Appendix B

Richard Klasen Interview Transcript

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

In the Matter of: PIPELINE RUPTURE and FIRE	DCA-99-MP-008

Recorded Interview of:

RICHARD KLASEN

May 17, 2001

BEFORE:

ALLAN C. BESHORE
NTSB, Chairman
PETER KATCHMAR, Pipeline Safety
LINDA PILKE-JARVIS, Ecology
JERRY SCHAU, B.P. Pipelines
CRYSTAL THOMAS, Co-Op Student, NTSB
TONY BARBER, US EPA
JOHNNY PARRISH, Brooks Petroleum

On behalf of Mr. Klasen:

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PROCEEDINGS

(8:30 a.m.)

INVESTIGATOR BESHORE: Richard, my name is Allan Beshore, as you know. I was the lead investigator for NTSB on the accident investigation into the rupture fire June 10.

We're going to start out. I'll ask a few questions, and kind of start off. And then, when I run out of questions, or when I need to collect my thoughts, we're going to go around and each of these folks will have an opportunity to ask you questions.

So I want to make sure that you know who they are and who they're with.

MR. SCHAU: I'm Jerry Schau with B.P.

MR. KATCHMAR: Peter Katchmar with the Office of Pipeline Safety, U.S. D.O.T.

INVESTIGATOR BESHORE: Go ahead, Crystal.

MS. THOMAS: Crystal Thomas. I'm a co-op student with the NTSB.

MR. BARBER: Tony Barber with the US EPA.

MR. PARRISH: Johnny Parrish, with Daniel. Formerly, official of Rosemont Petroleum.

MS. PILKE-JARVIS: Linda Pilke-Jarvis with the Washington State Department of Ecology.

INVESTIGATOR BESHORE: And, Richard, you have

a representative with you, if you could identify yourself.

MR. SIM: I'm Ron Sim. I'm Richard's lawyer, Stoel Rives law firm in Seattle.

INVESTIGATOR BESHORE: Thank you.

Just, if you could for the record, give us your full name, please?

MR. KLASEN: Richard James Klasen.

INVESTIGATOR BESHORE: And who are you employed by?

MR. KLASEN: I'm employed by the Equilon Pipeline Company.

INVESTIGATOR BESHORE: And who were you employed by at the time of the accident?

MR. KLASEN: The Olympic Pipeline Company.

Whereupon,

RICHARD JAMES KLASEN

was interviewed and gave the following statement:

E X A M I N A T I O N

BY MR. BESHORE:

Q What was your title then?

A I was a Senior Staff Engineering Assistant.

Q What -- well, I don't want to get into that. Just kind of, if you could, just go back from when you started at Olympic and run through your duties and your

various assignments, and how your career progressed up to the accident.

A Okay. I came to Olympic Pipeline in February 1980 as a dispatcher. I remained in that position until February 1989, when I became a Central Area Supervisor for Operations.

And to back up, while I was in the dispatching position, I performed scheduling duties, relief, field relief -- supervisor positions, other kind of -- just about anything we had out there, we had the opportunity to go do.

Then, in March of 1991, I became the Engineering Assistant, and I stayed in that position until I resigned July 2000.

Q What was your educational background, Richard?

A Oh, I spent a couple of years fooling around with different universities in the State of Texas. I went to the North Texas State University, first semester, ran out of money, came back to Houston. And just took some part-time classes at the University of Houston.

Q Okay, so you don't have a college degree?

A No, it cost too much at the time.

Q At the time of the accident, who were you

reporting to?

A I was reporting to Mr. Craig Hammit, the Engineer.

Q And did you have any people reporting to you in a supervisory role?

A No.

Q When did Craig start? Do you recall?

A Craig came to Olympic in I believe it was February '97.

Q Who had you reported to before him coming on board?

A The previous engineer before Craig was a gentleman by the name of Steve Hoye. And before Steve Hoye was the engineer, Craig Hammit -- he was the first.

I'm sorry, not Craig Hammit. Richard Craig. Richard Craig was the very first engineer.

Q So Craig came in to replace Steve; is that correct?

A That's correct.

MR. BESHORE: Before we go further, I had forgotten. I want to enter this Compulsion Order, attach it as Exhibit A and enter it into the record.

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(Whereupon, the previously-identified document, Exhibit A, was received into evidence.)

BY MR. BESHORE:

Q Let's just go, Richard, back to -- let's talk about the internal inspections if you'd care to talk? little bit. And you were with the company in 1991?

A Yes.

Q And what was your involvement in the "smart pig runs" that were done in 1991? Do you recall?

A Yes. Sure. In '91, we started the process of smart pigging when Shell was the operator of Olympic and we hired Marmac Engineering to try to put together a program for us.

And then during that process, the ownership, or the operatorship of Olympic changed to Texaco Trading and Transportation.

So the work with Marmac, that Marmac had been doing, was canceled and we started doing it ourselves. So Mr. Hoyle and I worked on the contract issues with -- the company at the time that we chose was Tuboscope.

We also, we actually went to several different smart pigging magnetic flux leakage companies to get information on which one we'd like to inspect

the pipelines, and landed on Tubescope.

Steve was a key role in working out the contract issues, pricing and all those kind of items. And he and I worked together on putting together the program for inspecting all the line segments over a two-year time frame.

Q Was that the first time that internal inspections had been run on the pipeline?

A No. The -- in the early eighties, Mobil had contracted both VETCO and I think '81 or Tubescope. And then, in '82, it was either VETCO or Tubescope. And they had inspected the 16-inch lines and the 12-inch line to Seattle.

I believe that's what we had. It was the Ferndale, the Anacortes 16-inch, the Allyn ~~ran the~~ 16-inch, the Renton to Seattle 12-inch. And I believe that was all.

Oh, no. And the Vancouver. I believe the Vancouver 12-inch was also inspected.

Q Okay, to get back into 1991, let's talk about this section from Ferndale to Allyn. You guys did an internal inspection on that. Do you recall how did the project go?

A It was we finally got the contract issues worked out. And our inspection, I think, took place in

the fall of the year, November, sometime like that where we started doing the inspections.

I believe we just inspected a ~~view~~ few of the 16-inch line sections. We may have inspected all of the 16-inch line sections that year.

Tuboscope came out, did their work. The inspector at the time, as I recall, was a guy by the name of Gary Zellers. He was the field lead person.

We went through the process and reviewed the data in the field. And then, later on, they sent us a final report. Then we went out from that data and performed some excavations.

Q Did you end up with a lot of repairs? How would you characterize that?

A Ninety -- ninety-one. Well, we got the data back probably I think it was early '92. So, in '92, we -- and I don't remember how many repairs we had. Seems like there was about 35 or so inspections that we had.

I wouldn't call them all repairs, but I think there was around 35.

Q Tell us a little bit about how you guys verified the internal inspection results. Did you do verification digs and that kind? I mean how did that process work?

A Well, we would first go look at -- if they

told us there was something that was extreme, that's the first place we'd go look because we were concerned about not having a whole lot of information.

And we ended up finding, going out and finding a lot of internal type anomalies. That was very difficult for people to -- there wasn't something external for them to just jump out and get them, so they ended up being pipe mill anomalies.

So we ended up at that time hiring some people to do some UT inspection to try to, you know, find something, because we just couldn't believe we were in the wrong place.

And that's how they ended up finding some of the internal pipemill anomalies or what we might have identified as possibly a lamination.

Q Did you find that the results reported by Tuboscope pretty accurately reflected what you found out there?

A Early on, it seemed like they were very over-exaggerated. They called out things that were higher. When we'd go and look at them, we'd go, "Oh, my gosh, you know, this is nothing compared to what they were telling us these things should be."

Or much less in the scale of magnitude.

And it's hard to remember. It's a while

since we did that.

Q Let's move forward a little bit then to the Ebey Slough accident. And what year, do you recall, when was that?

A On the 20-inch line?

Q Yes.

A Where the pipe was buckled on the south side, or north Ebey Slough. That was in the summer of '96. It seems like it was in June. I believe it was in June.

That was an outward buckle of the 20-inch pipe .250" wall just inches beyond a -- I believe it was a 30-35 degree bend fitting. It was a heavier wall pipe. It was also transitions from I think a half-inch wall down to the .250" wall.

It was at the lowest spot in this levy crossing. It ended up being the anomaly, or the crack in the pipe ended up being approximately the 1230-1130 position on the top right of the pipe where the crack occurred in the crest of the buckle.

Q Do you recall why the buckle occurred?

A No. There was a lot of speculation as far as going back to it could have been as early as original construction damage.

Or it could have been that levy had been

worked on over the course of the close to 30 years that that pipe was in there where additional material was laid upon to increase its elevation of the levy dike.

It could have been that. I don't know.

Q Was there any indication on the internal inspections that you guys had done in that vicinity?

A Not that I recall.

Q Had you run any other kind of pigs besides the Tuboscope runs, like a caliper pig, for example, to look for that kind of --?

A We had run, actually, we hired Tuboscope. And they were concerned about whether their tool would make it through the 20-inch line, because the 20-inch had never been inspected before.

And so they hired Enduro to run their caliper tool through to verify that their Tuboscope would make the run, because they were concerned that we may not have had all of the minimum 3D bends.

And it ended up that Enduro's tool told them that we did have adequate bends to properly get their tool through from launch to receive.

Q And that was back in the '91-'92 time frame? That wasn't like just prior to the Ebey Slough accident?

A Oh, no. I think we did the 20-inch in '92.

Q Okay, so that was based on your original two-year plan that you said you had.

A Right.

Q All right. Then what happened? Just describe a little bit what happened as a result of the Ebey Slough spill.

A Well, the result of that made us do a lot of things. First of all, it made us wonder if there were other problems of a similar type.

Also, the Department of Ecology got involved and wrote us a letter -- an order -- I'm sorry -- just to go and look for similar type buckles or in the pipeline, similar to that that were found at Ebey Slough.

And so then we went back and we checked with the people that had actually done the inspections. We contacted Tubescope and asked them if they could have identified this.

And as I recall, they couldn't. And then we checked with Enduro, the people who had done the caliper inspection, and asked them to do their evaluation. You know, "Hey, can you go back and look at that data and see if you can find something for us?"

We talked to a gentleman there who was a long time at Enduro, a management person, a Jim ~~Furr~~ Furr. And

he or someone in his analyst group reevaluated that '91-'92 Enduro inspection and said that they had improved their analysis method and came back with a listing of locations from that inspection that identified that indication from that anomaly, that buckle at Ebey Slough. And a couple of others that were similar, but I believe they were all smaller.

Q And what did you guys do with that information?

A Well, then we went out and looked for them, found them. And I think we did several more cutouts and repairs.

And I'm not sure but I think one of them was insignificant and we may have left that one.

Q And was this all in the 20-inch?

A Yes.

Q Okay, so the other buckles and the repairs that you did on the 20-inch were resolved at the 1991 Enduro data?

A Yeah, '91 or '92, whenever that was performed.

Q And then you went on to do other internal inspection surveys on other parts of the pipeline. What prompted that?

A Well, from that same order from the WADOE, we

set out to inspect all the line segments that were piggable. And then we hired -- we went back to Enduro, since we had confidence in their capabilities.

And, in January of '97, Enduro sent a representative up. His name was Eric Buschausen, probably one of their best technicians I'd ever worked with. He came out in the field and we did the rest -- we did actually reinspect all those lines. All lines that we had at Olympic, with the tools that they had available.

Q What did that reveal?

A Golly. Shoot. Well, there were -- let's see. Well, whatever their list came up with, you know. I can't remember all of them.

Q Was that before or after the Tuboscope internal inspection? Was that before or after the Tuboscope internal inspection?

A Oh, it was -- we had performed the Tuboscope inspections in '96. I believe it was in March.

Q And what prompted that to be done?

A Oh, we had done some risk assessments back actually in I believe it was 1990 when Shell was the operator of Olympic.

And that was one of our plans or goals for the company, was to do internal inspections on a five-

year program.

As far as we knew, nobody else was, or very few people in the industry were doing something of that type. And we thought it was a good idea.

Q So was that unrelated to the Ebey Slough? That was the routine five-year inspection cycle?

A That was just something we decided to do on our own.

Q And so the result of the Enduro inspection was the result of the Washington Department of Ecology and the Ebey Slough accident?

A Correct.

Q Okay. Now you hadn't been -- had you ever been to the water treatment plant before the accident?

A Actually, no, I had not. The closest I ever got was the blocked valve on the main road on Silver Beach. I'd never ventured down into the -- down below to the treatment plant.

Q Now were you involved in preparing any of the correspondence that was initiated from Olympic to Department of Ecology after the Ebey Slough?

A Yes.

Q And do you recall in general what?

A I kept record of the -- all the inspections that we had performed, and made out a spreadsheet. I

also participated in some of the early drafts of the letters we would send to Ecology.

Q Was Craig there at that time, or was that before Craig came on board?

A No, that was in '96. That was before Craig got there.

Q So that was yourself and Steve, and who else would have been involved in that?

A Well, actually, Steve Hoye went on a special project I think sometime in '95.

Q Okay, so there was a gap in time there where you really weren't reporting to Steve, and Craig hadn't come in yet?

A Right.

Q Who were you working for, I guess, or reporting to at that point in time?

A Well, without someone directly involved there, we had a lot of temporary type head office, engineers, that would show up for short periods of time.

One guy in particular that was there quite a bit was Bill Walterath. We had some other folks who were there for just maybe a week.

And then there was also the Cross-Cascades project going on. A lot of those people were very

handy so I used just about anybody I could grab a hold of.

Q Well, was Huff there at that time? Frank Huff?

A Oh, yes. He was the manager. And I worked closely with him with this.

Q Did you have any meetings with the Department of Ecology folks on...?

A Yes. Frank and I attended -- I believe there was only two that I attended. Now there may have been some others, but I went to two of them and met with Paul O'Brien and Elan Story. And I'm not sure if there was anyone else there or not.

Q I mean, what were the general discussions? Were they friendly discussions? Were they --

A Oh, sure. I don't yell at anybody.

(Laughter.)

The first time I remember we went and spoke with them was in reference to the first order. Some of the statements in the order didn't -- the college the WDOE didn't really understand the ability or the capabilities of the different types of tools.

I think, in their letter, it said that we were doing magnetic flux inspection. That would tell us to try to look for similar anomalies that were

similar to those on the 20-inch buckle.

We had to go and explain to them that, "Well, that tool doesn't really perform that type of -- it doesn't find those things."

So we explained to them what would and told them the plan of action that we'd like to take and got them to agree, and they agreed with that.

Q So they concurred with your suggestions?

A Yes.

MR. BESHORE: Okay, I'm going to go ahead and mark this into Exhibit B. And it's -- I have two copies, Richard, so you can start looking at that.

MR. KLASEN: Okay.

MR. BESHORE: And that's a three-page fax from Olympic to Department of Ecology that's included in NTSB's factual report on the internal inspection process.

And attached is a two-page spreadsheet from Excel.

(Whereupon, the previously-identified document, Exhibit B, was received into evidence.)

BY MR. BESHORE:

Q Richard, do you recognize that?

A Yes, I do.

Q The document there.

A This was my work product.

Q Okay, what was the date of the fax?

A June 3, 1997.

Q Yeah, it's a little confusing. There's a date it was faxed to us.

A The date that we faxed it to the Department of Ecology was June 3rd.

Q This is your writing?

A Yes, the cover sheet is my writing.

Q And you prepared the chart?

A Yes.

Q Okay, let's just talk about it a little bit here. The top anomaly, I guess, the first one there, the Ferndale to the Allyn section, is that in the vicinity as you later found out the water treatment plant?

A Yes. Yes, it was.

Q Now it says here in the column that it was scheduled to be done in May.

A That's correct.

Q Do you recall why that hadn't been completed? I mean this was actually dated in June, so that had not been done in May?

A No. No, it was not done in May.

Q And do you recall why it hadn't been done in May?

A Well, it was probably because they were working on all these others that were worked on in May that were the 16-inch. Those go all the way through May 20 -- May 22nd for repairs.

And there's even, on the next page, there's May 29 and May 30 for some other 16-inch repairs. We evidently just couldn't get around to it for the other ones we were working on that were of a higher priority.

Q Were you in the field quite a bit when they dug up these things? Or were you more of an office guy?

A I was more the office guy. I would go out to these locations if they had something that they said, "Oh, you guys need to come look at this."

Or it was, "Well, I can't find it. Can you review the data again and tell me, reevaluate this information, because I think maybe we're on the wrong joint or pipe?"

So I'd reevaluate the information, try to give them a better direction. There was a possibility that I might have made a mistake on where their starting point was.

Q Were you involved in the "scatchling"?

A No, not really. I worked with the construction supervisor and he would -- I would lay out this spreadsheet and say, "Here's the things that we need to do. Here's the approximate," you know, I'd say, "...here's approximately when I think we can do these. When do you guys think that you can do them?"

And they'd come back to me and give me what their plan of action was because they were limited to the amount of inspectors that we had in our -- because we had a small construction group.

And I sometimes overestimated their speed.

(Laughter.)

But, they did it. They did a darned good job. I mean they went as fast as they could.

Q Did you prioritize the -- in other words, did you give them a priority of what, you know, this is the worst, you know, give this one first?

A As I recall, I believe I did. I used to, early on in the early nineties, I would identify them by number. You know, give them a one, two, three as far as order of which they should be performed based on their severity.

And Mr. "Whynigh", you know, would come up with that. "Hey, these are the ones we should go look

at first."

And then with these we probably did something similar trying to make sure that we went for the ones that were the highest, of the largest size, to go look at first.

I just don't remember exactly how I did it. But I know that we had a priority that we went by. You know, for example, that one in the Ferndale section, it was a lesser size so we moved it back in the scale, back in the list.

Q Okay. And do you recall just in general -- we talked about the '91 survey but in the '97 -- well, I guess '96 Tuboscope survey, do you recall, you know, what impression did you have of the accuracy of how the field stuff actually matched with the internal inspection results?

A It seems like it was still high, but not as high as the '91 data. We even went back and looked at -- we excavated some locations from the '91 inspections just to make sure that we didn't miss something.

They'd call and say, "Hey, we dug this up in '91." I'd say, "Yeah, well, let's look at it again and make sure we don't have anything different."

And others we would say, "Okay, we did look

at that '91. It wasn't significant. Let's just move on to the next one."

Q On this document here, do you recall ever -- well, do you recall faxing this over to the State?

A I remember that I -- Mr. ~~Huff~~ Hopf asked me on occasion, he said, "You know, make sure we're not going to send them a letter every week. So give them a schedule update on it. You know, keep them up to date on what we're doing."

And I remembered that I had done it at least once and maybe this was the one time that I did it.

Q Do you recall doing it after this on any occasion?

A I would have thought I had, but I don't recall if I did or not.

Q Do you recall updating Frank, or somebody else?

A Oh, sure. Oh, definitely. We, internally, we were kept up to date with this. I think we even sent a letter to the Ecology later than this date. I think we did.

Q Do you remember preparing that letter?

A No. I wouldn't have been the one preparing the letter. My role is just keeping this spreadsheet, trying to keep it as current as possible.

Q Okay. Well, you mentioned you had some role in drafting some of the original letters? Or, were you just reviewing those for technical?

A Most of the time, I was reviewing, making sure we didn't have some error. You know, we'd have the Environmental guy. That was typically the person that would draft the letters.

And then we'd pass them around to make sure that everybody, you know, they'd say, "Hey, you answered number six," or something, "here."

And then we'd pass them back around and it would get wordsmithed. And then Frank would have the final author, or approval.

Q Do you recall about when the project finished up? I mean, by the project, I mean based on the internal inspections to the excavations and what not.

A The excavations for the Tubescope run or the Enduro run? Or the Ebey Slough part? There was a lot of things happening in there at that time.

Q Okay, let's start with the Tubescope '96. Are all of these on this spreadsheet that you prepared, are all of these excavation sites based on one or another survey?

Or, is this a combination of surveys that went into this?

A No, these were specifically for the Enduro inspections, prepared by the Enduro, the caliper inspections.

Q Did you prepare a similar spreadsheet for dig sites for the Tubescope inspections?

A I used to keep track of them. Let's see, how did we do that? We'd come up with a summary report after it was all completed. I pretty much kept a listing of all of the different inspections that were being performed, what the data was from Tubescope. And then what we were finding in the field, what repair method.

You know, something similar to this but it wasn't something that I was updating and passing out all the time, no.

Q Okay, so you prepared this spreadsheet mainly for reporting back to the State?

A Yes, internally and into this -- but specifically to the Ecology.

Q Do you recall if there was ever any discussion in your internal meetings on notifying OPS, or talking with OPS about the State's order in internal pigging program, what not, you were doing?

A I'm pretty sure that we would have contacted them when we had the 20-inch release because of that

buckle in the pipe being extraordinary.

I'm not sure if that would have been done or not. That wasn't really one of my responsibilities, to call them.

Q Okay, so you weren't involved in the OPS inspections and that kind of thing?

A Only when it came to an audit.

Q Who would have been the person that was interacting with them and reporting directly to OPS?

A Well, it could have been Mr. ~~Huff~~ Hoof. Ultimately, at the time, it may have even been Bill Mulkey.

But I'm not sure he was there at that time. He may have been working with the Cross-Cascades group specifically. I'm just not sure.

Q Let me ask who, you know, in your opinion, would have been the one responsible for keeping the State updated about the progress of the inspections?

A Mine in keeping up the spreadsheet, and Frank's in making sure that all of our written responses were complete and up to his approval.

Q I mean was there a discussion where you had some kind of -- I mean, were you authorized, I guess would be a good word, to, you know, periodically fax this spreadsheet to the State?

Or did you wait until you were directed by Frank to go ahead and update them?

A I remember he told me once specifically to update them. And then, in that same conversation, he may have told me, you know, "Make sure we're doing this to keep them up to date," because we knew that we wouldn't be sending them a formal letter probably as often as they'd like to see it.

Q And do you recall when the excavations based on this spreadsheet, about when they came to a conclusion when that project was over?

A I'm not sure exactly when we finished. It probably would have been through the drier months of the Pacific Northwest weather. I don't really -- I don't recall exactly when we completed it though.

Q Well, do you recall at the end, I mean, was there a meeting or some kind of a closure to this project where you sat down with Frank or whoever and said, "Hey, we're done"?

A You know, I don't remember. It seems like we would have, but I don't recall.

Q Do you recall discussions or anything about letting the State know that you were done, what you'd found, or a letter to that effect? Or, do you recall?

A I recall that I prepared a final update of

this, of these caliper inspections. But I don't recall the letter.

Q Do you recall whether you transmitted that to the State?

A No, I don't remember if I did or not. I sure hope I did (laughing).

Q Let me give you this other document.

A Okay.

Q This is a similar spreadsheet. I'm going to mark this Klasen Exhibit C.

(Whereupon, the previously-identified document, Exhibit KLC, was received into evidence.)

BY MR. BESHORE:

Q Do you recognize that, Richard?

A Yes. This looks like it was probably our final work product for that project>

Q This looks like the final version of the spreadsheet?

A Yes.

Q So, based on this spreadsheet now, does it jog your memory on when the project might have been finalized?

A Let's see (perusing). It's true we did have

some bore replacement projects that went on into the fall. So are the last three items that are shown in November. Those were the last ones.

That's right. One of them was a south Ebey Slough crossing that took quite some time to get a permit from Snohomish County, which delayed the process quite a bit.

And then I do remember talking to Frank about this and where we finalized this document, or at least the spreadsheet portion of it.

Q Was Craig on board during this period of time?

A Yes.

Q What was his involvement? Were you all working directly with Frank on this? Kind of describe that for me.

