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BEFORE THE

U. S. NUCLEAR REGULATORY COMMISSION

In the Matter of:)

INVESTIGATIVE INTERVIEW OF:)

DONALD KNOKE)

(CLOSED))

Conference Room

Sequoyah Fuels

Gore, Oklahoma

Tuesday, February 26, 1991

The above-entitled matter convened for INVESTIGATIVE INTERVIEW pursuant to notice at 3:23 p.m.

APPEARANCES:

On behalf of the U.S. Nuclear Regulatory Commission:

LARRY CHAPMAN, Senior Investigator

Office of Investigations

U. S. Nuclear Regulatory Commission

Suite 1000, 611 Ryan Plaza

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On behalf of Sequoyah Fuels:

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P R O C E E D I N G S

MR. CHAPMAN: For the record, this is an interview of Donald R. Knoke, who is employed by Sequoyah Fuels Corporation, Gore, Oklahoma. The location of this interview is the Sequoyah Fuels Facility, Gore Oklahoma. The date is February 26 and the time is 3:22 p.m.

Present at this interview, in addition to Mr. Knoke is Ira Shapiro, who is an attorney with the law firm of Winthrop, Stimson, Putnam & Roberts in Washington, D.C. and is representing Sequoyah Fuels Corporation. Also present at this meeting representing the U.S. Nuclear Regulatory Commission's Office of Investigations is Larry Chapman.

Mr. Knoke, will you please stand and raise your right hand?

Whereupon,

DONALD R. KNOKE

appeared as a witness herein, and having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. CHAPMAN:

Q Mr. Knoke, before we start with any detailed questions, I'd like for you to give me a small, short background of your employment here with Sequoyah Fuels Corporation.

A The short background begins in 1969, I come over --

was in the building before the laboratory was finished, before the plant was in operation. I've been employed here since. My first title -- I'm not sure what my first title was -- I've worked in the laboratory the entire time and for a long period of time I was listed as the Supervisor of Laboratory Instrumentation. In 1986, early, I was made Senior Analytical Chemist and in mid-1986, I was made Laboratory Manager.

Q Mid-1986?

A Mid-1986.

Q At the time you were made Laboratory Manager, was there only one laboratory at this facility?

A That's right.

Q I understand there are now two laboratories.

A That's correct.

Q And you are in charge of the --

A Process laboratory.

Q -- process laboratory. Do you know when the other laboratory was started, roughly?

A Probably in 1988, I'm not sure what the time frame was when we started that, but I started it, so I can find out.

Q You started it?

A I started it.

Q Were you at that time over it as well?

A That's right.

Q So for a period of time between 1988 until when, you were supervisor of both laboratories?

A Until February of 1990, I was in charge of both laboratories.

Q The other laboratory is basically an environmental laboratory?

A That's right.

Q Can you give me a short synopsis of the difference between the two laboratories as far as the functions?

A Certainly. We -- the process laboratory does process control work for the production operation. We receive samples from throughout the different areas of the plant that are monitored so that the plant can operate in a proper mode. We also do a lot of specification testing on incoming feed material and the final product, UF-6 and the depleted UF-4 product also.

Q The environmental laboratory?

A The environmental laboratory is essentially involved with samples of an environmental nature naturally, and with the OWRB and the NPDES permits. Also at that laboratory, they have equipment for ultra low level uranium analyses, which is not covered in those permits but this instrumentation was put over there because of the ultra low level capabilities and the possibility of contamination at

this facility.

Q Okay. Trying to keep it somewhat non-technical, would a delineation between the process laboratory and the environmental laboratory be that basically any product dealing with the restricted area, processing of -- what's it called, UF-6?

A Producing UF-6.

Q -- would come to the production laboratory to be analyzed for certain chemical presence or to allow the operations staff to know what to do with the material? Just why would they send a laboratory sample to the production laboratory?

A Our process laboratory is divided into two general parts and let me cover these separately. One of them being process control. There are limits -- and again without getting too technical, trying to be too technical here -- there are limits on the amount of uranium and nitric acid in the feed material going through solvent extraction. There's a high limit and a low limit for each of these. So we will monitor all the dye dispatches and they will make the necessary adjustments to get the feed material within the proper range to go in the solvent extraction.

Throughout solvent extraction, we trace the specific gravity of different components out there to make sure they're clean, picking up -- uranium is being extracted

properly. And also at that time we start checking for one impurity that is common to most of our feed material, that being molybdenum, and we do a lot of moly analyses -- if you'll accept that abbreviation -- through the plant to make sure that the extraction is running pure and we are getting a pure solution out the back end of SX.

The samples then continue from SX to the evaporation where the uranium is concentrated, and then on to boil-down where it's further concentrated, into the denitrators and the product from the denitrators is the first solid product because of your uranium trioxide. We do analyses on this material also. From there into the hydroflorination step and we end up with the samples of the uranium tetrafluoride product, this is a uranium tetrafluoride product.

Q So on this first area of the laboratory, it's basically to -- in kind of layman's terms, check purity of it?

A Check purity, monitor the process, assist the operators so that they know that things are going correctly in the plant.

Q What -- one of my questions was going to be, what would be from your laboratory standpoint, an indication that things aren't going according to process?

A This usually happens in the solvent extraction area

when they will get an emulsion in the pumper decanters and they'll get a molybdenum carryover into the aqueous feed, which should be pure uranium, the aqueous phase.

Q So there would be some sort of a high and low range of uranium in this solution

A The uranium should always be about the same and the uranium won't change that much. It could if they had a major upset but the solvent extraction is designed to remove all the other metallic impurities, and it will normally remove essentially all the molybdenum. But if they are having an emulsion or they're having an upset of one sort or another, molybdenum will show up along with the uranium. And it's in the part per million range, but it's above our specification.

Q Would -- could you give me an example of a high and a low range that this process is considered proceeding correctly?

A Normal moly content is less than a tenth of a part per million on a uranium basis, I do believe. This is to the best of my knowledge. If we get above one or two or three parts per million on a uranium basis, we know that we're having a problem. And again, this is to the best of my knowledge. I might have this confused with the chromium number.

Q Mr. Knoke, what I'm -- one of the things I'm trying to get a grasp of is there are lots of numbers floating

around out here, micrograms, milligrams and grams per liter. In material flowing from the solvent extraction process, which has a direct bearing on this because there is a possibility some of it over the years has permeated through the floor down into the ground. I'm trying to determine what are the ranges in grams per liter would the uranium be found as it flows through the solvent extraction process?

A The target for the digest batches, which is the aqueous feed to the solvent extraction, is approximately 500 grams per liter uranium, and there's a range off of that. And 1.4 molar nitric -- free nitric acid.

MR. SHAPIRO: 500 grams?

THE WITNESS: 500 grams per liter.

BY MR. CHAPMAN:

Q What you're saying is that'd be the solution if they looked for it at flow-through?

A That's what they try to make in the digest tanks, 500 grams per liter. And like I say, this can vary. They can process up to 700 grams per liter or down to 300 grams per liter, there's a big range on it. 450 to 500 is our target.

Q You could probably go with that -- I'm sorry.

A I was going to say as this goes through solvent extraction and the uranium is taken up into the tributylphosphate hexane phase or the organic phase, it is

re-extracted with water and this first clean uranium solution is a nominal 75 grams per liter uranium.

Q Of course, this is in a highly controlled process as it moves through, it's not in direct contact with any humans?

A No, this should all be inside the tanks.

Q Okay, so the point I'm trying to I guess understand, there is high concentrations of uranium flowing through the solvent extraction area as it proceeds through the plant to its final product.

A That's right.

Q I believe you told me there was a second area in your laboratory?

A Yes, specification testing, and right now we're doing process -- trying to do some process development work. Specification testing, we analyze the incoming yellow cake, as it's commonly called. Every lot of material that comes in, we analyze for uranium content and for molybdenum content because this is an impurity.

Q So we really do not have to concern ourselves as far as our concerns at the plant that we're discussing, with the second half, the second part of your laboratory, because it doesn't get involved in the per se solvent extraction.

A Not routinely, or not normally, they don't.

Q So if we were trying to determine some laboratory

information, it would principally be through the first production -- I don't know what you called it.

A Process control. Not necessarily, because as you know, we have special samples that come in and these can be -- if they're too involved for our shift technicians in the process control area, we will pass these on to the specification testing group that has somewhat more expertise in different things or maybe somewhat more time, and they can do some of these analyses also.

Q But again, this is part of your laboratory.

A That's right, in the main process building.

Q Okay. Just for clarification before we move on, the environmental laboratory that was under your control until I believe you said February of '90.

A February of '90.

Q You made kind of a general comment that it deals with environmental issues. What is the difference between environmental issues versus production issues? What makes the determination of which laboratory gets these samples for analysis?

A Before February of 1990, the environmental laboratory was involved in doing the work for the -- let me start over. This is a new lab and our intention was to have a clean environmental laboratory. Part of the environmental work was being done here in this laboratory at this time and

this includes the NPDES and OWRB permit analyses. And we intended to move them over to that laboratory. We also at that time purchased this uranium analyzer and put it over there just for the fact there would be more contamination over there for uranium analysis.

Q You mentioned the OWRB, and for clarification that stands for Oklahoma Water Resources Board?

A Resources Board permit and the national --

Q Would it be a fairly accurate assessment if I said the environmental laboratory deals with principally groundwater contamination, any observation of off-site migration of contaminated materials?

A That doesn't cover everything but that is correct. There are also air samples that are done over there, forage samples, dirt samples, not just groundwater. And the urine analyses, bioassays, are being done there.

THE REPORTER: I'm sorry, I didn't understand the last part.

