 19547 Kona, Apple Valley, California.

Q How long have you resided there?

A A little over a year.

Q What is your business, occupation or profession?

A A consultant.

Q In what field?

A Mining and geology.

Q Would you tell us for the record your educational background starting from graduation from high school, please?

A I graduated at Iowa State University with a degree in Chemical Engineering and then got a Master of Science at the University of Arizona in Mining Engineering.

Q What year was that?

A 1960.

Q Excuse me. Go ahead.

A And from Iowa State University was 1957.

Then I did doctoral work at both the University of Arizona and Colorado School of Mines and taught at both places for a number of years.

Q Did you obtain your doctorate degree?

A No, I did not.

Q Could you please tell me your employment or work background in connection with -- obviously, some of it was when you were at the Universities.

A Well, I consulted for probably 50 of the largest mining companies in the world. I could get a list of those for you, if you would like.

Prior though to the consulting, I worked for Kaiser Aluminum Company in Central and South America and for Yuba International in Idaho and Kennecott Copper

1 Corporation in Salt Lake City and then the consulting
2 experience.
3 Q When you speak of consulting, have you always
4 consulted in a capacity as an individual or did you have
5 a company or companies at any time?
6 A Well, at some time as a company, in the middle
7 60's.
8 Q What was the name of that company?
9 A Well, there was --
10 (Discussion off the record.)
11 THE WITNESS: I left off talking about the
12 companies.
13 In the middle 60's, I first started a
14 company called Richard F. Hewlett and Associates and then
15 the next step was G.F.I. Computer Industries. I was
16 merged by a larger company.
17 Then they formed Computec out of that
18 as a proper name.
19 BY MR. ALLEN:
20 Q All right. In late 1978-early 1979, what
21 were you doing?
22 A In late '78, I was in Reno living there and
23 consulting for a number of mining companies in Northern
24 Nevada.
25 Q Is Sparks, Nevada close to Reno, Mr. Hewlett?

1 A Yes.
2 Q Some of the letterheads --
3 A They're together.
4 Q They're together?
5 A Yes.
6 Q So, some of the letterheads that you have
7 that has Sparks, Nevada, is that during this same period
8 of time?
9 A It was where I actually lived.
10 Q Okay.
11 (Mr. Schloss entered the room.)
12 At that point in time, Mr. Hewlett, were you
13 consulting as an individual as opposed to a company?
14 A Yes, as an individual.
15 Q The companies that you just named off to us,
16 when was the last one of those you had so I can get a
17 time limit here?
18 A About 1968.
19 Q The name of it was?
20 A It would have been Computec.
21 Q All right.
22 A Then in 1969 as a follow-up of that, then I
23 got involved with a firm in New York in raising tax
24 shelter money for mineral exploration projects.
25 Q Okay.

1 A That was my major activity from 1969 through
2 about 1975 or '06.
3 Q All right.
4 A Probably '76.
5 Q What was the name of that company?
6 A Well, there were a number of companies but
7 the company in New York was called Stephenson, Bishop
8 and McCredie and they had a number of partnerships that
9 they formed for different exploration projects.
10 Q Okay.
11 A Do you want those names?
12 Q Yeah.
13 A The first one was called Sierra Minerals
14 Management and that was the corporation. The partnership
15 was Mineral Exploration Company. Then that would have
16 been in 1970.
17 So, then in 1971, a partnership was formed
18 that was called 71 Minerals, I guess after the year that
19 it was formed, and that had a number of projects in it,
20 including Tombstone.
21 Q Okay.
22 A Then there were other projects as joint
23 ventures with major mining companies. But then other
24 partnerships were called Pan-Continental Mining Company
25 and Sierra Minerals.

1 Then the general partners or my partners in
2 New York formed a whole myriad of corporations, and I
3 couldn't begin to name those, that were related to the
4 same ventures and the funding thereof for these ventures.
5 Q When did you professionally, Mr. Hewlett,
6 become acquainted with the Tombstone, what we've been
7 calling at least the Tombstone heap leach project?
8 A 1971.
9 Q With 71 Minerals?
10 A Yes.
11 Q What was your capacity with 71 Minerals at
12 that time?
13 A I was President of Sierra Minerals and general
14 partner of 71 Minerals.
15 Q Now, Mr. Hewlett, in the years that preceded
16 your involvement with 71 Minerals and Sierra Minerals
17 Management, what experience had you had in heap leaching
18 of gold and silver?
19 A In the years prior?
20 Q Before nineteen seventy --
21 A None.
22 Q Had you had any experience in heap leaching
23 with any other minerals other than gold and silver?
24 A None. No. I mentioned what I had been
25 involved with and it did not include the heap leaching.

1 Q Okay.
2 A Except for copper.
3 Q That's what I meant, other minerals other than
4 gold or silver.
5 A You know, when I worked for Kennecott in 1960,
6 you know, heap leaching is a very, very, very old
7 technique and it started in the copper, at least in the
8 United States in the copper mines heap leaching their
9 waste dumps.
10 Q Yes.
11 A That started probably in the 40's, I would
12 guess, or 50's.
13 Q Whether it be with copper or whatever metal,
14 had you had any experience prior to 1971 with cyanide
15 leaching?
16 A No.
17 Q Are you at this time classified or called a
18 metallurgist in any capacity?
19 A Well, I've worked in metallurgy. "Classifica-
20 tion", I don't know how you would define that.
21 Q Well, maybe I'm wrong but aren't there such
22 as mining engineers, there are people that are called
23 metallurgists that are licensed or have their own
24 organizations? Maybe they're not. I don't know. Are
25 you aware of that?

1 A It could be but they graduate as a metallurgist.
2 Q You graduated --
3 A -- as a chemical engineer.
4 Q You graduated from Iowa State as a chemical
5 engineer?
6 A Yes.
7 Q I guess what I'm trying to do is as you
8 advanced on or trained on, did you become a metallurgist,
9 as such?
10 A I guess that's a matter of definition.
11 Q Okay.
12 A I did a lot of metallurgical testing.
13 Q Again prior to 1971, had you ever been hired
14 by any company as a metallurgist?
15 A Oh, no.
16 Q Were there people prior to 1971 that you knew
17 of in your experience in the industry that were hired as
18 metallurgists?
19 A That were hired as metallurgists?
20 Q By companies.
21 A Before 1971?
22 Q Yes.
23 A Metallurgists started graduating probably in
24 the early 30's.
25 Q Okay.

A And probably before.

Q I am trying to find out maybe the difference between what you did as a consultant as opposed to what maybe a metallurgist would do as a consultant. Can you define that for me or can you draw any distinctions for me?

A Actually, in heap leaching and lots of other activities related to the heap leaching of various metals, including precious metals, there is an awful lot of art involved and it becomes a matter of experience.

Q Uh-huh.

A When I first started out in 1971 at Tombstone, I hired for that project for the heap leaching a large number of people to run that operation who had worked for major mining companies that had the experience. But in almost all the cases, none of those were metallurgists. It was just a matter of one was a chemist but the ones that had operated the Cortez gold property for Placer Development.

So, educationally, people gravitate into different areas and they can be called many things but it is more of what they're practicing at that time.

Q Okay.

A Prior to 1971, there just weren't many gold or precious metal heap leaching technologies. You know,

it hadn't been too well-developed.

Q Okay.

A The use of cyanidization had but the mechanics of heap leaching, you know, there weren't many companies doing that.

Q All right.

A So, it was a very specialized field.

Q All right. And at least prior to your involvement in '71 with 71 Minerals, you really didn't have any experience in that field?

A No.

Q Okay.

A That's why I hired six fellows from Placer when Cortez shut down.

Q How long did 71 Minerals operate the property in Tombstone?

A Do you want it exactly?

Q Oh, no.

A I think it was September of '78. I could find it here some place in all this mess.

Q Seven years?

A Something like that, yeah.

Q That's good enough. That's your recollection?

A Yeah.

Q All right. Now, let's go back to before your

1 involvement with 71 Minerals with the Tombstone project.
2 When did you first become acquainted with Mr. Briscoe,
3 James A. Briscoe?
4 A Oh, it would have been probably 1969 or '70.
5 But Jim first started working -- or not first, but one of
6 the first projects that he worked on was up there at
7 Cordero at McDermitt, Nevada, you know, as well as work
8 that he later did in the Tombstone area and other places.
9 Q All right.
10 A But we were working on projects for the
11 partnership; that is to say, the tax shelter partnerships
12 that were formed. So, Jim worked on a lot of different
13 projects.
14 Q All right. You first met him in a professional
15 capacity then; is that correct?
16 A Yes.
17 Q And to your best recollection, it was on the
18 Cordero project?
19 A That was one of the projects that he spent a
20 lot of time on.
21 Q Okay.
22 A But he worked on all of the projects in the
23 partnership.
24 Q Was he working for the same company you were
25 working for?

A Yes.

Q That's Sierra Minerals Management?

A Yes.

Q Do you recall what capacity he was working in at that time?

A He was a vice-president.

Q What was your capacity; general manager?

A No. Of the Sierra Minerals Management, that particular parternship, I was the president of that corporation and a general partner of the partnership called Mineral Exploration Company.

Q Did he work for that company along with you up until you got involved with 71 Minerals?

A Yes, and including 71 Minerals.

Q What was Mr. Briscoe's capacity with 71 Minerals, if you recall?

A He would have been a vice-president of the exploration for that, too.

Q All right. When you were with 71 Minerals, did you work out of Tombstone, Mr. Hewlett? Was that where you were based?

A Some of the time. No, I was in Tucson.

Q Tucson?

A But some of the time, you know, I would go down there a lot.

Q Sure. All right.

A Then later on I lived down there but I didn't live there all of the time.

Q When were you last on the properties in an official capacity with 71 Minerals? And I mean the Tombstone heap leach.

A Probably about '76, I would judge.

Q Where did you go from there?

A I left there to move to Las Vegas.

Q Did you terminate your employment or relationship with 71 Minerals?

A Not at that time, not at that immediate time. After that while I was still living in Las Vegas, I did.

Q As best you recall, how long was Jim with 71 Minerals down in Tombstone?

A At Tombstone specifically?

I would judge about, you know, in elapsed times, you know, along the total period of time, about three or four years.

He then went to work for Tom Schloss in looking at heap leaching properties and I don't remember when that was exactly, if it was '73 or '74. I don't remember that.

Q When did you first become acquainted with first of all Mr. Tom Schloss?

1 A I met him first in Indianapolis, Indiana where
2 he was living at that time, as I recall, and met his father.
3 And we were -- "we" in this case was a partner of mine at
4 that time, Bruce Stephenson -- trying to entice him into
5 investing in Cordero, which he did, or as a family, I
6 guess.
7 Q All right.
8 A Then later on, he came and visited Cordero,
9 oh, a number of times.
10 So, that was my first introduction to him.
11 Q All right. So, what year was that?
12 A That would have been 1970, I believe.
13 Q Okay.
14 A '69 or '70, probably '70.
15 Q What type of a property or operation was
16 Cordero, Mr. Hewlett?
17 A It's a secondary or supergene lake bed
18 deposit of mercury and it's mined now as an open pit.
19 And what else did you want to know? What type
20 of an operation?
21 Q Is it a mercury mine or what?
22 A It is a mercury mine, yes.
23 Q Is that what it was when you were trying to
24 entice Mr. Schloss' family to invest in it?
25 A Oh, yes.

1 Q Was it one --
2 A We had done some sampling and some drilling.
3 Then we were just buying it from Lenway at that time.
4 Q Okay. This was again for Sierra Minerals
5 Management; correct?
6 A That is correct, uh-huh, or for the partner-
7 ship, actually, Minerals Exploration Company.
8 Q Did you own any interest in the Cordero
9 property itself?
10 A Yes.
11 Q Personally?
12 A Yes.
13 Q How much did you own?
14 A I own one-half of the general partner's
15 interest which was 25 per cent of 35 per cent. So, I
16 would own a half of 25 per cent of 35 per cent which would
17 be a little over four per cent.
18 Q Do you still own that today?
19 A Yes, I still own it today.
20 Q In your individual capacity?
21 A Yes.
22 Q Is the mine operating to this day, to your
23 knowledge?
24 A Yes, it is.
25 Q Is a company operating it?

A There is a company operating it,yes.

Q What is the name of that company?

A Placer Development or Placer AMEX.

Q What just in general terms were you trying or what were you selling them or what were they buying for their investment?

A I was selling them on the idea of finding, you know, doing the exploration, trying to discover an open pit deposit of mercury that could be mined again by open pit methods and at a very low cost compared to other mercury producers. Such as in Spain is the only other really large mine for mercury and it is underground. It is very expensive.

So, that was what I was trying to entice the Schlosses or any other investor with was the opportunity to develop a commodity, in this case mercury, that there was little competition for in the States. You know, there are no other producers and that could be produced at a low cost and develope a nice profit from it.

Q Did you in that project present to either Tom or his family, I don't want to call them prospectuses, but written documents?

A A form, yes.

Q With projections?

A I'm sure, certainly.

1 Q And plans for development if in fact you found
2 what you were looking for?
3 A They were very crude but they were that sort
4 of thing, yes.
5 Q Were they buying an interest in a partnership?
6 A Oh, yes. They were limited partners in
7 Mineral Exploration Company.
8 Q How much money did you get them to invest?
9 A I'm not totally sure but I think it was a
10 hundred thousand or so but I don't really remember.
11 I wasn't really involved with the financial aspects of the
12 partnership.
13 Q Was there anything about that particular
14 project, Mr. Hewlett, that involved any leaching processes?
15 A Well, the term "leaching", yes. Leaching
16 occurs every day in nature.
17 Q I see.
18 A And you do leach the mercury. So, yes,
19 leaching is involved.
20 Q Okay.
21 A But it is a different process.
22 Q Did that process or that project involve
23 heap leaching of the mercury?
24 A Oh, no.
25 Q All right. Can you heap leach mercury?

1 A Yes, you could.
2 Q What do you leach it with?
3 A But you wouldn't get very -- you wouldn't get
4 very good recovery.
5 Q What would you leach it with?
6 A Sodium hypochlorite. The Bureau of Mines has
7 developed and in fact published a lot of papers on and
8 in fact won some prizes on the utilization of sodium
9 hypochlorite to leach cinnabar and/or mercury chlorides.
10 And we were -- "we" in this case is Placer
11 now, you know, because they took over the management -- we
12 were considering that process but didn't use it because
13 there was just too much of a liquid-solid separation
14 problem.
15 Q Okay.
16 A Because it involved the use of salt and that
17 sort of thing.
18 Q All right.
19 A So, it wasn't feasible for that kind of a
20 property.
21 Q How much contact, Mr. Hewlett, would you have
22 had with Tom Schloss during that period of time as far as
23 dealing with him from a mining standpoint?
24 A On the mercury?
25 Q Yeah.

1 A Well, not very much. He would come out and
2 spend a day or two and he probably did that, oh, I don't
3 know, maybe four or five times. I don't really remember
4 how many times.
5 Q At that point in time, if you knew, what kind
6 of a background did he have in mining ventures or mining
7 properties, to your knowledge?
8 A I don't really know. That probably was his
9 first mining venture but I'm not sure.
10 Q How long did that relationship exist?
11 A On the mercury?
12 Q Yeah, where he was a limited partner and you
13 had an interest.
14 A It is in existence today.
15 Q Okay.
16 A I think you know the history of what happened
17 there. Do you want to be --
18 Q No, I don't want to go into it. I think I
19 know.
20 A But then the relationship with Tom, well, I
21 knew him then. My partners in New York who had some kind
22 of ties with his family or first knew him wanted him to
23 invest in Tombstone at that time in '71.
24 Q Okay. Go ahead. I didn't mean to interrupt
25 you.

At that point in time is what I'm really trying to get you to stick to.

A Yes, this is what we're talking about at that point in time, you know, right after they had invested in Cordero.

At that time Tom elected to not pay that interest that he would have to our partnership but, you know, do it on his own with Jim Briscoe. So, that was the time that this Shorex was formed. So, I didn't have much contact with Tom during that time.

Q All right.

A But I would see him sometimes.

Q So, let's go back. In 1970 after the investment by Tom's family and Tom in the Cordero project, there was an attempt or there was some talk or he had an opportunity to invest in 71 Minerals; is that correct?

A That is correct.

Q And he chose not to?

A That is correct.

Q Do you remember in regard to the 71 Minerals project as to whether or not you presented Tom with any written documentation or projections in regard to the Tombstone project?

A That I don't honestly remember.

Q Did you ever take Tom to that project in

1 Tombstone back in '70-71?
2 A I don't remember that either.
3 Q Then when he turned --
4 A I would suppose that sometime he visited the
5 property because he later, you know, he was in Tucson and
6 then got ahold of Jim because Jim was working down there
7 a lot and then hired Jim to work on heap leaching projects.
8 Q Between that period of time between you
9 started 71 Minerals and up to let's say mid-1978, did you
10 have any dealings with Tom?
11 A No, I didn't.
T2 12 Q What did you do from a professional standpoint
13 at Tombstone for 71 Minerals on the Tombstone heap leach
14 project?
15 A Well, during the time of it, as I pointed out
16 and as you asked, I started out knowing nothing about
17 heap leaching and hired these fellows from Cortez. Being
18 a general partner, it was my duty to -- you know, I was
19 on the Management Committee and we had to work out
20 different problems that we had, you know, in the heap
21 leaching. So, my function was more of management in the
22 71 Minerals, initially.
23 But then as different projects in addition to
24 Tombstone came to pass, well, I was involved very heavily
25 then in the heap leaching, you know, on all of the projects.

1 Q Okay.
2 A And then lived there.
3 Q Let me stop there if I can and I don't mean to
4 interrupt you, Dick. But sometime in '71, you started
5 that project for 71 Minerals and left the property or the
6 project in '76, as best you can recall?
7 A '78.
8 Q No. You personally.
9 A Oh, I'm sorry. Yes.
10 Q Did I misunderstand?
11 A No. That is correct.
12 Q Was it '76 when you left it?
13 A Something like that.
14 Q During that approximately five-year period of
15 time, were there other projects in other parts of either
16 the state or country that you worked on for 71 Minerals?
17 A Yes.
18 Q In what capacity; general partner?
19 A Yes.
20 Q Can you give me an estimate during that five-
21 year period of time of how much time of your personal time
22 you dedicated to or directed towards the Tombstone project?
23 A Oh, about three years.
24 Q Three years cumulative but over that five-year
25 period?

A Uh-huh.

Q Is that fair?

A Because I lived there. When I lived there and worked there, I was working on that and nothing else and I did that for about three years.

So, it would be a little in excess of three years.

Q Would that have been the first three years or what?

A No, no. Towards the end.

Q Okay.

A Right at first, I would spend probably only half of my time down there.

Q Okay. Did there come a time when you moved more from the managerial to the actual practical working of that project?

A This was, like I suggested, towards the end or the latter part of the project.

Q Now, before you started to give most of your attention, if not all of your attention, to that project of 71 Minerals in Tombstone, did you do anything at other places where you were involved with heap leaching of precious metals?

A Yes, at Cripple Creek, Colorado and Nelson, Nevada.

