Appendix J

Todd Smith, Olympic – Interview Transcript

Pipeline Rupture and Fire
Bellingham, Washington
June 10, 1999
DCA-99-MP-008

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

In the Matter of:

PIPELINE ACCIDENT AND FIRE
BELLINGHAM, WASHINGTON

JUNE 1999

Wednesday,
October 4, 2000

Statement of TODD VICTOR SMITH

BEFORE:

ALLEN BESHORE, Lead Investigator
CLIFF ZIMMERMAN, NTSB
PETER KATCHMARE, DOT
LINDA PILKE-JARVIS, WA State
ANTHONY BARBER, EPA
JAMES CASH, NTSB
ERIC SAGER, NTSB
GEOFFREY SMYTH, City of Bellingham
DIONE MAZZOLINI, Ecology & Environmental

APPEARANCES:

MICHAEL MARTIN, ESQUIRE
Counsel for Todd Smith

ALSO PRESENT:

ALFRED WHITE
GERRY SCHAU
PATTI IMHOF
JOHN PARRISH
LLOYD HARRISON TIEKEN

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P R O C E E D I N G S

INVESTIGATOR BESHORE: Mr. Smith, my name is Allen Beshore. And I'm the Lead Investigator with National Transportation Safety Board into the pipeline accident and fire that occurred in Bellingham, Washington in June of 1999.

I want to thank you for coming in today and answering some of the questions that we have about the accident. And we're going to start out, I'm going to lead off, ask you some questions. Then, when I run out of questions or when I just need some time to collect my thoughts and relook through my notes, I'm going to kind of hand it off and we're going to go around the table.

All of these people may have some follow-up questions for you. Since they'll be asking questions also, I want to go around the room and introduce them to you so you know who they are and who they're with.

MR. ZIMMERMAN: I'm Cliff Zimmerman. I'm also an investigator for the NTSB.

MR. WHITE: Your last name, sir?

MR. ZIMMERMAN: Zimmerman.

MR. SCHAU: I'm Gerry Schau, with B.P.

MR. DANIEL: I'm Johnny B. Richmond, Daniel... Rosemont Petroleum.

MS. MAZZOLINI: I'm Dione Mazzolini, with Ecology and Environment.

MR. KATCHMARE: Peter Katchmare, Office of Pipeline Safety.

MR. SMYTH: Jeff Smyth, City of Bellingham.

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

MS. IMHOF: I'm Patti Imhof with IMCO General Construction.

MR. CASH: I'm Jim Cash, with the Safety Board.

MR. SAGER: Eric Sager with the Safety Board.

INVESTIGATOR BESHORE: And, Mr. Smith, you have a representative here with you today.

Can you identify him?

MR. MARTIN: Michael Martin, appearing with Todd Smith.

INVESTIGATOR BESHORE: And you've given your contact information to our court reporter?

MR. SMYTH: I'll do that at the break.

INVESTIGATOR BESHORE: Okay.

MR. MARTIN: Just before we start, could we also include as part of the record the transcript copy of the Compulsion Order for...

INVESTIGATOR BESHORE: Certainly, we'll

identify this as Smith Exhibit 1.

MR. MARTIN: That's fine.

INVESTIGATOR BESHORE: And attach it to the record. It's the Compulsion Order from the NTSB compelling testimony here today.

MR. MARTIN: Thank you.

(Whereupon, the previously-identified document, marked as Exhibit T. Smith No. 1 for identification, was received into the record.)

Whereupon,

TODD VICTOR SMITH

was called for statement and was examined, and testified as follows:

E X A M I N A T I O N

BY INVESTIGATOR BESHORE:

Q Mr. Smith, if you could, just state your full name for us, please?

A Todd Victor Smith.

Q And, if you could, just describe briefly your educational background?

A High school, some college. I don't have a college degree. And that's pretty much my educational background.

Q What were your college studies? Were they in some --

A Math and Science.

Q If you could, just recount your history with Olympic Pipeline, when you were hired and went through your various duties since you worked for them.

A I've been with Olympic Pipeline for fifteen years. So I hired on as a Utility Pipeliner. Transferred into Operations. I've worked from there into the Control Center as a Utility Operations Controller, and then to an Operations Controller. Then, to the Level I Operations Controller.

And started working in the computer side of the business and currently hold the title of Systems Engineer.

Q Okay, can we just kind of go through and get a little bit of time frames on some of these roles, if we could.

When did you transfer into the Operations Center as a Controller, approximately?

A Thirteen years ago.

Q That would have been 1987? Eighty-six?

A Eighty-seven, '88, something like that. I don't know.

Q And then how long were you in the control

center as a controller? Well, I guess various levels of responsibility as a controller? Is that my correct understanding? You went through two or three titles.

A Right. You usually start out as what they call the utility operations controller. It's the entry level position. You come in, start doing the paperwork and learning about how to, you know, do the various switches and batch changes.

And get some hydraulic background and then gradually work into actually operating the pipeline.

At some point, they get enough confidence in you where you become a, you know, you're able to take a shift, share the responsibility with the partner controller.

Q Okay, and then you moved into a system programmer role. When was that?

A I've been doing that on special assignment from the control center since about 1995.

Q And did that become a full time role at some point since the accident?

A Since the accident, it's become a full time role.

Q But, prior to June of '99, you fulfilled that role at certain times depending upon a special assignment or need that they had for you?

A Right. Initially, I was brought into the computer side to work with the PLES leak detection model to try and tune that up. And make it a functional tool for the control center.

And then from there I started moving into doing maintenance on the "SCADA system". Eventually, it just worked into a full time position; with the retirement of Duane Whitlow, I think, is what made that more or less a full time position.

Q Oh, okay, and that was after the accident in June? When was that? Do you recall?

A That would have been -- no, Duane Whitlow retired before the incident in June. But I just ended up, you know, spending more time with the computers, you know, after he retired.

I didn't actually get a title until after the incident. It's just my responsibility shifted more and more toward maintenance of the SCADA system in computers.

Q But you were still operating at some points in time as a regular controller after the accident?

A Yes. I was doing occasional work in the control center.

Q And so you would get some shifts as an operations controller?

A Right, mainly in a vacation or relief type capacity.

Q At that point in time, most of your duties were spent in the programming role, you would say?

A Yes.

Q And then I guess in 1995, you had said your first assignment was to work on a PLDS system, right?

A Yes.

Q Was that the first time that the leak detection software had been introduced into the Olympic system?

A They started working on that I believe in 1994 and '95. Shortly after it was installed, then I was asked to come over and, you know, work on getting it tuned up.

Q I guess my question, was there another leak detection software that existed in the system prior to that that was replaced by this software package? Or was this kind of a new product that was being introduced into...?

A This would be the addition of a new tool. Previous to that, we -- and continue to this day -- to do our hourly line balance and weighter change monitoring, things like that.

So this would just be another tool that was

added to that.

Q And those other things you mentioned are hand calculations that --

A Yes.

Q -- that the controllers do throughout the shift?

A Yes.

Q Who do you report to? Or who did you report to -- excuse me -- on June 10th of '99?

A Ron Brenson.

Q Did you report to Ron throughout the process in '95 up until --

A Yes.

Q My question is for both purposes, of being a controller and for being a programmer, you reported to Ron Brenson; correct?

A Yes.

Q And did you have any input into the design of the Bay View Terminal facility?

A Nothing specific. My role was to configure the data bases in the SCADA system based on a point list that was provided to me.

Q Okay, so the design team gave you a list of data that they wanted to monitor and then you programmed the SCADA system to take that into

consideration?

A Yes. The programming is not the appropriate tone. It's basically just data base entry. I have done some programming, but I am not a programmer, per se. I have never done any programming with the SCADA system, or programming with the leak detection is basically hardware maintenance, system maintenance, data base maintenance kind of thing.

Q Okay, so the programming is actually the product you purchase as a program.

A Yes.

Q And then you're setting up the data that goes into that program's calculations.

A Correct.

Q Let's talk about as Bay View was being commissioned. Or should I say after it was commissioned.

Were you aware of any operational issues that arose as a result of the installation of the new station?

A The only issue that I was aware of was the -- I guess they would call them unscheduled shutdowns of the facility caused by safety devices within the facility to protect it for overpressure.

Q So, specifically, that would be the block

valve coming into the Bay View Station closing?

A No, that would be a result of the pressure switch detecting the high pressure situation at its location.

Q Okay, the pressure switch at Bay View terminal would get a pressure that would then trigger that valve to close; is that correct?

A Right.

Q and would you guys also receive signals about a relief valve relieving in Bay View? Do you recall?

A The designer of Bay View never included any indications that were direct to the surge relief valves at Bay View. There were no electrical switches attached to the relief valves, or no electrical indications attached to the relief valves.

Q So the only indication you received was that there was flow into tank 209; is that correct?

A That's correct.

Q And that could have been from either a sump discharge or from the relief valve function?

A That's correct, or a tank tracks rockers. It detects movement in that pipe section where that device was located.

Q And that's been changed, I understand, since then.

A The device is still there. It's still active. They have added in addition to that, indicators for each of the relief valves in the facility.

Q So you'll be able to in the future, assuming that terminal is back in operation, hopefully, will be able to see each individual relief valve?

A Yes, they are identified individually and brought into the SCADA system individually.

Q Now did you develop the screens or the picture styles for the SCADA system that were used for the Bay View terminal once it was brought on line?

A I probably had some input into it but Lloyd Tieken did the lion's share of the development of the screen work.

Q Did the problems that occurred, well, the issues that arose at Bay View, did they affect both sets of operations, whether it be the line and informatic orders, or whether it would be a line down from burndown?

A They could. If you know both systems went through Bay View, they could have each experienced the same types of problems.

Q Well, they were pretty much identical setups; is that correct? Well, that's probably too broad a

term. But, in terms of the relief valving and the incoming closures, that specific piece of it?

A They should have been pretty much identical.

Q Did you experience operational problems as a controller with operating either of those two lines personally?

A Not that I can recall. I can't recall any specific incidents. And because it was all the work that I've done, you know, providing information for the various agencies, and so forth, I can't clearly say whether or not when I became aware of the problems, or if I actually experienced them myself.

I just know that they were having problems.

Q Okay, so you don't recall any specific instance where you were operating the line and this pressure indication reached in and closed the block valve on you?

A Right. Right.

Q All right, there was a few emails. And maybe you can help me understand the scenario on there. There was a control valve there that was...

INVESTIGATOR BESHORE: Off the record.

(Record paused.)

INVESTIGATOR BESHORE: Okay, we're talking about issues within the Bay View station facility after

it was brought on line.

MR. SMITH: Correct.

BY INVESTIGATOR BESHORE:

Q Do you recall any issues surrounding the control valve that was controlling I believe it was the discharge side and set point reductions?

Can you explain to me what that issue was? Do you recall that?

A I don't recall any specific issue with the control valves.

Q Okay. I've got a couple of emails here that we'll talk about in a few minutes that maybe will help you, jog your memory on that.

A Sure.

Q And try and help understand that issue.

Do you recall having any discussions in general with the other controllers about any of these issues or concerns that people had prior to the accident about some of these operational issues they were experiencing?

A I don't recall any specific conversations, but I know there was a concern. I know that there were issues that were talked about. The high-pressure facility shutdowns and those types of issues.

Q High-pressure facilities shut down?

A The things we've talked about with the valve, the pressure switches, and those types of things.

Q Oh, okay. By high pressure, you mean exceeding those pressure settings?

A Right.

Q And so you know it was an issue to some people but you don't specifically remember any conversations?

A I don't remember any specific conversations with anybody. I know that it was talked about.

Q Was it pretty much a uniformed or universal issue of concern to the controllers, would you --?

A Well, you know, any time that the facility shuts down and then closes the valves, it interrupts the pipeline and the flow of work. And it was a concern, yes.

Q And so was it a major concern, you would say?

A Well, it was a concern.

Q Was it a safety concern?

A I would say it could have been a safety concern. But I think that it was more of the discussion revolved around being more of just a nuisance or inconvenience.

Q It caused the controller work, extra work.

A Right.

Q Now would that be something that would be considered an abnormal operation to you, that valve closing?

A The valve closure itself would not be an abnormal condition because it was programmed to close with the station shut down.

Q So, because of the design, you didn't consider that to be an abnormal condition? An abnormal operation, I guess?

A Well, no. I mean, yes, it's an abnormal condition but are we asking is it an abnormal condition under the operations and procedures manual or is it just would be my opinion that it was an abnormal?

Because if you're asking my opinion, yes, I would consider that an abnormal operation, and so would any other reasonable person would consider that to be abnormal.

Q But, in the context of your procedures, you would not consider it to be something that needed to be logged or reported or the procedure needed to be looked at?

A No, because the facility was just basically brand-new. All those types of issues needed to be brought up to the engineering department. And, they needed to be, you know, worked out because, regardless

of your point of view, it was something that you wouldn't want to be going on, you know, at all.

So it was something that needed to be worked on.

Q Did you bring it up to these folks?

A To which folks?

Q The engineering department, I think you mentioned, to be resolved?

A The engineering department was well aware of the problems that were going on with the things at Bay View.

Q I mean, did you, yourself, or Ron Brenson or, I mean, how were they made aware of? Do you know?

A I don't know.

Q But, you know that they were well aware of them?

A Right.

Q And do you know what they were doing to try and resolve those issues?

A I don't know the details.

Q Did you, in your understanding of the design of the station, did you understand that there was, you know, relief valves that were set to relieve pressure at a lower set point than the pressure reached to close the block valve?

A I don't know. I don't have an understanding of that. It would have been laid out in the operations procedures manual what the set points were. I don't know off the top of my head what they were set at.

Q So you don't --

A Typically, you would want the relief valve to go before the station would shut down, the activation of the switch.

Q I guess I'm kind of asking about what your understanding was at the time. I guess my question goes to was it your understanding that this block valve closing was actually kind of a secondary level of protection over and above a lower level of protection provided by relief valves?

A The block valve closing was a sequencing that occurred on a station shutdown, which one of the causes would be activation of the high-pressure switch. Typically, your relief valve would be set at some value lower than the switch.

So, yes, my understanding would have been that the set point would have been lower than the switch.

Q All right. Now do you recall any conversations where there was some concern about maybe the relief valves were not functioning properly?

A I don't recall any specific conversation on that. And then again my recollection is kind of tainted because I've done a lot of research into those types of issues.

Q Let's go back to before the Bay View Station was installed. You were an operations controller for some time. Did you experience any other block valves that might have closed in an uncommanded fashion while you were operating the system?

A If you're going to go with the strict term of "block valve", the valve at Bay View was a dual function valve. People call it a block valve. In fact, it is a receiver inlet valve.

It's as opposed to a mainline block valve, which is, you know, standing out there by itself.

The function of this block valve was to protect a facility and, in that capacity, all of our facilities have that feature. Any delivery facility, for example, if you exceed a pressure switch inside, the facility will close their incoming valve.

So, in that capacity, yes, I have experienced that.

Q How frequently? Do you recall?

A It would not be frequent. Occasionally.

Q Once or twice a year?

A I can't put a number on it right now.

Q Once or twice in your career?

A Oh, no, it would be more than that. I think you probably could find a couple of times a year that, you know, things would happen to cause that type of an occurrence.

Q Was there any facility in particular aside from Bay View that you could think of when I asked that question?

A Any of our -- it could happen at any delivery facility.

Q Mainly, down -- end-user delivery facilities, or are these pumping station facilities on the line? Or is there a distinction in your mind there?

A There is a distinction. Typically, a mainline pumping station does not have launcher receivers. And so they would just have a block valve.

Typically, the function at a mainline station where the pressure switch is activated would be to drop the units, sequence the units down, and not have any valves closed.

At a delivery facility, it's at the end of the line and at those points the facility would be isolated from the system.

Q Okay, so in your mind when you're thinking

back on times when block valves are closed, are you thinking mostly of down delivery facilities --

A Uh-huh.

Q -- of the end user and not necessarily affecting the rest of the main line, I guess?

A Well, it could affect the whole system. It could affect the whole system or a whole system.

Because it's not uncommon for us to pump fuel line into a delivery facility. So, therefore, if it were to shut down, it would cause shutdown of the entire system.

Q Okay, I understand now. Okay. All right, let's talk a little bit about training after the Bay View station was brought on line. I guess there was a general concern that there were some issues here.

Was there any training that was provided to the controllers to try and help them understand what was going on?

A I don't recall any formal training as far as Bay View was concerned. It was more or less felt to be just another facility, delivery facility, pump station facility. And designed to operate like any of the other facilities that we have.

Q Okay, but if I understood what you answered, the last answer, it was not necessarily like the other

pumping stations you had on the main line, for at least a couple of reasons you mentioned. Is that correct?

A I can clarify on that a little bit, if I could.

Q Sure.

A Bay View is the same as a delivery facility in that it has the terminal facility, or products are brought into Bay View. And then, separate from that but at the same time along with that is the pumping station where they're actually lifting out of tanks.

So it actually has both the features of a delivery facility and a pumping station.

Q Is that the only facility in Olympics' system that has that dual capability?

A I would answer that strictly no. For example, at our Allen Station, we have a delivery facility there. It's not up the same way. And then our Renton facility, we have a delivery facility there as well.

At Tacoma Station, we have a delivery facility. So the main difference is having the low pressure piping system inserted in line with the high-pressure pipeline, you know, on the other side of that.

Q And that's what requires the extra protections for relief valves and what not?

A Yes.

Q Because of the 300 --

A Well, for example, Portland, our delivery facility at Portland, we have a main line coming into that delivery facility. It has a receiver, a scraper receiver. It can receive tools, just like Bay View.

It has a scraper inlet, bypass and outlet. The receiver inlet is the same thing that you would call the block valve at Bay View. It serves the exact, same function.

There are the same pressure switches. You know, it's all pretty much the same stuff. And both are subjected to the same types of issues as far as pressure.

Q Well, I mean just for future reference when I'm asking about block valve, I'm generally meaning the valve that it shuts, stops the flow of fuel through the main pipeline on down the mainline pipeline.

That could be a receiver... as you say, or just about the pipeline. I guess that's what I'm thinking of. So, thank you.

A Well, the main difference is that a block valve would not be necessarily programmed to close with a pressure switch.

Q Do you mean out on the pipeline somewhere?

A Right. Right.

Q Okay, and those are closed by either operation by hand or by some input from you guys, but not necessarily an automatic sequence?

A No automatic sequence.

Q All right, thank you.

Now do you recall any other issues that arose, aside from the valves and these other things? Do you recall any other specific issues that were of a concern to folks as a result of the Bay View terminal installation?

A Well, there was a concern about, you know, how to do batch changes and, you know, different things; how to start up... tanks, different operational issues that hadn't had an opportunity to mature and be formally worked out?

Q Would you consider those accounting issues, or are those operational issues?

A Well, both. You know, how do I transition from, you know, just bypassing the facility to going into a tank, for example. You know, where do I make my cut? Coming out of the tank, how do I transition from going through the station, or just coming out of the tank, and those types of things.

Q And those things were never really well-

defined by anyone?

A That facility never had the opportunity to mature to the point where those things could be -- I mean the number of permutations for operations there was, you know, too many to just start writing them all down. It needed to be defined, what the operation of the facility was going to be.

Basically, it was at sea trials, you know. It had gone through the point by point and the station facility checks, and now the facility was running and they were trying to work out, you know, the problems that would occur under normal operations.

Q Okay, so you feel like, as time went on, these things would have been better-defined?

A Yes.

Q But, as of the point of the accident in June, had not really been -- because of the short history of it. I mean, my understanding of it --

A Right. We had, you know, a number of procedures that were rickling, but we hadn't had a chance to try them all out. They hadn't been tuned specifically.

Q In terms of procedures for these operations, did you have any responsibilities for developing O&M procedures associated with the station?

A No.

Q Or with any other procedures?

A I'd written procedures for other facilities, but not for Bay View.

Q And that wasn't something that was a general responsibility for you? I mean somebody assigns you to write a procedure for a specific station? It wasn't your responsibility to maintain the overall manual, or anything like that, I guess my question is?

A No. No, the way things typically work, dispatchers would think of, you know, perhaps a better way to do something. You know, it would be proposed and passed around and then, the sense would I guess be either adopt it or discard it.

Q And that would be proposed -- I'm assuming at your control center to Ron Brenson, and then he would make that decision on whether it should be?

A All the dispatchers would have him put on those types of changes. It would be kind of "What do you think about this guy's? Why don't we try doing it this way," type of a thing.

Q But, ultimately, it would be his decision?

A Ultimately, yes.

Q How long has Ron Brenson been the supervisor there?

A He's been supervisor there for, oh, a long time. A long time.

Q Was he a supervisor when you first became a controller?

A I don't know when he was officially promoted to that position.

Q He's been in the control room ever since you've been in the control room. Was he another controller at the time?

A He came from that background. I would defer you to his personnel file to nail down those dates and things.

Q To characterize your statement, he's been there a long time.

A He hasn't always been my supervisor. Prior to Ron, there was a gentleman named Will Hood, who was my initial supervisor in the control center.

Q There were some changes made to the O&M manual we understand in March of '98, shortly before inspection by the Office of Pipeline Safety.

Are you familiar with the changes? I'm talking about the operations maintenance procedure manual. Are you familiar with those changes or with that process?