THE WITNESS: Urine analyses, bioassays of urine.

BY MR. CHAPMAN:

Q I think I can -- without getting real technical again, Mr. Knoke -- sum it up by saying anything to do with the production activity stays in the production laboratory and anything to do with the health -- outside health area -- pretty much stays in the environmental laboratory.

A Pretty much. We still get a share of the environmental work that comes out of the process area.

Q And then you mentioned in February of 1990, you lost jurisdiction over the environmental laboratory?

A Yeah, I guess so, if you want to put it that way.

Q Maybe lost isn't the right word, but it moved out of your jurisdiction.

A That's right, I'm no longer in charge of the environmental laboratory.

Q Where did it -- who ended up in charge of this?

A Sonny -- Ronald Edson is the chemist in charge of that. He was one of my shift technicians and he reports to Carol Couch.

Q So the ultimate supervisor over it after February was Carolyn Couch?

A That is the line.

Q Is it still currently that way?

A To the best of my knowledge.

Q All right, sir, let me ask you a couple of questions regarding procedures here. As we discussed on January 9, 1991, somewhat in depth the procedures of your laboratory and I want to make kind of a brief synopsis without going over them in detail again, there are basically three types of laboratory analyses turned in to your lab regarding in particular the solvent extraction area. I

understand there are more than that, but three that we're principally concerned with. These being the process control sample analysis request/report; the special analysis request and a chain-of-custody request.

A That's right. If I could interrupt, you said three types of analyses -- this is three methods of submittal for analyses.

Q Okay, thank you. And of particular interest to us in regard to this ongoing matter, only basically two types of these requests were submitted to your laboratory during the period of July 31 through approximately August 22, the time frame we're somewhat concerned with, and these were the process control sample and the special analysis request.

A That's correct.

Q And we've pretty well already established that when a process control sample is submitted, it is on a preprinted form that has designated blocks where an individual can check what they wish to have the sample tested for.

A That's correct.

Q Normally the results of these process control samples go direct to the computer printout in the control room -- have I characterized that pretty much correctly?

A That's right, and on to the hard disk in the computer. They're filed in the computer at the same time.

Q And correct, the hard disk in the computer is

eventually recaptured by you and stored.

A Right.

Q In some time frame after that. Conversely, the special analysis request is a form that the requestor must, in their own handwriting or through someone else's handwriting, identify the specific analysis requested. Even though it is preprinted, it is not a checkoff type block.

A That's right, it's just a blank form that they have to complete.

Q As I understand it, the process control sample is normally a sample taken by an operator in the plant to check on exactly, as we discussed earlier, the samples as they move through the plant or the solution and are turned in randomly or at different -- I guess when the request is made, to the laboratory, and they check off this form and leave it for you to run the samples?

A That's pretty close. It's not entirely random, there are some scheduled times for different samples and there is a spot on -- a few lines on there for samples that don't fit the general mode of all the particular samples that might be listed on there, so they can write in a sample name.

Q As a matter of just information here, when a sample is turned in on the process control sample form, is it often left at your window with the form being completed and left and the little -- you mentioned that there's a light that can

be turned on.

A That's right.

Q Is that a normal procedure?

A That is the standard procedure.

Q In respect to that, the special analysis request, is it normally handled in the same manner or because it's special, is it normally -- the person submitting the sample has a face-to-face meeting with a laboratory person before they leave the sample?

A It can happen both ways. If it's somebody from out in the plant that is staying out in the plant, they can bring the sample to that same window, fill out the special analysis request sheet and leave it there in the window, flip the light on or ring the bell if they want to talk to somebody. Or they could, if it's coming from somebody that crosses through the change room, they can bring the sample into the lab through the laboratory door and submit it to somebody there in the laboratory, or just place it on the bench and we will find it and analyze it.

Q I believe, Mr. Knoke, we discussed in the past also that normally when a special analysis request is made, the person submitting the request completes this form. However, we have also said that it is possible that a laboratory technician could be the person that actually completes the form and fills it out, but it would be with a meeting or with

instructions of the person submitting the sample. Let me make one other comment and then I'll let you --

A Okay.

Q And that is because the special analysis report is not a standard form and thus it's used for specific results being sought by the requestor.

A That's right. The technicians -- I don't know if we've said this in the past that a technician can fill it out, but it is possible that they would. And it is possible that if somebody comes in with something, they'll ask me how they should fill it out or what should we put on it, or I might fill it out for them while we're standing there talking if they're not that familiar with the method of submitting analyses or what to request.

Q What I want to, I assume, establish here is that where a process control sample is somewhat a routine record, that is normally asks for the same type of information; a special analysis request is exactly that, something of an unusual nature. Consequently it requires that the laboratory know precisely what the individual wants, precisely what results they're looking for as far as the chemicals to be tested --

A It's non-routine and there aren't blocks there for them to check to say what analysis to do, they have to write down or decide what they want it analyzed for.

Q Okay. Mr. Knoke, on September 6, 1990, you and I and Don Driscoll had a conversation regarding a meeting that -- staff meeting that took place on August 7, and in this meeting, which is referred to normally as a senior staff meeting which occurs in the morning as I understand, usually around 8:30 a.m. on Tuesday morning.

A That's correct.

Q You indicated that you were present at that meeting and you were aware that there had been a general discussion amongst the personnel at this meeting about water located in the excavation area adjacent to the solvent extraction building, commonly referred to as SX. Is that correct?

A That's correct.

Q I believe that you told me that there was some confusion amongst the members present as to exactly what level of contamination regarding uranium there was with the water that had been found at the SX pit, is that correct?

A That is correct.

Q I believe you also told me that --

A Can I expand on that?

Q Yes, sir.

A There were numbers of 200 to 300 mentioned. The thing that concerned me the most, there were units that were discussed of micrograms per liter and milligrams per liter, which are a factor of a thousand different. And this is what

really caught my attention, was the difference in the limits that were mentioned.

Q Would you mind expanding on that a little bit for me, the difference, just for the record, of micro -- I believe you used -- and milli.

A A milligram is 1/1000th of a gram and a microgram is 1/1,000,000th of a gram.

Q And 300 was in reference to?

A 300 -- I can't say right now if they said 300 micrograms or 300 milligrams, but both terms were used in discussing these numbers.

Q In relation to the numbers being discussed, were they numbers that caught your attention as being high for natural water or was it the fact that you were more concerned with delineating and defining the exact measurement?

A What caught me was the units, that there seemed to be some -- they were unsure about -- it left me unsure about what the units were. I wasn't concerned with what it was in the water, I was concerned about the limits, in my own mind -- or the units, I'm sorry.

Q So it didn't trigger anything as being high at that time, --

A No.

Q -- you were more attuned to the fact you wanted to get a definition of exactly what the unit value was.

A That's right.

Q Do you recall who was present during that meeting on August 7? I believe you indicated to me that most of the senior staff was present.

A I think they were. I can remember certain people for sure, some of them.

Q If you can can you identify them for me?

A I know that Dick Parker was there, I know that Ron Atkinson was there, I know that Lee Lacey was there, I think that Bob -- I'm sorry, not Bob King -- Sam Fryer was there, Mike Nichols, Jim Mestapay. There's a few people that I just can't place at that meeting right now, even though they're normally there.

Q I believe you indicated to me earlier in our conversation on September 6, 1990, that upon the meetings being over with, that you were concerned enough about these values being batted back and forth that you proceeded to go to the laboratory to look up the particular analysis.

A That's correct, the discussion about these numbers came up right before the end of the meeting, it was about the last thing discussed. So as soon as we did adjourn the meeting, I went right to the laboratory, pulled up our special file on the computer to see what had been filed in there and saw a number from an analysis that had been submitted earlier. I'm not sure what the date of submission

was right now, but it was three grams per liter and not milligrams or micrograms.

Q Now since you have identified the three grams per liter, I believe I understood you to tell me on September 6, that you immediately went back to the meeting room.

A That's right.

Q And present at the meeting room left over from the meeting were Dick Parker and Ron Atkinson.

A No, I didn't tell you that.

Q Okay.

A I told you that Dick Parker was in there and a few other people, which I can't identify. I told them, whoever was in there, that it was three grams per liter. I had specifically come back out to tell Ron Atkinson, but I don't think he was in there at that time. He wasn't in his office and I wandered around for a few minutes and finally I found first Lee Lacey and I went into his office -- opened his door and stepped in and told him it was three grams per liter. I then ran into Ron, and I have a problem placing exactly where it was when I talked to him, but it was here in this office area, and told him that it was three grams per liter that they were talking about.

Q But when you ran into him, it was while you still had these results in your hand.

A I didn't have them in my hand.

Q Well I'm sorry, while you still had them on your mind and you were still --

A It was when I was still trying to let everybody know what the true numbers were. It was within half an hour of the meeting, probably less than that. I'm not sure where these people were immediately following the meeting.

Q Did -- the moment that you mentioned to Mr. Lacey the three grams per liter reading, did he make a comment?

A I don't know of any, other than acknowledging the fact that I told him. We didn't have any discussion on it.

Q Did he understand that the three grams per liter reading was in reference to the water at the SX excavation area

A I think he was aware that I was talking about what we had just discussed in the managers' meeting.

MR. SHAPIRO: I was feeling better with micrograms and milligrams, that was sounding good.

(Laughter.)

BY MR. CHAPMAN:

Q Did -- you made a comment just a few moments ago that you felt sure that Mr. Lacey was aware that the three grams per liter was in reference to the SX excavation area and you feel fairly confident in that because the SX excavation area was what was being discussed at the staff meeting.

A That's correct.

Q When you ran into Mr. Atkinson at a later period, did he have any comment in reference to the three grams per liter?

