IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ALABAMA
EASTERN DIVISION

JOHN R. SWIFT and :
BARBARA SWIFT,
:
Plaintiffs,
: CIVIL ACTION
v. NO. CV-97-AR-2430-E
:
MONSANTO CO., INC., et al.,
:
Defendants.

* *

The deposition of MR. JOSEPH LANDWEHR, a witness in this Federal Court proceeding, was taken at the instance of the plaintiffs herein, before and by Brenda W. Molaison, a certified court reporter in and for the State of Louisiana, in the office of Mr. Charles Genco, located at 108 Mulberry Street, Amite, Louisiana, on the 24th day of June, 1999, commencing at 9:07 a.m. and ending at 12:12 p.m.

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HARTOLDMON0038349

STIPULATION

IT IS STIPULATED AND AGREED by and between counsel for the parties, in the case above numbered and entitled, that the testimony of MR. JOSEPH LANDWEHR, a witness in this Federal Court proceeding, shall be taken at the instance of the plaintiffs herein, before and by Brenda W. Molaison, a certified court reporter in and for the State of Louisiana, on the 24th day of June, 1999, in the office of Mr. Charles Genco, located at 108 Mulberry Street, Amite, Louisiana; that the witness shall be sworn by said court reporter so reporting; that the testimony shall be taken under oral examination, reserving all objections except those as to form of the question and the responsiveness of the answer until the time of the trial of this matter; that the reading and signing of the deposition are not waived by the parties and by the witness; and that the said deposition is being taken pursuant to Notice for the purpose of discovery or for use as evidence in the trial of this action as authorized under the Federal Rules

of Civil Procedure.

MR. JOSEPH LANDWEHR, having been first duly sworn, was examined and testified as follows:

BY MR. STEWART:

Q Sir, my name is Charley Cunningham. I'm going to be asking you some questions today to try and find out what factual information you may have that will assist us in a lawsuit that's been filed over in Anniston, Alabama. If I ask you a question that you don't understand, please ask me to explain it. Don't assume that I know what I'm talking about, because I probably don't, if my question doesn't make sense to you. Another bad habit of mine is you will start giving me an answer and I will have a flash of inspiration, I will ask another question and you haven't had a chance to finish your answer. We want you to feel like you've given a complete answer. So if I do that to you, please let me know. Okay?

A Right.

Q Very good. Would you start off by giving us your full name, please?

A Joseph Clarkson Landwehr.

Q And what is your address?

A 801 North Duncan Avenue, Amite, Louisiana.

Q Amite. Okay. I've heard it pronounced about six different ways.

A Right.

Q And what is your occupation, please?

A I'm a retired chemical engineer.

Q How long have you lived here in Amite?

A Full-time since 1993.

Q Where else have you resided during your lifetime? A lot of places or a few?

A Yeah.

Q A lot?

A Yeah. New Orleans.

Q What --

A Grew up in New Orleans. St. Louis, Missouri, Indiana, Philadelphia.

Q Where in Indiana?

A Terre Haute, Indiana.

Q Terre Haute?

A Philadelphia.

Q How much time did you spend in Alabama?

A Alabama? I think it was a four-year tour of duty. Yeah.

Q Do you have any family or close friends who reside in northern Alabama, northeast Alabama?

A No family. And I'm not sure who of my -- of our old acquaintances still live in Anniston.

Q Okay.

A We haven't been in touch with any.

Q There is nobody that you correspond with or talk to on the phone or visit on a regular basis, --

A No.

Q -- I take it?

A No. No.

Q Okay. Tell me, please, what education you have, formal education, starting with high school.

A Yeah, high school.

Q Where was that?

A Fortier -- Alcee Fortier High School in New Orleans.

MR. CUNNINGHAM: I bet you know how to spell that, don't you?

BY MR. CUNNINGHAM:

Q Okay. And then college?

A Tulane University.

Q Tulane. And what did you study at Tulane?

A Chemical engineering.

Q And what sort of degree?

A Bachelor of engineering. In chemical engineering, I

think it was.

Q Okay.

A And then --

Q What year did you receive that?

A Nineteen Forty-Nine, 50 years ago.

Q And when did you get out of high school?

A Nineteen Forty-Five.

Q Okay. And any others?

A Yes. I got a master's degree in chemical engineering from Rensselaer Polytechnic Institute. And I bet you don't know how to spell that. R-E-N-S-S-E-L-A-E-R.

Q And that's over --

A Troy, New York.

Q Yeah, just east of Albany?

A Right, across the river from Albany.

Q Okay. Any other college work?

A Not degree work or anything.

Q Seminars?

A Courses and seminars.

Q Courses?

A Yes.

Q Okay. And when did you get your master's at Rensselaer?

A Nineteen Fifty-One.

Q Did you go straight from Tulane to Rensselaer?

A Yes.

Q Did you do any military service?

A Yes. I was -- I was in the naval ROTC starting at Tulane, and I finished the program at Rensselaer. And then I went in the Navy, active duty for three years, during the Korean War.

Q What sort of work did you do for the Navy?

A I was aboard ship. I was a deck officer on an aircraft carrier in the Atlantic, in the Mediterranean and Atlantic, Sixth Fleet, and then I was at Eighth Naval District Headquarters in New Orleans for -- at the end of my tour.

Q Okay. Give me, if you would, please, your occupational experience starting with when you came out of the Navy.

A Well, I went to work for Lion Oil Company, which was later merged into Monsanto. I was with Monsanto, Lion Monsanto for, I think, 18 years, if I'm not mistaken.

Q When you say "Lion," are you --

A Lion Oil Company.

Q Is that L-I-O-N?

A O-N. El Dorado, Arkansas.

Q Did you actually work up in El Dorado?

A Yes.

Q And what were you doing for Lion Oil?

A I was a shift supervisor and a maintenance engineer and then a process engineer.

Q Was this a cracking plant?

A No. It was a fertilizer plant.

Q Okay.

A Ammonia plant and things like that.

Q Was petroleum the feed stock for that?

A Natural gas.

Q Natural gas? And how long did you live in El Dorado?

A I think it was for about four years.

Q Four years?

A Yeah.

Q And then where did you go?

A St. Louis. I went into the Central Engineering Department of Monsanto.

Q What did you do in the Central Engineering Department?

A I did design and construction work, project management with capital projects.

Q Uh-huh. And I take it those would have been all over the country --

A Yes.

Q -- basically?

A Yeah.

Q Okay. And how long did you do that sort of work?

A Probably till '69, when I went to Anniston.

Q Well, I'm going to --

A So --

Q -- guess we're talking roughly ten years, sometime in the late '50s you went up to St. Louis?

A Right.

Q And --

A Fifty-Five to -- yeah, yeah, maybe '60 I went up to St. Louis.

Q Okay.

A Nine years. Yeah, that's about right.

Q And why did you wind up being sent to Anniston?

A Well, the job came available and it was a promotion, and it was an interesting opportunity.

Q Tell me what your title was when you moved to Anniston.

A Technical services superintendent.

Q And what was -- they probably didn't have something called a job description back then like they do for everything these days.

A Oh, yeah. Oh, yeah.

Q But what was your responsibility as a technical services superintendent?

A I was in charge of process improvement in all the

processes in the plant, and this included chemical engineers working on designing improvements, running tests in the plant. I was also responsible for the analytical laboratory, which maintained a monitoring of the quality product -- quality of products and various parameters in the processes. Had a statistical man that tracked key variables. And let's see. What else? I was responsible for safety improvements and loss protection improvements.

I was liaison with the Central Engineering as far as major projects that they might carry out in the plant. And I had the environmental engineer, one -- one fellow. Or not "engineer." Technician.

Q Technician. Who was that person?

A Eugene Wright, Bunkie Wright. And then we had a process development group and the laboratory group that worked on somewhat fundamental improvements in the chemistry of some of the processes.

Q In other words, they might come up with a new formula or way to put something together and you would come up with the pipes and the hardware to do it?

A Right.

Q And so how many people were working under you?

A I think there were probably -- probably 25, something like that, counting analysts, lab analysts and --

Q Uh-huh. And how many --

A -- engineers, chemists.

Q Would you answer directly to the plant manager, I'm assuming?

A Yes.

Q And who was the plant manager during your tenure, or was more than one?

A Bill Papageorge was there when I first came and then Gene Jessee was later plant manager, as I recall. And, of

course, we were a service function to the production people. They gave us a lot of our direction.

Q It might not, in the flowchart, look like it could be in order, but if they said they needed something, you all got on it?

A Yeah. Yeah.

Q Okay.

A We kept them -- tried to keep them happy.

Q After you left Monsanto -- when did you leave that Anniston --

A Seventy-Two, if I recall.

Q Okay. And where did you go from there?

A I went to work for Commercial Solvents Corporation in Terre Haute, Indiana.

Q And what were you doing there?

A I was a project manager, and this was in organic

chemistry field.

Q And why did you make that change? Because you're not -- you're changing to a whole different area of the country, whole different employer, whole different job. What was the motivation?

A Well, there was a reduction in staffing at Anniston.

Q Was that due to something in particular?

A It was partly due to getting out of the Aroclor business.

Q Okay. Was your position just gone, there was no technical services superintendent after '72?

A As far as I know, yeah.

Q Who would do things like overseeing process improvement and the analytical lab and safety and all that other stuff?

A I don't -- I'm sure some of the people that reported to me kept doing what they were doing.

Q Okay.

A But I don't know who supervised.

Q All right. Did you see handwriting on the wall and you went out and found a job or did they come to you one day and say, "Your job is gone," and then you went out and found a job?

A The latter.

Q Latter. Okay. Was there a time period where you were without a job and, if so, how long was that?

A No, not really.

Q Do you draw a pension from Monsanto?

A Yes.

Q And --

A Very minor.

Q I was going to ask if it's significant to where it affects your economic status.

A (Witness shakes head negatively.)

Q Do you own stock in Monsanto or Solutia?

A No.

Q Have you ever been deposed before?

A Yes.

Q What sort of circumstances?

A A few months ago on another --

Q Case involving a --

A -- case involving --

Q -- a claim about PCB's in Anniston?

A In the Anniston plant, yeah.

Q Do you remember who took that deposition or what -- who he, that lawyer, represented?

A No, I don't remember their names.

Q Did they seem as intelligent as me?

A Oh, yes.

MR. CUNNINGHAM: He's good, he's good.

BY MR. CUNNINGHAM:

Q To your knowledge, have you had any contact with anyone other than Monsanto attorneys about the cases in Anniston? Anyone called you up on the telephone, said, "Hey, I want to ask you about what happened"?

A No. No.

Q Okay.

A Not that I remember.

Q And aside from talking to the lawyers who are

representing Monsanto, have you had contact with anyone from Monsanto about your years there in Anniston?

A No.

Q I would like to ask you about things you did in preparation for this deposition and, for that matter, the one that you gave a couple months ago in the related litigation. Did you review any sort of documents or other written materials, photographs, anything that you looked at?

MR. PRATER: Just a minute. For purposes of the record, Charles, as I mentioned before the deposition, Mr. Landwehr asked me to represent him in this deposition and he also asked me to represent him for purposes of preparation and putting him up in the other case as well.

MR. CUNNINGHAM: Uh-huh.

MR. PRATER: So part of what he has done for purposes of today is meet with me briefly yesterday.

MR. CUNNINGHAM: Right. I was going to come to that.

MR. PRATER: Yeah.

BY MR. CUNNINGHAM:

Q At this point I'm not asking about conversations you had with Harlan. What I'm looking for is things you looked at, if anything.

A Some documents.

Q What kind of documents do you remember looking at?

A Papers that were produced at -- while I was at Anniston.

Q Okay.

A Reports, et cetera.

Q Are we talking about half an inch of paper, six inches of paper, six pages of paper? What is your recollection?

A About like that (indicating).

Q About like that? Okay.

MR. CUNNINGHAM: Might even be some of the very same ones.

MR. PRATER: May be.

BY MR. CUNNINGHAM:

Q Was there anything that you read in those documents

that you either didn't remember or that you remember differently than what was in the documents?

MR. PRATER: Object to form.

THE WITNESS: Well, they were all very vague.

BY MR. CUNNINGHAM:

Q Well, let me put it to you in a simpler context.

A And there was some that I had -- I don't remember seeing.

Q Okay. I'm going to ask you a lot of questions today, maybe even go through some documents. I am always going to assume that the answer you give me is based on your own

independent recollection of the events.

A (Witness nods head affirmatively.)

Q Okay? If at some point you're going to tell me something because of what you read in one of these documents you've reviewed, I need you to let me know, "I remember reading recently the following." Okay?

A Uh-huh, uh-huh.

Q So, in other words, I'm going to assume this is what you remember unless you tell me otherwise. Is that fair?

A (Witness nods head affirmatively.)

Q Can we do that?

A Yeah.

Q All right.

MR. PRATER: We'll try to work through that as best we can.

MR. CUNNINGHAM: Yeah.

MR. PRATER: I know that may be difficult.

THE WITNESS: Yeah, right. I'll probably err from that, but --

BY MR. CUNNINGHAM:

Q That's all right.

A -- I'll try.

Q Did you speak to anyone else, a former coworker? Bill Papageorge, his name has come up. I know he's been involved in some of this litigation. Have you spoken to

anybody like that?

A No.

Q Do you understand that you will be called as a witness in this case?

A I will?

Q No, I don't know. Is that your understanding?

A No.

Q Okay.

MR. PRATER: You hope not, right?

MR. CUNNINGHAM: That's his story and he's sticking to that one.

BY MR. CUNNINGHAM:

Q When you went looking at this stuff recently was there

something that crossed your mind where you said, "You know, if I could get my hands on this, that would really help me remember some stuff, that this is" -- "this type of report or this type of memo that we used to do, if I could get those things, wow, that would be full of information about what was going on back then"?

A No, I don't think so.

MR. PRATER: Object to form.

BY MR. CUNNINGHAM:

Q If you could pick one or two people that you could go back to from that era and say, "These" -- "This is the guy or these are the guys who really were in the loop on a lot

of that stuff dealing with PCB's and waste control and so forth back then," who would be the two you would tab to say, "Man, I want to go talk with them and see what they remember"?

MR. PRATER: Object to form.

THE WITNESS: Gerald Miller, I would say, and Bunkie Wright.

BY MR. CUNNINGHAM:

Q What are you saying for Mr. Wright's first name or nickname?

MR. PRATER: Bunkie.

THE WITNESS: Bunkie.

BY MR. CUNNINGHAM:

Q Bunkie. And what were their titles while they were there?

A Gerald was chief chemist most of the time.

Q Uh-huh.