1 Q All right. Let's start with Cripple Creek.
2 What did you do there?
3 A Well, it would be the same thing as on any of
4 the projects.
5 I was chairman of the management committee for
6 all of these projects. That is, at a little later date,
7 the Harrimans were the prime or primary investors. That
8 is, they did own some of Tombstone. But then from that
9 point on, they invested totally in Cripple Creek, Nelson,
10 you know, and any other projects that we did.
11 So, you see, it was a unified management
12 committee.
13 Q Okay.
14 A All right. So, at Cripple Creek, as you
15 asked, I was chairman of the management committee but we
16 would spend a lot of time there working with them on ore
17 reserves and the planning and different things that you
18 would have to do on any heap leaching project.
19 Q Did you at Cripple Creek become involved in
20 any way in any of the metallurgical processes, recovery
21 processes?
22 A Yes.
23 Q How? I mean, what did you do to get involved
24 in that?
25 A By doing the test work that is necessary, test

1 work in the lab, and then the involvement with the ore
2 reserves, their calculations, the leachability of these
3 ore reserves, from metallurgical testing all the way
4 through to the production.
5 Q Did you do that with assistance from other
6 personnel or by yourself at Cripple Creek?
7 A Sometimes I did it myself and other times with
8 assistance.
9 Q Did you have anybody who was "a metallurgist"
10 as best we can define one at Cripple Creek?
11 A Yes, by degree.
12 Q Who was it?
13 A His name was Rudy -- oh, dear, he's from the
14 Philippines. Rudy -- I can't remember his last name. It
15 was a Philippino name. Amisquera or something like that.
16 Q Okay.
17 A Also Bob Darrah who we hired or as I suggested
18 or at least I indicated from Cordero had a degree in
19 metallurgy also.
20 Q Did he help you at Cripple Creek?
21 A Yes. He was in charge of the production from
22 everyone of the projects; you know, Tombstone, Cripple
23 Creek and, you know, when we first started, as I tried to
24 suggest, the fellows we hired from Cortez.
25 Q What was the time period of Cripple Creek

1 in comparison with the 71 Minerals project? In other
2 words, 71 Minerals started sometime in '71 at Tombstone.
3 When did Cripple Creek say go into operation to where
4 there was --
5 A '72 or '73?
6 Q Excuse me. Just for the record, let me
7 finish.
8 -- when Cripple Creek went into some sort of
9 a leaching project where there was some production? I
10 was really trying to tie it down.
11 A '72 to '73, probably.
12 Q Okay.
13 A Probably late '73.
14 Q Okay. You mentioned another project called
15 Nelson, Nevada.
16 A Nelson, Nevada, uh-huh.
17 Q When did it go into production in relationship
18 to '71?
19 A Probably two or three, probably three years
20 later.
21 Q '74?
22 A That was still in production when I moved to
23 Las Vegas because then I worked at Nelson. That would
24 have been probably, like I suggested, '76 or maybe '77 at
25 the very latest.

Q Okay. Was there any other projects going on during that same time?

A None that were in production.

Q Let's go back and talk about Cripple Creek first of all. What type of leaching processes did you have going on there; heap leach?

A Heap leach with cyanide, uh-huh.

Q Cyanide for what; gold and silver?

A Gold and silver.

Q How about at Nelson, was that a heap leaching?

A Identical.

Q Gold and silver?

A Identical to Tombstone, yeah.

Q You were seeking gold and silver using cyanide; is that correct?

A Yes. Would you like to see some pictures of it?

Q No, not now.

I have a very simple mind, Mr. Hewlett. I have to keep it going in the track I'm going in. All right?

A All right.

Q I'll lose it.

A But all three of those operations were identical as far as the use of cyanide and the recovery

1 system, basically, and the minerals that they were
2 recovering.
3 Q Based on your experience with those three
4 projects that were identical or identical type of
5 operation, did you reach a point in time where you felt
6 you had some expertise in this area of heap leaching for
7 precious metals with cyanide?
8 A Yes.
9 Q About when?
10 That's not really a fair question but when did
11 you feel that the experience --
12 A Oh, probably '78, '77, in that range.
13 Q You felt that your experience was sufficient
14 to make you an expert in that area?
15 A That is correct.
16 Q Okay. During that period of time on those
17 three projects, were any other type of leaching processes
18 --
19 Well, let's clarify that. Were any other
20 leaching solutions used other than cyanide?
21 A On those projects?
22 Q Yes.
23 A Yes. At Cripple Creek we made a bromo or a
24 use of bromine and cyanide to leach the tellurides. This
25 is made with liquid bromine added to cyanide at a slightly

1 acidic pH and hypochlorite was used for pre-treatment of
2 some of the tellurides.
3 Q Explain to me what hypochlorite is.
4 A It is called Clorox.
5 Q It is called what?
6 A Clorox.
7 Q Oh. Okay.
8 In other words, you would take some of the
9 material, pre-treat it with Clorox?
10 A That oxidizes some of the minerals, uh-huh.
11 That's a common practice at a lot of carbonaceous gold
12 mines which is Carlin which is owned by Newmont and they
13 need a pre-treatment for that carbonaceous or the same
14 problem.
15 Q Was that process that you have just described
16 to us something you were testing to use at Cripple Creek
17 or what?
18 A Yes, just testing.
19 Q Did you ever put it into production?
20 A But it was used. Yes, it was tested on a
21 production basis.
22 Q How long was it used?
23 A Well, not very long because it was winter time
24 and that's at ten-five. But for about a month and a half
25 to two months, until late November.

1 Q Then was it started up again the next year?
2 A It is frozen up.
3 The next year what we did was do the planning
4 to mine open pit. Prior to that, we were mining strictly
5 the dumps and the dumps had a lot of tellurides in them
6 that were brought from the bowels of the earth, whereas
7 the open pit ore had a higher grade and very low and no
8 tellurides. They were already oxidized.
9 So, a different process was then used the next
10 season.
11 Q Did you use any different processes or agents
12 other than cyanide at Nelson, Nevada?
13 A No.
14 Q How about at Tombstone?
15 A Underground we used sodium thisulfate.
16 Q Explain to me how you used it and what was
17 the nature of the use.
18 A It was done underground and sodium thiosulfate
19 which is a non-toxin solvent -- which is better known as
20 "photographer's hypo" and it fixes silver as in the
21 photographic process and in leaching it can be used for
22 putting silver into solution and precipitating, being
23 precipitated with powdered zinc.
24 Q Was that a test process at that time?
25 A Well, we started out as a test and got our

1 permits to leach underground and over the water supply
2 there but then it was used commercially. We would
3 precipitate from underground during the day, you know,
4 the day shift and then from the heap the other two shifts
5 at night.
6 Q Using that agent?
7 A Yes.
8 Q Had it been used before your use of it at
9 Tombstone?
10 A Where?
11 Q Anywhere.
12 A Yes.
13 Q Okay.
14 A Yes, that's an old solvent.
15 Q For leaching precious metals?
16 A Silver.
17 Q Silver.
18 What did it do to the gold, if anything?
19 A It doesn't put much of the gold in the
20 solution.
21 Q Is there any problem with it in regard to its
22 use on the heaps as far as percolation or anything like
23 this? Did you have any problems is what I'm looking for?
24 A Oh, you'll have problems with anything.
25 Q I realize that but I didn't ask you that.

1 Did you have any problems with this one?
2 A Yes.
3 Q With that sodium thiosulfate?
4 A Yes.
5 Q What kind of problems did you have?
6 A Well, it would decompose and you would need
7 tougher agents and things to prevent this.
8 Q What kind of agents?
9 A Oh, sodium carbonate or other chemicals that
10 would buffer or would keep the carbon dioxide out of it.
11 Q Is that cement? Can you use cement for that?
12 A Cement? I doubt that.
13 Q Okay. All right. What other problems; any?
14 A What other problems could you have with it?
15 Q Well, what did you have with it? I don't care
16 what you could have. What did you have down there with
17 it?
18 A Well, that was mainly it.
19 Q How long did you use that agent as a leaching
20 agent?
21 A Not very long.
22 Q Do you consider it unsuccessful?
23 A The way that it was used, it was unsuccessful.
24 That's because of other factors though.
25 Q Did you try to change any of those factors to

1 continue using it?
2 A Well, in order to successfully leach anything,
3 you have to have enough funding. And without that, you
4 know, you're going to be unsuccessful at anything.
5 Q We are talking about 71 Minerals now; right?
6 A No.
7 Q Well, we better back up. I thought we were
8 talking about the --
9 A Okay. Well, anyway, I'm sorry. No, it wasn't
10 used.
11 Q On 71 Minerals?
12 A Well, it was used but it was used mostly
13 underground.
14 Q All right. Was it successful underground?
15 A Yes.
16 Q What at that point in time did you measure,
17 how did you measure whether a particular leaching process
18 was successful, Mr. Hewlett?
19 A We had a laboratory with such instruments as
20 atomic absorption and, you know, a lot of elaborate,
21 chemical titration and other types of equipment, pH
22 meters, et cetera. This is what is required and necessary
23 to monitor any kind of a leaching process.
24 Q Now, we are still talking about 71 Minerals.
25 Okay? Let's not move from that right now.

A Yes.

Q All right.

A That's what is used, if I understood your question, to monitor the process.

Q Okay.

A You have an incoming pregnant solution. You measure with the atomic absorption what the concentration of gold and silver is in that pregnant solution. You know what you've recovered in your plant by what is in the barren. You take those two readings.

Q Okay.

A Then knowing the flow rate, you can then calculate how much metal you're precipitating.

Q So, is there a point based on your experience at that time with 71 Minerals where you had a figure that was considered acceptable or successful from a leaching standpoint, percentage recovery?

A Well, 71 Minerals, because of the way that they loaded the heap with the ore and the way that they leached it, didn't get a very high recovery. And I don't know what figures -- the estimates that the metallurgists made that were on the project were that it was between, oh, anywhere from 11 to 35 per cent recovery --

Q Is that acceptable?

A -- at different periods of time.

1 Well, the acceptability is whether you are
2 making money.
3 Q Sure.
4 A That's really the only measure of it.
5 Q All right.
6 A So, that was in production for quite a few
7 years. So, you know, on that and the metal prices were
8 pretty low compared to now. So, you know, it was
9 successful from just that point of view.
10 Q Did you take any steps in your capacity during
11 that period of time with 71 Minerals to do tests to try to
12 increase the recovery of the precious metals?
13 A Yes. We introduced oxygen, did a number of
14 things to the heap to try and accelerate the recovery.
15 But as in most projects, the decisions on
16 management are made by the people that control the money.
17 And my partners, Jim Bishop and Bruce Stephenson,
18 controlled the money. So, irregardless of what
19 recommendations I would make or Bob Darrah who was in
20 charge of the production at that time or any of the other
21 fellows, you know, it wasn't followed through.
22 Q All right. From a general standpoint, I want
23 to try to ask you a couple of questions about the 71
24 Minerals operation. As part of the project and in your
25 capacity, did you become aware of what the amount of

1 precious metals in the ore might be in a general nature?
2 In other words, the percentage. You know, we hear stories
3 about --
4 A That's what this book is here (indicating).
5 Q Okay.
6 A All of the dumps were sampled before they were
7 taken to the heap and when they were put onto the heap.
8 Q Okay.
9 A So, the recovery was computed from that.
10 Q So, then you would have a --
11 A Before it was leached and then the records
12 of what was produced by 71 Minerals.
13 Q You would have a figure then you would start
14 out with, would you not, that you had so many tons of
15 material, ore, let's call it for lack of a better term at
16 this time, put on the leach pads?
17 A Yes.
18 Q And that ore based on assays had a certain
19 percentage of or content of silver?
20 A That is correct.
21 Q Content of gold, maybe some other minerals;
22 correct?
23 A Only those two, basically.
24 Q Well, those are the two at least we are
25 interested in; right?

A Precisely.

Q Based on those percentages of content or amount of content multiplied by the tons, you can make an estimate of the precious metals in the ore?

A That is correct.

(Discussion off the record.)

BY MR. ALLEN:

Q Then we have now an amount of projected precious metals in the ore that's on the pads?

A That is correct.

Q Then it is treated with some leaching agents?

A Uh-huh.

Q We end up with a pregnant solution; am I correct?

A That is correct.

Q Which has hopefully precious metals in solution; correct?

A Uh-huh.

Q Then it is run through a processing plant to recover from that pregnant solution the precious metals; correct?

A That is correct.

Q Okay. Are there two different types of recovery that we are dealing with? The precious metal recovery I understand which is whatever comes out of the

1 solution and what you had in, that's your recovery. But
2 as to what you put into solution from the ore itself --
3 A That is correct.
4 Q -- that's another figure; is it not?
5 A Yes, it is; correct.
6 Q What is it called?
7 A Well, in the first case, it would be the
8 ore recovery; in the second case, the pregnant recovery.
9 Q Okay.
10 A Because the pregnant recovery is just the
11 difference between the preg and the barren or plant
12 recovery, probably.
13 Q Okay. Is the objective based on your
14 experience and background, Mr. Hewlett, to get as much
15 precious metal in solution as you can from the heaps?
16 A Yes, that's the objective but it is related
17 to what the cost of doing that would be.
18 Q Okay. And the cost is controlled by how
19 much solution you put on, how much water?
20 A No. More so it is controlled by what you have
21 to do to the ore before you would treat it.
22 Q Okay.
23 A That's a bigger cost than the cost of the
24 solution.
25 Q So, if you had dumps that are just old dumps

1 that are sitting there, you could just start treating them,
2 that would be less than if you had to do some processing
3 of the dumps before you put the solution in?
4 A That is correct, certainly.
5 Q What was the highest percentage of recovery
6 based on your experience from the pregnant solution to
7 actual precious metals 71 ever got; 35 per cent?
8 A In the plant?
9 Q Yeah, in the plant.
10 A Oh, in the plant, oh, much higher than that.
11 They would usually have close to a zero barren.
12 Q Okay.
13 A So, they would have close to a hundred per
14 cent and they had a $250,000 recovery plant.
15 Q That's what I wanted to get straight. The
16 percentages you told me earlier of between 11 and 35 per
17 cent --
18 A That's from the ore.
19 Q Ore?
20 A In the heap.
21 Q Okay. If you start out with -- and I'm just
22 asking this really as a premise to some other things I
23 want to ask you -- if you start out with a set amount of
24 metals or precious metals in the ore, say for lack of a
25 better term one per cent, and you run a solution or a

1 leaching process over that to try to put the precious
2 metals into solution -- okay? -- can you do that more than
3 once?
4 In other words, can you rerun your barren
5 solution over and continue leaching that same ore?
6 A Yes. Do you want an example of that?
7 Q No, not right now. I think I understand.
8 A For example, Cortez every year will leach,
9 they'll recycle their, you know, make-up water. You know,
10 it is frozen during the winter. But they take about a
11 million and a half dollars each year out of reprocessing
12 their existing heaps.
13 Q I think I understand. The reason I asked you
14 that question is that when do you stop processing the ore;
15 when you have reached your optimum recovery?
16 A No. When the gold -- let's say, well, your
17 gold and silver preg, that is, content in the pregnant
18 solution coming off of the heap is too low to economically
19 recover it.
20 Q Okay.
21 A In other words, you have all your costs, you
22 know, of putting the ore up there. So, you know what
23 your daily operating costs are. And when you are not
24 making the daily operating costs as some criterion with
25 respect to your gold and silver preg, then you would quit

1 leaching that segment of the heap.
2 Q If you could recover, using the same process
3 -- whether you ran your barren back through once, twice
4 or three times or however many -- if you could make a
5 50 per cent recovery from the ore of the precious metals
6 as opposed to an 11 per cent, that is better, isn't it,
7 from a mining standpoint?
8 A It sounds like it.
9 Q I'm just curious. That's your objective, to
10 get as much out as you can?
11 A Yes.
12 Q As far as costs allow?
13 A That is correct.
14 Q Now, did you do any kind of studies in your
15 capacity with 71 Minerals to determine whether or not
16 their leaching operation was economically successful;
17 in other words, they made more money from what they got
18 out than it cost them to get it out?
19 A Yes, that was my partners' criterion for any
20 operation.
21 Q I appreciate that. My question is did they?
22 A Yes.
23 Q Did that continue?
24 A Yes.
25 Q Did it at some time drop off?

A That's when they quit in I think it was September of '78. I wasn't with them at that time.

But they had a pre-production royalty that they had to meet each month and, you know, that kind of pressure. So, they finally didn't make any more money and quit.

Q During the time that you were there with 71 Minerals, were they leaching old dumps or were they creating new leach pads with mined material, if you understand what I'm saying?

A I understand what you are saying but no, we did no new open pit work. It was only the previous dump; that is, the dumps that we hauled to one central point in a heap.

There was some exploration done for open pit ore but there was no open pit mining per se.

Q So, it was leaching of existing materials on the property; correct?

A That is correct, uh-huh.

Q You did do some movement of that material to set up leaching pads; is that correct?

A Well, to transport it from its resting place at the dump site over to the pad.

Q Okay. Did you know when you left 71 Minerals, physically when you moved yourself from the property, how

much tonnage of dumps were there and had been leached or were being leached?

A Yes.

Q How much was it in round figures, approximately?

A There was about a million and a half tons on the existing heap there.

Q Had that heap in your opinion when you left been leached adequately to where there was really no more recovery under the processes known at the time?

A No, that wasn't true. What I'm saying is that it needed -- well, we considered at first whether we would crush it and screen it and heap leach it.

G68 Q Uh-huh.

A But at that time the precious metal prices didn't make crushing economical. You know, we made very expensive tests on that. So, we have all the records or created the data for what in the course material, how much gold and silver was still tied up in that.

But then there was a decision made after about, oh, almost perhaps a year of testing to just put it onto the heap without crushing. So, it could have been crushed at that time but the precious metal prices didn't warrant it.

And the partners that I had again from a

1 management point of view weren't interested in doing more,
2 getting any more money involved with that project, which
3 was one of their decisions.
4 Q All right. Let me preface this. What is
5 your definition of an "ore reserve"?
6 A It is an economic term that relates to ore
7 that can be economically treated and, of course, make a
8 profit from.
9 Q Did you know what the ore reserves were at the
10 Tombstone project when you left it with 71 Minerals?
11 A Yes. Well, by that I mean I knew, I had the
12 records as a general partner, obviously, from all of the
13 testing that in fact I did myself or with help that we
14 did all of that testing of the dumps before they were
15 ever moved to the heap and then we screened them and
16 crushed them.
17 And I had Charlie and Louie Escapule working
18 for me and Jim was involved through different periods of
19 time at that time and other people. So, we had all of the
20 information, you know, before any leaching was done on
21 what as we call it as a mining term the ore reserves were
22 for the dumps.
23 Q For the dumps?
24 A Yes. Then the only other information then was
25 how much, you know, as far as a precious metal inventory.

1 Then I know what had been extracted from it.
2 Q Does ore reserve also involve ore that hasn't
3 been mined yet?
4 A It could, certainly.
5 Q Did you ever at the time you were on the
6 property for 71 Minerals know what the ore reserves were
7 of that property that had not been mined and not in the
8 dumps?
9 A No. We did some drilling and determined some
10 preliminary ore reserves but there wasn't enough drilling
11 to adequately define that.
12 Q When did you develop, Mr. Hewlett, your
13 process that's been described to me as induced percolation
14 system?
15 A Well, it really isn't my process but it is a
16 process that's been used in a number of, oh, now some
17 major mining companies for agglomerating clays and the
18 work started on this in '78, a lot of which was done by
19 the Bureau of Mines there in Reno. And I was living in
20 Reno at the time and shared with them, you know, their
21 test results as well as mine on a number of projects in
22 Northern Nevada. And they published a number of reports
23 of investigation on this process.
24 Q Did you ever implement that process on any
25 project before January 1st of 1979?