A Not that I recall. Again, I recall no discussion other than the fact that I said this was three grams per liter and not milligrams or micrograms.

Q Do you feel fairly confident that he also understood that the three grams per liter was in reference to the water being observed and in the SX excavation area?

A I have problems saying how confident I am of what they took what I was saying -- I have a problem with that.

Q Well let me characterize it as this. The discussion in the August 7 staff meeting was in reference to the water being collected in the SX area.

A That's true.

Q And that was the discussion that was being held when the numbers of three to five hundred -- two to three hundred were being batted around, and they were not discussing other areas.

A That's right.

Q And your readings and your information that you obtained was in direct relationship to that discussion in the senior staff meeting.

A That's correct.

Q Do you recall if you made mention of this information to Mr. Fryer?

A No, I don't, unless he happened to be in there when I went into the meeting.

Q But you're not positive?

A And I'm not positive that he was there.

Q How about Mr. Nichols?

A Again, I'm not positive that he was there. I don't know who the other people were in that room.

Q Mr. Mestapay?

A No.

Q All right, sir. Is there any other information regarding this particular laboratory -- in fact, I would like for you to -- I notice you have your lab results here, could we locate that specific one and identify it by date, the lab report that you were referencing off of?

A Yes.

(The witness reviews a document.)

A This is it right here, requested on the 6th of August, has Ms. Couch and Bob King's name on it as the submitter. There were actually two samples. It is on a special analysis request form and the laboratory report number is 90.0814. The uranium on SX pit M, which must stand for middle, is 3.06 grams per liter. There was a second sample, SX pit N, which is 1.68 grams per liter uranium.

Q As a matter of record, it also reflects that a copy was requested to be sent to Tommy Johns.

A That's right.

Q And down at the bottom, it says "Date reported".

A It has 8/7/90.

Q 8/7/90. As a matter of also record, Mr. Knoke, am I correct in that in looking at this document, there is what I have commonly referred to with you as a ticker tape, since I have no other description for it.

A That's right.

Q It's basically a printout that is computerized as the sample is done?

A That's right, this printout came -- this tape came from the PGT x-ray, this sample was run on the PGT x-ray. And it states the date, the time and then the results.

Q Okay, for the record, could you tell me the date and time and reference point and the uranium contents regarding the three grams per liter approximation information?

A Okay. The date is the 6th of August at 1527 for the north sample, 1.68 grams per liter and the 6th of August at 1523 for the sample labeled M of 3.06 grams per liter.

Q So the reason why you have this information available to give at an August 7 a.m. staff meeting, is the results were known on the 6th of August at approximately 1523

and it reflects three grams per liter, and 1523 is recorded in military time which basically would be 3:23 p.m., in the afternoon.

A That's right.

MR. SHAPIRO: Could I just ask one question?

MR. CHAPMAN: Yes, sir.

MR. SHAPIRO: If that's the case, and obviously it is, why does it show "Date reported August 7"?

THE WITNESS: This is late in the afternoon and this special analysis sheet would have been put in the in-box of our control supervisor out there. He would have picked it up maybe not until the next morning and dated it and sent it back to the secretary for submittal. This particular sample I think -- yes -- was reported in both manners for some reason. This one also got onto our printout in the control room and was printed out in the control room at 1531:37 and 1532:03 on the 6th.

BY MR. CHAPMAN:

Q In reference to that, Mr. Knoke, looking at this computer printout that you've compiled off of your disk, I assume --

A Well this is a combination of the two.

Q Yes, sir. But what you're basically saying here is that the control room personnel would have had this information available to them at 3:31 in the afternoon of

August 6, and in reading this documentation, it shows that it was in reference to the SX pit --

A That's right.

Q -- and it's further broken down to identify middle and north with appropriate respective reporting times, and it shows 3.06 grams per liter and 1.68 grams per liter.

A That's correct.

Q Now if I understand you correctly, this does not mean that it was disseminated amongst the staff.

A No.

Q Only that it was available for someone's review at the 6th of August at this time in the control room.

A That's correct.

Q Conversely, the laboratory may not have put out the actual special analysis request until the morning of the 7th.

A That's correct.

Q And would have no way of knowing, through the procedures that were in effect on August 7, of when this actual document was given to or picked up by or known to be, to the requestors, either Carolyn Couch or Bob King.

A That's right.

Q Is it a practice in this facility back in August to normally telephone the requestor and let them know that analysis results are available?

A Not normally. If there is a sample that somebody

is really interested in, they will be calling us for the analyses and as soon as we have them and they call, we'll give them the analyses.

Q Based on looking at this laboratory analysis and the discussions in the staff meeting, at which you feel that Mr. Nichols was present -- I noticed you specifically didn't mention Bob King or Carolyn Couch.

A Bob doesn't normally attend the meetings and I don't think Carol was at that meeting.

Q Consequently with him not being there, then it's possible that they had the knowledge but these folks didn't have the knowledge, at the meeting -- senior staff meeting.

A That's possible.

Q And I'm not trying to imply that they had it, I'm just saying that the two people that requested this and would be most interested in it, were not at that meeting.

A That's true, but the people at the meeting for some reason didn't have the correct information because they were --

Q Okay, that brings me to my next question. Your impression is that someone at that meeting understood there were some specific values associated with that contamination.

A That's right.

Q Just did not have a grasp on the unit measurement of it.

A Units, yes.

Q Do you recall shortly after you learned the exact measurement in grams per liter -- and for the record, it's exactly 3.06 -- and you were expressing it in a round three grams per liter.

A That's right.

Q Do you recall if Ms. Couch or Mr. King, either one, contacted your laboratory for these results?

A No, they didn't -- to my knowledge they didn't.

Q Do you know if anyone at the process laboratory -- I'm sorry, the control room facility -- made any request once this information was made available?

A Not to my knowledge.

Q Do you know if anyone in your laboratory might have had contact with either the control room and/or Mr. King or Ms. Couch?

A To the best of my knowledge, no.

Q No one has expressed that to you.

A No.

Q And this is more a point of clarification too, when you were making your visit to Mr. Lacey's office and you ran into Mr. Atkinson, you did not have this laboratory sheet with you.

A No, no.

Q Merely expressed --

A At that time, I didn't even know it was on that sheet, I thought it was on a process control sheet and had been filed away by the day, because I found it on the process control computer. That was the first place I looked when I went in the lab and that's where I saw the results.

Q And that would be simply because that's where all of your data is --

A On routine stuff that comes in from the plant, that's where it ends up.

Q All right, sir. Is there anything else you want to add that you feel is pertinent to this particular laboratory analysis?

A No, not to this analysis.

Q I guess I should add as a matter of information that at the bottom of this form, it has the specific laboratory chemist that did the analysis.

A The initials of the analyst that performed the analysis and this I think is Greg Cook.

Q Greg Cook?

A Yeah.

Q And back in that period of time, August 1, there was no signing of these or no recorded picking up by the requestor?

A At that time, no.

Q Okay. Let us turn to another analysis that I

discussed with you, dealing with barrels of water that had been accumulated out by the pit, the SX pit. For informatio.. for this interview, what we are discussing here is the fact that some time after discovery of the water in the pit out t here, it was being placed into barrels -- exact date I'm sur you're not aware of.

A Not off the top of my head, no, I'm not.

Q But for information for the record here, it's been determined that there was at that time somewhere around 70 barrels of water that had been accumulated, 70 to 90 something barrels, exact number can be established.

I have been told by Mr. Mestapay, the Senior Vice President here, that he had requested a composite analysis be done of these barrels and that he has put out the instructions to the operations staff to take samples. He was under the impression that it occurred sometime around the 17th of August and that I contacted you back on my last visit here and asked that you look up the laboratory analysis relating to these, and you did so. And now I'd like to go over them with you.

A All right.

Q So if you would, can you tell me what information you have from the laboratory regarding these barrels of water, and we'll -- for the purpose of the record here, we'll cover the time frame from August 1 right up to the 22nd, to

make sure we don't miss any dates.

A All right, I have here report number 90.0881.

Q Just for information, there's no point in there, it's just 900881.

A Okay.

Q All right, sir.

A This was requested by Jerry Gilbreath/Jim Mestapay on 8/22/90.

Q What's the sample -- well first of all, we need to establish that it's on a special analysis request.

A Special analysis request sheet.

Q And the date is August 22, '90, as you mentioned.

A Right. And the date needed is August 22, '90.

Q All right, sir, and the sample designation or the sample requested --

A The sample designation is just H2O in drums from SX. They asked for uranium in grams per liter, nitrates and pH. This is my note at the top here, it's a composite sample, and I initialed and dated that on the 22nd.

Q All right, sir. And there's another little ticker tape --

A This is -- yeah, this is the printout from the pH meter, the pH was 4.22, rounded off to -- I guess that's 4.20. It has the temperature on it, it has a date of 8/22 and a time of 16 -- what appears to be 26, we could go back

to the original copy to find the exact time, if that's not good enough.

Q Now in this case, where's the one for uranium?

A This was analyzed on the wave length dispersive x-ray and the printout should be on the back.

Q Mr. Knoke, I'd like, before we go any further, for you to also for the record tell us why some -- even on special analysis, some of them are recorded by this tape method and some are printed on the back -- the difference and why.

A The difference is the availability of the x-ray. On a solution like this, it can be analyzed on either x-ray. Impure solutions aren't as good on the PGT x-ray as they are on a wave length dispersive x-ray -- different elements can interfere there that don't interfere with the wave length dispersive x-ray.

Q And you've told me earlier that the -- let's see, for the veracity or the -- these measurements are both equally effective and equally reliable as far as measuring the amounts of uranium.