Q Oh, well, we all worked together. I mean there's no -- there's no -- especially with me, my role was to make sure that I'm keeping my supervisor involved. And Frank had a direct relationship from the beginning, he and I in the beginning of this, with Ecology.

So he and I spoke specifically about these documents. We got Craig involved quite a -- Craig was involved with this as far as going out and doing some

inspections when requested by our field construction inspectors to go look at some of the ~~dense~~ dents or different types of anomalies that were out there.

Q How is Frank to work with?

A Oh, Frank's a great guy. I mean he's a very intelligent man. He'll teach you anything you'd ask.

Q So you had a good working relationship with him?

A Oh, yes. I had a good working relationship with everybody.

Q That included Craig?

A Definitely.

Q How would you describe Frank's management style?

A Management style. Well, I don't know. (Laughing). I wasn't really a student of management style.

Q I mean was he a micromanager that was involved in everything, or was he aloof and you did your own thing? Or was he somewhere in the middle? I mean how would you --?

A Well, during this time frame, like I say, there was a lot of things happening. There was -- Olympic was attempting to get a route for our Cross-Cascades project, which Frank had a lot of involvement

in dealing with -- from the federal Government to local city Government. Running Olympic pipeline and working with Ecology.

So I'd say at that time he was very busy and involved with everything he could be. His style, to go back to the question. His management style.

At that time, I'd say the man was overworked.

Q Did you feel like you got the attention you needed? If you had a problem, I mean, did you get --

A If I had a problem, oh, yeah. If I had a problem, I went wherever I needed to go to get assistance.

Q How about Doug? He was in around in there. Was he there at that time frame?

A Doug ~~Bue~~ Beu?

Q Doug ~~Bue~~ Beu.

A I'm trying to remember when Doug was there. I think Doug -- I'm not sure exactly when he arrived at Olympic. I think it was in '96, maybe, he arrived. He was the manager of Operations and Maintenance.

My involvement, I didn't have a direct involvement with him but if I needed to go to him, I would.

Q I mean did you report to him at any time preceding the accident, directly?

A There was about a couple of weeks that they had made a change. I went on vacation and I came back and they said, "Okay, now you're reporting to Doug." (Laughing).

I think it was the time when the Cross-Cascades was very -- the Cross-Cascades project was very intense. So, Frank was going to be put in charge of something to do with Cross-Cascades, which would have raised Doug's management responsibility at Olympic.

And as he told me, he said he needed somebody to work directly with him. And he wanted that to be me.

And so I stayed in my office still performing the same duties that I'd always done because their level of -- under Frank's and Doug's level didn't really get moved into that -- I didn't see them getting moved into that position where they were needing me, with the exception of Doug and I talked on a couple of occasions where we were planning to set up an inspection of all the pump stations and delivery facilities, and try to go through each one and go over things like the piping control device paperwork, and go through a complete -- we were trying to get groups together to do an inspection of all the facilities.

So I'd laid out a schedule for doing that over I think the course of two or three weeks. And it was, we kept getting postponed because at that time one of the companies was trying to sell their stock. And there were other companies that were interested.

So there was a lot of due diligence type things that were going on so that inspection of the different facilities that we were trying to look forward to doing got pushed further and further back.

I think it was -- I had scheduled it originally for May and it ended up that we were going to start in like the second week of June.

But, the ownership issue or due diligence tours to the companies that were interested took precedence.

Q What prompted this review to be planned out?

A Well, just something Doug wanted to do as, you know, becoming more management of Olympic. He said, and he had a heavy electrical background, electrical engineer.

So it was one of the things that he wanted to be his first -- one of his first actions: "Let's go out and check these places out real closely."

Q Was it based on some concern he had, do you know?

A Not that I'm aware of, no. Just one of those things. Every time you get somebody new in management, they've got their own "This is what I want to go do first," you know.

Q But it wasn't based on potential sale, it was based on something else?

A I think it was just, well, I guess you'd have to ask him what it was based on. He just asked me to set it up.

Q Well, I guess what I'm asking, I mean, the scheduled facility inspections wasn't the same as the tour groups around looking to buy the pipeline, right? This was a separate?

A Right. This was something he just wanted us to start to do.

Q Okay. I kind of digressed a little bit here. So let's go back to this spreadsheet for a minute, if we could.

A Sure.

Q And talk specifically about on the final version of the spreadsheet there's a note here on this particular anomaly that we're interested in here. It says that "no inspection".

What would that, I mean, what would that mean?

A We didn't inspect it. And the reason why is, as is noted under the defect discrepancies where it says ".45 inch total sharp" with the two asterisks, on the second page, we had actually those two asterisks identified on at least a half a dozen of these anomalies where we said:

"May investigate if risk is justified by engineering opinion."

And we did not inspect several. There's a total of four on the front page and two on the second page based on the information that we had gathered from the other excavations.

Q Okay, let's talk, just for example, "Allyn to Renton 20-inch" down here at 1450 plus 21. The notation there says "wet area".

Would that, I mean, would the fact that it was a wet area prevent you from performing that inspection?

A I'm sure there's some more detail to this somewhere. But -- and I'm not sure where 1450 plus 21 is off the top of my head.

Q I guess that would be -- the fact that it was a wet area, would that be sufficient to prevent you from doing an inspection if you thought it was necessary?

A No.

MR. BESHORE: I'll go ahead and give you this, Richard, and that will be marked as Exhibit D. And it's a copy of, well, a dig sheet, It's also in our appendices or report.

(Whereupon, the previously-identified document, Exhibit K-D, was received into evidence.)

MR. BESHORE: I mean, look at that for a minute. You've probably seen that several times. But, if you need a minute to jog your memory, that would be fine.

MR. KLASEN: No, that's okay. Go ahead.

BY MR. BESHORE:

Q Okay. Now this is -- is this the vicinity of the water treatment plant, I guess?

A Yes, it is.

Q And do you recall preparing this particular dig sheet, Richard?

A Well, I recall this is my work product. But the day I actually filled it out, no, I don't remember the day.

Q Well, do you remember this location? I mean do you remember actually analyzing, doing this

analysis, doing this work product?

A Oh, gosh. No, not really. I did -- I did probably 98-99 percent of all of these, so just remembering this one in particular, no, I don't recall.

Q Would this be a little bit more? Or I mean would this be a more complex type of a dig sheet than normal? Or were they all like this?

A No, they weren't all like this, but I think each one had its own complexities, trying to make sure that I identified as many points as possible to make the field inspector able to walk to these points, or be able to measure off from some identifiable location from above ground.

Q Well, let me ask you about the notations made on here. This appears to me that it's based on both surveys of the data. Is that correct?

A Yes, that's correct.

Q And can you kind of describe how you laid this out, I guess, in terms of overlapping that information?

A Well, as I'm sure all of you have probably seen, the Tubescope data and the Enduro data are very dissimilar in many ways. So it's more than challenging to try to overlay or to assimilate the data to make sure that you're in exactly the same spots.

So I'm sure I took a lot of time, especially with the Enduro data, to try to recognize the similarities, or to try to pinpoint the location.

But, yes, this shares both Tubescope data and Enduro data, to the best of my ability to put them together.

Q Okay, and the little "e" indicates that data was from the Enduro run?

A Yes. That would have been my attempt at trying to differentiate between the two.

Q Okay, so the "t" was Tubescope?

A Right.

Q And then there's OPL stations. That's off of your alignment sheets or pipe maps or whatever?

A That's correct.

Q Okay, let's talk about the possible wrinkle for a minute here. That came from the Tubescope.

A Right.

Q Now based on this thing, or based on your drawing here, is that at the same location as the Enduro anomaly?

A That's what I believed it was. Yes.

Q So the first --

A -- or close to it.

Q The footages may be different based on the

two vendors, or survey --

A Right, yeah.

Q This was your attempt to line those up?

A yes.

Q And then there's another defect that's shown about 14 feet away and you have the little arrow going up.

A Oh, identifying defect length?

Q Yeah. Okay, the arrow, that means that what you're describing here as a defect is at you believed at 844 plus 16?

A That's correct. I believe that to be the 23 percent wall loss defect length, .4 inches.

Q Which corresponded to a possible mash?

A No. Oh, and possible mash, yes, within a short distance. I believe it was within just inches or something from there.

Q What's a "possible mash"?

A I wish I knew. I don't know. That's a Tubescope term.

Q What were you, I mean, what did you think it meant at the time when you were preparing this?

A What did I think it meant. Well, at the time when all this was going on, I didn't believe it to mean anything. Tubescopes, I'd lost faith in Tubescope's

ability to give me any information other than metal loss relating back to the Ebey Slough data on the 20-inch line where I remember contacting them and speaking to someone at Tubescope where they reviewed the data in and they couldn't even tell me that there was a buckle at that location on the 20-inch line.

So, as far as believing anything that said "possible" next to it, I had no confidence at all whatsoever with Tubescope's ability to identify anything other than metal loss, which is what they claim they can do.

Q What would a "possible wrinkle" be?

A That is another I don't know. Again, I didn't have any confidence in Tubescope's abilities to identify anything that said "possible". It was just I just wrote this information because this is everything that I had and I wanted to make sure that it was passed along to the people in the field.

Q What would a "wrinkle" be, do you know? I mean what would you assume a wrinkle was if somebody said there's a wrinkle out there, a wrinkle bend?

What would you think that to mean?

A If somebody physically was out in the field and told me that they saw a wrinkle, I think it would be a bend. But, with what Tubescope tells me, I don't

know what to think.

Q And that's because of the word "possible"?

A Right.

Q When you did this analysis in '97, did you go back to '91's data and compare what was found in '91 to what was found in '97?

A Yes. I did a -- as a matter of fact, we even had Tubescope do that for us. That was one of the requests that we had for Tubescope was to identify previous '91-'92 inspections with the current inspections, because their grading system changed from grades 1, 2 and 3 in '91, in '92 their grades went 1, 2, 3, 4 and 5. And in '96, they eliminated that grading system and went to giving you the exact, or as close to exact percentage wall loss measurements as possible, and lengths.

In '91 and '92, they didn't give you any lengths. They'd just give you 1 through 3 or 1 through 5.

Q Do you recall whether these were on the '91 data?

A No, they were not.

Q Were there other locations where something was indicated in '97 that wasn't there in '91?

A The Tubescope '96 data? No, I don't recall.

Q You don't recall how many locations we're talking about where there was nothing in '91 but something in '96?

A There probably, if there were, there probably weren't many. That was relatively -- most of the Olympic's system was relatively clean.

Q Did you pull out other information like diagrams of changes or other data from this location to look at and consider?

A I specifically would go directly to the alignment sheets. And the alignment sheets, if they were current, which most of them were pretty current, they would identify a diagram of change on that alignment sheet.

There would be, for example, where they installed the 72-inch water line, I remember seeing that on the alignment sheet.

There would be an identifier where that was and association with Olympic stationing and then a DC number whatever. And that was the diagram of change number associated with -- you could go back and find it.

But, I typically didn't go back and look at the diagram of change because they were on the alignment sheet.

Q And did the alignment sheet give you an indication of when that was -- was it dated?

A I don't believe so. There may have been one or two that might have been that way, but I don't -- that was their reason for putting the number of that diagram of change, so you could just -- they were all numerically listed one through thousands.

And then you can just find it and then you can determine what the date was from that.

Q Well, did you, in your analysis, did you consider, did you realize or understand that those were from a '94, a '93-'94 construction time frame?

A I don't recall if -- no, I wouldn't have been paying any attention to the date that that work would have been done.

Q So, before the accident, were you aware of this project that had happened at the water treatment plant in '93 and '94?

A No. I wasn't -- that wasn't any of my responsibility to keep track of those.

Q And that's not something that you routinely looked for when you were doing this kind of analysis?

A No, I wouldn't go back to the diagram of change books.

Q I mean, how would you explain -- and I'm

struggling -- okay, from '91 to '96, there was nothing in '91. You know, there's something there in 1996. What would that suggest to you? Or did it suggest to you at that time?

A Well, it suggested to me that maybe we should go look at it. So that's why I made the direction to dig site.

Q There's a date up there that's got Enduro and it says 1/97.

A Right.

Q Would that have been a date when this form was, in its current form, was prepared?

A No. 1/97 was when Enduro performed the inspection.

Q And so this form was developed after that?

A Right. I wasn't typically in a -- I didn't put a date on when I made the record.

Q Fair enough. Down in the corner, it says there's a 7/97 date and says "did not expect this location Tubescope."

Is that your writing?

A Yes.

Q So you made that notation?

A Yes.

Q Would that have been the date that you made

that notation?

A It would have been, yes. I would think that's when I would have done that.

Q What would have changed in your thinking between when you prepared the form thinking that you needed to take a look and when you made that notation?

A Well, probably, quite a few things. One, my guess is that our people in the field would have gone out and surveyed the area to see what kind of work they could have done.

Secondly would have been comparing it to the information that we had already gathered from the other inspections. And by 7/97, we had performed all -- it looks like almost all of these other excavations where we had or had not made repairs.

So, based on that, I would say that's probably how we came up with those two pieces of information. That's how we came up with the decision.

Q Okay. So you reevaluated your analysis then and came to a different conclusion in July than you had previously?

A Based on information that we had, 23 percent, 4/10 of an inch long, which has an insignificant measure of metal loss, which is really something that in any other instance, you wouldn't even look at.

And a .45 sharp, which I believe to have been some 16 feet away in relationship to the other 16-inch inspections, was less than a reparable indication.

So, individually, they were not something that, in our opinion, was worth the risk of going out there and doing an excavation.

Q Even though they didn't appear on the '91 data?

A Well, that may have been where I could have forgotten about the '91 data by then.

MR. BESHORE: Actually, I think it would be a good point to take a 10-minute break, if we could go off the record.

(Recess.)

MR. BESHORE: All right, we're back on the record here.

BY MR. BESHORE:

Q Let me go back to what we were just kind of talking about here and pose the question based -- had you realized -- I guess this is kind of a hypothetical -- that this construction had occurred in the time frame that it turned out to do, would that have changed your level of concern between the '91 and the '96 surveys?

A Well, of course. And if it would have been

more, from what we know today, well, of course, anybody would have gone out there and done that excavation.

Q But, at your analysis at the time, you didn't realize that that construction had occurred within that window...?

A I knew that it was the large 72-inch water line that was installed, but it didn't correlate to the location. So, no, I wasn't aware of the other work that was done directly above the pipeline.

Q Let's go back then to that time frame of '93 and '94. Were you aware of that project going on at the time?

A No.

Q That wasn't part of your responsibilities in the engineering group?

A No.

Q So who would have been the one in the engineering group to, you know, review plans like this from outside people and authorize the activity?

A Oh, there was typically a developed process where plans came in to the office. Our right-of-way people were typically the first ones to get a hold of this kind of information.

And they would route it to whoever they believed needed to see it. At the time, I'm not sure

who -- I know Bill Mulkey was in the group.

I'm not sure if Bob Burnett -- he was our right-of-way, one... guy at the time. I think he was there at that time. I'm not positive. He had pretty much a checklist of, yeah, engineer needs to see this, right-of-way, whoever, you know, and they would pass it through.

And it would go to those individuals and they'd make their comments and go on. I didn't get into starting to do any of that until, oh, it was probably '96, I guess, when we had a gap in engineers where we had some part-timers where we made sure they got it.

But, if there wasn't anybody there, then I was reviewing it.

Q I mean do you have any reason to believe that there would be, you know, problems with the City?

A No. No. I wouldn't believe there would be any problems with anybody.

Q I mean the City of Bellingham. In other words, "difficult to access" notation on your form here. What would that --?

A If you look at the line sheet, the line profiles sheet, there are some other people that had worked in that area that were now dispatchers or

schedulers that I had worked with.

And I can remember them talking about that area as being, oh, yeah, it's real steep and real slopey, and making those kinds of comments.

So you remember those kind of things. And then, if you look at the profile sheet, it showed that there was considerable slope between the pipeline and where it went down.

And that was probably before they had done, you know, that was 1965-66 land data which I was looking at. So it looked like it was, you know, not that easy to get in there and do that.

So, just based off the information that I had in front of me with the line sheets profile data, that's what I was basing these judgments off of.

Q Okay, so by "difficult to access," you had no reason to believe that a landowner would be a problem?

A No, that's not what that comment -- no, that comment doesn't have anything to do with people. I would have said "the City" here if there was some difficulty that way.

But I don't recall ever making any of those kind of statements on anything.

Well, maybe the City of Bellingham -- sorry. The City of Belleview. They were always hard to deal

with.

Q Do you recall having conversations on this particular location, you know, after the pig runs -- I'm sorry -- jumping back to '97.

Do you recall discussing this location in particular?

A Well, while we were making our summary reports, yes, I can remember discussing the locations that we weren't going to inspect and along with the other locations that we had inspected and our findings with Frank, Mr. ~~Huff~~ Hopf.

Q And he concurred with your analysis that there was no need to inspect those locations?

A Well, we had, I remember there was a couple of different instances where we sat down and talked about these things.

And he came up with, you know, it was his "may investigate if risk is justified by engineering opinion."

That was one of the statements that he used to call "best engineering judgment."

So that was one of the reasons why we came up with those notations because, you know, after doing the inspections, making the discoveries that we'd found, and then coming up with the decisions of repairing or

not to repair, then we developed from those the decisions on a lesser size, which made our determination not to do the inspections.

Q Was there any disagreement between you?

A No, I wouldn't say there was a disagreement. Conversation, you know, just -- I wouldn't say we had disagreements. I mean he's the --

Q So you didn't advocate doing this and him say, "No, we don't. We don't want to mess with it"? Nothing like that?

A No, because I was taking the data and plotting it in these different spreadsheets that I had for calculating, for example, the 23 percent, (0.4 of 8) an inch long, as my role in putting that data into the spreadsheet and saying:

"Well, look, here's Tuboscope's data saying that this thing doesn't even rate from their " I think it was called the PR ratio. It had like a 1.10 or something. I mean it was way up there.

And then putting it in the B-31-G calculations, it was an insignificant size, which didn't derate the pipe.

And then the dent was a lesser size as far as B-31-4 in the '92 version; you're allowed a 6 percent dent. And this was less than 3.

And there wasn't really any guidelines out there to tell you top of pipe, bottom of pipe, side of pipe, you know, what you should go look for, as we have now with the HCA pipeline integrity rules.

Q Did you assume that the metal loss was corrosion?

A That's about the best assumption we could make.

Q Well, if it was not corrosion, how would you evaluate that?

A If it was not corrosion?

Q If the metal loss was from some other cause than corrosion, how would you evaluate whether or not it needed repair?

A Well, if we physically saw that it was something other than corrosion, then it was -- we would apply -- we always applied B-31-G calculations to everything anyway just because that was the only method, the most conservative method that we had.

But, as far as finding anything that was a scratch or a gouge, the field inspectors would tell us how deep something like that would be.

And, most of the time, they would report back something that looked like it was essentially from the mill, maybe a roller mark or something of that nature.

But, some of the terms that they used.

And they would take a file or something and try to just file out this abnormality. And then they'd report back to whether or not it was okay or not, and they'd UT and did whatever kind of investigation they felt was necessary.

Q The B-31-G, were those for corrosion, or were those for metal loss?

A B-31-G is specifically for corrosion. However, it was the only thing that we had to help us make any determinations on the remaining ~~strings.~~ strength?

Q Well, if you had a 22 percent metal loss and it was not corrosion, what would you have to do with that?

A A 23 percent metal loss would be greater than 12.5 percent. You'd have to make a repair.

Q So you couldn't grind that smooth? It would be--

A No.

Q The remaining wall thickness wouldn't be thick enough.

A Correct.

Q All right. What I just gave you was this. I think this is probably what you referred to a minute ago and I just want to make sure. Is this what you

were talking about, the spreadsheet where you would plug in the stuff and then come back with whether or not you had to look at it?

A Yes, that's correct.

MR. BESHORE: I'll mark that as Exhibit E, I think.

(Whereupon, the previously-identified document, Exhibit K-E, was received into evidence.)

MR. BESHORE: We'll go off the record.

(Record paused.)

MR. BESHORE: I'm trying to get back on track here.

BY MR. BESHORE:

Q Had you overlapped these 23 percent metal loss defect with the dent, would that have changed your evaluation?

A I think so.

Q And why would that have been?

A Well, I'm interacting now with what I know now and what I --

Q I understand.

A -- and that's difficult to think about what you knew in 1997 or whatever. But, a dent with metal

loss, I think would have triggered more flags, especially in the conversations I would have had with Frank or with Craig or whoever at the time.

Q And you mentioned that you recalled having conversations with Frank through this process. In this location, do you recall talking to, you know, Cargo or any of the field people or anything about this location?

A Specifically talking about this location. I'm sure I would have because I had a bunch of notes, and it was something that we decided not to do. So I know I would have had conversations with probably both -- with Cargo specifically because he worked out of Renton.

I'm not sure if I would have been talking directly with Steve, who is Cargo's direct subordinate that went out and did this, went out to the field to look at this location.

There were occasions when I would talk to him but, specifically for this one, I'm not sure. It would have been -- I'm sure I would have probably talked to Jim.

But, as far as remembering the conversation now, I don't recall the conversation.

Q Would that be something that might be in your

planner notes? I have a portion of your notes. And I understand you have some other notes.

But, I don't have the notes from this time frame. Would that be something you might have made a notation about?

A My date planners, I typically wrote down things that, you know, some days, if I was out, away from the office and I needed to make some notations specific about something, I would put them in there, because I knew I couldn't remember every measurement or whatever that I'd taken. I'd make some kind of sketch or drawing. And then come back to the office and discuss it.

Or get on the radio or the telephone and call Craig or the engineer at the time, or somebody, and discuss what our findings were for different locations.

Or at other times, I would just list off, you know, here's some of the things that we did during the day, you know, on a particular day.

And then, other days, I wouldn't have any entries. So I didn't have -- I do have an exact style of how I recorded things in that date planner.

Q If you went back and looked through those planner notes, do you think that would help your memory?

A Oh, sure. That's the reason why I put them in there.

Q We'll probably need to follow up maybe in written form once I get the rest of those notes, perhaps. We'll see if we can go through that a little bit.

MR. SIM: My recollection is that there's really not stuff that's of materiality today, this decision not to dig in the planner notes.

No technical offense, Richard, but I couldn't read some of your notes in your planner.

MR. KLASEN: Really? I have a pretty good handwriting.

MR. BESHORE: Okay, let's jump forward here a few years, and let's talk a little bit about the Bay View Station.

BY MR. BESHORE:

Q And just, if you could start and kind of tell us what your involvement was from the very beginning. And just kind of run us through that project.

A Very early on, there was just the schedular and I, we were asked what kind of storage capacity we would believe we'd need.

And we came up with some tank sizes and some working volumes, and the amount of tanks, those kind of

things, that we'd recommend that we believe should be at whatever location was chosen for the terminal to be located.

And then I was asked on occasion what did I think should be the launcher, and should we have launchers or receivers built by outside companies to make sure that they were long enough, or they were built with specifications to hold whoever's in line inspection or smart pig tool we'd hire to run in and out of that area.

I also was asked to look into maybe different kind of -- various vendors that would be suggested by the engineering firm, Jacobs, who had the project, you know, what our opinion was or did we like any of these particular vendors for specific equipment.

And most of that happened, oh, probably about three months before construction started. I got in on the very end of the design portion. Most of that was carried on by others.

Q Well, how did the Bay View Station tie into the Cross-Cascades project?

A Well, from what I was told, it was going to be a focal point for being able to assist in us operating the two different pipelines south of there more equitably whereby if a refinery -- we were always

subject to refinery downtown, or refineries having some kind of equipment failure, valve failure, which if the refinery went down, we lost our source, which shut down an entire line segment.