1 A Yes, we had used it, like I was saying, with
2 the Bureau of Mines on a property called the Florida Canyon
3 and made tests of this at Packard and at Freeport and
4 other properties, at Goldfield.
5 Q When you say "we" --
6 A Now, these aren't large tests. They are only
7 three to five thousand tons but it is very effective.
8 Q When you say "we", who do you mean?
9 A Well, whoever I was consulting for.
10 Q Had you ever been told prior to January 1st,
11 1979, by the Bureau of Mines that that process that you
12 were testing and working on didn't work?
13 A No.
14 Q Were you ever told that it wouldn't work on
15 properties such as Tombstone?
16 A No.
17 Q You are sure of that?
18 A Oh, I'm sure of that, positive of that.
19 Q Okay. Who in the Bureau of Mines did you work
20 with in this?
21 A That was Harold Hinen.
22 Q Anyone else?
23 A Rol Lindstrom.
24 Q Who?
25 A Harold Hinen and Rol Lindstrom.

1 Q Anyone else?
2 A And Bernie Schiner.
3 Q What type of property was it that you tested
4 this on? Describe it to me.
5 A They were clay properties, properties with
6 heavy clays.
7 Q One of them was Florida Canyon. Where is that
8 located?
9 A It's up near Winnemucca in Nevada.
10 Q Were all the properties clay-type properties?
11 A Well, they had heavy clays which is the
12 biggest problem for inducing the percolation.
13 Q Is there?
14 A Just like with Tombstone with montmorillonite
15 there.
16 Q So, based on your experience, the Tombstone
17 dumps were a heavy clay situation?
18 A Not a heavy clay situation, no. They had some
19 clays that would inhibit percolation. They were
20 montmorillonite clays.
21 So, you need agglomerate that if you crush
22 it very fine in order to induce percolation. It is being
23 used on the same type of ore at Candelaria, for example,
24 by Occidental Petroleum. That is a limestone deposit.
25 Q Were you contacted, Mr. Hewlett, by Mr. Briscoe

1 to assist him in presenting the Tombstone projects or
2 property to investors?
3 A Yes, I guess it could be put that way.
4 Q When was this?
5 A It would be December of '78 and/or January of
6 '79.
7 Q You were in Reno or Sparks?
8 A I was here to visit my family in Tucson and I
9 think I saw Jim at Christmas.
10 Q Okay.
11 A Or if I didn't, then I talked to him -- I
12 think I did. And I was living in Sparks though, yes.
13 Q All right. At that time it had been since
14 the Cordero project that you had had any dealings with
15 Mr. Schloss; correct?
16 A Repeat that, if you would, please.
17 Q Sure. At the time that you talked to Jim
18 Christmas, you think, of 1978 about presenting this
19 Tombstone property to investors, you hadn't dealt with
20 Mr. Schloss since the Cordero project; is that correct?
21 A No.
22 Q That's not?
23 A That's correct.
24 Q Can you tell me as best you recall what
25 Mr. Briscoe said to you in regard to this property and

1 what you said to him?
2 A Well, initially, Mr. Briscoe had an investor
3 or a potential investor that was doing some work in
4 Cochise County, as I recall, or at least very close to
5 Cochise County. And that particular individual had
6 inquired of Jim about the Tombstone District.
7 And Jim recalling our relationship down there
8 talked to me about it and wondered in behalf of this
9 Dr. Greenbaum whether or not I thought there was still
10 any existing potential at Tombstone and, of course, I
11 did feel there was.
12 Q Why did you feel there was, Mr. Hewlett?
13 A From the work that I had done in Tombstone
14 prior.
15 Q What did you think was the potential left
16 there?
17 A In reprocessing, in crushing and reprocessing
18 the heap and doing the open pit exploration.
19 Q All right.
20 A The potential for the open pit would be, you
21 know, developing some ore that would be mined low-cost and
22 then there is an eventual deep potential in the under-
23 ground that Newmont did some work on back in the 50's.
24 They generated about three million dollars worth of data.
25 Q Did you relate this feeling to Mr. Briscoe?

A Yes, by way of this report (indicating).

Q Which report? You have pointed to a white book?

A It is called "Tombstone Study".

Q Could I see it?

A Oh, certainly.

MR. ALLEN: Do you want to take a break for a minute?

(Deposition proceedings recessed 3:10 P. M. and reconvened 3:15 P. M.)

BY MR. ALLEN:

Q Mr. Hewlett, you have been kind enough to give me a report that is in a white Southwestern Exploration Associates folder or three-ring binder -- no, a seven-ring and it is entitled on the front on looks like a three by five card "Hewlett Management, R. F. Hewlett, Tombstone Study."

On the first page in pencil is written "January, 1979". I think, and I may be wrong because I just looked at it real quick, that's the only place I see a date.

But is it your testimony that that was prepared for S.E.A. by you?

A That is correct, at about that date.

Q Okay. Was this report done as a consultant

1 for S.E.A.?
2 A Yes, it was.
3 Q Were you paid for it?
4 A Yes, I was.
5 MR. ALLEN: I would like to have this marked
6 Exhibit 1 to his deposition. I certainly don't want to
7 keep it but can we make some arrangements, Jack? Are you
8 going to have them?
9 MR. RAPPEPORT: Yes, I'll have them but you
10 can copy them.
11 MR. ALLEN: There may be a lot of copies.
12 I would just like to ask if we can do it for all of our
13 benefit through Alphagraphics than if we sit in there and
14 run them off?
15 MR. RAPPEPORT: Sure.
16 MR. ALLEN: Can we make some arrangements
17 later?
18 MR. RAPPEPORT: Sure.
19 MR. ALLEN: Do you have something or can we
20 keep track?
21 MR. RAPPEPORT: I'll know, of course, which
22 one you are talking about and you make the arrangements
23 with Alphagraphics and I'll have my runner take them down
24 and sit with them while they're done. No problem.
25 MR. ALLEN: Thank you.

1 (Plaintiffs' Exhibit 1 marked for identification.)
2 BY MR. ALLEN:
3 Q Mr. Hewlett, that document which we will have
4 marked Exhibit 1 when we get it copied, is that the first
5 presentation, basically, or report that you made for
6 S.E.A. on this project?
7 A That is correct.
8 Q All right. Is that report based upon your
9 experience at the Tombstone project with 71 Minerals or
10 does it involve some independent study you did after
11 leaving 71 Minerals?
12 A Only while I was there with 71 Minerals.
13 Q All right.
14 A Taking the data available that was generated
15 from that project.
16 Q All right. Let's go back a little bit then,
17 if I can, on 71 Minerals' activities that you have told
18 me quite a bit about already and, if I understand you
19 correctly, are the bases of this report you gave to S.E.A.
20 A That is correct, uh-huh.
21 Q All right. The ore reserves of the dumps
22 that you explained to me earlier.
23 A Yes.
24 Q You stated there were samples taken from the
25 dumps and an ore reserve was projected; correct?

A That is correct. Trenches were dug and barrel tests were made from the samples obtained from the dumps. And there is almost a whole book on all of this data and I don't have most of it.

Q All right. Did you direct that work or did someone else?

A I did.

Q At that point in time, were you a registered geologist?

A No, I'm not a registered geologist.

Q Can you explain to me, if you know, how the samples were taken?

A I'll repeat it for you.

A trench was dug with a backhoe and the samples were taken from the backhoe diggings, you know, the ore removed from the trenches by the backhoe. These were run in a barrel test.

Q Okay. A barrel test being -- what did you do; you tested by leaching or what?

A Yes. It's a simulated heap leaching activity. This is in fact the exact leaching facilities that were used (indicating).

Q Okay. Those are the same --

A Charlie and Louie Escapule were working for us at the time and did most of that work and it was done

1 there at what now is their operation at the State of Maine
2 but that was our lab at the time.
3 Q Okay. These samples, based on your knowledge
4 of how they were taken and how they were run, are
5 acceptable in the industry as an accurate method of
6 determining ore reserves?
7 A It is the only way that it is done.
8 Q Does it have any kind of a name?
9 A Well, in this particular case, they end up as
10 a barrel test of that ore.
11 And the initial testing was done by Bob Darrah
12 who is a registered metallurgist and, as I suggested to
13 you before, was in charge of the leaching operation, the
14 technical aspects of the leaching operation at Cortez.
15 He was the chief metallurgist.
16 Q Sure. Okay.
17 A And I have in here all of those barrel test
18 records that Darrah had done at this time. This is an
19 example of it and it shows, you know, all of the dumps that
20 he had leached just page after page after page. So, this
21 is the work that he had done on that.
22 Q Now, for the record, you have shown me two
23 blue three-ring binders which include a lot of this
24 material, if not all of it, you have been talking to me
25 about?

1 A That is correct.
2 Q Was this information in January along with the
3 report Exhibit 1 given to Mr. Briscoe?
4 A No, it was not.
5 Q These documents, are these the tests and
6 method by which the ore reserve was projected either by
7 you or by people under you to be one and a half million
8 tons?
9 A Well, you don't project that. You weigh the
10 trucks. You know how many truck loads of ore are brought
11 and so that's an accurate inventory of the ore that is
12 put onto the heap.
13 Q Okay. That was a million and a half tons;
14 correct?
15 A Yes.
16 Q All right.
17 A It looks like this (indicating).
18 Q Believe me, I've seen it.
19 A Okay.
20 Q All right.
21 One other thing I wanted or two other things,
22 really. We talked a little bit about the underground
23 leaching with sodium thiosulfate.
24 A Yes.
25 Q I don't know whether I asked you this and if

1 I'm being repetitious, please forgive me. But was that
2 method in practicality, in other words, if it in the
3 operation at Tombstone itself successful?
4 A Yes, it was successful but it was only because
5 we would recover, you know, about an ounce, the preg
6 would be about an ounce of silver per ton of solution and
7 we circulated it at about 60 gallons a minute through the
8 plant.
9 Q Uh-huh.
10 A And recovered the silver.
11 Q Okay.
12 A Now, you understand that cyanide couldn't be
13 used underground because of the environmental and other
14 health problems. So, that was the only solvent that could
15 be used.
16 Q When I use the term "successful", I want to
17 make sure we are both on the same wave length. Was it
18 economically feasible to use that process?
19 A Yes. Yes, we proved that.
20 Q Okay.
21 A Because we would precipitate for months at
22 a time with that solution from underground.
23 Q Did you have tests or do any of these books
24 include tests of that recovery and operation of the
25 underground?

1 A That would be in the production records in the
2 plant and I don't have the production records from the
3 plant.
4 Q Okay.
5 A You know, those are kept at the property.
6 Q From a practical standpoint, in other words,
7 the actual operations of a mine or a property, is it the
8 metallurgist's job to recover precious metals?
9 A Usually.
10 Q That's what he's there for from the standpoint
11 of a practical approach?
12 A Yes.
13 Q With that definition, have you acted as a
14 metallurgist in the last few years or ten years in these
15 various projects where you were in charge of recovering
16 the prescious metals?
17 A Yes.
18 Q All right. Now, after Exhibit 1 which you
19 have shown me was prepared, did you prepare any other
20 reports for Mr. Briscoe in regard to the Tombstone project
21 prior -- to make this question a little tougher -- prior
22 to March 7th, 1979?
23 A Prior to? The reports would be budgets or
24 projections or that sort of thing that were an extension
25 of what you have I think just glanced at right now in here.

1 Q All right.
2 A So, everything was based on what you find here,
3 yes.
4 Q All right. Well, did Mr. Briscoe approach
5 you in regard to preparing a projection or -- well,
6 excuse me for my lack of using proper terms probably here
7 -- but preparing documents to send to Mr. Schloss and
8 Mr. Lee in regard to this project?
9 A Well, as we were discussing, this was done
10 for a Dr. Greenbaum.
11 Q The report, Exhibit 1?
12 A This was sent to Dr. Greenbaum.
13 Q Okay.
14 A As the first or initial potential investor.
15 Q Okay.
16 A And Jim was misled by this gentleman to
17 believe that he was going to invest in it and, similarly
18 myself. So, Jim had done quite a bit of work and spent a
19 lot of his own money in preparation for Dr. Greenbaum's
20 investment in Tombstone.
21 But this was prepared for him.
22 Q Okay.
23 A Then again answering your question, then later
24 on then, there were some other people. After Dr. Greenbaum
25 decided for some reason that he wasn't interested in the

1 project or vice versa -- I'm not sure which -- then Jim
2 contacted some other people and eventually Tom.
3 Q All right. Now, my question is did you
4 prepare anything else for Tom or for Jim Briscoe to be
5 sent to your knowledge to Tom Schloss and Dwight Lee?
6 A Well, everything had a basis of what was
7 found in here but there were other reports and information
8 sent to him.
9 Q Okay. Let me have you take a look at what's
10 been marked -- it is a copy -- Exhibit 2 in Briscoe's
11 deposition. I would like to have it marked Exhibit 2 in
12 this deposition.
13 (Plaintiffs' Exhibit 2 marked for identification.)
14 A Yes. This was, like I suggested, an extension
15 of what is found in here (indicating).
16 Q Okay. Would you look --
17 A A summary of it.
18 MR. ALLEN: Excuse me, Jay, before you grab
19 it, let me finish with him.
20 BY MR. ALLEN:
21 Q Would you look at the last page of that
22 document and see if that is your signature?
23 A Yes.
24 Q You know that without looking at it; right?
25 A Certainly. I know what's in there.

1 Q All right. Mr. Hewlett, on the third page
2 of this document, counting the cover page as Page 1, the
3 document is on letterhead of Southwestern Exploration
4 Associates, Inc.; correct?
5 A Yes.
6 Q I was going to ask you a question about a
7 handwritten note on there. I think it must be somebody
8 else's. Is there one on yours?
9 A No.
10 Q But the document is dated above your
11 signature the 20th day of February, 1979; is that correct?
12 A I think so. Yes.
13 Q Okay. Again in Exhibit 2, Page 7 in my copy
14 of this exhibit under the heading of "COSTS", you have
15 made the statement "The $177,600 represents the following
16 turn-key complete work to get the property to the point of
17 producing enough gold and silver to support the on-going
18 production."
19 A Yes.
20 Q Do you recall making that?
21 A Yes.
22 Q And in preparing this Exhibit 2 and making
23 that statement along with the others contained herein,
24 was it your intention for Mr. Briscoe or anyone looking at
25 this to rely on that?

A To rely on it?

Q Uh-huh, as being accurate.

A Well, it was the best estimate that I could make. This was made with the understanding of other things, you know.

Q What other things?

A Well, there were like, as you notice in Number 4 here under the crushing equipment, this was going to be leased and there was going to be an agreement with New Pueblo for them to provide the equipment and do a lot of this work, which was a contractor.

Q Oh. Okay.

A There was a letter of February 28th -- 27th -- I'm sorry, 1979, that relates this to Jim. So, this was prepared for Jim's knowledge.

Q Okay. Who made --

A You notice it said that it was for Southwestern Exploration.

Q Okay.

A And it was with respect to that cost estimate and enough working capital working with New Pueblo doing the crushing.

Do you have a copy of this letter?

Q No. Let me ask you a couple of questions.

When you prepared Exhibit 2 --

1 A Yes.
2 Q -- what was your purpose in preparing this?
3 A To prepare that for Jim so that we could
4 determine what the economics would be. Now, you remember
5 that this was done for Dr. Greenbaum and it was a
6 different investment posture.
7 Q Okay. You prepared this though for him to
8 use in presenting to a potential investor?
9 A That is correct.
10 Q Did you when you prepared this restrict
11 Mr. Briscoe in using it with anyone, with only
12 Dr. Goldberg or whoever it was?
13 A No.
14 MR. RAPPEPORT: Greenbaum.
15 THE WITNESS: I'm only suggesting there were
16 other factors relating to that estimate that you can't
17 overlook.
18 BY MR. ALLEN:
19 Q Those factors are contained in separate
20 documents from Exhibit 2; correct?
21 A Yes, that is correct.
22 Again, this was prepared for Jim and, as I
23 indicated here, we have the other documentation that went
24 with this which, of course, were sent to Tom Schloss, too.
25 Q Okay.

1 A I can give you the dates of that.
2 Q The cover letters that sent them?
3 A Yes.
4 Q We will get to that in just a minute.
5 A Okay.
6 Q So, then the February 20th, 1979 report,
7 Exhibit 2 --
8 A February 20th.
9 Q -- you did not send to anybody other than
10 Jim Briscoe?
11 A I personally did not, no. No.
12 Q Okay.
13 A I didn't know these other people. I mean, I
14 didn't know this Dr. Greenbaum.
15 Q What did you mean by "turn-key complete work"
16 in your statement on Page 7?
17 A I think this was a term that Jim used to
18 describe the phraseology that Dr. Greenbaum wanted nothing
19 to do with the management and so Jim or Southwestern
20 Exploration would have a contract to go through these
21 various phases.
22 As you'll notice, there is 177,600 for the
23 initiation of the reprocessing of the heap and 150,000
24 for the exploration of the open pit, making a total of
25 327,600. And it was that work that was to be done for

1 Dr. Greenbaum as a turn-key.

2 That is, Southwestern Exploration would manage

3 it and Dr. Greenbaum was to raise the funds, as Jim

4 Briscoe later found out perhaps through a public offering

5 or some other thing and I don't know. I was never really

6 too much aware of all of the financial interactions.

7 Q Was it your opinion at that point in time on

8 February 20th, 1979, that that money would produce enough

9 gold and silver at the prices that day or that period of

10 time to support the complete ongoing operation?

11 A It was my opinion that with the funds that

12 are found in this document, that is, the 177,600 plus the

13 150, and the relationship with New Pueblo Contractors to

14 provide the crushing, that you would then be, given that

15 amount of money, be able to put it into production and

16 sustain itself, yes. That is correct.

17 Q So, it is your testimony today that the

18 177,600 is not the total figure it would take to make it

19 produce enough gold and silver to support an ongoing --

20 A No.

21 Q -- it would require another 150,000?

22 A That is all in there, yes.

23 Q Okay.

24 A Plus the relationship with the contractor for

25 providing that equipment. And then there are other

1 documents that relate to processes and requirements for
2 capital and the interactions with the -- this is for
3 services and for the Tombstone equipment where in fact
4 New Pueblo would be receiving a profit's interest or a
5 contractor like New Pueblo to do the crushing and provide
6 the dozer, that is, the heavy equipment necessary for this.
7 Q All right. At the time that report was
8 prepared, had you done sufficient research or development
9 on the induced percolation system to form an opinion as
10 to whether it was a functionable and viable process on the
11 Tombstone project?
12 A I don't recall what this says in here about
13 that.
14 Q Well, just --
15 A Is there a reference to that?
16 Q I don't know. I'm just asking you.
17 A I don't see a reference. You'll notice here
18 -- I don't know what page it is but under Costs -- I guess
19 you said that was Page 7 -- you'll notice here that it
20 says on Item 3, S.E.A., Inc. will do the test work and
21 tonnage verification of the heap, the gob and the open pit.
22 And then it goes on to, you know, indicate what needs to
23 be done.
24 Then if you look, there is a lot, there is
25 150,000 for the open pit.