A That's right, although one of the pieces of instrumentation can be influenced somewhat by impure solutions, by gross impurities in the solution.

Q But you told me you also had confidence in these numbers.

A That's right.

Q So there's no reason for anyone to think that because it's on the printed tape versus printed on the back, that there's any difference in the veracity of the numbers?

A No, they're both good. This particular instrument -- or this particular analysis was performed on the wave length dispersive instrument, and what we do when we're using that, is we take the sample request sheet, put it in the printer that's tied into the computer that runs the x-ray and so the results print out on the back of the request sheet. And it also prints out a date and time. And this analysis was completed on August 22 of '90 at 1621:07.

Q Which is in standard time?

A 4:21.

Q P.M.

A P.M. And the uranium was 1.086 grams per liter. It doesn't say grams per liter on this, it says percent, but it is grams per liter.

Q All right, sir. Now for the record, do you have any information that any water, regarding the drums near the SX pit were analyzed prior to the 22nd?

(Pause.)

Q Do you understand my question?

A I think so.

Q This is the earliest laboratory analysis you can

nd regarding any composite samples of drums being submitte
your laboratory for testing?

A That's correct.

Q And that specific date and time, you have no recor
any analysis of water from the SX pit in drums being take
the 17th.

A No, sir, I don't.

Q Now you have one on the 18th, which references the SX hole, but it is a separate analysis that we've establishe was done prior to that period of time.

A That's right.

MR. CHAPMAN: All right. Let's go off the record for a moment.

(A short recess was taken.)

MR. CHAPMAN: Okay, we're back on the record here. For information, the discussion off the record was merely to establish some detailed information regarding the laboratory reports.

BY MR. CHAPMAN:

Q Mr. Knoke, in reference to our conversation we had regarding the laboratory analysis you had on the 22nd, to your knowledge, was there any laboratory request submitted t your lab regarding the water that had been accumulated in th barrels from the SX pit between August 17 and August 21, understanding that there was some on the 22nd?

A To the best of my knowledge, no. My records say nothing was submitted at that time.

Q The records that you have and have reviewed in you laboratory indicate no such request between the 17th and the 21st, understanding there was some on the 22nd.

A That's correct.

MR. SHAPIRO: This is just for my clarification because I have no reason to doubt it, but based on what you know, you would assume that any test that was done of water in the drums would sort of be denominated that way?

THE WITNESS: That's right.

MR. SHAPIRO: I mean, there was no way that water from the pit or water from a hole could also be drummed?

THE WITNESS: No, I think all these that come in from the drums were labeled "drum samples" in one manner or another.

BY MR. CHAPMAN:

Q Mr. Knoke, I know that you mentioned that you no longer have jurisdiction over the environmental laboratory after February of 1991 -- no, February of 1990, I'm sorry.

In the course of our discussions with all of these laboratory analyses being known and taken and submitted through your laboratory, have you made inquiries of the environmental laboratory if any samples could have been submitted through their laboratory?

A No, I haven't.

Q So consequently, you have no idea if any had been somewhat sent through that laboratory.

A No, I would not.

Q Since you've made no inquiries, has anyone over there mentioned to you receipt of any?

A During that time, 7/31 through 8/22?

Q Yes, sir.

A To the best of my knowledge, no.

Q Do you consider that the staff at Sequoyah Fuels here is well schooled in knowing where to submit their laboratory samples, and they would know without a question to send them to you versus the other laboratory?

A At this point in time, anything -- I think everything was coming into my laboratory.

MR. CHAPMAN: All right, sir.

(Brief pause.)

HAPMAN:

Now I'd like to discuss very briefly here during period of July 31 through August 22 -- we touched o it -- the reporting procedures of the laboratory. And I know at that time they were very, very -- somewhat fluid. Would I be correct in my characterization that during this period of time, July 31, 1990 through August 22, 1990, that once laboratory analyses are available to be reported out, that

they are normally put into a mailbox, inter-company mailbox, which is done by your secretary -- she places them in the mailbox -- of the appropriate requestor as shown on the top of the form.

A That's correct.

Q As a matter of record, she does not deliver these, she merely puts them in the inter-company mail.

A That's correct.

Q Consequently, during that period of time, there is no method of determining precisely who picks the mail up or if the requestor got that information.

A That is correct.

Q Do you keep any type of documentation should a requestor contact you and say I haven't seen my laboratory results or inquires about laboratory results -- is there any record made of their inquiry?

A No. If we have the results, we'll give them to them at that time.

Q How does the normal inter-company mail operate as far as the laboratory receives it?

A I haven't seen a lot of problem with it and really haven't had many complaints. We will, as you said, put them in the mailbox -- the secretary or myself or the control group leader if he's going out that way, we'll put them in the appropriate mailbox. And they get to the person that

they're destined for.

Q Even though it's feasible that laboratory requests may be lost in the mail -- that's feasible -- in your experience as a laboratory manager during this time frame, you had not received a large number of complaints or inquiries that they weren't getting their laboratory reports?

A Not one to me. And I don't know of any to the laboratory other than --

Q From the laboratory to those personnel -- you weren't getting comments or complaints to you that we're not getting our laboratory results?

A Not at all -- not at all.

Q So we have no reason to believe that the mail was not functioning properly or in accordance with procedures.

A That is true.

Q Mr. Knoke, do you have anything further you wish to add or any information you think would clarify this matter we're discussing?

A No, I really don't think I have anything to add to this that would help to clarify it in any way.

Q Mr. Knoke, have I or any other NRC representative threatened you in any manner or offered you any reward in return for this statement?

A No, sir.

Q Have you given this statement freely and

voluntarily?

A Yes, sir.

Q Is there anything further you care to add for the record?

A No, sir.

MR. CHAPMAN: The time is now 4:27 p.m., and this interview is closed.

(Whereupon the interview was closed at 4:27 p.m.)

C E R T I F I C A T E

This is to certify that the attached proceedings before the U. S. Nuclear Regulatory Commission in the matter of:

Name: Interview of Donald Knoke

Docket Number:

Place: Sequoyah Fuels Corporation, Gore, Oklahoma

Date: February 26, 1991

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken stenographically by me and, thereafter reduced to typewriting by me or under my direction, and that the transcript is a true and accurate record of the foregoing proceedings.

William L. Warren

WILLIAM L. WARREN

Official Reporter

Ann Riley & Associates

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REPORT OF INTERVIEW
WITH
TONY A. GIRDNER

On November 1, 1990, GIRDNER was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman at Broken Arrow, Oklahoma. GIRDNER is an employee of Taylor Concrete Construction (TCC) and worked for TCC at Sequoyah Fuels Corporation (SFC) between August 13 and 18, 1990.

GIRDNER stated he lost his film badge on the last day at the site (August 20, 1990). He told the guard at the gate and was released. He doesn't recall being asked to furnish any information to SFC, or ever contacted regarding the lost badge. He was never asked to furnish a urine sample.

He said that on the first day (August 13), he helped pump water from the pit out of the ground. However, the next day (August 14), he helped pump the water into barrels.

This report prepared from investigator's notes dated November 1, 1990.

Larry Chapman

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

C11

Release

REPORT OF INTERVIEW
WITH
JOHN L. DAVIS

On November 1, 1990, DAVIS was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman at Broken Arrow, Oklahoma. DAVIS is an employee of Taylor Concrete Construction (TCC) and worked for TCC at Sequoyah Fuels Corporation between August 13 and 18, 1990.

DAVIS worked down in the excavation area and saw yellow water present in the pit. DAVIS stated that on or about the third day he lost his film badge, and upon reporting this to the guard, was issued a new badge the next day. He lost this new badge, on the date issued, but by coincidence found the (first) lost badge. He stated he then put on the first badge and used it throughout the remainder of the job. He found the first badge on the ground next to where they had been parking their service vehicles. It was not lost in the pit.

DAVIS said that on the first day on the job he asked Rick (last name unknown) what the yellow water in the pit was, and was told it contained a small amount of uranium, but not enough to hurt him, but could burn a little if got on DAVIS. He never furnished a urine sample.

This report prepared from investigator's notes dated November 1, 1990.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

C/2

Reference

REPORT OF INTERVIEW
WITH
EVERETT G. BALDWIN

On November 12, 1990, BALDWIN was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman at Vian, Oklahoma 74962. BALDWIN was an employee of S&S General Contractors, which was the prime contractors for the excavation of the two underground storage tanks (next to the solvent extraction (SX) building) at Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435.

BALDWIN stated he started working on this particular job on or about July 30, 1990, and worked until the first week in September 1990. BALDWIN stated the excavation began in the southwest corner of the area and, upon reaching a depth of about 15 feet, they encountered yellow water. BALDWIN stated that prior to, and after, finding the yellow water, the sand in the excavation area, as well as this water, would cause a stinging sensation when they came in contact with his skin. BALDWIN said he saw both the yellow water and a black liquid (on the surface of the water) while working in the pit.

BALDWIN stated he attended a 1-day training session at SFC where they explained that there was uranium at the facility, but he stated that after he encountered the yellow water he was never told by SFC that it contained uranium. BALDWIN stated he observed Carolyn COUCH, Manager, Environment, SFC, in the pit taking samples of the yellow water, but was never told by any SFC employee the results of these samples.

BALDWIN stated that after they found the yellow water in the southwest corner, they began shortly thereafter pumping the water from inside the pit up and onto the ground west of the excavation. According to BALDWIN the ground pumping included yellow water and water with a black liquid on its surface. The pump had a 15 foot suction hose and about a 40-50 foot discharge hose. Although he wasn't sure of the date, the yellow water was later pumped into barrels which were marked "SX water" with the pumping date written on the barrel. The barrels were first set next to the edge of the pit, but later were placed adjacent to the pit on pallets. These pallets were then filled with four barrels and hauled away by fork lift.