A And Bunkie was our environmental technician, I think what his title was.

Q Okay. Do you have still to this day any sort of documents or records or manuals from that era that you kept?

A No.

Q Were you given any sort of specialized training or sent to courses or seminars while you were the technical

services superintendent in Anniston?

A Yes.

Q What do you recall about those in terms of what they were about and where you took them?

A Well, one was Management by Objectives. Several -- I went through that exercise several times. One was Kepner-Trago Problem Analysis. I think it was a problem analysis course. Kepner-Trago.

Q Uh-huh.

A And I'm sure there were others, but --

Q I guess I'm looking more for something technical. For instance, I'm going to guess that while you were working in

the central support division up in St. Louis, you didn't necessarily do any design work on PCB or parathion equipment but when you were down in Anniston that would have been pretty central?

A I worked on a small project on parathion --

Q Okay.

A -- when I was in Central Engineering.

Q How did you get up to speed on the parathion process and the PCB process when you came to Anniston?

A Just learned by doing.

Q Okay.

A And through the people that worked for me --

Q All right.

A -- and production manager and people I worked -- the staff that -- but I had enough experience that the basic foundation that I had in processes wasn't too difficult.

Q Uh-huh.

A Of course, the details of the chemistry and the process, I really wasn't there and involved with long enough to really be in -- either considered an expert in any sense.

Q Okay.

A I was sort of like a mercenary or kind of a in-and-out type person really.

Q A two-inch pipe is a two-inch pipe whether you're in Anniston or St. Louis?

A That's right, yeah. I was considered somewhat of a specialist in control -- process control.

Q Process control, okay.

A Instrumentation.

Q Uh-huh. I know one of the chemists, that we talked about them having converted from a batch operation in the PCB department to doing continuous operation. Do you remember being there while that was happening, or had that happened by the time you got there?

MR. PRATER: Object to form. You can answer.

THE WITNESS: I don't -- I'm vague on it.

BY MR. CUNNINGHAM:

Q Okay.

A It very well could have happened while I was there. We made some very good improvements that I remember.

Q What sort of -- what do you remember doing as far as improvements in the Aroclor department?

A Improving the yields.

Q And when you say --

A And some quality improvements, as I remember.

Q Let me take those one at a time. When you say you improved the yield, you're just getting a more efficient process --

A Yes.

Q -- or you're getting more of what you want and less of byproduct?

MR. PRATER: Object to form.

THE WITNESS: Both, in a sense.

BY MR. CUNNINGHAM:

Q Well, give me an example, the one that you remember of something you did and how that changed the numbers at the end of the day.

A Well, one of the -- one of the -- one of the raw materials, polychlorinated biphenyl, is biphenyl, and we made biphenyl there and we developed some dramatic improvements, and I can't remember much about them, but our -- our little process development group and -- worked

out some schemes to improve the conversion and of the -- of the particular chemical species that we needed to make more -- Aroclor more efficiently.

Q Well, as an example, I understand that when they would mix the benzene to get biphenyl you would also get terphenyls and quaterphenyls and --

A Right.

Q -- so on.

A Right, right.

Q Are you saying --

A And controlled that ratio a lot better.

Q You got a better fraction of biphenyl, which is what you really wanted?

A Right.

Q Okay. And what about on the quality end? What sort of things do you remember doing that gave you a purer --

A Well, --

Q -- PCB or Aroclor?

A -- one thing that we did a lot of work on was the instrumentation and tighter control of the temperature, pressure control flow conditions in the process.

Q Okay. And I remember -- matter of fact, I've got documents saying that in 1969 the corporate board of Monsanto approved 1.1 million dollars to add to the capacity of the Anniston plant to make Aroclor where, I

assume, you were involved in that process of that capital improvement?

MR. PRATER: I object to form. You can answer.

THE WITNESS: I presume so, yeah. I don't remember specifically what that would have been. It may have been just our annual, you know, program that occurred over several years.

BY MR. CUNNINGHAM:

Q Okay. You don't have an independent recollection as

we sit here today of something like that?

A Not specifically, no, I do not. Unless it was that biphenyl. We did make a substantial capital, but I think that was later, because that was after I had been there for some years.

Q What about -- I have seen other documents that talk about making, basically, a new kind of PCB, a 1272, Aroclor 1272, as a fire retardant. Do you remember that process coming on line?

MR. PRATER: Object to form.

THE WITNESS: Not specifically, no.

BY MR. CUNNINGHAM:

Q Do you remember a fellow named Gene Arnett, who was a chemist there?

A Yes. Yes.

Q Okay. I think Gene even told me in his deposition that he had figured out how to make that stuff.

A (Witness nods head affirmatively.) He did some real --

MR. PRATER: Object to the form.

THE WITNESS: -- work.

BY MR. CUNNINGHAM:

Q Okay. You mentioned that you served as the liaison with the support group in St. Louis. Did you have access

to research coming out of the laboratories in St. Louis?

A That -- only through -- most of that information or reports of that type went to Gerald Miller.

Q Okay.

A And he was -- you know, we were discussing -- no, my main liaison would probably be with people that I knew from my service there that were experts in -- in some specialty, like electrical engineers or --

Q Okay.

A -- instrument engineers, people like that. More of a engineering, construction nature.

Q Would I be correct in assuming that if you came up with a process and improvement you wanted to make that you would have to apply for the money to put that on line?

A Yes.

Q And can you recall circumstances where you all had

come up with what you felt was a technical improvement in either the -- the yield, the efficiency of the process or the quality of the product at the end of the line where you were denied the funding to make that improvement?

A I'm sure we probably -- I don't specific remember that, but I'm sure there may have been --

Q Okay.

A -- some minor instances of that, but in general we -- we got the capital we felt we needed.

Q Do you recall there being any particular manuals or periodicals that you subscribed to or had on your shelf that you referred to on a regular basis back in that era?

A Oh, yeah, there were lots of them.

Q Give me two or three that you can remember, please.

A Chemical_Engineering_Progress, which was a publication of the AICHE, and a periodical called Chemical_Engineering, the Instrument Society of America publication and, of course, our lab people, they subscribed to a lot of journals, which were in the lab in another building. I wasn't too much involved with -- really, my -- see, I got out of -- I got in the pharmaceutical business toward the end of my career, and so I've lost touch with a lot of that type of --

Q Uh-huh.

A Because I've had to switch over to the FDA based --

Q Type of --

A -- type technology and so forth.

Q -- technology. And did you belong to any particular organizations? You mentioned that --

A AICHE.

Q Okay.

A ISA, ACS.

Q ISA?

A Instrument Society of America.

Q Okay.

A American Chemical Society.

Q You know this era while you were down in 1969 to '72 was kind of a -- a busy time in the environmental realm, a lot -- or EPA, it's formed a lot of the new statutes. Did you ever go to a seminar that you can recall where you were brought up to date on some of these sorts of developments?

MR. PRATER: Object to form.

THE WITNESS: Not that I can recall.

BY MR. CUNNINGHAM:

Q Did you ever -- they had a good library, I take it, in St. Louis, technical library?

A Yes.

Q And you just mentioned you maintained some periodicals. And, I assume, reference works as well in the lab in Anniston?

A Yes.

Q When you needed some additional technical information or research, could you call St. Louis and they --

A Oh, yeah.

Q -- would go through what they had and sent it to you?

A (Witness nods head affirmatively.)

Q And what about Dayton? I've --

A People like Gerald and -- Miller and Gene Arnett would be the ones that would access that type of information.

Q Okay. But that was available for people in Anniston?

A Oh, yeah.

Q Okay. And what about Dayton? I've heard people talk about a lab in Dayton, a research lab. Do you have any recollection of that impacting what you did?

A Not significantly, no. I remember the -- the lab there, and I'm sure we may have had some information from them, but I don't -- that's about it.

Q Do you have any recollection -- you know, we mentioned, for instance, one thing that you did to try to improve the yield or the efficiency of the process and the other thing you did in a qualitative sense. What about in a waste control sense? Do you remember any capital projects or tweaking that you did to try to improve or reduce the waste streams that you were generating?

A Oh, yeah, yeah.

Q Give me some examples of those that you recall.

A Well, the -- of course toward the end of this period in '70 -- '70-'71, we did a lot of work on the effluent treatment, the control of it, things like curbing the areas that any waters would go, would be directed into a sewer, improving the sewer system, and then downstream of that

there was a -- one of the byproducts was hydrochloric acid, and sometimes that was neutralized with limestone.

Q Uh-huh.

A And this -- this limestone operation was one of the last treatments to the outfall, and we have discovered that that was a benefit in retaining Aroclor, so we -- we made some improvements in that limestone operation which ultimately was very helpful in controlling our losses.

Q And you were involved to what extent in those kinds of things? What was your role in that effort?

A Setting priorities, assigning -- you know, approving assignment of various engineers and chemists to study the issues involved, submitting requests for capital, helping, you know, the engineers write them up.

Q Uh-huh.

A So forth.

Q Do you understand that PCB can vaporize --

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q -- at ambient sort of temperatures?

A No.

Q But you don't think --

A Not that I know of.

Q Okay.

A I wouldn't think so.

Q Did you ever have a program in place to deal with PCB vapors at temperature -- I assume that if they got hot enough you would -- you would have some that would vaporize, you would get into the gas phase?

MR. PRATER: Object to form.

THE WITNESS: I don't particularly remember any concern with gas phase. We were concerned, I think, about particular -- in other words, droplets that could be -- in fact, we installed, as I remember, a Brink mist eliminator in maybe several locations, which is a very high efficiency filter for droplets.

BY MR. CUNNINGHAM:

Q A Brink's coalescer?

A Yeah.

Q You say that that's to pick up droplets, that's not really vapor phase, that's -- that's still liquid phase, that's aerosols basically?

A Right, yes. Yeah.

MR. PRATER: Object to form.

BY MR. CUNNINGHAM:

Q Were you involved at all with the analytical work that eventually went on in terms of analyzing soils and sediments in wastewaters and fish for PCB content?

A Yes. That was a major project in this program for

controlling our process and losses.

Q Tell me what -- what role you had in that and what all took place.

A Well, it was -- I had the same role of coordinating the scoping of -- of what was needed and of estimating the elements of a particular project and requesting funds and --

Q Uh-huh.

A -- spending money and controlling, --

Q Okay.

A -- getting the job done on schedule.

Q And I take it those kinds of analyses, at least to a certain extent, got done in Anniston as opposed to being farmed out?

A I think it was both. Probably both.

Q Both?

A Probably, initially, we did not have the capabilities, as I vaguely recall. We may have sent some samples to St. Louis.

Q Did you get medical monitoring or routine checkups

while you worked in Anniston?

A No.

MR. PRATER: Object to form.

THE WITNESS: No.

BY MR. CUNNINGHAM:

Q Have you ever been tested for whether or not you have a body burden of PCB?

A No.

Q Have you ever, since you left the employment of Monsanto in 1972, been contacted by the Health Department in order to determine, in an epidemiologic sense, if you've had any health issues that could be attributable to exposures you had while working there?

A No.

Q Would you tell me just what you recall about the nature of the waste streams that would leave that facility, that would contain PCB's? In other words, if -- if we found PCB's outside that plant site, what do you know of, in terms of ways they may have left that plant, ways those molecules might have gotten away from there?

MR. PRATER: Object to form. At what point in time?

MR. CUNNINGHAM: Any point in time that he knows about.

BY MR. CUNNINGHAM:

Q You can tell me -- you know, obviously I want to know the era you're talking about, the location, what form it would be in, quantities, whatever you know.

MR. PRATER: Object to --

BY MR. CUNNINGHAM:

Q I realize that's a monster question but --

MR. PRATER: Object to vagueness and the monster question.

THE WITNESS: Well, the area that I'm familiar with is -- was the main outfall from Aroclor -- well, from the total plant, but included the outfall from the -- which is a liquid, waters discharged from the total plant.

BY MR. CUNNINGHAM:

Q And this would be the outfall that is coming out of the limestone bed, I'm assuming, or is this the one --

A Yeah.

Q -- that's coming out of your --

A Into and out of.

Q -- your treatment facility?

A Yes.

Q I understood there were two principal outfalls.

A Right, right.

Q Okay.

A The limestone --

Q Okay.

A -- treatment facility.

Q Would you anticipate that there would have been PCB in the wastewater effluent from your treatment process where

the parathion processed wastewaters were -- as I understand, you had an activated biologic treatment?

MR. PRATER: Object to form.

THE WITNESS: Yeah.

BY MR. CUNNINGHAM:

Q Do you believe PCB came out of that effluent?

A No.

Q Okay.

A Absolutely not.

Q All right.

A I believe it wouldn't.

Q Because basically it's picking up wastewater from a different part of the plant?

A Right.

Q All right. Well, then let's -- let's talk about the main outfall that came through that limestone bed. Any idea what the quantity of wastewater would be from that outfall?

MR. PRATER: Just a continuing objection to the initial monster question and vagueness.

MR. CUNNINGHAM: I'm trying to be specific

now.

MR. PRATER: I understand.

THE WITNESS: Well, I've seen numbers and --

but, you know, several hundred gallons a minute at -- on most occasions.

BY MR. CUNNINGHAM:

Q Okay.

A Of water.

Q Of water.

A Yeah.

Q And the limestone was principally there to serve as a way to reduce the acidity of that, to raise the pH?

A Yes.

Q Because, as you said, you had hydrochloric --

A Acid.

Q -- acid in that wastewater?

A Right.

Q You have any idea what the normal pH would have been of that effluent as it went into the limestone?

A Well, it would be quite low. Be --

Q One? Two?

A -- one, two, or even lower than that. Almost off the scale.

Q Okay. And then as -- any idea what kind of a pH you were shooting for and what you actually attained on a

regular basis coming out of that bed?

A We were shooting for seven, and I think we were pretty close to it.

Q Okay. Chemically, if you're putting HCl in and you've got calcium carbonate, CaCO3 in there, where is that chlorine going? What is it becoming?

A Calcium chloride.

Q All right. And what did you do with that -- all that calcium chloride?

A Well, it was a -- it's a salt. It's like NaCl, CaCl.

Q Uh-huh.

A So it went out in the water --

Q Okay.

A -- as a -- as a -- in solution.

Q All right. And that's going to consume that limestone, it's going to --

A Yes.

Q How much --

MR. PRATER: Let him finish his question.

THE WITNESS: Okay.

BY MR. CUNNINGHAM:

Q Well, I had. You -- I say these things, but I need you to tell me whether I'm right or wrong, okay, because I don't necessarily know.

A (Witness nods head affirmatively.)

Q So you would have to replenish the -- the gravel.