1 So, there is no reference to that.
2 Q I am not really concerned whether there was
3 a reference or not. What I'm asking you is based upon
4 your recollection, had you at that point in time, February
5 20th, done enough testing, research, whatever, to determine
6 to satisfy yourself that that process, induced percolation
7 system, worked, would work and be a viable process on the
8 Tombstone project?
9 A Yes, I felt it would be applicable.
10 Q What tests had you run on Tombstone heap leach
11 ore to make that determination?
12 A I hadn't made any tests at that time with the
13 Tombstone ore. But it had been used on a lot of other
14 limestone properties such as, for example, at Candelaria
15 which is a limestone deposit.
16 Q After the contract between Mr. Schloss and his
17 partner Mr. Lee and Mr. Briscoe was made in March of 1979,
18 did you have an opportunity to run tests to make that
19 determination?
20 A Before March?
21 Q After.
22 A Yes.
23 Q Had you run sufficient tests by April 11th,
24 1979, to prove to yourself from your professional stand-
25 point and background and training that that process was a

1 viable process on the Tombstone property?
2 A Well, testing requires a lot of equipment and
3 a lab and, you know, that type of thing which we didn't
4 have and we didn't have the ability from a phsyical point
5 of view to test much ore. By that I mean we had no
6 trucks.
7 Tom made an agreement to rent a truck from
8 -- I guess it wasn't a rent, it was a trade of some kind
9 -- that was always broken down. And we didn't have a lot
10 of, we didn't have proper equipment to make any kind of
11 proper tests.
12 Q So, would the answer to my question --
13 A That doesn't mean that the process, that that
14 particular technique would work or it wouldn't work.
15 Q Had you done anything from your standpoint by
16 April 11th, 1979, a month after the contract was signed,
17 to satisfy yourself that induced percolation system had
18 been tested sufficiently to show an increase in recovery
19 on the Tombstone project of precious metals?
20 A It was tested by -- well, Dusty Escapule was
21 working there for us and we made a test of about probably
22 60 tons and it agglomerated very well, it was hard and
23 it percolated very well and we got a good leach rate from
24 it.
25 However, we didn't have a lab or atomic

1 absorption. We had to have the test work, you know, of
2 the solutions and everything done elsewhere.
3 Q Okay. Let me try it again. Listen to my
4 question, if you can. Okay? I appreciate your telling me
5 your problems that you had down there but if you can
6 answer my question, I would appreciate it if you would.
7 By April 11th, 1979, a little over a month
8 after the contract between Schloss, Lee and Briscoe had
9 been signed, had you done sufficient testing of the
10 induced percolation system to prove that it improved
11 the recovery rate of precious metals on that project?
12 A To answer your question on sufficient, that
13 should be a large tonnage that you make the test on.
14 And as I tried to indicate, we could only do it on a very
15 small tonnage. We didn't have the equipment to make a
16 large tonnage test which would answer your question of
17 sufficient.
18 Q Okay. Let's try it another way then. Okay?
19 Had you proved, by whatever method of testing
20 you had done, that induced percolation increased recovery
21 of precious metals on the project at Tombstone by April
22 11th, 1979?
23 A I can't remember exactly when that testing
24 was done, this 60-ton test that I'm talking about. Do
25 you want me to take the time to try and look it up?

1 Q Sure.
2 A Pardon me?
3 Q Sure.
4 A Yes, I find here in a report on April 11th a
5 discussion that it had been tested successfully on this
6 small tonnage.
7 Then I have a diagram showing what needs to be
8 done for the future use of it, which includes the
9 laboratory and the crushing equipment.
10 That's what is required for the use of
11 induced percolation.
12 Q Then would it be true that on April 11, 1979,
13 Mr. Hewlett, that it had been proven that it was effective
14 in increasing --
15 A On that small scale, the only scale that could
16 be tested because of the lack of equipment and lab
17 facilities, et cetera.
18 Q So, conversely, and I don't mean to argue with
19 you and I sure don't want to, it really wasn't proven to
20 you from a scientific and background, scientific stand-
21 point and from your background and training that it was
22 effective in increasing recovery at Tombstone of precious
23 metals; would that be fair?
24 A There was nothing to say that it wouldn't be.
25 Q Well, what does the word "proven" mean to you?

1 A "Proven" means that you are convinced that
2 whatever you are testing, putting in that context, would
3 work.
4 Q What was your capacity in April of 1979 with
5 the Tombstone project?
6 A I guess I would be called the project manager.
7 I'm not exactly sure what title I had.
8 Q Based on your experience in the industry and
9 the capacity that you felt you were in at Tombstone and
10 you sent to investors a document that said something has
11 been proven such as that the induced percolation has been
12 proven to increase recovery of precious metals, what would
13 that mean to you? What would you be meaning to say?
14 A That means that the test that was conducted
15 proved on that scale that it could recover it.
16 Q If in fact you sent a letter containing that
17 type of language that something had been proven, would it
18 be based on your experience and background proper to advise
19 those investors of just what you advised me, that this is
20 a very limited scale and it proved it only to that extent?
21 A Yes, because you are very correct that the
22 investors were advised as to what scale of operation
23 should have been conducted at Tombstone starting with the
24 very first information: You know, a budget, a capital
25 investment of around a half-million dollars.

1 So, yes, I agree with you that the investors
2 should know or should be willing to make that kind of
3 test.
4 Q Okay.
5 A I don't know any limited tests of 60 tons but
6 that is something beyond my control. It is the investors
7 who are managing the property because they manage the
8 money.
9 Q Okay.
10 A That's true of any operation.
11 I could show you some pictures of what that
12 operation looked like, if you would like to compare it
13 with some of the other fully-funded operations at the
14 level of budget that was, you know, initially and
15 continuously asked for. That was never accomplished while
16 I was there.
17 Q Mr. Hewlett, let me ask you a question about
18 the budget. You in fact set up the budget; did you not?
19 A Yes, I did.
20 Q And the initial Phase I budget was $25,000;
21 wasn't it?
22 A You misread what that says. I can read it
23 to you. It says "Immediate expenses". I don't have to
24 look it up.
25 That 25,000 says at the top "Immediate Expenses".

1 Q Okay.
2 A Those were immediate expenses that were two
3 months old.
4 Q All right.
5 A Now, I would like to answer that question,
6 if you'll let me.
7 Q I have no intention of stopping you. Go
8 right ahead.
9 A The budgets were prepared at a level of a
10 half-million dollars. That was what was to be spent,
11 expended at Tombstone.
12 When Tom started on that, he brought them down
13 to a nickel and dime level from the very beginning. So,
14 he would say, "Well, what would be the first increment,
15 the first 25,000? What would that do; what would that
16 bring us?"
17 Well, as it says on that first budget of
18 25,000, it says "Immediate Expenses" on it and those were
19 two or three months old by that time, by the time that
20 those expenses were paid.
21 Q Would it be fair --
22 A Should I produce that?
23 Q No. I've got that.
24 A Oh, I'm sorry.
25 Q Okay. Would it be fair to say then --

1 A So, that isn't a budget.
2 Q Would you agree with me, sir, that you
3 prepared Phase II of a budget for this project?
4 A Phase II? What document is this in?
5 Q It is in your report dated April 11th, 1979.
6 A April 11th? Okay.
7 MR. KITTLE: Off the record.
8 (Discussion off the record.)
9 THE WITNESS: Phase II? I don't find that.
10 I've got this 177,600.
11 BY MR. ALLEN:
12 Q Budget.
13 A Phase II.
14 Oh, well, I don't have that. I don't know
15 what the Phase II means. That isn't my writing.
16 But what is that? I see there was a labora-
17 tory expense of $10,000 -- pardon me -- in that budget.
18 Q Yep.
19 A Okay.
20 Q So, it is not your recollection you prepared
21 a budget for --
22 A Oh, I'm sure I did. I'm not saying that but
23 I don't happen to have a record of it. But I think that
24 that was the budget for the lab.
25 Is there not a ten thousand or $15,000 request

1 for the lab there?
2 Q There is a column entitled "Lab 10,000".
3 A Yeah, right. Okay, fine. Okay, I remember
4 that.
5 Q Do you recall what the purpose of your letter
6 of April 11th, 1979, to Mr. Schloss and Mr. Lee was?
7 A "Purpose". I see the letter.
8 Q Yeah. Do you have the documents that you
9 attached to it?
10 A Yes.
11 Q One of them called "Tombstone Project Analysis
12 of Risk and Progress Report"?
13 A Yes.
14 Q You sent that to them; did you not?
15 A Yes, I did.
16 Q Was it your intent to obtain more money from
17 them at that time, Mr. Hewlett?
18 A My intent?
19 Q Yes.
20 A To obtain more money?
21 Q For the project.
22 A Well,my intent was to report what was done.
23 Q All right. Based on what you have testified
24 to a little earlier about what the budget originally was
25 and that Mr. Schloss cut it down --

A Yes.

Q -- why did you go into this project, Mr. Hewlett?

A I kind of wonder but you're asking me why I went into it?

Q At that time, not now. At that time, why did you go into it?

A Well, I first moved to Tombstone to help Jim with that project when he was dealing with this Dr. Greenbaum. Then that financing didn't occur. So, I was already there in Tombstone and I was wanting to make that a successful operation.

Q Did you move back to Sparks in between that?

A No.

Q Do you recall that this project that Mr. Schloss invested in paid for your moving expenses down here?

A Yes, I do.

Q So, you moved down here for this project or for the Greenbaum, possibly?

A No. I was living down here but I hadn't moved all my equipment, all of my household goods.

Q Who was paying you during this period of time before March 7th?

A Jim Briscoe.

1 Q As an employee of S.E.A.?
2 A Some of the time, yes.
3 Q Or as a consultant?
4 A I don't know that I can answer that. I mean--
5 Q Okay. Did you prior to March 7th, 1979, did
6 you make any arrangements with Mr. Briscoe as to
7 participating in the ownership or control of this project?
8 A Yes.
9 Q Did that have anything to do with why you
10 continued on this operation?
11 A Oh, yes.
12 Q Tell us what your interest was that you had
13 negotiated with Mr. Briscoe.
14 A My interest was 49 per cent of whatever Jim
15 Briscoe or S.E.A.'s, or whatever the company was, whatever
16 his interest was.
17 Q Did you get that in writing?
18 A I believe so, at least in rough draft form.
19 I have some rough drafts to that effect.
20 Q How was the mechanism of this arrangement to
21 be set up, this 49 per cent interest?
22 A That is the legal mechanism?
23 Q Yes.
24 A Formation of the company?
25 That would be handled by Mr. Briscoe.

1 Q Were you going to belong to a company where you
2 owned 49 per cent of it?
3 A Excuse me. What was that?
4 Q Were you going to form a company that you
5 would own 49 per cent of?
6 A Yes.
7 Q Do you remember what the name of that company
8 was?
9 A I think it was Hydromet, S.E.A. Hydromet.
10 Q Was Hydromet going to have an interest in this
11 property?
12 A Oh, yes.
13 Q Did you ever receive that interest?
14 A In what form?
15 Q Well, it is my understanding that --
16 A There were documents to that effect.
17 Q That you were a 49 per cent stockholder in
18 Hydromet?
19 A Yes, I believe, yes.
20 Q Did you ever see any documents where Hydromet
21 had any interest in the leases or property that is known
22 as the Tombstone Project?
23 A Did I see the document?
24 Q Yeah, you know, sign them.
25 A I didn't sign any, no. I don't believe I did

1 see them.
2 Q Is it your position today that you own 49 per
3 cent of whatever Jim Briscoe owns in the Tombstone
4 project?
5 A Yes.
6 Q Have you ever put any money of your own into
7 this project?
8 A Yes.
9 Q How much?
10 A Oh, probably three or four thousand dollars.
11 Q In cash, you put it into the account? Is that
12 a yes?
13 A Well, for example, I have unpaid expenses as
14 of August 9th, 1979, and other expenses like that that I
15 wasn't reimbursed for and/or the time that I spent there,
16 too.
17 Q Other than what salary or expenses you might
18 have, did you ever put any money into this project where
19 you paid for any lease payments or anything like that?
20 A No, I did not pay for any lease payments.
21 Q Did you ever give Jim Briscoe any money for
22 any interest?
23 A Any money?
24 Q Yeah; ten dollars, a hundred dollars, a
25 thousand dollars, anything like that?

1 A As consideration?
2 Q Yes.
3 A Yes. I don't remember what it was.
4 Q So, in addition to whatever you were going to
5 contribute in your professional capacity, you gave him
6 money?
7 A Yes, but a very small amount.
8 Q Less than a thousand?
9 A Yes.
10 Q Less than a hundred?
11 A I don't really -- I don't really have those
12 records.
13 Q Okay.
14 A In other words, it is difficult for me to
15 know what to call, you know, different expenses that I had,
16 were those unreimbursed or were they contributions to the
17 project or whatever.
18 Q In your report dated April 11th, 1979, which
19 I'll have marked Exhibit 3, you state on Page 2 in your
20 Analysis of Risk that ore reserves -- well, you list five
21 remaining risk factors.
22 A Okay, right. Number 3 --
23 Q No, let me ask you and maybe we can shorten
24 this thing a little bit.
25 You have also listed before that factors that

had been proven no longer to be risk factors.

A That is correct.

Q Then you state recent results which have proven the following in response to the remaining five risk factors.

A Correct.

Q Okay. I know you know what I'm talking about but I have to do this for the record. Okay?

A I understand.

Q Under remaining risk factors, Number 3, Ore Reserves, you respond to that by saying it is no risk.

A That is correct.

Q "No risk; ample ore reserves - constant confirmation."

A That is correct.

Q That was your opinion on April 11th, 1979; is that correct?

A That is correct.

Q And it was your intention to advise Mr. Schloss and Mr. Lee of that opinion and that confirmation?

MR. BRISCOE: Are you saying 1969, Ken? I hate to interrupt but I think you are.

MR. ALLEN: If I did, I meant 1979.

BY MR. ALLEN:

Q Under Number 4, the classification of risk

1 called metallurgy, in response to that: 4. Solvents:
2 No risk; proven effective.
3 "'IPS': No risk; good percolation and values".
4 A Right.
5 Q That was your opinion at that time on April
6 11th, 1979?
7 A That is correct.
8 Q And you intended to project that opinion to
9 the investors, Mr. Schloss and Mr. Lee?
10 A Correct.
11 Q In hopes to get more money for the project;
12 correct?
13 A That is correct.
14 Q Number 5, metal recovery. Number 5 in
15 response: "No risk". That was your opinion then?
16 A That's what it says, yes.
17 Q And it was your intent with that also to
18 project to them your opinion that there was no risk?
19 A That is correct.
20 Q As a result of this letter, did you get an
21 additional $25,000 from Mr. Schloss and Mr. Lee?
22 A I believe by the way you're asking the
23 question that we did.
24 Q Okay. Now --
25 A Can you confirm that?

Q You did. I will confirm that you did.

A Okay.

Q Under Number 3, you have talked to me quite a bit about ore reserves.

A Yes.

Q Do you have anything to add to what you have already told me, Mr. Hewlett, in regard to what you did between the time we have been talking about of your knowledge at 71 Minerals and the date of this letter to make that statement?

A No, I don't believe so. All of the testing was done during that period of time by an awful lot of people, probably ten or so, and we had all of the records from that.

Q Okay.

A And I was involved with it. So, there really wasn't any more that could be done.

Q Who if anyone checked those tests and results that you have told us about that 71 Minerals did? Was there anyone?

A Checked them?

Q You know, confirmed them that they weren't maybe incorrect.

A They were checked by anybody that I know of.

Q Did you or Mr. Briscoe or anyone at Mr. Briscoe's

1 direction after taking over the property under the
2 contract with Mr. Lee and Mr. Schloss do anything to
3 check --
4 A We did --
5 Q Excuse me -- and confirm the ore reserves?
6 A We did some testing but we again didn't have
7 a laboratory and we had no facilities to do much testing.
8 So, there wasn't much we could do.
9 Q Mr. Hewlett, I appreciate what you are saying.
10 You have said that a couple of times about labs and
11 facilities.
12 Isn't it a fact that the State of Maine, there
13 was laboratory facilities there with atomic absorption
14 which were available for use?
15 A Not very much and there was a termination
16 period when we couldn't use their facilities and I can
17 find that date. But we had very -- they were not very
18 anxious for us to do much testing and we couldn't make
19 -- to do the kind of testing that I'm trying to show you
20 that we've done on all the other projects. That's a part
21 of it. You're doing 20 or 30 tests a day and we had no
22 facilities to analyze that.
23 Q Did you feel from a professional standpoint
24 it necessary to point that out to your investors?
25 A Yes. That was pointed out. You pointed it

1 out, for example, in reading what you called Phase II
2 where there was a request for a laboratory.
3 Q Did you get one?
4 A No.
5 Q Are you sure?
6 A I'm very definitely sure.
7 Q Before you were terminated?
8 A That is correct. I'm sure of that.
9 Q Then is there any problem with the statement
10 you are making of no risk when you don't have facilities
11 to test them?
12 A You asked me if we did additional testing.
13 Q I think that --
14 A And I'm saying that there was so much testing
15 done prior, that is, you know, there is a booklet full of
16 it here that shows what, you know, what was there. So,
17 that's what I'm basing my statement on of April 11th,
18 all of the previous test work that was done.
19 And you'll notice that even Bechtel -- you
20 were asking about outside companies -- well, even Bechtel
21 did some of the checking on that. On some of the test
22 work, that's on Bechtel's stationary here. So, there was
23 outside testing done which I had forgotten about.
24 But my April 11th statement does reflect all
25 of the previous testing that had been done. And taking

1 the points as you suggested them before, the metallurgy
2 and the use of cyanide, that was used there, you know,
3 for many, many years.
4 Q Okay. Are you then basing your opinion that
5 the metallurgy and this metal recovery is no risk based
6 upon stuff that had been done back before 71 Minerals
7 shut down because it became uneconomical? Is that what
8 you are telling me?
9 A The test work was done during that period on
10 the ore that was still there in the dump in the heap.
11 And the metal recovery, as you asked about, we had a
12 very efficient plant that recovered the metal.
13 So, there is no risk to that. Those Merrill/
14 Crowe plants have been in use for a hundred years.
15 Q That was under 71 Minerals' operation; correct?
16 A That is correct, uh-huh.
17 Q You have an operation here that you've gotten,
18 you and Mr. Briscoe have gotten money from investors from
19 New York, Mr. Schloss and Mr. Lee, you have been in
20 operation for over a month, you are seeking more funds
21 and this report it is your testimony today is based upon
22 things that had been done back under somebody else's
23 management and control. I don't understand and help me.
24 A The test work, you asked about ore reserves
25 which is Number 3.

1 Q Okay.
2 A And ore reserves can be done a hundred years
3 ago. They're just as valid whenever they're made.
4 Q Okay.
5 A So, that work has been done.
6 Q I thought we were through with that. I
7 apologize.
8 A Well, you asked about statements made April
9 11th to the investors, Tom Schloss.
10 Q Yeah.
11 A And you just made the statement that we based
12 this on work that had been done a long time ago.
13 Q Okay.
14 A Well, yes, it has been done a long time ago.
15 Q I appreciate what you are saying.
16 A I'm sorry.
17 Q I agree with that and I understand what you
18 are saying in regard to ore reserves.
19 A Okay.
20 Q You have testified that you did nothing
21 further to confirm that those are accurate. You accepted
22 what had been done previously; is that correct?
23 A We did some previously.
24 Q I thought I had moved on to the metallurgy
25 and to the metal recovery.

A Okay.

Q I want to know if this report of April 11th where you say there is no risk to these are based upon things that were done under other people's operations that had closed down?

A That is correct, and other operations. In other words, the use of cyanide and of that kind of a plant for metal recovery is a technique that's been in use for 80 years. So, you can put in an operation --

You know, there was a very efficient plant at Tombstone recovering metal and there is no reason why that couldn't have been implemented again.

Do you want to see a picture of that operation?

Q No, I don't.

A But that's what you asked me about concerning the metal recovery.

Q Okay.

A And it has been proven for years that it works on the Tombstone ore.

Q At the time you wrote this letter of April 11th and this report, it had nothing to do with the project you were running, it had to do with things of history; correct? Is that what you are telling me?

A History?