BALDWIN said that at or near the completion of the project, he participated in the cleaning up of a back hoe, front end loader, and two bulldozers. When they tried to leave with these pieces of equipment, they were told by SFC Health Physics (HP) department personnel that they were too "hot." BALDWIN stated he was disappointed in SFC concerning the clean up of the S&S equipment. After they were told by SFC personnel that the equipment was too "hot" to leave, they were directed to the loading area and there he and Jim STONEBARGER, an employee of S&S General Contractors, tried to clean up the equipment. According to BALDWIN, neither he nor STONEBARGER received any clean up instructions or assistance from any SFC HPs. In fact, BALDWIN said SFC did not provide any decontamination chemicals or equipment, other than a water hose, to clean up the equipment. BALDWIN said they first tried to use hand soap, provided by an SFC employee (other than HP), scouring powder, an (unidentified) clear liquid, and finally a degreaser. BALDWIN said that during the attempted cleanup of the equipment, no HP personnel were present,

except when he and STONEBARGER asked them to survey the equipment for radiation. Once they surveyed, the HP personnel would leave. BALDWIN said all of the water and cleanup liquids ran into a concrete sump area at the loading area. BALDWIN said they did not go to the area marked "decontamination area" to clean up these pieces of equipment.

BALDWIN stated that when he first arrived at SFC, he was issued a film badge, which he lost while helping build forms for the stem walls (which were poured on August 17, 1990). He reported it to the guard shack, and was issued another film badge.

BALDWIN said when he attended the 1-day training, he was told that prior to leaving the site a urine sample would be taken. BALDWIN said he provided two or three urine samples, but was never told the results. BALDWIN didn't think anything about the first sample, but questioned SFC personnel regarding why they needed additional samples, and did not receive any reply. BALDWIN stated to date he has never received any urine sample results from SFC.

This report prepared from investigator's notes dated November 12, 1990.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
AUSTIN (NMI) WICKS

On November 15, 1990, WICKS was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman. WICKS was an employee of Jimmy SMITH, doing business as S&S General Contractors (S&S), during the excavation of the two underground storage tanks buried next to the solvent extraction building at Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435.

WICKS said about 2 weeks prior to the floor being poured in the excavation he began working for S&S. He began by working down inside the pit doing hand work with a shovel helping to level the floor of the pit. He recalled seeing, and working in, yellow water down in the pit. He remembers another S&S employee told him to not get the water on him as it would burn. However, he stated he never was told by anyone (either S&S or SFC personnel) that the yellow water contained uranium.

WICKS stated he provided more than one urine sample and was told that on one occasion SFC stated they believed he had one sample run high. However, he was later told another urine sample was negative. WICKS stated he attended a 1-day training class at SFC prior to beginning work at SFC.

This report prepared from investigator's notes dated November 15, 1990.

Larry D. Chapman

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

C/4

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REPORT OF INTERVIEW
WITH
REX E. JOHNSON

On November 16, 1990, JOHNSON was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman. JOHNSON subcontracted to Jimmy SMITH, doing business as S&S General Contractor, Vian, Oklahoma 74962, to perform welding at Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435.

JOHNSON stated that when he began working at SFC the vault was completed and he was hired to construct the handrails for the vault and a bridge over the two tanks. JOHNSON stated he was down in the pit but never in the yellow water, but does recall "dragging" his welding leads in the water. However, he stated these leads are now on his truck and have been subject to rain and have been in lake water since working at SFC.

He stated he wasn't asked by SFC to provide any urine samples. He attended a 1-day training prior to working this job at SFC and had worked at SFC prior to this job. JOHNSON stated that when he arrived a "bunch" of people were at the site and it was known by the contractor personnel that the water had uranium in it.

This report prepared from investigator's notes dated November 16, 1990.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

C15

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REPORT OF INTERVIEW
WITH
JIMIE S. STONEBARGER, JR.

On November 17, 1990, STONEBARGER was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman in Vian, Oklahoma 74962. STONEBARGER stated that while working at the excavation site, adjacent to the solvent extraction (SX) building, at Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74335, he was an employee of Jimmy SMITH, doing business as S&S General Contractors, until he quit in September 1990. STONEBARGER stated that prior to working at SFC he attended a 1-day training class. He operated a bulldozer, back hoe, and drove a dump truck while working for SMITH at SFC.

STONEBARGER said that he observed yellow water in the pit area (excavation) and that it was constantly flowing from the ground and walls of the excavation. In fact, STONEBARGER said later when they were pouring the concrete floor of the excavation, he had to sit in the water and the water caused a red burn on his buttocks which lasted for a week and that eventually scabbed. He described the scab as like dried skin. He mentioned it to SFC personnel (who he did not know) and they said it had only burned the top layer of skin and they furnished him a lotion (while at the site). STONEBARGER also stated anytime the water got on his leg it burned.

STONEBARGER stated that while working at SFC no one from SFC ever told him that the water contained any uranium concentrations. In fact, STONEBARGER said his inquiries of SFC as to what was in the water was that the water contained hexane and some solvents in the building next to the excavation, but the SFC people said the water won't hurt him and would wash right off.

STONEBARGER said at first he was wearing shoe covers while working at the excavation, but later got rubber boots from SFC. He said he got the boots on his own initiative, as no SFC personnel suggested, or insisted, he ever wear rubber boots.

STONEBARGER said he was provided a urine bottle by the guard at the shack (date unknown). However, while at another job, he saw the bottle and realized he never provided a urine sample. He has never been contacted by SFC about his failure to submit a urine sample. STONEBARGER said that SFC personnel told him anything in his system would be gone within 7 days.

STONEBARGER stated he recalled seeing Carolyn COUCH (Manager, Environment, SFC) in the excavation often taking both soil and water samples. He also saw (Michael) NICHOLS (Manager, Health, Safety, and Environment, SFC), (Kenneth) SIMEROTH (Health Physics Supervisor, SFC) and David NIETO (Senior Health and Safety Technician, SFC) around the excavation area.

STONEBARGER said he recalled that some pumping of the water from the evaporator pad area went onto the ground, and later into barrels. SFC personnel annotated the barrels as from the "SX" area and dated the barrels. STONEBARGER said he believes that the day before they last used the back hoe, some of the water was put into 55 gallon drums set on the edge of the pit. These barrels were lined with plastic and lids placed on the barrels.

STONEBARGER stated that also, at the same time SFC was barrelling the water, dirt was also being taken from the excavation and placed into barrels. The dirt was then dumped on the ground, then a front end loader loaded the dirt into dump trucks for movement to another area of the plant.

He said that he cleaned up the dump truck in a loading area next to where yellowcake barrels were stored. He washed the dump truck using no solution and with a water hose which he held his thumb over the end for pressure. STONEBARGER said that while he drove the dump truck he occasionally climbed in and out of the cab.

This report prepared from investigator's notes dated November 17, 1990.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
LAWRENCE WHITE

On November 19, 1990, WHITE was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman. WHITE has been an employee of Sequoyah Fuels Corporation (SFC) for almost 20 years. He is currently in charge of the laundry room.

He recalls seeing Larry COOPER, an employee of Jimmy SMITH, with leg burns so bad that COOPER could hardly walk. WHITE told COOPER to see the SFC nurse.

WHITE confirmed that he gave Jimie STONEBARGER, an employee of SMITH, laundry soap to use while cleaning SMITH's equipment.

This report was prepared from investigator's notes dated November 19, 1990.

Larry D. Chapman

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

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REPORT OF INTERVIEW
WITH
TONY J. WHITE

On November 19, 1990, WHITE was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman. WHITE stated he was employed by Jimmy SMITH, doing business as S&S General Contractors, and worked at the excavation site at Sequoyah Fuels Corporation (SFC) in August 1990.

WHITE stated he recalled starting work on Thursday (August 2) and began pumping greenish-yellow water from he excavation onto the ground. Later, WHITE stated he believes the first day that the barrelling began was on Wednesday (August 8) in the morning, because he remembered getting down in the hole to set the pump hose. The water was pumped onto the ground west of the excavation for about a week prior to beginning to place the water into barrels. WHITE said the water pumped onto the ground ran into the sanitary lagoon. WHITE stated he and Robert KIEHN (Engineering Department, SFC) then began pumping it into barrels and putting lids on the barrels. According to WHITE, it was a couple of days after the barrelling began before the barrels were marked.

WHITE stated that he specifically recalled pumping water from the excavation into a concrete vault on the west side of the solvent extraction building for a couple of days. He then began placing water into barrels.

WHITE stated he recalled that a man named Toby (no further identification) showed up on Friday (August 3) or Saturday (August 4) and took some water samples. Toby told WHITE he was taking them for Carolyn COUCH (Manager, Environment, SFC). Later that same day, COUCH showed up and took some samples. WHITE was unsure of the exact dates.

WHITE stated that he went and obtained rubber boots from SFC. However, he stated SFC did not furnish any rubber gloves, but instead gave him canvas gloves. WHITE stated that on one occasion, while making a hose connection during pumping, the hose came disconnected and sprayed his face with the water being pumped from the excavation. He stated that Rex LEE (employed by Jimmy SMITH at SFC) saw him get sprayed. WHITE complained that even now he has "diarrhea" and when he sweats his skin burns.

WHITE stated that while they were pouring the concrete floor he was down on his knees in the water and obtained several burns on his body, especially his knees.