A I am not familiar with that. I'm not

familiar with that. It's just a general update?

Q Well, the report we had was that the manual from Texaco was basically updated and became the manual for the Olympic Pipeline System shortly prior to an OPS inspection.

A I don't know that that would be the Operations and Procedures Manual because it's pretty much been Olympic's document since the inception.

So maybe we're talking about two different documents.

Q Actually, I meant March of '99, so my mistake here.

A I don't recall any specific changes, especially regarding Texaco.

Q Well, I don't know that -- okay, let's talk about manuals just for a minute, if we could.

A Sure.

Q Because I'm a little confused on how many manuals we have here.

There's an operations manual for controllers; correct?

A The only manual that is in effect, to my knowledge has ever been in effect, is the operations procedures manual that contains, you know, section one as outlined by the part 49.145 operations procedures

manual, General Operating Procedures Manual.

There have been other documents. There was a manual that was given as a reference for controllers that basically talked about the same types of things. But it was never an official, or never meant to be an official operations and procedures manual.

Q So that was more of a guidance document; is that right?

A More of a training document.

Q And that's operations --

A That's the one right there.

Q Okay, I'm not going to mark it as an exhibit but it's page 715 that we were provided earlier with a bunch of stuff.

A Right. And some of those things have been incorporated in here recently. There is also on the back side of that another manual that was within the same volume.

Q Okay, it was like volume one and two of the same. Okay. And then there was also referenced in somebody's previous testimony a standard operations procedure manual.

Are you familiar with that?

Q SOP?

A SOP, okay. Yes, in conjunction with the

general operating procedures, each facility maintains a volume that they call their SOP, or standard operating procedures, that are specific to the operations at the individual facilities.

For example, the control center would have an SOP. It would have information about how to do specific batch changes and general information, like line fields and things like that.

Q Okay, so that's a facility-specific --

A Yes.

Q -- type of a document. So there's one in the control center for --

A Correct.

Q There would be one at Bay View, I'm assuming, for station operations...

A Yes. Typically, each facility would have one of those that would pertain specifically to the operations at that location.

Q There is also something, and I don't recall the reference, that mentioned a DOT compliance manual. Now is there a separate document that that's manual, or is that --

A I wouldn't know what that is.

Q Okay, so you've not heard of that?

A No.

Q Are there any other manuals in the control room for you guys to review or that you're familiar with that provide direction to your operations?

A There are.

Q What might those be?

A There is a document that required I guess by the Department of Ecology for how to respond to reported incidents, which made up several volumes.

Q Is that like the contingency plan --

A The contingency plan, and stuff like that, correct.

Q Are there any others that you can think of?

A No, not off the top of my head.

Q Okay. I think maybe this email here, if you could just take a look at that, I would appreciate it. Yes, I will probably enter that into an exhibit.

Maybe, this one here will help, too. I think that's on the same issue, but maybe you can help me understand the issue better.

Have you seen either of those? Take your time reading it.

A Yes, let me take a look here.

(Perusing documents.)

Okay. And your question?

Q Are you familiar with those emails?

A Not specifically these emails, but I'm familiar with what they're talking about in this particular situation.

Q Okay, so now you recall the issue?

A Sure.

Q Can you explain to us what the issue was?

A Right. On the incoming side of Bay View, there are actually two control valves. One would control the amount of pressure allowed into the facility; and the control valve just downstream of that and downstream of the meter run was designed to hold a certain amount of back pressure on the meter.

Each meter installation requires, you know, a certain amount of back pressure. This was apparently set at 10 pounds to 20 pounds, or something like that.

And what was happening was is if the flow rate downstream of Bay View got to be too high such that the flow rate coming into the facility couldn't keep up with it that the downstream control valve would close and cause a suction problem downstream at Allen.

Q Okay, would it cause a problem at Allen or Bay View?

A It would cause a problem at Allen.

Q Would it knock down the pump at Bay View, or am I confused in my logic?

A It could knock down the pump at Bay View. It would affect all downstream operations --

Q Because of all the suction from then on?

A Well, it would depend on the configuration of Bay View, whether or not you were tight-lined through Bay View or floating on a tank at Bay View. You know, the situation.

Q Okay, and they were having problems here. They were tight-lined through?

A Yes.

Q So do you remember how that issue was resolved?

A I believe that the initial thing was to lower the set point because we don't do custody transfer at that facility. I think the choice or the temporary work around would be to allow a degradation in measurement there to allow more throughput through the facility.

Q Okay, so they reduced the set point in there in order to operate on a lower suction?

A Right.

Q Was that issue there somehow associated with the issue of pressure increases that would ultimately result in the incoming valve closing?

A It could. If suction at Allen were to be,

you know, low enough to cause the Units to shut down, it could cause a surge back through the Bay View facility.

INVESTIGATOR BESHORE: Would somebody go ahead and enter those in as exhibits, and hand those back?

There's an email, 3/2/99, and I'll date that exhibit from Ron Brenson. That will be Exhibit 2 -- Exhibit-Smith 2 -- excuse me.

(Whereupon, the previously-identified document, marked as Exhibit T. Smith 2 for identification, was received into record.)

INVESTIGATOR BESHORE: And then Exhibit Smith No. 3 will be the date is 3/10/99 from Craig Hammet.

(Whereupon, the previously-identified document, marked as Exhibit T. Smith 3 for identification, was received into record.)

INVESTIGATOR BESHORE: Actually, I want to make these T. Smith, in case we talk with Mr. Smyth.

MR. SMITH: What's the chance of that?

INVESTIGATOR BESHORE: Okay, I think we covered manuals. Let's go to the date of June 10, to

the accident day.

BY INVESTIGATOR BESHORE:

Q Were you on duty on that day?

A I was.

Q Were you at the Renton headquarters?

A I was.

Q What were you doing that day?

A Just a typical day. I was working with the computer system that day, special assignment.

Q Do you remember what you were doing that day?

A Not specifically, no.

Q Do you remember -- all right, let me just go to the gist of this. Let's go to the afternoon of June 10. Can you recall? Run me through the afternoon.

You ate some lunch and then what happened?

A I went home.

Q Okay, you went home. What time did you leave the Renton office?

A Two or 2:30. I don't recall the specific time.

Q Did you have vacation or just personal business you left the office?

A I just took some time off.

Q And you were enjoying your time off, I'm assuming, and then what happened?

A I talked to -- I had a conversation with Lloyd Tieken. I don't remember whether he paged me or he called me. But, anyway, I talked to Lloyd Tieken. And he had told me about that he had had some problems with the computers. And that the system had, you know, been down.

Basically, when the whole thing was over with and now he was up and running, he was giving a reoccurring entry in an error log on the SCADA system. And was wanting to know if I couldn't help him to clear that up.

Q What advice did you give him?

A There was a process that wasn't being used any longer that had not been ginned out of the system that at the time had just, you know, manually -- was just manually shutting off.

Of course, when the system started back up, the process started back up with it and it would occasionally put an entry in the error log.

So that the remedy was to shut that process off, and the error went away.

Q All right, so he called you. He's in the midst of this.

A I was over.

Q Okay, so he was done with -- when he called

Q But he didn't say anything about such a release?

A No.

Q And then you were called back by whom?

A Lloyd called me back.

Q Okay, and he reported to you that there was a release?

A Yes. He told me that they wanted me to come into the office because there was a release.

Q Did you go back to the office?

A Yes, I did.

Q And what happened when you got there?

A I became a part of the team that, you know, the ICS I guess they call it.

Q Had ignition occurred by that point when you arrived?

A Yes.

Q Did you ever dial up your modem to get in to...?

A I did.

Q Did you do it that afternoon?

A I may have. I don't recall specifically if I did or I didn't.

Q So you don't recall after talking to Lloyd whether you did that, or before you talked to Lloyd

whether you did that?

A I'm sure that I did, but I don't recall where in the sequence that I did, whether it was before or after.

Q Okay, but you're sure you did dial it at some point?

A Yes.

Q Do you recall what you saw?

A No, I don't. I don't recall the session specifically.

Q When you dial in, what do you get access to?

A I have access to -- it's just like being at work, terminal session. I have access to the full system.

Q Okay. In terms of not necessarily the SCADA screens and what not you can see in the system, or can you access all that, too?

A I can now. And I don't know when the time line was that I installed the capability of being able to see the SCADA screens.

Q Before or after the accident?

A I can't recall.

Q Okay, so then you went in and you became part of the incident commands. Did you make any notifications to any of the... or any other response?

A No.

Q Was any of that your responsibility?

A No.

Q What did you do in that structure at that point in time?

A I just helped out wherever I could. I don't have -- my official title is liaison, but there wasn't a whole lot of liaisoning to do at that point, so...

Q Did you go to look at --

A I went and looked at my system. I --

Q Were you trying to look at -- I'm sorry. Go ahead. I didn't mean to interrupt you.

A Checking out my system to make sure that, you know, everything was working okay. I started to look around to see what may have occurred with the system, you know, and stuff like that.

Q Would this be the computer system or --

A Computer system.

Q SCADA system?

A Well, one was -- SCADA computers to make sure that they running heathily.

Q Did you pull up any trends, take a look at what might have happened from data?

A No, I didn't do any trending.

Q What did you find based on your review of the

status in the system?

A I didn't make any conclusion at that time. I mean, other than that the system was running and it was running fine at that point.

Q Okay, so you assessed the system as it was running at the time you were there, assessing the system? Is that a correct understanding?

A Correct.

Q Did you look at historical stuff to try to determine what had functioned -- how the system had functioned throughout the afternoon?

A At some point, I'm sure that I did. But, I don't recall the specific line of events of that period.

Q Do you recall what you found?

A What I found was that everything was fine at that point in time.

Q Okay, let's talk about abnormal operations just a little bit more. I know you defined personally what you felt was abnormal operations. Obviously, there's the technical definition of abnormal operations.

Do you recall ever reporting on the outage log or in any other fashion any kind of an issue with valve closures, or experienced, maybe?

A I don't recall any specific incidents or any specific report, no.

Q If you had been operating the system when that valve closed and the line went down, would you have entered that on to the outage report?

A The function of the outage report would be to report a shutdown or more for reporting broken equipment. You know, maintenance type of issues.

Q But, this would be a shutdown.

A Yes.

Q So you would report it, wouldn't you, on the outage report?

A Not necessarily, no.

Q Okay, why would you not? I mean I guess there's an outage in service; right? So that wouldn't be something entered on the outage sheet report?

A Not necessarily, no.

Q And how would you make that distinction?

A In particular, like the baby thing there, we would probably want to talk to a mechanic or David Justice, or whoever, you know, directly and see if we could get something going on that.

And, in that case, there would be an entry in the outage log. If a person chose to just ignore it and start things back up, then there may not be.

Q Would that be a good idea to ignore it and start things back up, go on?

A From my own point of view?

Q Yes, I'm asking your opinion. What would you do if you experienced that and you were going to start- - what would be the types of things you were looking for?

A Well, I would want to -- it would not necessarily keep me from starting the line back up, but I would want to make sure that people were aware that it had occurred again.

Q So you would report it to at least your supervisor?

A Probably, more specifically to field people.

Q Okay, so you would go more straight to the people that would be out there trying to fix it?

A Uh-huh. Typically, that would be the situation. And then, if you don't get any results, then you elevate it to the next level.

Q But, you don't recall ever doing that, personally?

A No, I don't.

Q Do you recall anybody else doing that, or telling you they've done that?

A I don't have any knowledge of that.

Q In any of the conversations you had with anybody else, did they indicate they had done that?

A I don't have a specific recollection, but I know that they were aware of it. I don't know how they were aware of it specifically but I know they were aware of it.

Q It sounds like it was a topic of conversation.

A It was a topic of conversation.

Q So I'm just trying to understand the sense of frustration that people were experiencing.

A It was such a topic of conversation that it's really hard to remember any specific conversation about it.

Q So there was volume and you're kind of having a hard time picking out those specific details.

Have you looked at the event log from June 10th? This is obviously since after the accident, not before.

A Yes, I've been over that.

Q As far as your duties in preparing responses and what not, have you gone through in detail and had an opportunity to look at it?

A Yes, I have.

Q Did you draw any conclusions from reviewing

the event log?

A No.

Q So you have no personal opinions as to what might have happened in this event sequence?

A My personal opinion, yes.

Q What might that be?

A My personal opinion is that there was a problem with the computer system. We went from one computer to the other computer and back.

The communications problems were caused more by -- in fact, communications problems, they were caused more by the sequencing of the computers when they went down and came back up.

That's about the only conclusions that I've been able to make on it.

Q Okay, by "communications problem", you're talking about when the system started back up, there was a whole series of communication alarms that came back on?

A When they went from No. 2 to No. 1 and then they went back to No. 2, there was a massive communications outage, which was caused by the No. 2 computer coming back up. Not because there was a communications issue.

Q Have you reviewed the event log that went on

through that sequence of events then and included the time when the pipeline was restored?

A I've been through the whole sequence, line by line.

Q And did you draw any opinions as to that event?

A I have no opinion.

Q You have no opinion as to whether or not the lines should have been restored?

A With hindsight? No, I'm not going to go back to hindsight and make an opinion on that until all the facts are in.

I don't know what went on in the control center. I don't know what they saw in the control center. So I can't have an opinion on that right now.

Q Based on your review of the event log, I mean you obviously, you're an experienced control and you've obviously had an opportunity to review this event log.

I'm just wondering if there was something in there that, you know. It seems like you would have some conclusion as to whether or not that line should have been restored.

I'm just asking you to share that with us. In your personal opinion as a controller for thirteen years or whatever.

A Like I said, having not been in the control center, you can't just go and look at these lists of events and come up with a conclusion. You need to have the full scope of the picture.

In my particular case, what I would do before I were to start the line up is I would want to do a complete review of the event history, my review trending and those types of things.

At that point, you have to decide, you know, what caused the pipeline to shut down -- was it high pressure? Was it low suction? Many, many issues.

So looking at it, I cannot sit here and tell you that starting up the pipeline was the wrong thing to do at the time.

Q Doesn't the event log give you some indication of why things shut down in terms of pressures, suction pressures, discharge pressures? Can you get a picture?

A Sure. The way that the eventing is done in our SCADA system is there are two files. One is the long-term file and it's on disk. And the other is a continuous -- there are 10,000 events and it's contained in memory on the primary machine.

When an event occurs, the message is written to the following memory. The same message is written

on to disk.

What we are looking at with these is the long-term disk file. What they are seeing in the control center is what was held in memory, a completely separate file.

The way that those computers run up and down, you cannot guarantee that what they saw in the control center is what is on that file.

Q Can you tell from your review of whatever you reviewed whether anybody did any trending before restarting?

A I have no way to know that.

Q Okay, so they could have done that. You don't know whether or not they did it.

A No, I do not.

Q Have you reviewed trends of the data taken during that event?

A I have looked at trends. The problem though is that because of the way that the computers were failed over, you would only -- the event occurred while they were on the No. 1 machine, which was the backup machine.

So they went from No. 2 to No. 1 back to No. 2. Anything that happened on No. 1 was not available after the incident for them to see.

Q No. 1 being the one that was operating--

A The one that was operating when the release occurred.

Q Why would they not be able to see that information?

A Because the information is only available from the primary machine.

Q Based on -- all right -- the trends that were pulled up?

A Right, because under normal operations, the information is being shadowed over the backup computer. But, if I shut this computer off here, the backing up stops. And when this guy gets started back up, normally, they'll be synchronized and be back up together.

But, in the situation, what we had here, this computer was -- the primary computer was just shut off. The No. 1 computer takes up. He's got the data because it's been shadowing it over. Okay?

But, now No. 2 is started back up. It comes up thinking it's primary, which causes that massive communications outage. Well, it came up with the same information that it had when it went down. It came up stupid as far as what was going on while it was down.

Q How long did it take to synchronize data?

A Under this situation, it never would have synchronized the data because that's a function of the startup. It would, in fact, start writing over data on the next -- on the No. 1 machine. The primary always writes to the backup.

Q Okay, but the data that was produced to us, how was that derived then if this data was --

A That was derived from the long-term event disk files. They're actually -- what you've got is two sets of documents. You've got the stuff from ~~OLEO-2~~ OLY#2 and the stuff from 01. And, you know, since then the pages may have been merged but they are actually the files from two separate machines.

Q Okay, in the event log they're separate. What about in the trends?

A The trends, same story. Each machine has a historical file for that day. And what you would do, if you start a machine up, you have the option of doing a file transfer or not. If you don't, it doesn't make any difference because it's going to synch itself up.

But, in this particular situation, because of the way they were shut down and then restarted, the information was not there. You can look at those trends and you can see where the one machine has the data that was missing from the other machine.

Q And that's shown in the trends that you guys provided to us?

A Yes.

Q I guess the point as far as the event summary goes, if you want to have a better idea of what they might have known in the control center, you take out the ~~OLEO-1~~ OLY01 stuff and look at the events without that.

Q And that applies to both the event log and the trending charts that you're providing?

A Yes.

Q Why don't we just run through that exercise. Bear with me and I'll try to find some...

(A pause.)

All right, what I'm going to do is I've got page one through -- this is pages one through three as originally provided by... and pages 46 through 61.

I think I'm going to go ahead and enter this as an exhibit, those pages. But this is excerpts I guess from the event log that were provided by Olympic. And I'll just go ahead and give that -- ignore the yellow highlight on there. I did that, and a very long time ago. I should make another copy.

If you look through there, the first three pages is from which computer?

A This would be ~~OLEO-1~~ OLY01, I believe, the backup

computer, the event, the thing started.

Q You're saying that the operators would not have seen that information on the day of the accident?

A My belief is that they would have seen this as it was occurring because, as I said, one is placed into memory, which is what is displayed on the screens, and a duplicate message is put on the long-term disk file.

So, therefore, this would have been available as it was occurring but not necessarily after the system had straightened back up and had gone back to the No. 2 machine.

Q Okay, so then the rest of those pages, if you could just look through those then?

A This is taken out of context. It would be better if you had the whole set.

Q Those three pages fit into the time frame. The other pages are a few pages back.

A Right. Now this definitely was the secondary computer, or ~~OLEO~~ OLY#1.

Q I don't know what time that says. What's the first time entry on that fourth page?

A It's 1310.

Q Which was?

A On June 10.

INVESTIGATOR BESHORE: Peter, did you have a question?

MR. KATCHMARE: Do you need the other pages?

INVESTIGATOR BESHORE: Do you need the other pages?

MR. SMITH: Well, the full set would be better if you're going to enter it into the record.

INVESTIGATOR BESHORE: Well, it's in the record but I mean in terms of our discussion with you, that's just a few.

MR. KATCHMARE: It's front and back. But I think it starts on page 52, and that's where it goes, back to --

INVESTIGATOR BESHORE: Yes, let's go off the record.

(Record paused.)

BY MR. BESHORE:

Q Todd, you've had an opportunity to review the event log and now you're clear on what I've provided there with the event summary?

A Yes.

Q How that fits together?

A Uh-huh.

Q Maybe you could just kind of explain that to us.

A Well, the general flow was that we started the day on ~~OLEO 2~~ OLY #2. And at sometime around 1524 or so, we failed over to ~~OLEO 1~~ OLY #1. And then at approximately 1544, we started the No. 2 machine back up.

What we have here is an excerpt of the total long-term archive of event history for both computers.

Q Okay.

A Okay?

Q The first three pages are from which one? I'm sorry.

A The first three pages are from ~~OLEO 1~~ OLY #1. And they begin at 1527, 47 and continue -- the last entry is at 1534.17.

Q Okay, so there's a short gap in the data --

A Which could be the clocks weren't typically kept right, you know, together. There could be a four or five minutes difference in the time on the two systems.

Q Oh, so the clocks didn't automatically synch together on these systems similar to the data?

A Not on June 10, no. I mean not at that time.

Q They do now?

A They do now.

Q All right, and then there's a longer gap as it's failing back over. So let's see. If there's a

time discrepancy, then either the first gap could be shorter and the second gap longer or vice-versa.

Would that be correct?

A Well, depending on the way that this machine was shut down, it could have an impact on why there is a time discrepancy here.

For example, if they had tried to do a normal shutdown of the computer, it will shut off processes. And the event processes that were shut down while trying to attempt a normal shutdown of the system, you know, that's the only way that I can explain it.

Q Do you know if that's what Lloyd did?

A I do not know that.

Q Okay, so that wasn't part of the conversation?

A Well, the normal routine would be to try to do a sequential shutdown of a normal shutdown of the system. And then, if that fails, then to do a reset button on the hardware.

Q So, based on what you were telling us before then, your understanding is that what those first three pages that were on the ~~OLEO-1~~ OLY01, the middle of this event, you feel like they probably were able to see on the screen but they have to pull that up later?

A This information would not be available to

them. This is something that I would have to get for them.

Q Okay, so even if they're on their own machine, for example, can they pull up on their own machine a listing of the events that have occurred up to that point?

A Under normal operations, they can review the last 10,000 events on the system. And under normal operations, that is shadowed back and forth.

But, it could happen. And I believe it very likely did happen because the historical stuff shows this, that the shadowing didn't occur when the second machine, when No. 2 came back on after the incident. It probably didn't come up with the data that was available from ~~OLEO-1~~ OLY01.