If we were able to have storage at an intermediate location, you would only shut down that point, or that section of pipe. But, you'd still be able to maintain flow to the metropolitan areas without interruption, and operate at more consistent flow rates, instead of having to be subject to the increased amounts of starts and stops of pump units at various locations based upon the increases or decreases required to make strips into certain intermediate locations.

So it was to help balance the lines out. And also supply the line that would go east of the mountains across the Cross-Cascades line.

Q Okay, so it was to benefit the existing system as well as a starting point for the Cross-Cascades? Is that where it was going to come out of?

A Well, there were various plans. The last one, the very last one that I believe was settled on, was to come out of the area in the general vicinity of Woodenville or Bothell, the Bothell area, and head east from that point.

Q I mean what was the intent of design to utilize the facility? I guess more operational. Was it designed to float into the tanks? Or would it be designed to tight-line?

What was the intent of the operation of the facility? Do you know?

A Well, to the best of my knowledge, the intent was to float product through the facility whereby you'd pump into a tank and out of the tank at the same time. Or, you'd pump into one tank and take delivery out of another tank.

However, with the limited amount of storage that is available due to all the specialty RVPs and -- I'm trying to remember the other term for some of the other gasolines that were up there.

So that there were some subgrade gasolines and some regular-graded sub-octane gasoline, meaning subgrade, that were shipped down the line, where additives were injected at the trucking facilities and for some oil companies. And others refine their product where they only had to inject minimal additives.

So we did not have the quantity of storage necessary to have been able to accommodate all of the different oil companies, regular and subgrade

gasolines, and high and low sulfur diesel fuels, and even high... for jet fuels.

Q Because those were the products that you tightlined through Bay View? You didn't store there?

A They would tight-line through Bay View products that we didn't have compatible tankage for. That's what it was designed to do, to the best of my knowledge.

Q Now about the facility being designed for a 300 versus a 600-pound class, ~~ANC~~ ANSI classification, was that something that you were involved in that part of the design process?

A No.

Q Were you involved in the commission of the Bay View facility then when it first came on line?

A Yes.

Q And maybe you could tell us a little bit about that, how that went.

A Okay. One of my roles as engineering assistant was to coordinate with all the groups from the control center operations, construction, mechanics, electricians, everybody -- contractors, everybody that was involved with performing the ~~tying~~ tie-in.

The displacements of products through the line for putting pigs in the right place so that you

could make nitrogen displacements, writing up the procedure, making sure that the details were -- the volumes and locations, people's work activities -- were identified so that we had an action plan of how we were going to accomplish emptying the line, separating it, reattaching and refilling.

Q Okay, and then that process began. Were you out in the field the day they were filling the line up?

A Yes. I would usually make myself one of the team people to participate because it took those projects typically -- it typically took all of our resources.

And I was another one of the resources.

Q How did that project go? Just start up. I mean the actual physical startup of the line, commission of the line. Just kind of describe that process, what happened, what you can remember.

A Well, we emptied the line whereby we utilized nitrogen to displace the product out by pushing a scraper pig, ~~cup~~ cup-pig, with nitrogen behind it to displace out the diesel fuel that was in the line section.

Then, we would blow down that nitrogen in the pipeline into the various containment areas. And then we'd turn it over to the construction folks to separate

the pipeline and tie it into the new line sections.

And then we'd go back through the process of filling the line. And we had ~~full~~ fill rate ~~reach~~ that we didn't want to exceed at a control center. We'd, you know, work with the refineries as far as starting up at a slow rate.

We would be evacuating the nitrogen in the line out while we were just making the displacements. We had vacuum trucks and tanks all connected.

When the diesel fuel would arrive, then we'd stop the process of eliminating air into these containment areas, and then we'd begin displacement of the diesel into the -- at that time, it was the utility tank when we originally started, displacement into Bay View, because we had essentially had a void location.

So we filled the piping. And then we put a certain volume of diesel fuel into the utility tank so that the surge relief system could be activated for protection of the line sections and inside the terminal.

And then we -- at that time, I believe that we found that one of our surge relief valves was not closing. It was set real low. It had a low setting.

During all of this, it's pretty noisy trying to fill the line without ~~great~~ getting air and nitrogen out of

the line.

As I recall, I can't remember which valve exactly that was. Whichever, it was on the surge relief side going to the utility tank.

The mechanics went out there and checked it out. They made some determination at the time I think that it had a wrong spring or a wrong setting, or something, in it.

Q Were you involved in that?

A Well, I can remember going and checking on them, seeing how they were doing. But, as far as standing over their shoulder, no, I didn't.

Q You didn't check, you weren't involved, you didn't check the vendor's literature or do anything like that to help them determine what they needed to do?

A Right then? I don't recall exactly all I did. This was after a pretty long day for me.

Q I do recall that we did look through some file cabinets there at Bay View. I don't recall what we were looking for though.

I'm not sure about what else we were...

Q What was the outcome? I mean, did the project stop until something, I mean?

A Oh, yeah. Well, we shut down making

delivery, isolating because we were continuing to flow through this valve into the utility tank. We only wanted to put a certain volume in there; until we figured out where it was coming from, I think we put another couple of feet of diesel fuel into that tank.

Shut that down. They worked on it. I believe they found what they believed to be the problem and put us back in the business.

Q You didn't all go home and come back the next day or anything like that? That was a short interruption in the project and then it continued?

I'm trying to get a sense of how --

A Oh. I think it was a short interruption and then we continued.

Q So it wasn't like down for a day? You'd come back a day or two later and then --

A Not that I recall, no. We were pretty much -- we needed to get this -- I usually tried to figure out the time frame that was necessary in order to complete project, and divided it up into based on how each section, you know, displacements, blowdowns, construction and weld, tie-in work, x-rays, and all that, and then refilling.

And then, you know, just the process of, you know, all these different processes and trying to come

up with a time frame. And then trying to live within that time frame.

Usually, I was always a little optimistic on that, too. We always went over it. Typically, I always went over it.

MR. SIM: Excuse me, Allan. I just want to suggest something to you. This is an area where Richard has some fairly detailed notes in his daytime... if you could make those available to him, that might refresh him as to exact times and dates. What they did.

MR. BESHORE: Okay, sounds good. Let's see. This would be the 6/98, 2/99, right?

December '98?

MR. KLASEN: Yes, I think December.

MR. BESHORE: Yes, why don't we just go off the record for a minute and let Richard take some time and look through there.

MR. SIM: We're off the record?

(Record paused.)

MR. BESHORE: We're back on the record now. Richard has had an opportunity to review his planner notes in a little detail.

BY MR. BESHORE:

Q And if we could just start off on what was

the date there that the project began and kind of maybe go into a little more detail than you were explaining to us before?

A The dates were December 16 and 17. It was the 16th in the early morning, it says that our first scraper pig had arrived at our block valve location at milepost 33.8 at 5:50 in the morning.

That's when we had started to do some lockout and tag-out activities in preparation for the nitrogen displacement from that...

Q And that's downstream of Bay View?

A No, that's upstream of Bay View. That's prior to arriving at Allyn Station. And Allyn Station, according to the original line sheets, was milepost 37.4 or something in that neighborhood.

This milepost 33.8 is the first block valve upstream of that location.

Q Okay. Then it says that we, according to my notes, we began the nitrogen injection at 8 o'clock, shut down about 9:20 and the... station at 9:30.

Q So you're purging the section between that block valve and Allyn?

A Right.

Q Okay.

A Then, we evacuated the nitrogen out of that

line section (perusing).

We had evacuated the nitrogen. We found that we had some gas vapors which were not necessarily the right thing to have there at that time. But, we found that we had a weeping cross-over valve at Allyn Station, which let some gasoline vapor into the other line section.

So then, when we discovered that, we made some corrections. I remember Frank had helped with that because he was there at that time helping us to figure out how we could stop that.

By 11:30 in the morning, we had completed that work and we were turning it over to the construction department so they could begin their cutouts, so that they could do their tie-in work and the other work that they were involved in.

And it took them from 11:30 that day until 1800 on one end until 2250, almost 2300 on the other end to complete those cutouts and tie-ins.

I don't have a time for when we started the reopen of the block valves so that we made the displacement, but sometime after that, we had done that.

We were displacing into tank 209, which is the trans-mix tank at Bay View terminal, or the slop

tank, or however you'd like that described.

Then, we filled the piping. Once we got the piping at Bay View filled, then we filled the piping over to Allyn from Bay View. Identifying that we repressured piping at Allyn Station.

This is all on the Ferndale line segment into Bay View and Allyn. It was at that time that we discovered that the Bay View surge relief have the pilot springs too weak. "All springs need 4." So, evidently, we needed four springs to set at the 700 psi, that range.

And then the others were to be set for the 270 psi. That was inside the piping, and the 300 for the 150-~~anti-clasp~~ ANSI-Class piping.

It ~~talks~~ some more work that we had a contractor doing unpinning the legs on the tank so that we could utilize -- pump that product back down, if necessary.

It talks about looking at the internal floating roof, the seals and the pins. It talks about our electrical guys, Jeff, Barry and Jim Traphofner, commissioning the pressure transmitters.

Ken Huff was on the control valve operation and control, and also programming. He was the computer programming guy. And replaced the springs on the

incoming stream surge relief valve and ordered the others. Then it says we started up in Ferndale at 10:30 on the 17th. That would have been in the morning.

Q You started pumps at Ferndale and started flowing the line?

A Yes.

Q You wouldn't have been able to use your pipe at all until you got that surge relief involvement or control; right?

A Right.

Q And that would have shut you down?

A It would have continued to flow product into the utility tank.

Q So that had to be taken care of?

A Right. I just don't have how long that took.

Q Is that the first time you guys realized that -- I guess that's when you discovered you had these weak springs; right? I mean nobody knew it before then?

A Evidently not.

Q Now you tied in the Anacortes side at some later date? Is that --?

A We did that in January '99. I want to say the 6th or 7th, or something like that. Or, 16th?

Maybe, it was the 5th and 6th. I'm not sure exactly. It was just after the first of the year.

Q Okay.

A I could look, I guess, if it's in here.

Q Oh, that's okay.

A On the 5th, I had a meeting talking about it. Then, on the 6th, we went up to the Anacortes area and had another meeting with those people that would be involved up there to make sure they had their roles prepared, or what their roles were to be in the job.

On the 7th, we went through a facility check making sure the equipment was working. It must have been on the -- they were cleaning tanks. So it was the 11th and 12th, January 11 and 12, Bay View/Anacortes tie-in.

Q But, by then, you were aware of this situation with the relief valves so you didn't have the same -- you had already changed the springs by the time this happened, this came about. Right?

A Yes. I believe so.

Q Okay, let's just talk a little bit about now once this station was commissioned, I mean how did things work? I don't mean how things worked physically, I mean how well did they work?

Were there problems with the operations once

Bay View came on line that you guys became aware of?

A Well, we initially started up by not filling any of the tanks. They were still -- at that time, we were tightlining through.

And, why? I don't have the answer to why we were still doing that. From what I was reading later, they still were doing some tank cleaning. I think there was an issue with the quality assurance guy that the tanks weren't clean enough and they wanted to make sure that they were prepared properly inside so that, you know, he'd be satisfied with the quality assurance of the product.

So there was a program that they put on to have all the tanks cleaned very thoroughly. As far as problems, I'm not sure.

Q All right, let me ask you this. In terms of the setpoints, were you involved in setting the setpoints for these relief devices?

Was that part of your involvement?

A Oh, well, we all sat down and were trying to make sure that we had a good process and a good -- everybody working off the same rules of pressure and what the limitations were.

And I'd sit in on some meetings sometimes. Most of the time, Craig and Ron Brenson were involved

with the pressure setpoint setting.

Q Do you remember the various levels of protection at Bay View? I mean the setpoints?

A Well, we were -- once you got into the facility, we had 300 ~~ANCI~~ ANSI class rated flanges and valves, fittings. And the maximum pressure for that is 720 pounds, so we were trying to make sure that we were staying under that.

So we had a 700-pound limitation on pressure switches, and I believe at the time it was -- we were debating on whether it was 700 pounds or 600 and something for where the surge relief should go, because we had debates on whether the range of where the pressure reliefs should operate at.

Q Did you look at the manufacture's literature for these relief valves during this process? Do you recall?

A We looked at so many things. I'm not sure what -- which one we would have looked at, or if we would have looked at that. I remember looking at that data. I don't remember when exactly I looked at that data.

Q Well, do you recall there being any concerns about the relief valves, you know, after the line came on into operation?

A Well, there were some instances where the pressure switch would be activated. And that would trigger you why there wasn't a good interaction between the pressure switch and the surge relief valve.

So, yeah, I guess there would be some questions about that. And then that triggers having the maintenance folks go out and verify that the equipment is working the way it's supposed to be.

And that's typically the process we went through.

Q I didn't follow you. The switch, the flow switch, pressure switch versus the relief, what -- ?

A Well, there was a pressure switch, which is your fail-safe device that, if you get to that pressure setting, which I believe we set at 700 pounds, if we would get to that point, then we would want to protect the piping inside Bay View terminal.

So, in essence, closing off flow and setting that as a safety set point. The surge relief role was to eliminate that before you'd get to that point. So we evidently had those set very close to one another.

Q Okay, so you recall then the incoming block valve closing at the 700-pound set point?

A Right.

Q And did you have meetings, discussions with

folks on what to do about that?

A Meetings, discussions. I can't -- I don't remember what we would have had discussions or when we had discussions or if we had discussions.

There were times, I'm sure, that we talked about set point ranges. But I'm not sure. I can't remember the context of when we had those discussions.

Q Do you recall that there were concerns that, you know, you're reaching this 700-pound trigger and this is happening? I mean is there some level of concern that you recall people having about this?

A Level of concern. Well, I'm sure that if we'd sent -- if we had had this type of instance, we always made sure that we would have somebody go check out the equipment to make sure that they could verify that it was properly set and operating correctly.

But, other than that, I don't remember a lot of "Why is this doing this? Why aren't we, you know, making some other change," or whatever?

No, I don't recall that.

Q Okay.

A It doesn't necessarily mean that it didn't occur, but I don't recall being involved with that.

Q Would that be something that would be in your notes? We have that time frame here. Some

conversation might be in there --

A Yeah.

Q -- that would trigger your memory.

A Yeah, I think there was one instance where -- I think it was an instance where we made a change to 650 pounds.

Q Changed the set point on the relief valves?

A Oh, yes, it would have been what the mechanics were doing, you know, just working with them, talking to them, saying, "Okay, what did you guys do?" I would make some kind of notation like that.

Q And you say it was changed to 650?

A I think that was the setting that was chosen, was 650.

Q Do you recall what it was originally set to?

A I'm not sure if it was 650 or 700 pounds. It seems like we had 650 and 700 was our range. Which one did we set it at? I don't recall.

Q Do you recall what the set point is on the letters on the control valve that's in there also coming into the inlet side?

A Well, the control valve had -- the control valve worked off of pressure, pressure indications. And it was a pretty complex setup, too.

I'm not even sure that I understood all of

how that worked. It could work off incoming pressures. It worked off of discharge station pressure. It worked off -- it had a lot of different interactive -- from an outgoing pressure, an incoming pressure. It could activate how it would be manipulated.

Q Okay, so that was adjustable then?

A It was through the --

Q I mean from the controllers? They had control of that setting?

A I'm not sure if the controllers were able to make that adjustment. It may or may not -- they may or may not have had control of it at Renton.

Or it may have been controlled right there at Bay View in the PLC Program. I'm not sure if that latitude was given to the controller to make too many changes.

They were probably able to -- I'm not sure, but I think they were able to make incoming pressure changes in order to shut the facility, or shut the line down to ramp it up so that you would increase pressures, so that they could close it in and hold a pack on that line section.

Q Let's think a minute about the surge began. And in the context of, you know, maybe overall concerns, or punchless... this kind of thing that, you

know, after the line was commissioned.

I mean were there other concerns? Was everybody happy? Was everything going smooth?

A There's always items to follow up on, especially since we had tanks that were being cleaned. And with that, since we had just started the Ferndale section, we had to verify that the Anacortes -- that there were two separate incoming and outgoing line sections.

So the Ferndale line section we felt was checked out. But then we also had to go through and verify that the Anacortes line sections were, incoming/outgoing, were all properly operating.

So we did a lot of checking on that equipment before we did the Anacortes side tie-in. So there were all kinds of punchlist items that were still -- that we were still involved with to get maybe prepared for a dual operation from both Ferndale and Anacortes.

Q Did you ever have any meetings where you sat down and everybody discussed any concerns they were having, and that kind of a thing? Were there progress meetings?

A That's a good question. It sure seems like we did. I'm having a hard time remembering that. We were doing so many things. My focus after we got that

one tied in was to get focused on getting the Anacortes tie-in work ~~repair~~ prepaired.

So there may have been a gap -- there was a gap in my interaction with the Ferndale work seeing that Bay View, okay, we got Bay View going, and Ferndale flowing through. Now I've got to get the preparation work done so that we can get the Anacortes line flowing through.

Q So you weren't so concerned about operational issues at that point anyway?

A No.

Q Because you were preparing for the Anacortes tie-in.

A Correct.

Q Then, after that, you say mid-January I guess is when that occurred, right?

A The 11th.

Q Then, after that, I mean what about overall, you know, issues, I guess? Operational issues? I guess what I'm trying to understand, if this valve is closing and shutting down the pipeline, it would seem to me that that can cause -- you know, I mean it's not an easy thing. You've got to restart the line again, do all this stuff.

A Right.

Q The controllers have got a lot of things that they've got to do. So I'm trying to understand what level of concern that raised with folks.

And you don't recall that being a real concern with people in any of your discussions?

A I recall that there was some controllers had issue with it because it was something that was attempting to operate the line with Bay View.

It made it more difficult with Bay View involved with the Ferndale to Allyn to Renton sections. It's like it put a whole new sensitivity issue into operating that line section because it was less forgiving pertaining to pressures.

With a 300 ANSI class piping and with the lower pressure settings, you had to be very careful, that the controllers had to be very careful in operating that line.

And with Allyn station only a mile and a half, less than two miles downstream, with the amount of horsepower that was located at that location, it made it sometimes difficult for these guys to start and stop those; because it was just an all new operation for them.

They'd added -- we'd added approximately three miles of pipeline, three or four miles of

pipeline that wasn't in there before. There was a new pump station with lesser pressure-rated piping involved.

Some other pumps that you had to -- that it took a new finesse on starting and stopping because everything being operated through the PLC system, which we were moving forward on trying to get those throughout the company.

It was just the complexity and the operation of the system completely changed once Bay View was added. And it was something that the controllers and field people weren't really used to.

Is that clear?

Q Yeah. I'm thinking. I was back to my surge relief valve. You don't recall any, you know, anybody expressing concerns that this is not operating properly, the valve for surge relief?

A Well, there were some instances where we believed it should have worked faster. And that's why we, you know, send our mechanics out, to check it out. Say, "Look at this." Or, rather, I wouldn't do it. But, usually, it didn't get to me anyway.

But it was in the operational controller, those guys and their supervisors, and getting the mechanics out there to look at it and see what they

could do.

And they do their check out of it and move on. Make it operational.

Q Okay. Did you have, when you first got involved in Bay View, did you solve -- well, let me ask this first.

Were you involved in the construction of Bay View or inspecting any of the Bay View construction, that kind of thing?

A No. I was -- I had enough to do. There was a whole -- we had outside inspectors. We had an outside project manager. We had an outside engineering firm.

We had -- it consumed I believe three or four Olympic personnel dedicated to the mechanical inspection, electrical inspection, welding inspection. And we hired out some additional welding inspection, tank inspection, construction.

Project management came from I believe one of the gentleman from the Equilon Refinery. I think, the tank inspector, too. Jacobs Engineering was on site.

So there wasn't any need for me to be there.

Q When you first saw, I mean, when you first got involved in Bay View, did you have any concerns with the design of the facility?

I mean the fact that it was 300 versus 600? Did that cause you any concern?

A Oh, you know, it's one of those things where you'd say, "Man, it would be nice if it was all the same, you know, if everything was still 600 pounds."

But, then, on the other hand, you have to realize what was its purpose. And its purpose was to have tankage. And with tankage, you're ~~falling~~ flowing in and out of tankage.

And, with that, you don't need the higher pressure rating equipment. So it was an engineering judgment on somebody's side that made that determination.

I would agree that it's probably a pretty good decision. I wished it would have been 600 pounds, but it wasn't.

Q And then there was no way to by pass the facility, was there, at that point?

A To completely bypass the facility? No. There was no means of completely bypassing.

Q And you could tight line but you still went through the 300 pounds. You still had... pressure protection concern.

A Right.

Q What about let's talk a little bit about the

O&M procedures. Did you have any involvement reviewing or drafting O&M procedures at the time?

A Yeah. I was on ~~some~~ one of the team that was doing that. And, every time I would submit my stuff, they'd already done it. So I was always a day late on getting in on doing a lot of the actual operation and some maintenance manual procedure stuff.

I tried to work on valve sequencing and interaction and it ended up that there was another guy doing the same thing, too. And his was what I was trying to do.

And he got into the computer system and program first, and it looked good to me.

Q Well, this was after Bay View. Right? So this was to update your procedures for --

A No, no, we were working on that all along. I mean, we'd been working on procedures and how to do things and how things would interact long before it was built.

Q Valve sequencing, help me out with that. What do you mean by that?

A Well, for example, what valves would interlock with others. If you opened one up, would it be interlocked with another valve to tell that valve to go closed so that you wouldn't have two valves open,

for example, going into a gasoline tank and a diesel tank at the same time.

You'd want to make sure that if you had gasoline coming in, you opened the gas valve. If a diesel valve would open, it would go closed. If it was open, it would go closed.

So it was if you had how the pumps would be initiated to start operation, you could hit a start sequence, make sure the discharge would close the discharge valve. And then recycle the discharge valve. The pump would start.

And then it would start discharging a higher pressure. So that you didn't over-amp your motor.

There was sequencing and interlocks and what could and what couldn't open. If one thing was open, you couldn't open another thing. You know, there was -- it was just logic on how we wanted to protect all the products from being contaminated.

Q What other parts of the O&M manual were you involved in?

A Oh, I got to participate in the fire -- the program that was installed for fire protection. There was some indications that would go through into the PLC, which would be sent back to the control center.

It was pretty much just taking the data from

all these different -- from the manufacturer that we had on the control panel on the inside of Bay View's... to what was identified or displayed on the Bay View computer, and then what was displayed into the control center.

And what was out in the actual fire building.

Q After Bay View was installed, I mean, were you involved in any effort to update your O&M manuals to reflect a new station being on line?

A Well, that was the purpose of writing all of these manual procedures and sections and how it works.

We had some help. Actually, I think we also did some other things. My participation in writing the kind of a general statement on why is Bay View terminal here.

You know, it's just kind of a half a page, just a broad statement that spelled out what it's purpose is.

Q And you had done that before the accident. Is that right?

A Oh, yes.

Q What kind of training have you had in terms of the internal inspection review, this type of thing? Prior to the accident, what kind of training programs did you attend?

A There were no training programs. The only thing that I had done was worked with the inspectors from the Smart Pig contract companies just to help understand their data.

You'd have the lead inspector from Tuboscope or Enduro or whoever. And they would go over with you the data that they had collected. I'm sure you've seen a lot of the just raw data, squiggly line looking things. And how they would interpret that just from a field point of view.

There was a binary code at the bottom of the page with a certain -- in the early nineties you had a card with a disk on it that you used to read the binary code and then translate that to something significant for 0-clock position of the tool footage from origin point.