Q Of other people's operations, whether you were

1 involved with them or not. That's what you are saying was
2 no risk?
3 A Any particular statement is based on you call
4 it history but it is based on experience and the
5 experience had been gained already, even though you say
6 it was previous to this, with respect to the ore reserves
7 and the metal recovery.
8 Q All right. Let me try it this way,
9 Mr. Hewlett: What had you done since you had been hired
10 on this project since March 7th, 1979, to prove that the
11 solvents and IPS were no risk?
12 A The solvents?
13 Q That day. Now, back up. That day.
14 A Again, we talk about that 60-ton test.
15 Q Are you sure it wasn't 80?
16 A Excuse me?
17 Q Are you sure it wasn't 80?
18 A I'm sorry, maybe it was 80.
19 Q I don't know. You've got a note under "B".
20 A Sixty to 80.
21 Q Okay.
22 A The ore was agglomerated by Dusty Escapule,
23 it percolated very well and we used cyanide and got a
24 cyanide preg. That was what was done and that was what
25 was reported.

1 Q From your standpoint, professional standpoint,
2 is that a sufficient test that you did to request of
3 investors to put more money in a property?
4 A Well, with respect to what item now; with
5 metal recovery, for example?
6 Q Yes.
7 A Okay, metal recovery had been tested at
8 Tombstone by 71 Minerals. And there is no metallurgist
9 that you could talk to that would tell you anything
10 different. That had been proven that cyanide and zinc
11 precipitation is effective to leaching the Tombstone ore.
12 Q Okay.
13 A And nothing can change that.
14 Q I understand that, Mr. Hewlett. But that ore,
15 the dumps which you had recommended to be releached and
16 everything, that had been leached by 71 Minerals for
17 years, they had shut down because they weren't making
18 recoveries; correct?
19 A That is correct.
20 Q Now --
21 A They shut down because they didn't crush the
22 ore and they didn't further treat it.
23 Q All right. What I'm trying to find out is
24 I'm thinking, I'm assuming that these documents that you
25 sent to Mr. Briscoe and your recommendations that you made

1 and the reason for you coming down to the Tombstone
2 project was that you felt something could be done to this
3 project, redone, reworked, new method or something to make
4 it profitable.
5 A That is correct.
6 Q And that is the project that you sold to the
7 investors, not what 71 Minerals had done; correct?
8 A That is correct.
9 Q I'm trying to find out, you run a small test
10 and you say you get -- I think these are your words on
11 the metal recovery -- "This is an excellent return and
12 the percolation was very good. The results could not have
13 been better."
14 A That is correct.
15 Q That wasn't on the heap leach; was it? That
16 was a test?
17 A That is correct.
18 Q Okay.
19 A That was the only scale I had the money to
20 make any tests for.
21 Q My question is, is that sufficient from your
22 professional standpoint to give you the knowledge to
23 recommend to people to put thousands of dollars into this
24 thing, into this project?
25 A Yes.

1 Q Okay.
2 A Coupled with the previous experience.
3 Q What had you done in the way of testing to
4 determine that the IPS and the metallurgy was excellent
5 and no risk other than this one little test or this one
6 80-ton test?
7 A Only the 80-ton test.
8 But on the metallurgy, there is no question
9 about the utilization of cyanide and zinc precipitation.
10 Q Okay.
11 A That's a proven thing --
12 Q All right.
13 A -- on the Tombstone ore.
14 Q Would you tell me what you based your
15 projected cash flow on that is listed, I think, on Page 4
16 --
17 A Yes.
18 Q -- that it was going to make some $175,000 in
19 the next month?
20 A Yes. If you'll turn to the next page in that
21 memo, you'll notice here "Tombstone Production Summary"
22 and it shows what needs to be done with the budget here
23 in that same memo of 177,600, 40,000 of which is for
24 crushing as you'll notice with a contractor such as New
25 Pueblo.

1 Do you have this next page in this that shows
2 the crushing?
3 You'll find the budget there of 177,600.
4 So, that's what it was based on.
5 That is excluding the 150,000 that was
6 requested for the exploration for the open pit.
7 And you'll notice that not only, as you
8 continue in there, you'll see the projections here for
9 crushing and the crushing rate for different periods of
10 time and, of course, there was no crushing done. But
11 that's what they were based on, as you'll see.
12 Q Well, on April 11th, you had no crusher,
13 correct, 1979?
14 A That is correct.
15 Q So, what you are saying to these investors is
16 that if they give you $177,000 --
17 A -- 600.
18 Q -- how much?
19 A That is correct, 177,600.
20 Q Less the 25 they've already given you, I
21 assume?
22 A No. It doesn't say that here.
23 Q Okay.
24 A That was immediate expenses, as you'll recall.
25 Q All right. Anyhow, if you had gotten that

1 177,000 in your hand within a day, by the end of the week
2 after you had that money, you would be making 20,000 the
3 first week, 40,000 the next week, 50,000 the next week and
4 75 the next week; correct?
5 A Based on getting the equipment there. As soon
6 as the equipment would be there, that would be what you
7 would be accomplishing with the crushing. You notice the
8 crushing rates for the different months?
9 Q Yes. The one I was referring to was the
10 leaching rates, the money from leaching, not from crushing.
11 A Now, that was what again now?
12 Q It is that list that you have.
13 A How much?
14 Q Cash flow from IPS and in situ.
15 A That is all there is? You don't have that
16 with the crushing, huh?
17 Q No. It wasn't in the one we got anyhow.
18 A Well, that was sent. That's this November
19 11th?
20 Q No, no. April 11th.
21 A Oh. I'm sorry, April 11th, sure. It shows
22 the crushing rates, the projections. It includes that,
23 absolutely.
24 No, I agree with you, it included, you know,
25 as we have the flow sheet there and the crushing rates and

1 all that sort of thing. And it says as you can read at
2 this time the open pit must be developed to continue the
3 above rate. Then there is a budget for that, you know,
4 that 150,000.
5 Q Are yours together and dated, each one of them
6 has a date on them?
7 A Well, no. It is just altogether. This is the
8 November 11th report or, I'm sorry, April 11th, you know,
9 what was sent to him, Tom Schloss and Dwight Lee.
10 Q Well, I have the original which was marked
11 Exhibit 8.
12 A That's right, and then there were some pictures
13 you don't have. Okay. Now, you got that and that was the
14 second.
15 Now, here's -- oh, there is that lab. I did
16 have that. I'm sorry. I didn't know where it was.
17 Okay, fine.
18 Then -- oops. You missed something. What
19 happened there?
20 Oh, here we go. For some reason, those things
21 are missing in mine.
22 Now you're back on track. Keep going.
23 Oops. You're missing this. Well, that's
24 all right. Now, let's see. Okay, that's the immediate
25 expenses we were talking about.

1 You don't have the rest of it.
2 Q Would you agree with me that the crushing that
3 you are talking about --
4 A Yes.
5 Q -- is from a different typewriter than the
6 start-up chemicals, the projected cash flow?
7 A See, this was done by Jim on that DEC thing
8 when they sent the report in.
9 What do you call it?
10 MR. BRISCOE: DEC word processer.
11 MR. RAPPEPORT: Word processer.
12 THE WITNESS: I'm sorry, word processer.
13 That's just his standard type form.
14 But you don't have this with that?
15 MR. ALLEN: No.
16 (Recess taken.)
17 BY MR. ALLEN:
18 Q Let's see if we can get this thing wrapped up.
19 Mr. Hewlett, would you explain your concept,
20 in as much detail as you need, but your concept of this
21 process that you called induced percolation system back
22 in 1979, March, not today?
23 A March?
24 Q In March of '79 as you presented it to
25 Mr. Briscoe or my client.

1 A In March. March.
2 In March. Are you referring to any reports or
3 anything? I'm looking for a date.
4 Q No. Just your concept of it as you presented
5 it.
6 Well, let me go back to that question. Let
7 me go back a step. I think we established earlier that
8 part of the interest you had in this Tombstone project
9 was that you felt there was ore to be recovered there,
10 that it could be done a different way and be a profitable
11 operation as opposed to what the predecessors --
12 A That is correct.
13 Q -- including 71 Minerals had done; is that
14 correct?
15 A That is correct.
16 Q To do that you had put your brain and experience
17 to work to come up with a method that you felt was an
18 acceptable and feasible and profitable method; correct?
19 A Now, method being -- okay, yes.
20 Q Metallurgically.
21 A Method, yeah, right.
22 Q A metallurgical and leaching method; is that
23 correct?
24 A That is correct.
25 Q And that method at least as I have seen in

1 some your documentation you labeled, or took someone else's
2 label or whatever, IPS, induced percolation system?
3 A That is not the method. That is a subset of
4 an activity.
5 Q Okay.
6 A That is not a specific method. But go ahead.
7 Q Well, why don't you then based upon your --
8 A Do you have in front of you this Tombstone
9 Production Summary?
10 Q No. Let me ask you a question. Okay?
11 Based on your plan or idea that this should
12 be a method that should be put into operation at Tombstone
13 to recover the minerals that you felt were still there --
14 A Yes.
15 Q -- part of your plan or part of your method
16 included this IPS system; did it not?
17 If it didn't, tell me no; if it did, tell me
18 yes.
19 A Yes.
20 Q Okay. Thank you.
21 Now, when you talked with Mr. Briscoe and
22 made your reports, Exhibit 1 and some of the things that
23 we have been talking about --
24 A Okay.
25 Q What was your idea, your concept of IPS, you,

1 Dick Hewlett?

2 A Referring to this diagram, that IPS would be
3 used after crushing for the types of ores that would have
4 too many fines and would blind in a heap. In other words,
5 the first step is crushing.

6 Now, some of the ores do not require --
7 depending on how finely they are crushed -- they don't
8 require agglomeration. Some ores do, depending on the
9 characteristics of the ore.

10 But the guts of the reprocessing of the
11 heap is to crush. And then for ores that blind, you would
12 agglomerate them and that is by definition induced
13 percolation.

14 Q So, the induced percolation system that was
15 a part of your method --

16 A That's right.

17 Q -- had nothing to do with in situ leaching
18 immediately on the Tombstone project?

19 A No. It is only after crushing.

20 Q That's what you represented to Mr. Briscoe?

21 A Right. Yes, right here (indicating).

22 Q That chart represents that; is that correct?

23 A That is correct.

24 Q So, I want to make sure I understand you.
25 There was never any representation by you to either

1 Mr. Briscoe or to any of these investors, including my
2 clients, that the IPS method or part of a method was to be
3 used on reprocessing those dumps down in Tombstone
4 immediately to establish a cash flow?
5 A The plan was to crush immediately, initially.
6 Q Okay. So, then you would use the induced --
7 A Some method to induce percolation. So, that
8 was the plan.
9 Q Okay. Mr. Hewlett, then you would disagree
10 with the plan, the basic initial plan at Tombstone?
11 A The basic initial -- excuse me.
12 Q Let me start over. That is a bad question.
13 You would disagree then that the original
14 objective at Tombstone was to expend in the range of
15 $25,000 to make in situ tests of your, Mr. Hewlett's,
16 metallurgical techniques which you warranted would verify
17 the techniques and put Tombstone into a profitable
18 production with substantial cash flow as the original
19 objective at Tombstone; you would disagree with that?
20 A An original objective. The original objective
21 is cost-related; is it not?
22 The 25,000 that you refer to were the
23 immediate expenses; correct?
24 Q I asked you that question as to whether --
25 if you can't answer it, just please tell me -- but if the

1 original objective as I stated it, whether you agreed with
2 it or not?
3 MR. RAPPEPORT: Is your question -- maybe I
4 can help -- to Mr. Hewlett, you are stating what you
5 believe or assert to be the original objective and you are
6 asking him whether or not he agrees or disagrees?
7 MR. ALLEN: That is correct.
8 MR. RAPPEPORT: Did you follow that?
9 If you would listen to the question,
10 don't anticipate what it is. Mr. Allen has read or stated
11 to you, made a statement regarding the original objective
12 at Tombstone and he is asking you, right or wrong, was that
13 the objective or not; do you agree or disagree?
14 THE WITNESS: Well, the original objective at
15 Tombstone has been outlined previously. Now, what he is
16 calling an original objective is some subset of objectives
17 that have been pared down to an initial expenditure of
18 $25,000. So, that isn't an original objective.
19 MR. RAPPEPORT: You answered the question.
20 THE WITNESS: The original objective has been
21 outlined previously --
22 MR. ALLEN: Okay.
23 THE WITNESS: -- on a much larger expenditure
24 level than $25,000 for, you know, two months old bills.
25

BY MR. ALLEN:

Q What I am doing is, just as your attorney advised you and said to you, I am making a statement and I will read it to you again. Just simply do you agree with it or don't you agree with it? Okay?

A Okay.

Q "Our original objectives of Tombstone were to expend in the range of $25,000 to make in situ tests of your metallurgical techniques, which you warranted would verify the techniques and put us into profitable production with a substantial cash flow."

Do you agree with that or not as an original objective of this project?

A This was an objective, yes.

Q Original?

A Not original, no.

Q So, you would disagree with it as being an original objective?

A Yes. The original objective was outlined previously.

Q Thank you.

What was the reason -- excuse me. Let me back up while we were on this IPS thing and that's in my mind.

In March of 1979, is it your testimony,

1 Mr. Hewlett, that the IPS method and agglomeration are
2 similar things, similar methods?
3 A They are identical. It is just a description
4 of a technique that's been used since, oh, about 1945.
5 Q And your concept of IPS back in March of 1979
6 did not include the use of cyanidization or cyanide, it
7 included hypochlorites; right?
8 A Cyanide.
9 Q Cyanide?
10 A The tests were made with cyanide. I'll --
11 MR. RAPPEPORT: Thank you. Say that again,
12 "The tests were made with cyanide". Just say "The tests
13 were made with cyanide".
14 THE WITNESS: The tests were made with
15 cyanide but I've already testified to that.
16 BY MR. ALLEN:
17 Q So, what you proposed to be used at Tombstone
18 was the, I guess, well-proven use of cyanide coupled with
19 this IPS which is what, a pre-treatment?
20 A No. After crushing, if the fines would blind
21 -- you know, you have to make tests on that -- then you
22 would agglomerate those fines.
23 Some of the product of crushing does not
24 require any kind of treatment. It depends on the amount
25 of clays that are in the ore.

1 Q So, then any of the preparations or any of
2 the concepts of this project in Tombstone that you made
3 dealt with the use of cyanide; correct?
4 A Yes.
5 Q Not hypochlorite?
6 A We were using other solvents because we didn't
7 have the money to buy a plant that would recover from a
8 cyanide solution. You need deaeration.
9 Q Did you ever tell anyone during the year 1979,
10 Mr. Hewlett, that you had to come up with some sort of a
11 new system other than the use of cyanide to get the
12 investors to put money into this project?
13 A State that again.
14 Q Did you ever tell anyone during the year 1979
15 that you had to come up with another leaching method for
16 this project in Tombstone other than cyanide to get the
17 investors to buy it, to put money into it?
18 A I don't recall that. But let me say that, as
19 I stated, it all depends on the amount of money that you
20 have to work with. And when Tom kept reducing the amount
21 of money that he would put into it, there are certain
22 things like a cyanide deaeration plant that you can't buy.
23 So, when you have the whiplash of desperation of nothing
24 else to work with, there are other solvents that have been
25 used.

1 Q Okay. And all of these things, these drawbacks
2 that you have told us about of Tom cutting down everything,
3 you knew of those before you started this project; didn't
4 you?
5 A I knew of what?
6 Q Those drawbacks: The lack of money, the
7 paring down of the budget.
8 A You mean that there would be no money? No, I
9 didn't know there would be no money for these things.
10 Q Did you ever prior to this project starting
11 in March of 1979 make representations to anyone that
12 cyanide leaching had many drawbacks and that you didn't
13 need to use it, you could use other solvents which you had
14 used successfully for the last two years such as
15 hypochlorite?
16 A Well, there are other solvents that can be
17 used.
18 Q Did you hear my question, Mr. Hewlett?
19 I asked you if you said that, not whether there are any
20 more.
21 A State your question again.
22 MR. RAPPEPORT: To save a little time, I
23 think the record will show that he says "I don't recall".
24 Is that what you said?
25 THE WITNESS: State it again.

1 MR. ALLEN: Well, he said he didn't recall
2 whether he said something.
3 Can you read my question back? It is
4 getting late and I can't remember it.
5 (The following question was read by the Reporter:
6 "Q Did you ever prior to this project
7 starting in March of 1979 make representations to
8 anyone that cyanide leaching had many drawbacks
9 and that you didn't need to use it, you could use
10 other solvents which you had used successfully for
11 the last two years such as hypochlorite?")
12 MR. KITTLE: Ken, that's a compound question.
13 Would it help if you took it in parts?
14 MR. ALLEN: If he tells me he can't answer
15 it, I'll do whatever I have to do. I would just as soon
16 you not break it up. It is my question.
17 If he doesn't understand it, that's fine.
18 THE WITNESS: I have said parts of that but
19 it is taken out of context.
20 There are drawbacks to cyanide, abso-
21 lutely, and you have to design a process to meet the
22 capital that you have to recover the metals.
23 BY MR. ALLEN:
24 Q Okay.
25 A So, it is kind of out of context.

1 Q Wasn't it your selling factor as a consultant,
2 as an expert in the field on this project, that you did
3 not need to use cyanidization or cyanide on this project
4 for it to be successful?
5 A As a selling point?
6 Q As a point of your plan to open this up and
7 make a profitable operation out of it, yes, as a selling
8 point.
9 A That wasn't the original objective, no.
10 Q Was it used by you? Was it projected by you
11 to other people that you had a method that didn't require
12 cyanide, which was expensive, but you had other solvents
13 which would do as good or better?
14 A No, that isn't true.
15 Q Okay.
16 MR. ALLEN: Would you mark this as Exhibit 4?
17 (Plaintiffs' Exhibit 4 marked for identification.)
18 MR. KITTLE: May I glance at that for a
19 brief moment?
20 MR. ALLEN: I know it by heart. You ought to
21 know it by heart now.
22 BY MR. ALLEN:
23 Q Mr. Hewlett, would you look at Exhibit 4 and
24 please take the time to read it? If you know it, fine;
25 if you don't, take the time to read it.

A Yes, I've read this. This is by Mr. Briscoe?

Q I believe so. Exhibit 4 is a letter dated June 22nd, 1979, to you from Mr. James A. Briscoe. You received that letter; did you not?

A Yes, I did.

Q Based on your knowledge, did Mr. Briscoe not understand the concept at Tombstone as you understood it?

A Jim didn't understand -- well, from the point of view that he didn't want, he didn't have the time to be involved with that and Jim was under the pressure of, you know, a lot of other things at the time. And it is easy to, well, not to be, you know, familiar with everything.

Q All right. He had the controlling of this property; did he not?

A Yes, he did.

Q And he had the contract with Mr. Schloss and Mr. Lee; did he not?

A That is correct.

Q Is it your testimony that based on your knowledge at least, Mr. Hewlett, that Mr. Briscoe had no understanding of what the budget was for this project?

A No, Mr. Briscoe did know what the budget was because it was originally set forth back in January which you have documentation of and it has been referred to in

1 many, many places.
2 Q Uh-huh.
3 A You know, in excess of 177,600.
4 No, he knew that. Right, I agree.
5 Q When he told you you were 400 per cent over
6 budget, do you agree with that or not?
7 A No.
8 Q When he said the project's expended over a
9 hundred thousand, do you agree with that or not agree with
10 that?
11 A I don't know about that. I didn't keep the
12 books.
13 Q When he says that you were to make in situ
14 tests of your metallurgic techniques which you warranted
15 would verify the techniques used to put you in a profit-
16 able production with substantial cash flow, you have
17 already told us you didn't agree with that as being an
18 objective, did you in fact run the tests that verified
19 your techniques?
20 A This was the 80-ton test you are talking about?
21 Q No. I'm saying running the tests from a
22 scientific and professional standpoint required to verify
23 your metallurgical techniques.
24 A My metallurgical techniques?
25 Q Yes, sir.