Q So your belief is that the controller would just see the information from the ~~OLEO-2~~ OLY02 computer with just a gap from -- what did you say? -- 1524 to 1548?

A Correct.

Q And then you talked about a communications alarm. Did you find those?

A Yes, they began right when the No. 2 machine was restarted, I believe at 1544.

Q What page is that on?

A It's on page 52. That's near the top of the

page. Actually, this shows both events. This shows it going off line the first time and then coming back on. And then going off line at 1524.53 and then coming back on line at 1544.30.

Q Okay. And then there's a whole nontechnical term, a whole slew of communication errors.

A Yes.

Q And you're saying that's the result of the computer coming back on line?

A Right. The way the communications are set up is they come through modems, through a terminal server. And there's only one terminal server. And both computers are looking at the same terminal server.

But, as long as the primary has -- well, as long as the primary is the primary computer, the backup isn't trying to get access to those terminal servers.

So everything is fine.

On a normal fail-over, the scanning process on the primary machine will stop and the scanning process on the backup machine will start. And then it just starts getting data.

This indicates that when the number two machine was brought back on line, that it thought that it was the primary. So it came up in a co-primary situation and then there was a struggle between the two

machines over who was going to have access to those terminal servers.

And the SCADA system doesn't know anything about terminal servers. It just asks for a message from the field. And if it doesn't come back, then it sees it as a communications failure.

Q All right, so let's just go down there and see what's the next event that happens in the event log aside from the communications.

A After the startup?

Q After the restart.

A Okay. After -- the next significant one is it shows the high control pressure at Allen returned to within normal bounds. And that's actually, in fact, highlighted here.

Q Can you tell from the event log the status of the other facilities on the system?

A Not at the point in time. You could read down through it and deduce what the status was previously, you know, as you looked at things.

Q That's going to show up on your screen on the system, right?

A Anything -- yes, right. Any of these things should be available, you know, as it's occurring. As it is occurring, because the one message, the message

is put into the memory file, which is what is displayed on the screen. And a duplicate is put on the disk file.

Q I'm trying to remember what it all says.

(Perusing documents.)

All right, you feel like if somebody pulled up, they could have pulled up the information off of this -- the No. 2 computer? I'm sorry. I've lost my train of thought.

If we could go here, there's one highlighted on the next -- and that's page 52. Right? And that talks about the Bay View valve... into the station?

A The high-pressure alarm? The highlighted? Right.

Q And the Bay View valve begins to travel?

A The receiver end. That's what you were calling a block valve.

Q Okay, so based on your theory -- or I'm not slighting --

A That's all right.

Q Based on your belief, then the controller would have been able to access that information. You would have known that that MI valve closed?

A Yes, he very possibly would have -- this would have been available. Without actually seeing the

memory file, it's hard to say, you know, exactly what they could have seen.

But, there's no reason to believe that they wouldn't, that this would not be seen.

Q All right, now you've confused me a little bit. Without seeing the memory file? Is that another?

A There are two files.

Q That's the file that's --

A -- displayed on the screen.

Q -- displayed that's... but we don't have now?

A Right.

Q All right. And would it be reasonable to assume if he saw that, that that's what shut down everything else? That's why he couldn't see something going on?

A What do you mean shut down everything else? The whole system?

Q Right. My understanding is that all the pumps were down, all this, and the computer booted back up. Is that incorrect?

A I don't know what they -- no, as a matter of fact, that's not true because in going through this, I believe that the Woodinville No. 1 unit was still running when the No. 2 system came back up.

Q All right, but it's your understanding all the other pumps have shut down some length of time?

A Yes.

Q Would it be reasonable as a controller to assume that if you saw that event, that that's what had happened to the rest of your system in that gap of time?

A A person could deduce that the system shut down on high pressure, yes.

Q What other assumptions would pop to mind when, all of a sudden, a guy can see all this information again?

A Well, again, you would want to review the entire scenario. But, it would not be unreasonable to assume that the station shut down on high pressure. Because, if you go through the event, that's basically what is going on from the beginning of this thing. Look at the entries here of the surge, the flow indication at Bay View would indicate high pressure.

You've got high-pressure indications from Allen's 16-inch station. You've got pumps shutting off at Bay View and Allen on high pressure.

You've got high pressure upstream of Ferndale. And then you fail over to the other computer and you don't see anything until No. 2 computer comes

back up.

And the next thing you see is all those things returning to normal with the Woodinville unit continuing to run.

It would not be unreasonable to think that the station facilities had shut themselves down with their protective devices.

Q And all that information you just read out was off the event log for the ~~OLEO-2~~ OL402 computer that you believe they could have accessed?

A Yes.

Q Now based on that knowledge then, Mr. Smith is controlling the system. What do you do now based on that? You know, the computer comes back up and that's what you see. This is the information you have to go on.

Let's assume you don't have those first three pages. Now what do you do next? What's your next step?

A Well, this looks to me like everything on the pipeline operated the way that it was supposed to. In other words, it protected itself from high pressure. Everything appears to have shut itself down.

I don't see any indication of over-pressure of, you know, beyond the switch, that is.

The pipeline has been severely bled down because the Woodinville unit continued to run through this whole thing.

So my next step would be to probably get Mr. Brenson involved. Certainly, I'd review everything that I could. And then, if I were to do anything at that point, it would be to repressure the pipeline at a slow rate.

Q Okay. Now you mentioned pressures. Is there some indication on the Bay View station of pressure... or is that just on the first three pages?

A Do you mean when the system came back up? Well, there are all kinds of pressure indications. No, excluding the first three pages.

Q You mentioned that there was no indication of the high pressure in --

A Well, there is only indications of high pressure. There are no indications of low pressures.

Q Are they pressures to the extent they would cause you a concern about excessively high pressures, for example?

A The fact that they alarmed would be an indication that some action would be required. You've reached a maximum operating limit, or something like that.

Some of them -- for example, here at 1518.22, you have an alarm from Allen that says 1440, discharge pressure 1444. Typically, our maximum operating pressure would be 1440, so this would be an indication that you have exceeded that and that some action should be taken to control that pressure.

Q Is that something that would exceed some reporting requirement that you need to record as an abnormal condition? Is that a surge indication, for example, that --

A No, this could be the result of starting a pump, you know, and having it momentarily, you know, overrun the control valve. You know, just typical operations.

You know, we run a very tight system pressure-wise. There are many things that can cause a high discharge pressure. For example, a unit shutting off downstream could cause a surge that could come back again, flow through the station faster than a control valve could react to control that.

Q I guess I'm asking, if the pressure exceeds your MOP is there some mechanism you need to do to your--

A Well, I'm not saying that 1444 is the MOP. I'm just saying that this is the threshold at which

they say you need to take action, you know.

Q Okay, that's your set point.

A The set point.

Q Not necessarily bringing it to a maximum.

A Right. Right. My understanding is that, unless you exceed 110 percent of the -- is it MOP or MAOP, that's a report of...

Typically, to have a station shut down a unit in a high-pressure situation or a low suction situation is not a reportable incident.

Q And you mentioned trending, one of the things you would do to be looking at trending. And I gave you a book of some trends that you guys had provided to us previously.

Yes, let's just talk about it.

MR. MARTIN: Let's just break for one second while I go tell Lloyd...

INVESTIGATOR BESHORE: Right.

(Record paused.)

INVESTIGATOR BESHORE: And, I had given you a book of some trends that you had provided, your company has provided to us. And you mentioned that you might have part development of some of those.

Did you have a chance to look through there?

MR. SMITH: Yes.

BY MR. BESHORE:

Q And is there one in particular that you identified as exemplifying what you were talking about in terms of gaps in the data?

A Yes. I think this repeats them very well.

INVESTIGATOR BESHORE: And for everybody's benefit, this is page 318, originally provided.

I'll mark that as Exhibit No. 4.

(Whereupon, the previously-identified document, marked as Exhibit T. Smith 4 for identification, was received into evidence.)

BY MR. SCHAU:

Q Can you tell me what that indicates to you, Todd?

A Yes. This is a pressure trend showing Cherry Point, Ferndale discharge pressures. And the Bay View -- a pressure transferring on Bay View 1901. Without a drawing, I can't tell you exactly which that is. Somebody had a note down here:

"Bay View discharge..."

Q Does it say 1901?

A 1901. I'm thinking it's the incoming pressure. Somebody has a note here that says

"discharge".

Q Ignore the notations. They were made a year ago. Would that be shown on the flow diagram here?

A It's not indicated here. It just mainly looks like a...

Q Yes, that's a problem. I don't have another drawing that would indicate where the transmitters--

A I think that 1901 is the incoming pressure.

Q That would be upstream?

A Upstream of the receiver.

Q Okay.

A But the point that I wanted to show is that it's very difficult to see and if you look very closely in these areas here, that that line is actually black.

Q By that area, you mean sometime between -- oh, okay, you see all three lines go to black. Is that what you're saying?

A Yes.

Q That's in a time frame between 15, 17 and 1602? I'm assuming those are times?

A Yes, probably closer to 1525, 1530 and 1602, 1545, about the time of the incident.

Q And all three of those black lines basically are just flat straight across?

A Right.

Q All right, what does that indicate?

A It shows that there was no data available at that time?

And the other thing is that if you look up here in the corner, it very dimly tells you which machine... this is ~~OLEO 2~~ OLY#2.

Q All right, so this is only information that was coming off of ~~OLEO 2~~ OLY#2?

A Correct.

Q Now is this clock number on here going to be the same as the time set on ~~OLEO 2~~ OLY#2 to match the event log summary?

A It should be, yes. This one should be the same thing. Well, no, because this is the time that this trend was actually produced on 10th of June at 1875.

Q Okay, I follow you. All right, so --

A This is the time. Down here is the time line. The pressure values and the point in time on June 10, 1999.

Q Okay, so this trend was generated on June 10, 1999 at 1818 and, roughly, and it shows the preceding three hours?

A Yes.

Q All right, but my question was then the times

down here at the bottom that are shown across the bottom time scale, are those times going to be accurate?

A They should be.

Q Comparable to the event summary?

A Yes, they should correspond with events summary.

Q The event summary from ~~OLEO 2~~ OLY02 you mentioned?

A Yes, because this is off of the ~~OLEO 2~~ OLY02 machine. The events are the disk file off of ~~OLEO 2~~ OLY02.

Q So they're basically coming off the same --

A Same sheet.

Q -- of data. All right, so let's go back then after that gap in time frame. Oh, I'm sorry. This is actually going to be Exhibit 5. I'll label the excerpts from the event log as Exhibit 4.

So this is going to be Exhibit 5.

(Whereupon, the previously-identified document, marked as Exhibit T. Smith 5 for identification, was received into the record.)

BY MR. BESHORE:

Q What's the significance of the Woodinville across the bottom?

A The bottom two lines, those are the RTU tags. Whenever there is an alarm from a facility, it's displayed on the alarm event. The page is also displayed on the alarm file.

And then the RTU tag is posted down at the bottom of each screen... but you're going to have a problem with that in that particular facility.

Q Okay, so this trend was actually pulled up on a screen and it went "print screen"?

A Right. And there was, apparently, some alarm activity in Woodinville when this was produced. So that would not have anything to do with events on June 10th.

Q What was the significance then, what would it tell you then from once this data started returning? You had the pressures were not the same as the pressures to start with.

Does that tell you anything?

A Well, if you were walking in the room and just were going to do a review of the pressures and you didn't look really close, you would see that, well, there was no real rise in pressure here. It just, you know, kind of went up and leveled off and everything was kind of shut off.

It doesn't really show you the true picture

of what was going on, on the system.

The other thing is this is from only one at the same period. And if you superimpose these, you can see that this spike fills in that space there.

This would not be available to them on line.

INVESTIGATOR BESHORE: All right, and this is going to be Exhibit No. 6. And this is identified as page 3-1-8-A as originally provided to us from Olympic.

And there's a 30-minute trend prior to 1545 on June 10.

(Whereupon, the previously-identified document, marked as Exhibit T. Smith 6 for identification, was received into record.)

MR. SMITH: Right. And if you look very close on this one, you can see the same black line here, this area right here. And for some reason, there was no data from that point.

BY INVESTIGATOR BESHORE:

Q All right, and that's beginning the upswing on the red line spike, as you can see depicted there. There's a little flat black portion rather than a straight continuing rise.

A The point to all this is that you asked me

what is my opinion. You know, looking back on the incident and the point of bringing this all out is that walking into the control center, this is not available to me. This is what I see.

I don't have all the information so, therefore, it's really hard for me without a lot of hindsight to go and formulate an opinion of what was the right thing or the wrong thing to do at that time.

INVESTIGATOR BESHORE: All right, this will be Exhibit 6. I think I identified it as 3-18-A. Let me go ahead and mark those.

Okay, can I see back that book, if I could?

(A pause.)

BY INVESTIGATOR BESHORE:

Q Okay. What other data would be available, assuming you just had this information... you saw a gap in this data, and you're wondering what happened to your line sight... you know, what other data might be available to you that you can go and look at, if you're still uncomfortable, you don't understand what's happening?

A Well, as far as the gap goes, because I don't know how things -- I'm, you know, currently head operations controller right now. And I don't know how things work underneath the sheets on the SCADA system.

I would have no reason to suspect that I didn't have everything available to me through the whole sequence of events.

So, in the first place, I would possibly be misled into believing that that is all the information that is available for the trends and for the alarms and for the nets.

That is about all of the information that is available. Plus, on top of that, there's the valves that, when the pipeline is designed, it is designed, you know, to be self-protecting.

You know, first, there were pipelines and then eventually automation and then SCADA came sometime after that. In every pipeline facility that we have at Olympic anyway it is designed to be self-protecting. It has pressure switches that are designed to shut facilities down and, you know, close them in at levels far below the ratings for those systems.

So, knowing that, you know, one would assume that -- very reasonably -- that the facilities did what they were supposed to do and protected themselves and shut down.

Q Can you tell anything from static pressures out there that you're seeing? Because you could look at real time pressures.

A Right. But, at that point, as you remember, Woodinville No. 1 had continued to run through this whole thing and basically pulled the line down to way below the elevations of the hills.

It was completely -- it would be a totally void system at that point.

Q Okay, so you know you're not full of product so your elevation head pressures are not going to look the same as you might expect for a line full?

A Right.

Q Given the various changes.

A Right. Now, if you didn't have that scenario, if the system came up and you saw that all the pumps were shut down, that might be different.

But, in this particular situation, having that pump continue to run would lead you to believe that that's why there's no pressure in the line, because this pump, you know, continued to pump it all out.

Q Could you tell how long that pump had run?

A It had been on from -- looking at the events, it was on before this sequence started. And it was shut off -- I wanted to find the exact time, if I could just take a minute to look through here.

Q Certainly.

(Perusing documents.)

A Do you see it?

Q It's ~~OLEO-1~~ OLY Ø 1 -1530.

A Right, there is where it was transmitted. It never shows indication of the actual shutdown though. There it is at 1531, yeah.

Q Okay, so that was a command issued by the control center; correct?

A Right.

Q In other words, controller action shut down at Woodinville at 1530?

A Right.

Q Which was?

A While it was on ~~OLEO-1~~ OLY Ø 1.

Q While it was on ~~OLEO-1~~ OLY Ø 1.

So, if some command came back or something came back that said the pump had to be checked out, it may have come back during that gap.

A It could have, but the point is that the unit continued to run and that that would be a justification for why that system --

Q Actually, how long would it have to run to, I mean, we're just talking a couple of minutes potentially?

A I don't know. I probably could study that.

An engineer could probably tell you what that would take.

Q I mean, obviously, the longer it runs, the more we're getting into the scenario. I'm just trying to get, you know, how long is a long time.

A Right.

Q Is just a couple of minutes going to cause the effect you're --

A Right, but if this is on ~~OLEO-1~~ 0140 and I can't go back and see what time it shut down and you ask me, well, how long did it run, I might not be off the top of my head able to say, you know, this is how long it ran.

All I know is that it was running when, you know, when the... light went on.

Q Okay, let me use hindsight because that's part of our role here. What additional information could be provided to the controllers to help them in this particular scenario make these decisions?

A In the control center, all that there is is what you can see right now, what you observed as you were going through the events, what you can display in the event history and what you can trend in the pressure history.

Outside of the control center, if you have

people in the field, you could maybe ask them what they're seeing on their trends. You know, what the condition of their facilities are.

Q So do you have manned facilities you could contact people on?

A Our facilities aren't normally manned. I'm just thinking if per chance someone were at the facility.

Q Do you know whether or not there were patrol pilots out flying at the time from the control center? Are you guys informed of those patrols?

A Not typically, no.

Q So you wouldn't know if there was a pilot out there or not?

A No. No.

Q Okay, based on hindsight again, you're looking back at the day, would you have done anything differently?

A Well, with hindsight, there are other things that could be done. You could have assumed the worst, I suppose. Called people out, walked the line. Flown the line. You know, things like that.

Q But, you did mention for certain that you would end up getting Mr. Brenson involved before you started the line.

Is that a correct understanding?

A Yes, I'm sure that I would because this is a major event.

Q The loss of the computer, would that be considered an abnormal operation in terms of your going into the manual?

A Yes. Oh, in terms of the manual? It doesn't, or it didn't at the time really address communication or, you know, that type of an incident. It did address communications but not computer outages.

Q It does now?

A Yes, it does now.

Q Have you ever experienced any computer downtime or anything similar to that in your operational history of the controls?

A Nothing ever like this, no.

Q Do you -- is there any guidance provided on when you use the drag-reducing agent? Or when you don't use the drag-reducing agent?

A The only hard thing about drag-reducing is what the maximum haggard hit ppm is. It's up to the dispatcher's discretion to decide when to inject it and what volumes at the end of the drill locations.

Q And they do that based on the pressure profile they're seeing?

A Based on the pressure profile they're seeing now and the anticipated activity in the future.

Q If you were swinging from Renton to Seattle, would there be a reason to inject in the drag-reducing agent? Would that be something you would do?

A It would depend on the profile just prior to that. If I were going to -- allowed to do rates higher than what is capable without DRA, then I would probably want to even add more DRA. Maybe, switch from putting it in at Allen to putting more in at Woodinville, for example, to try and move the pressure profile down, downstream.

Q Is that a general, or do you just use that only when you need to use that?

A DRA? Yes.

Q Because of cost?

A We use DRA to increase throughput.

Q So, as long as you can meet your throughput requirements without it, you don't use it? Is that fair?

A That's fair. But, we try to anticipate future events because it takes -- in order for DRA to work, you have to preload. You may have to preload those lists, the system with it, so that when it comes to the point where you need to have the rates, that

you've got the DRA in the right segment at that point in time.

So there is some preloading of DRA.

Q When you quit injecting in DRA, would you see any kind of a reaction?

A When you stop it?

Q Yes.

A Sure. You'll see an increase of pressure at points upstream of the injection and corresponding decrease downstream. And you can see almost immediately.

Q Does it happen fairly quickly?

A Right, but there's a slope to it.

Q And let me see if I understand you. So you see the pressure increase at points upstream?

A Right.

Q And decrease at points on downstream with the injection?

A Right, as the friction increases.

Q So your profile basically becomes more pronounced --

A Steep.

Q Or more steep.

A Uh-huh.

Q Okay. When did Frank ~~Huff~~ Hopf get there? Do you

recall?

A That day?

Q Oh, no. I'm sorry.

A Or in his career?

Q In his career. When did Frank become general manager there?

A He came with Shell, I believe. I don't know what the year was when that occurred.

Q Had he been there several years?

A Yes. He was with Shell. Then --

A More than five?

A Yes. He was with Shell and then went with Texaco and then continued with Equilon.

Q I may have asked this. How was Ron to work for -- Ron Brenson?

A Ron Brenson? He was good to work for. He was fair.

Q Was he receptive to ideas from people?

A Yes.

Q Was he the kind of guy that as long as there wasn't any problems, you know, could handle it kind of a guy? Or was he more hands -- I guess I'm trying to get a little more of a feel for his management style.

A I wouldn't say that he was a -- did any kind of micromanaging. He was receptive to ideas. Always

there to help, you know. He'd be the first to throw on the boots and jump in the mud, you know, if that would help the operation.

Very hard-working person. Very fair, I thought. I think that he listened to people when they had concerns.

Q Was he knowledgeable?

A Very knowledgeable.

Q Do you think when you guys had all your -- I'm characterizing -- this general concern about operational issues, do you think Ron probably represented that strongly to the other parties, that, "Hey, this is a problem. These things need to be resolved"?

A I would suppose so. I think that he shared the same concerns of these types of issues. Certainly, because they affected operations, to resolve them would have, you know, smoothed the operation considerably.

Q So you think he would stand up for the cause?

A I think that he would work to resolve the issue.

Q How was morale?

A Morale has been up and down. With Bay View, it was probably mostly down, I think.

Q Because of frustrations people had?

A I think that it increased the level of work in the control center. And then of course there was a level of frustration with getting it on line, understanding how it was supposed to work, things like that.

Q Was there a general sense of frustration that things weren't being taken care of quick enough?

A I think you could say that.

Q All right, did you have any knowledge of intelligent pig runs, or smart pig runs that were conducted in the last few years on Olympic pipeline?

A I know only that they had done them.

Q And you just knew they'd done them because you guys were informed as controllers that that was happening?

A That would be the case, right, because it would require special operations.