They would describe what casing indication was and going into it or going out of a casing indication.

There wasn't a whole lot for us to, you know, there weren't a lot of different types of indications for them to really describe it.

Every inspector would go through and pretty much try to give you some of the basic data of what it is that they're trying to report.

Q While you were out on the scene, you know, working with these guys, you didn't really have any kind of "informal", quote?

A No. There was no formal class, no.

Q But you were not the one -- let me rephrase that. Were you relying on Tubescope or vendor to actually read the logs and provide you with the information?

A Yes.

Q Let's talk just briefly about the control valve that I mentioned previously coming into this station. Were you aware that the incoming one had a stop in it?

A Oh, so they could only close to a certain point?

Q Yeah.

A I'd heard that later. I wasn't really aware of it in the beginning.

Q Later, you mean after the accident?

A I'm not sure exactly if it was prior to or after the accident. I just remember them saying, yes, there was a stop in there which kept it from completing a closure so that you could not actually block the ~~screen~~ steam completely.

Q Let's just --

A It might have been before the accident.

Q Okay. Do you recall if there was any action taken as a result of that? What action was taken once they became aware of that?

A I don't -- I think, well, the only thing that I recall is that there was some issue with controllers putting in set points. And they didn't think that it was reacting the same, and so that when they -- I believe they found out that that was the case, it had a stop in it, so they readjusted their -- zero~~ed~~ to a hundred percent.

So that they would indicate where it was in the percentages of open and closed, and realizing that they could not completely block the stream from flowing.

Q Okay, I think I understand. All right. And then let's see. Let's talk a little bit about the actual day of the accident.

Where were you when you first became aware that there was some kind of a problem?

A I was in a van that we'd rented. I was driving that back from Bay View terminal where we had a group from the company that was wanting to purchase some ownership stock of Olympic pipeline.

And I believe some of them were from a

company called Kinder Morgan. But I'm sure there were probably some others in there.

Q Were they with you in the van?

A I was driving. Everybody -- it was a large van. It was full. There was probably a dozen people in there.

Q And you'd already left the facility?

A We were actually in Tukwila, just about a mile and a half from the office.

Q And what occurred at that point?

A My pager was activated. Mr. Bue was in the van, too. I had my radio with me, talked to the control center and then we -- we were on our way back to Renton anyway, so we just continued that path and got right into the office and started working as if it was an emergency response issue.

Q What did you do with your tourists?

A I got out of the van and left them in it. Told them they could take it if they wanted to.

Q That was at your Renton headquarters; right?

A Right.

Q So you don't know what they did.

A I don't have -- from that moment, I don't know what they did.

Q When you found out, was it at that point, was

it a leak, or was there an ignition?

A A leak. There was a release.

Q Were you in headquarters ~~in~~ when it was ignited?

A Yes.

Q Do you recall how long a time difference it was?

A I'd say it was at least an hour, probably, or in that neighborhood.

MR. BESHORE: I think I've asked enough questions at this point. Well, let me back up just a minute.

MR. BESHORE: We talked about our factual report. And you had an opportunity to read that? Is that correct?

MR. KLASEN: Yes.

MR. BESHORE: I'm just giving you a copy of it and I'm not going to mark it as an exhibit. But I'll just give you the -- I believe it's a four-page summary report. That's actually the NTSB part of it. I can find the appendices, if you'd like.

But, you mentioned that you had some comments on that, so perhaps you could share those comments with us.

MR. KLASEN: Well, in the first paragraph,

you talk about in 1991 Tubescope's conventional resolutional analog plus.

I don't think they developed the name "analog plus" until '95 -- '94, '95, '96. So it was just their conventional resolution tool. They just called it "line log."

MR. BESHORE: Okay.

MR. KLASEN: It may take a while for me. I read a lot of stuff yesterday.

MR. BESHORE: Well, do you want to take five and read through it? Why don't --

MR. KLASEN: Yes, please.

MR. BESHORE: -- we go off the record for five minutes.

(Recess.)

MR. BESHORE: Richard, do you have any thoughts, initial thoughts?

I'm trying to remember if we had performed more Enduro inspections. I thought we had done some on the 12-inch, 8-inch and the 6-inch lines also. But there was nothing that was identified, as I recall.

MR. BESHORE: Those would have been laterals?

MR. KLASEN: Yes.

MR. BESHORE: We may have had that and just not included it.

MR. KLASEN: That's okay. There weren't any things in those sections anyway. There was very little, as I recall... signs.

(Perusing documents.)

MR. BESHORE: Any other comments?

MR. KLASEN: Just you make the statement in the one paragraph about the engineering assistant provided a copy of a dig sheet, Olympic's supervisor for excavation and inspection of the anomalies.

And then it says that he sent somebody out and they came back and told him it was too wet to perform the excavation at the time.

The construction supervisor reported this back to the engineering assistant. He was told they would go back and try it again when it dried up.

Now that sounds like what we would have said. Now, whether or not we said that or not, I'm not sure.

But that was more of our normal operation, was if it was too difficult to get into a spot, that is, just impossible for them to get in there and do work, we would reevaluate it unless it was a location that we felt was critical.

And then we would make some kind of arrangement, you know, by going to the extent of putting sheet pile down to get in to make an

excavation.

But, normally, if it wasn't significant enough for us to react immediately, we would wait until we had some drier weather.

MR. BESHORE: You don't recall this conversation? It was pretty much based off of Jim Cargo's.

MR. KLASEN: I just don't remember it. But, from the notes I have, I mean these were notes that I placed on there that were supplied to me back from what the field guys had turned in.

So it leads you to believe that that's what we probably said. But I don't recall what our conversation was exactly.

MR. BESHORE: Okay.

MR. KLASEN: And then your next paragraph says that the information that they used for evaluating of gouges and dents.

It doesn't say anything about corrosion in there. You left out one -- I mean, I would like to have seen the word "corrosion" in there, too. Corrosion, you know, other anomalies, because that's what essentially that B-31-G calculation is for is corrosion.

MR. BESHORE: Yeah, and Richard, I --

MR. KLASEN: Are you referring to that other article?

MR. BESHORE: Yeah, we're talking about this article here that Olympic provided. It's on dents and gouges and it's in our appendix.

MR. KLASEN: Okay. That's the reference to that but I believe we did talk about the other corrosion stuff elsewhere, because we talked about the ASP evaluation.

And then the letters to the DOE, you know, just getting back to that information from my spreadsheet, it was my role to make sure I provided the spreadsheet with the summary data.

And it was the role of others to prepare the letter that would go out to the Deputy, DOE.

MR. BESHORE: And who would those others be?

MR. KLASEN: We typically went through the process of our Environmental guy, Bill Mulkey, if he was around at that time. But, I'm not sure he was there right then.

And then Frank always had the last comment, or would write the majority of it himself. And then attach whatever other data we had.

For example, in one report, we added the report from Pacific Testing Laboratories for the

analysis of the pipe, 20-inch line.

Other than that, it's a very good report.

I'll get that in there for you.

MR. BESHORE: Thank you.

(Laughter.)

MR. BESHORE: All right. Having said that, I think we'll break for lunch and go off the record at this time.

(Whereupon, the interview recessed for lunch.)

AFTERNOON SESSION

MR. BESHORE: As I mentioned before lunch, I think I'm finished with questions.

MR. SIM: Hold on. I think Richard had something he wanted to amplify in response to the last question you'd asked him about the draft report.

MR. BESHORE: Oh, okay. Very good.

MR. KLASEN: This was only one portion of it. I also read the 89 pages with Mr. Cargo's testimony.

And it just seemed like there was a lot of -- what seems like Jim may have tried to understand from his recollection a lot of things that it almost read like he was trying to satisfy everybody in the audience rather than try to remember what actually happened.

For example, just the fact of this location. We talk about the location was not very accessible. And the question about it being too wet.

And I'm not sure that it actually occurred there or not. I'm sure there were other locations where it was probably very wet. But it just seemed very likely, specifically because of my July '97 date.

And in that part of the country, July is the beginning of the dry season of the Pacific-Northwest.

It's hard to remember everything that was in those but the typical way that we would -- this data

would get to the end of the field to the construction group was my taking the data from Tuboscope or Enduro, translating that into something from all the tools that I had, and information, coming up with specifically this sheet and some other attachment documentation with it.

And then giving those to Jim or whoever was in charge of the construction group for them to take that pile of excavation locations and sort it out to his group. And let them go and research the location, identify, measure out the spot that they do the excavation. Marked it, ~~Market~~, place a one-call through ~~the~~ different people in the company.

And then follow up, and then go back whenever that time was that they were going to do the excavation. Possibly, reidentify that with another one-call. ~~And then go inform the pig.~~ ???

In instances where it was early in the year when it was still very -- would possibly be very wet, they would, depending upon its importance or seriousness or significance of what its ~~well~~ metal loss indicated, or dent size was pertaining to what was returned from the Enduro people, we would make the decision on, okay, we could wait until possibly a later time or make the judgment to use a greater -- go to

greater extents to excavate with the additional tools necessary to get in there at that moment.

If the decision was made to postpone it, and if it was lower down on the scale of importance, it was typically something that they would come back to me and say, "Oh, we're going to wait until when it's dry." They would just put it back in their pile and would get back to it when it was more accessible to do, and then jump on it.

But, at the same, they wouldn't just do nothing. They would continue on with their program.

So it may be misleading to some people to think that there was a daily conversation between us. It was pretty much:

Here's the things we need to do. And you guys get these done. Here's kind of a listing of what we think are the most important and should be taken or made higher on the priority list.

And then these others we want you to get through during this time frame that makes the most sense for you guys to access them, because you're the experts and doing the excavation work.

And then, as they would turn this information back in, I would see where we were missing or had not gotten to some of these locations and would go back and

say, "Hey, how are we doing on -- I see that we still need, you know, locations 10, 11 and 15," or something.

And they'd say, "Oh, yeah, we're going to get to those, but here is our -- we ran into some problems with this, or it's a permit issue."

Or, you know, there was something that they had to deal with at the time.

So it's not really a -- we can't really rely on the pattern being exactly the same for every one of these.

MR. BESHORE: You don't recall having any conversations with Jim on this particular spot?

MR. KLASEN: Not exactly, no.

MR. BESHORE: If you reevaluated it and changed your mind, you know, said, well, we really don't need to go out there, would that be something that you would relate back to Jim?

A Oh, sure.

Q Say, "Jim, I took another look at that. Don't worry about it," kind of a thing?

A Oh, definitely. If we would have made the decision that we weren't going to do it, we would have gone back to him and said, "Okay, we're taking this one off the list."

So I feel confident that we did have some

conversation about this location because getting back these notes and then my making this other note off to the side made me think that we had some conversation. We did some reevaluation, speaking with Frank, you know, based on the data that we believed to be true.

Coming up with a decision what we would go forth with, and then moving on.

MR. BESHORE: And you feel like you reevaluated it basically and took that off the list based on what your notes indicate and your recollection?

MR. KLASEN: Right.

MR. BESHORE: All right. Anything else?

MR. KLASEN: Oh, I'm sure there were a couple of other things in there that I was tickled. It took me a little while to read all of that.

MR. BESHORE: Oh, in Jim's attachment?

MR. KLASEN: Yeah.

(Laughter.)

MR. BESHORE: All right, let's go ahead and get started with follow-up questions.

Jerry, do you have any follow-up questions?

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EXAMINATION

BY MR. SCHAU:

Q Mostly, I'm interested, Richard, in understanding what your role was in the internal inspection analysis.

I got a couple of comments, or I heard a couple of things that you said during the question and answer that Allan was doing.

Can you just walk me through what your process was? What did you do? You know, starting from did you run the contracts for Tuboscope? Talk about just the '96 ones.

A Okay. The '96 ones, you see, there was a change between in early '91 when we were doing it ourselves to later on in '95-'96 when the managing company, TTTI, made the decision that all the Western Region would be under one Tuboscope contract.

And that was handled out of the group in Bakersfield, California.

So what I did was presented them with a list of all the different line sections that we needed to inspect. They added it to the list for their contract that they were working out with Tuboscope.

And then we got some kind of pricing break or whatever for having x-amount of miles of pipeline to

inspect as a Western Region.

And then tried to work out the schedule with where the specific tools were. If it was in California, for example, the 20-inch tool, they'd say, "Okay, when they get done with the 20-inch tool in California, we're going to bring the 20-inch tool up to you in Washington."

We said, "Great." You know, just "whenever you're ready, please come. You know, we're ready to go."

And then some of the other sizes the Western Region in California folks didn't have, so the Tuboscope was then dealing directly with us. Not on the contract issue but on scheduling when they should show up.

Q ... dates.

A Right. And then we tried to keep them -- we tried to bring them up and do all the inspections in one shot. There were some advantages to having one crew there because once you let them go, they may go to Europe, Africa, Asia, Australia.

You didn't know where they were going to go. And then trying to get on their schedule to get back. It was much better to have them there, keep them there, get them in and get all the lines inspected, and then

let them go.

Q So all of that scheduling and contracting and all that was centrally managed in '96 anyway by TTTI?

A The contracts were. The scheduling, the specific scheduling for the line sections came back to me and the group, and our engineering group.

But I really scheduled most of them.

Q Okay. So then you got the tool on the line. Were you getting preliminary reports back then?

A We didn't get what they called a preliminary report. What we got was a field report. You know, the inspector would verify that the data that he recorded was either good or not good.

And in order for him to do that at that time, they would actually print out the raw data sheets. And he would make the determination whether or not all the channels were working.

And if he was satisfied that all the channels were working within the parameters of their equipment, then he would either call it a successful run or an unsuccessful run.

And we would either make arrangements to reinspect that line section or, if he said it was good, then we took his word for it that it was good and we'd go on.

Q But you didn't use any of that preliminary data for analysis at all? That was just really testing whether the run was good. Right?

A No.

Q I missed that.

A That's not completely true. There was one instance in particular that when we had first specifically the five-mile section between Cherry Point Station and Ferndale Station, when we had put -- when we were able to make that line piggable by installing launchers and receivers in that line section.

Tuboscope came. We had Tuboscope come out. I'm not sure what the year was for that in particular. But, once he showed us the field report log, and from the way his indication of his interpretation saying that "These don't really look that good. Maybe you guys out to go out there and take a look," we pretty much immediately took action off of his report.

And I made I think 15 different reports that we went out and inspected. I think up to 15 locations in there.

Q Then, normally though, you would wait until you'd get a final report?

A Yes.

Q Okay, and what did you do with that final

report?

A Well, once we got the final report, I would go over the data, try to sort it in all the different ways possible that they'd give you the opportunity to analyze -- or not analyze, but just:

Here's your opportunity to see here's what your depth is in highest to lowest, lowest to highest. Here's what your length is highest to lowest, lowest to highest. Here's what your PR ratio or, you know, the pressure reduction ratio, would be, you know, from high to low, low to high.

There was what they called histograms. You could print all kinds of charts. So I would look at everything that they would try to -- what they had -- just to see where do these things fall as far as severity -- pressure.

Also print out a chart that you could have them calculate a pressure reduction based on the B-31-G calculations.

So you did that. I mean I took every opportunity that they gave me to look at their information as they supplied it, and tried to come up with some recommendations for excavations.

Q And then you made DIG reports?

A Yes.

D16

Q You collected a list of defects to investigate. Right?

A Yes.

Q What did you use for criteria?

A Well, usually, if we'd start with -- well for example, in '96, they were more specific in their depths and lengths by giving you a lot more information than they had in the past.

And then I took this -- also took the same data, not believing everything that I saw in their information, and plugged it into my own B-31-G calculations to make sure that we'd come up with the same data, the same answer to the questions.

And then based off of those, we had come up with a criteria for -- or we came up with the listing for which ones we'd go look at first.

Q But, primarily, on B-31-G?

A Yes.

Q And then for dents you used what?

A Well, we only had that one article. I didn't have a lot of information on dents. The B-31-4 just told you that you had -- you could have in that size pipe a 6 percent dent before you had to make a repair, unless it had a dent or a gouge in it. I'm sorry, a scratch or a gouge in it.

So you didn't have -- that's the one thing that was lacking was a lot of guidance in how you should evaluate the criteria that was involved.

Q Do you mean industry guidance?

A Industry guidance, right. Or regulatory guidance. We did the best we could with what we had.

Q So you created a list. Did I understand you to say that as long as the pressure reduction ratio was adequate for what we were pumping, is that what you mean? Criteria for whether or not you're even going to investigate?

A Oh, no, that wasn't the only criterion. That would be one that would jump out because it was the most -- it was the easiest to relate to. This is significant. If you had a 1.0, that meant you were operating at where the pipe would still withstand its pressure and still have your safety ~~back~~ factor.

Anything less than a 1.0 meant you were in a range where you were below your maximum operating plus safety factor.

We typically looked at anything up to approximately like a 1.03 or 1.04. You know, or somewhere in that neighborhood, 1.05. And then we looked for things, you know, ~~well~~ metal loss percentages.

You know, if you had something that was 50

percent or 40 percent. You know, there were just some percentage numbers that stuck in people's minds, too. They'd say, "Well, we probably should go look at that also."

So we actually went and looked at a lot of -- we actually looked at more things that were not really being required by anybody's standards at the time.

And also the fact that the data was exaggerated in Tubescope's log.

Q More conservative. Is that what you mean? More conservative?

A Well, I don't know if you'd say conservative but they identified things that showed a higher degree of metal loss than were actually out there.

If you want to call that conservative, then, yes, that would be conservative.

Q And that was pretty consistent with Tubescope's running with your experience then?

A Typically, yeah, they were always -- they seemed to always be over-exaggerating. Very seldom did you see -- there were chances when it would go the other way, when they would underestimate.

But, not very often.

Q Then you'd create a DIG sheet?

A Yes.

Q And you just described that you gave that DIG sheet to the construction guys and then they followed up and gave them back to you.

A That's correct, right.

Q Let's zip over to the drill run now. Which one was that?

(Perusing documents.)

And I use this because you were doing some backend analysis of what you were finding. Is that the one we were talking about?

And when I go down the list, if you look down to 16-inch, if I go down that list that I just compare what your findings were to what the indication was on the logs, the majority of them, the defects look -- the actual was less severe than what the indicator was.

Is that correct?

A That's correct. These are Enduro's numbers.

Q That's right, they're Enduro's numbers. That's specifically what I'm asking about.

A Okay.

Q Would that kind of trend, if you will, play into a decision on whether or not you did further DIGs? Would you guys consider that?

A Yes. That was a very big consideration.

Q Did you -- do you know or do you remember if

you considered it when you went back and looked at that .45...?

A Yes.

Q You did?

A Yes, we did.

Q So the data is trending -- I don't want to put words in your mouth. The data is trending to look more severe than the actual. And when you went back and looked at this .45 sharp, you said: likely less than that. Is that accurate?

A That's correct. Yes, that's accurate. There was only I believe one or two indications where it actually came out to be exactly the same or maybe the least bit larger.

Q One other thing. Allan asked you about formal training around internal inspection analysis. And you said that you didn't have any formal training.

Do you know where there's any place you could have gotten formal training from?

A No, not that I'm aware of. The only training, the only further training that I'm aware of that we could have gotten would have been going directly to the PIG vendors and sitting down with one of their analysts and working with them to see how they do the evaluation.

It's not their job to teach anybody. It's just watching them do the evaluation. If that's considered training -- which I don't think it is -- that would be about your only avenue.

MR. SCHAU: That's all I have, Allan.

MR. BESHORE: All right. Peter.

E X A M I N A T I O N

BY MR. KATCHMAR:

Q Richard, you were just talking about the PIG runs and you got all your data from those line log reports and stuff.

Did you look at the feature list?

A I looked at all the lists -- the feature lists. They had a defect list, a feature list. But, the feature list was extensive to the point where it was identified, known things such as valves checks, launchers or receivers.

Q Weren't these possibles in that list?

A I believe they were, yeah.

Q My question is did you ask about them. You know, did you think you had wrinkle bends in your pipe?

A No. I didn't believe we had wrinkle bends in our pipe.

Q Right, so that's my question. Did you ask Tuboscope why are you saying I've got a possible

wrinkle bend?

It wasn't just the one, I don't think. I think there were a few more.

A In various line sections I had seen the term "wrinkle bend", "possible wrinkle bend" before. And even "possible mash".

And I had asked after the Ebey Slough incident, we specifically went back and questioned Tuboscope directly what these things mean so that we could get a better understanding.

And, hopefully, believe what we were seeing.

And when they came back and told us about the Ebey Slough location and not being able to exactly identify that with any assurance, then -- and being able to actually see the pipe that had in the neighborhood of a 2-inch rise, or buckle in it -- I think anybody would lose confidence in their ability to identify anything from that point.

And I did. And so, therefore, I just did not accept their interpretation of possible -- if the word "possible" was associated with anything they'd put in there, I disregarded it.

Q Right. It appears that in '96, you created one of these.

A Yes.

Q After the Tubescope run.

A That's correct.

Q And then it appears you did another one I guess right after the Enduro run. So you must have put that information on the Tubescope one.

And this particular one, it says, you know, all these notes in here. It says, "Put in one call before starting the backhoe, extend-a-hoe."

These I guess you just told Allan that these are notes that the people in the field sent into you? Or is this your writing?

A No. These were notes that the field person -- I kept the original. I'd make the drawing, keep the original and make a copy for -- make two copies actually -- one for the construction group to keep in their office, and one for the field person to take with them into the field so that he could make his notes and then, when he was done, they brought their copy back to me.

And I put that back in the file with the original.

Q Okay. Is this your writing, "No. 2 welds 4 foot apart," up there on the top right? Is that on yours?

A No, that's not mine.

Q Yeah, we've got to be careful. There's several versions.

A Yeah, there's a lot of versions of this going around.

Q Item 0.82?

A Yeah, that language is on the exhibit that was used, but --

Q Okay, that's not your writing: "No. 2 welds 4 foot apart"?

A No.

Q Okay, so you don't know what that means?

A That's not mine either. It could have been. This was probably a little sticky note that was on the original along with this "put in one call." That was one of those little yellow stickers.

Q Okay.

A And I think there was one even attached to this card of Bill Evans, City of Bellingham.

MR. BESHORE: I think that's why we've got -- because I've seen another version, for example, where the bottom, the ACE number is visible, you know. And, on that version, it's not. So that's what I meant by "certain versions", copies made at different times.

MR. KLASEN: Sure.

MR. BESHORE: So, if you have another one you

want to talk about, maybe we need to put that in as an exhibit, Peter.

MR. KATCHMAR: No, that's fine. They either have the exact, same information or less than the one you've got. I mean like this one doesn't have any of the stickies on it.

MR. KLASEN: Right. And there's something else on the corner.

BY MR. KATCHMAR:

Q But I guess you're of the opinion that you would have done the first one and then just updated it as you got a new PIG run? Or, you wouldn't have gone back to scratch? Started over?

A Yes.

Q You would have gone back to scratch?

A Yes. I made one of these up for the Tubascope inspection. And then after the Enduro inspection, I started over and rewrote one for the Enduro inspection.

So there should be one of these that just has Tubascope data on it.

Q All right, thanks.

A And just to make sure that you understand why there was a follow-up with the Enduro and why there was no action on the Tubascope, it was after the incident

in the summer of '96, which was only three months after we had done the Tuboscope inspection, we had the 20-inch release.

Then getting the order from Ecology, we essentially put a stop to all excavations because we were, one, very busy with doing the clean-up activities and repair work on the 20-inch line, and trying to deal with finding anything else pertaining to that type of anomaly in that line section.

And then being ordered to perform the capier or defamation survey.