WHITE said on one occasion he asked a SFC employee known as "Tiger" (later identified as Robert JONES) if the water contained uranium, and Tiger told him it did. WHITE said that later he was told by another SFC that the water did not contain high levels of uranium.

WHITE stated he recalled providing three or four urine samples, the last SFC dispatched his father (an employee of SFC) home to obtain the urine sample. WHITE said he was never notified of the urine sample results.

WHITE said he helped decontaminate SMITH's bulldozer by using water, a brush, and a solvent (obtained by someone else).

This report prepared from investigator's notes dated November 19, 1990.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
DAVE R. SWANEY

On November 30, 1990, and December 3, 1990, SWANEY was telephonically interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman. SWANEY was the Quality Assurance Manager at Sequoyah Fuels Corporation (SFC) from April 1986 until May 1990.

SWANEY stated he is currently a consultant for SFC and was present at the facility between July 26 through 31, 1990, but did not see any laboratory results, although he vaguely recalls hearing of high uranium readings in and around the excavation. Later, during the interview, SWANEY stated he heard the uranium amounts were light. He stated he did not attend any meeting with any Oklahoma state officials.

This report prepared from investigator's notes dated November 30, 1990.

Larry Chapman

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
LAURA R. QUINTANA

On December 6, 1990, QUINTANA, Manager, Health Physics, General Atomics (GA), San Diego, California, was interviewed by Nuclear Regulatory Commission Investigator Donald D. Driskill.

QUINTANA stated that during the week of September 3, 1990, she went to Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435, at the request of Keith ASMUSSEN, Manager of Licensing, GA, to help and advise Michael NICHOLS, Manager, Health, Safety, and Environment at SFC. She was informed of the NRC's concern about the excavation (near the solvent extraction [SX] building) and while at SFC she helped accumulate laboratory sample data; i.e., air, water, and soil samples. Also, she reviewed SFC's health and safety procedures and tendered comments.

QUINTANA said she heard the statement that Carolyn COUCH, Manager, Environment, SFC, had taken certain water samples in the SX excavation and they had been missing for a period of time, but she could not proffer a reason or explanation.

QUINTANA said NICHOLS asked her to review SFC's air samples and determine if the tests were adequate, and she told NICHOLS that, in her opinion, adequate sampling had been conducted. She said that a recent (last week) conversation revealed that SFC only conducted alpha checks for radioactivity in respect to release criteria. She informed NICHOLS that a NRC Regulatory Guide sets forth required beta guidelines.

Also during this visit, she discussed and reviewed with Lee LACEY, Manager, Regulatory Compliance and Quality Assurance, SFC, the requirements of 10 CFR 20.403. She recalls that LACEY particularly asked about the 24 hour reporting requirements. After reviewing the four separate requirements of 10 CFR 20.403 with LACEY, she told him she did not think SFC had been in conflict with the reporting requirements of this section, and she felt the NRC's inspectors normally ignored requirement 10 CFR 20.403(d), regarding $2,000 damage.

QUINTANA stated she made a second visit on September 16-22, 1990, to SFC. While at SFC, she conducted her quarterly audit, which consist of an ALARA review and a compliance inspection. She stated her review resulted in a written report of her audit, which included recommendation that SFC's Health Department needed to have better communications with SFC organization.

QUINTANA stated that it is agreed that SFC could have had better communications concerning the sampling efforts and laboratory results. She stated that some of her review recommendations have been accepted, with the principle change being to have NICHOLS report to Lee LACEY.

This report prepared from investigator's notes dated December 6, 1990.

Donald D. Driskill, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
THOMAS SPRINGER

On December 12, 1990, SPRINGER, Compliance Coordinator, Oklahoma Corporation Commission (OCC), State of Oklahoma, Oklahoma City, Oklahoma 75213, was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman.

SPRINGER stated that Carolyn COUCH (Manager, Environment, Sequoyah Fuels Corporation (SFC)), along with a man (whose name he did not remember) visited his office (date unknown) in early 1990 and present a set of drawings showing the location of two underground storage tanks that were previously registered with the OCC in April 1986. SPRINGER said OCC regulations require notification of underground storage tank closures and/or removal.

COUCH, on June 20, 1990, telephonically notified OCC that SFC would be unearthing the registered tanks on about August 1, 1990. There was no mention of any radioactive contamination.

SPRINGER stated that state regulations then required he forwarded the matter to the Oklahoma Water Resources Board, which has jurisdiction over the unearthing of the SFC tanks.

This report prepared from investigator's notes dated December 12, 1990.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
PHYLLIS ROBERTSON

On December 12, 1990, ROBERTSON, Oklahoma Water Resources Board (OWRB), State of Oklahoma, Oklahoma City, Oklahoma 73152, was interviewed by Nuclear Regulatory Commission (NRC) Investigator Larry D. Chapman.

ROBERTSON stated on June 25, 1990, she spoke by telephone to Carolyn COUCH, Manager, Environment, with Sequoyah Fuels Corporation (SFC) regarding the unearthing of two stainless steel tanks. COUCH told her one tank had hexane and the other tank had traces of "radioactivity." ROBERTSON stated that during this telephone conversation, it was stated by ROBERTSON that the tank with radioactivity would be governed by NRC regulations and under the NRC's jurisdiction. ROBERTSON said it was a clear understanding between COUCH and her that the radioactive tank was to be under NRC jurisdiction.

ROBERTSON had another telephone conversation with COUCH on August 24, 1990. COUCH stated that excavation began on August 1 (1990), and that the tank appeared to be without apparent visible weaknesses. Also, COUCH told ROBERTSON that the soil around the tank had traces of uranium, and that this information would be provided to the OWRB in SFC's report.

This report prepared from investigator's notes dated December 12, 1990.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF REINTERVIEW
WITH
DONALD R. KNOKE

On January 9, 1991, KNOKE was reinterviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman at Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435. Present during part of this interview was Reau GRAVES, President, SFC.

This main purpose of this interview was to determine the laboratory procedures employed at SFC in analyzing uranium concentrates. KNOKE advised that there are three types of laboratory forms which can be used to submit a sample to his laboratory for testing: These are: (1) Process Control Sample Analysis Request-Report (PCS); (2) Special Analysis Request (SAR); and (3) Chain of Custody.

As concerned with this matter, only the PCS and SAR forms were used. KNOKE stated that the PCS form was designed to facilitate easy use by a sample submitter by only having to check off areas of sample collection and type of sample requested. The SAR is used to request analysis of samples collected in non-routine areas, such as the solvent extraction excavation area.

According to KNOKE, in using either of these forms, it is customary for the person submitting the lab sample to complete the analysis request form (either SAR or PCS) at the laboratory window. The sample and form is then normally given to a laboratory employee; but on occasions can be left at the window, and a light switch is used to turn on a light bulb to alert the laboratory personnel a sample has been left for analysis. Also, although rare, the laboratory employee could complete the request form for the submitter.

The sample bottles are identified with labels when submitted to the laboratory. They normally reflect the type of analysis needed, or usually the standard series of tests to be performed on samples obtained. For example, on PCS samples there is a standard set of tests to be conducted, and the laboratory employee will know to conduct those tests.

KNOKE stated that tests on uranium are conducted on either a Princeton Gamma-Tech Chemical Analyzer (PGT) energy dispersive X-ray machine or a Siemens wave length dispersive X-ray fluorescence spectrometer. KNOKE explained that the PGT machine is smaller in size than the Siemens. Also, impurities can effect the test results of a PGT but are not a concern for the Siemens. He emphasized, however, that in this instant case of uranium test, both are accurate within established guidelines and parameters. KNOKE stated he has full confidence in all laboratory reported uranium results reported by both machines.

KNOKE stated that the PGT machine reports out its finding by a tape method while the Siemens results are directly printed on the reverse side of the laboratory sample request. In both cases, each result is date and time noted directly by the measuring machine.

Regarding the PCS requests, KNOKE stated that upon receipt by the laboratory, this form is then date and time stamped (using an automatic clock) in the

upper right hand corner to record the receipt of the sample. The receipt time is expressed in military time. Immediately below this receipt time are the initials and name of the person submitting the sample. This name may or may not be the person requesting the sample but rather reflects the submitter. Once the analysis are completed the form is again date and time stamped in the lower right hand corner. However, this time is expressed in standard time.

KNOKE stated once the laboratory results are completed, all PCS requests are then entered into a computer storage disk by his personnel and are simultaneously printed on a control room printout. This control room printout is later collected and maintained by KNOKE's laboratory. KNOKE stated that the printout will reflect the date and time his personnel made the laboratory results available to the operations personnel in the control room.

In the case of SAR, the submitter also brings the sample to the lab and completes a sample request. Again, the submitter may not be the person requesting the sample. However, of this form, there is no place for the submitter to sign and/or initial, but rather the form requests that the requester's name be shown. This form does not have preprinted areas and/or sample results requested, but rather dictates that the submitter specify the results requested. The date requested is shown in the upper right hand corner while the date reported out of the laboratory is reflected in the lower left hand corner of the form. An internal laboratory control number is assigned and recorded in the lower right hand corner, while instruction to the laboratory personnel as to the disposition of sample, once tested, is shown at the top of the page.

KNOKE stated that in both cases of reporting the results, once the forms are completed they are given to his secretary who then places the reports in the inter-company mail and directed to the requester.

This report prepared from investigator's notes dated January 9, 1991.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
LLOYD T. MACARTY

On January 10, 1991, MACARTY, UO3 Supervisor, Sequoyah Fuels Corporation (SFC) was interviewed at SFC, Gore, Oklahoma 74435, by Nuclear Regulatory Commission Investigator Larry D. Chapman. MACARTY has been a UO3 supervisor since June 1989.