Q Or just they're checked, I guess?

A Well, it was basically I think a new technology for us.

Q You have any results of any of those inspections?

A I don't know the details.

Q Do you have any reason to be involved in evaluation, explanations?

A No.

Q How about had you ever been to the Bellingham water treatment plant?

A Never.

Q Have you since the accident?

A No.

Q But, you'd heard of the plant?

A Yes, I've heard about the plant.

Q Prior to the accident?

A Prior to the accident.

Q Were you aware of any excavation activities that were done in the past through there, just in that area?

A No, I've only heard stories of the relationship between Olympic pipeline and the water treatment plant.

Q What was that? What were the stories, I guess?

A Well, the one story is that the line was laid through there. And we hadn't been there for more than, you know, just a very short time. And the water department said, "Oh, guess what? You guys need to move your line. We're going to expand our facility here."

And the general feeling was that, well, they

should have known that prior to the pipeline construction when the pipeline could have been rerouted at that time.

Q Is that the only thing that comes to mind when you're talking about the water treatment plant?

A Yes.

Q Do you remember who told you these stories?

A No, they're just old folklore.

Q Okay, pipeline stories.

A Folklore.

INVESTIGATOR BESHORE: All right. I think that I'm going to go ahead and ask Cliff if he has any questions he can follow up on. Cliff?

MR. ZIMMERMAN: Good morning, Tod.

MR. SMITH: Hi.

MR. ZIMMERMAN: What's left of it.

I'd like to ask you a few questions about a number of different subjects, so we're going to jump around a little bit here.

BY MR. ZIMMERMAN:

Q You started up when?

A The Anacortes part I believe was commissioned in December and the Ferndale side was commissioned in February.

Q You mentioned that you became aware of some

unscheduled shutdowns. When did that information start to come in?

A I believe it was almost immediately.

Q Were there problems on the Anacortes side as well as the Ferndale?

A Yes.

Q When you heard about these unscheduled shutdowns, what types of things did you do when you became aware of them?

A I didn't do anything specifically.

Q Did you look at any data perhaps to review whether the programming was correct or anything like that? Were you concerned about: Did we do things right?

A No, I wouldn't have any responsibility for that.

Q Did you talk to anyone about the problems?

A I'm sure that I did, but I don't recall any specific conversations. It was talked about a lot.

Q Do you recall any with your supervisor?

A No, no particular indicator conversation with him.

Q Let me rephrase that. Do you recall whether you talked to him at all, even if you don't recall any specific conversations?

A No, I don't.

Q As time went on, were there any changes or adjustments made to the instrumentation at the station?

A Well, because of the work that I've done since then, my recollection is kind of tainted along there.

I know that there have been adjustments. I don't know where in the time... they exactly occurred.

Q But you weren't aware of any of them that went on before the accident occurred?

A I don't have any details on that.

Q Before the accident, changes were made at the station, who would be the person that would be in charge of authorizing those changes? Set point changes, for instance? Set point changes in pressure transmitters?

A I don't know who would have the ultimate authority to make the decision of what they should be set at.

Q Before the accident on June 10, I'm thinking about this in regard to Olympic's procedures, the written procedures, was activation of a pressure relief valve considered an abnormal condition?

A I don't believe so.

Q Even if we've covered this territory before,

be specific again. The closing of the inlet valve, would that be considered an abnormal condition for Olympic's procedures?

A I don't believe so. I would have to review those procedures.

Q When you were talking to Allen previously, you mentioned Portland being a similar type of receiving station. Is there a pressure valve at Portland?

A A relief valve?

Q Yes, a pressure -- yes, I'm sorry. A pressure relief valve?

A Yes, there is.

Q Okay, and is it located downstream of the inlet valve?

A Yes, it is.

Q Why is there a pressure relief valve at that station?

A It's the end of the pipeline system. It's there to protect that system, that delivery facility.

Q Do you know what the pressure rating or... rating with the pipe is?

A No, I'd have to review it, the drives and things like that. But I just don't know what it is off the top of my head.

Q I'm wondering if it's just a backup system, or because it is the end of the line and there's pressure relief there? Or if they have a specific need to protect piping. And are you aware?

A I know that downstream of our manifold, which becomes part of the ownership of the terminals, their piping is typically 150 series. So we would be protecting that as well.

Q Okay. Where are the procedures for abnormal condition report located in the Olympic manuals?

A Abnormal operations?

Q Yes, abnormal operating conditions.

A In the General Operating Procedures Manual.

Q In what?

A They're in the Operations and Procedures Manual.

Q Okay. Can you recall at least some, if not all, of the types of abnormal conditions out of the manual before the accident?

A I haven't reviewed the manual. You know, I haven't looked at it for years.

Q Okay, I understand that. That's why I said can you recall any of them, you know, as an operator of a system, you're probably familiar with some of them even if you can't recall them all right now.

A I would have to review the manual.

Q So you can't recall any of the ones then right now? You can't recall any of them?

A Right.

Q As an operator of a system, is that something that you'd normally have committed to memory?

A Yes.

Q And when abnormal conditions arise, would you normally look at the book to see if that was one that you needed to recognize? Or would you just recognize it as part of your normal operations in the system?

A Well, if I were to go back into Operations, I would certainly refresh my memory and review that material and have it, you know, available.

At this time, it's been quite a while since I've been, you know, hands on with that stuff. So I'm not able to call it up right now.

Q Okay.

A If you're trying to use me as a typical operations controller, you would probably be better to get that from an active operations controller.

Q What is the -- or what was, not what is in there -- what was the operating policy regarding whether controllers should assume there's a possible leak and shutdown pipeline before the accident?

What was the general?

A If there's any question at all, shut down, block in, monitor pressures.

Q And after you did that and you blocked in, what would be the next step in determining whether you could -- whether there was a leak or you could restart a system?

A Well, if you had any suspicion at all, you would consult the supervisor, Ron Brenson, or Will Hood prior to that.

Q In regard to stopping DRA injection that you just talked about, does the pressure precipitously when the DRA is -- when DRA injection is stopped? Or is it more a linear function over time until the DRA exits the pipeline?

A It's -- there is a slope to it. It's more a linear function over time and you turn it off. It gradually -- its effect gradually wears off.

Q Have you been asked to be a part of an accident investigation for the June 10, 1999 accident in Olympic?

A By?

Q By anyone?

A Well, I've assisted the reviewing of the alarm and events and those types of things.

Q And who asked you to do that?

A I worked with Office of Pipeline Safety on that.

Q Internally?

A No, they came to our facility, and we went through it line by line.

Q Okay. Was anybody else with you from Olympic at the time you went through that with them?

A Yeah, there were probably some attorneys there. I think Ouida Ezak (RITA JACQUES) was probably there.

Q I'm sorry? What's?

A Ouida Ezak (RITA JACQUES). She was a paralegal I think with...

Q Aside from attorneys and the operating people?

A Olympic Pipeline operators? No.

Q Ed Long?

A I don't recall.

Q Any other people besides attorneys that were with you that were in Operations related to Olympic?

A Not that I recall.

I've also done a lot of, you know, to provide data to Office of Pipeline Safety and the City of Bellingham, and so forth.

Q I'll ask just a little bit more generally

now. Do you know if there are others that are involved in the terminal investigation of the accident?

A No, not that I can think of. Early on, there was an internal investigation. I think ARCO was involved in that.

Q Do you get any feedback on what they found?

A No.

Q Or did they ask you any questions about what you saw from a review of the system?

A No. I answered lots of questions. I don't recall any of them specifically.

Q People did talk to you but didn't identify it as an investigation at the time? Just asked you questions?

A I knew what they were there for.

MR. ZIMMERMAN: Okay. That's all I've got for right now. Thank you.

INVESTIGATOR BESHORE: Gerry?

MR. SCHAU: I just have a couple of questions about clarifying.

MR. SMITH: Okay.

BY MR. SCHAU:

Q You were talking earlier about the design of Bay View being similar to all other facilities on Olympic. Just correct me if I'm wrong.

Is the difference between Bay View that it's both a receiving facility and a delivery facility?

If you just take the receipt part of Bay View, is it a local, like a delivery point like at Portland, for example? The basic design is the same?

A Very similar. It's got a receiver, a meter run, no prover. And then it goes to a manifold that goes to tankage.

Q Same kind of instrumentation typically?

A Typically, yes.

Q So there's not a real big difference between the receipt side of Bay View and what you would see in the normal delivery facility?

A No, I wouldn't classify it as a huge difference, no.

Q What about the pumping side, except for the fact obviously that you've got booster pump versus mainline units.

Is it similarly designed sort of like a booster station, or an origin location?

A It's designed as an origin location.

Q Okay, so it looks like a Ferndale, for example?

A Right, uh-huh.

Q Again, same thing, similar instrumentation?

A Right.

Q Similar operation?

A Meter run, control valve, discharge control valve.

Q Except it comes out of tanks versus coming from customer?

A Right. But, even at that level, in a lot of cases, we come right out of the tanks at the customers.

The big difference with Bay View is to be able to do both at the same time.

Q But, the way you were describing it, I was isolating in my mind, saying, okay, I'm receiving and I'm delivering. It's no different than receiving in Portland.

A Right.

Q And origining out of Van...

A Right. The design theory of Bay View was exactly that, that they were separate. You know, you could be only delivering into facility and have nothing going out the other side, or you could just be coming out with nothing coming in.

Or, you could be doing both simultaneously. You could be coming in from both sides into one tank and coming out at both sides out of the same tank. I mean it's...

Q What I was really trying to get at is how much different does this look like? How much different does Bay View look like from all your other facilities?

A Operationally and it's instrumented very much the same.

Q So we heard a lot in the last couple of days about "Bay View is just like all of our other facilities." And I just wanted to make sure why it is except for the fact that geographically they're both together.

A Correct.

Q I'm not clear about this cable log gap information. You said that 02 was running, ~~swell~~ FAIL over to 01, came back to 02. But you also talked about in different ways a timing gap in the log.

A Right.

Q Do you know about how much time that was?

A I think it's about ten minutes, something like that.

Q And about what time that was. Can you tell from that?

A I can tell from this. The last entry on 0A01 was at 1534.17. And the first entry of 02 was 1544 and some change. 1544 and 30 seconds.

Q Okay, so your understanding is the data that

you have in that review is that we don't know what logged during that ten minutes, at least from the logs?

A Right. And then further than that because there's two separate files. It could be possible that all the information that was on the run machine may not have been available and they went back to the number two machine.

Q Would you just repeat that? I didn't understand that.

A When they failed, they failed from No. 2 to No. 1.

Q Yes.

A The incident occurred and then they did a hard failure back to No. 2, or they started No. 2 back up and it came up co-primary.

And the fact that it came up co-primary tells me that it probably didn't do any file transferring or anything from the 01 machine.

Q So it's not clear what came over to 02 when it came back up?

A Correct.

Q Entirely.

A Correct.

Q Okay. Did we do any kind of memory dump right after the incident? This file, the same issue?

But, you're writing to two different places. You're writing to memory and you're writing to disk all the time. That's your archive. Your disk is your archive.

We didn't try to dump memory? Did you or anybody trying to dump the memory records that we had that gap?

A No. This is something that, in fact, only dawned on me the beginning of the grand jury investigation, in there, that this would be a possibility.

Q That we could have dumped the data?

A Right. And it could be that the data is available.

Q But, we didn't do it, to your knowledge?

A No, it's never been done.

Q Ultimately, there's no --

A Yes, but there could be parts of the backup on the following day.

Q Well, it's lost now at this point.

A Well, I don't have access to the tapes.

Q Okay, so it may be on tape.

A Could be.

Q You were talking about the shutdown, the command shutdown of Woodinville?

A Uh-huh.

Q Could you look at that log and tell me if you ever got a confirmation from Woodinville?

A Yes, there was a confirmation from Woodinville.

Q That the unit went down?

A At 1531 and four seconds.

Q That's when the unit actually confirmed though?

A Right. And that was on the ~~OLEO~~ OLY #1 log.

Q Okay. I thought the command went out at 1531.

A Well, command went out at 1530 and 34 seconds.

Q Yesterday, you were talking to Sandy about procedures, and she said that she and you were the only two that can write, update the procedures on the Internet.

Is that accurate?

A That's how it is now, yes.

Q And I think I understood her to say that you update the SCADA stuff?

A Yes.

Q So can you tell me what that looks like? What kind of updates are you doing? Are you doing things like changing screen prints, or changing screen

layouts? What do you update in those procedures?

A On the procedures manuals, we have taken an initiative to go through and make sure that the alarms that are displayed coincide with the, you know, exactly what's going on in the field, and to get some consistency between stations.

Q But it's really to operate a machine with this kind of information?

A Right.

Q As opposed to procedural is what I'm really driving at.

A Right. Well, you know, we have, since the incident, we, you know, reviewed our manuals and they've been updated. And they continue to be updated. And we have collaborated on making many of those changes.

But, typically, it isn't any one person going off on their own and, you know, saying, "Oh, I think this sounds better. I'm going to wordsmith this like this."

It's typically a collaborative effort.

Q Yes, I was looking for the control. And the control really rests with you and Sandy because you have to actually put the updates in?

A I wouldn't say control. We more or less

would drive the process. We would rely on the engineering and, you know, the supervisory level to "yea", "nay" or whatever.

Q Was that true before the incident involved? Was that the system that you had then?

A Up to that point, there really weren't a whole lot of modifications being done to it. I think that's what the problem is here. Things were being done in the field that weren't being reflected in the manual.

MR. SCHAU: All right, that's all I have.

MR. SMITH: There wasn't at that time a formal process of, you know, "This is what I want to do. I want to change this feature," or we'd go through some paper trail to get signed off by everybody and the final step to get it installed and get it in the manual. There was no formal procedure.

MR. SCHAU: Instruction.

MR. SMITH: So things were being done in the field that weren't being reflected in the manual.

INVESTIGATOR BESHORE: Johnny?

MR. PARRISH: I have nothing.

INVESTIGATOR BESHORE: Dione?

MS. MAZZOLINI: I just have one question.

BY MS.MAZZOLINI:

Q Were you involved at all in doing any calculations for the amount of product that was released?

A No.

INVESTIGATOR BESHORE: Peter.

MR. KATCHMARE: Todd, I just have a couple of things.

BY MR. KATCHMARE:

Q Was Ron Brenson around a lot in your -- after he took over from Mr. Hood as your supervisor? Was he around a lot during the day when you were on duty?

A He was at work a lot. His attendance record I'm sure is exemplary.

Q Okay, and the next question is was he around a lot in the last six months from December through June of '99?

A He was in the office on a daily, you know, every day.

Q Okay. Could you tell me the circumstances that would require a field operator to reopen the valve at the Bay View terminal? The isolation, upstream isolation valve in the Brinnell system?

A My understanding is that the only thing that would require a field operator intervention would be a lockout of the facility.

In other words, if it was just a shutdown, that could be reset from the control center without operator intervention.

Q And one of the things that would cause a shutdown of the station? Or a lockout, I guess you called it.

A A lockout could be caused by overflowing a tank, something that would, you know, threaten to put product on the ground, those types of issues.

Q Do you know specifically what things, like fire "eyes" going off, I think is one?

A Yes. They're enumerated and described in the manual.

Q That's the only time that you would have to go out and physically reset something at the station to reopen that valve?

A My understanding is only a walkout would require that.

Q And once it sees 700 pounds and tells that valve to close, that's not a station lockout?

A My understanding is it is a shutdown only.

Just thinking on that, that shutdown is to protect the low-pressure piping inside of the system, not the piping outside of the system.

So, once the pressure has been relieved

upstream of the facility, there's no reason to not allow realigning the facility and starting it back up.

Q But, how would that pressure dissipate upstream if the block valve is closed?

A Close the control valve and open the block valve.

Q And you can do that from the control center?

A Yes.

MR. KATCHMARE: Okay. I'm done -- for now.

INVESTIGATOR BESHORE: Geoff.

MR. SMYTH: I just have one question. I'll let all the experts here talk.

BY MR. SMYTH:

Q On redesigned water systems, or a facility like a water pump station or something, we have an outside firm do the work, rebuild it. There's a maintenance period. You know, there's a contractual obligation that they have.

Do you know of anything that existed with Jacobs Engineering on the Bay View Station for some length of time after the service was brought on line that they had some responsibility to be involved with these problems that might have come up?

A No, I don't know any of those details.

Q So, from your history with the company, has

there been any other involvement that they have had at any other station, or any other facility that they might have been involved designing over the years?

A Not that I can think of.

Q And do you remember any of them coming on site at all?

A Jacobs' people?

Q Yes.

A They were at Renton regularly.

Q And did you figure that that was unusual for them to be there? I mean, if this was a normal station that you had, you know, maybe you had a pump and it got--

A Oh, after the capture, the partitioning off?

Q Yes.

A Oh, I thought you were talking about prior to the commissioning.

Q No. After.

A I don't -- I can't recall any specific Jacobs activity. That's not my area of responsibility.

MR. SMYTH: Okay, that's all I have.

MR. SMYTH: Okay, that's all I have.

INVESTIGATOR BESHORE: Linda.

MS. PILKE-JARVIS: Thank you.

BY MS. PILKE-

JARVIS: Q Before the June 10th event, what was the last upgrade to the SCADA system that you can recall? An upgrade either to the software or the hardware?

A I upgraded prior to June 10. The SCADA software was upgraded in the third and fourth quarter of 1998. The operating system software was upgraded at that time.

From that period throughout, we had its memory and some disks, and things like that on the hard drive.

Q I'm sorry?

A We had some memory and a disk, hardware.

Q Upgraded?

A Uh-huh.

Q Okay, I'm assuming that to upgrading of the software or the hardware would have resulted in a cost to the company. So what would be the process of getting approval to make that kind of a change to the system?

A The cost was relatively insignificant, so it was just a matter of going and asking for it, saying this is what I want to do and writing a PO and going and doing it.

Q Writing a what?

A A PO, purchase order.

Q So who would you go to to ask?

A Ron Brenson.

Q Tell me about the memory upgrade?

A We went from 94 megabytes to 256.

Q And that was in the third and fourth quarter of 1998?

A It was over a period of time. I don't have the details with me today, but they are available.

Q Do you work on other computers at Olympic, or just the SCADA?

A Primarily SCADA.

Q So you do work on other computers?

A Well, more like a help desk situation, yeah.

Q Do most people, let's say in the Renton office, have a computer on their desk?

A Yes, they do.

Q And are those computers linked, meaning that they're -- it's a link system where people can -- they're not stand-alones? They're --?

A Networked?

Q Networked, that's the word.

A Yes. The computers, we do have a network at Olympic pipeline. The business computers are on the network and SCADA is on the network, but they're abridged.

In other words, the corporate network could go away and the SCADA stuff would still continue to operate.

Q Would you know what -- the computers that are on people's desk, what would be the average memory capacity of those computers?

A I wouldn't know that. I'm not on that level with those computers.

Q Do you have a personal computer?

A Yes, I do.

Q Do you know what the memory capacity of that is?

A My current one is 128 megabytes, running Windows 2000.

Q Do you recall, aside from this memory upgrade and whatever software upgrade in that third and fourth quarter, do you recall asking for permission for other kinds of upgrades and -- I guess let me say that again.

Have you ever been denied permission to spend money to upgrade either software or hardware?

A No, I have not.

Q Thanks.

All right, let me ask you a question on a different topic. And could you get the event log and look at it again?

A Okay.

Q This would be 02 at around 1617. So this is a series of events where the system is being restarted?

A Right.

Q And, presumably, the rupture has already occurred. So I'm kind of confused about if the system would be restarted but the rupture had already occurred, it seems that product would not have been flowing past the rupture point and arriving at the next station down the line from the rupture point.

Could you tell me a little bit about what methods would have been available for the controller for the controller to reach that understanding?

A A knowledge of the geography, the elevation differences, an estimation of what it would take to fill the voided pipeline.

Q So there's kind of a 15-minute period there when it appears that he sort of recognizes that there's a problem and he shuts down the control valves.

So, for that 15-minute period of time, you know, would that have been enough time for the system to refill, for him to be able to understand that the line's refilling, yet product is not reaching?

A And this would be 15 minutes starting from what, from when?

Q At 1617.

A Okay. And you said there's a place where control valves are closing?

Q At 1632.

A Okay. And you wanted to know if that would be enough time to realize that there was problems?

Q Yes. Maybe, since you're not in the control room, that's not a fair question to ask you. But...

A It could be.

INVESTIGATOR BESHORE: I don't mean to interject but it's Linda's train of thought that I'm going to.

MS. PILKE-JARVIS: Okay.

INVESTIGATOR BESHORE: Because I was going to add another exhibit that may just go to what you're currently asking. And I'm going to label it as exhibit -- I think I'm up to 7 here. And it would be page 325. Another trend chart is what it is.

(Whereupon, the previously-identified document, marked as Exhibit T.Smith 7 for identification, was received into evidence.)

INVESTIGATOR BESHORE: I was just going to ask a couple of questions, and it may kind of help with

what you're looking at, Linda.

BY MR. BESHORE:

Q I guess, if you could kind of review the different trend lines there and tell us what you see. Specifically, I guess the Bay View incoming pressure is shown on that trend line.

A In blue.