So it pretty much put a halt to us because we just didn't have the people to be able to do everything. So we decided this is a good place for us to stop. Let's go on and try to do all this other work, because that wasn't the only thing in the order that was required of Olympic to do.

There were -- I can't remember how many items there were, but those took a lot of people's efforts also.

Q All right. Are you aware of the B-31-4, the fact that that's a visual criteria and not really a PIGGING criteria? Do you know that?

A I used it as -- did I know that that was a visual criteria, not a pigging criteria?

Q A lot of people use it as a pigging criteria but it's really a visual criteria.

A Well, as far as knowing that --

Q I just wondered if you knew it or not.

A No, I didn't think of it as you have to put your hands on it in order to use that criteria. I used it as this is a great tool to use to explain or to verify what you have is where it is in the greater scheme of should you go out and do some excavation, or should you not.

You've got to start with something and that was the best tool that was available.

Q I agree. Okay, so what you had said before is that the only real training you had was while they were running the PIGs and with the report and them telling you, you know, "Here's what these things mean"? The PR ratio, the histogram?

A Well, actually, the field guys, they would just show you how to -- here's what they believed corrosion anomaly looked like. Here's what a casing identification start and stop would look like.

Here's how you read the binary code at the bottom. Here's what the 1, 3, 5 or 1, 5 and 7 means for orientation. Or what 3, 6 and 10 means, you know.

Q Did Enduro do that for you, too? Did they

explain to you --

A No. Well, Enduro stuff is so difficult to read because it's so small, you had to have -- it was a specific lens made by Bausch magnifying lens that had incremental lines on it for length and height.

And then you also had to apply a factor that you would calculate from known items from point to point. And I asked for the tools and I asked for how do you do this. And all I got was "I'm doing this and this and this and here's..." and he's got his face right down on the paper with this eye glass.

I never got past that. And didn't get the equipment or anything to help me to read that data better.

Q But I guess when they gave you something, an indication in a... count, in your opinion, they were pretty accurate?

A Not really. They weren't always accurate to the foot, but they were accurate within a couple of feet.

I had more faith in Tuboscope's footage distances than I had in Enduro's footage distances. And I think it's only because of the scale, the thing that they had to work with. So that made it difficult.

But, once you got down to a joint of pipe,

you could pretty much estimate it within a foot or two. But, you couldn't get down to the fraction of an inch like Tuboscope could.

Q Right. Were you aware of the capabilities of the Enduro tool?

A The fact that you're only getting the maximum deflection on that particular tool?

Q Yes. Meaning that you didn't get orientation. You didn't get -- if they were separate ones, you were going to get the worst one?

A No, I didn't understand that to be the fact. I understand that it had a capability of at any point, it would give you in that circumferential area of the pipe, it would give you what the worst one was in that piece of circumferential pipe.

But not as far as any linear length. I thought they would give you as many as they could identify.

Q Right. Yeah, that's true. Do you have any thoughts on why Texaco, when they took over from Shell, might have kept the five-year pigging and maybe not have kept some of the other things that Shell was doing?

A I don't know what other things.

It was a commitment. Management had decided

to make, which we stuck with. And I don't know if it was board-approved or board-required. I'm not sure if maybe we even told an agency or something that we would keep that. But, I'm not sure about that.

MR. SIM: Don't guess.

MR. KLASEN: I'm not going to guess.

MR. KATCHMAR: No, we don't want you to guess.

BY MR. KATCHMAR:

Q Did you prepare dig sheets for all the digs?

I think, in the final one, it said there were like three that you didn't dig, no inspection because of the engineering analysis or something? In your final, there was a few of them.

A Right.

Q Were there dig sheets for those as well initially?

A I don't remember. There could have been. I typically would have done that. I think I've probably did it but I don't recall.

Q We just asked a couple of people if they had ever not dug after a dig sheet was issued. And they had indicated that they didn't think so.

So pretty much if a dig sheet was issued, they were going to dig it.

A Yeah, that was -- if it was out there, we were going to do it.

Q Can you remember, Richard, and this will be pretty much my last question on this, did you remember why you would have gone back 797 and put this ... note over here?

A Well, the only thing I can say is that I received a lot of the information back and must of had some conversation with someone because I remember that I didn't speak.

MR. KLASEN: I did speak to Mr. ~~Hoff~~ Hopf about this specific location and this incident and that's -- as a matter of fact, I think on two occasions we talked about this spot. And we -- and -- and based on the information I had on them being an individual event and a ~~medal~~ metal loss, my recommendation was they are separately -- they were not injurious --

MR. KATCHMAR: Yeah.

MR. KLASEN: -- to the operation of the system.

MR. KATCHMAR: Do you know when, maybe, these notes were -- when the people actually went down there the first time, perhaps?

MR. KLASEN: No. I don't know when they would have gone the first time.

MR. KATCHMAR: Okay. I'll just tell you the reason I'm asking you, it appears that they went down there early on, you know, like May or whatever, and said, you know, hey, I'm going to -- called somebody and said, hey, I'm going to need some mud floats. If you really want me to do this, I need some mud floats, or something to that effect. And then the person was told, well, we'll just do it when it dries out. And we were thinking -- actually, Mr. Cargo's testimony was that, you know, he thought that it had just slid by the wayside and, you know, fell through the cracks. And I was real happy to understand that that was a 797 and not a 297, to say that you had actually gone back and it didn't fall through the cracks.

MR. KLASEN: No.

MR. KATCHMAR: You know, that it was actually reevaluated and, you know, conscious decision was made not to do it. And I just wanted to make sure that that recollection was right.

Going back to Bayview, I received a whole lot of documentation -- you probably gave me a whole lot of it -- on -- on your procedures that you'd written up for the Ferndale commissioning. And then there was also two pages on Anacortes commissioning. And the Anacortes commissioning actually stated to check the RV

20 -- 1923, which is the Anacortes relief valve, and the 1919 was the Ferndale relief valve, and that's the one I guess you had problems with when you first started out?

MR. KLASEN: I believe so. That was probably the reason why.

MR. KATCHMAR: Right. But I guess my -- my question is why -- okay. You're saying that's the reason why you put it on the -- the Anacortes one --

MR. KLASEN: Sure. Just to make sure --

MR. KATCHMAR: Okay.

MR. KLASEN: -- because we had put additional product into the tank that we -- we didn't intend to do, so therefore I wanted to make sure that we were -- and it took us some time in order to find that, so I put it in the procedure. Let's check that early on to make sure that's not a problem.

MR. KATCHMAR: Okay.

MR. KLASEN: Just another one of my -- give somebody else a job to do.

MR. KATCHMAR: Do you remember back in October -- there's a document of all the pressures out there at Bayview. It's two sheets of paper. It's just a whole bunch of pressures --

MR. KLASEN: Sure. A set point --

MR. KATCHMAR: -- of everything?

MR. KLASEN: Yes.

MR. KATCHMAR: And all this -- all of these four relief valves, the -- the -- these two we're just talking about, 1919 and 1923, and then the two leaving were set at 740 -- that's what Jacobs Engineering had them set at.

MR. KLASEN: Oh, okay.

MR. KATCHMAR: And you all had crossed them out and written in 650 there, and your initials, Craig's initials -- Craig Hammette's initials and Doug Bue's initials were there. Do you remember sitting down and having a meeting where, hey, we don't want this set at -- these relief valves set at 740, they should be set at 650? Do you remember that?

MR. KLASEN: Well, if my initials are on there I should have been there.

MR. KATCHMAR: Well, -- right. But I'm just --

MR. KLASEN: Do I remember the meeting?

(Pause)

MR. KATCHMAR: Well, let me just go on.

MR. KLASEN: No, I'm not -- I'm not sure --

MR. KATCHMAR: It's probably not --

MR. KLASEN: -- I'm not sure I remember the

meeting, but --

MR. KATCHMAR: -- three years ago now. But I guess my question is if -- since you changed those pressures there, that was before you actually commissioned Bayview?

MR. KLASEN: Mm-hmm.

MR. KATCHMAR: Would you have sent that to the field and said, you know, these need to be set at 650?

MR. KLASEN: I -- if it went beyond that, the next step would have been to -- to direct the field with some paperwork to say we need you to --

MR. KATCHMAR: I guess that --

MR. KLASEN: -- here's the new settings for Bayview -- this is before we put it in service?

MR. KATCHMAR: Right. It was like October 18th or something.

MR. KLASEN: Yeah. Well, --

MR. KATCHMAR: It was in -- it was in Olympic's first product to us.

MR. KLASEN: Okay.

MR. KATCHMAR: If you want to go back and look. I don't know if you have that stuff. But it was -- I think it was October 18th or something was the date on it.

MR. KLASEN: Okay.

MR. KATCHMAR: And then -- okay. So, let's -- you know, somehow or another that didn't get back to the field because it was still set at 100 pounds when you started commissioning.

MR. KLASEN: So we -- we had not sent that to the field?

MR. KATCHMAR: I guess not because the -- like you said, the valve was still set at 100 pounds when she started commissioning and -- and the other testimony was that they were trying to hold it in about 300 pounds and they just -- you know, it kept running off into the tank. So they shut it down, went looking for the problem, you know, and discovered that the valve or the spring wasn't right or whatever.

MR. KLASEN: Okay.

MR. KATCHMAR: But then -- okay. From the time they commissioned Ferndale line through Bayview, right before Christmas there was an e-mail sent out to everybody, all Olympic employees that said I have now set the set point on that relief valve to 700 pounds, which is up from 650, supposedly. So everything ought to run fine and dandy. Do you remember getting that e-mail?

MR. KLASEN: Yes, I do remember that e-mail.

MR. KATCHMAR: Okay. Now, my question is does that make -- did that make sense to you that -- did you -- were you the guy that -- that -- that would have told Mr. Grinnage Greenidge to increase the set point?

MR. KLASEN: Not that I'm aware of, no.

MR. KATCHMAR: Okay. And then the next question is, does it make sense to you to increase the set point instead of, maybe, lowering the set point?

MR. KLASEN: This was December 18th?

MR. KATCHMAR: Whenever you went on -- on this vacation. The e-mail said, you know, I -- I've sent -- I've set the set point to 700 pounds and so you shouldn't have any more problem at Bayview, I guess with the valve closing.

MR. KLASEN: Right.

MR. KATCHMAR: You know, have a happy Christmas, I'll see you in January.

MR. KLASEN: I don't know where he would have got that direction from.

MR. KATCHMAR: Just -- the question was, did you tell him to do it? You did not --

MR. KLASEN: I don't -- I don't believe it was me.

MR. KATCHMAR: Okay.

MR. SIM: Do you have that e-mail there?

MR. KATCHMAR: Not on me. But it's in the documentation.

MR. BESHORE: I have a copy.

MR. SIM: I've seen it before. I'm just not following it the same way you are.

MR. KATCHMAR: Oh, okay. Anyway, the question is, though, in your mind does it make sense to set it from 650 to 700 instead of setting it from 650 to, maybe, 600 or 500? Because if it's not opening or it's not doing what it needs to do at 650, I'm just wondering --

MR. KLASEN: You know, I don't --

MR. KATCHMAR: -- if they thought --

MR. KLASEN: -- it was -- that was very early when we just started flowing through Bayview and we were tight-lining through. I'm not sure what the difficulties were at that time, if it was because they weren't flowing in the tank. They might have had right at their maximum pressures flowing through the piping to get over to Allen Station.

MR. KATCHMAR: Okay.

MR. KLASEN: That'd be my guess. It was just -- there, I'm guessing again.

MR. KATCHMAR: Okay.

MR. KLASEN: No guessing.

MR. KATCHMAR: Then, on May 12th, something happened and Mr. Grimmage set it back to 700 pounds -- or 650 from the 700. There's a -- there's a e-mail or a document somewhere saying that -- that, you know, now it's set from 700 back to 650. Do you remember that?

MR. KLASEN: No.

MR. KATCHMAR: We may not have -- had anything to do with it.

(Pause)

MR. KLASEN: That was typically something -- the set point settings were typically a role of the control center, supervisor, and -- and Craig. They would be making sure that things were along -- set along the right lines.

MR. KATCHMAR: Okay. My next question goes to the operations. This valve -- this isolation valve closed, we find out now, like 59 times or something like that. 41 of those were due to high pressure at Bayview. And every one of 'em caused a shutdown in the pipeline. Obviously, because the isolation valve was shut. No product could go, so the line shut down.

Were you aware that it closed that many times?

MR. KLASEN: I was aware that it had closed. You have to also understand that the 49 or however many

times it closed, more than half of those times were on instances where they were shutting the line down. They were in the process of shutting the line down and while they were doing it, it triggered the pressure switch because of their packing -- packing the line up to shut the line down. It triggered the switch and that valve just started to close. It wasn't an instance where it was done and then the line was shut down.

MR. KATCHMAR: Okay.

MR. KLASEN: It was during the process of shutting the line down. So, many of those --

MR. KATCHMAR: Well, I'll have to go back and look because I asked those specific questions and I asked for a list of all the times that you scheduled the shutdown and the valve closed and all the times that you didn't schedule a shutdown and the valve closed.

MR. KLASEN: I know that there was a minimum of 20 times that -- that they had shut -- they were shutting the line down --

MR. KATCHMAR: And it --

MR. KLASEN: -- 'cause I went and looked myself.

MR. KATCHMAR: Right. Did anybody talk about abnormal -- that being abnormal? I mean was it talked

about that -- that perhaps the relief device should be working and that would keep the pressure below 700 so the valve shouldn't go shut? To your recollection?

MR. KLASEN: The few times I remember being involved with conversations that the -- the conversation would go around the surge relief valves, actually, in my experience, a lot of times they worked very quickly. You know, just spit open and close back again. And a lot of times you wouldn't even see an increase in the tank -- tank volume unless you had a very small tank, and this was a 10,000-barrel tank, so it takes quite a bit for a -- it takes over 10 barrels for it to change a hundredth of an inch, which was the only indication they'd have that it would go up.

So, to say that the -- did the valve open or did it not open? No, I was always banking on it opening and that it just didn't show a large indication of flow.

MR. KATCHMAR: Did you ever get involved in -- in analyzing -- trying to get to the root cause of this valve not opening or opening too quick and closing too quick?

MR. KLASEN: No, not until after we -- after the accident where we came up with a procedure for trying to inspect the valve -- not inspect the valve

but operate the valve with pressure and water.

MR. KATCHMAR: Flow testing?

MR. KLASEN: Flow test the valve, yes.

MR. KATCHMAR: Okay. So there was no flow tests any time prior to --

MR. KLASEN: The flow tests that -- that --

MR. KATCHMAR: I mean it worked at 100 pounds, I guess.

MR. KLASEN: Yeah. It worked great.

The -- that was always a function of the mechanics to do those tests and I didn't get involved with those until later on when we developed the procedure for flow testing them with water.

MR. KATCHMAR: After the accident?

MR. KLASEN: After the accident.

MR. KATCHMAR: Okay. Do you have knowledge of how many times maybe a mechanic went out there to -- to check the valve, adjust the valve?

MR. KLASEN: No.

MR. KATCHMAR: Any at all when you were there? Or did you ever direct anybody?

MR. KLASEN: Well, I was there I -- I can remember seeing them go through the process of -- when we were doing facility checks they were -- before we commissioned it, I can remember seeing them working

with the valves. Now, what they were doing --

MR. KATCHMAR: Okay.

MR. KLASEN: -- I -- I --

MR. KATCHMAR: But not specifically for, hey, it shut down again? Would you mechanics go out there and please try to fix this problem?

MR. KLASEN: No, I wouldn't have been there.

MR. KATCHMAR: And they never came to you and said, hey, we can't figure this out, help us out?

MR. KLASEN: Not typically, no.

MR. KATCHMAR: Well, not typically. I'm just asking in this -- for this valve. You can't remember anybody coming to you and asking you to -- to help out with trying to figure out the problems with Bayview?

MR. KLASEN: People came to me with -- trying to help with whatever, usually. And --

MR. KATCHMAR: That's why I asked. Could you -- you seem to be the man on the scene for Olympic.

MR. KLASEN: Yeah.

MR. KATCHMAR: For this -- for all this stuff.

MR. KLASEN: Well, there's a lot of those type of pieces of equipment were just beyond my expertise. You know, it was -- that's the mechanic's job, that's their equipment, that's -- don't mess with

them.

MR. KATCHMAR: Right. Do you know Hoffman Instrument Supply? Does that name ring a bell?

MR. KLASEN: Hoff -- Hoffman Instrument Supply? I believe that's one of the sales companies for -- I think that's one of the companies that handled that particular type valve.

MR. KATCHMAR: Okay. Did you ever talk to those guys?

MR. KLASEN: I wouldn't doubt that I would have.

MR. KATCHMAR: Do you --

MR. KLASEN: I wouldn't doubt that I would have, but I don't remember if I did.

MR. KATCHMAR: Do you ever remember receiving a fax or anything from them concerning a relief valve and -- and the parts that maybe needed to be changed our or something?

MR. KLASEN: After the accident, before the accident, or --

MR. KATCHMAR: Before the accident. Middle of January, actually.

MR. KLASEN: Middle of January.

MR. KATCHMAR: Of '99.

MR. KLASEN: I remember looking at some

information. Now, I don't remember when it was.

MR. KATCHMAR: Okay.

(Pause)

MR. KLASEN: January. It could have been in reference to getting some information for the equipment that we were going to use.

MR. KATCHMAR: Actually, this was specifically concerning -- somehow or another they got word that Olympic was having problems setting these valves or getting the valves to operate at a higher pressure. And I guess you had already said that you -- you put in a purchase order for the four springs. Obviously, somebody out there said we need four springs. Maybe you didn't do it, but --

MR. KLASEN: Right. I didn't --

MR. KATCHMAR: -- you had it in your notes that they --

MR. KLASEN: Right.

MR. KATCHMAR: -- ordered four springs.

MR. KLASEN: Right.

MR. KATCHMAR: And -- because there were four valves like that there.

MR. KLASEN: Right.

MR. KATCHMAR: And somebody else may have called down there -- must have called down there and

said, you know, we just can't seem to set these things right, so sometime or another those guys talked to Fisher-Rosemount people and said what's the -- you know, why can't they set these things? And they were told, well, you -- you can't just replace the spring. You have to replace the piston and the housing as well. And supposedly, that information was passed on to somebody, and I was just wondering if you'd ever seen it?

MR. KLASEN: I remember looking at diagrams of valves.

MR. KATCHMAR: Blow-ups of --

MR. KLASEN: Blow-ups of -- of valves. Not necessarily pilots or whatever, but I remember looking at surge relief valves. However, I'm not sure if that was the case. I know that I purchased one for a -- another job or another project, so --

MR. KATCHMAR: Okay.

MR. KLASEN: -- I'm not sure exactly which one.

MR. BESHORE: Let me -- let me jump in here a little bit to ask a quick question.

MR. KLASEN: Sure.

MR. BESHORE: When did you become aware -- or maybe you were not aware of this. When did you become

aware that more parts were necessary to be changed in this valve to -- to reconfigure its pressure setting than just the spring?

MR. KLASEN: After the accident.

MR. BESHORE: Was that after the accident?

MR. KLASEN: Yes.

MR. BESHORE: Okay. And then, could we go off the record just for a minute?

(Pause)

MR. KATCHMAR: Two real quick last questions. Were you aware in -- in the design that the control valve with the stop on it was supposed to be set at the discharge rather than the incoming portion?

MR. KLASEN: At the Ferndale line at Bayview? No. No, I wasn't.

MR. KATCHMAR: You just never -- never knew that?

MR. KLASEN: No. I thought they both had it.

MR. KATCHMAR: Okay. Last question. You said that you drove up to the Renton facility when you got the page that said we got a release. What'd you do in that hour between then and -- and the explosion?

MR. KLASEN: Explosion? Well, my role in the incident command system is planning section chief. So, I tried -- what I do is activate the people necessary

and try to find out as much information as possible so that we can evaluate what we need to do and what services what we need -- that we need and -- and start gathering as much information as -- as available at that time and try to do some calculation on release volume.

So, I probably spent a good 30 minutes just trying to figure out where it was exactly, getting some elevation profiles, doing some calculation on line fill volumes, and trying to come up with a -- a number of complete drainage for that, which has been the number that's been out there forever.

Also, I contacted -- I knew because of the volume if I contacted the helicopter service to come down there so that we could get some people up there immediately. We're also talking to the people Rick -- like Rick -- who was specifically on site that had called in on his radio telling us what he was seeing. We were activating other pipeline personnel to make -- to get them going in that direction. I'm sure there was --

MR. BESHORE: That's fine.

MR. KLASEN: There was a lot of things happening. Time went by in seconds.

MR. BESHORE: Yeah.

MR. KLASEN: I mean it seemed the hour was gone and then they said there was an explosion. So, it wasn't -- I wasn't sitting on my hands.

MR. BESHORE: That wasn't why I asked.

MR. KLASEN: Yeah.

MR. BESHORE: That wasn't why I asked. Thank you, Richard. I appreciate it.

MR. KLASEN: Sure.

MR. BESHORE: That it?

MR. KATCHMAR: That's it.

MR. BESHORE: Tony?

MR. BARBER: Richard, you've -- you've talked about B31G and also about the pipeline industry, the 415 regs, the B34 -- 34?

MR. KLASEN: 31-4.

MR. BARBER: 31-4, thank you. Are you aware of any other standards that -- that -- that Olympic Pipeline was using to evaluate potential corrosion, gouges, dents, anything like that at the time prior to the incident?

MR. KLASEN: No. No, I'm not aware of any other standards. There's -- the only other corrosion standards are ~~NAI~~ NACE standards, and that's -- that's -- those are essentially applied after you know exactly what you've got.

MR. BARBER: You mentioned one time maybe -- if I could just get you to clarify, with respect to the Tuboscope pig run, I think you said -- and correct me if I'm mischaracterizing -- anything beyond the wall thickness or wall thickness lost you took with a grain of salt and wouldn't consider anything -- you considered it due to corrosion unless it was visually verified otherwise?

MR. KLASEN: I -- I took their -- their measurements for wall loss and for length as being as accurate as what they were presenting. I discounted and after the summer of '96 completely eliminated their definitions of anything that was considered possible. Whatever.

MR. BARBER: Do you think if they had a notation for a feature that was -- that's -- that said "Mash", not "possible Mash", would you have considered that worthy of inspection?

MR. KLASEN: I -- I -- I tried to accept as much as I could of the information. But we realized that their expertise was in corrosion, metal loss, and that's what we decided was what they claim they can assess, and that's what we accepted as what they could assess.

MR. BARBER: What in your mind constitutes a

gouge? That type gouge.

MR. KLASEN: What would constitute a gouge? Well, as I know gouges today, any separation of the grains of the metal in the -- in the pipe.

MR. BARBER: How would you compare your understanding now? How -- how did it differ before the incident?

MR. KLASEN: I actually had not seen that many or I hadn't -- I don't believe I'd seen but maybe one prior to that.

MR. BARBER: One gouge?

MR. KLASEN: Yes. Which would -- was caused by a backhoe.

MR. BARBER: Thinking about the 1996 E.B. Slew leak, do you know what caused that leak? Do you have an opinion about what caused that leak?

MR. KLASEN: I'm -- I have to go back to what our report says, which says, we believe, is that it was most probably original construction from -- from what I recall from that and the discussions that we had is that -- and from talking to some of the old-timers that -- that laid that line, I believe it was done in the fall or winter of that year and they -- they said they just welded that pipe up and actually drug it through that slew area because it was a small ~~Yake.~~ Lake

And with -- and with that information and trying -- and having weights attached to it and -- and getting it in the -- to the point where they could tie it into that levy, which was done at another time frame, they probably used some creative methods of -- of getting things to line up.