A (Witness nods head affirmatively.)

Q I assume you're using like a gravel type limestone?

A Crushed rock type, yeah.

Q Okay.

A As I recall.

Q You recall any idea what the feed rate on that had to be, how often you had to replenish?

A Oh, roughly biweekly or monthly, fairly extensive period of time.

Q Did you ever have to clean it out? Did it ever get gunked up?

A Yes.

Q All right. What was the constituent? Since the salt would just leave in solution, what was it that was also getting in that rock that required you to occasionally just have to clean it out?

MR. PRATER: Object to form.

THE WITNESS: Just the rock, of course, had other minerals, so it was really kind of a sand-like --

BY MR. CUNNINGHAM:

Q Residue?

A -- residue.

Q Okay.

A And it had probably sand washing out of surface waters

and things like that that might have gotten in.

Q And where would that stuff go?

A I don't really remember.

Q Okay.

A It wasn't my area.

Q And so the PCB that would be leaving that effluent would just be in solution?

MR. PRATER: Object to the form.

THE WITNESS: No.

BY MR. CUNNINGHAM:

Q Could also be --

A Be --

Q -- as separate product?

A Separate phase, yeah.

Q Separate phase? Now, did you have some PCB products, some Aroclor that could actually float specific gravity less than one?

A I don't think so.

Q So most of it is going to sink?

A (Witness nods head affirmatively.)

Q Heavier than water?

A Right.

Q And if it came out in phase, I assume you could see that literally?

MR. PRATER: Object to form.

THE WITNESS: If it came -- say that again.

BY MR. CUNNINGHAM:

Q If you had PCB leaving as a separate phase of that water, that effluent, --

A Uh-huh.

Q -- that could be seen visually, visibly?

A If there was --

MR. PRATER: Object to the form.

THE WITNESS: -- if there was enough.

BY MR. CUNNINGHAM:

Q Yeah. What did it tend to look like, the PCB, in terms of color?

MR. PRATER: Object. Lack of foundation.

THE WITNESS: I don't -- it was pretty water white really.

BY MR. CUNNINGHAM:

Q Okay. What other effluents or ways of PCB escaping that facility are you aware of?

MR. PRATER: Same objection.

THE WITNESS: That's it. As I say, that was my main involvement.

BY MR. CUNNINGHAM:

Q Do you have a recollection of the production rates for Aroclor, PCB's in the years that you were there, how many pounds?

A No. Million.

Q Million?

A Something like that.

Q What about waste streams? Do you have any idea what sort of processed wastes you had that could have had PCB in it?

A Again, it's the -- it's liquid streams, --

Q Okay.

A -- effluent stream that we were working on.

Q You mentioned that hydrochloric acid is a byproduct of this.

A Yes.

Q What did you do with that hydrochloric acid? Was that just in the wastewater and, in essence, you treated it by putting it through the limestone?

A Well, we -- we sold as much of it as we could and we tried to develop, you know, markets for it.

Q Would you ever have a bad batch of something where you would put it in and it just -- it was out of spec. and you had to trash it, throw it out and start over?

A I would think we did probably.

Q What would you have done -- what did you do -- let me -- what did you do with bad batches?

A That was the Operating Department's function. I didn't do anything with it.

Q Would you have had some sort of a -- just as with your limestone bed, after awhile things get gunked up and you're making this Aroclor in reactor vessels, are you not?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q You're making the Aroclor in reactor vessels, are you not?

A Reactor vessels?

Q Uh-huh.

A Yes.

Q Distillation columns and so forth?

A (Witness nods head affirmatively.)

Q Don't you eventually have a buildup within any kind of a process equipment like that that it's got to be cleaned out?

A I -- could be. I don't know.

Q You don't know?

A I wasn't involved with that.

Q Okay. Well, you said you were trying to improve the efficiency of the process.

A Yes.

Q If you're getting still bottoms in one of your distillation columns and it amounts to 25 percent of your feed stock, one of your goals would be to reduce that, scrap, and increase --

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A (Witness nods head affirmatively.) Right.

Q -- the amount that's come out as product, right?

A Yeah.

Q All right. That's what I'm trying to find out. What would be the amount of your feed stock that would end up at the end of the day being unusable?

A (Witness shakes head negatively.)

Q Don't know?

A I don't remember.

Q Did you have still bottoms? What kind of residue did you have?

A I think so. (Witness nods head affirmatively.)

Q Did you ever visit the facility in Sauget, Illinois, at the Krummrich plant, or Newport, Wales, where they also made PCB's, where Monsanto also made PCB's?

A I've been in the Krummrich plant but not the PCB part, and I haven't been in the other plant.

Q Okay. So you -- if I start asking you questions about differences in the way things were done there versus Anniston, you're not going to be able to provide information on that?

A No. No.

MR. PRATER: Good answer.

BY MR. CUNNINGHAM:

Q As part of your job as technical super -- technical

services superintendent, were you required to do visual inspections of the grounds, so to speak, or was -- that would be something you would be delegating to someone else?

A We had tours of the plant, which were teams. As I recall, I was on a management group that sometimes made -- our primary thing was safety inspections, safety and housekeeping.

Q Would that tour include a visual inspection of the landfill there at the plant?

A No.

Q What about the outfall coming out of the limestone pit?

A Well, I'm sure I would pass by that, yeah.

Q Are you aware that there was a landfill at the facility?

A Yes.

Q How do you know that? Had you actually been up there and seen it in operation?

A I was there once.

Q What was the occasion?

A I don't know. Just when I -- when I first came I think it was part of an orientation.

Q What did you understand, from that orientation or from subsequent work there, went into that landfill?

A Various materials that -- I don't think it was active

at the time I was there, but --

Q You think they were taking stuff somewhere else that had gone up there historically?

MR. PRATER: Object to the form. If you know.

THE WITNESS: I would be speculating.

BY MR. CUNNINGHAM:

Q Okay.

A Again, it was the Operating Department.

Q You mentioned you do these tours for safety and health as much as --

A Safety and housekeeping.

Q Housekeeping. I'm sorry.

A Not health.

Q Sorry. For safety. I have seen documents from Monsanto that talk about -- it's really more in the Krummrich plant -- toxics departments versus not toxics departments. It doesn't say which is which. Did you have a delineation like that at Anniston, --

MR. PRATER: Object.

BY MR. CUNNINGHAM:

Q -- toxics departments versus not?

MR. PRATER: Object to form.

THE WITNESS: (Shakes head negatively.) No.

BY MR. CUNNINGHAM:

Q In your mind were all of the chemicals you all were working with something that required attention for safety purposes?

MR. PRATER: Object to form.

THE WITNESS: Primarily, for at least -- well, there were really two parts of the plant. You know, the parathion was definitely a concern about exposure. That was our main concern.

BY MR. CUNNINGHAM:

Q Uh-huh.

A Aroclor was mainly for burns, and any concern was about exposure to hot materials or -- but not particularly to, you know, --

Q Toxicity?

A -- toxicity.

Q Is it your sense, as you sit here today, that PCB's are not acutely toxic?

A Yes.

Q Is it your understanding, as you sit here today, that PCB's are not chronically toxic? I mean to humans.

MR. PRATER: Object to form.

THE WITNESS: I would be speculating.

BY MR. CUNNINGHAM:

Q Okay. Would I be correct in assuming that if a decision was made in Monsanto that they wanted to reduce

the exposure of the work force to PCB aerosols or liquids, you or someone under you would have been in charge of process design changes to make that happen?

A Yeah.

Q And similarly, if it was determined by the corporation that they wanted to reduce the amount of PCB getting out of the plant, again you would be in charge or someone under you would be in charge of the process design --

A (Witness nods head affirmatively.)

Q -- and implementation to make that change?

A Yes.

Q Are you aware that PCB's have been found on property outside the confines of Monsanto's property there?

A Just Choccolocco Creek and the creek -- I forget the name of it -- but that went out of the plant.

Q Snow Creek?

A I believe --

Q Snow Creek?

A Yes.

Q So you don't -- you are unaware that it has been --

A Matter of fact, my main awareness would be Choccolocco Creek.

Q All right.

MR. PRATER: And I think that would be based on the period of time that he was there.

BY MR. CUNNINGHAM:

Q Okay. Well, wouldn't the PCB's in Choccolocco Creek have to have gotten there through Snow Creek?

A That's inferred, yeah.

Q Okay. And in turn into Snow Creek through some pathway? Because it was not contiguous to the Monsanto property, was it?

A Right.

Q All right. So if PCB's have been found in soil upstream from the Monsanto plant, you -- you cannot sit here today and give me any idea how that could have happened?

MR. PRATER: Objection. Calls for speculation.

THE WITNESS: No. In fact, I don't know of that at all.

BY MR. CUNNINGHAM:

Q Okay.

A No.

Q You're not aware of PCB being found in the dust of people's homes around the plant site?

A No.

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

25 Q People's blood?

1 A (Witness shakes head negatively.)
2 MR. PRATER: Same objection.
3 BY MR. CUNNINGHAM:
4 Q Do you know anything about a lawsuit that was filed
5 against the plant by BASS, B-A-S-S?
6 A (Witness shakes head negatively.) No, I don't know of
7 any lawsuits filed against the plant.
8 Q Do you know an M. Williams? Does that name mean
9 anything to you, back in that era?
10 A (Witness shakes head negatively.) "M", that's an
11 initial?
12 Q Uh-huh.
13 A No.
14 MR. CUNNINGHAM: Let's take a break.
15 MR. PRATER: All right.
16 (Off the record.) (Back on the record.)
17 BY MR. CUNNINGHAM:
18 Q Mr. Landwehr, I have handed to you and your counsel a
19 document which I have taken the liberty of marking, for the
20 purposes of today, "Landwehr Exhibit No. 1." Going to ask
21 you to take a look at that. I want to ask you a couple of
22 questions. It's the earliest document I have come across
23 with your name on it. If you will look there at the top,
24 it appears to be from a P. B. Hodges and to a Mr. E. G.

25 Wright in Anniston, along with a fellow from Krummrich, and

1 under the cc's next to the last name, I'm assuming, is you.

2 A Yes.

3 Q Okay. Who was Mr. Hodges as you recall?

4 A He was the person responsible for corporate

5 environmental matters --

6 Q Okay.

7 A -- for at least our business area. I don't remember

8 whether -- what --

9 Q For some unit of the corporation?

10 A Correct.

11 Q And I'm guessing that the E. G. Wright was Bunkie

12 Wright --

13 A Yes.

14 Q -- that we've talked about?

15 A Eugene Wright.

16 Q Let me take you back to the second page in that

17 paragraph 3. It starts off saying, "In case you discover

18 sewering of large amounts with a low cost alternate

19 disposal method, proceed with clean up." Do you recall

20 finding a large amount that you could get rid of in a

21 different way with low cost?

22 A I don't really -- no, I don't.

23 Q Okay. Farther into that paragraph, there is a

sentence down almost to the end that says, "Anniston is drumming and hauling their similar spent Aroclor to a

dump." And I'm wondering if you, as the technical services superintendent, to whom this was cc'd, know what spent Aroclor we would be talking about and what dump we would be talking about?

A Not specifically, no. It was in the --

Q Okay. Generally?

A -- in the -- not really. Not -- I mean I don't know who -- who was handling it, whether they -- because the Operating Department did that, and I would be speculating.

Q Okay. You don't know. But if you all had made a -- did an alternate disposal method, wouldn't that have to come through you?

A I don't -- I don't understand what -- really what he is saying there, --

Q Okay.

A -- "alternate disposal method," whether he's talking about maybe an incinerator or -- I don't know. Of course, it wouldn't be low cost.

Q Right. Let me next hand you and your counsel a document that I have taken liberty of labeling for today. It's "Landwehr Exhibit No. 2." It's not the greatest copy in the world, but it appears to me to be on Monsanto letterhead from Anniston, Alabama, under date of March 25,

1969, on the subject of "Biological Studies on Choccolocco Creek," to Mr. Kuhn in St. Louis, and you are a cc'd person

on that. Am I -- is that consistent with your reading of the document?

A Yes.

Q Okay. It starts off, says, "Joe Landwehr has requested that I send you the last three reports from outside consultants with whom we have contracted this study, Choccolocco Creek"; is that correct?

A Yes.

Q Okay. So I am assuming you are familiar with the studies?

MR. PRATER: Object to form.

THE WITNESS: Yeah.

BY MR. CUNNINGHAM:

Q What do you recall about -- and as close to their conclusions, just tell me what you remember about what kind of studies were being done, why they were being done. And go ahead, if you want to read -- why don't -- take a moment and read that.

MR. PRATER: Yeah, why don't you read the whole memo, --

MR. CUNNINGHAM: Yeah.

MR. PRATER: -- Mr. Landwehr.

THE WITNESS: (Reads document.) All right.

BY MR. CUNNINGHAM:

Q Let me start with these reports that are being

referenced. As I perceive it, were by a couple of professors from Tulane.

A Uh-huh.

Q The names were Suttkus and Quinnig --

A Gunning.

Q -- or Gunning?

A Gunning.

Q Gunning and Suttkus. Were you involved in selecting them? I realize they taught at one of your alma maters, and I didn't know if that --

A No.

Q Oh, that's just coincidence?

A (Witness nods head affirmatively.)

Q Okay. It says here that the first of the reports covers a period from late 1966 to August or September of 1967. "This study was conducted primarily to gather evidence for use in Monsanto's defense in the then pending lawsuit."

A Is that '66?

Q Yes, that's the way I'm reading it.

A When I first read it I thought it was '44, but --

Q I'm guessing it's '66.

A Yeah, I guess it is. Okay.

Q And I'm asking do you -- does that refresh your

recollection about any kind of a lawsuit that you all were

trying to gather evidence about?

A Not while I was there, but I think this all occurred

prior to my tenure.

Q Okay. "The second and third reports cover the periods

of May 1968 and January 1969 respectively. These surveys

were conducted primarily to determine if Monsanto's

effluents are producing any adverse effects upon the

ecology or chemistry of the watershed."

A (Witness nods head affirmatively.)

Q That's the way you read it?

A Yes.

Q Okay. Do you remember anything about those,

particularly since one of them was from January '69 when we

know you were there?

A Well, I was aware of the consulting that these people

did when I came and -- but it was not related to PCB, the

limestone --

Q What was it related to?

A It was related to other factors. Parathion primarily.

Q Okay. So you think if we got ahold of the report from

Suttkus or Gunning we would see a discussion in there about

the impact of parathion on fish?

A Well, I think you would see primarily a description of which species were present and whether this was a good sign or bad sign of some species that might not be present,

which would be a negative sign, and the condition of these species.