Q So I think what -- not to put words in Linda's mouth, but what she might be asking there is does it look -- based on that trend line -- if there's any increase at all in the incoming pressure into Bay View? Would that be something that you would expect to see if you were in the process and the lines start there, I guess?

A Right. Like I said, you would want to have an idea of how much volume it would take to voided pipeline because you would have to fill the voided pipeline before you would see a rise at Bay View.

In other words, just starting a pump at Bay View, a voided pipeline is not going to give you a wave, that you're going to see it.

Starting with the pump at Ferndale is not going to give you a transient wave that you're going to see at Bay View unless you have a full system.

So you have to kind of calculate I think what

that anticipated volume is. You know, then you start your pump and start thinking about when should I start seeing something down at the other end. It's forty miles of pipeline, too.

It can take quite a while, depending on how empty it is, to fill it up.

INVESTIGATOR BESHORE: Okay...

MS. PILKE-JARVIS: That's okay. Thank you. I think I understand it a little bit better.

MR. SMITH: Well, the amount of time to fill that void up is directly related to how empty, you know, what the volume you have to put in it, and how fast you're doing it.

BY MS. PILKE:

Q You said from a question that Allen asked you, you made the statement that you had never had that type of computer outage that occurred on June 10 happen before. And I just wanted to kind of get some clarification on that.

Have you ever known both computers to fail at the same time prior to June 10th?

A Not that I can think of, no.

Q Have you ever had people tell you that the SCADA system appeared to be slow or unresponsive prior to June 10?

A There were some reports of slowdowns at around the midnight hour. Typically, they were discussions in passing that went sort of like:

"Well, you know, Al, when I was working the other night, it seemed like at midnight my screens weren't updating the way that they normally would."

Q What kind of time frame prior to June 10?

A Pretty much through the whole thing from the upgrade of the software.

Q Did you ever attempt to troubleshoot that?

A Well, the problem was that it was always like the day or two after. Nobody ever called me up and said, you know, Todd, it looks like we're having a problem here with the computers. Could you take a look and see what's going on?

And, you know, I would just add that working there during the day through all that period of time, I never got one phone call. I've never had anybody ever come in to me and ask me to look at a problem like that.

So it was something that wasn't reported by everybody, not experienced by everybody, so I couldn't trap it. I did try to look at it but, you know, it was the hit and miss type of a thing.

Q I also wondered if you could clarify the

conversation you had with Lloyd on June 10 when he called you.

It kind of went over that so fast I didn't understand it.

A Sure.

Q What I caught was that he called you but at that time he felt that the problem had been resolved.

A He called me after the No. 2 machine was back on line and communications had been restored. He gave me a brief recap of what had occurred. There was, in the error log, there was a reoccurring error that was being caused by a process that was not currently being used, but hadn't been removed from the system.

And what I had been doing as an interim was to just manually stop that process. I got to a point where I could actually take it out of, you know, generate it out of the system.

So I told them, you know, what the problem was. We stopped the process and the problem was fixed.

Q Okay, so you're saying that you had seen that kind of error before and you had a way that you would address it. But Lloyd didn't necessarily know about that, and that's the conversation that you had? You told him what to do to fix that error?

A To fix that error, yes.

Q And what was the purpose of Lloyd calling you?

A To find out if I could help him to stop that one error that was being generated. And to give me, you know, to tell me what had happened previously to that.

Q Since the two of you worked on this together, did he report to you in any way? Or you guys were co-workers?

A We just worked together.

MS. PILKE-JARVIS: I think that's all my questions. Thank you.

INVESTIGATOR BESHORE: Patti.

BY MS. IMHOF:

Q Todd, I'd like to understand a little bit better the communication that went on between the controllers and the field. Can you help me with like what your structured relationship was?

Did you have the same supervisor? Was Ron Brenson their sup, the field people's personnel supervisor, as well as yours?

A No. Ron was just a supervisor of the control center, probably with accounting and scheduling. And then each area -- north, central and south, or north and south -- had a supervisor that oversaw their own

employees.

So, for example, David Justice would be the supervisor of the north area people. And Don Gregory is the supervisor of the south.

Q So where did the communication occur? At what level of personnel did the communication occur when excavating was happening out in the field and things going on that maybe needed some control room participation?

A Typically, we would go through Ron Brenson, then we'd come to the control center. A lot of times, if special procedures would be written by the engineering department, what their needs were, Ron would be aware of what they were and they were just passed to the control center to be followed through.

Q So, like when Dick and you, the work was being done at the water treatment plant in Bellingham, the Day View project, how involved would the controllers be in the fact that we have the pipeline exposed, working in that area?

A I don't know what the relationship was at that time. I don't know what anybody knew about what was going on at that time.

Q So, to your knowledge, the controllers --

A I never heard about it, no.

MS. IMHOF: Thank you.

INVESTIGATOR BESHORE: I think it would probably be a good time to take a break. I think that Todd could probably use it... so let's take a 10-minute break and start back up at quarter after.

(Recess.)

INVESTIGATOR BESHORE: Let's just go ahead and get started. Jim, do you have some questions?

MR. CASH: Good morning. Jim Cash is my name.

BY MR. CASH:

Q Most of my questions will be related to the hardware or software systems. So, if I ask something that doesn't make any sense, kind of humor me and bear with me.

The Monday morning fallback -- I think you do it on Monday morning -- is when you change from ~~OLEO-1~~ OLY01, ~~OLEO-2~~ OLY02 or 2 to 1, how do you normally do that?

A Well, it starts with the image backup of the operating system disk and the application disk on the backup computer. And then --

Q That takes a -- do you take it down to stand alone backup?

A Yes. I do. Yes. I do a shutdown, do the backup. And then stop the SCADA software on the

primary, and the secondary will pick up from that point.

Q So you do the SCADA shutdown? You don't necessarily crash the machine?

A No.

Q You actually do an orderly shutdown of the SCADA?

A Yes.

Q So, basically, each machine gets rebooted every other week?

A No, because after failing over, then we'll go ahead and do an image backup of what was the primary machine, just --

Q Oh, so just reboot it every --

A Sure.

Q As far as the screen development, I think you -- the screens that controllers use, is Lloyd pretty much the main man in that? Or do you --?

A Currently? Or, in general? Can you narrow that down a little bit?

Q I mean who does most of the screen... I guess?

A Right, now Lloyd Tieken is the person that is doing that.

Q Was that true before? Like when Bay View

came on line, did he do most of the screen --

A Yes. Lloyd Tieken did the screen... for Bay View.

Q So you're not really involved, so hold those questions for him?

A We give him input, you know. And he tries to get input from the end user, the other operators to, you know, "How can I improve this? How can this be better?" type of stuff.

Q Is there any way to kind of test the screens before they are put into service? I mean is there a way to simulate data to see if it is doing what you think it should be doing?

A No, there really isn't. The SCADA system was designed to be maintained on line, more or less. There are debugging features in the screen development. For example, if you misspell a tag name for a point, it will put an arrow on it, the error line we talked about.

Or, if the point doesn't exist in the field or there should be numbers, there will be question marks. You know, things like that.

The way that it works is that the first time that a screen is requested from a console, the file is uploaded from the SCADA host. From that point on,

whenever that screen is requested, the host is checked for a newer version. If there is no newer version, then it uses that copy that resides on the local workstation.

And then, after that, the only data that is transferred is the live data from the SCADA, which cuts down a lot of overhead.

Q Yes, I was mostly interested in the development. You know, if there's a way of checking that things are actually -- I assume you have, like when a new system comes on board, you cycle through all the control features.

A Yes.

Q Somebody's out there to actually see that it does do what you --

A Right.

Q And then they can tunnel switches open and put things into a wire to make sure that the screen reacts the way it's supposed to?

A Uh-huh, that is done.

Q So it's kind of an on line?

A But, once the initial facility is brought on line, then from that point, you know, you develop screens and you just basically turn them on and verify the data that is displayed on other screens in the

general -- what they call parameter displays, which are lists of all of the points for that facility, where you can see the stain or the ... values.

Q In general, does that go pretty smoothly? I mean do you guys make many mistakes that have to be -- I mean there's got to be mistakes as people find out when they start operating.

A Well, yeah, but the way that it is done, the correct way to do it is to edit a little bit of the screen and then check the error log to see if you've made any, you know, fact-fingered any tags or anything, those types of errors.

And then to verify that the data on the screen jibes with what the analog or the SCADA device is from the field.

Q Is that kind of a full-time job to maintain screens for making changes that come along?

A No, it's not a full-time job. Lloyd's been doing it, you know, on special assignment. When we have extra people in the control center, you know, we like to get them involved with doing other things. You know, they have to come to work so we might as well utilize that extra time to get them involved in other aspects.

Q Do you get involved in the batch processing?

I assume you must have some VMS batch jobs that are running?

A Yes, I've written many of those.

Q What kind of batch jobs would be running on a normal day?

A Every day, there is a batch job that prints out communication statistics for each RTU for the day before.

We do a backup of the daily historical files and the daily event files are done from a batch file.

Q What time does that run?

A Pardon me?

Q Do you know what time that runs?

A I could tell you what it is but I can't tell you how it's done in my head. I typically try to stagger these so that they aren't all happening at the same time.

I'm thinking that the R-paddle is about 5:35 in the morning. The communication one I think is 8:55. There's another one that runs that dumps the ticket information into a text file that can be picked up by the product accountant for billing purposes.

There's another one that does a dump of the provings, proving of course meter calibrations from the previous day that can be picked up and put into an

accounts spreadsheet or the data base type stuff like that.

Q But, no real big, huge jobs that run or anything?

A No, these are all -- the biggest one is of course the -- we do it daily -- incremental backup. And that is the one that takes the longest. As we go forward in time, each day there is more to back up. So it takes a little bit longer each day.

But they are typically set to a low priority. I don't know if you're familiar with the BMS system but it's based on priorities, our highest priority being 15 and the lowest being 4. And all of our batch shops are running in a No. 4 priority.

So they're the bottom.

Q Do you just leave the same tape in there and let it just pin to the end of that?

A Right.

Q For incremental?

A Well, we start with the image backup. Like we talked about before, which is a complete backup of the disk.

Q Right.

A And then, when I do that, I mark all of the files as being backed up. And then from that point on

a daily basis, any files that have been changed or created are backed up.

And then on a weekly basis, we will back everything up for that prior week and mark everything as being backed up, so that we don't just keep getting, you know, bigger and bigger and bigger sets.

And, yes, except for the image backup, everything is done on the same tape.

Q You take files to say -- you go back and do -- what do they call that? You set the flag in the file saying it was was correct?

A Yes, actually, it time-stamps the file when it goes back up. And that way, the next backup will...

Q Record pass.

A Yes, recording pass. It will skip over that file and not do it every day.

Q About how long do you think it takes for the VMS to come up from a cold start? Like from when you do a stand-alone backup, can you just reboot it?

A It only takes a couple of minutes.

Q Even if like if he -- I'm trying to get some feel, like when he -- I think the word that I got anyway was that he just reset the machine, which was a hard crash, during the event.

So it probably would have to rebuild some of

the image volumes?

A Right. Yeah, on that system, you're talking five to seven minutes I think to get the whole thing back up on the operating system under that kind of circumstance.

Q And that's due to the rebuilding of the volumes, right?

A Rebuilding of the volumes, yes, the processor speed, stuff like that.

Q Have you had any formal VMS training?

A No, I haven't.

Q DEXSKILL, or something similar to that?

A No, no DEXSKILL, no.

Q How about for the SCSI?

A I have had some formal training on that, yes.

Q That's through Teldyne?

A Teledyne.

Q Have you participated in any of their users -- I think they have a Teledyne users conference every year?

A Yes, I do. I do. And they also have training seminars going in conjunction with that as well.

Q You've been through several of those?

A Yes.

Q Has there been any thought about transitioning to their, if you want to call it their current system? I think it's an NT based system, instead of VMS based?

A Where we're at right now is we're looking at -- not at their NT system because they don't have any large systems that are running on that yet. They're primarily VMS right now.

They do have an NT product but, like I said, it doesn't have enough history and they don't have any large systems running on it.

The problem with NT is it's not as mature or as stable as VMS. It just has the name familiarity more than anything else.

Q Could I talk a little bit about the hardware mostly on the local area network setup that you guys have? I have not been able to get any of this information from anybody else.

So, if I exceed what you know, just let me know.

A Okay.

Q Can you just kind of generally go through what your local area setup is, starting from the batch computers? Are they on thin net segments, or are they twisted pair segments? How is it? A looped pot feed

or... start feed?

A Well, back then we were on both thin wire and twisted pair. We're currently all on twisted pair now.

Q Okay, that's after June 10?

A Yes. The only thin wire connection now is between the batch host and the network.

Q Okay, well, let's go back to before June 10, I guess, if you remember back then.

A Okay.

Q The two batches, were they on the same thin wire segment? Or were they on the same loop?

A They are on the same network. And ours is more -- is more of a star configuration... they're not doing a token thing or anything like that.

And there's thin wire from the batch host to the back plane, which is the network connection.

Q Was that a Delving? I think that calls for Delvings?

A Pardon?

Q A thin net hump arrangement?

A It's a repeater something is what it is, actually.

Q Okay. So that there's one piece of co-ax from that box to the -- to each batch?

A To a reel one. And then there's another one

to the other one.

Q Okay, and to the I assume the one that runs the leak detection?

A Yes.

Q And then how are the units in the command center, the individual PC stations?

A PCs? Those were DEC PCs. They were on the twisted pair that came in to the same type of a situation on the back plane of the DEC. And then all of that is bridged to the ... network.

Q What kind? It's a DEC bridge?

A Uh-huh.

INVESTIGATOR BESHORE: By "deck" are we referring to digital electric?

MR. CASH: Digital Equipment Corporation?

MR. SMITH: Yes.

INVESTIGATOR BESHORE: So that's an acronym.

MR. SMITH: It's a company logo which is now a compact.

BY MR. CASH:

Q I think your system was set up for 13 stations, workstations?

A It currently was set for twenty. But, at the time, it was for thirteen.

Q Can you go through where those thirteen guys

are? Do you remember?

A Sure. They were nine dedicated to the control center. And the rest were on -- there was some on the PLC, the leak detection computer in the computer room.

Q So they were all in the computer area --

A Yes.

Q The control center or the --

A Yes.

Q All thirteen?

A They were all in the control center or in the computer room.

Q And you talked earlier about being able to dial in?

A Yes. At some point, I installed one of those screens on to my laptop. But I can't recall at what point in time when that actually happened.

Q Are all the -- before June 10th, were all the PCs using DEC net or were they using PC PIP for communication with...

A They were all using DEC net at the time.

Q Do you know if the bridge -- does that bridge route DEC net, or does it -

A I don't know how that's configured.

Q But, you didn't have any PC PIP. All the

workstations were DEC net...

A Right. They were actually connected to the same back pulling as the hoses.

Q Right, through the distribution box.

A Whatever, yes.

Q Was there any -- so if you were on the corporate network, which I assume this probably was, at least the June 10 time, it was hooked to an Internet?

Did they have Internet access through corporate PC structure?

A On June 10, I believe that they did on the corporate side.

Q So, if you were on the corporate side, could you actually log on to a VAX? Could you get at them?

A Yes. Right, with their approval.

Q So you were running Path Works? You just had a third party lap protocol installed?

A Yes, right. Not Path Works. Reflections.

Q Which has the LET.

A Right, terminal emanation and lap protocol.

Q Was there any other way to -- because I know there's a lot of accounting data and stuff that other people use that SCATA generates?

A Yes, there's an accounting file.

Q How would people in billing or whatever --

A I think we're talking about two different things.

Q A lot of the --

A Are we talking about systems administration, or are we talking about pipeline account?

Q Pipeline accounting.

A Okay.

Q SCADA generates a lot of that data that other people use.

A It collects it, yes, it does.

Q How do they get at that?

A Once a day, a batch file collects that out of the data retrieve RMS data base and is put into a tapped eliminated file, and then they can pick that up off of that. Off of the host and then insert it into their specific software.

Q So they do some kind of a file transfer?

A Yes.

Q But, in general, people aren't necessarily on the -- with access for doing anything?

A No. No.

Q So they don't interactively run anything. They just go and get a file that's generated by batch?

A That's correct.

Q Have you ever had any failures or any kind of

broadcast arms or anything on the business side that's affected the SCADA?

A No. Not to my knowledge, no. The only problem we have had is we had a cable failure one time. It kind of gave us a little bit of a -- it was a nuisance type of a thing because it, you know, it was an intermittent thing. You would never think that a cable would fail.

Q Inside? Within that section?

A Yes, within that section.

Q But, you haven't had anything on the other side of the bridge that is --

A No. We've monitored our networks and there isn't a whole lot of traffic going on in either one of those.

Q Do most of the PCs in the control room run the Windows version or the DOS version of the SCADA vector?

A It was all DOS.

Q Is that just easier or more stable? That's what you always had?

A Well, that was what was available at the time. It was the technology. Now we're running with Windows version of it.

Q What's the password structure that you use

for the VAX? I assume you have different levels for different people?

A There are only two users on our system. That's the system administrator and then the vector user.

Q It's like there's only two passwords? There's logins and two passwords?

A That's correct. Some people have, myself, for example, I have an account of my own on the system. But, since I do all my work with vector, I log on under the vector account.

That's basically been the standard practice since the beginning.

Q Is there any -- you can have individual logins, so everybody would be --

A Yes, you can. But, the logicals and symbols, the logical and the symbol table for vector is real extensive and if you get familiar with it, you start to really want to use those little shortcut things.

And I guess, over the years, people have just found it easier to, when you log on to vector, it automatically sets you up with those symbols and things rather than, you know, to try to reduplicate that, or duplicate all those symbols in your own login.

Q Does that make it difficult sometimes to

figure out who did something because everybody is all one user?

A Well, it isn't everybody. There's only myself, Lloyd and the accountant that used the system. If we got to the situation where there were more users, then, yes, we would want to set up, you know, more accounts.

Q The controllers, they login with --

A They don't login to the SCADA system.

They are not on a system level.

Q I know, but when they bring up a screen, like a PC turns on, is there a login --

A You're talking about a logging into these vectors to software layers?

Q Yes.

A Okay. No, our control center screens, they never log off of those machines. They're always on. You can tell where the command is coming from. The control request tells you what CRT that that command came from.

You can cross-check that with a work schedule and know who was on duty. And I guess if they wanted to point fingers at each other, they could certainly do that. But, it basically comes down to two people.

Q So that's kind of the corporate setup, is to

not use individual logins, and use the same login for--

A Negative. That's only in the control center. Now, when I dial in from any location, or even when I sign on when I'm at the corporate location, I have my own user name and password.

And you can see where Todd Smith has logged on to the system, or Todd Smith has logged off of the system.

Q Your business side, is that Microsoft Network and PA server network?

A Yes, it is. At the time, it was Novell.

Q Okay, you've changed that?

A Yes.

Q While you're talking about login in the modem, is that just a terminal part on the back of the vax that you come through with console cord?

A Well, I have two or three ways to get in. In case, you know, there's a failure with one, I have alternate ways to get in, including a direct modem attached to the PLBS computer. I've got RAZ running on a PC. We've got the corporate RAX.

You know, there's several ways to get in.

Q You were saying about that air process, that unused process that was coming up when he rebooted the machine. What specifically was that? Do you know?

A It's called DP Dollar Config.

Q And what does that do?

A There is a feature in vector, which is our SCATA software that, if you wanted to have, you know, lines change color, you know, if this pipeline becomes active, you could make it change color, and things like that, that we never used.

And my philosophy has been: If you don't use something, why consume the resources with it?

We're under a continuous process of reviewing what our system is configured, what processes we're using, what processes we're not using.

And if a process isn't being used, I'd just as soon not load it into -- not use the resources with it.

Q So why would it generate an error? Trying to open something that isn't there?

A No, it was trying to look at records that didn't exist.

Q Okay. So you just cut that out of the startup?

A Well, the vector system is a little bit more sophisticated than that. Everything is preconfigured and then you -- what do you call it? It's a utility is called Generate. And you run that utility and it

actually goes into the data base and finds out which processes are active, and then it writes a startup script from that data base.

So it's something that I typically only like to do, like when I do the failover thing, so that I can make sure that all the changes get over on the other machine.

Q Do you know if your VMS and/or SCATA is set up to automatically purge files, delete files, remove files on startup or shutdown?

A Yes, there is some of that. Yes. Well, on the operating system level areas, a version limit that you can put on files and directories.

Q Is that set, do you know?

A Pardon me?

Q Is that set?

A It's set on a case by case basis.

Q It's not a global system set?

A No. No. We always felt with our backup routine and the limitation of disk space on the proroller systems that it's best to keep things down to a minimum.

So, yes. And then there are procedures that run that purge duplicate records, or duplicate files -- I'm sorry -- off of the disks on a daily basis. And

housekeeping things.

Q Have you ever seen a slowdown like was recorded on the screen... as far as I mean I think you talked about at midnight people were complaining.

A I have never seen a slowdown of the SCADA system.

Q Have you ever seen -- I think he was working on some kind of historical program, going in and querying the data base for something he was developing?

A Uh-huh.

Q Have you ever seen any kind of system development like that that would cause the system to...?

A No, I've never seen anything data base-wise. Like I said, I've never seen anything that has caused a SCADA slowdown. That type of work, you know, is data base work. The system was designed to be used on line.