A What do you mean by "my metallurgical techniques"?

Q You were running the show down there; were you not?

A I was down there.

Q So, you didn't do the tests to verify your techniques; is that fair or not fair?

A No, there was proper testing done.

Q And you verified that your techniques were satisfactory for the project?

A Now, which techniques?

Q Whichever ones you were using on the project, sir.

PH15 A The techniques on the project are a function of what the level of capital investment is that you can use to recover metal. So, with no money, you don't really have any techniques to test; do you?

Q Do you agree with whether or not you changed metallurgical approaches several times with inadequate documentation?

A No, I don't agree with that but I did change the metallurgical approaches. In other words, one of the things that we did was pre-treat with acid a lot of the dumps. Later, after I left, they recovered -- "they" being Tombstone Exploration using cyanide then on that

1 pre-treated ore -- a lot of values according to Dusty
2 Escapule.
3 Q Do you agree or disagree that you "have not
4 scientifically verified nor documented even the negative
5 results, to my knowledge"?
6 A No. I documented any results that we had.
7 Q Do you see anything in the letter of June
8 22nd, 1979, which makes any reference to the objectives
9 of this project being to crush ore, this type of thing?
10 A To crush ore?
11 Q Well, the crush that you have been talking
12 about, everything was based upon crushing of ore.
13 A Yes, it was the objectives.
14 Q Was it?
15 A In Mr. Briscoe's letter?
16 Q Yes.
17 A Mr. Briscoe would not refer to crushing because
18 we didn't have the money for any crushing. He couldn't
19 refer to it.
20 Q Would you, Mr. Hewlett, as a professional
21 person go in and start crushing and mining and spending --
22 that's expensive; isn't it?
23 A Anything's expensive.
24 Q Well, that's expensive; isn't it?
25 A Yes, it certainly is.

1 Q And one of the biggest expenses of mining,
2 is it not, is the actual mining of the material?
3 A That is correct.
4 Q Would you in your profession recommend to
5 people to go in and spend that kind of money and do those
6 type of activities without adequate testing of ore reserves,
7 first of all, accurate knowledge of the ore reserves?
8 A No, I wouldn't recommend that.
9 Q Number two, would you recommend that without
10 ore reserves and accurate and adequate testing of the
11 metallurgy?
12 A No.
13 Q And number three, would you do it without
14 accurate ore reserves, metallurgy and metal recovery?
15 A No.
16 MR. ALLEN: Thank you. That is all I have.
17 MR. KITTLE: I have just a couple of questions.
18 THE WITNESS: Who gets this; you?
19 MR. ALLEN: He gets it.
20 CROSS-EXAMINATION
21 BY MR. KITTLE:
22 Q Mr. Hewlett, you have indicated that I think
23 during the month of April of '79, you then were residing
24 in Tombstone; is that correct?
25 A Yes.

1 Q And you were at that time project manager of
2 the heap leach project?
3 A Yes.
4 Q Who paid your salary?
5 A In April?
6 Well, Jim Briscoe.
7 Q Now, was there a time when the pay you
8 received came directly from Tom Schloss?
9 A Directly?
10 Q Yeah, instead of the S.E.A. Office.
11 A I don't honestly remember. I always thought
12 it came from Jim Briscoe.
13 Q You have mentioned that Mr. Schloss seemed to
14 control the funds down there.
15 A Yes, through Jim. I mean, Jim had the account-
16 ing center and I was paid by Jim Briscoe.
17 Q When you would receive a pay check, how would
18 you normally receive it? Where would it come from?
19 A Jim Briscoe.
20 Q Would that be mailed?
21 A Yeah, it would be mailed or hand-delivered
22 if somebody was coming down there.
23 Q Do you recall what the checks said, which
24 company it was drawn on?
25 A Well, at first it was paid directly by

1 Southwest, S.E.A.
2 Q Then it changed at a later time?
3 A Then there was a change to some other account
4 that was in the First National Bank and I don't honestly
5 remember the name of it. Maybe it was called Tombstone
6 Exploration.
7 I think it was perhaps the joint venture or
8 whatever it was with Tom that was set up but I'm not
9 really clear on that.
10 Q Am I correct that as of April of 1979, you
11 had a 49 per cent interest in S.E.A. Hydromet?
12 A Yes, I believe that's what it was.
13 Q Were you also a director of that corporation?
14 A Yes.
15 Q Were you an officer of the corporation?
16 A Yes. Yes. Yes.
17 Q Were you then working in Tombstone as an
18 officer of S.E.A. Hydromet?
19 A Yes.
20 Q Now, I would like to refer to this letter of
21 April 11th, 1979, which has been marked as one of the
22 exhibits here today, I think perhaps Exhibit 2. No.
23 MR. ALLEN: Exhibit 3.
24 MR. KITTLE: Yes, Exhibit 3.
25

1 BY MR. KITTLE:

2 Q In this document, Mr. Hewlett, evidently you

3 made certain statements there that there were no risks.

4 A Yes.

5 Q My question is this: When you wrote that

6 communication, what sort of assumptions were you making

7 concerning the following items:

8 What sort of assumptions, for example, were

9 you making about the availability and use of crushing?

10 A We were, as I testified, previous to that

11 going to use the New Pueblo. There is a letter here from

12 Mr. Ronstadt of February 27th, 1979. So, we would use

13 his crushing facilities.

14 Q So, your statement --

15 A Crushers and screens and stackers, that sort

16 of thing.

17 Q So, your letter assumed that crushing would

18 be utilized?

19 A Oh, yes, and that's documented here, right.

20 And it is documented in this budget of 177,600.

21 There is a crushing working capital of 40,000.

22 That ties in with the working capital that was

23 required by New Pueblo.

24 Q What assumptions were you making concerning

25 the type of processing plant which would be available?

1 A It would be a Merrill/Crowe with cyanide.
2 Q Was a Merrill/Crowe processing plant ever put
3 in use while you were there?
4 A Not while I was -- well, yes, it was. It was
5 used on a test basis on a loan that Tom arranged when we
6 did this 80-ton test and I'll show you the pictures of
7 that.
8 This was the equipment that we had at the
9 time and this was the area of the test over here
10 (indicating). So, then we had a small Merrill/Crowe
11 plant that was on loan from Ernie Escapule. Did you want
12 to see those pictures?
13 Q Are you saying then that the favorable --
14 A So, it was tested. Yes, we used Ernie
15 Escapule's Merrill/Crowe system which is a smaller system
16 than what they're using down there now.
17 Q The favorable results that you received then
18 from that 80-ton test were based on the use of a Merrill/
19 Crowe processing plant?
20 A Yes, that is correct.
21 Q When you wrote the communication of June 11th,
22 1979, which has been marked as Exhibit 2, what assumptions
23 were you making concerning the development of an open pit
24 mine?
25 A That 150,000 would be spent as per the budget

1 for open pit development.
2 And you'll notice in that same communique
3 that there is a -- where is it? Give me just a second.
4 MR. RAPPEPORT: Do you need the other book?
5 THE WITNESS: Tom's got it. I need that.
6 MR. ALLEN: Off the record.
7 (Discussion off the record.)
8 MR. ALLEN: Just for the record, Mr. Hewlett,
9 you are looking up now to get a picture of the Merrill/
10 Crowe -- what is it -- processer?
11 THE WITNESS: Yes. Let's see.
12 MR. ALLEN: There isn't a picture of it in
13 the ones you were showing Mr. Kittle; right?
14 THE WITNESS: Now, let's see. I know it is in
15 here.
16 There you are. It is Ernie Escapule
17 there that did the testing. It is a Merrill/Crowe.
18 BY MR. KITTLE:
19 Q I am being shown a picture with --
20 A -- with Ernie Escapule. He's the one that
21 did the testing.
22 Q -- with large, white, vertical tanks. Is
23 this picture on top then what, a Merrill/Crowe processing
24 plant?
25 A Yes. That's the same kind that they're using

1 at Tombstone now.

2 Q And the photograph that you have here, where

3 was that taken?

4 A At Tombstone. But that isn't -- this is the

5 one that we were using here of Ernie's.

6 This is a little larger unit (indicating).

7 But this is the one that we used of Ernie

8 Escapule's here.

9 Q But back to my original line of questioning

10 here, when you wrote this communication of June 11th,

11 1979, one of the assumptions that you were making there

12 was that the Merrill/Crowe processing plant would be

13 utilized; is that correct?

14 A Yes.

15 Q What sort of assumptions --

16 A And that is shown, if I may interrupt you --

17 Q Well, I don't think we need to go into more

18 photographs.

19 A It is shown in the process chemistry. In the

20 reports there, it shows the use of cyanide and that.

21 Q Okay. When you wrote that letter, what

22 assumptions were you making concerning the level of

23 production?

24 A That's documented on this monthly basis on

25 crushing right here. It shows here that in the first

1 month, we would be crushing at a rate of 25 tons a day
2 and then 200, 204, all the way up to 3,000 tons a day
3 which is what New Pueblo said that they could get it up
4 to. So, I'm just giving them, you know, giving them a
5 little time to get up to that full crushing rate.
6 Q These crushing rates then are matters which
7 are included in your copy of the June 11th communication;
8 is that correct?
9 A Yes, right. Absolutely.
10 Q Is it correct to equate crushing weight or
11 crushing rate with the level of production?
12 A That is the level of production.
13 Q Okay.
14 A By definition.
15 Then as you pointed out, here you'll see in
16 that same April 11th all the activities that need to be
17 done: The open pit mining, the crushing and then working
18 on the heap.
19 Q To the best of your knowledge while you were
20 active at the Tombstone project as the project manager,
21 were those levels of production attained?
22 A Zero level. There was no crushing while I
23 was there.
24 Q And you may have already answered this but I
25 want to be sure that you understood it correctly. When

1 you wrote this June 11, 1979, communication, what
2 assumptions were you making concerning the overall level
3 of funding for the project?
4 A Well, the budget here says 177,600.
5 Q Then you also stated that there would have to
6 be an additional 150,000?
7 A Plus an additional 150,000 for the exploration
8 which is shown here on the open pit mining.
9 You know, this is Tombstone activities,
10 operations, what is required.
11 Q Okay. When I add those two --
12 A So, we needed open pit ore as well.
13 Q Good. When I add those two figures together,
14 I come up with approximately 320,000.
15 A 325,600.
16 Q All right. You have on an earlier occasion
17 referred to an overall funding level of $500,000.
18 A Yes. That total is 326,000 but the initial
19 funding level was as proposed there, around a half-million
20 dollars.
21 Q Okay. What would the difference be between
22 the $500,000 that you spoke of and the approximately
23 $325,000?
24 A Because as in the first report in, I guess it
25 is, Exhibit A, there is for the heap reprocessing, which

1 of course does include crushing, 200,000. Then the open
2 pit mining, the initial exploration just alone, the amount
3 is 465,000. That is in Exhibit A or the first exhibit.
4 So, that's a separate item, the initial
5 exploration for the open pit. It's in there on Page 13.
6 That's 465.
7 That's added to the 200,000.
8 So, what we are looking at on that 177,600 is
9 a pared down. You know, there was, "Well, we want to
10 start at a very low level of capital investment."
11 Q Is it your testimony then --
12 A So, it's gone down, you know, to that what,
13 initial $25,000.
14 Q Is it your testimony then that essentially for
15 any meaningful and economic level of production to be
16 achieved or sustained at the project down there, that there
17 would have to be a capital infusion somewhere along the
18 line of $325,000?
19 A Should be -- well, if you'll use the original
20 estimates, it is more than a half-million. You know, the
21 exploration for the open pit, and it is Exhibit 1, is
22 465,000. And the heap reprocessing, just the capital,
23 the working capital for that which includes the crushing,
24 which would also be used in some cases for the high grade
25 open pit ore, that was 200,000.

1 So, there you already have 515,000, plus, you
2 know, any additional work. You'll find in there that it
3 states that the funds required to put the open pit into
4 production is five million dollars for the open pit.
5 That's on Page 5 in Exhibit 1.
6 Q Now --
7 A Then for the underground, by the way, it says
8 50 million dollars. That's also an item in the Potential
9 Section.
10 Q I think you testified earlier that while you
11 were the project manager down there in Tombstone, you were
12 generally familiar with the amount of funds which had been
13 paid into the project; is that correct?
14 A Generally.
15 Q You have also indicated the total amount of
16 funds which in your judgment were required for an
17 economically successful project. Can you give us your
18 best estimate, please, during the time when you were in
19 Tombstone down there working on the project approximately
20 how much capital was actually put into this project?
21 A I don't really know.
22 Q Do you have an approximation?
23 A According to some of these documents, it says
24 over a hundred thousand. Like that -- what was it? --
25 Exhibit 4 from Mr. Briscoe said there was a hundred

1 thousand spent.

2 Q From your own information and experience as

3 project manager down there, do you believe that it is

4 possible that any more than $100,000 could have been paid

5 in while you were still employed at the project?

6 A I don't really have any way of knowing that.

7 It could be, certainly.

8 In that April 11th letter, there were a lot

9 of Mr. Briscoe's expenses that were in that original

10 budget. For example, his advance of $6,000, you know,

11 for the original lease that I got in my name. And

12 Mr. Briscoe had a lot of other expenses that I'm not

13 really aware of. I know that he spent a lot of time

14 down there and I was informed that a lot of those were not

15 reimbursed.

16 Q What was your primary method then of

17 determining that not enough money had been put into this

18 project?

19 A There was no method needed.

20 Q How did you know that not enough had been put

21 in?

22 A Well, all of the -- you know, there is a

23 request, constant requests in written form requesting

24 dozer, the crushing equipment, all of that. When none of

25 it is there, you know that it hasn't been acquired.

1 Q Okay.
2 A There was no work done, no laboratory.
3 Anything you find in any of these budgets I never saw on
4 the property.
5 Q So, that was your way of knowing that not --
6 A That was a good way.
7 Q -- not enough money had been put in? You
8 didn't have the laboratory, you didn't have the proper
9 equipment?
10 A That is correct.
11 Q You didn't have the crusher?
12 A That's correct.
13 Q Let me ask you one other question.
14 A And the exploration money which we have
15 related to.
16 Q Uh-huh.
17 A There was no money for the exploration.
18 Q On this Exhibit 3 which is dated June 11th
19 of 1979, that was a letter that you wrote directly to
20 Schloss and Lee; is that correct?
21 A June 11th?
22 MR. ALLEN: April.
23 MR. KITTLE: Excuse me, April 11th, yes.
24 THE WITNESS: Yes, that I wrote directly to
25 them.

1 MR. ALLEN: By that you mean not through Jim?
2 BY MR. KITTLE:
3 Q Well, one of my questions is were the contents
4 of that communication reviewed with Jim Briscoe before you
5 sent it to Schloss and Lee?
6 A I don't honestly remember. Jim could have
7 been gone at that time and I -- my most important message,
8 of course, was that budget, you know, that I constantly
9 refer to of the 177,000 and all the other things that go
10 with it. So, I don't honestly know if Jim did review it.
11 Q I have one more question and I think that is
12 about all I have.
13 Earlier in the deposition here this afternoon,
14 you stated I think that it was your belief that you were
15 going to receive 49 per cent of whatever S.E.A. got out
16 of the project.
17 A This is correct.
18 Q What documents or papers or materials do you
19 have that reflect this understanding that you had with
20 presumably Mr. Briscoe?
21 A I believe I have a rough draft of the
22 formation. Let's see. Where is that?
23 Of the formation of -- this ought to be in the
24 history section.
25 Of the formation of -- well, what is it called?

1 -- Articles of Incorporation of S.E.A. Hydromet, Inc.
2 Then there was another rough draft of that
3 and I don't know that I have it with me.
4 Q So, you are saying that you were to get 49 per
5 cent interest in this Hydromet Corporation?
6 A Yes.
7 MR. KITTLE: All right. I have no further
8 questions.
9 MR. RAPPEPORT: Let me see that.
10 THE WITNESS: Excuse me?
11 MR. RAPPEPORT: Let me see that.
12 THE WITNESS: Let me keep this paper clip up
13 there.
14 MR. RAPPEPORT: Where is that rough draft you
15 were talking about?
16 THE WITNESS: I don't have it. I don't know.
17 I haven't found that yet. I don't know where that is.
18 It is my missing link.
19 MR. RAPPEPORT: Richard, this is a copy of a
20 newspaper clipping.
21 THE WITNESS: Yeah.
22 MR. RAPPEPORT: That's not a rough draft.
23 Those are your Articles of Incorporation.
24 THE WITNESS: I couldn't find the rough draft.
25 MR. RAPPEPORT: This is it.

1 THE WITNESS: Okay. But then I also had a
2 rough draft of something signed by Jim. I don't know what
3 it was but it was with reference to that.
4 MR. RAPPEPORT: I have nothing.
5 MR. ALLEN: Let me ask just a couple of
6 questions.
7 FURTHER CROSS-EXAMINATION
8 BY MR. ALLEN:
9 Q So I understand this percentage interest you
10 were supposed to have, I thought I understood earlier that
11 you said you were to have a 49 per cent interest in the
12 property interest of whatever Mr. Briscoe has in the
13 property itself, the Tombstone.
14 A Of Tombstone, that's correct.
15 Q And you don't know of any documents that
16 transferred any of the interest in that property to S.E.A.
17 Hydromet; do you?
18 A I personally don't, no. No.
19 Q While you were on the project down there at
20 Tombstone, Mr. Hewlett, was Jim Briscoe your superior?
21 Did you work for him or what?
22 A That's kind of hard to answer because at times
23 that was the case but then later then Tom had a Dr. John
24 Dean come down a lot and I would send them daily progress
25 reports and Tom and Dwight Lee really took over the

1 management of it.
2 So, no, I can't say that I always did report
3 to Jim, no.
4 Q Who during the time you were there did you
5 consider was the joint venturer with Mr. Schloss and
6 Mr. Lee; Mr. Briscoe or one of the companies?
7 A I don't know that I really had any feelings
8 about that, specifically.
9 Q Okay. Was it your position in your capacity
10 at Tombstone that Jim Briscoe had an interest in the
11 property?
12 A Yes.
13 Q Was his interest one per cent or two per cent
14 more than yours; is that your position?
15 A Two per cent more, yes, 51-49.
16 Q Did you have in your opinion first of all,
17 and this is just your personal opinion, any obligation to
18 report to Jim Briscoe your activities or --
19 A I felt an obligation to report to everybody.
20 By that I mean Jim Briscoe, Tom Schloss, Dwight Lee,
21 Dr. Dean and anybody else that they designate.
22 Q All right. So, as far as the decision-making
23 on what would be done in the way of testing and activities,
24 they were completely in your control, not subject to any
25 control by Mr. Briscoe?