Q How would parathion be getting out of the plant?

A Well, it was -- it would have to be getting out of the in-plant waste treatment plant and also the city waste treatment plant, --

Q Okay.

A -- which is very unlikely.

Q Well, that's my point. Didn't you all have pretty tight controls on those effluents to keep parathion --

A Yes. Yeah.

Q -- to extremely minute if not nonexistent levels? Okay. It -- down in that next paragraph about midway, there is a sentence that reads, "In each of these reports there is mention of the fact that there are no fish or other aquatic life in Snow Creek."

A (Witness nods head affirmatively.)

Q Is that consistent with your recollection, there is nothing living in Snow Creek?

MR. PRATER: Object to form.

THE WITNESS: Well, Snow Creek really wasn't

a creek, it was a ditch, and you wouldn't expect anything to be in it.

BY MR. CUNNINGHAM:

Q You wouldn't expect anything to be in it?

A No.

Q Minnows?

A I mean there was no water normally flowing in it.

Q Except what you put in it?

A Well, we and rainwater, you know, storms, storm drainage, and then there were other plants that -- along it as it flowed through Anniston, pointed out here, and --

Q Let me take you to the handwritten note at the bottom.

A Uh-huh.

Q I read that as reading, "Our thought was that if the business group was interested in long-term effects of PCB on a stream, Choccolocco Creek would be a good place to start. Any info would also help us in maintaining knowledge of situation in the creek and future insurance if an upset occurs"?

A Yes.

MR. PRATER: Object to form.

THE WITNESS: That's what it says, yes.

BY MR. CUNNINGHAM:

Q And then is that your signature, "Joe Landwehr"?

A Uh-huh, uh-huh.

Q Okay. I would like you to tell me what you meant by "future insurance if an upset occurs."

MR. PRATER: Object to form. If you know.

THE WITNESS: Well, it would give us some

scientific data to deal with any issues that might come up from -- as a result of an upset.

BY MR. CUNNINGHAM:

Q Well, I'm saying what -- that's not a word I see, and I don't know what you meant when you use that word. What did you mean when you said "an upset"?

A Well, I knew that the parathion plant, for example, had had a major discharge --

Q Okay.

A -- in the past history.

Q A word that, I guess, is more in vogue now is "a release." If there had been a spill, release?

A Upset as in the sense a -- abnormal conditions.

Q Okay. Sort of a baseline, an ecological baseline, if you will, --

A (Witness nods head affirmatively.)

Q -- of the condition of the creek so that if something --

A Yes.

Q Okay.

A Yeah.

Q And do you know if the business group, in fact, conducted a long-term study of Choccolocco Creek as you advised?

MR. PRATER: Object to the form.

THE WITNESS: Well, I think what -- this long-term study had been going on for years, for a number of years, maybe from '66. I think earlier than that. My impression. And I seem to be saying that if -- might be possible to -- to elicit some information from the past work these professors had done.

BY MR. CUNNINGHAM:

Q Okay.

A And I don't know whether this -- what was done with this.

Q All right. Next show you what I will mark as "Landwehr No. 3." These are excerpts that have been provided to us by Monsanto of the minutes of the corporate board from April of 1969. And I believe you will see there that the president of Monsanto recommended to the board of directors that they approve 1.1 million dollars for solid Aroclor expansion in Anniston. Do you see that?

A (Witness nods head affirmatively.)

Q And that subsequently it was resolved by the board

that that expenditure would be approved.

A Yes.

Q Okay. And we kind of asked this earlier, and I don't know that this would necessarily refresh your recollection. But do you recall being in the loop as you all attempted to implement that expansion?

A I don't -- no. Doesn't -- I'm not familiar with it at this point.

Q What kind of product did you have that was solid, Aroclor that was solid?

A I don't remember.

Q Is it a fair statement to say that as the degree of chlorination, the percentage of chlorination of the Aroclor increased, that the viscosity increased as well?

A I don't --

MR. PRATER: Object to form.

THE WITNESS: I don't know. I mean --

BY MR. CUNNINGHAM:

Q Document "No. 4." Ask you to take a look at that. This is a document under date of May 12, 1969, again from Mr. Hodges. This time to Mr. Kuhn. Do you know who Mr. Kuhn is?

A I believe he was what we call the business group director for these products.

Q Okay. And am I correct in reading the cc list, that

your name is in there?

A That's correct, yes.

Q Let me take you down on that first page, that last full paragraph that starts, "General status." About halfway down there is a line that begins, "However, problems of manpower priority exist at both plants and, in

addition, there is a problem with equipment priority at Anniston." This is in a discussion of analyses of waste and natural water samples. And if you look on the next page under "C", I think they actually explain what those prioritization problems might be under "Problems at Anniston." "Electron capture equipment exists at Anniston but it has never been used."

A Uh-huh.

Q "Considerable developmental work is necessary." And then at the end there it says, "Another problem is that of equipment priority because of the chromatograph, with which the electron capture is used, is occupied full time on other high priority work." Am I correct, from your earlier testimony, you're the man who would be setting those priorities there in Anniston?

MR. PRATER: Object to form.

THE WITNESS: No. I would be responding, I would be setting them in our department, but the -- the

initiation of the priorities would primarily be the Production Department.

BY MR. CUNNINGHAM:

Q Well, --

A In other words, they would tell me, "We have to" -- "we have to analyze for quality for these shipments, so we can't ship them" and that would be the -- then I would have

to respond to that and --

Q Right. If I'm hearing what you're saying is that production could trump these kinds of analyses and say, "We've got to do this to get this product out."

A Well, at this point in time, yes.

Q Okay.

A The equipment was primarily to serve production quality.

Q Okay. If you will turn to page 3, Roman Numeral three, "Work to Minimize Losses at Anniston." "Definition of the Problems." No. 1, "External to plant -- that a problem exists at Anniston is evident because free globules of Aroclor can be seen in Snow Creek."

A Uh-huh.

Q "We do not know what the" -- "problem exists in Choccolocco Creek and the Coosa River. By July 1, 1969, we will determine the limit of visual evidence of Aroclors downstream in Snow Creek." Were you in the loop with that

effort to determine how far down you could actually see it in the creek?

MR. PRATER: Object to form.

THE WITNESS: Well, not directly.

BY MR. CUNNINGHAM:

Q Did you ever actually see these globules yourself?

A I don't recall that, no.

Q Do you remember going to look at Snow Creek?

A (Witness shakes head negatively.) No.

Q When you testified a little bit ago that Snow Creek was just a ditch, is that what somebody told you?

A Well, I drove by it --

Q Okay.

A -- coming to work.

Q All right. So the extent of your knowledge of what Snow Creek looks like or consists of is basically what you could see from the roadway when you drove over it?

A (Witness nods head affirmatively.)

Q Okay.

MR. PRATER: Object to form.

BY MR. CUNNINGHAM:

Q All right. Let's go to document "No. 5." Okay. Okay, let me hand you another document, Mr. Landwehr. This one is under date of November 14, 1969. You are cc'd on

that. It's from Mr. Wright, Bunkie, to Bill Papageorge, who you said was a plant manager. It's subject is "Aroclor spill on March 6, 1969." And I'm guessing this is one of the upsets or an upset you meant, like you spoke of earlier.

A Yeah.

Q Okay. And it talks about a loss of approximately 1500 gallons of Aroclor 1242 into the sewer and that to date

they have only been able to recover about 350 gallons of it?

A Yes.

MR. PRATER: Object to form.

BY MR. CUNNINGHAM:

Q And I wanted to say, too, that the subject up there says, "March 6," but when you read down there it says "November 6," and the memo is dated November 14. Do you have any recollection as to the actual date, as whether it was November versus March that it was spilled?

A (Witness shakes head negatively.) No, not other than what I --

Q What it reads?

A -- what it says.

Q Okay.

A Yeah.

Q It says down at the end of that paragraph, "Small

quantities of this material can be seen leaking through the limestone at the effluent end of the limestone pit. It appears highly unlikely that we will be able to recover any more of this material." I read that as meaning it's gotten through all the treatment at that point and it's just in the ditch headed for Snow Creek, right?

MR. PRATER: Object to the form.

THE WITNESS: Not necessarily.

BY MR. CUNNINGHAM:

Q All right. What treatment or capture mechanism exists after the limestone -- existed in November of '69 after the limestone?

A Well, you are misinterpreting what he's saying. He's saying that the remainder is lying at the -- upstream of the neutralization pit.

Q No. I understand that. I'm talking about --

A And he's saying "small quantities...seen leaking."

Q Right, right.

A Yeah.

Q The stuff was slowly seeping out through the system, wasn't it, and you could actually see some of it at the effluent end of the limestone pit?

MR. PRATER: Object to the form.

THE WITNESS: Not necessarily I would think,

but I don't know.

BY MR. CUNNINGHAM:

Q Well, do you know of any mechanism in place downstream from the limestone pit that would entrain PCB's? If, in fact, this is true and if, in fact, you could see PCB's at the effluent end of the limestone pit, do you know of any method in place to entrain that PCB to keep it from continuing to move downstream?

MR. PRATER: Object to form.

THE WITNESS: Well, if you -- I don't know if this is necessarily -- you know, he's speculating, so --

BY MR. CUNNINGHAM:

Q He's speculating about seeing it?

A He's speculating about --

Q I mean why -- why does that strike you as bizarre? I showed you in --

A Well, I mean --

Q -- "No. 4" where they said, "free globules can be seen in Snow Creek." Was --

A Well, he says, "Small quantities of this material." I --

Q Okay. So --

A That's why I'm saying --

Q -- it's PCB, it's not necessarily related to the spill is what you're saying?

A Well, not necessarily. Not either way. It might not be PCB. He's saying "this material."

Q Okay. So Bunkie, was he in the habit, in your experience, of inaccurately stating things like that?

MR. PRATER: Object to the form.

THE WITNESS: Not -- no, not at all, but --

BY MR. CUNNINGHAM:

Q Okay. You trusted him, did you not?

A Yeah.

Q Okay. And would I be safe in assuming this wasn't the only incident in the whole history of that plant where there would be a spill like that, an upset, to use your term?

MR. PRATER: Object to form. If you know.

THE WITNESS: I don't know.

BY MR. CUNNINGHAM:

Q Look at the last line there. "I would also like to express appreciation to the Organic Production Group and the Maintenance Department for the prompt action which they took in trying to minimize losses of this material to Snow Creek." That suggests to me that there was a loss of material into Snow Creek. Again, do you have any reason to think that Mr. Wright is incorrect when he says that?

MR. PRATER: Object to the form. That's

putting words into the memo that aren't there.

MR. CUNNINGHAM: What -- did I read something --

MR. PRATER: It may be best asked Mr. Wright.

BY MR. CUNNINGHAM:

Q Did I read something that wasn't in the memo, sir?

MR. PRATER: You read it correctly, but you then gave your interpretation of it. That's what I'm objecting to.

BY MR. CUNNINGHAM:

Q Well, Mr. Landwehr, you got this document, didn't you?

A I mean he could have left the "trying" out. He could have said, "in their work to minimize." I mean that's just a short --

Q Well, let's leave the word "trying" out. It still --

A Use the expression --

Q -- when you say -- when you say "minimize losses," it still means there were losses to the creek.

MR. PRATER: Same objection.

THE WITNESS: He didn't measure them. That's my point. There is nothing -- no engineering or scientific data that measured any of this. This is all speculation on his part.

BY MR. CUNNINGHAM:

Q Well, what did you do to resolve the speculation?

A I don't know what -- I don't know.

Q Wouldn't that have come under your responsibilities as a technical services superintendent who had to prioritize the use of the analysis equipment and the manpower at that facility to determine how many analyses you'd take to figure that out?

MR. PRATER: Object to the form of the question. Also object to picking and choosing from this document, because at the top of the second paragraph, the first sentence says, "I have checked Snow Creek on two

occasions since the spill and can find no two phase flow in the stream itself."

THE WITNESS: Yeah, I think -- you're making more out of this than it really is. I mean --

BY MR. CUNNINGHAM:

Q Well, isn't it -- isn't it true that your attitude was there was nothing to worry about in Snow Creek, "If we lost a little PCB to Snow Creek, what's the big deal?" Was that your attitude?

A No. No.

Q All right. So it was important to keep PCB out of the creek?

A (Witness nods head affirmatively.)

Q Can we agree on that?

A Yes.

Q Okay. And so when you got this did you just treat this as no big deal?

A I don't remember that. It was 30 years ago.

Q All right.

A On the other hand, --

Q But you --

A -- we had extensive programs to address issues such as this.

Q All right. Tell me what those extensive programs were.

A Well, aren't we going to get into those subsequently?

Q I suspect we will, but there is a good chance that these won't tell me what those extensive programs were.

A We monitored the discharges and we tried to minimize them.

Q Okay. Next exhibit is "No. 6." This is a document under date of December 5, 1969, titled, "PCB Toxicity Problem, Proper Disposal of Scrap Aroclor." Now, this one does not demonstrate that you were cc'd on it, so I'm going to ask you, at least initially, whether you have any recollection of the kinds of things that are being discussed here?

A (Reads document.) No.

Q The reason I want to bring it to your attention, they

talk about -- this Mr. Benignus -- that over six months ago they pointed out the impending need for Monsanto to provide an incinerator. Then in the next paragraph he's surprised that (quote) This request does not receive support (closed quote), and I am wondering if you would have been involved, if there had been a message sent down from on high in St. Louis that "We want to put an incinerator down there to burn Aroclor." Would you have been involved in that process design, budgeting, overseeing the --

A Yes, I would have.

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q Okay. Yeah. That's yes. Do you recall, in fact, doing anything like that?

A Not that proceeded very far. May have been one of any number of possibilities that were considered --

Q Okay.

A -- relative to Anniston.

Q The last paragraph reads, "At the present time our only means for disposal is to a landfill. We are warned this will no longer be acceptable. Accordingly, Mr. Kountz will now explore incineration and Mr. Kuhn will explore distillation at our plants." Do you know who Mr. Kuhn and Mr. Kountz are?

MR. PRATER: Object to the form.

THE WITNESS: I don't know who -- I don't recall who Mr. Kountz was. I know -- I told you that Mr. Kuhn was the business group director or something.

BY MR. CUNNINGHAM:

Q Okay. He wasn't a technical guy -- if he was going to explore this, he would have put that in the hands of his technical --

A Well, he was technical -- he was an engineer.

Q Okay.

A Yes.

Q Was he based in Anniston?

A No. No.

Q Do you recall anything at all that you did in terms of trying to develop an incinerator for Aroclors?