The way that vector handles data bases is that on startup, you define how much space you want, say, for analogs. You say, okay, I want to have space for 3,000 analogs. You may only have 1,500 analogs but, on startup, vector will allocate space for 3,000.

And so when you add a record, you're just filling up that space in there with a new record. If you should fat finger a parameter or something like

that, it will put errors in the error log.

It's designed to be very robust and, you know, very forgiving of those types of things. It won't typically bring your system down.

Q And, in general, you find it very, somewhat robust?

A Well, it has to be. The system, like I said, it was designed that way. For example, if you wanted to go -- people say, well, why don't you do that stuff on the off-line. Well, if I go over here and I do it on the off-line machine, then the next thing you know, this guy shadows his data over there and writes over all the stuff that you've done.

I mean you have to make those kind of changes on the on-line machine. And so, therefore, it was designed to function that way.

Q You mentioned about the memory copy might be on the back-up tapes? I have the back-up tapes. What would I look for? Is there a filing associated with it?

A Yes, ~~Avant~~ EVENT LS.dat.

MR. CASH: That's it. Thank you.

INVESTIGATOR BESHORE: Eric.

MR. SAGER: Eric Sager, with the Safety Board.

BY MR. SAGER:

Q When you learned that Lloyd was working on his project inserting I guess an element of a program to collect historical vibration data, as I remember -- is that correct?

A He was adding some historical data base points. He wasn't actually doing any programming, or anything like that.

Q I was referring back to his deposition. I thought he was actually creating a way to collect the vibration data.

A The way that process works is we have what is called the Historical Data Base, and it looks very much like the analog in the discrete data bases.

As I was explaining earlier, on startup, Vector allocates a certain amount of space for each type of data base, analog discrete. And when you add a data base record, all you're doing is filling up one of those empty slots. It's already been created in the data base.

We're not actually running a program.

Q How long should it take him to get started in doing that? To call up the information or the historical portion of the program where he can then make his entries?

A Just a few minutes.

Q Is this -- are activities like this fairly routine for you and for Lloyd?

A Yes, they are.

Q Is there any particular reason why you would-- are there any occasions when you notify controllers that you're working on the system?

A Yes, there are. For example, if we're going to take the backup system off line, we'll let them know that we're doing that because a message or an alarm would be generated in the control center saying that the backup system is off line, so we want them to be aware that that's going to happen.

A lot of our data base work is done at the request of the control center. And a lot of it is done inside the control center rooms.

But there is no formal requirement to go in and say I'm going to be accessing the data base right now.

Q Has anyone ever complained to you, any of the controllers complained to you that they were in the middle of a critical move and something you or Lloyd did interfered or caused a distraction, or caused a problem?

A Not that I can recall prior to June 10, no.

Q And what's happened since June 10 in that respect?

A I got a piece of software that would allow us to access other computers' tape devices. Right now, you can only access the tape device that's directly attached to a particular machine.

I got the software. I installed it according to the documentation. Basically, it has a listener that comes on line and you're supposed to, you know, listen for connection request.

And I did it on the backup machine first because, you know, the off-line machine would be -- if there were a problem, you know, I would expect to see it there.

Followed the same procedure on the primary machine and when I started up, I knew immediately that there was a problem, but it was enough of an interruption that they did see it in the control center.

And it was enough to be reported to the Office of Pipeline Safety. The interruption was maybe a minute long. I stopped the process immediately and corrected the problem.

Q I'm a little confused on this, on a different subject. Related, but a different subject. Is there -

- was it strictly coincidence that what Lloyd was doing that Lloyd's activities, Lloyd was doing what he was doing when the computers failed?

Or, was there a connection between the two?

A I think it was a coincidence. It's never been determined through all the studies what exactly was the cause of the computer failure, or the computer overload, or whatever you want to call it.

This very well could have been a symptom of the whole, overall picture rather than root cause.

Q Could you explain that symptom, the overall picture?

A Well, at the beginning, it was suggested that maybe the data base records were corrected in memory. And what I'm thinking is perhaps the failure of the system may have caused the corruption of the data base record and memory, as opposed to Lloyd making a data base error in entering the record to begin with.

Q So the problem then was with the data itself?

A The original report, or one of the original theories floating was that the records were somehow corrupted in memory and not an operator error.

I don't know that that has ever been, you know, proven one way or the other.

Q Is that something that your company is still

working on?

A I believe that that has been going between the City of Bellingham's consultant, ... Engineering and Equilon, passing that report back and forth. And I don't know honestly where it's at right now.

I would just add that data base entry errors have occurred in the past and they have not brought the system down.

MR. SAGER: That's all I have.

INVESTIGATOR BESHORE: Okay, I'm going to have my turn again.

MR. SMITH: Okay. I'm going to turn this way and save my neck a little bit.

INVESTIGATOR BESHORE: I have a few questions. I don't have too many, but I've come up with a few.

BY MS. BESHORE:

Q I just want to ask to make sure on the exhibits, these trend lines in particular, the Exhibits 5, 6 and 7. A couple of these were generated on June 10, which would have been relatively short after the accident.

Are you the one that generated these trend plots?

A I could have been the one that generated

them.

Q Okay, because when we were talking about it earlier, I didn't recall whether you remembered actually generating trends on that day.

A I very well could have. I could have but I can't say conclusively.

Q And I'm a little confused, too, about, you know, we're talking about this potential file that's on the backup.

How long a time frame is that going to capture?

A It's the last 10,000 records.

Q Okay, so that's specifically what we're looking, is the last 10,000 records that were seen on either of the two computers?

A Well, prior to -- at intervals, that stuff that's in memory is written to disk. So the last time that that was written to disk would have been the 10,000 records at that point in time. And then the tape, the backup was made.

So it's only going to be roughly the 10,000 records back from the time that the tape was made. So it may have the stuff in it; it may not.

Q The first backup was made when? Did you do that?

A They're done on a daily basis, automatically.

Q What time? So, on June 11th at some point?

A Yes, at some point on June 11th.

Q In terms of the issues around Bay View that you were experiencing after its commissioning, you and the others in the control room, did people generally attribute those to the design of the system?

A Yes, I would say so. Are you talking about did the engineers contribute that to their design, or did the control center point any fingers at the engineers?

(Laughter.)

Q Well, now that's a good point. But I guess the controllers in the control room, from your perspective, is what I was more interested in.

A There were concerns at the beginning of bringing that low pressure system into the high-pressure, you know, pipeline setting, as opposed to having it be stubbed off of the main line.

Q And was that a concern that was just amongst the controllers, or was that a concern that others had as well?

A It was a concern that others had heard. I mean it had been talked about a lot.

Q You talked a little bit about network, and

I'm a little unclear. Can anybody in the company call in and access the SCADA program and see what's going on on the vector screens?

A No.

Q Can Ron do that from his office, Ron Brenson?

A He could.

Q So he has an access where he could get in there?

A If I gave him the software, you know, to do that. We're all on the same network. The only thing is it's bridged. You have to have the software and, you know, the user -- you have to be set up as a user and have a password and that kind of stuff.

Q Was he set up on June 10 to do that?

A I don't know. I don't recall.

Q But, anyone could be set up to do that from what you just said, right? Given the software and--

A Well, there are some things under, you know, that have to be configured on the computer. It's not like I've got this piece of software and now I just have to turn it on. I have to configure you inside of the SCADA system.

It has to be a new display. We only have, like I said, twenty right now. So, if the twenty are allocated, you know, you can't just go in and set up

and take off.

Q Okay, so it's not as easy as I was making it out?

A No, no. Right, there are procedures. Security is always an issue. And we've got a couple of layers of security.

Well, number one, if you call in on Arouse server, you have to be authenticated through that. And then you have to have a user name and password for the SCADA host and be authenticated in there separately.

And there's also an audit trail, things like that.

Q I think my question was much more simplistic than all that. Once it was decided that somebody should be on the system, they could be put on the system.

A Yes.

Q Access it through the PCs on the desk?

A Right.

Q Up to some twenty unit limitation?

A Twenty right now. It could be expandable but, right now, we're at twenty.

Q Is that based on a licensing with Teledyne?

A No, it's not. It's a matter of resources.

Q All right, thanks. You mentioned when we

were talking a little bit about starting up and you were talking about the volume of the voided pipeline and how -- is that something that calculations should be done right then, as your pressure in the pipeline to know?

Those are very quick calculations, right? That you guys, the controllers, do all the time? So is that something that would be done right then to see how much time am I looking at before I start to see a pressure build downstream?

A Well, you could calculate it pretty quickly, I think, by just comparing how much -- what the over the line balance is at the time that the line shut down and then using that as a rough figure for what it should take to fill it back up.

Q Okay, so you could look and see how much was metered at point A, how much was metered at point B, have that number readily available and get somebody to do that, how much you needed to refill the pipeline?

A Should be able to get it off the green sheets.

Q The green sheets would be?

A The operation's notes, I guess they call it. It has all the hourly calculations.

Q So those numbers are recorded hourly?

A Yes, they are.

Q And each meter reading at each whatever end of the pipeline segments?

A Right.

Q Or is it the take point and then the final delivery point?

A Basically, the meter is in and the meter is out. And, you know, some calculations back for line fills and things like that. But, the over-short is based on the meters in, the ins and the outs.

Q And that goes back to these manual calculations I think we talked about at 8:05 this morning. So, okay. I remember talking about this, so thank you.

Are the profiles of the pipelines readily available? Is that something the controllers can pull up and take a look at the profile of the pipeline?

A Not electronically. They have profile drawings that are in the control center that are available and accessible.

Q You mentioned that the, you know, the whatever happened to the computer had not really been to your knowledge readily determined, what exactly caused the slowdown to occur.

Is there any physical evidence that you're

aware of that documents that a slowdown did, indeed, occur? I mean other than anecdotal evidence, talking to people, is there any physical evidence?

A No, there isn't any evidence. There are ways to monitor the system but they were done more or less ad hoc. We weren't trying to capture data or anything like that.

We weren't trying to, I mean, with hindsight, a lot of people have said, "Well, don't you think that that would have been a good idea?"

Well, of course, now we're all saying, yeah, everybody would like to have that now. But, we weren't doing anything like that.

Q Okay, so there are systems that could have been operational that might have detected this thing but you weren't set up for that?

A Well, it's not anything that you could run full-time. There are monitor utilities in the operating system that you can use and you can turn on and you can have it run there.

It will show you the statistics of CPU idle time and memory usage and IO. And all sorts of statistics. But, you know, that consumes resources as well.

So what I do now is I'll run it through a

baseline I would say 11 o'clock at night. And then I'll run it for the same amount of time across midnight. And then I can generate a hard copy report from that.

And then I can compare and see, you know, looking for trends, is it getting better? Is it getting worse? Was it worse at midnight than it is at 11?

So that when people come to me and they say, you know, "Seems like the computer was running slow the other night at midnight, I've got a document on performance history for midnight now, comparing the two, like the 11 o'clock hour.

Q Okay, but that didn't exist then?

A It didn't exist at that time. Like I said, not everybody was reporting it. It wasn't being reported every day. It was like, you know, "This happened to me, you know, several days ago" type of a scenario.

Q And you mentioned when we were talking about reopening the inlet valve to Bay View once it had closed, you said you could open up the control valve -- and something or other.

I didn't catch that, I guess. You close the control valve and open the block valve? I want to make

sure I understand you're closing which control valve and opening what block valve.

Just step through that a little more?

A Right. The pressure switch is inside. It's downstream of the pressure break, downstream of the control valve. So, once the pressure is brought to within normal bounds at the location of the switch, then you can reset the facility which would allow you to open the receiver inlet valve.

But, if you had a whole bunch of pressure outside, it would just, you know, knock you back down again. So what you can do is close the control valve and then gradually let the product come into the facility and control the repressuring that way.

Q Okay, on the flip side of that, that valve would not reopen if you had pressure trapped within the facility; right?

A Correct. You would not be allowed to reset the facility.

Q So that would --

A Prevent you from opening the valve.

Q And that would require maybe a physical person to go out and do something at the scene?

A Yes, the pressure would have to be manually relieved from inside the facility.

INVESTIGATOR BESHORE: That's all I have. Does anybody else have any follow-up questions? We'll start with Patti.

MS. IMHOF: Okay. I seem to be the only nontechnical person in the room, you can tell by the questions I ask.

BY MS. IMHOF:

Q Did Olympic prior to June 10, 1999 have a crisis management plan?

A Regarding, as far as?

Q What to do if you had a crisis, or what a crisis was?

A Participating, you know, with the -- what do you call it? -- ICS for spill response and HAZWOPER ~~HAZLOFERING~~ and those types of issues.

Operations regarding earthquakes and storms like that, they have procedures for those things, as well as procedures for operating during periods of communications, outages and all that kind of stuff.

Q So who within the Olympic organization had the authority to recognize that you were experiencing an emergency that required notification of local authorities that there was a potentially serious situation?

It sounds from listening to the people that

we've heard from the last couple of days, it sounds like in the control room, the guys, the people in there, knew that there was a potentially serious problem going on.

And Lloyd called you at home and Ron was in and out of the room and the controllers were talking to Lloyd, and there was communication going on.

At what point, who would have had the authority to say, "We need to call the field. We need to call the City of Bellingham. We need to call Ferndale." You know?

A I can't answer that question. With hindsight, you know, you've got a lot of hindsight going for you. But, without an indication of a threat to the environment or an endangerment to the public, there isn't any real reason to call any of those people at this point.

Q Well, you kind of, it seems to me, had identified that you had a potentially serious problem going on because everyone was kind of talking amongst themselves.

A We had a serious internal problem going on with the computer hardware, but it was not an indication that there was a release of product to the environment at that point.

Q So the first time that you thought that there was a serious problem going on was when you knew that there was an --

A I wasn't there so I can't really answer that question as to what point did they feel what. So I can't answer that part of it.

INVESTIGATOR BESHORE: Let me try and help out. I think what Patti is really getting at is at what level of authority are people empowered to call for assistance in the event of an emergency.

I mean does the controller have the authority to call the local fire department if they feel like a release has occurred?

Or is that a supervisory decision?

MR. SMITH: I think one of the prime functions of the control center is to protect life and property. So at any time that there is a suspicion that either of those are at jeopardy that the control center has the obligation to notify 911 or whatever.

INVESTIGATOR BESHORE: Does that get to the question you were getting to, Patti?

MS. IMHOF: Yes.

INVESTIGATOR BESHORE: Okay, did you have any further questions?

MS. IMHOF: No, I'm done.

INVESTIGATOR BESHORE: Let's go back to Cliff. Did you have?

MR. ZIMMERMAN: Yes.

BY MR. ZIMMERMAN:

Q Yes, we've talked about these questions referring to Olympic before the June 10 accident...

Did the SCADA system leak detection software comply with API-1130 standard?

A 1130 wasn't I don't think in effect at that point.

Q That's probably true. Does it comply now?

A I haven't done a review of it to see if it does or not.

Q Do you work with that document?

A No, I have not.

Q That document was available before it became a mandatory requirement. So did you have any familiarity with it in the past?

A No.

Q There is the leak detection system -- not does it now -- did it before then have the capability to declare a leak?

A Yes.

Q And what type of indication would you get if it declared a leak?

A There's one in here. If it's recorded or not?

INVESTIGATOR BESHORE: It was about 1634.

MR. SMITH: 1634.

INVESTIGATOR BESHORE: If that helps, 1632, right in that time frame.

MR. SMITH: You would get, it would say a long PLDS, CHP and FER to BPT Alert. And that occurred at 1629 and 22 seconds.

BY MR. ZIMMERMAN:

Q I'll probably have to put a time frame around this but, in the past, has it missed any previous leaks on the system?

Has there been a leak and the leak detection system didn't declare a leak?

A Not to my knowledge, no.

Q Has it declared leaks when they don't exist?

A Yes.

Q Had you made any changes to the system before the accident to make it more effective so it didn't declare those leaks?

A Not that I can think of.

Q It didn't declare false leaks. Okay.

Have there been changes since the accident to try to tune that part of the system?

A No.

Q Is the use of 300 ANSI rated fittings one of the reasons that Bay View Station is designed like an origin station rather than a booster station?

A I couldn't answer that.

Q We talked about that before. You mentioned that it looked like an origin station. And that's where my question comes from.

What reasons in your mind are there that it is more like an origin station?

A Well, I said it's actually dual function. It is a terminating function as being a terminal, and it has an origin function on the discharge side.

And the characteristics of an origin is having booster pumps discharge control valve, a meter round and all the instrumentation that would go with our typical pumping facility, origin facility, Cherry Point, for example, Ferndale.

Q So, in the operation of this station, are there booster pumps that are used when product is being drawn out of tankage to feed the manual...

A The pumps that are at Bay View are considered to be booster pumps. And that is what they're there for, is to boost the product out of the tanks for the mainline station at Allen.

Q Okay, so in this case, those pumps are capable of drawing suction from a tank.

A Yes.

Q As well as taking suction from the main line?

A At the same time?

Q Not at the same time, no.

A Right.

Q Or taking suction from the main line if that's where it's being fixed?

A Yes.

Q Not at the same time.

A Right.

MR. ZIMMERMAN: Okay. That's all I have.

INVESTIGATOR BESHORE: Anybody else? Peter?

MR. KATCHMARE: Todd, I've just got a couple of other things.

BY MR. KATCHMARE.

Q Could you discuss the failure of the second Woodinville pump to start on the SCADA event log it had a failure there?

A Right.

Q Could you discuss that a little bit, what that means?

A My understanding of what that means is when the command was issued, for some reason that that data

circuit was not available. A conflict with another control or a conflict with a scan coming in.

It happens occasionally.

Q And would the controller know that that command did not -- wasn't ghost by the computer?

A Yes, it would be displayed as an alarm on the alarm summary page.

Q If the controller then tried to reinitiate, start that pump again because it didn't start, would there be another net log?

A Yes, there would. Acknowledgment of the alarm would make it clear off the alarm summary page. But he would not have to acknowledge the alarm before issuing another command. You would see the same control sequence in events.

Q In other words, the controller request and then a transmission or a failure?

A No operations is a control request and a transmission followed by an execution of that device to its final state.

Q So can we say for sure that he did not try to start that Woodinville pump a second time?

A I don't think you can say that for sure.

Q Because of the time frame and what was going on with the computers?

A Right. Yeah, I think that that is actually the beginning of the sequence of events that occurred. So I don't think you can rely too much on what was going on from that point.

Q In your opinion, can we rely on the times of these events on this event log other than perhaps the immediate time when they failed over? You said there could be some discrepancy in those times?

A In comparing this with what I've seen on some of the trends, it looks like there could have been some time skewing going on one way or the other.

But, it's inconclusive. The only thing that you can say for sure is that the events were processed in the order that they were received.

Q In this order.

A Yes.

Q Okay. How do you normally manually relieve the pressure inside Bay View? How would one normally relieve the pressure inside Bay View? You were just talking to Allen about having to relieve the pressure inside the station prior to opening the --

A Typically, I think what we've seen is more of a transient pressure wave go through the facility as opposed to just a build-up of pressure that doesn't go away.

Q But you were discussing closing the control valve? You could do that manually. And then you would open the valve and bleed the pressure that's upstream of the valve down?

A You would be able to reset the facility once the pressure inside of Bay View where the pressure switch is had decreased to within bounds of the set point for that switch.

It's designed to protect Bay View, not the piping upstream of Bay View because the rating of the piping upstream of Bay View is, you know, far out.. than it was inside of Bay View.

The theory is that once the pressure subsides inside facility, then you can close your control valve and then open the inlet valve and then bleed the pressure off the main line through the facility and get things going again.

If you were for some reason to have a build-up of pressure inside of Bay View, then you would have to have somebody come out and, you know, open a drain valve on the receiver, or something like that, I would imagine.

I don't think that that's ever occurred though.

Q I just know that people have been called out

to, you know, we have uncommanded changes of opening this block valve on this SCADA event log.

And I was wondering, you know, kind of why they have to physically, a human being had to go out physically and open that valve.

A I don't know.

Q Do you feel comfortable with walking us through the one graph on page 310? It was one that we had looked at on the 16th I think when we all came down.

Could you give him that one right there?

The one specific question I have there, Todd, if you feel comfortable about talking about it -- I know you're not a hydraulics engineer.

But, why don't you see the pressure that occurred up around the relief valve just downstream of 1904 -- that's the red and the yellow there -- why don't you see that at the discharge? The green line.

Why isn't it as high? If the pressure surge is coming up from the south, and I understand you also had pressure coming in, or flow coming in from the north at that point?

A And you want to know why the pressure isn't the same on one side of the station as it is on the other?

Q Yes, why wouldn't you see that high pressure downstream of control valve 1904 that you would see on the green discharge?

A Well, if the control valve were to close on the Ferndale inlet, then that would restrict the pressure of coming into the facility while the pumps continue to pump from Ferndale and increase the pressure on that side; whereas, on the other side, if you had pumps running at Allen, they would continue to pull the product down on the downstream side of the station.

Q Right. But I think at this point, wasn't the pump at Bay View down? And the pumps at Allen down?

A Okay.

Q I'm just thinking they are. And I was just wondering, if that's true, the first thing in the event was you couldn't start the second Woodinville pump. And then Bay View pump 201 went off. And then pressure built up and the Allen pumps went off.