But I -- you know, I don't know for sure what the actual failure method was. I -- I do agree that it could have been additionally made worse by the accumulation or addition of -- of materials placed on the levy to -- to reinforce it.

MR. BARBER: Okay. Allan, is there a copy of the -- the ~~ASE~~ as an exhibit?

MR. BESHORE: Not yet. But you and -- you and Linda are both -- I think have copies of that, so if you want to hand him one of those and ask some questions about it, we'll do so.

MR. BARBER: Okay. I should probably do that.

MR. BESHORE: I want to -- we've got a couple copies here. I can make you guys copies --

MR. BARBER: Let's go ahead.

MR. BESHORE: You keep that one if you want to ask questions about it.

Just starting from the top, Richard?

MR. BARBER: Sure.

MR. BESHORE: We'll -- we'll label that as an exhibit, I think, or next one to be attached. Klasen Exhibit F.

(The document referred to was marked for identification as Klasen Exhibit F and was received in evidence.)

MR. BARBER: Just starting from the top, the title says "Texaco Trading and Transportation, Incorporated, authority for expenditure". Why would that not say Olympic Pipeline had authority for expenditure?

MR. KLASEN: Well, because all of our -- all of our budgeting went through the managing company, and the managing company was TTTI. But the company -- it says in the next line down, "Company, Olympic Pipeline".

MR. BARBER: Right.

MR. KLASEN: Identifying us specifically.

MR. BARBER: Okay. Were there varying funding amounts that had varying authorization requirements? For instance, a very small expenditure might require one person to approve and a larger would require higher level of approval.

MR. KLASEN: Yes. Yes. There was -- there were -- what do you call them?

MR. BARBER: Delegations?

MR. KLASEN: Delegations of authority. Thank you. That ranged for whatever level pertaining to whose -- what management person was within the organization. You know, specifically, the TTTI folks.

MR. BARBER: How high an expense would it -- would -- would an expense have to be to go to the Board to get approval?

MR. KLASEN: I -- I don't know.

MR. BARBER: Did -- did this AFE include specifically looking at -- at specific features from any of the -- the -- the -- the two pig runs in 1996 or 1997?

(Pause)

MR. BARBER: Maybe the better way that I can ask it is -- is what is your understanding of the purpose of this AFE?

MR. KLASEN: Oh. Well, the purpose of this was, for example, it says states -- the title is "Enduro Digs, Ferndale, Anacortes, and Sea Tac lines". And what I'd -- I had identified and should have also included the Allen-to-Renton, I was trying to lump in there one -- the AFE so that we could go out and do

these inspections and be able to charge people's time and the equipment and labor, repair to something specific to track those costs because it was a budget item from the previous year.

We knew that we were going to have some level of expenditure. We just didn't know exactly how much, so we -- we threw a number in trying to just guess that we're going to have 20, 30 excavations. And you know, you'd say times however many thousands of dollars per excavation and then come up with some number.

But these -- these numbers were typically always something that was just something to get you started, not realizing how much it may cost you in the end. And we -- and if we exceeded this it was one of those where, okay, keep going, you know. You guys still have 10 more to go. We'll supplement this with something else. It was never, oh, you're out of money, you have to stop. That didn't occur.

MR. BARBER: Was this -- was this AFE within the annual budget? You said it was from the previous -- a budget item from the previous year, but was it within the annual budget or was it something that was outside of what the budget was planned for?

MR. KLASEN: I -- I don't recall. Since we had -- since this was in '97 and we had -- I think

budgets are completed in October of the previous year, so it -- it -- I'm not sure if we would have had an item in there for these or not, depending upon because we were working with the order from DOE. It -- it could have been. If not, it would -- it would easily have been added because it wasn't -- it wasn't something that we were doing for fun. It was something that we -- we were -- we were required to do.

MR. BARBER: Okay.

(Pause)

MR. BARBER: You mentioned a couple of times the ~~inland~~ inlet surge relief valve at Bayview not fully shutting properly at times, such that you were aware of it being open. Is that correct?

MR. KLASEN: On the initial start-up, the -- the surge relief valve on the incoming from the Ferndale line continued to flow while we were doing the initial fill of the -- the pipe and the -- and the tankage and the piping and over to Allen Station and -- which we -- as far as we were -- as far as I was concerned, should have been holding. But until we reduced the noise level in there we didn't really -- we weren't able to run it down till we could, you know, really focus in on that specifically.

MR. BARBER: And how -- how did you know that

that -- the valve was open? You -- you mentioned that it was going to a utility tank and you talked about the transmit tank, Mixed Tank 209 later?

MR. KLASEN: Right. They're one and the same.

MR. BARBER: Okay.

MR. KLASEN: I'm sorry.

MR. BARBER: -- clarify that.

MR. KLASEN: Sure.

(Pause)

MR. BARBER: Just going -- going back to -- who -- who were you employed by before Olympic pipeline?

MR. KLASEN: Before I came to Olympic Pipeline in February of 1980 I was employed by The Texas Pipeline Company. It was a 100 percent owned company of Texaco.

MR. BARBER: How did you come to be employed by Olympic Pipeline? Did they -- did Texaco assign you to Olympic Pipeline or did you apply for a job there?

MR. KLASEN: That's a good story. At The Texas Pipeline Company I was in the control center or what we called the dispatch office back then. And the company was coming into the age of computers. During my time at -- at Texas Pipeline Company everything had

been done with people and telephones and World War II fax machines and -- I'm sorry. Teletype machines, not fax machines.

And personal contact back and forth with people in the field 24 hours a day, seven days a week. The -- with -- with the improvements in -- of computers, they decided to change the -- the way the reporting was done from the field. They built a redundant system that would do the same thing that I did, to an extent, and then have the field people input all their data so that it would be a permanent record for the scheduling departments, and put the responsibilities that I had back on the personnel in the field.

As far as making decisions for when things should happen or -- which most of those guys were -- I gotta say they were excellent in the -- back then, in the early '70s and up to when I left there. It was -- it wasn't that difficult a job because people really did real well.

So therefore, they -- they just -- they no longer needed the services of a dozen dispatchers, and Olympic Pipeline was changing its operation from a cycle of pumping product of -- a 10-day cycle, meaning they would start from one group of refiners and pump

for a certain amount of days and then switch over to another set of refiners and pump for a certain amount of days. And within -- back and forth between those two, before they would recycle, all the way back to their original gasoline -- they had a schedule of gasolines and fuels, gasolines and fuels that would feed the Portland area and the Seattle area and they would -- they would start with -- at that very first point would take them to -- to complete that cycle it would take 10 days. They were changing that from a 10-day cycle to a 7-day cycle, which reduced the volume of -- of product that they'd ship in each batch to the -- to the specific sections. And then it would also increase the workload on the dispatcher because he's having to do more things. And they only had one person operating it the -- in the dispatch office.

So, their goal was to increase the -- their dispatchers by -- with an additional person, so you'd have two people operating the pipe -- the two different pipelines with -- with the addition -- additional work load.

So, the manager of operations came down to Texas Pipeline, interviewed all of us, and from the interviews selected three of us to come up there and see if we would want to work in -- in Seattle for

Olympic Pipeline. And two of us decided that we would and the other guy said he didn't want to have anything to do with it. So, we --

MR. BARBER: The manager of operations of what organizations?

MR. KLASEN: Olympic Pipeline. He was a Mobil employee.

MR. BARBER: And did -- did he come to Texas Pipeline --

MR. KLASEN: Yes.

MR. BARBER: -- Company through the company contacts there?

MR. KLASEN: Yes. Texas Pipeline and Texaco were and are owner of Olympic. And with their -- they -- they couldn't find enough people to fulfill their need for an increase -- a completely new rotational shift of people. So, they went out to the owners and asked if they had anybody that would be interested in -- in the -- in that particular job, and I liked the fact that I needed to feed my family and so I -- so I interviewed for that and -- and accepted that position.

MR. BARBER: Was it a competitive interview where there -- where there were other applicants being interviewed as well? Or did they recruit you

specifically?

MR. KLASEN: No. It was -- they interviewed everybody that was -- we were looking for places for people to -- they were looking for locations for 10 to 12 people to go. And this was the best choice I had. So, I had to actually resign from the Texas Pipeline and start as a brand-new employee with Olympic Pipeline.

MR. BARBER: Okay. You mentioned at one point that in the engineering group there with Olympic Pipeline there were -- there were periods of time that there -- that there wasn't an engineer on staff and that there were periods of time that -- I believe what you said was around 1996 the head office provided temporary engineers. And --

MR. KLASEN: Yes.

MR. BARBER: -- I was trying to clarify what you meant by "head office"?

MR. KLASEN: Oh. Well, the TTTI head office was out of Denver. They -- during that time period. They -- they had an engineering group and that's where they assigned the engineer through the management of Olympic to -- to work as engineer -- as Olympic's engineer.

With the various types of projects we had

going on during those time frames, we'd run into a lot of different -- of their talented folks and they -- they'd periodically send somebody out to do a long-term project, you know, something that lasted from weeks to a month, and they -- they would occupy that office and -- and to me, that was fair game for me to go ask them for help. So --

MR. BARBER: So you -- are you aware of whether or not they resigned their position with TTTI and became an Olympic employee?

MR. KLASEN: Oh, no. They were the management group. The -- the manager -- the vice president manager, the manager of operations, the engineer, and the accounting -- I don't know what his title is.

MR. BARBER: ~~Chief Ryan~~ Bryan Connolly.

MR. KLASEN: Accounting services or whatever. Financial. He was a financial analyst type person. They were and continue to be TTTI. The management core team that was assigned to Olympic, they were not Olympic employees.

MR. BARBER: I think I'm -- I'm finished, Richard. I just want to take a quick look.

(Pause)

MR. BARBER: I don't have any more questions.

MR. BESHORE: Johnny, do you have any questions?

MR. PARRISH: I don't have any.

MR. BESHORE: My -- my -- my question, should we take a break real quick? Linda, are you going to have -- do you --

MS. PILKEY-JARVIS: I don't think I have that many, but --

MR. BESHORE: Let's take five.

(Brief recess)

MR. BESHORE: Okay. Let's go ahead and get back on the record here.

Linda, do you have any questions?

MS. PILKEY-JARVIS: I have just a few questions. Many of my questions have already been covered.

Since Tony was just asking you about the AFE, let me -- if you have it in front of you, let me ask a couple more questions about it.

(Pause)

MS. PILKEY-JARVIS: So, do I -- I just -- I wasn't quite clear on this. Did -- did you participate in drafting this -- this AFE?

MR. KLASEN: Yes.

MS. PILKEY-JARVIS: Okay. So you do recall

it specifically?

MR. KLASEN: I didn't do many.

MS. PILKEY-JARVIS: Okay. And did I understand correctly that this was in anticipation that -- it clearly relates to the ecology order. There's a reference to it. But this was -- this expense document was created before the work was actually done, so in anticipation that you would have to do some digging after the internal inspection, the Enduro inspection because of the timing?

MR. KLASEN: April 10th, '97, for a start date. And they were all signed on the 14th and 15th.

MS. PILKEY-JARVIS: Okay.

MR. KLASEN: So -- so, we had actually done the inspections, got the -- gotten results back, and from that listing made a determination of how many we thought we needed to go look at, and then came up with this.

MS. PILKEY-JARVIS: Okay. So I was wrong. This was after the Enduro had already been done?

MR. KLASEN: Yes.

MS. PILKEY-JARVIS: If you look in that block that says "Description of Project or Revision", it -- it references the ecology order and the purpose of this work. What do these numbers mean that are beside --

MR. KLASEN: The locations?

MS. PILKEY-JARVIS: Yes.

MR. KLASEN: Those are just accounting location code numbers.

MS. PILKEY-JARVIS: What does that mean?

MR. KLASEN: Ferndale's location code in the accounting world is 77202, so if you were going to charge something to that line section you would -- if you were doing some work in there -- there were several different line sections that this one thing applied to, so once they got a bill they would code it out and then apply it to that specific piece of line -- pipeline that was worked on.

MS. PILKEY-JARVIS: Okay. So, you -- you helped come up with the estimate ~~$450,000~~ $150,000 for the work to be done?

MR. KLASEN: Yes, ma'am.

MS. PILKEY-JARVIS: Do you recall after the all the work was completed whether you were within budget or not?

MR. KLASEN: Oh, there's no way we could have been within budget. We -- we never are. I don't remember ever being less than. It was always, well, we spent much more money than we estimated.

MS. PILKEY-JARVIS: So, what would have had

to happen, then? Would there had to have been another AFE?

MR. KLASEN: There could have been. A supplemental AFE. I don't recall if I made one or not. It could have been done by our accounting guy, the first signature on there, Mr. Connolly. He may have done it for us and asked for -- for -- submitted a request for more funds.

MS. PILKEY-JARVIS: Who are the names of -- who are these names of people who have signed this and what were their job --

MR. KLASEN: Brian Connolly. He's the financial -- accounting guy that is represented for TTTI. The next is the engineer, Craig Hammett. Number three is Doug ~~Bue~~ Ben. He's the operations supervisor, another -- and the fourth one is Frank ~~Hoff~~ Hopf, which were all TTTI representatives who have the authority to sign these.

MS. PILKEY-JARVIS: Okay.

MR. KLASEN: And sometimes it would be signed by the person who -- well, my name was on here. "For any questions, contact", and my office number. It's typically whoever wrote it.

MS. PILKEY-JARVIS: Where is that?

MR. KLASEN: Just above the signatures.

MS. PILKEY-JARVIS: Oh, okay.

MR. KLASEN: Typed in.

MR. BESHORE: I thought you were having trouble looking at --

MS. PILKEY-JARVIS: Yeah.

MR. KLASEN: Well, I can -- I can just see the "RK". That's me.

MS. PILKEY-JARVIS: Okay. I think that's all on that. Thank you.

Could you pull out -- I think it was Exhibit C. Was it C? The -- your dig sheet.

MR. KLASEN: This one?

MS. PILKEY-JARVIS: Yeah.

MR. KLASEN: Okay. Actual number, 82, up in the top right corner. Top right corner.

MS. PILKEY-JARVIS: Oh, top right.

MR. KLASEN: Yeah.

MS. PILKEY-JARVIS: Right. I wanted you to look, actually, in the bottom left-hand corner --

MR. KLASEN: Okay.

MS. PILKEY-JARVIS: Could you explain this designation here? It looks like it has to do with how this document was created on the computer.

MR. KLASEN: Oh, the --

MS. PILKEY-JARVIS: Right.

MR. KLASEN: -- "K/smart pig/dig 2"?

MS. PILKEY-JARVIS: Right.

MR. KLASEN: That was just the blank form. The -- our draftsman, she was real good about making forms and things. But I think I -- I might have done this in an Excel spreadsheet and just -- that's where I placed the blank. I didn't have these in a computer. These were all hand-drawn.

MS. PILKEY-JARVIS: So, the "K/smart pig/dig 2" is part of this form? It was part of the blank form?

MR. KLASEN: Yeah. Just the blank form.

MS. PILKEY-JARVIS: What's --

MR. KLASEN: "Dig 2" is just a -- in '91 I had a Dig 1. In '95 I had Dig 2. It was just a form. Just a blank form.

MS. PILKEY-JARVIS: The -- the Dig 1 -- the Dig 2, was that designating different internal inspection runs, you mean? Or --

MR. KLASEN: No, just the -- I -- and Dig 1 was just the -- the way the -- no. Essentially, just the information at the top of the sheet. Dig 2 just is -- that's my second revision of this form. That's all.

MS. PILKEY-JARVIS: Okay.

MR. KLASEN: It's my very early attempt at

being very computer illiterate and trying to do something with that -- with the form.

MR. BESHORE: So the form just had the typed stuff on it?

MR. KLASEN: Yeah.

MR. BESHORE: Filled the form in?

MR. KLASEN: Right. It was -- you go into the K drive under "Smart Pigs", bring up "Dig 2", print it out, and then I made 100 copies and then started drawing.

MS. PILKEY-JARVIS: Okay.

MR. KLASEN: So it was just a blank form.

MS. PILKEY-JARVIS: You talked about earlier how initially you would give some advice to the field folks. You would sort of rank the defects or anomalies one, two, and three. Would that have been written on this dig sheet? Is that how you would give them that information?

MR. KLASEN: No, not for this specifically. There was only -- in -- in this instance, there was only one location that we needed to look at in this line segment. That's why drawing -- it says "Drawing #FE-1". That just means in the Ferndale line section this is number -- the number one drawing. That -- that -- I didn't have a real set rules and regulations for

how I did that back then. It was just -- in some instances I'd start at the beginning of the line and go to the end of the line. And other -- other times I'd start with, well, here's the worst one, that's number one. Here's another one, that's number two. You know, it just didn't -- I did -- I wasn't consistent that way over the 10 years.

MS. PILKEY-JARVIS: Some of the other folks who we interviewed remember that you would sometimes rank the anomalies and so that would --

MR. KLASEN: Mm-hmm.

MS. PILKEY-JARVIS: So, what my -- you know, I'm asking was it on this form that you would give that ranking number or was there some other method that you used?

MR. KLASEN: For this specific instance, no, I didn't have it on -- I don't remember having it on this form. I -- I had made this summary sheet which was pretty much ranked in the different line sections from "worst" to -- well, not exactly. There's one that's not. Most of the time it was "worst" to -- to "least" and other times it was in, you know, footage or distances. So, no, I didn't really have one that specifically listed. We would --

MS. PILKEY-JARVIS: Let -- let me try one

more time because I -- I don't think -- I guess I must not be asking this too well. I -- I realize that -- what -- what you said earlier was that in the beginning you had a ranking and then at some point you stopped doing that, so I understand you did not do that on this particular --

MR. KLASEN: Right.

MS. PILKEY-JARVIS: -- dig sheet. So I'm just asking, you know, in -- in your process initially, early on, when you would rank them, would you give that information to the people who would go in the field?

MR. KLASEN: Oh.

MS. PILKEY-JARVIS: Would you rank it and --

MR. KLASEN: For which ones were --

MS. PILKEY-JARVIS: Right.

MR. KLASEN: -- had a higher priority?

(Pause)

MR. KLASEN: You know, I -- I -- I don't recall if I would give them a list that would rank them.

(Pause)

MR. KLASEN: We would -- I don't recall giving them a -- a list every time. I can remember that probably on occasion I would have given them a list that had a -- had a ranking or an order of which

one should go first, but not every time. And in this instance, we had a lot of involvement from -- from the management team for which ones we should go look at first. We probably just identified them, saying go -- go here, go there. But without a formal form saying, okay, this is -- this is how we're going to go after them. I just -- I guess you just have to look at the dates at which we -- we did go and do the inspections.

It does kind of look like we -- we had 'em in some kind of order because we -- the 16-inch lines we did in April and then the -- April and May, you know. As it goes down the list we -- we get later in the month. Maybe I did do that. I don't recall doing it that way, but that might have been how it worked.

MS. PILKEY-JARVIS: Okay. You described in response to Jerry's question the criteria that you used to select which locations you would go and dig. Can you tell us where that was written down? Where that criteria was written down?

MR. KLASEN: Written criteria. Well, you -- it's pretty much looking at the regulation or the -- the B31-4 rules. You know, it says that six percent dents, 12 and a half percent metal loss and gouges and grooves. You know, but we didn't know that -- what it was. Or the -- the B31-G calculations for depth and

length. It was pretty much a common --

MS. PILKEY-JARVIS: The --

MR. KLASEN: To me, it was a common sense issue more than a hard and fast rule and regulation.

MS. PILKEY-JARVIS: Did the company have a policy that was written down that you would follow those guidelines and that criteria?

MR. KLASEN: Hmm, guidelines. I think we tried to come up with some -- or rather, the engineer later tried to come up with some. I believe it was even in the manual that was submitted to DOE. But I don't think it ever got approved.

So, did we have any rules and regulations that were -- that were approved and we -- we followed? No, I don't recall. I just remember that Steve Hoy had written an entire document. I -- I don't -- I probably looked at but I don't remember every page in the darn thing. But I -- I think it had a section in there about pigging.

MS. PILKEY-JARVIS: Who, then -- if it wasn't written down for you to learn what the company's policy was, who taught you what the company's policy was?

MR. KLASEN: Well, when we did the inspections in '91 and '92, Steve Hoy -- he pretty much came up with here's what we're going -- he was very

hands-on with -- with the data, he and I, and the -- and the criteria for repair, which was also our criteria for excavation.

(Pause)

MR. KLASEN: So that -- I guess that would be what our -- what our rules were at the time. We tried to follow those until we got more sophisticated with computer analyzation of the -- of the data with the B31 -- using the B31 calculations. Steve's had a lot of extra conservatism.

MS. PILKEY-JARVIS: Okay. You referred to a manual. You think it may have been written in a manual that was given to Ecology. Could that be the Prevention Manual?

MR. KLASEN: Yes. As far as I know, it was never okayed.

MS. PILKEY-JARVIS: Okay. I brought -- I didn't bring the whole manual. It's too -- too cumbersome. But I did bring two pages out of it. Can I -- can I put that in? Those are my only copies. One's just the cover page so you would know what it is, and the other is -- is the page that --

MR. KLASEN: Bottom of the page, last paragraph.

MS. PILKEY-JARVIS: -- talks about

Olympic's --

MR. BESHORE: Do you want to run and make a copy rather than mark -- so you have your original back?

MS. PILKEY-JARVIS: I don't need the original back because I have the copy. If -- if --

MR. BESHORE: Okay.

MS. PILKEY-JARVIS: So --

MR. BESHORE: So, if I can keep that one and I'll --

MS. PILKEY-JARVIS: Yes.

MR. BESHORE: -- mark it as Exhibit -- whatever the next one is. G.

(The document referred to was marked for identification as Klasen Exhibit G and was received in evidence.)

MS. PILKEY-JARVIS: I -- I realize that this -- I am -- you don't have the benefit of looking at the whole manual, but I did copy the one page that talks about internal inspection, so yeah, could you look at that and -- does that give you a policy guidance for the company?

MR. KLASEN: Yes.

MS. PILKEY-JARVIS: What is --

MR. KLASEN: It would, after this would have been approved.

MS. PILKEY-JARVIS: What is it?

MR. KLASEN: What does it say?

MS. PILKEY-JARVIS: Mm-hmm.

MR. KLASEN: It says, "Olympic Pipeline will excavate and visually inspect all anomalies that are deeper than 20 percent of the original wall thickness. If visual inspection does not reveal a defect, then ultrasonic measurement of the pipe wall thickness is performed to determine if the anomaly is internal. If the inspection of the pipe -- pipeline determine that corrective action is necessary as defined in Nancy B 31-4, the pipeline shall be repaired or replaced."

MS. PILKEY-JARVIS: And when you say that it's -- it wasn't approved, what do you mean by that?

MR. KLASEN: To the best of my knowledge, it was submitted to Ecology and there was, to the best of my knowledge, never a -- an acceptance of this policy, of this program or plan.

MS. PILKEY-JARVIS: Do you know whether there were any requirements from the Federal government, from the Federal rules that govern pipelines about having that information in their manuals, their operation and maintenance manual, for example? Were there other

manuals for Olympic that contained information about your internal inspection criteria?

MR. KLASEN: I think we had a section that just stated that we would perform them on a five-year program. I don't recall -- it probably talked about us inspecting with magnetic flux inspection tool.

(Pause)

MR. KLASEN: But I don't -- I don't recall all of the detail of that.

MS. PILKEY-JARVIS: Richard, which -- which office did you work in?

MR. KLASEN: I -- I worked in the Renton office.