A Nothing extensive.

Q All right. That makes me think something, just not much, and I would like to know about the something.

A We may have looked at an article about --

Q All right.

A -- incinerators.

Q May have. You don't have any independent recollection, as you sit here today, about doing anything, do you, in the way of exploring or researching the use of an incinerator to destroy Aroclor?

A No.

Q Okay. This next document I will label "No. 7" for your deposition. This is --

MR. PRATER: Wait a minute, Charley.

MR. CUNNINGHAM: Okay.

MR. PRATER: I haven't had a chance to look at it yet. Does he need to read this entire document? I mean --

MR. CUNNINGHAM: No, no. I will take him to the --

MR. PRATER: -- he's not copied on it, so --

MR. CUNNINGHAM: Right.

BY MR. CUNNINGHAM:

Q You already told me you don't know what was going in the dump, right?

A Right.

Q Okay. Let me take you to the second page at the end. There is a heading called "Aroclor Toxicity - Anniston Plant." "Your question as to why the toxicity of Aroclors has not turned up downstream of the Anniston Plant after 40 years of manufacture is difficult to answer. We just don't know. Aroclors have been found in Snow Creek near the plant. There is no record of any water life observed in this creek for many years. We've assumed other plant

wastes were to blame; e.g. muriatic acid. Aroclors could also be involved." Now, muriatic acid is just dilute hydrochloric, isn't it?

A Yes.

Q Okay. So -- and you told me that you didn't think there was any water life in Snow Creek, and that's what I'm trying to find out. Was it always your understanding, from these studies that we talked about way back in "Exhibit No. 2" that Tulane had been doing, that something was causing this problem from you all but you attributed -- you mentioned parathion. This mentions muriatic acid. When did PCB's get into the picture?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q If you know.

A I don't know specifically.

Q Let me take you to the next page. Starts off there at the top on "Biodegradability," and it would appear to me from this that tests on the biodegradability of Aroclors had been conducted at St. Louis Research and at Ruabon. Where is that?

A England.

Q England. Okay.

A Ruabon, I think.

Q "At present, Aroclor 1221 appears to be biodegradable

in river water and activated sludge. Aroclor 1242 undergoes slight degradation in sludge containing microorganisms acclimated to biphenyl. All other Aroclors have resisted biological degradation, to date." Is that -- am I reading that right?

MR. PRATER: Object to it.

THE WITNESS: Yes.

BY MR. CUNNINGHAM:

Q Is that consistent with your technical understanding that these things do not degrade out the environment?

MR. PRATER: Object to form.

THE WITNESS: Well, I'm not an expert in this area, but it seems to me I've read over the years that --

that it has been -- there has been some evidence of biodegradability.

BY MR. CUNNINGHAM:

Q Well, let me put it this way. On March the 6th, 1970, this is what Bill Papageorge, your plant manager, is telling this J. R. Durland in Tokyo, correct?

MR. PRATER: Based on this memo, which he wasn't copied on.

BY MR. CUNNINGHAM:

Q Well, do you have some knowledge superior to Bill Papageorge -- did you, in 1970, that these things did

degrade?

MR. PRATER: Object to form.

THE WITNESS: Not that I remember.

BY MR. CUNNINGHAM:

Q In the next paragraph where it talks about incineration -- let me see if this refreshes your recollection.

A Yeah.

Q It says, "Aroclors will decompose at temperatures exceeding 800 degrees Fahrenheit. Bayer and Prodelec in Europe claim they are incinerating PCB's. We have been promised data on the stack gases formed. The Rollins-Purle, Inc. people in New Jersey claim they have incinerated some Aroclor 1254." Do you remember talking to

any of those three companies as part of the effort to determine if Monsanto --

A No.

Q Okay.

A No.

Q All right. That's all I have for that one, "No. 7." Here is "No. 8." This is a document dated March 31, 1970 from Anniston, Alabama, Monsanto, to J. L. Corder. Do you know who J. L. Corder is?

A As I recall, he was the manager of the -- production manager for Aroclor.

Q Okay. And it seems to be authored by M. B. Mullally, if you look at the end.

A Yeah, I saw that.

Q Do you know who he is?

A I think he was one of the supervisors in the Aroclor department.

MR. PRATER: I'd just point out that I see no indication on this of Mr. Landwehr even being copied on this particular document at the time.

MR. CUNNINGHAM: I'm hip. I'm just trying to find out if he knew anything at all about what was going on with that dump up there.

BY MR. CUNNINGHAM:

Q They had a task force whose members would appear to be

M. B. Mullally, Hal Brazelton, J. L. Etheredge, T. W. Lawrence, J. H. Powell, and E. G. Wright, correct?

A (Witness nods head affirmatively.)

Q E. G. Wright, I guess, would be part of the Technical Services Department?

A Yes.

Q Any of the other five individuals listed technically fall under your department?

A I don't think so.

Q Okay. Wouldn't you have to have known Mr. Wright was

going to devote some of his time to this task force on the plant dump?

MR. PRATER: Object to form.

THE WITNESS: I presume so.

BY MR. CUNNINGHAM:

Q Okay. Is it plausible that he would have been involved in the discussions about taking care of that dump and fixing it up and not have exchanged that information with you in some format?

A Is plausible.

Q Is plausible. Okay. There is a discussion at the end on costs. Would you have been involved in the budgeting process --

A (Witness shakes head negatively.)

Q -- for the dump?

A No.

Q Okay. "No. 9" is nice and short. You were copied on this one. This is from Mr. Wright to Mr. Ramsey regarding Aroclor losses to the atmosphere, and he's asking him -- it's not long; you can read the whole thing. It says there, "Your method should prove most helpful in projecting what the losses are expected to be in the remainder of the Aroclor department." Did you ever, to your knowledge, endeavor to calculate the total atmospheric losses of Aroclor at the plant?

A No.

Q Were there other sources aside from this HCl scrubber jet?

MR. PRATER: Sources of what?

BY MR. CUNNINGHAM:

Q Well, I'm just reading this sentence here, last sentence in the first paragraph. "Your method should prove most helpful in projecting what the losses are expected to be in the remainder of the Aroclor department." And I'm just wondering what other places in the Aroclor department you all thought might be the source, but I'm guessing you don't know.

A No, I don't, really.

Q Okay. Okay, this is "No. 10," Mr. Landwehr.

"Subject: PCB (slash) Fish - Anniston, October 1, 1970."

You mentioned tours, that you would take tours from time to time, and this is from a John Mason in St. Louis to Mr. Papageorge saying he wanted to come down and tour Anniston, trying to find out where the PCB's may be located. Do you know who John Mason was?

A He's -- as I vaguely remember, he's a vice president, corporate vice president.

Q Okay. Am I correct in assuming from your earlier testimony you don't remember going out on a tour with he

and Mr. Papageorge and anybody else?

A Not at all, no.

Q Okay. All right. "No. 11." This is from Mr. Wright under date of October 29, 1970. "New Sump below Plant Dump." This time you are on the cc list, are you not?

A Yes.

Q Okay. And this is to W. F. Taffee. What is Mr. Taffee's position or what was his position as best you recall?

A He was one of my engineers.

Q Okay. And does this refresh your recollection at all with respect to some of the problems up there at the dump?

A Not really. I -- this is news to me.

Q Okay. Andy Bonds is mentioned there as doing the visual inspection. Do you remember who Andy Bonds is?

A No.

Q And under his observations, No. 2, "The Aroclor phase in the ditch seems to be stable except during periods of rainfall." Were you aware that Aroclor was getting out of that dump?

MR. PRATER: Object to form.

THE WITNESS: Not really, no.

BY MR. CUNNINGHAM:

Q No. 4, "Some material does float on the water in the sump." Do you have any idea how that could happen?

A I don't remember there being a sump. I don't remember this at all.

Q Okay.

MR. PRATER: It was 30 years ago.

BY MR. CUNNINGHAM:

Q Down there, they give some results from some samples that were taken. Aroclor concentrations in parts per billion that actually work out to kind of part per million kind of concentrations.

A Uh-huh.

Q Are you familiar technically with the solubility of PCB in water?

A No.

Q Okay. "No. 12." This is from Bill Papageorge under date of October 26, 19 -- excuse me -- 1970 to J. R. Savage. Do you recall who Mr. Savage was?

A Yes, vaguely. He was a -- he might have had Bill Kuhn's job later.

Q Okay.

A He may have been a successor to Bill Kuhn.

Q Business unit leader?

A (Witness nods head affirmatively.)

Q This memo seems to be talking about contaminants that have been found in some of the Aroclors or in feed stock to

the Aroclors, and particularly, if you look in that last two paragraphs, I read those as saying (quote) The dibenzofuran could result from oxygen containing contaminants in the benzene or, more likely, be formed because of the presence of the promoter, acetone. The Anniston plant should design and execute a program for determining the source or sources of these contaminants." Did you, in fact, participate in that design work?

A (Witness shakes head negatively.)

MR. PRATER: Object to the form. He's not shown as being copied on this, in addition.

MR. CUNNINGHAM: All right.

THE WITNESS: No. I can tell you no.

BY MR. CUNNINGHAM:

Q All right.

A This is news to me. I never --

Q Okay.

A I'm not aware of this issue.

Q "No. 13." "Ditch Water Samples." This is from the Anniston plant. It's to "All Aroclor Packaging Personnel," cc'd to a lot of people, including yourself, from Bunkie Wright. How many people --

A No. From Gerald Miller.

Q I'm sorry. Gerald Miller.

A Yeah.

Q How many people would be in the -- in the group that would constitute all Aroclor packaging personnel, you think?

A Maybe five to ten, something like that.

Q Okay. Was it their job to collect water samples? Is that what I'm taking from -- if you want to take a moment to see. It looks to me like this is a memo urging everybody to be diligent in their efforts to collect water samples.

A Could be.

Q Okay. And so the people actually picking up these samples are the packaging personnel? I mean is that a reasonable conclusion, or do you know of something to the contrary?

A I don't know one way or the other really.

Q Okay. And at the very end he basically says, "We have to work together as a team to protect our jobs," correct?

A (Witness nods head affirmatively.) Right.

MR. PRATER: Object to form. That's what it says.

MR. CUNNINGHAM: Right, that's what it says.

BY MR. CUNNINGHAM:

Q Was it understood out there that if PCB's were found getting off the plant the people would lose their job?

A I presume it could have been.

Q Okay.

MR. CUNNINGHAM: That's "13"?

MR. PRATER: Yeah.

MR. CUNNINGHAM: Okay.

MR. PRATER: Off the record real quick.

(Break taken.) (Back on the record.)

BY MR. CUNNINGHAM:

Q Let's look at "No. 14." I read this, Mr. Landwehr, as a document from Mr. Savage to you from December 24, 1970, on the subject of "Anniston Aroclor Waste Costs." May I safely assume you have no independent recollection of this document, having seen it before or anything like that?

A Have I seen it before?

Q Yeah.

A I think I have, yeah.

Q Okay. It starts off there at the beginning about a meeting on December 9, 1970, where it was decided that

y'all would move towards total liquid Aroclor production at WK -- WGK. Now, were you present at that meeting where that decision was made?

A No.

Q Okay.

A I don't think I was.

Q And it says it's going to total liquid Aroclor

production, and I'm wondering if by that qualifier, the word "liquid," that that meant y'all were going to keep making solid Aroclor. Do you have a recollection of there being a phase-out that first y'all stopped making liquid and then y'all stopped making solid out there?

A After seeing this.

Q Okay.

A From this.

Q That is your recollection?

A Uh-huh.

Q Okay. Do you have a recollection of how much you made liquid versus solid before this, what the ratio might have been?

A (Witness shakes head negatively.) Not really.

Q Okay. And the decision was (quote) PCB pollution capital at Anniston should be held to a minimum consistent with the phase-out and reasonable control of chlorinated terphenyl (closed quote). What was the chlorinated

terphenyl as you understood it?

A I think that would be solid --

Q Okay.

A -- product.

Q Now, let me take you down to the bottom there, that full paragraph that begins, "I cannot agree." Says, "I

cannot agree that the 'Toxicological Account will be 10M (slash) month in 1971.'" Would 10 capital "M" be $10,000?

A I would think so.

Q Okay. And he says, (parens.) "$6700 over present budget" (closed quote). Had you asked, I assume, for an increase in the toxicological account?

A I really can't remember.

Q Okay. Says, "We simply cannot afford it." As we sit here today, you can't give us any idea what you might have been looking for with those additional financial resources, what you would have done with it?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q And I've got another document here that may help on that, although it seems to be dated later, so maybe it was an effort on your part to explain --

A I'm not sure I was involved in this budget.

Q Okay. Well, let me take you to this one here. Maybe this will help us, because I think this may be talking

about the same stuff, although again it's dated later in time, and I'm trying to give you these in date sequence to help in that regard.

MR. PRATER: And I just want to make a quick objection -- maybe it's more a statement -- invoking the rule of completeness, because we are kind of picking at

certain parts of these documents and not others.

MR. CUNNINGHAM: Sure.

BY MR. CUNNINGHAM:

Q Okay. Take a look at what I have marked as "No. 15" and see if that -- it looks to me to be a budget put together by you, if you look at the very end.

A Right.

Q And I don't know if this is -- again, it's dated January '71, which makes it after "No. 14," but I'm wondering if this helps you recall what it is you were trying to get money for that Mr. Savage said you all couldn't afford. So take your time, take a look at that.

MR. PRATER: I think, for purposes of clarification, this may be a response dated January 20 to the 12-24 --

MR. CUNNINGHAM: Yeah. That's --

MR. PRATER: -- memo.

THE WITNESS: Which is --

BY MR. CUNNINGHAM:

Q In other words, I had the sense that you were trying to explain to him what -- what this money was going for.

A Uh-huh.

Q And so let me take you through a few of these that I had questions about. On page 2, No. 4 says, "Projected

business protection type work which will exceed budget and will be done only on production superintendent's approval on a case basis. A) Dump control - manage dump and transportation to minimize PCB escape." Do you remember asking for money to do that?

A No.

Q Okay. And we talked earlier before about production being able to sort of trump some of the analytical work. Am I reading this to say that, again, the production superintendent would decide if this stuff would get done?

MR. PRATER: Object to form.

THE WITNESS: Say that again.

BY MR. CUNNINGHAM:

Q I'm reading this. It says, "Will be done only on production superintendent's approval." In other words, again, production has the control, so to speak, on whether or not this money would be expended to minimize PCB escape from the dump or the transportation of stuff to the dump.

MR. PRATER: I object to the form of that.

THE WITNESS: Well, I think they would have

control of whether the money was spent or not.