A Yes. Oh, I see the lines are pumping along at a steady state. And then it looks like -- I can't really tell by the colors here. But, one of them appears to continue to be straight.

And then the yellow line and the other green line start to increase. And, at some point, the

control valve is going to go closed on the incoming side while the pumps are still running at Ferndale.

So that pressure is going to continue to increase regardless of what's going on downstream.

So, even when the pumps shut off downstream, you know, you're not putting any more product down there. The only thing that's going to be left is the hill pressure from, you know, whatever the highest hill is south of Bay View.

Q Had you sat down with anybody and looked at these pressures in more detail after the NTSB and DOE and I came down and talked to you?

A The only ones I've seen in more detail are those--

Q The other ones that are in the package?

A Right there.

Even with this here, we saw that the Woodinville unit shut off at - what? 1530 and some change. And that's down in here somewhere.

So there is a continual draw.

Q It was drawing away anyway, okay.

Todd, one last question. On this data event log, if you look at just only two, it appears that the batch was running from -- the gasoline batch from ARCO delivering to Tosco had been running for some time.

A Okay.

Q And then they made the flying switch right before this event occurred?

A Switching at Renton?

Q Yes, from Tosco to Seattle.

A Okay.

Q But I'm just talking about when they were operating this line and taking the product from ARCO and running it into the tanks across the street from Renton at Tosco.

It doesn't appear that there's a whole lot, if any, events logged for that time period from the time they started it through to the time they did the flying switch. Just before they did the flying switch.

A Right. That would have been a pretty, you know, pretty stable operation. So not a lot of activity going on.

The only thing of course is going to generate events is, you know, pipeline activity.

Q Because it is normal -- that was my question. Is it normal to not see really anything going on?

A Right. Right. I mean there's a lot of noise going on in terms of events that don't have anything to do with that pipeline segment. There's stuff going on at Seatack. And there's another pipeline system

running.

And if you can filter out all the noise, I think you would see that it's very difficult on a system that's got a long delivery into one facility and a long delivery coming into the pipeline from another to, you know, pretty much be silent.

INVESTIGATOR BESHORE: Geoff.

MR. SMYTH: I have one question regarding that then.

BY MR. SMYTH:

Q When did you actually stop? Have you been a controller? You filled in for people on vacations before June 10th? Is that correct?

Have you had the experience of doing this swap, this Renton to Seattle swap when the Bay View station has been on line?

A This swap is a routine switch. It's just a routine switch. Hundreds of times.

Q Did you experience any more difficulty doing it prior to Bay View coming on? Or after the Bay View came on?

A I really don't have the knowledge base to say whether it was harder or as hard. I think that we did a comparison, didn't we, May 16, something like that, of the very same switch.

Q Yes, but May 16, '99 was still after Bay View. I mean, if you would have done something like May of '98, then that might have a different --

A No, it's a routine switch, and we continue to do the same switch. And it's a routine, routine switch.

Q Like I was just kind of interested to know if you or any of the other operators thought, since the Bay View station came on line at that switch, maybe it was routine, but was it any more difficult to handle as an operator?

Did it take more intensive doing as from an operator's standpoint, or a controller's?

A No, not that I've ever heard because it's basically swing from Tosco to Seattle and turn on the pump at Woodinville, you know. It's a pretty straightforward operation.

MR. KATCHMARE: Okay, that's all I have.

INVESTIGATOR BESHORE: Linda.

MS. IMHOF: It's been real helpful for me to hear your discussion about the reliability of the clock, let's say, in the event log. Because that's something that I've been really struggling with and trying to understand.

BY MS. IMHOF:

Q One of the last things you said was that -- I mean, if I understand correctly what you're saying, we may not be able to rely exactly on the clocks here. But you said that the events were processed in the order that they were received.

A Right.

Q So we can rely on the sequence of events. Maybe, they didn't occur exactly at that time, but they occurred in that sequence.

A Well, actually, you can't even really rely on that because it's a queue-based system, and so it depends on when that information was first put on the queue.

Once it gets on the queue, then it's going to be processed in a specific order.

Q I want you to look at the specific sequence of events. I'm wondering what you're thinking about it.

But, at 1629, the leak detection alerted.

A Right.

Q Okay. And then at roughly 1630 there's a controller request to start "phone" down unit three.

A Okay, I see that.

Q So my question is, is that telling us that that controller started that unit after hearing the

leak detection alarm, or can we not rely on that?

A I, without talking to the controllers, I would go with this, until I heard otherwise.

Q Okay, thanks.

A I mean, if we were talking a couple of seconds difference, then, you know, maybe. But, it was a minute.

MS. IMHOF: All right, thank you.

INVESTIGATOR BESHORE: Any other questions?

(A pause.)

MR. SMITH: Ah, good. That is an answer.

(Laughter.)

INVESTIGATOR BESHORE: Geoff.

MR. SMYTH: I promise it will be brief. I just want to go back. I marked as page 310 as Exhibit T. Smith No. 8. And I just want to give it back to you because I've got a couple of quick questions on this that I think might clarify a couple of things.

BY MR. SMYTH:

Q One, is the green line there that's identified as Ferndale discharge, is that -- is that a pressure that's upstream in the Ferndale discharge?

Am I correct in that?

A Right. Well, first of all, to qualify myself, this is from a Wonderware OMI in the field,

which is not anything that I'm really familiar with. But what's giving me the problem is that we seem to have two shades of green going on here.

And I can't with my eyes distinguish readily here, you know, which one is which.

Q And I was looking at one as being black and the other is green.

A Is that what it is?

Q That's just my eyes.

The other thing I guess I would...

INVESTIGATOR BESHORE: Is this the discharge at Ferndale? Is the green the discharge at Ferndale or the discharge at Bay View on the Ferndale line?

They told me this was discharge at Bay View on the Ferndale line.

MR. SMITH: That's what it should be.

INVESTIGATOR BESHORE: Okay, that's the green line.

MR. SMITH: It should be the green line.

MR. KATCHMARE: Yes, and then the black goes up.

MR. BESHORE: All right. And then I just want to note that that's identified as Bay View terminal PLC. So that data is not --

MR. SMITH: Right.

MR. BESHORE: That data is not necessarily available in the control center; is that correct?

MR. SMITH: It is absolutely not available in the control center. And, in fact, this is outside the scope of my expertise, so I would want to talk with the PLC about that, about what these tags actually are.

MR. BESHORE: Who would that be?

MR. SMITH: Ken Huff.

MR. BESHORE: We have him on our list.

Then, another question.

BY MR. BESHORE:

Q You mentioned time-skewing and I just wanted to make sure I understood what you mentioned there. Was that in terms of the times of the events not necessarily being the correct time? Was that because of a difference in clocks between --

A I think, number one, the difference in the clocks. But, if you try to lay some of those trends over one another, you'll find that there's a little bit of differences in the times on those as well.

So I'm not sure exactly what's going on there.

Q Okay, and I think my last question is relatively simple. It's basically is there anything else that we haven't asked you about that you're aware

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 Chairman of the National Transportation Safety Board:

1. That Todd Smith has been called to testify or provide other information in this matter;

2. That Todd Smith 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 Chairman of the National Transportation Safety Board, the testimony or other information from Todd Smith 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 Todd Smith 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, Todd Smith 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 12th day of September, 2000.

Jim Hall
Chairman

Exhibit T. Smith #41

Lotus cc:Mail for todd smith

Date: 3/2/99
Sender: Ron Brentson
To: Lloyd Tieken;Tracy Greene;#Dispatch
cc: Ken Huff;David Justice;Perry Dalaba;Holly Williamson;Deanna Oien
Priority: Normal
Subject: Re:Bayview Backpressure settings on meter run control valves

Author: Ron Brentson at renton_opl
Date: 3/2/99 2:49:11 PM
Priority: Normal
To: Lloyd Tieken
cc: Ken Huff
cc: David Justice
cc: Perry Dalaba
cc: Holly Williamson
cc: Deanna Oien
To: Tracy Greene
To: Mail List - #Dispatch
Subject: Re:Bayview Backpressure settings on meter run control valves

Ken,
I would like to bring this setpoint back to the control center access and control when/where appropriate. Please work with Todd to set up... Thanks

Reply Separator

Subject: Bayview Backpressure settings on meter run control valves
Author: Lloyd Tieken
Date: 2/23/99 5:23 PM

For your information

Under certain operational profiles while tight lining through Bayview facility (*Max rate-low psi*) the backpressure control valve (*for maintaining meter psi*) has come into play restricting flow and shutting the pipeline down.

I spoke with Ken Huff and he has agreed (*at least temporarily*) to reduce the setpoint from **20** psi to **10** psi.

Your feedback will be appreciated....

Lloyd Tieken

0002649

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Exhibit H Smith #2

Date: 3/10/99
Sender: Craig Hammett
To: Wally Stevenson
Priority: Normal
Subject: FW: Re[3]:Bayview Backpressure settings on meter run cont...

Subject: FW: Re[3]:Bayview Backpressure settings on meter run control val

Any comments on the need to hold 10# min backpressure on the Bayview incoming meters? I thought I should get your input before I talk to Ron.

-----Original Message-----
From: Ron Brentson
Sent: Wednesday, March 10, 1999 9:30 AM
To: Ken Huff
Cc: Craig Hammett; Todd Smith; Lloyd Tieken
Subject: Re[3]:Bayview Backpressure settings on meter run control val

I am aware that the O/C has never had control of this setpoint. I want control
of this setpoint into the control center SCADA for purposes of infrequent scenarios that the only way to achieve a specific hydraulic condition on the system is to reduce this setpoint to zero and basically get it out of the way. The norm is to run with minimum back pressures to achieve line integrity metering capacity without resulting in unstable line conditions. Three control
valves on each system within Bayview is about 2 to many in many cases.

I will speek directly to Craig regarding this change but very honestly, this is
an operations issue and my responsibility to insure the safe and efficient method to achieve desired flow.

_____Reply Separator_____
Subject: Re[2]:Bayview Backpressure settings on meter run control val
Author: Ken Huff
Date: 3/3/99 8:47 AM

O/C never had control of this setpoint. If we can't keep at least 10lbs on the
meter why do we have it at all. Also if that 10lbs is a problem now, how are we
going to run floating a tank with maybe 3lbs of suction to the units. Before I
change the setpoint control I would like you to run it though my boss.

Thanks
Ken

Exhibit T. Smith #3

8-Jun-1999	08:21:22.03	ALARM	PLDS	PLDS SYSTEM CRASH	ALERT		
8-Jun-1999	08:40:19.04	ALARM	PLDS	PLDS SYSTEM CRASH	NORMAL		
10-Jun-1999	15:27:47.01	ALARM	SYSTEM	Backup CPU Status	OFFLINE		
10-Jun-1999	15:27:48.02	EVENT	SYSTEM	VCS STARTUP			
10-Jun-1999	15:28:00.05	ALARM	SEATAC.2	COMMUNICATIONS	FAIL		
10-Jun-1999	15:28:03.06	ALARM	OLYMPIA.JCT	COMMUNICATIONS	FAIL		
10-Jun-1999	15:28:04.07	ALARM	BAYVIEW	COMMUNICATIONS	FAIL		
10-Jun-1999	15:28:05.08	UNCMDCHG	BAYVIEW	FER-BPT RECEIVER INLET	CLOSE		
10-Jun-1999	15:28:05.09	NORMAL	SEATAC.1	TANK 108	NORMAL		3329
10-Jun-1999	15:28:05.10	NORMAL	SEATAC.1	TANK 109	NORMAL		500
10-Jun-1999	15:28:05.11	NORMAL	SEATAC.1	TANK 111	NORMAL		499
10-Jun-1999	15:28:05.12	UNCMDCHG	BAYVIEW	FER BYPASS TO PUMPS	CLOSE		
10-Jun-1999	15:28:05.13	NORMAL	SEATAC.1	TANK 112	NORMAL		501
10-Jun-1999	15:28:05.14	NORMAL	SEATAC.1	TANK 113	NORMAL		3486
10-Jun-1999	15:28:05.15	NORMAL	SEATAC.1	TANK 114	NORMAL		494
10-Jun-1999	15:28:05.16	NORMAL	SEATAC.1	TANK 115	NORMAL		2311
10-Jun-1999	15:28:05.19	ALARM	BAYVIEW	FER-ALN SCRAPER OUT	OUT		
10-Jun-1999	15:28:06.17	UNCMDCHG	ALLEN.1	16" UNIT 1 STATUS	SHUTDOWN		
10-Jun-1999	15:28:06.18	UNCMDCHG	ALLEN.1	16" UNIT 3 STATUS	SHUTDOWN		
10-Jun-1999	15:28:06.20	NORMAL	ALLEN.1	TANK 101	NORMAL		679
10-Jun-1999	15:28:06.22	NORMAL	OLYMPIA.DF	TANK 104	NORMAL		3753
10-Jun-1999	15:28:06.23	UNCMDCHG	ALLEN.1	16" STATION STATUS	SHUTDOWN		
10-Jun-1999	15:28:10.21	NORMAL	SEATAC.2	COMMUNICATIONS	NORMAL		
10-Jun-1999	15:28:10.24	NORMAL	RENTON.1	TANK 116	NORMAL		794
10-Jun-1999	15:28:12.27	NORMAL	VANCOUVER.DF	TANK 107	NORMAL		2960
10-Jun-1999	15:28:12.29	ALARM	BAYVIEW	FER-BPT METER PSI	LOW	0	
10-Jun-1999	15:28:12.30	ALARM	BAYVIEW	FER-BPT METER PSI	LOW LOW	0	
10-Jun-1999	15:28:12.31	ALARM	BAYVIEW	FER-BPT UPSTREAM PSI	LOW	0	
10-Jun-1999	15:28:13.25	ALARM	MILEPOST.66	UPSTREAM PSI 16	MINUSROC	123	
10-Jun-1999	15:28:13.26	ALARM	MILEPOST.66	DOWNSTREAM PSI 16	MINUSROC	122	
10-Jun-1999	15:28:14.28	NORMAL	BAYVIEW	COMMUNICATIONS	NORMAL		
10-Jun-1999	15:28:14.32	ALARM	SEATTLE.DF	GROSS FLW RATE SET POINT	HIGH	10000	
10-Jun-1999	15:28:16.33	NORMAL	TACOMA.DF	TANK 103	NORMAL		2584
10-Jun-1999	15:28:16.34	NORMAL	SEATTLE.DF	TANK 102	NORMAL		3742
10-Jun-1999	15:28:17.35	NORMAL	OLYMPIA.JCT	COMMUNICATIONS	NORMAL		
10-Jun-1999	15:28:17.36	ALARM	CHERRY.POINT	SUCTION PRESSURE	LOW	0	
10-Jun-1999	15:28:17.37	ALARM	CHERRY.POINT	METER PRESSURE	LOW	0	
10-Jun-1999	15:28:17.38	NORMAL	PORTLAND.DF	TANK 106	NORMAL		6376
10-Jun-1999	15:28:17.39	NORMAL	PORTLAND.DF	TANK 105	NORMAL		6966
10-Jun-1999	15:28:21.40	ALARM	MILEPOST.46	UPSTREAM PSI 16	MINUSROC	166	
10-Jun-1999	15:28:21.41	ALARM	MILEPOST.46	DOWNSTREAM PSI 16	MINUSROC	167	
10-Jun-1999	15:28:22.42	ALARM	MILEPOST.56	UPSTREAM PSI 16	MINUSROC	148	
10-Jun-1999	15:28:22.43	ALARM	MILEPOST.56	DOWNSTREAM PSI 16	MINUSROC	149	
10-Jun-1999	15:28:24.44	CHANGE	SEATAC.2	UNIT 2 STATUS	SHUTDOWN		
10-Jun-1999	15:28:24.45	CLEAR	BAYVIEW	FER-BPT API GRAVITY @ 60	ROC +/-	0.2	
10-Jun-1999	15:28:24.46	CLEAR	BAYVIEW	FER-BPT RECEIVER PSI	HI HI	613	
10-Jun-1999	15:28:24.47	CLEAR	BAYVIEW	FER-BPT RECEIVER PSI	HIGH	613	
10-Jun-1999	15:28:24.48	NORMAL	BAYVIEW	FER-BPT RECEIVER PSI	NORMAL	613	
10-Jun-1999	15:28:25.49	ALARM	CHERRY.POINT	LOW SUCTION	ALARM		
10-Jun-1999	15:28:25.50	UNCMDCHG	CHERRY.POINT	UNIT 1 STATUS	SHUTDOWN		
10-Jun-1999	15:28:25.51	CHANGE	CHERRY.POINT	UNIT 1 DISCHARGE	TRAVEL		
10-Jun-1999	15:28:25.52	CLEAR	CHERRY.POINT	SUCTION PRESSURE	LOW	106	
10-Jun-1999	15:28:25.53	NORMAL	CHERRY.POINT	SUCTION PRESSURE	NORMAL	106	
10-Jun-1999	15:28:25.54	CLEAR	CHERRY.POINT	METER PRESSURE	LOW	106	
10-Jun-1999	15:28:25.55	NORMAL	CHERRY.POINT	METER PRESSURE	NORMAL	106	
10-Jun-1999	15:28:27.56	ALARM	FERNDALE	LOW SUCTION PRESSURE	ALARM		
10-Jun-1999	15:28:27.57	UNCMDCHG	FERNDALE	UNIT 2 STATUS	SHUTDOWN		
10-Jun-1999	15:28:27.58	UNCMDCHG	FERNDALE	UNIT 3 STATUS	SHUTDOWN		
10-Jun-1999	15:28:27.59	ALARM	FERNDALE	MECHANICAL	ALARM		
10-Jun-1999	15:28:27.60	ALARM	FERNDALE	SUCTION PRESSURE	LOW	0	
10-Jun-1999	15:28:27.61	ALARM	FERNDALE	SUCTION PRESSURE	LOW LOW	0	
10-Jun-1999	15:28:27.62	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW	13	
10-Jun-1999	15:28:27.63	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	13	
10-Jun-1999	15:28:27.64	ALARM	FERNDALE	DRA PUMP INHIBIT	ON		

Exhibit T. Smith # 4

10-Jun-1999 15:28:30.65	CLEAR	MILEPOST.66	UPSTREAM PSI 16	ROC +/-	6
10-Jun-1999 15:28:30.66	CLEAR	MILEPOST.66	DOWNSTREAM PSI 16	ROC +/-	6
10-Jun-1999 15:28:34.67	NORMAL	CHERRY.POINT	LOW SUCTION	RESET	
10-Jun-1999 15:28:35.68	ALARM	FERNDALE	LOW SUCTION PRESSURE	RESET	
10-Jun-1999 15:28:35.69	UNCMDCHG	FERNDALE	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 15:28:35.70	ALARM	FERNDALE	MECHANICAL	RESET	
10-Jun-1999 15:28:35.71	ALARM	FERNDALE	CONTROL PRESSURE	LOW	148
10-Jun-1999 15:28:35.72	ALARM	FERNDALE	CONTROL PRESSURE	LOW LOW	148
10-Jun-1999 15:28:35.73	ALARM	FERNDALE	DISCHARGE PRESSURE	LOW	142
10-Jun-1999 15:28:35.74	ALARM	FERNDALE	DISCHARGE PRESSURE	LOW LOW	142
10-Jun-1999 15:28:35.75	CLEAR	FERNDALE	SUCTION PRESSURE	LOW LOW	142
10-Jun-1999 15:28:35.76	CLEAR	FERNDALE	SUCTION PRESSURE	LOW	142
10-Jun-1999 15:28:35.77	NORMAL	FERNDALE	SUCTION PRESSURE	NORMAL	142
10-Jun-1999 15:28:35.78	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	150
10-Jun-1999 15:28:35.79	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW	150
10-Jun-1999 15:28:35.80	NORMAL	FERNDALE	CHERRY POINT IN PSI	NORMAL	150
10-Jun-1999 15:28:37.81	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 15:28:42.82	CLEAR	MILEPOST.46	UPSTREAM PSI 16	ROC +/-	8
10-Jun-1999 15:28:42.83	CLEAR	MILEPOST.46	DOWNSTREAM PSI 16	ROC +/-	8
10-Jun-1999 15:28:43.84	CLEAR	MILEPOST.56	UPSTREAM PSI 16	ROC +/-	9
10-Jun-1999 15:28:43.85	CLEAR	MILEPOST.56	DOWNSTREAM PSI 16	ROC +/-	9
10-Jun-1999 15:28:44.86	CHANGE	CHERRY.POINT	UNIT 1 SUCTION	TRAVEL	
10-Jun-1999 15:28:44.87	ALARM	BAYVIEW	FER-BPT API GRAVITY @ 60	PLUSROC	0.4
10-Jun-1999 15:28:51.90	CLEAR	BAYVIEW	FER-BPT API GRAVITY @ 60	ROC +/-	0.0
10-Jun-1999 15:29:03.20	ALARM	FERNDALE	SUCTION PRESSURE	LOW	29
10-Jun-1999 15:29:03.21	ALARM	FERNDALE	SUCTION PRESSURE	LOW LOW	29
10-Jun-1999 15:29:03.30	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW	39
10-Jun-1999 15:29:03.88	ALARM	FERNDALE	LOW SUCTION PRESSURE	ALARM	
10-Jun-1999 15:29:03.92	ALARM	FERNDALE	MECHANICAL	ALARM	
10-Jun-1999 15:29:12.89	CNTL REQ	WOODINVILLE	CONSOLE 11 CAI	STOP	
10-Jun-1999 15:29:18.91	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:21.93	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:23.94	TO FINAL	WOODINVILLE	UNIT 1 STATUS	RUN	
10-Jun-1999 15:29:24.95	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:27.96	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:29.97	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:31.98	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:33.99	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:35	TRANSMIT	WOODINVILLE	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 15:29:35.01	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:36.02	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		100
10-Jun-1999 15:29:37.03	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:40.04	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:41.05	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:45.06	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		150
10-Jun-1999 15:29:46.07	CNTL REQ	SEATTLE.DF	CONSOLE 11 CAI	INC	
10-Jun-1999 15:29:51.08	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		200
10-Jun-1999 15:29:57.31	ALARM	MILEPOST.89	UPSTREAM PSI 16	MINUSROC	119
10-Jun-1999 15:29:57.32	ALARM	MILEPOST.89	DOWNSTREAM PSI 16	MINUSROC	119
10-Jun-1999 15:29:58.09	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		250
10-Jun-1999 15:30:06.10	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		300
10-Jun-1999 15:30:13.11	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		350
10-Jun-1999 15:30:22.12	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		400
10-Jun-1999 15:30:29.13	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		450
10-Jun-1999 15:30:34.14	CNTL REQ	WOODINVILLE	CONSOLE 11 CAI	STOP	
10-Jun-1999 15:30:35.15	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		500
10-Jun-1999 15:30:35.16	CHANGE	CHERRY.POINT	UNIT 1 SUCTION	CLOSE	
10-Jun-1999 15:30:35.17	CHANGE	CHERRY.POINT	UNIT 1 DISCHARGE	CLOSE	
10-Jun-1999 15:30:35.18	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	OPEN	
10-Jun-1999 15:30:36.19	ALARM	FERNDALE	LOW SUCTION PRESSURE	RESET	
10-Jun-1999 15:30:36.24	ALARM	FERNDALE	MECHANICAL	RESET	
10-Jun-1999 15:30:41.22	TRANSMIT	WOODINVILLE	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 15:30:41.23	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		550
10-Jun-1999 15:30:47.33	ALARM	MILEPOST.89	UPSTREAM PSI 16	MINUSROC	127