1 A No. Jim didn't get involved with that, no.
2 Q He basically let you run it; correct?
3 A Yes.
4 Q Did he terminate you from the property?
5 A Yes.
6 Q Where did he derive that authority based on
7 what we have just talked about; do you know?
8 A I don't know.
9 Q Did you leave?
10 A Oh, yes. If you don't have any money for
11 work, for doing anything, there is nothing you can do.
12 Q Mr. Hewlett, did you take this same type of
13 process that you were using or attempting to use down at
14 Tombstone and become involved with another resident of the
15 Tombstone area on a project, a Mr. Rice?
16 A Another resident?
17 No, I didn't take this process and use it with
18 a Mr. Rice, no.
19 Q Did you use as a part of a process with
20 Mr. Rice this IPS?
21 A I used nothing with Mr. Rice, no process,
22 nothing.
23 Q All right. Back in March of 1979 when this
24 contract was put together, this agreement between
25 Mr. Briscoe and my clients, you were at that point in time

1 or believed yourself to be a 49 per cent interest holder
2 in the property, of his interest, I mean?
3 A Excuse me. At what date did you state?
4 Q March.
5 A Yes.
6 Q And at that time as a 49 per cent interest
7 holder of Jim's interest, did you have a chance to look
8 at the contract that he signed with Mr. --
9 A No, I didn't.
10 Q Do you have a copy of it in your documents?
11 A Is that contract in the thing with this
12 Summons?
13 Q No. I don't care about it being in that. I
14 want to know if you have seen it before then.
15 A No, no. Absolutely not.
16 Q So, you then took this project on in what,
17 March, when you went down there and started operating?
18 A I went down there in February.
19 Q February of 1979, continued on through June or
20 July of 1979 without ever knowing what arrangement
21 Mr. Briscoe had made with my clients, these investors?
22 A Not specifically, no. I didn't know
23 specifically.
24 Q Then you aren't aware that the initial phase
25 of this project was a $25,000 investment?

1 A I knew that, yes. That was for the immediate
2 expenses as we have discussed.
3 Q Did Mr. Briscoe ever advise you what the
4 objectives were of Phase I and what was to be done?
5 A Of Phase I? What's Phase I?
6 Q The first 25,000.
7 A The objectives were to pay -- well, it is
8 documented what those expenses were for.
9 Q The reason I ask you, Mr. Hewlett, the
10 contract that Mr. Briscoe, who you were partners of some
11 sort with, a 49 per cent interest holder with him, states
12 what is anticipated to be done on this project and, if
13 I understand you, you don't know what those items were.
14 A You asked if I read the document.
15 Q Okay.
16 A Jim would have conveyed that information to
17 me but I didn't read the document.
18 Q Did you in the first weeks or days that you
19 were on the project after Mr. Lee and Mr. Schloss made their
20 investment initiate spraying and leaching of the existing
21 dumps to initiate a cash flow on the project?
22 A We initiated starting spraying the heap, yes.
23 Q Did you get a cash flow?
24 A No.
25 Q Did you ever get a cash flow out of that

1 project while you were there?
2 A No, I didn't.
3 Q Were you aware that that was to be accomplished
4 first before any investment into crushing or --
5 A No.
6 Q -- machinery was made?
7 A No.
8 MR. ALLEN: That is all. Thank you.
9 FURTHER CROSS-EXAMINATION
10 BY MR. KITTLE:
11 Q Dick, by way of clarification, would you
12 recount the conversation when you were told that Schloss
13 and Lee were taking over management of the project?
14 A Excuse me. Repeat that.
15 Q Just recount for us the conversation and what
16 took place when you were told that Schloss and Lee were
17 taking over management of the project.
18 A What would that date be?
19 Q Well, that's one of my questions. First of
20 all, I would like to find out what took place there and
21 what was said.
22 A I don't really recall any of the specific
23 things that were said.
24 Q How did you learn that Schloss and Lee were
25 going to take over management of this project?

1 A Well, there are a number of memos from Tom
2 that indicate such.
3 Q When did you first learn that they were
4 going to take over?
5 A Well, gee, I don't know. Let me look at their
6 memos.
7 (Brief pause.)
8 Looks around May 1st, somewhere around there
9 as best I can tell.
10 Q Does that mean then or is it fair to say then
11 that after May 1 of 1979, you were taking your orders from
12 Schloss and Lee on this project and not from Jim Briscoe's
13 office?
14 MR. ALLEN: Excuse me. I am going to have to
15 object to that unless proper foundation is laid as to
16 whether he knows when it was taken over. He's guessing.
17 He said he is and he said "It looks like".
18 That's my objection: No foundation as
19 to when it was done. He doesn't know.
20 Go ahead.
21 BY MR. KITTLE:
22 Q Let me ask you this: Based on your review
23 of your memorandums, is there any uncertainty in your
24 mind that this transition took place on or about --
25 A No.

T2

1 Q -- on or about May 1 of 1979?

2 A Oh. That would be about my best recollection

3 at this time just based on the memos and things.

4 Q Okay.

5 A One from Tom, somewhere in that period.

6 Q Good. So, my question simply is after that

7 information was communicated to you presumably sometime

8 around May 1 of 1979, you then took your orders from

9 Schloss and Lee and not from Jim Briscoe on the project?

10 A I would say yes.

11 For example, here's a memo May 11th addressed

12 to both myself and Mr. Briscoe and it outlines -- this is

13 signed by Mr. Schloss. It outlines the objectives, what

14 to do, and it goes on, you know.

15 So, that's the first one, the first memo of

16 sorts that I find there.

17 Then I find some here. Here's a memo from

18 Mr. Schloss dated July 6th that, oh, tells what should be

19 done as far as implementation, objectives, problems.

20 Then comes, you know, the budget. Dozer: $144 rental;

21 and sacks: $250.

22 Q Let me ask you one other question here.

23 You continued working on the project until

24 June of '79; is that correct?

25 A No. I think the end of July.

1 Q July of '79?

2 A Because here's a memo July 6th and then here's

3 July 13th, July 23rd, July 24th.

4 So, probably toward the end of July or the

5 first part of August.

6 Q Based on your recollection that Schloss and

7 Lee had taken over management of the project sometime in

8 early May of '79, is it a fair statement that any

9 additional money that they put into it between that time

10 when they took over and when you terminated in July was

11 money that they put in voluntarily?

12 MR. ALLEN: Excuse me. I am going to object

13 for the record again as being to the form of the

14 question on the grounds that Mr. Kittle's conclusions of

15 when he stopped taking instructions from Mr. Briscoe are

16 inaccurate according to the record and documents already

17 in evidence.

18 Go ahead and answer it, if you can.

19 MR. RAPPEPORT: That's an objection for the

20 record but if you can answer the question, answer it.

21 BY MR. KITTLE:

22 Q Well, Dick, I'm afraid what is happening here

23 is that it is being made difficult for you to respond --

24 A No.

25 Q -- to these questions.

A No. I say yes.

Q If I understand your response correctly, as far as you know from the time when Schloss and Lee did take over the project until you terminated, any additional monies that they put into this project, they did so voluntarily?

A Yes.

MR. KITTLE: I have no other questions.

MR. RAPPEPORT: I have nothing.

MR. ALLEN: Just one thing just for the record.

FURTHER CROSS-EXAMINATION

BY MR. ALLEN:

Q On Exhibit 4 which is a letter from Mr. Briscoe on June 22nd, I believe, you tried to implement or comply with his complaints and make reports and satisfy what he requested?

A Do you want a copy of those?

Q I've seen them. I'm just asking you a simple question. Did you?

A Yes. Yes. Yes.

Q And you received that letter from him and considered him to be at least a 51 per cent partner of yours in this project and complied with them; correct?

A That is correct.

1 MR. ALLEN: Thank you. That is all.

2 MR. RAPPEPORT: Waive notice of filing.

3 (Deposition proceedings concluded 5:40 P. M., June

4 2, 1981.)

5

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7 _____

8 Richard F. Hewlett

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1 C E R T I F I C A T E

2 STATE OF ARIZONA)
) ss.
3 COUNTY OF PIMA)

4 I, Don L. Gautier, a Notary Public duly
5 commissioned under the laws of the State of Arizona, in
6 and for the County of Pima, do hereby certify that I took
7 down in shorthand the questions propounded to and the
8 answers given by the witness at the time and place herein-
9 above set forth; that said witness, before testifying, was
10 by me duly sworn to speak the truth, the whole truth and
11 nothing but the truth, in the cause aforesaid; and that the
12 foregoing is a full, true and correct transcript of the
13 testimony given by said witness.

14 I further certify that I am not an attorney
15 or counsel for either or the parties, or a relative or
16 employee of any attorney, counsel or party connected with
17 the action, or financially or otherwise interested in the
18 action.

19 WITNESS MY HAND AND SEAL at Tucson, Arizona,
20 this 10th day of June, 1981.

21

22 _____
Notary Public

23

24 My Commission Expires:
25 August 29, 1982

Plf's Exh #2
Briggs Depo
Aug 28 '80
RL

I

Tombstone Dump Leach

II

Tombstone Open-Pit and Underground

February 20, 1979

Prepared for:
Southwestern Exploration Associates

Plf's Ex 2
Hewlett Depo
6/2/81

TOMBSTONE DUMP LEACH

Summary..... 1
Introduction..... 2
Location and Access..... 2
Legal Description..... 2
Description of the Dumps..... 3
Productive History of the Dumps..... 3
Recommendations..... 4
Costs..... 5

TOMBSTONE OPEN-PIT AND UNDERGROUND

Summary..... 6
Introduction..... 7
Location and Access..... 8
Legal Description..... 8
Regional Geology..... 8
Geology of the Property..... 9
Production History of the Property..... 10
Recommendations..... 11
Costs..... 12

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(602) 795-6097

James A. Briscoe, President
Registered Professional
Geologist

Southwestern Exploration Associates, Inc.

Feb 20, 1979

TOMBSTONE DUMP LEACH

SUMMARY

Southwestern Exploration Associates, Hydrometallurgy has acquired a lease from Tombstone Development Company of all their mining properties in the Tombstone Mining District. These mining properties consist of 88 patented and 18 unpatented mining claims located in Sections 11, 12, 13, 14, 15, and 23, Township 20S, Range 22E, Cochise County, Arizona, U.S.A.

1971 Minerals of New York City, New York operated a heap leach on the property for over three years. They economically recovered gold and silver from waste dumps located on the property. Austral Oil Company of New York City, New York sampled and conducted metallurgical testing on the dump material prior to 1971 Minerals operation.

Examination of dump assays, recovery reported by the refinery, and a study of 1971 Mineral's recovery methods directs us to recommend processing of 1,000,000 tons of dump materials utilizing advanced metallurgical heap-leaching technology. Significiant gold and silver values exist in all of the dump material. Completed work totals $177,600. Costs are verified as of February 20, 1979.

INTRODUCTION

This report was prepared at the request of Southwestern Exploration Associates. The writer has inspected all available information, public, state, and private (see attached report). This information consists of drill logs, trench assays, metallurgical testing of the dump ore, and check assays made by the writer on a large number of dump samples.

LOCATION AND ACCESS

The property held for discussion in this report is located 75 miles southeast of Tucson, Arizona, U.S.A. It is just south of the town of Tombstone Arizona in the County of Cochise.

Access is excellent throughout the area. Numerous roads connect through the property.

LEGAL DESCRIPTION

TOMBSTONE DEVELOPMENT LEASE
Sections 11, 12, 13, 14, 15, and 23, Township 20S, Range 22E, Cochise County, Arizona, U.S.A.
(2194 acres)

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This report was prepared at the request of Southwestern Exploration Associates. The writer has inspected all available information, public, state, and private (see attached report). This information consists of drill logs, trench assays, metallurgical testing of the dump ore, and check assays made by the writer on a large number of dump samples.

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Range 22E, Cochise County, Arizona, U.S.A.
(2194 acres)

Metallurgical testing by various laboratories produced recoveries of from 50 to 75%. The ore must be crushed and pre-treated to induce percolation and then heap leached. Leaching would be conducted on an existing leach pad on the property. Also, numerous facilities exist on the property that would enable production shortly after the project is initiated.

A very careful analysis of the operating costs incurred by 1971 Minerals showed a total processing cost of slightly over $2.00 per ton treated. A detailed cost analysis made of six other precious metal heap leaching operations show that the costs of further processing of the Tombstone dumps would be about $2.50 per ton treated. The dumps represent a gross value of $11.40 per ton and, using a minimum metallurgical recovery of 50%, the recovered value is $5.70 per ton, or a net operation profit of $3.25 per ton. This represents a net operating profit of $3,250,000 (see pages 12 and 13 of attached report).

RECOMMENDATIONS

It is recommended that processing of the dumps proceed at once, starting with minor metallurgical testing to determine the most profitable dump areas for fast recovery.

min '71 processing cost of $2/ton
Further processing of ore $2.50/ton
total costs 4.50 + = $5.00/ton

Gross value	hi	low
	15 mm	12 mm
50% to 75% (50% →	7.5	6.0
→ costs		5.0
	$2.50	$1.00

Internal # 3

By utilizing recently developed heap-leaching technology, at least 50% of the remaining values can be recovered. The costs of precious metal recovery will be very low, resulting in a significant cash flow.

COSTS

The $177,600 represents the following turn-key complete work to get the property to the point of producing enough gold and silver to support the on-going production.

1. Property research and title clearance	$ 5,000
2. Leases, claims, and property consolidation	10,000
3. S.E.A., Inc. test work and tonnage verification of:	
a. Heap ore	
b. Gob ore	
c. Open-pit ore	10,000
4. Heap leaching and gob evaluation and testing:	
a. Plant monitoring equipment	
b. PVC pipe and leaching supplies	
c. Recovery plant	
d. Pumps	
e. Chemicals for leaching	
f. Crushing equipment	
g. Dozing and blade work	
h. Power	
i. Water	
	152,600
TOTAL	$177,600

TOMBSTONE OPEN-PIT

SUMMARY

Southwestern Exploration Associates, Hydrometallurgy has acquired a lease from Tombstone Development Company of all their mining properties in the Tombstone Mining District. These mining properties consist of 88 patented and 18 unpatented mining claims located in Sections 11, 12, 13, 14, 15, and 23, Township 20S, Range 22E, Cochise County, Arizona, U.S.A.

Austral Cil Company of New York City, New York sampled and conducted metallurgical testing on the dump material and did extensive geophysical work that led to the discovery of open pit ore. Nemont and Phelps Dodge have done major surface drilling and underground exploration during the 1950's. The data generated cost over $3,000,000 at a time when precious metal prices were very low compared to the present.

Cpen pit exploration should begin at once to develop ore for heap leaching on existing leach facilities on the property.

Completed work totals $150,000

What will be the cost to [illegible]

INTRODUCTION

This report was prepared at the request of Southwestern Exploration Associates, Tucson, Arizona. The writer has inspected all available information, public, state and private (see attached report).

This information consists of core and rotary surface drilling conducted by Newmont Mining Company in 1953-57, underground maps of structure and core drilling, assay sheets from the drilling, surface sampling by Duval Mining Company, surface sampling and rotary drilling by 1971 Minerals. Also, data from surface drilling by Phelps Dodge has been studied, as well as their geological maps and cross-sections showing underground working and the extent of the mined ore bodies. Numerous reports of the early mining was helpful to evaluate underground areas that are not accessible at this time.

The writer has spent considerable time underground and examining the surface outcrops and has done extensive sampling on the property.

LOCATION AND ACCESS

The property held for discussion in this report is located 75 miles southeast of Tucson, Arizona, U.S.A. It lies just south of the town of Tombstone, Arizona in the County of Cochise.

Numerous roads provide good access to all areas of the property. Most underground workings are accessible, but some work will be required in more remote workings.

LEGAL DESCRIPTION

TOMBSTONE DEVELOPMENT LEASE
Sections 11, 12, 13, 14, 15, and 23, Township 20S
Range 22E, Cochise County, Arizona, U.S.A.
(2194 acres)

REGIONAL GEOLOGY

Quartz porphry intrusions cut sedimentary units comprising limestones, shales, sandstones, and quartzites that were previously folded and faulted by tectonic activity. Mineralizing fluids migrated into the sediments along faults, fissures, and other structures and deposited precious and other minerals along the structures or along contacts and in the limestone as manto deposits (see page 5 of attached report and "Regional Section").

GEOLOGY OF THE PROPERTY

The geology of each of the geological targets for open-pit and underground ore bodies are shown in detail in the attached report (see page 6 and the "Deposits Section"). Anticlinal structures were the largest single producer and most of these mineralized structures are very close to the surface; many of the bonanza ore bodies outcropped on the surface and were followed in depth.

All of the old mines have gob that is of economical grade, as well as disseminated mineralization that is economic at the present precious metal prices.

In addition to the open-pit ore bodies, mining could not progess much below 500 feet below the surface due to numerous problems of pumping the water in the early 1900's (see page 5 of the attached report). Very high-grade ore bodies exist at the water table, and it has been proven in over 10 of the 23 mines that good ore-grade continuity exists below the 500 foot level (see page 7 and "Exploration Section" of attached report). Gold values range from 1 to 5 ounces on the lower mine levels. Refer to enclosed maps showing the mine workings above and below the water table (see Exploration Section" of attached report).

1636X .133 gold X 250 = $54 MM
20.67 silver 7 $236 MM

PRODUCTION HISTORY OF THE PROPERTY

From 1879 to 1936, 1,635,639 tons of ore were mined that averaged .133 troy ounces gold and 20.67 troy ounces silver. The present value of this production is over $225 million U.S. Dollars. The attached report contains the detailed production by mine and for the District (see pages 3 & 4).

A detailed study of drill-hole results, geological mapping and surface and underground sampling results in the following open-pit projection (see pages 14 through 17 of attached report).

Mine Area	Tonnage Previously Mined	Last Grade Mined		Economic Tonnage Projection	
		Au	Ag	Gob	Ore
Contention Dike	500,000	.207	15.22	500,000	1,150,000
Tranquillity	200,000	.307	23.25	100,000	250,000
Lucky Cuss	100,000	.056	16.92	70,000	126,000
Emerald	100,000	.010	8.00	70,000	126,000
Bunker Hill	50,000	.035	15.45	40,000	72,000
Tombstone Extension	70,000	.071	11.88	15,000	60,000

It has been estimated by the writer that the total potential net operating profit from open-pit mining of all mine areas is $18,821,000 from the gob and $133,480,000 from open-pit ore. (See details in attached report).

Extending the known ore bodies at depth, below 500 feet, produces a large tonnage of high-grade ore. (See maps appended to this report). The writer estimates a potential net operating profit from underground mining of over $100,000,000.00 U.S. Dollars.

RECOMMENDATIONS

It is recommended that drilling and surface sampling be initiated on the following properties to prove their potential and for open-pit development.

1. Contention Dike
2. Tranquillity Area
3. Lucky Cuss Area
4. Emerald Area
5. Bunker Hill Area
6. Tombstone Extension Area

Open-pit mining with heap leaching for precious metal recovery can be initiated shortly after the initial development sampling and drilling.

Underground evaluation and development will be concurrent with open pit development.

REFERENCES

1. Enfield Bell
   Vice President
   Freeport Exploration Company
   Reno, Nevada

2. Hugh Matheson
   Placer Development
   Vancouver, B.C.
   Canada

3. Ralph Van Arsdale
   Occidental Petroleum Company
   Hawthorne, Nevada

MEMBERSHIP

1. Sigma Xi, National Honor Scientific Society
2. Colorado School of Mines Alumni Association
3. Mining and Metallurgical Society of America
4. American Institute of Mining, Metallurgical and Petroleum Engineers
5. Canadian Institute of Mining and Metallurgy
6. American Mining Congress

COSTS

The 150,000.00 U.S. Dollars represents the following turn-key complete work to sample and drill the property sufficiently to develop open-pit ore to initiate precious metal recovery by facilities on the property.

1. Geological mapping
2. Surface trench sampling
3. Geochemical sampling
4. Rotary drilling
5. Underground sampling
6. Open-pit development drilling

DATED AT TUCSON, ARIZONA, U.S.A., this 20th day of February, 1979.