BY MR. CUNNINGHAM:

Q Okay. That's what I meant.

A And how often.

Q Okay. And you project there kind of a -- really, in

all of this stuff just about, maximum amount that you budget and the minimum, and when you say "TSD 20 mandays," that's people under your department?

A (Witness nods head affirmatively.) Right.

Q Okay. And then you got the analytical work doing 12 soil samples and 30 water samples. Mechanical expense, what would that be? Equipment?

MR. PRATER: If you recall.

BY MR. CUNNINGHAM:

Q Yeah, if you recall.

A Well, I don't know. It could have been repair or new equipment or --

Q Let's turn the page here and look at "b". "Leaching problems - storm drain, pit bypass, groundwater under Aroclor department, and abandon dumps." And, again, you've got some numbers there. What abandoned dumps were you talking about there?

A I don't -- I don't recall.

Q What pit bypass were you talking about?

A (Witness shakes head negatively.)

Q Okay. Do you know what storm drain you were talking about?

A I don't know.

Q Okay.

A I mean --

Q Well, that's -- if you don't know, you don't know. Number c), "Clean up Snow Creek and Area Monitoring, PCB removal from any area from our fence to Choccolocco - avoid if possible, but be prepared for action." Again, you had hopefully zero but possibly as much as $3,000 budgeted for that. Mechanical expense, 2,000 max. and 12 mandays at a thousand dollars. What exactly would you get in 12 days worth of labor?

MR. PRATER: Object to form.

THE WITNESS: I --

BY MR. CUNNINGHAM:

Q Don't know?

A -- don't know.

Q Okay. Let's -- can you enlighten me at all on number d), "Disposal of Scrap and Spent Carbon-PCB containing materials, collect and dispose; expense related to projects or investigations." Again, can you tell me what that's talking about?

A I don't remember.

Q Okay. Okay, "No. 16." This has you copied. It's

from Mr. Wright to a list of people, talking about these consultants again, Drs. Gunning and Suttkus, and it has a report attached. I didn't attach it here, but one of the conclusions was that there had been no significant

reduction in the PCB concentration between the experimental fish and the controls. Did you ever talk to this Dr. Gunning or this Dr. Suttkus?

A I just met them.

Q You met them?

A And socially.

Q Okay.

A You know, just, "How you doing?"

Q Okay. And at the plant? I mean you didn't see them at a cocktail party, I assume.

A Yeah, right.

Q Just casually.

A When they came, right.

Q Okay.

A Yeah.

Q Were you involved in taking that study and -- and then trying to develop plans to address changes in the plan in light of their conclusions?

A No.

Q As you sit here today, what is your recollection, if any, of what they concluded ultimately about the condition

of fish life in Choccolocco Creek?

A (Witness shakes head negatively.) I would be -- I don't know. Really can't --

Q Okay. Your previous answers have saved us a little time there on that one. Okay. I'm backing up in time now.

MR. PRATER: Okay.

BY MR. CUNNINGHAM:

Q This document is a document under date of May 7th, 1970. You're at the top of the cc list. It's to Mr. Jessee from Mr. Miller. What was Mr. Jessee's position? Plant manager at the time?

A Yes.

Q Okay. And it indicates that on May 6 of 1970, I assume, you and "E. G. Wright and I," meaning Mr. Miller, visited with one J. L. Crockett, Technical Director for the Alabama Water Improvement Commission, in Montgomery. Do you recall that visit?

A It's in the letter. I recall that --

Q I understand it's in the letter.

A -- we did make visits to him, yeah.

Q All right. You remember going to Montgomery and meeting with Mr. Crockett?

A Yes.

Q Okay. What was the reason for your being in the loop, in making that trip?

A Because Mr. Miller and Mr. Wright reported to me.

Q Okay. Do you recall doing much of the talking, or were you just kind of there and they were conveying

information?

A I think that was the case, that they were conveying the information.

Q Okay. There is something here in this next paragraph, if you look on the third line -- let me start with the sentence on the second line. "Copies of the most pertinent articles describing the situation along with Mr. Minckler's statements were provided for his use." Do you know who Mr. Minckler is?

A He was a corporate vice president or --

Q Okay.

A -- the top official.

Q And what were his statements as best you can remember?

A I don't recall.

Q Do you remember what articles you gave Mr. Crockett?

A No.

Q Down here in No. 3, about his -- the recommendations was they were going to give no statements or publications which would bring the situation to the public's attention. Why did you all feel it was important or, to use the word up here, beneficial to the Monsanto position that the public not know about the PCB's?

MR. PRATER: Object to the form. Read in context it says, "His recommendations were as follows," and

that statement was one of five recommendations based on this document, was made by the gentleman from AWIC, Mr. Crockett.

BY MR. CUNNINGHAM:

Q Did you argue with him and say you wanted to tell the neighbors and the people downstream about this?

MR. PRATER: Object to form.

THE WITNESS: I don't remember that, no.

BY MR. CUNNINGHAM:

Q Okay. In fact, didn't you all ask that this be kept private?

MR. PRATER: Object to form.

THE WITNESS: I -- not specifically. I don't remember specifically asking it be kept private, no.

BY MR. CUNNINGHAM:

Q I mean the last -- if you turn to the page -- second page, rather, that first full paragraph, the last sentence says, "The full cooperation of the AWIC to reach the above objective on a confidential basis can be anticipated." Again, it was your goal, was it not, to keep this confidential?

MR. PRATER: Object to the form of the question. That's not what he said.

MR. CUNNINGHAM: Well, I'm asking him if that was their goal. If it wasn't, he can sit here and say no,

we wanted to publicize it.

MR. PRATER: Asked and answered.

THE WITNESS: Well, we wanted to reach this objective.

BY MR. CUNNINGHAM:

Q Which was?

A To develop informa -- to do these five things in a controlled manner.

Q Okay. Did you ever go to the feds like this, any federal regulators, like you went to Mr. Crockett?

A I think -- I didn't. Or maybe I did, but I think there were contacts with EPA.

Q Okay. And did you all also reach an agreement with the federal government to try to keep this confidential?

MR. PRATER: Object to the form.

THE WITNESS: (Shakes head negatively.) I don't remember that.

BY MR. CUNNINGHAM:

Q Let's go to "No. 18." This appears to be from St. Louis, from August 7, 1970, authored by Paul Hodges, and you are on the cc list. You will see at the top it says, "Confidential - F. Y. I. and Destroy."

A (Witness nods head affirmatively.)

Q Was it common for you to get memos that said read them

and destroy them?

MR. PRATER: Object to form.

THE WITNESS: I don't remember. Could have been.

BY MR. CUNNINGHAM:

Q You just don't recall whether that was common or not?

A No.

Q It starts off saying, "The following are the moves underway resulting from the FDA findings of high levels of PCB in fish taken from Choccolocco Creek." Do you remember what these levels were?

A No.

Q Do you remember that there were high levels in fish?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q -- downstream from the plant, or is this news to you?

MR. PRATER: Object to the form.

THE WITNESS: You know, I can't really remember the levels.

BY MR. CUNNINGHAM:

Q Do you remember that they were high enough that it created some concern?

A I think so, yes.

Q Okay. Under "Status," No. 1 talks about discharging

16 pounds a day to Snow Creek and it says, "Down from 250

pounds a day in '69." Do you have any independent recollection that would suggest that 250 pound a day number from '69 should be something different?

MR. PRATER: Object to the form.

THE WITNESS: No.

BY MR. CUNNINGHAM:

Q Looking down at No. 3 under "Status," it says, "Joe Crockett, Secretary of the Alabama Water Improvement Commission will try to handle the problem quietly without release of the information to the public at this time," and then it talks about some information being conveyed to the Public Health Department by Jack Garrett. Who is Jack Garrett?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q If I misread that, please tell me.

MR. PRATER: And I know you're trying to put things in context, but, you know, the document does say what it says in its entirety.

THE WITNESS: So what's the question?

BY MR. CUNNINGHAM:

Q Do you know who Jack Garrett is?

MR. PRATER: Do you know who Jack Garret was or is?

THE WITNESS: Vaguely remember he's some specialist in St. Louis.

BY MR. CUNNINGHAM:

Q Okay. Looking on page 2, under "Program, (A)." An E. V. John was going to develop a proposed statement, but then they weren't going to use it, and this is -- I asked you about this earlier -- "because of a recent lawsuit instituted against the plant by" (all caps) "BASS", B-A-S-S. Again, does that refresh your recollection? Do you remember anything about a lawsuit --

A No.

Q -- from the 1970 era?

A No.

Q Look under (B), "Operator Education - All Anniston personnel have been readvised of the necessity to avoid sewering any Aroclor." I take it people had been sewering Aroclor?

MR. PRATER: Object to the form.

THE WITNESS: Not necessarily.

BY MR. CUNNINGHAM:

Q So you just told them that for the heck of it?

MR. PRATER: Object to the form.

THE WITNESS: Not for the heck of it. For reemphasis, for training, continuing training.

BY MR. CUNNINGHAM:

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Q Okay. Look on page 3, please.

A But this was Paul Hodges' idea, not necessarily, you know, something originated in the plant.

Q All right. Look at page 3, at the top, item No. (c) "Cleanout -- The pit will be thoroughly cleaned out with probable removal of the (quote) present deteriorated asphalt membrane (closed quote)." What, to your recollection, was deteriorated about the asphalt membrane?

A I don't remember.

MR. PRATER: Nineteen?

MR. CUNNINGHAM: Nineteen.

BY MR. CUNNINGHAM:

Q Now, this is something from Mr. Garrett to you, is it not?

A Correct.

Q And it's from the Monsanto Medical Department. Does that perhaps refresh your recollection that Mr. Garrett may have been somehow in the Medical Department up in St. Louis?

A Yes.

Q Okay. And he's sending data to you, it looks like, that he in turn got from the State of Alabama?

A Uh-huh. Yes.

Q Do you remember that incident where you all were getting some data that had been collected by the FDA that

seemed to show some PCB in fish downstream?

A I really don't, no.

Q Okay. The last paragraph begins, "Crockett told me that if this PCB issue hits the Alabama press, the Alabama Water Improvement Commission would be forced to close Choccolocco Creek and the Martin-Logan Reservoir." Do you remember that being an issue when you talked with Mr. Crockett?

A No.

MR. PRATER: Object to the form. I'm sorry.

BY MR. CUNNINGHAM:

Q Did Mr. Crockett ever suggest to you that if, in fact, the public learned of the levels in these fish, that they would have to post a warning and advisory about the levels?

A I don't -- I don't recall that.

MR. PRATER: And again, not to revisit it, but the completion of the earlier sentence was "Martin-Logan Reservoir to commercial and sport fishing unless we can prove that the contamination level does not reach the reservoir." You had stopped at "Reservoir."

BY MR. CUNNINGHAM:

Q All right. Is it your -- is it your testimony that the contamination didn't get to Lake Logan-Martin?

MR. PRATER: If you know.

THE WITNESS: No. I just said I didn't

recall this, right.

BY MR. CUNNINGHAM:

Q Are you aware that Monsanto just agreed to pay 44 million dollars to the residents of that reservoir to clean it up and to pay them damages?

MR. PRATER: Object to the form of that question.

THE WITNESS: No.

BY MR. CUNNINGHAM:

Q So today's the first you've learned that there were allegations that the fish in Lake Logan-Martin were contaminated with PCB's?

MR. PRATER: Object to the form.

THE WITNESS: No. No.

BY MR. CUNNINGHAM:

Q When did you first learn that it was thought that that reservoir might be contaminated?

A The other -- in connection with the other deposition.

Q Okay. So until this year you had no idea that there might be a problem in Lake Logan-Martin of PCB's?

A No.

MR. PRATER: Object to form.

BY MR. CUNNINGHAM:

Q No, you didn't know or no to my question?

A No, I didn't know.

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Q Okay.

A No, I didn't recall.

Q Okay. This is "No. 20." This is a "Confidential" memo from Paul Hodges to Toby Bell. You're cc'd on it, and would you tell me, please, if you recall who Toby Bell was?

A He was the chief chemist at this time.

Q It's talking about a letter to Joe Crockett that was being proposed. They had run it by legal, and basically it looks like your emissions had gone up. It reads there, in the middle of the paragraph, "From a legal standpoint there is extreme reluctance to report even the relatively low emission figures." Were you all being told by St. Louis not to report to Crockett the true numbers?

A No.

Q Okay. So you -- you testify here today under oath that you always told Crockett the truth --

A Yes.

Q -- about the numbers? Okay. "No. 21." Now, this is under date of October 26, 1970, and it's by you, is it not? You authored this one?

A Yes.

Q And you are writing it to the plant manager?

A Right.

Q And you're documenting a visit that you and Mr. Bell and Mr. Wright took to see Mr. Crockett in October on the

23rd, right?

A Right.

Q Reading that third paragraph, reads, "Since he insisted again on knowing what the effluent levels were, we verbally informed him that we were presently discharging total Aroclors in the range of one to five pounds per day. The latest trend being towards the one pound per day end of the range. To his question on past discharges, we informed him the current discharges were down from past ranges of one-fifth to one-tenth, but we qualified this answer that high recent past numbers were a result of higher water effluent flow and high solid content in the old limestone neutralization pit." Read that correctly?

MR. PRATER: Object to form.

THE WITNESS: Yeah.

BY MR. CUNNINGHAM:

Q Okay. In truth, in fact, your discharges were a lot higher than one to five pounds per day, weren't they?

A No.

Q Well, didn't we just read a memo that talked about 80 pounds in one day alone?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q Go back and look at "No. 20," please.

A That was one day, for one thing.

Q Well, but you're talking about ranges here, right?
A We're talking about --
Q You're not talking averages. You say, "in the range."
A No. We're talking about ranges of averages.
Q Oh. Okay.
A I think.
Q So if we looked at a chart that showed us the discharge on a daily basis for September, we would see a range of one to five pounds per day?
MR. PRATER: Object to the form. If you have such a document, it would help him determine that.
BY MR. CUNNINGHAM:
Q Well, you're the guy who just told me you always told Crockett the truth, so I'm assuming that's what we would find. Right?
MR. PRATER: Object to the form. Next page apparently is that document.
BY MR. CUNNINGHAM:
Q Well, for one thing, the second page, which again is marked "Confidential," "Plant Effluent - Aroclor 1242 and 1254," that's not the total amount of Aroclor you're discharging, is it?
A It's the -- it's the part that's not -- that's poly -- PCB. It is the PCB, yeah.

Q So Aroclor 1260 is not PCB?

A I don't know.

MR. PRATER: Object to form.