MACARTY reviewed a notation of the UO3 log book for 1730 (July 31, 1990) and stated it was his handwriting. MACARTY stated that he was the UO3 supervisor that day and the solvent extraction area was within his area of jurisdiction. On July 31, 1990, he was assigned the 4 p.m. to 12 a.m. shift and, as he recalls, being asked by a day shift person to check on water in the excavation area.

INVESTIGATOR'S NOTE: Actual excavation began on August 1, 1990, so this water would be surface water.

MACARTY stated that he tested the water in order to determine its uranium content. MACARTY explained that if the uranium level in liquids is less than .05 grams per liter (g/l) the liquid (water) may be sent to the raffinate holding pond, if more than .05 g/l it then must be returned for reprocessing. With this in mind, MACARTY is sure that he sampled the water so he would know which way to direct the collected water.

MACARTY stated there only appeared to be 20 or 30 gallons of muddy water and he made a log entry notation at 1730 hours into the UO3 log reflecting that testing of this water was .04 g/l. After reviewing a laboratory report dated July 31, 1990, showing a water sample submitted at 2128 hours, MACARTY stated it was possible there were two separate samples taken. He stated that the latter lab report reflects that Barry SPYRES, a UO3 employee, submitted this sample, and MACARTY recalled that he had requested SPYRES take a water sample. MACARTY was unsure if SPYRES took both samples, or if there were two water samples taken.

As he recalls, he pumped the collected water into a stainless steel tank next to the solvent extraction building while awaiting test results. Upon getting a lab reading of .04 g/l, he feels sure he released the material to the raffinate area. During this time the plant was in an outage, thus MACARTY said that there is no record maintained if when and where this water eventually went.

MACARTY could not explain why he wrote the notation (in the log) of .04 g/l of uranium but the lab sheet reflects .08 g/l.

INVESTIGATOR'S NOTE: Lab records were researched and no reference could be found for samples of .04 g/l analysis.

MACARTY stated the reference of James MESTEPEY, Senior Vice President, SFC, in the 1730 log notation concerned gate security, and had no bearing on this sample results. Also, MACARTY was positive that MESTEPEY did not request he take the sample.

This report prepared from investigator's notes dated January 10, 1991.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
J. C. BREWER

On January 11, 1991, BREWER, Shift Supervisor, UF6, Sequoyah Fuels Corporation (SFC), was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman at SFC, Gore, Oklahoma 74435.

BREWER recalled that on August 6 or 7, 1990, he had been asked to assign some of his shift personnel to assist in drumming water contained in the excavation next to the solvent extraction area. BREWER believed that he was working the 4 p.m. to 12 a.m. shift.

BREWER was not positive if it was Sam FRYER, Manager, Engineering, SFC, who asked him to drum the water, or if it was passed down from a previous shift. He stated that he has held discussions with FRYER on the water draining, but doesn't recall the specific dates.

As he remembers, he assigned two SFC employees, Barry SPYRES and C. W. CARIKER to pump and drum the water. BREWER stated these two men had already been involved in pumping and barrelling the water prior to his asking them to pump and drum the SX area water. BREWER does not recall if they were numbering the barrels by August 6 or 7, but doesn't believe they were. As he recalls, the barrels were sitting in front of the cooling towers, just north of the excavation area. He does not remember them being next to the excavation pit.

This report prepared from investigator's notes dated January 11, 1991.

Larry Chapman

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
ROUNAL R. "SONNY" EIDSON

On January 29, 1991, EIDSON, Environmental Laboratory Supervisor, Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435, was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman.

EIDSON stated that he recalls that in late August 1990, (exact date unsure), Michael NICHOLS, Manager, Health Safety, and Environment, SFC, called his department seeking laboratory results concerning soil samples taken, as NICHOLS put it, "around August 6, 1990, from the solvent extraction (SX) area". EIDSON said a review of his laboratory records revealed that no soil samples of that type had been received by his laboratory and NICHOLS was so informed of that fact.

EIDSON stated that he doesn't recall ever discussing with NICHOLS any water samples about the SX area. EIDSON stated he was out of town between August 6 through 10, 1990. EIDSON said that the environmental laboratory cannot measure uranium in grams per liter (g/l) as its instruments measure in micrograms per liter (ug/l). He stated that normally no production samples are sent to the environmental laboratory unless measurements needed are below the production laboratory limits, which are 400 ug/l on soil or .05 g/l on water samples.

EIDSON stated all urine tests conducted at SFC are done through his laboratory with either his personnel performing the tests or ensuring the tests are contracted out to appropriate independent laboratories. Normally, the urine samples are brought in marked plastic bottles to the environmental laboratory by a Health and Safety technician. Tests are conducted within 24 hours if possible, if not, the samples are preserved and refrigerated and done as soon as possible.

When the sample is brought in, a Chain of Custody is provided to the laboratory and is signed and dated by the health and safety submitter. This form shows who the urine submitter is and supposedly the date and time the sample was obtained. When the laboratory receives the sample, the laboratory technician signs, dates, and records the time received. After the samples are run, the results are entered on the form, and EIDSON said he verifies and approves the results which are then returned to the requester.

This report prepared from investigator's notes dated January 29, 1991.

Larry D. Chapman, Investigator
Office of Investigations, Region IV

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Release

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REPORT OF INTERVIEW
WITH
MARION E. FAIR

On January 29, 1991, FAIR, Laboratory Technician, Environmental Laboratory, Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435, was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman.

FAIR stated he recalled that on or about August 17, 1990, he received a telephone call from Michael NICHOLS, Manager, Health, Safety, and Environment, SFC. As he remembers, NICHOLS was on a speaker phone because the audio was weak, and NICHOLS gave the impression that it was on the speaker phone because the NRC was present. However, NICHOLS soon got off the speaker phone after hearing difficulties still continued.

FAIR stated that NICHOLS asked FAIR if he had any water samples in his laboratory. FAIR said that he doesn't recall exactly what type of water sample NICHOLS inquired about but does know he was specific enough in his question that FAIR reviewed their laboratory results and log and told NICHOLS the environmental laboratory had not received such a laboratory sample.

This report prepared from investigator's notes dated January 29, 1991.

Larry D. Chapman, Investigator
Office of Investigations, Region IV

REPORT OF INTERVIEW
WITH
MARILYN M. PALMER

On January 29, 1991, PALMER, Regulatory Clerk, Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 77435, was interviewed by Nuclear Regulatory Commission Investigators Robert J. Kirspel and Larry D. Chapman. She works in the Environmental Department and her supervisor is Carolyn COUCH, Manager, Environment, SFC.

PALMER stated she was working at SFC during the month of August 1990 while the underground tanks were being unearthed. She said she opens about 95 percent of COUCH's mail. She stated she did recall seeing three or four laboratory results come into COUCH's department, but says she doesn't recall what they were. She passed these three or four laboratory results onto COUCH's office.

PALMER recalled that around the middle of August 1990, Lee LACEY, Manager, Regulatory Compliance and Quality Assurance, SFC, called SFC employee Robert DAVIS looking for any water and soil sample results concerning the underground storage tank. PALMER said she has a working knowledge of uranium, and after reviewing (in retrospect) the August 4, 6, and 7 laboratory results showing 2.0, 3.6, and 8.0 grams per liter, respectfully, she believes these readings are high. She added however, at the time she did not pay any attention to the three or four laboratory reports she sent into COUCH's office. She stated that in retrospect, during the early part of August 1990, several water sample results from the solvent extraction area were not sent to her department.

This report prepared from investigators' notes dated January 29, 1991.

Robert J. Kirspel, Investigator
Office of Investigations, Region IV

Larry D. Chapman, Investigator
Office of Investigations, Region IV

REPORT OF REINTERVIEW
WITH
DAVID H. NIETO

On January 29, 1991, NIETO, Senior Health and Safety Technician, Health, Safety, and Environmental Department, Sequoyah Fuels Corporation (SFC) was reinterviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman.

NIETO clarified his previous interview of September 11, 1990, by stating that his observation of Carolyn COUCH, Manager, Environment, SFC, and two SFC employees, Robert DAVIS, and Kendall COPPEN taking water samples was after the concrete vault was poured, but before the sides of the excavation were filled. As he recalls, these people were taking the samples on the west side of the excavation and he did observe yellow water present in the pit at that time. However, he stated that he never heard of the laboratory results of these samples.

This report prepared from investigator's notes dated January 29, 1991.

Larry D. Chapman, Investigator
Office of Investigations, Region IV

REPORT OF INTERVIEW
WITH
ROBERT J. DAVIS

On January 29, 1991, DAVIS, Environmental Engineer, Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435, was interviewed by Nuclear Regulatory Commission (NRC) Investigator Larry D. Chapman.

DAVIS stated that he recalled attending some departmental meetings prior to the excavation of the two underground tanks. These meetings were conducted by Lee LACEY, Manager, Regulatory Compliance and Quality Assurance, SFC, but were very early in the planning stages and principally dealt with what options SFC had to meet recent Federal underground storage regulations. No mention was made during any meeting he attended about possible uranium contamination in the proposed excavation area. DAVIS said he was busy with another agenda and didn't become involved with this area until after the NRC had been notified concerning the contaminated water.

DAVIS said he never took any water and soil samples from around or in the excavation area until after the NRC had been notified. He also stated that prior to the notification he never heard of any uranium levels concerning the excavation. DAVIS said LACEY called him about water samples on or about August 17. LACEY came over to review laboratory results available in Carolyn COUCH's (Manager, Environment, SFC) office, and said that these results were not the one's he needed.

This report prepared from investigator's notes dated January 29, 1991.