Richard F. Hewlett

Richard F. Hewlett
Chemical & Mining Engineer
State of Arizona

Consultants in:
- Hydrometallurgical recovery
- Heap and conventional leaching
- Precious and base metals
- Uranium/Vanadium
- Tungsten
- Worldwide Mobilization

Division of
Southwestern Exploration Associates

4500 E. Speedway, Suite 14
Tucson, Arizona 85712
(602) 795-6097

Richard F. Hewlett
Vice President and General Manager
Chemical Engineer
Mining Engineer

S.E.A. Hydromet, Inc.

April 11, 1979

Messrs. Tom Schloss
and Dwight Lee
FAMCO
1700 Broadway
New York,
New York (10019)

Dear Tom and Dwight:

Based upon my experience at Tombstone with the heap leaching project in the early testing phase, the following recommendation is made:

1. Proceed with the next phase of late-stage testing and early-stage production as soon as possible.

The above recommendation is made based on the following recent results and consequential conclusions:

1. Ore potential has been adequately proven.

2. Various solvents other than but also including cyanide have been proven effective with the Tombstone ores.

3. "Induced Percolation" has been tested on a reasonable scale and proved effective for increasing recovery.

The results upon which the above recommendation and conclusions were drawn follows in the enclosed report.

Sincerely yours,

Richard F. Hewlett

Richard F. Hewlett

Plf's Ex 3
Hewlett Depo
6/2/81

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S.E.A. Hydromet, Inc.

TOMBSTONE PROJECT

Analysis of Risk and Progress Report

Factors that previously have been proven to no longer be a risk factor are the following:

1. Water
2. Power
3. Labor
4. Supplies

Therefore, the remaining risk factors are:

1. Finalization of lease(signatures)
2. Governmental restrictions
3. Ore Reserves
4. Metallurgy
5. Metal Recovery

Recent results have proven the following:

1. Needs finalization-- only remaining risk.
2. No risk;sent letters and contacted all agencies.
3. No risk;ample ore reserves-constant confirmation.
4. Solvents:No risk;proven effective
   "IPS":No risk;good percolation and values
5. No risk

Summary of Results

A. Spraying Side Slopes

Hypo preg of 0.25 t.oz. Ag/ton;exactly what was predicted.

B. "IPS" for Tailings/dump/open-pit ore

80 tons recieved the "IPS" treatment and the initial(5 min.) preg was:

.015 Gold and .35 Silver

What total value of this one?

This is an excellant return and the percolation was very good. The results could not have been better.

TOMBSTONE PRODUCTION SUMMARY ?

In Situ Leaching of Heap

Sulfuric Acid + Solution by precipitate

Screening

Fines

Coarse

Atomic Absorption Assay

Atomic Absorption Assay

High % will go to waste

Ore

Waste

Ore

Waste Heap

Crush

"IPS"

Leach

Plant

Metal Sales

$$$$$$$$$$$

Dick thinks 2/3 of total values w/ In situ leaching with Sulfuric Acid.

BUDGET - Phase II

Item	Est. Expenditure
15 KVA Transformer	$ 600
PVC fittings, elbow, tees	1,000 — ? check #5
Sprinkler heads	200
Lab	10,000
Atomic Absorption	
Std. Chemicals	
Work bench	
pH Meter	
Shaker	
Drying Oven	
Pulverizer	
Crusher	
Aceteylene	
Compressor(for oxygen)	
Pressure regulators	
Padlocks (10@$4)	40
Chemicals	5,000
Management(Fees/expenses)	4,000 — Dist + office overhead Tombstone overhead
Labor	5,000
	$ 25,840

No provision for May 1 lease payment

3 people + Dick - 2m/month

Ed Rice operating trucks etc

Dusty

— young

TOMBSTONE

Projected Cash Flow

Following is my best estimate of cash flow for the next month:

Week	"IPS"	In-Situ	
One	$10,000	$10,000	Same
Two	15,000	25,000	
Three	15,000	35,000	
Four	15,000	50,000	

The above is based on all previous test work, either lab or pilot scale.

Backup?

55K 120K

Wire Transfer to the following:

S.E.A. HYDROMET - T.H.L. TRUST
4500 E. SPEEDWAY SUITE 14
TUCSON, ARIZONA 85712
PHONE AREA CODE (602) 795-6097

1013

91-1
1221 95

19

Pay to the order of

$

Dollars

UNIVERSITY MEDICAL OFFICE/TUCSON
FIRST NATIONAL BANK OF ARIZONA

For

⑆122100011⑆ 957⑈0664 1⑈

S.E.A. HYDROMET - T.H.L. TRUST
4500 E. SPEEDWAY SUITE 14
TUCSON, ARIZONA 85712
PHONE AREA CODE (602) 795-6097

1014

91-1
1221 95

19

Pay to the order of

$

Dollars

UNIVERSITY MEDICAL OFFICE/TUCSON
FIRST NATIONAL BANK OF ARIZONA

For

⑆122100011⑆ 957⑈0664 1⑈

S.E.A. HYDROMET - T.H.L. TRUST
4500 E. SPEEDWAY SUITE 14
TUCSON, ARIZONA 85712
PHONE AREA CODE (602) 795-6097

1015

91-1
1221 95

19

Pay to the order of

$

Dollars

UNIVERSITY MEDICAL OFFICE/TUCSON
FIRST NATIONAL BANK OF ARIZONA

For

⑆122100011⑆ 957⑈0664 1⑈

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Wc wide Mobilization

(602) 795-6097

James A. Briscoe, President
Registered Professional
Geologist

Southwestern
Exploration Associates, Inc.

TOMBSTONE HEAP RE-PROCESSING BUDGET

Following is the initial capital investment required for re-processing the Tombstone Heap.

Item	Expenditure
Initial Property Payment	$ 6,000
Geological Report	3,000
Lease Expenses	3,000
Engineering	4,000
Power Hook-Up Deposit	3,500
Electrical Wiring	2,500
Pump Installation	3,000
West Side Water Line	2,500
Office Support	2,500
Pre-Production Royalty	7,500
Consulting Fees	5,000
Spray Lines/Manifolds	3,000
Directional Rainbirds	200
Preg Pond Lining	400
Pad Preparation	15,000
Laboratory	10,000
Building	15,000
Office	2,500
Recovery Plants	10,000
Reagent Tanks	3,000
Crushing - Working Capital	40,000
Chemicals	15,000
Insurance and Bond	5,000
Management	6,000
Labor	10,000
	$177,600

TOMBSTONE

Start-Up Chemicals

Name	Quantity	Unit Price	Total Price
SR-3 Resin (Ion-Exchange)	100 #	$ 6.50/#	$ 650
Lime-Paul Spur Processed(CaO)	20 tons	$14/ton	280
	Haul..	$25/hr	100
Sodium Hypochlorite (NaOCl-14% soln.)	5-55 gal.bbl.	$0.90/gal	248
Sodium cyanide (NaCN)	1000 #	$0.5615/#	562
Sodium sulfide (Na_2S)	400 #	$0.248/#	99
Zinc dust (Merrillite)	300 #	$0.662/#	199
Sodium thiosulfate ($Na_2S_2O_3 \cdot 5\ H_2O$)	300 #	$0.246/#	74
			$ 2,211

TOMBSTONE
Immediate Expenses

Category	Activity	Quote	Estimate
Power	APS Hook-Up(Deposit);		
	West Side Water Pump	$ 800	
	Old '71 Min. Plant	2,400	
	Office	50	
	Box & Meter Loop		$ 600
	Electrician		500
	Cable		1,000
	Switches & Elec. Misc.		500
	Pump pannel/Installation		1,000
Water Line	3-inch PVC;3,000 feet	2,250	
	Installation	300	
PVC Fittings	Tees, Manifolds, etc.		100
Sprays	Directional rainbirds		80
Preg Pond	Liner & labor		100
Lab	Chemicals		100
Building	Trailer(40X8')-2 months + $215 Monthly rent=$135	500	
Plant	4-50 GPM filter/recovery units		2,500
Tank	1350 gallon	350	
Chemicals	Start-Up solvents & reagents		2,432
Moving	Lab equipment & office		1,500
Labor	Leaching & crushing		2,000
Management	RF Hewlett, et.al. Sal/Expenses		4,000
Office	Reports & support		900
Misc.	Processing, freight, etc.		1,038
		6.650	18,350

Total= $25,000

DATE	PAID TO	CK #	PURPOSE	AMOUNT
/8/79	Arizona Public Service	1	$50.00 deposit and $3,200.00 hook up for Skyline road residence	$ 3,250.00
/8/79	Arizona State Land Dept. (P.O.4226)	2	Applications for mineral prospecting permits: T20S-R22E Sect.4,6,18 & 30 T20S-R23E Sect 7 T21S-R21E Sect 12 T21S-R22E Sect 4,5,7 & 8	250.00
/9/79	Deposit			25,000.00
/2/79	Richard Hewlett	3	Expense Advance	2,000.00
/12/79	Ionac Chemical Company (P.O. 4224) Inv #100640	4	100 lbs. Ionac SR-3	689.00
/13/79	Keenan Supply Inc. (P.O. 4256) Inv. #30153925	5	5 3" PVC Sch 40 Socket 45 Ells 1 3" PVC Sch 40 Socket TEE	19.66
/13/79	Keenan Supply Inc. (P.O. 4251) Inv. #30153924	6	2,700 3 PVC Sch 40 plastic pipe 2 Gal PVC Primer 2 Gal PVC Cement	2,203.52
/14/79	Willett Transport Equip. (P.O. 4267) Inv. #1229-2837	7	1 rental, 40' Storage van trailer for period of 3/15/79 - 4/15/79	499.00
/14/79	Arizona State Land Dept.	8	1 application for mineral prospecting permit	25.00
		9	V O I D	
/14/79	Arizona State Land Dept. (P.O. 4268)	10	19 Prospecting permit application fees: T20S-R22E Sect 4,5,36 T20S-R23E Sect 5,6,7,8,17,19,20,29,30,31,32 T21S-R22E Sect 1,2,3,9 T20S-R22W Sect 7	475.00

DATE	PAID TO	CK #	PURPOSE	AMOUNT
3/15/79	Gordon Coristine (P.O.4275)	11	Labor for moving lab equip. office, etc. Storage and maintenance of Jeep Wagonner	$ 200.00
3/15/79	McKesson Chemical Co. (P.O. 4272)	12	1 Drum 55 gallon 400# Na_2S 3 100# Drums Zinc Dust	358.07
3/15/79	Foxworth Killen Supply Co. (P.O.4276) Inv.#9419	13	Materials for electrical hook-up	448.30
3/15/79	Wally Dun (P.O. 4279)	14	C_2H_2 & O_2 Bottle deposit 7 days advance rental plus 1 day credit	75.00
3/15/79	Ed Pice (P.O.4278)	15	1 1/2 HP Centrifugal Pump 1 2 HP Centrifugal Pump	200.00
3/15/79	Thomas Colvin (P.O. 4277)	16	1 1350 Gallon Tank	350.00
3/15/79	Dusty Escapule	17	Salary Advance	500.00
3/16/79	U.S. Postmaster	18	Overnight delivery, receipt #B3306603	7.65
3/16/79	Mountain Bell	19	Deposit on phone in Tombstone	50.00
		20	V O I D	
3/16/79	Heflin - Harrington Industrial Plastics, Inc. (P.O. 4303) Inv. #3690	21	1 3x3x1 Tee Soc PVC-40 8 1 1/2" S.U. Ball Valves Soc PVC 3 3" 3-way Ball Valves Soc PVC 3 3" T.U. Ball Valve Soc PVC 1 1" T.U. Ball Valve Soc PVC 3 3" Tees Soc PVC - 40	TOTAL 1,214.07
3/16/79	Patio Pools (P.O.4319) Inv. #7984	22	4 EC - 65B Hayward filters	1,069.54
3/21/79	S.E.A. Hydromet	23	Payroll Advance	600.00
		24	V O I D	

DATE	PAID TO	CK #	PURPOSE		AMOUNT
3/22/79	Richard Hewlett	25	Travel Advance		$ 500.00
3/22/79	Keenan Supply (P.O. 4327) Inv.#30153927	26	140 3" Sch 40 PVC Soc. Couplings 1 3" Sch 40 PVC Slip X mip adpt 1 Freight Charge	TOTAL	162.39
3/22/79	Ernie Escapule (P.O. 4329) (Archie's Auto Parts, Inc.) Inv. #7939, 7930, 7938 Yellow Front	27	BDM OXY, valvoline oil, 3 filters, 2 G.E. bulbs, and other misc. auto parts Misc. Truck parts 1 weeks rent of two trucks	TOTAL	237.08
3/22/79	Foxworth-Killen Supply, Co.)P.O. 4328) Inv. #9589 & 9516	28	Misc.: pipe, galv. nipple, outs, hub, straps & log screws		20.94
		29	V O I D		
3/26/79	First National Bank (P.O. 4309)	30	Cashier's check for Mayflower Co. moving D. Hewlett from Sparks to Tombstone, Arizona		1,704.05
3/27/79	Richard Hewlett (P.O. 4350)	31	Deposit to account of AFH for cash for purchase of transmission to be installed in truck of George Jewett as compensation for rent of truck and purchase of chemicals used in Heap Leach processing		500.00
3/28/79	S.E.A. Hydromet	32	Payroll Advance		700.00
3/28/79	S.E.A. Hydromet	1001	Payroll Advance (first advance was not enough to cover payroll		700.00
3/28/79	Nellie Cashman Apts.	1002	Travel expense, April rent		188.70
3/30/79	S.E.A. Hydromet	1003	Payroll Advance		600.00
4/3/79	S.E.A. Hydromet	1004	Payroll Advance		1,500.00
4/4/79	Arizona State Land Dept. (P.O. 5229)	1005	Prospecting permit application fees		50.00

DATE	PAID TO	CK #	PURPOSE	AMOUNT
4/4/79	Arizona State Land Department (P.O. 5230)	1006	Prospecting permit application fees	$ 75.00
4/7/79	Richard T. Hewlett	1007	Gas reimbursement for March	309.47
4/7/79	Ernie Escapule (P.O. 5210)	1008	Reimbursement for: Texaco gas, elbos, repair kit, welding rod, pipe, oil filter, C_2H_2 OXY for welding/cutting, plastic tubing paint strip and ACY-OXY welding/cutting	137.44
			BALANCE	$3,141.12

Consultants in:
• base & precious metals • uranium
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Worldwide Mobilization

Tom Schloss

4500 E. Speedway, Suite 14
Tucson, Arizona 85712
(602) 795-6097

James A. Briscoe, President
Registered Professional
Geologist

Southwestern Exploration Associates, Inc.

June 22, 1979

Mr. Richard F. Hewlett
Vice President
S.E.A. Hydromet, Inc.
Nellie Cashman Apts.
Cottage # 2
121 E. 5th
Tombstone, AZ 85638

Re: Tom Schloss, Dr. John Dean Visit - Evaluation of Progress - Setting of Objectives, Activities, and Record Keeping for the Next Week and Plans for the Future

Dear Dick,

Since yesterday afternoon, I have spent approximately eight (8) hours reviewing progress at Tombstone with Tom Schloss and metallurgical consultant John Dean. John was engaged by Tom to help us with what appear to be definite problem areas, but particularly because of unsatisfactory performance at Tombstone to date. Without going into a great deal of detail, we are at least four (4) weeks behind your projections, and 400% over budget.

Our original objectives of Tombstone were to expend in the range of $25,000 to make insitu tests of your metallurgical techniques, which you warranted would verify the techniques and put us into profitable production with a substantial cash flow. Up to this time, we have:

1. expended approximately $100,000,
2. changed metallurgical approaches several times with inadequate documentation, and
3. have not scientifically verified nor documented even the negative results, to my knowledge.

Plf's Ex 4
Hewlett Depo
6/2/81

Plf's EXH #9
Briscoe Depo
Aug 28 '80
RL

Obviously, it is imperative to do the following:

1. Pick one metallurgical test at a time and follow it through to completion, with careful documentation that can be corroborated by other engineering or metallurgical investigators -- negative as well as positive information to be reported in an unbiased manner.

2. Layout the goals and specific objectives of a meaningful, concise, and reproducible metallurgical program.

3. Layout a tight operating budget for such a testing program.

4. Determine a realistic timetable and action plan for the above.

If the above is carefully done and realistic, I am sure that I will be able to endorse it, and I feel that Tom will underwrite it, assuming John Dean's technical approval. Without such a careful re-evaluation and plan, I would have no option but to recommend termination of further work.

The above summarizes in only very brief outline form our problems to date and the intermediate term solutions to these problems. Of even more critical importance is what we do in the next seven (7) days. Tom, John Dean, and I have discussed this in great detail. It is absolutely imperative that you carry out, to the best of your ability, and in the highest professional manner, the following seven-day action plan to meet the stated objectives. I think it is obvious that the continuation of the program depends on this. I think it is also obvious that no changes should be made without documentation and verbal O.K. from Tom and/or myself.

The activities and objectives to be reached are as follows:

ACTIVITIES

1. a) as a maximum, construct the following:

Area #1 - 3 lifts
Area #2 - 2 lifts
Area #3 - 2 lifts

b) set up test leaches exactly like the USBM-Reno for 1) North slope dump "ore" and 2) Manganese dump "ore";

c) after completion of the above, terminate the dozer for the present;

d) prepare documented proposal of chemistry to be used and wait for approval.

2. a) do not work on any other pads until written notice from Tom or myself;

b) put Dusty in charge of heap. Have him do all physical work there during the day and have Ed Rice take over the night shift and report to Dusty. Dusty should report to you. You are not to take any physical part of the heap activities but only concern yourself with engineering work, i.e.:

1) chemistry-metallurgy
2) budget
3) engineering and quantification

3. Leach areas 1, 2, & 3.

4. Melt percipitates daily. Mail these to Tucson daily by return receipt requested mail.

5. Keep accurate, concise, records which can be checked by any independent professional. This should be done on a form or forms of your own design, to include, but not limited to, the following:

a) daily record of dimensions of dump under leach and tonnage calculated for that area, plus supporting data, measurements, etc.

b) record of through-put -- hours of leach per shift, down time, etc.

c) titrate return hypo solution to determine barren strength, and for presence of zinc.

d) determination of H_2O balance per shift; i.e. H_2O added to replace that lost to evaporation, absorption in dump, or loss through pad.

e) weigh out of zinc used per shift.

NOTE: Materials balance is the key.

6. W. Edward Speer will take sample of:

   a) Emerald ore -- high MnO_2 ore from dump

   b) North Ramp ore

7. Prepare a two (2) page memo specifying your opinion of the best option for leaching Mn ore.

8. Come up with a realistic budget for the above.

OBJECTIVES

1. Document silver production from a specific amount of heap ore, specifically from areas 1, 2, & 3, processed from 6/22/79 to 6/27/79.

2. Have documented budget for the above by the evening of 6/23/79.

3. Have test leach pads (as in Activities, #1b, sections 1 & 2) and an action plan with proper miner-like record keeping forms and budget by 6/26/79.

4. Have two (2) page "best options" report on metallurgy to use on Mn Ox ore by 6/26/79.

On or before the dates specified above, mail, by registered, return receipt requested mail, one copy of all paperwork required above to Tom Schloss in New York, one copy to John Dean in Rhode Island, and one copy to myself in Tucson. Also be prepared to discuss all of the material in concise, brief terms on the morning of June 27, 1979.

Dick, I do not expect to have to tell you the details of how to do and document your job. I do expect, at minimum, the above outlined documentation, but it should not be limited to the above. It is your responsibility to do what is necessary for documentation and you will be held accountable for any omissions.

Very truly yours,

James A. Briscoe

JAB:cmd
P-418
cc: Tom Schloss
Dwight Lee
Dr. John Dean