MS. PILKEY-JARVIS: Allan asked you a lot of questions about whether you were aware of, you know, concerns in the company about the operations of the valves and the operations of -- at Bayview, and we've had other people who we've interviewed who have talked a great deal about that. Do you recall an e-mail that was written by Al White suggesting -- this is an e-mail that was distributed to a lot of people in the company that suggested a meeting to talk about the various issues at Bayview?

MR. KLASEN: Yes.

MS. PILKEY-JARVIS: Do you -- so, I guess I'm

just wondering if now that you remember that e-mail if that helps you remember more some of the issues surrounding Bayview? The concerns?

MR. KLASEN: Some of the concerns around Bayview? That -- as I recall, that e-mail was written because of the control center controllers having difficulty in the operation of -- and I believe it was due -- operation and accounting of product through Bayview. And it was -- the -- the controllers used Al as their process -- their supervisor in Al to -- 'cause he would -- he would go in there and talk to them extensively. He was the best practices person -- to try to solve whatever problem that came about.

I remember getting the e-mail and then I remember that the -- it was canceled. But I also remember that Al and I and Ron Brentson and I think even David Justice got together and talked about some of the issues anyway.

MS. PILKEY-JARVIS: Okay. Tell us about that meeting.

MR. KLASEN: I know it was in the warehouse -- I mean in the -- the mechanics' side of the warehouse. You know, we -- meetings -- we held meetings wherever four or five of us just stood in one place.

As I recall, you know, Al was -- Al -- Al and Ron were identifying the -- the concerns that control center had and it just being more difficult for them and -- and because of the complexities of that -- from that facility. And with -- and I'm -- I'm not real sure of -- of everything that we talked about in there, but it was pretty much trying to -- trying to just discuss what -- what they -- what do they need to make their job easier so that they don't have -- they have less confusion.

I don't recall there being anything that I could do in my roles to make their job better. You know, it was pretty much a procedural things of how to start and stop pumps associated with Bayview and Allen Station, Anacortes, Ferndale with -- in that -- in that area, so. And some of those guys really did an excellent job of being able to delicately -- and I say that -- you know, it -- it was a very delicate operation in trying to start and stop things because of the -- those two -- Bayview and Allen Station were so close together. And other people didn't have that delicate touch, so it made it more challenging for others to -- to be able to successfully start and stop pumps, which probably attributed to a lot of these closures.

MS. PILKEY-JARVIS: Do you recall whether the problems at Bayview were creating a morale problem in the company?

MR. KLASEN: Morale problem? I don't think there's a time when there's not a morale problem anywhere in this -- in the United States of America, so -- I think there was probably some frustration. I don't know if it was a morale problem. I -- I never felt like there was a -- you know, going to be a evacuation of the company because they can't -- people couldn't perform as well as expected.

MS. PILKEY-JARVIS: How would you characterize the relationship between Equilon employees and Olympic employees?

MR. KLASEN: Oh. I thought they did just fine, you know.

(Pause)

MR. KLASEN: They were -- interacted with -- you know, from Frank and Doug and Craig and Brian Connolly. I felt like they all interacted excellently with every individual at Olympic.

(Pause)

MS. PILKEY-JARVIS: So, you don't -- you don't think that employees made a distinction in their mind about whether a person was employed by Equilon or

whether -- if they were employed by Olympic?

MR. KLASEN: I don't understand the question. Employed by Equilon or employed by Olympic.

MS. PILKEY-JARVIS: Well, I -- I think you -- you answered -- answered it the first time I asked. Thanks.

You -- you answered in response to, I think, Tony -- when he asked you to define what a "gouge" is you talked about a separation of grains -- in grains of metal. How would you define a "wrinkle bend"?

MR. KLASEN: A wrinkle bend was -- a wrinkle bend was a process of -- prior to some of the rules, probably in the '60s -- whereby it was allowed to bend the pipe in the field. And in so doing that, you could -- you were allowed to have a minor amount of wrinkle in the steel, which is pretty difficult not to do, even under the techniques they have today with heating the pipe. And sometimes you'll even find some heated or what they call "hot bend pipe" that has a minor wrinkle feel to it. I hate to say the word "wrinkle" but a minor rolling feel to it, very slight, because you're taking something that was straight and you're turning it to a certain degree of angle, so you're going to have an increase of metal, which is going to give a protrusion and on the opposite side, give a thinning.

MS. PILKEY-JARVIS: So you're talking about -- you're defining a wrinkle bend that's associated with a bend or a turn in the line?

MR. KLASEN: Yes.

MS. PILKEY-JARVIS: Would you ever find a wrinkle bend somewhere -- is there -- where the line is straight? Is there another meaning of the word "wrinkle bend"?

MR. KLASEN: The definition -- Tubascope's definition I don't know. I wouldn't expect that to mean anything else. Now, there's sag bends, which means that it's going underneath, and there's over bends where it's going over the top of something, where it looks like it's still going straight but it's actually bent up or bent down opposed to a left or a right. It's still bent.

MS. PILKEY-JARVIS: How about the word "mash"? How would you define that?

MR. KLASEN: I -- I don't really have a definition for "mash".

(Pause)

MS. PILKEY-JARVIS: I just have two -- two questions left.

(Pause)

MS. PILKEY-JARVIS: You talked about that you

and Doug ~~Bue~~ Beu had planned to inspect all the facilities in May -- May of '99?

MR. KLASEN: Yes.

MS. PILKEY-JARVIS: What -- what was -- I just wasn't left clear on the purpose that -- those inspections.

MR. KLASEN: Well, we wanted to -- we wanted to go through and update electrical drawings, mechanical drawings, and line drawings to make sure that what we had was correct. He was aware that some of the -- some of it was less than perfect, so we wanted to -- that was always a goal that he had set when -- when I became this -- this new appointee assigned to him, that one of the things he wanted to achieve.

So I set up the schedule for us to put together teams of people to -- to do that investigation. And we kept getting pushed back so I would reschedule -- reschedule the dates of the -- for doing that inspection. And then we actually never -- we never got to go do it.

MS. PILKEY-JARVIS: Aside from setting up the teams and the schedules, were you asked to -- to prepare anything else for those inspections?

MR. KLASEN: No. That was enough.

(Pause)

MS. PILKEY-JARVIS: You said that when you wrote up your -- your dig sheet -- or when you evaluated the internal inspection findings, that you did go compare this with the line sheets and there's a reference to the line sheets on this form.

MR. KLASEN: Yes.

MS. PILKEY-JARVIS: You recalled seeing the 72-inch water line?

MR. KLASEN: I believe so. It was either 72 or 60. I'm not sure. I think it was a 72.

MS. PILKEY-JARVIS: Do you recall seeing any other lines in that general area?

MR. KLASEN: It -- it was a very busy area of the -- of that particular sheet.

MS. PILKEY-JARVIS: Yeah. You -- you remember there -- so there were -- there were --

MR. KLASEN: There were a lot of different things in there, yeah.

MS. PILKEY-JARVIS: Okay.

MR. KLASEN: Power, telephone, you know, those kind of things.

MS. PILKEY-JARVIS: Okay.

MR. KLASEN: Plastic pipes, I think, even.

(Pause)

MS. PILKEY-JARVIS: That's all the questions I have. Thank you.

MR. KLASEN: Sure.

MR. BESHORE: Okay. I have some follow-ups, so we'll go through those.

TTTI became --

MR. KLASEN: TTTI became Equilon, yes.

MR. BESHORE: Basically, what, they merged with Shell and became Equilon, is that --

MR. KLASEN: That's correct.

MR. BESHORE: And that was prior to the accident?

MR. KLASEN: Yes.

MR. BESHORE: But you were always an Olympic employee; you were never an Equilon employee?

MR. KLASEN: That's correct.

MR. BESHORE: But then you -- you said you resigned in July of 2000. Where did you go at that point?

MR. KLASEN: I went to -- I applied for a position at Equilon and was offered a position.

MR. BESHORE: And that's who you're employed with now?

MR. KLASEN: That's correct.

MR. BESHORE: And what -- what's your role

and title?

MR. KLASEN: What's my role? I -- I work in the major group called Community Safety in the Pipeline Group. And a subset of that is the Asset Integrity Group. And there's a total of six of us in that group where -- of which I'm a asset integrity coordinator.

My role in that group is to provide some assistance in smart pigging, guideline. One -- one of the gentlemen in our group worked on the API 1160, which I was -- got to help review and make comment on some of those items. The -- we also updated and -- and improved a pipeline engineering guide for the company around smart pigging. We -- which I was a team member on that.

I do some work in assistance with the regulatory group for when reports come in of -- it's called first notification of incident, which could be a drop of oil or product on a -- on water to, you know, a major release, getting that information and compiling that and trying to come up with some questions to ask to further give people some investigation issues.

I'm working on developing an investigation program for all the company.

I'm -- we recently had a smart pigging conference for all of Equilon where I participated in

giving the presentation on documentation.

Pretty much the go-fer guy.

MR. BESHORE: So that's been your role ever since you left Olympic?

MR. KLASEN: Yes.

MR. BESHORE: Okay. Somebody mentioned the OPS audit prior to the accident. Were you involved in that?

MR. KLASEN: Yes.

MR. BESHORE: Do you recall during your preparation, you know, whatever for that audit, do you recall anything that people were concerned about OPS finding out about?

MR. KLASEN: Finding out about. No. My -- my role was to provide river crossing survey data and also smart pigging data.

MR. BESHORE: Okay. So --

MR. KLASEN: They were concerned about making sure I had my information.

MR. BESHORE: Okay. So your -- your preparation was basically to demonstrate that you had your stuff --

MR. KLASEN: That's exactly right.

MR. BESHORE: So you don't recall anybody having a concern that there was some -- that there was

some weakness or exposure or something to be concerned about OPS coming in and finding?

MR. KLASEN: Well, they were always concerned that OPS will find something. No, I don't recall. I mean if there was -- if -- a big flag drawn up to say that, oh my gosh, we're -- we didn't inspect this right-of-way one day or something, we're two days late, or -- I don't -- there could have been an issue like that.

MR. BESHORE: You don't --

MR. KLASEN: I'm sure Peter caught it, though.

MR. BESHORE: That was my question. But you don't recall anything, like, being significant like that?

MR. KLASEN: No.

MR. BESHORE: Okay. The -- you mentioned you had a couple of conversations with Frank and others about the -- the -- the anomalies at this location and -- and you just mentioned that it was a busy area. I'm trying to get a feel for the context of that -- those conversations. Was the context about, you know, this being a busy area and it's, you know, going to be a hassle to get to or was the -- you know, was that the context of the conversation?

MR. KLASEN: Well, the accessibility to -- to this location with the various types of other things involved, the fact that -- I think they said the line was a minimum of seven feet deep underneath all -- all of this water treatment equipment. The -- the -- the -- the fact that it was a sloped area, that I recalled it being from looking at the line sheets, and the -- the fact that individually these items weren't worth the risk of going after trying to disturb all that other -- all that -- all that soil.

MR. BESHORE: Was cost an issue that was discussed?

MR. KLASEN: No. There was never a time when somebody was worried about how much it was going to cost to go dig something up. It was always -- it was always do we need to be there? Does the information tell us that this is an area of concern?

MR. BESHORE: You mentioned the flow tests that were done with the relief valves after the accident.

MR. KLASEN: Yes.

MR. BESHORE: And you were involved in that project?

MR. KLASEN: Yes.

MR. BESHORE: If I remember correctly, there

was -- you -- ya'll found that there was some difference, basically, between what you thought to be the set pressure and the pressure at which the valve was actually relieved. Do you recall that, the results of that testing?

MR. KLASEN: We did -- we did some early tests -- flow tests with actual pressure on the line with product and then -- and then we did some tests -- we moved the valves around so that we could perform them on the Anacortes line. And then we did some tests after that where we actually used a manifold and water. So, which tests are you talking about?

MR. BESHORE: All right. Well, let's -- let's kind of go through those, then, and just go through all of them. The -- the in-place testing. I mean did you -- did you find that the -- the pressure was being relieved at the pressure that -- the supposed set point pressure? Was there -- was it --

MR. KLASEN: I don't -- I'd have to look at the -- the report, the log information. That was a lot of numbers.

MR. BESHORE: Okay. Let's just jump to the manifold testing, then, because that was a more controlled, I guess, kind of a test --

MR. KLASEN: More scientific.

MR. BESHORE: Did -- I mean do you recall what was found there in terms of the comparison of the -- the set pressure versus the actual relieving pressure?

MR. KLASEN: We found there was a correlation with the relieving pressure with the sensitivity. There was -- there's two settings. You can set not only pressure but you can set sensitivity of the -- of the -- of the equipment so that it would -- its reaction time is either faster or slower. So, depending upon how your sensitivity was set, in most instances it sped up or slowed down the reaction time.

MR. BESHORE: Okay. The -- now, the volume estimates have been updated since your original calculations. Was that something that you prepared?

MR. KLASEN: No.

MR. BESHORE: They were updated after the line, you know, was -- they figured out what was in the line and, you know --

MR. KLASEN: Figured out what the over and shortage was.

MR. BESHORE: Right. But you didn't do that?

MR. KLASEN: No.

MR. BESHORE: Okay.

MR. KLASEN: I -- I remember checking some of

those numbers but -- but I don't remember verifying everything.

MR. BESHORE: What you looked at you were comfortable with?

MR. KLASEN: I -- I guess so.

MR. BESHORE: During any of the -- I think you mentioned, and correct me if I'm wrong, that you were involved in meetings with the state people?

MR. KLASEN: Yes.

MR. BESHORE: In any of those conversations did the possible wrinkle bend from the Tuboscope log ever come up? Was that ever discussed with those folks, do you recall?

MR. KLASEN: Well, the -- I only went to two early meetings with Ecology, that I recall. I think I went to one in September or October and the other one probably December. Some -- somewhere within that year. I don't believe we went into detail about what Tuboscope -- what Tuboscope identified. Their -- the concern that we had with the -- that was their main concern was can we find something that was similar to what was on the 20-inch line, and Tuboscope had no bearing on -- or very little bearing on trying to find something that was dent or -- that's why we utilized Enduro's caliper tool.

MR. BESHORE: And the spreadsheets you prepared was just off the Enduro runs?

MR. KLASEN: Exactly.

MR. BESHORE: Was any data off the Tubascope runs provided to them, to your knowledge?

MR. KLASEN: Not that I'm aware of, no.

(Pause)

MR. KLASEN: No, I -- I don't believe so.

MR. BESHORE: Now, the -- you looked at the shut-downs after the accident. You looked at the various valve closures. You said about half of 'em were when they were shutting down the facility?

MR. KLASEN: Right.

MR. BESHORE: Were all the rest of 'em when they were tight-lining? Do you remember if that ever happened when they were floating tanks?

MR. KLASEN: I don't remember what their -- what exactly all the -- where they were going, if some were tight-lining or some were floating. No, I don't recall.

MR. BESHORE: But did you -- you had some -- you felt, and I think you expressed it earlier, that the problems mainly that they were having with the pressures in Bayview were because they were trying to tight-line, is that correct?

MR. KLASEN: Yes. I think so. They were -- it was -- difficult.

MR. BESHORE: Okay. Then, -- okay. This was -- this is prior to the accident, going back and trying to stretch your memory. When they -- any conversations you had about this valve setting. Did anybody ever wonder what the pressure was on the upstream side of this valve? What the pipeline might be seeing in terms of pressure when that valve closed?

MR. KLASEN: Which -- I'm sorry. Which valve?

MR. BESHORE: This is the incoming valve to Bayview that would close at 700 pounds.

MR. KLASEN: Oh, oh.

MR. BESHORE: Did anybody -- do you -- to your knowledge, did anybody take a look at what was happening on the pipeline side, you know, the surge analysis or some other kind of thing to the pressures on the pipeline side?

MR. KLASEN: No.

MR. BESHORE: Do you recall anybody talking about that or --

MR. KLASEN: No.

MR. BESHORE: -- expressing a concern or question or --

MR. KLASEN: No, 'cause that pipe was rated for pressures that exceeded what its maximum operating pressure was.

MR. BESHORE: Does anybody else have any follow-up questions?

(Pause)

MR. BESHORE: Go off the record.

(Pause)

MR. BESHORE: Did -- let's go back to -- you know, based on -- on what you now know, did you realize that the -- appears the metal loss and dent actually lined up based on -- did you -- did you review the OPS consultant report and look at that information or was that just yesterday?

MR. KLASEN: Yesterday I saw that, but I still don't agree.

MR. BESHORE: You don't agree?

MR. KLASEN: No.

MR. BESHORE: Okay. So, you believe that this was the case here, that your dig sheet was accurate?

MR. KLASEN: I believe mine is correct.

MR. BESHORE: Okay. So you disagree with that?

MR. KLASEN: Yes.

MR. BESHORE: But you understand what I'm -- what I'm saying, right?

MR. KLASEN: Yes. I understand that you're saying the -- the Enduro dent and the Tubascope 23 percent ~~low~~ metal loss are -- according to the DOT's expert are in the same location.

MR. BESHORE: Right.

MR. KLASEN: I disagree with that.

MR. BESHORE: Which is not the location of rupture.

MR. KLASEN: I -- I agree with that.

MR. BESHORE: I mean we're talking about the -- the -- the -- the dent on the second pipe that was closer to the water line.

MR. KLASEN: Right.

MR. BESHORE: And that's where he's saying that stuff all lines up.

MR. KLASEN: Right.

MR. BESHORE: Okay. All right. Good. That --

MR. KATCHMAR: The only other question was I thought of something that Shell was doing back in '91, and they were -- they did the surge analysis on the line?

MR. KLASEN: Yes.

MR. KATCHMAR: And in that ~~Merrim~~Marmac report it does state that --

MR. KLASEN: Stoner.

MR. KATCHMAR: Okay. Stoner report. Says if you're going to change anything or add anything to another surge analysis --

MR. KLASEN: That would have been something I wouldn't have had.

MR. KATCHMAR: You wouldn't have been in there --

MR. KLASEN: No.

MR. KATCHMAR: -- on that decision? That's it.

MR. BESHORE: Any other follow-up questions?

(No response)

MR. BESHORE: Then I'll just ask my standard one at the end. Is there anything else we haven't talked about, Richard, that we haven't asked you about that you feel like we need to know or take into consideration as we're finishing this up?

MR. KLASEN: Well, my first question is you're -- you're saying -- the last statement you made saying that the rupture site was not at the location of these anomalies that were identified by Tuboscope or Enduro.

MR. KLASEN: Okay. Best thing I could ask for.

MR. BESHORE: Is there anything else I can answer for you, Richard?

(Laughter)

MR. BESHORE: No, this is an opportunity -- if we haven't asked you something that you feel is important for us to get an accurate record of facts, basically, I appreciate you filling us in.

MR. KLASEN: Do I have -- can you think of anything that I should think you -- no, I -- I -- you did a good job of asking questions.

MR. BESHORE: Thank you, Richard.

(Laughter)

MR. BESHORE: Well, having finalized it, I guess we're done. Go off the record.

(Whereupon, at 3:30 p.m., on May 17, 2001, the interview was concluded.)

MR. BESHORE: Okay.

MR. KLASEN: Is that true?

MR. BESHORE: Yeah, I believe that's true. Yeah. The possible wrinkle bend is at the rupture location.

MR. KLASEN: Possible wrinkle bend was -- was associated with the actual --

MR. BESHORE: Right.

MR. KLASEN: -- rupture location?

MR. BESHORE: Yes. The rupture location was at the -- the possible wrinkle bend was at the rupture location.

MR. KLASEN: Was that the origination point of the rupture?

MR. BESHORE: The -- the rupture originated in a gouge --

MR. KLASEN: Okay.

MR. BESHORE: -- that was located in that vicinity.

MR. KLASEN: And that was not identified on either one of the logs?

MR. BESHORE: Well, I can't go into the specifics on that, but -- but there were -- the only thing called out on the log in that vicinity was a possible wrinkle bend.

REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before: NTSB

In the Matter of:

PIPELINE RUPTURE AND FIRE

were held as herein appears and that this is the original transcript thereof for the file of the Department, Commission, Administrative Law Judge or the Agency.

EXECUTIVE COURT REPORTERS, INC.
1320 Fenwick Lane, Suite 702
Silver Spring, MD 20910
(301) 565-0064

Official Reporter

Dated: MAY 17, 2001

National Transportation Safety Board

Washington, D.C. 20594

In the Matter of the National Transportation Safety Board Investigation of the Pipeline Accident Occurring in Bellingham, Washington, on June 10, 1999.

COMPULSION ORDER

It appearing to the satisfaction of the Acting Chairman of the National Transportation Safety Board:

1. That Richard Klasen has been called to testify or provide other information in this matter;

2. That Richard Klasen has refused or is likely to refuse to testify or provide other information, on the basis of his privilege against self-incrimination;

3. That in the judgment of the Acting Chairman of the National Transportation Safety Board, the testimony or other information from Richard Klasen may be necessary to the public interest; and

4. That this order has been issued with the approval of the Attorney General or her designated representative, pursuant to 18 USC Section 6003 and 28 CFR Section 0.175.

NOW, THEREFORE, IT IS ORDERED, pursuant to 18 USC Section 6002 and 6004, that Richard Klasen appear and give testimony or provide other information which he has refused or is likely to refuse to provide or give on the basis of his privilege against self-incrimination as to all matters about which he may be questioned in this matter.

IT IS FURTHER ORDERED that in accordance with the provisions of 18 USC Section 6002, Richard Klasen shall forever be immune from the use of such testimony or information or any information directly or indirectly derived from such testimony against him in any prosecution, penalty or forfeiture, either State or Federal or otherwise; but the witness shall not be exempt from prosecution for perjury, giving a false statement or contempt committed while giving testimony or producing evidence under this order.

Dated this 22nd day of February, 2000.

Carol J. Carmody

Carol Carmody
Acting Chairman

Klasen Exhibit A.

OLYMPIC PIPE LINE COMPANY
2319 LIND AVE. S.W.
P.O. BOX 1800
RENTON, WASHINGTON 98057
(206) 235-7736

We are sending 3 pages. INCLUDING this page. If you need confirmation or a resend of any page, please call (206) 235-7736 or fax (206) 271-5320.