Larry D. Chapman, Investigator
Office of Investigations, Region IV

REPORT OF REINTERVIEW
WITH
JERRY S. GILBREATH

On January 30, 1991, GILBREATH, Relief Supervisor, UO3, Sequoyah Fuels Corporation (SFC) was reinterviewed BY Nuclear Regulatory Commission Investigator Larry D. Chapman at SFC, Gore, Oklahoma 74335.

GILBREATH stated that he now recalls that the laboratory samples submitted on August 22, 1990, were collected by a former SFC employee, Glenn BENNETT. GILBREATH reaffirmed that the handwriting at the top of this laboratory request is not his and added his name is misspelled on this form.

GILBREATH restated that James MESTEPEY, Senior Vice President, SFC, requested he sample drummed water from the solvent extraction building excavation. He in turn delegated the duty to BENNETT. As he recalls, the collection was from every eighth barrel and consisted of taking 500 mills from each barrel and pouring each sample into a common (gallon) container. The combination mixture was then submitted to the laboratory for analysis.

GILBREATH recalls that, upon hearing the results (exact results unknown), the barrels were routed through the miscellaneous digester.

This report prepared from investigator's notes dated January 30, 1991.

/S/ Larry Chapman

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
CLARENCE W. CARIKER

On January 30, 1991, CARIKER, Chemical Operator, Sequoyah Fuels Corporation, Gore, Oklahoma 74335, was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman.

CARIKER stated that he did recall assisting in barrelling water from the excavation next to the solvent extraction building, but was unable to recall specific dates. He did remember that it was after the barrels were being labeled, assigned a number and recorded in a log book.

This report prepared from investigator's notes dated January 30, 1991.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
ROBERT L. JONES

On January 31, 1991, JONES, Health and Safety Technician, Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435, was interviewed by Nuclear Regulatory Commission Investigators Larry D. Chapman and Robert J. Kirspel.

JONES stated that he doesn't recall Tony WHITE (employee of Jimmy SMITH, doing business as S&S General Contractors) ever specifically asking him if the water in the excavation area, next to the solvent extraction building, contained any uranium. However, JONES stated that knowing the area of the digging it would be very logical to assume the water in this pit would contain uranium contamination.

JONES then stated that he recalled seeing yellow water in the pit, but at that time, it didn't cross his mind water could have uranium, as some dirt can cause discolored water.

JONES stated that he never took any soil and water samples to be tested for uranium contamination. He believes he did observe Carolyn COUCH, Manager, Environment, SFC, taking water samples inside the excavation, but he never heard of any laboratory results concerning this sampling.

This report prepared from investigators' notes dated January 31, 1991.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

Robert J. Kirspel, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
DIXIE A BURNETT

On January 31, 1991, BURNETT, Chemical Operator, Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435, was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman. BURNETT stated that she took the August 10, 1990, water samples, and completed the process control sample analysis request. She stated the samples were obtained from three drums which she filled with water from the excavation being conducted next to the solvent extraction building. BURNETT said these samples were not from a sump pit, but definitely from the barrels. She took three separate samples (bottles), with a single sample from each barrel, to the laboratory for analysis.

BURNETT said that she was told by the person she relieved (whose name BURNETT could not recall) that the water contained low level uranium contamination. BURNETT said the pump hose was already in the hole, and she was located next to the cooling towers when conducting the pumping, so she did not look into the pit or notice if any people were in the pit at that time.

This report prepared from investigator's notes dated January 31, 1991.

Larry Chapman

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
L. BROOKS KIRLIN

On February 4, 1991, KIRLIN was interviewed by Nuclear Regulatory Commission Investigator Robert J. Kirspel at the Oklahoma Water Resources Board (OWRB), Oklahoma City, Oklahoma. KIRLIN is a Senior Environmental Engineer for the OWRB.

KIRLIN stated on August 23, 1990, about noon, he received a telephone call from Carolyn COUCH, Manager, Environment, Sequoyah Fuels Corporation (SFC). KIRLIN stated that COUCH indicated that on August 23, 1990, she (COUCH) became aware of a possible uranium problem at SFC during the excavation of some underground tanks. KIRLIN stated he told COUCH that he was not the person at the OWRB she needed to talk with and he took only a few short notes to relay to Phyllis ROBERTSON, OWRB. KIRLIN stated that COUCH told him that she (COUCH) thought there had been some leakage from the process building which had occurred during the past. COUCH stated she didn't feel that it was an ongoing problem which had occurred over a period of time. COUCH told KIRLIN that she (COUCH) didn't believe there had been any seepage through the shale layer.

This report prepared from investigator's notes dated February 4, 1991.

Robert J. Kirspel, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
DEBORAH A. EMERSON

On February 6, 1991, EMERSON, UO3 Shift Supervisor, Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74435, was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman. Her immediate supervisor at SFC is Tommy JOHNS, UO3 Area Manager.

She recalls visiting the excavation area adjacent to the solvent extraction (SX) building and observed yellow water in the pit. However, she stated that she did not inquire into the water contents as she assumed that all personnel working around this pit were aware of the contents of the water, and that the water had been sampled. Her only active participation concerning the solvent extraction (SX) pit was being asked to insure her staff sampled every drum of SX area water and to ensure each drum was assigned a number and entered into a log book.

EMERSON stated that she personally had no knowledge of the SX water contents, but from her past knowledge of the SX floor leaks, she assumed the water has some form of uranium contamination. However, she added that yellow water wasn't indicative of uranium yellowcake contamination in the water, as nitric acid is also yellow in color. EMERSON said that she would be concerned of uranium limits over .03 grams/liter (g/l) of contamination because .03 g/l is the environmental release limits to the combination stream. However, she said she has worked around limits ranging as high as 1300 g/l and not been unduly concerned.

This report prepared from investigator's notes dated February 6, 1991.

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
BARRY W. SPYRES

On February 7, 1991, SPYRES, Chemical Operator, Sequoyah Fuels Corporation (SFC), Gore, Oklahoma 74335, was interviewed by Nuclear Regulatory Commission Investigator Larry D. Chapman.

SPYRES stated that the July 31, 1990, laboratory analysis sheet was in his handwriting and that at the direction of Lloyd MACARTY, U03 Supervisor, SFC, he took the water sample from the excavation pit adjacent to the solvent exchange building. SPYRES stated the sample was routine and he doesn't recall the sample being taken for any other reason than it is customary at SFC to sample unknown liquids, and that it was routine to ask for uranium, fluoride, nitrates, and pH results on liquid samples.

SPYRES stated he assisted in the drumming of the yellow/green water from the SX pit, but as he recalls he was working evening shift and simply assumed their duties. Additionally, SPYRES believes that he was required to number the barrels and enter them into a log book. SPYRES said that SFC was using barrel liners inside the barrels.

This report prepared from investigator's notes dated February 7, 1991.

Larry Chapman

Larry D. Chapman, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
GLENN BENNETT

On February 7, 1991, BENNETT was interviewed by Nuclear Regulatory Commission Investigator Robert J. Kirspel. BENNETT stated he was employed by Sequoyah Fuels Corporation (SFC) as a chemical operator II, until he quit in either late August or early September 1990.

BENNETT stated he was told by James MESTEPEY, Senior Vice President, SFC, to pump water from the solvent extraction pit into barrels. BENNETT stated he could not recall the date MESTEPEY told him to start pumping the water, but believed it was about the time the concrete walls were constructed in the pit. BENNETT stated that, per instruction from MESTEPEY, he sampled each barrel. BENNETT stated he noted in a log book each time he pumped water into a barrel and each time he sampled the barrels.

BENNETT stated that he took the water samples to SFC's laboratory, but never was told the results. BENNETT could not recall sampling every barrel or the sampling procedures.

This report prepared from investigator's notes dated February 7, 1991.

Robert J. Kirspel, Investigator
Office of Investigations Field Office, Region IV

REPORT OF INTERVIEW
WITH
BLAIR D. SPITZBERG

On February 22, 1991, SPITZBERG, Nuclear Regulatory Commission (NRC) Emergency Preparedness Analyst, Division of Radiation Safety and Safeguards, was interviewed by NRC Investigator Robert J. Kirspel.

SPITZBERG stated he could not recall the date that he and NRC Health Physicist Michael G. VASQUEZ were at Sequoyah Fuels Corporation (SFC). SPITZBERG stated he was turning over the inspection responsibility of SFC to VASQUEZ. SPITZBERG stated that during an inspection tour of SFC that he (SPITZBERG) noticed tan colored clay near an excavation pit near the solvent extraction (SX) building. SPITZBERG also noticed tan colored water in the pit. SPITZBERG stated Carolyn [illegible]OUCH (Manager Environment, SFC), James MESTEPEY (Senior Vice President [illegible]FC), and Kenneth SIMEROTH (Health Physics Supervisor, SFC) accompanied him and VASQUEZ on the tour. SPITZBERG could not specifically recall the questions he asked concerning the water in the pit but believed he did question it. SPITZBERG stated he did not get any indication from anyone on the tour that the water inside the pit was contaminated.

SPITZBERG stated he noticed that the step-off pad had been moved out from the door of the SX building toward the end of the sidewalk leading to the SX building. SPITZBERG did not recall who told him but was told the pad had been moved to control the access to the entire area. SPITZBERG stated this statement led him to believe that the movement of the pad had nothing to do with the pit. SPITZBERG stated that he was never given any indication that the color of the water, color of the clay, or movement of the step-off pad had anything to do with contamination. SPITZBERG stated that if he had been given any indication that there was contamination in the area he would have pursued it.

This report prepared from investigator's notes dated February 22, 1991.

Robert J. Kirspel

Robert J. Kirspel, Investigator
Office of Investigations Field Office, Region IV