THE WITNESS: Yeah, but we didn't -- apparently we didn't analyze for that, because we didn't have any presumably.

BY MR. CUNNINGHAM:

Q Well, isn't it true that you were discharging the entire gamut of PCB's that you were, you know, manufacturing at that plant?

MR. PRATER: Object to form.

THE WITNESS: Yeah. I don't know.

BY MR. CUNNINGHAM:

Q Well, you're sitting there talking to Mr. Crockett and you're making representations to him, aren't you, about the amount you're getting rid of, and you're sitting here telling me today you don't really know?

A We were talking about 1242 and 1254, period, as far as I know and recall.

Q Well, the document you drafted says, "Discharging total Aroclors in the range of one to five pounds per day." It doesn't say Aroclors 1242 and 1254, does it?

MR. PRATER: Object to the form as is reflected on the very next document, which is a part of "Exhibit 21."

25 BY MR. CUNNINGHAM:

1 Q Are you saying that you gave him this?
2 A Apparently.
3 Q All right. And all that is is parts per million, is
4 it not? It's got a date and it's got a PPM on it, does it
5 not?
6 A That's correct. And I believe this is what he asked
7 us for.
8 Q Okay. So that doesn't tell him anything about total
9 Aroclor discharges for the day, does it?
10 MR. PRATER: Object to the form.
11 BY MR. CUNNINGHAM:
12 Q He had to rely on you for that, didn't he? You had to
13 tell him what that meant, because you're the only one who
14 knew what your PPM was.
15 A I wasn't the only one. These other gentlemen were.
16 Q All right. You all.
17 A Were more aware.
18 Q You all were the only ones who could answer that
19 question. He can't figure out your total Aroclor release
20 from this document, can he?
21 MR. PRATER: Object to the form.
22 THE WITNESS: That wasn't his -- apparently
23 he didn't need that.

BY MR. CUNNINGHAM:

Q Okay. Let me take you to the last sentence there that

you wrote. Says, "Numerous other related matters were discussed with Mr. Crockett during the six-hour meeting with him." What other things did y'all talk about for six hours, if you recall?

A Probably parathion.

Q Okay.

A For one. I mean --

Q Did you know more about the parathion process than you do about the PCB?

MR. PRATER: Object to form.

THE WITNESS: Not -- about the same.

BY MR. CUNNINGHAM:

Q About the same? Did you ever tell Mr. Crockett about the PCB's that were coming out of the dump?

A I'm not sure. I don't know.

Q Do you -- let me make it simpler -- do you have any independent recollection of ever telling Mr. Crockett about the PCB's that were coming out of the dumps?

MR. PRATER: Object to form.

THE WITNESS: No, I don't.

BY MR. CUNNINGHAM:

Q Okay. Now, this is a memo to Mr. -- or from Mr. Savage to Mr. Papageorge, dated October 7, 1970, "PC" --

and it's regarding the Anniston plant, "PCB Levels in Snow Creek. Average PCB loss for the month was high at 2600 ppb

or 32 pounds per day, largely the result of one very bad day (400 pounds)." Now, again, you go have a meeting on -- correct me if I'm wrong -- on the Friday, October 23rd, 1970. You know that as of October 7, 1970 your average PCB loss for the month was 32 pounds a day. You're telling Mr. Crockett your losses are in the range of one to five pounds per day.

A I don't --

MR. PRATER: Object.

THE WITNESS: I don't know. This data was not in our plant. I mean I'm not copied in it. I don't remember it.

BY MR. CUNNINGHAM:

Q Okay.

MR. PRATER: Object to the form and, in addition, he pointed out to you that what he was reporting to Mr. Crockett was 1242, --

MR. CUNNINGHAM: No.

BY MR. CUNNINGHAM:

Q Pick up the document, please, "No. 21."

MR. PRATER: -- roughly six.

BY MR. CUNNINGHAM:

Q Didn't you tell Mr. Crockett -- now, maybe you didn't know any better, but didn't you write down -- this is your document, you authored it, correct?

A (Witness nods head affirmatively.)
Q "Landwehr No. 21," you authored it and you wrote that you told him -- and it says, "Because he insisted" -- "because he insisted" you told him verbally, which is why I don't think for a minute you gave him this document. But let's assume you did -- but you said verbally you informed him "that we are presently discharging total Aroclors in the range of one to five pounds per day."
MR. PRATER: Object to the --
BY MR. CUNNINGHAM:
Q And you drafted that sentence.
MR. PRATER: Object to the form of the question.
THE WITNESS: Presumably, yes.
BY MR. CUNNINGHAM:
Q Okay. So if you had known what's in "Landwehr 22" and then went and told Mr. Crockett what you seem to have told him based on "Landwehr 21," that wouldn't have been true, correct?
MR. PRATER: Object to the form of that question. That's not what he said.
THE WITNESS: Well, I can't -- I can't

reconcile these two. This isn't our data. This is our data. This is the only thing that I would be knowledgeable of and responsible for. I don't know where this came from.

BY MR. CUNNINGHAM:

Q So nobody told you about this information that Mr. Papageorge got from Mr. Savage?

A Not that I recall.

MR. PRATER: Object to the form, and again you're picking and choosing from the document. It goes on to say in the next paragraph, "Since the new limestone bed placed in service on September 23rd, pit effluent has been at zero to three part per billion PCB's," and it then goes on to discuss the range, 1.1 to 2.8 pounds per day.

BY MR. CUNNINGHAM:

Q Is that your testimony?

A What's that?

MR. PRATER: He's told you the best he -- he recalls.

BY MR. CUNNINGHAM:

Q Okay. Let's go on. This is "No. 23." Now, this one is dated November 9, 1970. Again, this is a letter with your signature. You think you selected the verbiage in this letter?

MR. PRATER: Object to the form.

THE WITNESS: Yes.
BY MR. CUNNINGHAM:
Q I mean did other people write stuff for you and you would just sign it regardless of content?

A No.
Q Okay. You will see that in that letter, which is to Mr. Crockett, dated November 9, 1970, as I read it, it says, "At the present time our discharge is in the range of one to five pounds per day total mono and polychlorinated biphenyl homologs. Many of these are degradable by biological and metabolic action if introduced into the environment." Now, where did you get the idea that many of these mono and polychlorinated biphenyl homologs were degradable by biological and metabolic action if introduced into the environment?
MR. PRATER: Object to form.
THE WITNESS: Well, I say "many of these." I didn't necessarily say -- there was other information I think we've looked at that said the mono was biodegradable.
BY MR. CUNNINGHAM:
Q Well, the one we had -- get the number for you. It's "No. 7."
MR. CUNNINGHAM: Ms. Court Reporter, can you get him "No. 7," please?
MR. PRATER: And what's the question?

BY MR. CUNNINGHAM:

Q Page 3.

MR. PRATER: And again, I'd point out that "7" is a document that he is not copied on and, I believe,

it was his testimony he has no recollection of.

MR. CUNNINGHAM: I understand. He just said he believed we covered this in an earlier document. I'm taking him to the one time we talked about biodegradability. It's at the top of page 3, where it talks about "Aroclor 1221 appears to be."

MR. PRATER: Right.

BY MR. CUNNINGHAM:

Q "Aroclor" --

A Yeah.

Q -- "1242 undergoes slight degradation." "All other Aroclors have resisted biological degradation." So where do you come off saying many appear to degrade in the environment? What are you basing it on?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q You don't have a clue, do you, whether they degrade or not?

MR. PRATER: Object to the form. Argumentative.

THE WITNESS: I don't recall. I don't recall the sources.

BY MR. CUNNINGHAM:

Q And never did know whether they degraded in the environment, did you?

MR. PRATER: Object to the form. Argumentative.

THE WITNESS: That's -- no, that's not true. We had a general knowledge that many of them were -- were biodegradable.

BY MR. CUNNINGHAM:

Q Where did that general knowledge come from?

A From literature that people read, from reports, from work that was done.

Q Okay. So you personally remember being told or reading that they degrade in the environment, many of the homologs degrade in the environment?

A I don't remember it now at this time, but apparently I did at the time, 30 years ago.

Q Give you "No. 24." Now, this is dated November of '70, "Confidential, Read and Destroy" on letterhead that appears to be from the Technical Services Department of the Anniston plant, which, again, that's what you were in charge of, right?

A Yes.

Q And it shows you in the cc section up here?

A Right.

Q And it starts off at the beginning saying, "Aroclor losses during November average 25 pounds per day," does it not?

A Yes.

Q And I'll ask you to look back again at "No. 23" where you told Mr. Crockett one to five pounds per day.

MR. PRATER: Object to the form of the question. If you would read this in complete context, "Exhibit No. 24," it would be more fair to the witness.

BY MR. CUNNINGHAM:

Q Well, read it. I mean I'm asking you to explain it to me.

A "Much of the high level data is due to sample contamination." This report was a different group than this data came from (indicating).

Q So your department had erroneous data --

MR. PRATER: No.

BY MR. CUNNINGHAM:

Q -- but then you wrote to Mr. Crockett what the right data --

A Not necessarily.

MR. PRATER: No, no. And in all fairness to

the witness, you're comparing a November 9 letter to end of month November data.

BY MR. CUNNINGHAM:

Q So you're saying it got dirtier in November; is that what you're testifying about?

MR. PRATER: No, that's not what -- I'm just

asking you to try to be fair to the witness.

MR. CUNNINGHAM: I'm being fair to the witness. I'm giving him the documents. I'm asking --

MR. PRATER: You're asking him about documents that are 30 years old.

BY MR. CUNNINGHAM:

Q You're the one who told Joe Crockett, "Our releases are in the range of one to five pounds." I can't find any data that suggests that. Do you know of any data that suggests that?

A I'm sure there is or I wouldn't have told him.

Q Okay. So you think that the Technical Services bulletin from Mr. Haupt is just wrong when it says "25 pounds a day"? And even if you take out the 18 pound a day high day, it's still seven pounds a day on average, is it not?

MR. PRATER: Object to the form.

THE WITNESS: Said, "Much of the high level data is due to sample contamination."

BY MR. CUNNINGHAM:

Q How much?

A Probably the difference between the two. Could very well explain the difference.

Q How did you determine that? How did you determine that it's really only one to five pounds per day?

A Because I was looking at this other data.

Q What other data?

A This (indicating) -- where is it? Some of our data that --

Q For 1242 and 1254?

A Fifty-four, that's correct.

Q Okay. So where did you tell Mr. Crockett that you're only telling him about two?

A It's labeled at the top of the report.

Q No. I'm talking about in your letter.

A Well, he knew it. He knew what we were talking about, I presume.

Q You presume. Okay. Go to "No. 25." This is a letter you wrote to D. B. Hosmer?

A (Witness nods head affirmatively.)

Q Who is Mr. Hosmer?

A He was one -- I think he was the vice president in St. Louis.

Q Okay. You had an appointment to see Mr. Crockett on the 20th to present your story to him and you needed his comments by Tuesday. Do you remember anything about Mr. Hosmer's comments?

A No.

Q And you discussed a change in the concept away from carbon treatment. Do you have any recollection today that

you can share with me about that?

A Not really, no.

Q Twenty-six, would appear to be a letter from you to Mr. Crockett dated October 15, 1971. Again, in the second paragraph you talk about your discharge levels?

A Uh-huh.

Q You say that there is a "downward trend still evident"? Is that your testimony here today that if we look at all the data, that that's going to turn out to be an accurate statement?

A I would think so, yes.

Q Okay.

A I haven't -- I don't see the draft.

Q Well, the only thing I have seen is something that talks about 1242 and 1254. At this point I don't see total -- I haven't found it, but that's -- maybe I will eventually. You don't have any independent recollection of how you came up with the numbers you gave him, do you?

MR. PRATER: Object to form.

THE WITNESS: It was a draft.

BY MR. CUNNINGHAM:

Q But where did that number -- you didn't create that draft, I'm assuming. Where did it come from within the company?

A I presume Mr. Wright probably put it together. He was

the one that prepared the report to Crockett.

Q All right. This "Technical Services Department Monthly Report" was prepared by a V. R. Haupt, H-A-U-P-T. What was his position?

A He had nothing to do with environmental aspects.

Q What was he supposed to do?

A He was a process engineer.

Q Okay. "No. 27." Again, a letter from you to Mr. Crockett. This one dated a few days later, October 20, 1971. Let me take you to the second page. First full paragraph reading, "In addition to steps to positively reduce the discharge of PCB's, we're continually working to improve our sampling and analytical techniques. One example of the need for this was the considerably above average concentration of the sample collected by the EPA on 8-19-71. All of our evidence points to this being a nontypical sample, not to the presence of an abnormal

discharge during the sampling period represented by that sample." What evidence did you have to tell Mr. Crockett that the EPA sample was inaccurate?

A EPA sample?

Q Yeah, the --

A Oh, okay.

Q Well, I mean they collected it. I assume it was theirs, but all it says is that they collected it.

A "Considerably above average." No. What I think I'm saying here is that -- "working to improve our analytical technique. One example of the need for this was a considerable above average" -- "collected by the EPA." We were, you know, questioning whether EPA had the proper techniques for collecting the samples and avoiding contamination. They didn't have a clean room like we did.

Q How do you know that?

A Apparently they didn't.

Q Why is it --

A We were -- we were --

Q -- why is it apparent to you that they didn't?

A We were way ahead of the curve in this technology, and I don't think they did. I don't know.

Q You don't know. Well, you're representing to Mr. Crockett with the state, I assume, that this EPA number, whatever it was, wasn't credible, that it was --

MR. PRATER: Object.

BY MR. CUNNINGHAM:

Q -- falsely high.

MR. PRATER: Object to form.

THE WITNESS: No.

BY MR. CUNNINGHAM:

Q No? Okay.

A It was questioned.

Q Questioned.

A For a reason.

Q And that's what --

A Based on our experience.

Q All right. That's what I'm trying to find out. Why did you question it? Was it simply because it was higher than the numbers you found?

A No.

Q Or was there something else that you can share with me?

A I don't remember any of those things I can share with you, no.

Q Okay. Okay. "Landwehr No. 28," marked "Company Confidential" regarding a meeting at Southwest Regional Office of the EPA in Atlanta, Georgia, on November 11, 1971. I'm just curious. This is marked at the top

"Company Confidential." Did y'all have a special file where you put stuff that was "Company Confidential"?

MR. PRATER: Object to the form.

THE WITNESS: Not that I recall.

BY MR. CUNNINGHAM:

Q Okay. I read this as being an effort by the author to memorialize a visit to the feds, the EPA, in Atlanta. In attendance were yourself, Mr. Jessee, Mr. Hosmer, and Mr. Garrett. Do you remember that visit?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q I'm sorry. Look on page 1. Does it not read that the people present from Monsanto were Mr. Garrett, Mr. Hosmer, Mr. Jessee, and Mr. Landwehr?