DATE: 6-3-97

FROM: R.J. Klasen

TO: E. Story

LOCATION: WA DOE Bellevue

TELECOPY #: 649-7098

COMMENTS: UPDATE OF FIELD INVESTIGATIONS

Klasen Exhibit B

SUMMARY OF 1997 CALIPER PIG INSPECTION AND FIELD INVESTIGATION

Pipeline Segment Stationing	Defect/Discrepancy	Findings	Scheduled or actual Investigation 1997	Repair / Replacement Required	Reinforcement Recommended (Full Encirclement Sleeve)	Recoating Retrenching Recommended	Completion Date 1997
FERNDALE	TO	ALLEN 16"					
16" 843+69	.45" Total Sharp**		May				
ANACORTES	TO	ALLEN 16"					
None	None						
RENTON	TO	SEATTLE 12"					
None	None						
RENTON	TO	SEA-TAC 12"					
None	None						
ALLEN	TO	RENTON 20"					
987+15	.70"Ttl, .49"Sharp		June				
1450+21	.59" Total Sharp**		June				
1724+53	.63" Ttl, .44"Sharp**		June				
3076+53	.70" Total Sharp		June				
ALLEN	TO	RENTON 16"					
783+45.5	1.12" Total Sharp	.75" Sharp	4/2	No	Yes	Yes	4/4
1783+84	1.02" Total Sharp	.625" Sharp	4/7	No	Yes	Yes	4/9
3549+50	.84" Ttl, .67" Sharp	Less than .50" Flat	4/3	No	No	Yes	4/5
3595+37	1.06" Ttl,.77" Sharp	Greater than .50" Sharp	4/7	No	Yes	Yes	4/16
1724+84	.59" Total Sharp	.75" Sharp	4/11	No	Yes	Yes	4/17
2141+66	.43" Total Sharp**		May				
2268+93	.63" Ttl, .50" Sharp	.375" Sharp	5/13	No	No	Yes	5/14
2278+98	.70" Ttl, .57" Sharp	.375" Sharp	5/12	No	close to weld, cut out	Yes	5/12, July
2283+48	.54" Ttl, .37" Sharp	.56" Sharp	5/5	No	Yes	Yes	5/9
2319+41	.80" Total Sharp	.50" Sharp	5/14	No	No	Yes	5/15
2319+92	.74' Total Sharp	.375" Sharp	5/15	No	No	Yes	5/16
2340+35	.50" Ttl, .39" Sharp	.375" Sharp	5/1	No	No	Yes	5/2
2383+31	.78" Total Sharp	.3438" Sharp	5/18	No	No	Yes	5/19
2416+49	.76" Total Sharp	.500" Sharp	5/20	Yes	Yes	Yes	5/22
2451+94	.84' Total Sharp	.5625" Sharp	5/21	Yes	Yes	Yes	5/22
2587+82	.48" Total Sharp	.25" Sharp	4/28	No	No	Yes	4/29

Pipeline Segment Stationing	Defect/Discrepancy	Bending	Scheduled or Actual Investigation Date	Pipe Joint Replacement Required	Reinforcement Sleeve Recommended (Full Encirclement Sleeve)	Backfill and Retrenching Recommended	Completion Date (Tentative)
3073+29	.84" Total Flat	In Gate Valve	6/30	No	No	No	5/30
3084+00	.60" Total Sharp**	.500" Sharp	5/28	Yes	Yes	No	5/29
3111+07	.80" Total Sharp		6/4				
3839+30	.69" Tll, .37" Sharp**		June				
3992+23	.59" Tll, .33" Flat**		June				
1956+51	1.06" Tll, .65 Sharp		July				
2045+27	1.80" Tll, 1.26" Sharp		July Bore Replacement				
2045+56	1.40" Tll, .96" Sharp		July Bore Replacement				
2046+61	.94" Tll, .35" Sharp		July Bore Replacement				

Definitions

Total - Is a measurement made from the baseline of the record to the peak.
Sharp - Anomaly as a reduction in pipe diameter, occurring within a span of 2 feet or less.
Flat - Anomaly as a reduction in pipe diameter having a span exceeding 2 feet but, not greater than 5 feet.
** - May investigate if risk is justified by engineering opinion.

SUMMARY OF 1997 CALIPER PIG INSPECTION AND FIELD INVESTIGATION

3/98

Pipeline Segment Stationing	Defect/Discrepancy	Finding	Scheduled or actual investigation 1997	Repair / Replacement Required	Reinforcement Recommended (Full Encirclement Sleeve)	Recoat and Retrenching Recommended	Completion Date 1997
FERNDALE	**TO**	**ALLEN 16"**					
16" 843+69	.45" Total Sharp**		No Inspection				
ANACORTES	**TO**	**ALLEN 16"**					
None	None						
RENTON	**TO**	**SEATTLE 12"**					
None	None						
RENTON	**TO**	**SEA-TAC 12"**					
None	None						
ALLEN	**TO**	**RENTON 20"**					
987+15	.70"Ttl, .49"Sharp	.312" Sharp	6/17	No	No	Yes	6/18
1450+21	.59" Total Sharp**	Wet Area	No Inspection				
1724+53	.63" Ttl, .44"Sharp**	Buckle / Dent	6/23	Yes	Cut out	Yes	6/25 / 9/13
3076+53	.70" Ovality**	In 45 deg. Fitting	No Inspection				
ALLEN	**TO**	**RENTON 16"**					
783+45.5	1.12" Total Sharp	.75" Sharp	4/2	No	Yes	Yes	4/4
1783+64	1.02" Total Sharp	.625" Sharp	4/7	No	Yes	Yes	4/9
3549+50	.94" Ttl, .67" Sharp	Less than .50" Flat	4/3	No	No	Yes	4/5
3595+37	1.06" Ttl,.77" Sharp	Greater than .50" Sharp	4/7	No	Yes	Yes	4/16
1724+64	.59" Total Sharp	.75" Sharp	4/11	No	Yes	Yes	4/17
2141+66	.43" Total Sharp**	In .500" WT pipe	No Inspection				
2268+93	.63" Ttl, .50" Sharp	.375" Sharp	5/13	No	No	Yes	5/14
2278+98	.70" Ttl, .57" Sharp	.375" Sharp ***	5/12	No	Cut out***	Yes***	5/12 / 10/8
2283+48	.54" Ttl, .37" Sharp	.56" Sharp	5/5	No	Yes	Yes	5/9
2319+41	.80" Total Sharp	.50" Sharp	5/14	No	No	Yes	5/15
2319+92	.74" Total Sharp	.375" Sharp	5/15	No	No	Yes	5/16
2340+35	.50" Ttl, .39" Sharp	.375" Sharp	5/1	No	No	Yes	5/2
2383+31	.78" Total Sharp	.344" Sharp	5/16	No	No	Yes	5/19
2416+49	.76" Total Sharp	.50" Sharp ****	5/20	Yes	Yes	Yes	5/22
2451+94	.84' Total Sharp	.562" Sharp ****	5/21	Yes	Yes	Yes	5/22
2587+82	.48" Total Sharp	.25" Sharp	4/28	No	No	Yes	4/29
3073+29	.84" Total Flat	In Gate Valve	5/30	No	No	No	5/30
3084+00	.50" Total Sharp**	.50" Sharp	5/28	Yes	Yes	Yes	5/29

Klasen Exhibit C

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SUMMARY OF 1997 CALIPER PIG INSPECTION AND FIELD INVESTIGATION

Pipeline Segment Stationing	Defect/Discrepancy	Finding	Scheduled or actual Investigation 1997	Repair / Replacement Required	Reinforcement Recommended (Full Encirclement Sleeve)	Recoat and Retrenching Recommended	Completion Date 1997
3111+07	.80" Total Sharp	.625" Sharp	6/11	No	Yes	Yes	6/12
3839+30	.69" Ttl, .37" Sharp**		No Inspection				
3992+23	.59" Ttl, .33" Flat**		No Inspection				
1956+51	1.06" Ttl, .65 Sharp	Fitting out of round	11/3	No	No	Yes	11/4
2045+27	1.80" Ttl, 1.26" Sharp	Too deep next to levee	Bore Replacement	Yes	No, new crossing	New Crossing	11/6
2045+56	1.40" Ttl, .96" Sharp	.95" Sharp in pipe 4" from bend	Bore Replacement	Yes	No, new crossing	New Crossing	11/6
2046+61	.94" Ttl, .35" Sharp	Under slough	Bore Replacement	No	No, new crossing	New Crossing	11/6

Definitions:

Total Is a measurement made from the baseline of the record to the peak.

Sharp Anomaly as a reduction in pipe diameter, occurring within a span of 2 feet or less.

Flat Anomaly as a reduction in pipe diameter having a span exceeding 2 feet but, not greater than 5 feet.

** May investigate if risk is justified by engineering opinion.

*** Also found localized corrosion near weld, while not technically requiring repair, this segment will be cut out and replaced during the installation of the new bored crossing of Ebey Slough.

**** Small gouge found in pipe wall in the dent, requiring repair.

OLYMPIC PIPE LINE COMPANY

LINALOG DIG INFORMATION **DIRECTIONS TO DIG SITE** **FROM** ENDURO [redacted] **RUN** [redacted] 1/97

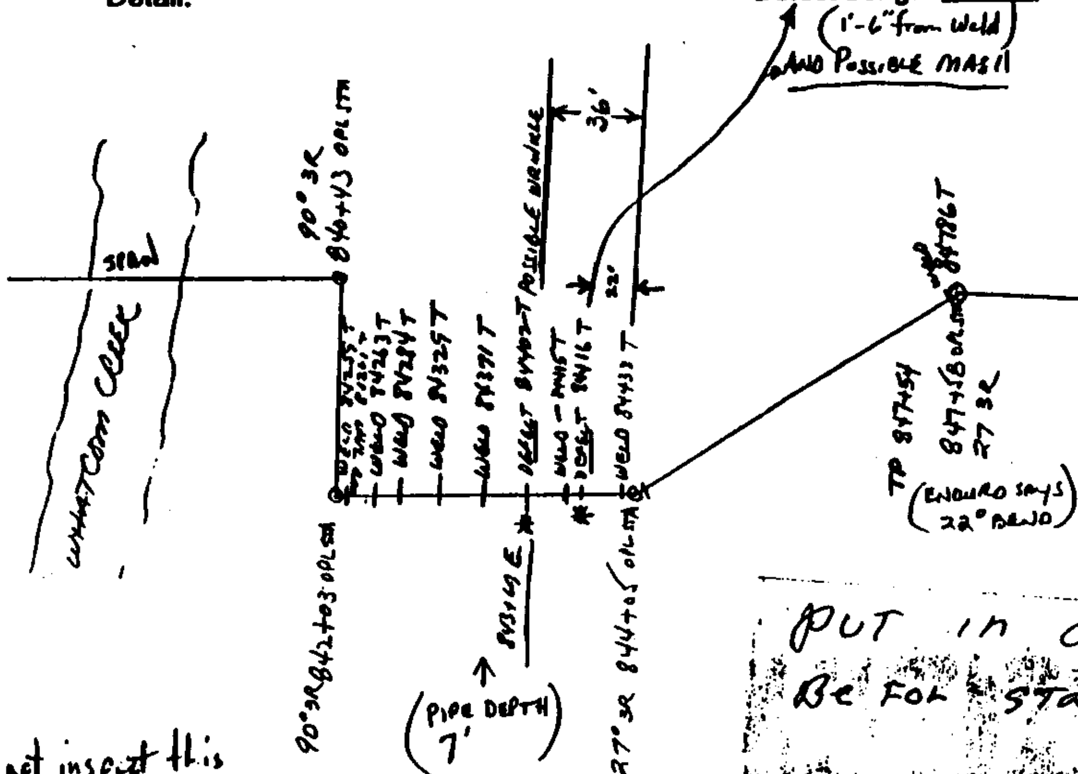
#2 Weld, 4' apart

Drawing # FE-1 **Pipeline Segment** FE-AL 16" **Line Sheet S -** 100 - 7

M.P. 16.0 **Joint Length** 23' **Defect %** 23 **Position** 1 **O'clock**

Detail: **Defect Length** 0.4"

Klasen Exhibit D



BILL L. EVANS
Chief Operator
Water Treatment Plant
(206) 676-6502

City of Bellingham
2221 Pacific St.
Bellingham, WA 98226

35R01
at Bot Silver Beach Water Plant
MP 16

One Call
Water lines on top of OPL

PUT IN ONE CALL BEFOR STARTING

Back Hoe

Extend a Hoe

4/97
Did not inspect this location.
Tuboscope possible Mill/mech 23% (min fine)
Enduro 4's sharp (less than repairable)
RJK.
(Difficult to access)

K:\Smartpig\DIG2

AFE 9

Klasen Exhibit E

0001154

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Cherry Point, Ferndale, Anacortes, Allen to Renton 16.00" O.D., .312" W.T.

Nominal O.D.	Nominal W.T.	Metal % Loss	Defect Length		Inches Mtl. Loss	Inches D. Length
16.000	0.312	11.20	10.10		0.0349	10.10
		20.00	6.60		0.0624	6.60
		30.00	3.30		0.0936	3.30
		40.00	2.30		0.1248	2.30
		50.00	1.80		0.1560	1.80
		60.00	1.50		0.1872	1.50

	B =	Length Maximum L =	Metal % Loss
	4.0000	10.0096	11.20
	2.6764	6.6975	20.00
	1.3333	3.3365	30.00
	0.9500	2.3773	40.00
	0.7500	1.8768	50.00
	0.6197	1.5508	60.00

ASME B31.4 - 1992 Edition 451.6.2 Disposition of Defects, pages 59 -60

Calculations to find the maximum length of a defect for various metal loss.

B=Sqrt((((c/Tn)/(1.1* c/Tn - 0.15))Squared) -1)if>or=4,then 4,if<4,then calc.

D = O. D.

c = Amount of wall thickness loss in inches

Tn = Nominal wall thickness

L = 1.12*B*(Sqrt (D*Tn))

L= Maximum Length

To User	Enter	Bold area
	O.D.	A4
	W.T	B4
	Mtl Loss%	C4..C9
	Dfct Lngth	D4..D9
	MAOP	B41
		Example
	Data	A27&A28

ASME B31.4 - 1992 Edition

451.7 Derating a Pipeline to a lower Operating Pressure, page 62

Pressure Rating of the defect area

Pd = 1.1*PI ((1-0.67(c/Tn))/(1-((0.67*c)/(Tn((((.893*L)/(D*Tn)^.5)^2)+1)^.5))))

Example 54% metal loss, 1.7" length

= 1.1*1440*((1-0.67*(0.1685/0.312))/(1-((0.67*0.1685)/(0.312*((((0.893*1.7)/(16.0*0.312)^0.5)^2)+1)^0.5))))2

1439.173 Check to verify the maximum defect example

Pd = Derated internal design gage pressure, psi

PI = Original internal design gage pressure, psi

c = Amount of wall thickness loss in inches

Tn = Nominal wall thickness

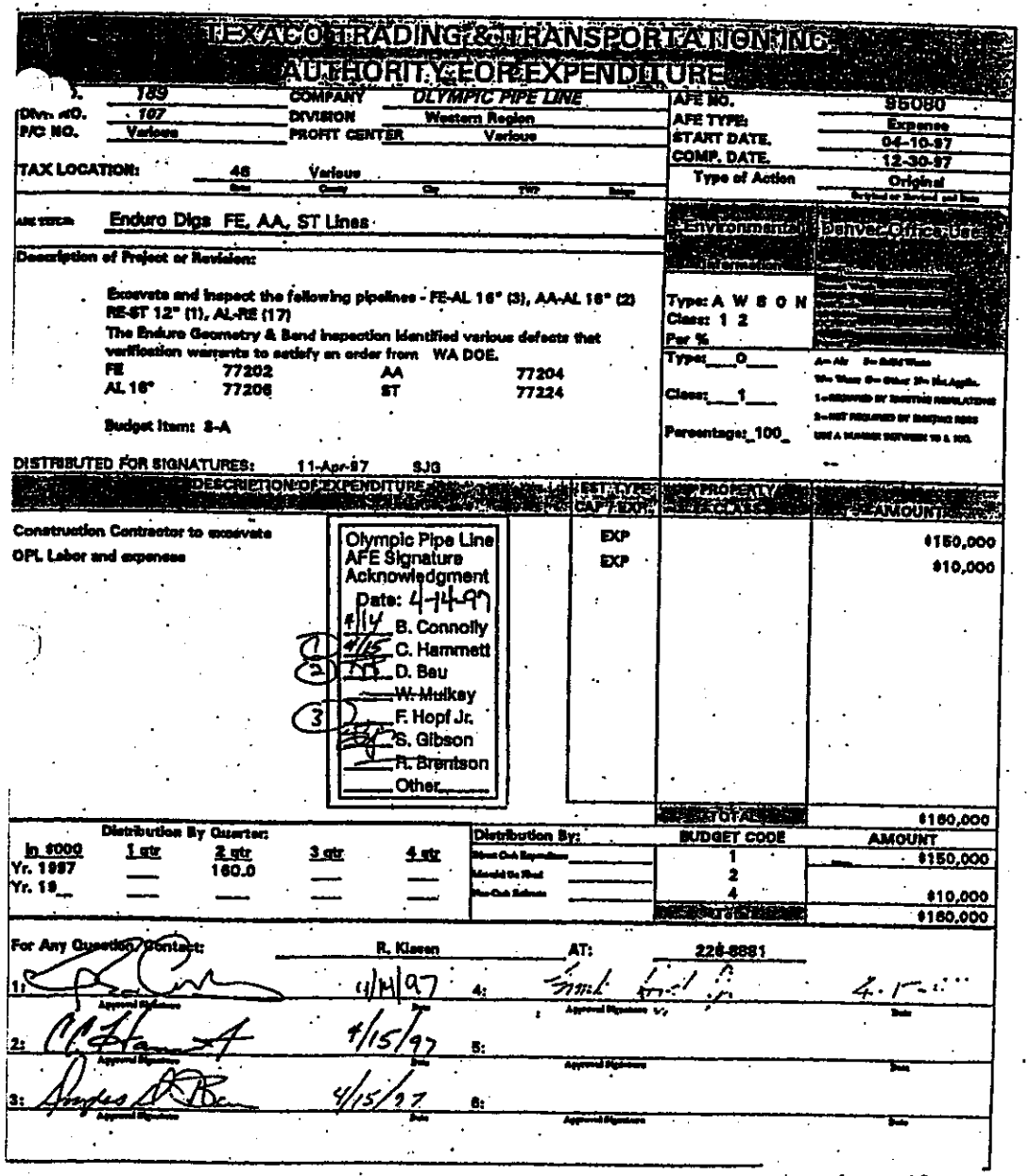
L = 1.12*B*(Sqrt (D*Tn)) Longitudinal extent of the corroded area

G = 0.893 * L /(Sqrt(D*Tn)) A value not to exceed 4.0, if > 4.0, then use the following equation for Pd.

Pd = 1.1PI(1-c/Tn)

D = O.D. of pipe

Dsgn Psi PI	inches Dfct Dpth c	inches W.T. Tn	inches Length L	inches O.D. D	G	PSI Pres Rtg Pd (G<=4)	PSI Pres Rtg Pd if G >4
1440	0.0349	0.312	10.10	16.000	4.0368	1492.06	1406.59
	0.0624		6.60		2.6379	1440.15	1267.20
	0.0936		3.30		1.3189	1440.55	1108.80
	0.1248		2.30		0.9193	1444.49	950.40
	0.1560		1.80		0.7194	1446.80	792.00
	0.1872		1.50		0.5995	1445.68	633.60



TEXACO TRADING & TRANSPORTATION INC.

AUTHORITY FOR EXPENDITURE

Div. no.	189	COMPANY	OLYMPIC PIPE LINE
P/C NO.	167	DIVISION	Western Region
	Various	PROFIT CENTER	Various

AFE NO. 95080
AFE TYPE: Expense
START DATE: 04-10-97
COMP. DATE: 12-30-97
Type of Action: Original

TAX LOCATION: 46 Various
State County City TWP Range

Enduro Digs FE, AA, ST Lines

Description of Project or Revision:

Excavate and inspect the following pipelines - FE-AL 16" (3), AA-AL 16" (2) RE-ST 12" (1), AL-RE (17)
The Enduro Geometry & Bend inspection identified various defects that verification warrants to satisfy an order from WA DOE.

FE	77202	AA	77204
AL 16"	77206	ST	77224

Budget Item: 8-A

Environmental Information

Type: A W S O N
Class: 1 2
Per %

Denver Office Use

Type: O
Class: 1
Percentage: 100

DISTRIBUTED FOR SIGNATURES: 11-Apr-97 SJG

DESCRIPTION OF EXPENDITURE	CAP / EXP	NEW PROPERTY CLASS	AMOUNT
Construction Contractor to excavate	EXP		$150,000
OPL Labor and expenses	EXP		$10,000
		TOTAL	$160,000

Olympic Pipe Line AFE Signature Acknowledgment
Date: 4-14-97
4/14 B. Connolly
1 4/15 C. Hammett
2 D. Beu
W. Mulkay
3 F. Hopf Jr.
S. Gibson
R. Brentson
Other

Distribution By Quarter:

In $000	1 qtr	2 qtr	3 qtr	4 qtr
Yr. 1997	—	160.0	—	—
Yr. 19__	—	—	—	—

Distribution By:

BUDGET CODE	AMOUNT
1	$150,000
2	
4	$10,000
TOTAL	$160,000

For Any Question Contact: R. Klasen AT: 226-8881

1: Approval Signature 4/14/97 Date
2: Approval Signature 4/15/97 Date
3: Approval Signature 4/15/97 Date
4: Approval Signature Date
5: Approval Signature Date
6: Approval Signature Date

OPL 1026788

WDOE1885 011186

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FAXED 4-15-97

WDOE 1885

Klasen Exhibit F

OLYMPIC PIPE LINE COMPANY

SPILL PREVENTION PLAN

STATE OF WASHINGTON
AND
STATE OF OREGON

OLYMPIC PIPE LINE COMPANY
2319 LIND AVE. S.W.
P.O. BOX 1800
RENTON, WA 98057
TELEPHONE - (206) 235-7736
24 HOUR EMERGENCY NO. (COLLECT) - (206) 226-8880

RECEIVED
DEC 31 1992
Department of Ecology

Klasen Exhibit G

8.3.1 Addition Inspections

Olympic Pipe Line Company has a program of internally inspecting all mainline or lateral lines on a 5 year rotating basis. This "smart pigging" program uses a magnetic flux leak detection tool to detect and record variances in wall thicknesses as it travels the length of the pipeline. The inspection also measures and locates the length of each joint of pipe, each weld, valves, fittings and different wall thicknesses. The variances in the wall thicknesses are graded on a system based on the percentage of metal lost from the original wall thickness. The inspection system is sensitive enough to locate other types of non-corrosion related defects such as mashes, taps, test leads, supports, mill/mechanical anomaly, patches, half soles, debris, and anchors.

The inspection tool measures the distance from the origin launch location in feet and in time, seconds, from launch. The tracking of the inspection tool is done by placing above ground markers along the pipeline route. This provides meaningful markers on the reference survey that are identified to later refer to if excavation is necessary. The current status of Olympic's inspection program is shown below:

PIPELINE SEGMENT	YEAR OF LAST INSPECTION	YEAR OF NEXT INSPECTION
Ferndale Station to Allen Station 16" Allen Station to Renton Station 16" Allen Station to Renton Station 20"	1991	1996
Cherry Point Station to Ferndale Station 16" Anacortes Station to Allen Station 16" Renton Station to Seattle Delivery Facility 12" Renton Station to Sea-Tac Terminal 12" Tacoma Junction to Tacoma Delivery Facility 8" Vancouver Junction to Vancouver Delivery Facility 12" Renton Station to Portland Delivery Facility 14"	1992	1997
Olympia Junction to Olympia Delivery Facility 6"		1993

Olympic Pipe Line will excavate and visually inspect all anomalies that are deeper than 20% of the original wall thickness. If visual inspection does not reveal a defect, then ultrasonic measurement of the pipe wall thickness is performed to determine if the anomaly is internal. If the inspections of the pipeline determine that corrective action is necessary (as defined ANSI B31.4.) the pipeline shall be repaired or replaced.

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July 6, 2001

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Alan C. Beshore
Investigator-in-Charge
National Transportation Safety Board
Washington, D.C. 20594

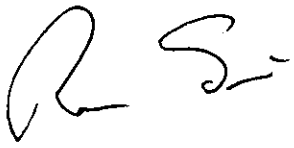
Re: Deposition Transcript for Richard J. Klasen

Dear Alan:

Richard has finished his corrections. Many are minor and noted in the transcript, but three are a little more perplexing. At page 96, Richard is sure he did not say "ASP evaluation", but is not positive what he did say. He thinks it may be "NACE." On page 99, line 17, he did not say "And then go inform the pig."

Thank you for your cooperation in finalizing Richard's part in this investigation.

Very truly yours,



J. Ronald Sim

JRS:jal
Enclosure

cc: Richard J. Klasen (w/o enclosure)