A Very vaguely do I remember it.

Q Okay. What do you remember about it?

A Nothing. Just that it could have occurred since it says so here on the paper.

Q Okay. It starts off by saying that the meeting was arranged by Mr. Crockett. Do you --

MR. PRATER: "At the request of" --

MR. CUNNINGHAM: "Mr. John White."

MR. PRATER: -- "Mr. John White," as that sentence finishes.

MR. CUNNINGHAM: Right.

BY MR. CUNNINGHAM:

Q Were you the point man -- I see a lot of documents where you were writing to Crockett. Were you the point man for Crockett to call in Anniston when he needed something?

MR. PRATER: Object to the form.

THE WITNESS: Not necessarily, no.

BY MR. CUNNINGHAM:

Q Do you know who was?

A I would say in an issue like this it would be Mr.

Jessee in Anniston.

Q Okay. Now, it talks here under Mr. White's areas of concern, No. 1, "The Federal Department of Justice has apparently recommended that suit be initiated against the Anniston plant for PCB emissions under the Federal Refuse Act." Do you have any recollection of that issue?

A No.

Q None at all?

A (Witness shakes head negatively.)

Q Were you involved at all in putting together a request for or complying with the conditions of a Federal Refuse Act permit at the Anniston plant?

A No.

Q Did you ever have one at the plant while you were there?

A I don't recall.
Q Do you know what a Federal Refuse Act permit is?
A In general, yes.
Q What is that?
A Well, it's -- I think it's a permit to -- to operate the plant, basically.
Q Okay. Go back to page 2, first full paragraph. In that paragraph it looks like there is a discussion of what the permit would permit with respect to PCB effluent.
A Which paragraph? That's the second.

Q Yeah. Says, "There is considerable discussion concerning the limiting level of PCB that should be permitted in the discharge. Mr. White," who was with the EPA, director of enforcement, "suggested" (quote) no detectable amount (closed quote). Mr. Crockett and the Monsanto personnel pointed out that this was an undesirable approach."
A (Witness nods head affirmatively.)
Q And I assume "undesirable" in the sense that you all couldn't meet that?
MR. PRATER: Object to form.
BY MR. CUNNINGHAM:
Q What was undesirable about it?
A I don't know what he -- I can't read his mind as what he -- what he meant.

MR. PRATER: The memo does go on to say, "The preferred concept was explained as a reduction in aqueous volume accompanied by a concentration reduction (reduced pounds per day). This appeared to be accepted."

BY MR. CUNNINGHAM:

Q You have any recollection of any of that?

A (Witness shakes head negatively.) Not really.

Q Did you discuss anything other than PCB's while you were there?

A Not that I could remember.

Q Turn to the next page there under 6. There are some of the results. Says, "EPA can come and sample our effluents in a mutual program at any time they want to do this. I believe they will use our data." Did you tell them, as you've told me here today, that you all are head of the curve and you all would do these analyses for them?

A I don't recall saying that, no.

Q Do you have any -- do you recall anything that would make you think that EPA was just going to use your data?

A I can't recall anything, no.

Q I was struck by the next paragraph. Says, "We explained to Mr. John White that Mr. G. L. Jessee, the Anniston plant manager, was the man who speaks for Monsanto at Anniston. We further explained that Mr. Jack Garrett's

presence was to indicate the support of the company's medical department and that Mr. D. B. Hosmer's presence was to demonstrate the support for the Monsanto Industrial Chemicals Company, who is responsible for the manufacture of PCB's." They don't say why you were there.

A Yeah. I was there to carry the bags.

Q All right. I can relate to that. I just wanted to see. Next paragraph says, "It was suggested by Mr. White that it might be desirable to dredge Snow Creek. I believe we convinced him that this is undesirable." Do you remember any of that discussion of why you would have

contended it was undesirable to dredge Snow Creek?

MR. PRATER: Object to form.

THE WITNESS: I don't know, no.

BY MR. CUNNINGHAM:

Q And lastly, at the end, "The entire atmosphere of the meeting was favorable, including the lunch following it." Do you recall that you all went to lunch, just you Monsanto boys, or was this the whole group went to lunch together?

A I don't recall.

Q That's all I have.

BY MR. PRATER:

Q All right. I have just very few follow-ups, Mr. Landwehr. We are taking your deposition today in Amite, Louisiana; is that right?

A Correct.

Q Do you live here?

A Yeah.

Q Who do you live here with?

A My wife.

Q How old are you, Mr. Landwehr?

A Seventy-one.

Q And how long have you been married?

A Since 1954.

Q All right. Do you have any children?

A Four children.

Q Grandchildren?

A Two. Two grandchildren.

Q All right. Are you in any sort of business here in Amite, Louisiana?

A We have a bed and breakfast business that --

Q That you and your wife run together?

A Yeah, yeah.

Q Are you involved in any civic organizations?

A Yes.

Q What are you involved in?

A Rotary Club, the Amite City Museum, and our church.

Q All right. What church do you go to?

A Presbyterian.

Q Have you received any awards from any of those organizations?

A Yeah. I was Rotarian of the year last year.

Q Good for you. How long were you in Monsanto's Anniston plant?

A Four years, I guess.

Q And what timeframe?

A Sixty-Eight or Nine to '72.

Q All right. Almost 30 years ago?

A Correct.

Q During that time was one of your responsibilities to work with others to reduce the PCB discharges from the

plant?

A Yes.

Q And did you work hard to do that?

A Very much so, yes.

Q Did you do the best you could?

A Right. Yes.

Q And by the time Monsanto quit making PCB's in Anniston, were those discharges reduced from when you first got to the plant?

A Yes.

Q Did you, from time to time, report discharges to the Alabama Water Improvement Commission?

A Yes.

Q And you were showed some documents by counsel for the plaintiff earlier today, including some letters from you to Mr. Crockett. Let me show you as "Exhibit" -- "Defendants' Exhibit 1" to your deposition, a document that I don't believe Mr. Cunningham asked you about, which is a letter dated November 6, 1970, apparently from you to Mr. Crockett. There was some discussion about informing Mr. Crockett exactly what data you were providing to him. And, if you would, please read into the record the second paragraph of this letter we've marked as "Defendants' Exhibit 1."

A "Aroclor concentrations are determined on a daily

basis from composite sampling. These data represent total Aroclor 1242 plus Aroclor 1245 concentration. Aroclor 1221 which" -- "essentially all monochlorobiphenyl is not reported."

Q All right. What was your impression of Mr. Crockett?

A He was a very fine gentleman. He was very firm and helpful, cooperative, and I think represented the interests of the -- of the State of Alabama quite effectively.

Q All right. While you were working at the Anniston plant did you ever see an employee get sick because of PCB exposure?

A No.

MR. CUNNINGHAM: Objection.

BY MR. PRATER:

Q Did you ever hear of that happening?

A No.

Q All right. I believe that's all I have. Thank you.

BY MR. CUNNINGHAM:

Q Mr. Landwehr, if somebody got sick from PCB's, how would that manifest itself?

MR. PRATER: Object to the form.

THE WITNESS: I don't know.

BY MR. CUNNINGHAM:

Q So how would you have any clue if anybody got sick from PCB's? Did nobody ever get sick at that plant,

period?

MR. PRATER: Object to form.

THE WITNESS: Well, it would have been talked about, I would think.

BY MR. CUNNINGHAM:

Q All right. So nobody got sick at the plant?

MR. PRATER: Object to the form. I think he told you it would have been talked about if somebody got sick from PCB exposure.

BY MR. CUNNINGHAM:

Q In fact, it did get talked about that people got sick back when you made 1272 in the '30s, didn't it?

MR. PRATER: Object to the form.

THE WITNESS: I don't know.

BY MR. CUNNINGHAM:

Q And then you started making it again in 1970, didn't you?

MR. PRATER: Object to the form.

BY MR. CUNNINGHAM:

Q You don't know, do you?

A No.

Q You have no clue whether PCB can make people sick or not, do you?

A No, I don't.

Q Okay. You don't have any idea how many people have

died of cancer who worked around that plant, do you?

MR. PRATER: Object to form.

THE WITNESS: No.

BY MR. CUNNINGHAM:

Q And you don't have any clue how many people have died of cancer who lived round the plant, do you?

MR. PRATER: Same objection.

THE WITNESS: No.

BY MR. CUNNINGHAM:

Q Okay. You said you worked hard to reduce the discharges from the plant, right?

A (Witness nods head affirmatively.)
Q Can you think of a single thing you did in your tenure there to reduce PCB emissions from the timeframe of '69 to '72, while you were there, that was not technologically feasible before that era?
MR. PRATER: Object to the form.
THE WITNESS: Oh, yes.
BY MR. CUNNINGHAM:
Q Such as?
A Analytical methods.
Q Didn't ask about analytical. I'm talking --
A Well, that's part of the program. If you don't know about it, if you can't measure it, you can't --
Q I'm talking about stuff you did to reduce -- steps you

put in place at the plant to reduce the amount of PCB going out the pipe.
A We instituted analytical methods that were not in existence until 1970, whenever.
Q What did you do with the information that your new analytical methods provided you?
A Did a great number of things.
Q And that's what I want to talk about. What of those great number of things were technologically unknown of as of 1969 as opposed to things that had been known for a while technically?

MR. PRATER: Object to form.

THE WITNESS: Technologically a no, no? You mean --

BY MR. CUNNINGHAM:

Q No. New, i.e. -- let me give you a specific example. I have read that you put a curb around a loading dock so that if it spilled as you were loading it in the tank cars, it wouldn't wash off, it would be collected. Isn't that one of the many things you did?

A We -- I don't think we did that, but the Maintenance Department may have done it.

Q All right. That, to me, wasn't something that you could just think up in 1969, that that was --

A Certainly.

Q -- unknown to --

A Sure it was.

Q Okay. I'm asking you is there an example of something you did that was unknown of to the engineering scientists --

A Oh, "unknown of."

Q -- right --

A Okay.

Q -- before you did it?

A The work in limestone pits.

Q All right. What was it about -- that you did there that was new technically?

A We did research and -- which demonstrated to us that the limestone pit was a good way to reduce discharges.

Q But you had always been doing that.

A And as a result of that -- huh?

Q Hadn't you always been doing that?

A No. As a result of that we put in a second pit so that we could -- we could switch from one -- from one to the other.

Q Well, that's my point.

A And keep them fresh.

Q I realize you did research, but what you all did research on was comparing carbon versus limestone as a -- as a filter medium, right?

A No, not necessarily.

Q Well, then what did you do?

A We worked on how -- and the effect of limestone.

Q As compared to carbon, --

A And its benefit.

Q -- right?

A No, not --

Q In fact, --

A -- no.

Q -- you told Joe Crockett you all were going to -- you

were doing research on using carbon to entrain the PCB, right?

MR. PRATER: Object to form.

THE WITNESS: I don't remember that, no.

BY MR. CUNNINGHAM:

Q But ultimately decided to do limestone because it was cheaper?

MR. PRATER: Same objection.

THE WITNESS: It was more efficient.

BY MR. CUNNINGHAM:

Q Cheaper?

MR. PRATER: Object to the form. Asked and answered.

BY MR. CUNNINGHAM:

Q I believe the term you used was "economic," was "more

economical"?

A Well, --

MR. PRATER: Object to form.

THE WITNESS: -- I don't see that that makes any difference.

BY MR. CUNNINGHAM:

Q Well, here is what I'm trying to get at. You all --

A We were very effective in reducing our discharges.

Q You all had been using limestone as a filter for

that --

A No.

Q -- wastewater stream all along, had you not?

A No. No. We -- we were using it for neutralizing --

Q Well, what did you --

A -- purposes.

Q -- what did you do differently --

A We designed --

Q -- other than put a second pit in place and fix the deteriorating asphalt lining?

A We changed the design of the pits. We changed the design of the pits.

Q Okay.

A The flow of the liquid through the pits.

Q How did you change the design of the pit? That's what I'm trying to find out.

A I don't remember the drawing, but we put in various baffles and directed the flow in certain ways based on our research.

Q Well, that's what we're trying to find out today. I mean there is nothing real high tech about making water flow over limestone.

A Nobody's claiming it's high tech.

Q All right.

A If it's effective, it's effective.

Q All right. That's what -- that's all I've been trying to get to is that this wasn't high tech, you just -- you put a second pit in --

A Who said it was high tech? We just said we did everything we could to -- and --

Q Okay.

A -- and was successful.

Q Very good. So what I'm trying to --

A The high tech part was the analytical.

Q Okay.

A The rest of it was --

Q Low tech.

A -- hard work.

Q Okay. That's -- that's -- we're in agreement. I just want to make sure we were -- there wasn't some high tech thing you did that I didn't know about. That's all.

That's all I have.

MR. PRATER: Done. Thank you, Mr. Landwehr.

THE WITNESS: Thank you.

WITNESS EXCUSED AT 12:12 P.M.

* * * * * * * * * * * * * * * * *

STATE OF LOUISIANA

PARISH OF EAST BATON ROUGE

I, Brenda W. Molaison, a certified court reporter in and for the State of Louisiana, do hereby certify that the foregoing is a true and correct transcript of the deposition given under oath, by MR. JOSEPH LANDWEHR, in the preceding matter on the 24th day of June, 1999, as taken by

me in stenographic notes (stenotype), complemented with magnetic tape recording and thereafter reduced to typewriting by me.

I further certify that I am not an attorney or counsel for any of the parties; that I am neither related to nor employed by any attorney or counsel connected with this action; and that I have no financial interest in the outcome of this action.

Baton Rouge, Louisiana, this 30th day of July, 1999.

_____
BRENDA W. MOLAISON, CCR
Certificate No. 87385

STATE OF LOUISIANA

PARISH OF _____

BEFORE ME, the undersigned Notary Public, within and for the Parish of _____, Louisiana, personally came and appeared, MR. JOSEPH LANDWEHR, who, after having been first duly sworn, did depose and say:

THAT he is the witness named in the foregoing

deposition; that he has read or has read to him the preceding 135 pages of typewritten matter, and that the same constitute a true and correct transcription of the testimony given by him in the matter on the 24th day of June, 1999, except for the following corrections, if any:

PAGE	LINE	DESCRIPTION
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_____
JOSEPH LANDWEHR

SWORN TO AND SUBSCRIBED before me, Notary, this ____ day of _____, 1999, in _____, Louisiana.

_____
NOTARY PUBLIC

bwm