10-Jun-1999 15:30:48.25	TO FINAL	WOODINVILLE	UNIT 1 STATUS	RUN	
10-Jun-1999 15:30:50.26	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		600
10-Jun-1999 15:30:58.27	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		650
10-Jun-1999 15:31:04.28	UNCMDCHG	WOODINVILLE	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 15:31:04.29	ALARM	WOODINVILLE	DRA PUMP INHIBIT	ON	
10-Jun-1999 15:33:45.34	CHANGE	CHERRY.POINT	METER FLOW STATUS	IN PROG.	
10-Jun-1999 15:33:45.35	ALARM	CHERRY.POINT	LOW SUCTION	ALARM	
10-Jun-1999 15:33:51.36	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 15:34:17.37	CNTL REQ	SEATTLE.DF	CONSOLE 2 CAI		700.00

.0-Jun-1999 13:10:23.89	TRANSMIT	TACOMA.JCT	8" PRESSURE SP ENTRY		64
.0-Jun-1999 13:10:24.90	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		1830
.0-Jun-1999 13:10:25.91	CNTL REQ	TACOMA.DF	CONSOLE 5 CAI	DEC	
.0-Jun-1999 13:10:27.92	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		1820
10-Jun-1999 13:10:28.93	CNTL REQ	TACOMA.JCT	CONSOLE 5 CAI	DEC	
10-Jun-1999 13:10:31.94	TRANSMIT	TACOMA.JCT	8" PRESSURE SP ENTRY		62
10-Jun-1999 13:10:39.95	TO FINAL	VANCOUVR.JCT	V-1091 LATERAL LINE IN	TRAVEL	
10-Jun-1999 13:10:42.96	UNCMDCHG	VANCOUVR.JCT	V-1091 LATERAL LINE IN	OPEN	
10-Jun-1999 13:10:48.97	CNTL REQ	VANCOUVR.JCT	CONSOLE 5 CAI	CLOSE	
10-Jun-1999 13:10:50.98	TRANSMIT	VANCOUVR.JCT	V-1091 LATERAL LINE IN	CLOSE	
10-Jun-1999 13:11:16.99	ALARM	CASTLE.ROCK	DISCHARGE PRESSURE	HIGH	1442
10-Jun-1999 13:11:18	TRANSMIT	OLYMPIA.JCT	DRA SET POINT - GPH		6
10-Jun-1999 13:11:18.01	TRANSMIT	RENTON	DRA SET POINT - GPH		8
10-Jun-1999 13:11:19.02	TRANSMIT	CASTLE.ROCK	DRA SET POINT - GPH		5
10-Jun-1999 13:11:23.03	CLEAR	CASTLE.ROCK	DISCHARGE PRESSURE	HIGH	1437
10-Jun-1999 13:11:23.04	NORMAL	CASTLE.ROCK	DISCHARGE PRESSURE	NORMAL	1437
10-Jun-1999 13:11:44.05	TO FINAL	VANCOUVR.JCT	V-1091 LATERAL LINE IN	TRAVEL	
10-Jun-1999 13:11:47.06	UNCMDCHG	VANCOUVR.JCT	V-1091 LATERAL LINE IN	CLOSE	
10-Jun-1999 13:13:52.07	CHANGE	SEATAC.2	UNIT 3 STATUS	RUN	
10-Jun-1999 13:14:18.08	TRANSMIT	RENTON	DRA SET POINT - GPH		8
10-Jun-1999 13:14:51.09	ALARM	OLYMPIA.JCT	CONTROL PRESSURE	HIGH	1727
10-Jun-1999 13:15:07.10	CNTL REQ	TACOMA.STA	CONSOLE 6 CAI		1300.00
10-Jun-1999 13:15:09.11	TRANSMIT	TACOMA.STA	DISCHARGE PSI SP ENTRY		1300
10-Jun-1999 13:15:13.12	CNTL REQ	TACOMA.STA	CONSOLE 5 CAI	DEC	
10-Jun-1999 13:15:15.13	TRANSMIT	TACOMA.STA	DISCHARGE PSI SP ENTRY		1270
10-Jun-1999 13:15:25.14	CNTL REQ	TACOMA.JCT	CONSOLE 5 CAI	INC	
10-Jun-1999 13:15:28.15	TRANSMIT	TACOMA.JCT	8" PRESSURE SP ENTRY		64
10-Jun-1999 13:15:32.16	CLEAR	BAYVIEW	ANA-BPT UPSTREAM PSI	LOW	31
10-Jun-1999 13:15:32.17	NORMAL	BAYVIEW	ANA-BPT UPSTREAM PSI	NORMAL	31
10-Jun-1999 13:15:34.18	CHANGE	SEATAC.2	UNIT 4 STATUS	RUN	
10-Jun-1999 13:16:08.19	CLEAR	OLYMPIA.JCT	CONTROL PRESSURE	HIGH	1719
10-Jun-1999 13:16:08.20	NORMAL	OLYMPIA.JCT	CONTROL PRESSURE	NORMAL	1719
10-Jun-1999 13:16:18.21	TRANSMIT	RENTON	DRA SET POINT - GPH		8
10-Jun-1999 13:22:36.22	CHANGE	SEATAC.2	UNIT 2 STATUS	SHUTDOWN	
10-Jun-1999 13:23:41.23	CHANGE	SEATAC.2	UNIT 1 STATUS	RUN	
10-Jun-1999 13:25:05.24	CNTL REQ	TACOMA.DF	CONSOLE 5 CAI	CHANGE	
10-Jun-1999 13:25:05.25	NOTICE:	TACOMA.DF	TACIBTCHCHNGSTATUS IS CHANGE CONTINUE...		
10-Jun-1999 13:25:07.26	TRANSMIT	TACOMA.DF	BATCH CHANGE	COMPLETE	
10-Jun-1999 13:25:09.27	EXECUTE	TACOMA.DF	BATCH CHANGE	COMPLETE	
10-Jun-1999 13:25:09.28	ALARM	TACOMA.DF	PRINT SWITCH	IN PROG.	
10-Jun-1999 13:25:09.29	ALARM	TACOMA.DF	BATCH CHANGE	IN PROG.	
10-Jun-1999 13:25:09.30	CHANGE	TACOMA.DF	BTCH BLK-->RTU DOWNLOAD	READY	
10-Jun-1999 13:25:09.31	CNTL REQ	TACOMA.DF	CONSOLE 0	READY	
10-Jun-1999 13:25:10.32	EXECUTE	TACOMA.DF	MASTER --> RTU DOWNLOAD	READY	SUCCESS
10-Jun-1999 13:25:13.33	CHANGE	TACOMA.DF	CALCULATED BATCH	TOTL VOL	10030.3
10-Jun-1999 13:25:13.34	CHANGE	TACOMA.DF	CALCULATED BATCH	WTAVG GR	56.1
10-Jun-1999 13:25:13.35	CHANGE	TACOMA.DF	FLOW COMPUTER BATCH	TOTL VOL	10029.0
10-Jun-1999 13:25:13.36	CHANGE	TACOMA.DF	FLOW COMPUTER BATCH	WTAVG GR	55.0
10-Jun-1999 13:25:14.37	NORMAL	TACOMA.DF	PRINT SWITCH	COMPLETE	
10-Jun-1999 13:25:14.38	CNTL REQ	TACOMA.DF	CONSOLE 0	RESET	
10-Jun-1999 13:25:15.39	CHANGE	TACOMA.DF	FLOW COMPUTER DELIVERY	TOTL VOL	1424.0
10-Jun-1999 13:25:15.40	CHANGE	TACOMA.DF	FLOW COMPUTER DELIVERY	WTAVG GR	55.0
10-Jun-1999 13:25:15.41	CHANGE	TACOMA.DF	CALCULATED DELIVERY	TOTL VOL	1427.7
10-Jun-1999 13:25:15.42	CHANGE	TACOMA.DF	CALCULATED DELIVERY	WTAVG GR	55.9
10-Jun-1999 13:25:17.43	TRANSMIT	TACOMA.DF	RESET ACCUM B PSEUDO	RESET	
10-Jun-1999 13:25:19.44	NORMAL	TACOMA.DF	BATCH CHANGE	COMPLETE	
10-Jun-1999 13:25:19.45	CHANGE	TACOMA.DF	BTCH BLK-->RTU DOWNLOAD	COMPLETE	
10-Jun-1999 13:25:44.46	EXECUTE	TACOMA.DF	RESET ACCUM B PSEUDO	RESET	
10-Jun-1999 13:25:44.47	CHANGE	TACOMA.DF	BATCH REPORT	READY	
10-Jun-1999 13:25:44.48	CNTL REQ	TACOMA.DF	CONSOLE 0	READY	
10-Jun-1999 13:25:44.49	EXECUTE	TACOMA.DF	BATCH REPORT	COMPLETE	
10-Jun-1999 13:25:45.50	EVENT	TACOMA.DF	BATCH REPORT TACDBT09	RECEIVED	
10-Jun-1999 13:25:50.51	CHANGE	TACOMA.DF	BATCH REPORT	COMPLETE	
10-Jun-1999 13:25:57.52	CHANGE	TACOMA.DF	DELIVERY REPORT	READY	

0-Jun-1999 13:25:58.53	CNTL REQ	TACOMA.DF	CONSOLE 0	READY	
0-Jun-1999 13:25:58.54	EXECUTE	TACOMA.DF	DELIVERY REPORT	COMPLETE	
0-Jun-1999 13:25:59.55	EVENT	TACOMA.DF	DELIVERY REPORT TACDDL04	RECEIVED	
0-Jun-1999 13:26:04.56	CHANGE	TACOMA.DF	DELIVERY REPORT	COMPLETE	
0-Jun-1999 13:26:14.57	CHANGE	SEATAC.2	UNIT 3 STATUS	SHUTDOWN	
.0-Jun-1999 13:27:17.58	CHANGE	SEATAC.2	TR POSITION 8 DISABLE	ON	
.0-Jun-1999 13:28:25.59	CHANGE	SEATAC.2	UNIT 2 STATUS	RUN	
.0-Jun-1999 13:28:34.60	PREV VAL	CASTLE.ROCK	CONSOLE 6 CAI		15.000
.0-Jun-1999 13:28:34.61	ENTRY	CASTLE.ROCK	DRA SET POINT - PPM	EU	18
.0-Jun-1999 13:29:18.62	CHANGE	SEATAC.2	TR POSITION 4 DISABLE	ON	
.0-Jun-1999 13:29:19.63	TRANSMIT	CASTLE.ROCK	DRA SET POINT - GPH		6
.0-Jun-1999 13:29:37.64	CHANGE	SEATAC.2	TR POSITION 2 DISABLE	ON	
10-Jun-1999 13:29:37.65	CHANGE	SEATAC.2	TR POSITION 3 DISABLE	ON	
10-Jun-1999 13:29:41.66	CHANGE	SEATAC.2	UNIT 4 STATUS	SHUTDOWN	
10-Jun-1999 13:29:41.67	CHANGE	SEATAC.2	TR POSITION 1 DISABLE	ON	
10-Jun-1999 13:29:48.68	CHANGE	SEATAC.2	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 13:29:59.69	CHANGE	SEATAC.2	TR POSITION 7 DISABLE	ON	
10-Jun-1999 13:30:29.70	CHANGE	SEATAC.2	TR POSITION 5 DISABLE	ON	
10-Jun-1999 13:30:37.71	CHANGE	SEATAC.2	TR POSITION 6 DISABLE	ON	
10-Jun-1999 13:31:42.72	CHANGE	SEATAC.2	TR POSITION 1 DISABLE	OFF	
10-Jun-1999 13:31:42.73	CHANGE	SEATAC.2	TR POSITION 2 DISABLE	OFF	
10-Jun-1999 13:31:48.74	CHANGE	SEATAC.2	TR POSITION 3 DISABLE	OFF	
10-Jun-1999 13:31:48.75	CHANGE	SEATAC.2	TR POSITION 4 DISABLE	OFF	
10-Jun-1999 13:32:01.76	CHANGE	SEATAC.2	TR POSITION 1 DISABLE	ON	
10-Jun-1999 13:32:01.77	CHANGE	SEATAC.2	TR POSITION 2 DISABLE	ON	
10-Jun-1999 13:32:01.78	CHANGE	SEATAC.2	TR POSITION 3 DISABLE	ON	
10-Jun-1999 13:32:01.79	CHANGE	SEATAC.2	TR POSITION 4 DISABLE	ON	
10-Jun-1999 13:32:05.80	CHANGE	SEATAC.2	TR POSITION 7 DISABLE	OFF	
10-Jun-1999 13:32:05.81	CHANGE	SEATAC.2	TR POSITION 8 DISABLE	OFF	
10-Jun-1999 13:32:31.82	CNTL REQ	TACOMA.DF	CONSOLE 6 CAI		1755.00
10-Jun-1999 13:32:32.83	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		1755
10-Jun-1999 13:32:50.84	CHANGE	SEATAC.2	UNITED DISABLE	ON	
10-Jun-1999 13:32:50.85	CHANGE	SEATAC.2	TR POSITION 8 DISABLE	ON	
10-Jun-1999 13:33:12.86	CHANGE	SEATAC.2	UNIT 2 STATUS	SHUTDOWN	
10-Jun-1999 13:33:12.87	CHANGE	SEATAC.2	TR POSITION 1 DISABLE	OFF	
10-Jun-1999 13:33:12.88	CHANGE	SEATAC.2	TR POSITION 2 DISABLE	OFF	
10-Jun-1999 13:33:12.89	CHANGE	SEATAC.2	TR POSITION 3 DISABLE	OFF	
10-Jun-1999 13:33:12.90	CHANGE	SEATAC.2	TR POSITION 4 DISABLE	OFF	
10-Jun-1999 13:33:36.91	CHANGE	SEATAC.2	TR POSITION 5 DISABLE	OFF	
10-Jun-1999 13:33:36.92	CHANGE	SEATAC.2	TR POSITION 6 DISABLE	OFF	
10-Jun-1999 13:33:48.93	PREV VAL		CONSOLE 2 CAI		
10-Jun-1999 13:33:48.94	ENTRY		OLLOG (FOR)	PRNT	0
10-Jun-1999 13:34:25.95	CHANGE	SEATAC.2	UNIT 3 STATUS	RUN	
10-Jun-1999 13:35:12.96	CHANGE	SEATAC.2	UNITED DISABLE	OFF	
10-Jun-1999 13:41:09.97	UNCMDCHG	ALLEN.1	TK-101 INLET	OPEN	
10-Jun-1999 13:43:37.98	CHANGE	SEATAC.2	UNIT 4 STATUS	RUN	
10-Jun-1999 13:44:48	CHANGE	SEATAC.2	TR POSITION 7 DISABLE	ON	
10-Jun-1999 13:44:48.99	CHANGE	SEATAC.2	TR POSITION 6 DISABLE	ON	
10-Jun-1999 13:44:53.01	CHANGE	SEATAC.2	TR POSITION 5 DISABLE	ON	
10-Jun-1999 13:45:01.02	CHANGE	SEATAC.2	TR POSITION 1 DISABLE	ON	
10-Jun-1999 13:45:01.03	CHANGE	SEATAC.2	TR POSITION 2 DISABLE	ON	
10-Jun-1999 13:45:05.04	CHANGE	SEATAC.2	UNIT 3 STATUS	SHUTDOWN	
10-Jun-1999 13:45:05.05	CHANGE	SEATAC.2	TR POSITION 3 DISABLE	ON	
10-Jun-1999 13:45:05.06	CHANGE	SEATAC.2	TR POSITION 4 DISABLE	ON	
10-Jun-1999 13:46:48.07	CHANGE	SEATAC.2	TR POSITION 1 DISABLE	OFF	
10-Jun-1999 13:46:48.08	CHANGE	SEATAC.2	TR POSITION 2 DISABLE	OFF	
10-Jun-1999 13:46:48.09	CHANGE	SEATAC.2	TR POSITION 3 DISABLE	OFF	
10-Jun-1999 13:46:48.10	CHANGE	SEATAC.2	TR POSITION 4 DISABLE	OFF	
10-Jun-1999 13:47:12.11	CHANGE	SEATAC.2	TR POSITION 5 DISABLE	OFF	
10-Jun-1999 13:47:12.12	CHANGE	SEATAC.2	TR POSITION 6 DISABLE	OFF	
10-Jun-1999 13:47:12.13	CHANGE	SEATAC.2	TR POSITION 7 DISABLE	OFF	
10-Jun-1999 13:47:12.14	CHANGE	SEATAC.2	TR POSITION 8 DISABLE	OFF	
10-Jun-1999 13:47:48.15	CHANGE	SEATAC.2	UNIT 1 STATUS	RUN	
10-Jun-1999 13:50:17.16	CHANGE	SEATAC.2	TR POSITION 8 DISABLE	ON	

10-Jun-1999 13:51:48.17	CHANGE	SEATAC.2	UNIT 2 STATUS	RUN	
10-Jun-1999 13:54:17.18	CHANGE	SEATAC.2	UNIT 4 STATUS	SHUTDOWN	
10-Jun-1999 13:56:49.19	CNTL REQ	ALLEN.1	CONSOLE 3 CAI	STOP	
10-Jun-1999 13:56:51.20	TRANSMIT	ALLEN	16" DRA PUMP STATUS	SHUTDOWN	
10-Jun-1999 13:56:52.21	CNTL REQ	WOODINVILLE	CONSOLE 3 CAI	STOP	
10-Jun-1999 13:56:55.22	TRANSMIT	WOODINVILLE	DRA PUMP	SHUTDOWN	
10-Jun-1999 13:56:58.23	EXECUTE	WOODINVILLE	DRA PUMP	SHUTDOWN	
10-Jun-1999 13:58:11.24	CHANGE	SEATAC.2	UNIT 3 STATUS	RUN	
10-Jun-1999 14:00:54.25	CNTL REQ	PORTLAND.DF	CONSOLE 5 CAI	CHANGE	
10-Jun-1999 14:00:54.26	NOTICE:	PORTLAND.DF	PORIBTCHCHNGSTATUS IS CHANGE CONTINUE...		
10-Jun-1999 14:00:55.27	TRANSMIT	PORTLAND.DF	BATCH CHANGE	COMPLETE	
10-Jun-1999 14:00:59.28	EXECUTE	PORTLAND.DF	BATCH CHANGE	COMPLETE	
10-Jun-1999 14:00:59.29	ALARM	PORTLAND.DF	PRINT SWITCH	IN PROG.	
10-Jun-1999 14:00:59.30	ALARM	PORTLAND.DF	BATCH CHANGE	IN PROG.	
10-Jun-1999 14:00:59.31	CNTL REQ	PORTLAND.DF	CONSOLE 0	RESET	
10-Jun-1999 14:00:59.32	CHANGE	PORTLAND.DF	BTCH BLK-->PLC DOWNLOAD	READY	
10-Jun-1999 14:00:59.33	CNTL REQ	PORTLAND.DF	CONSOLE 0	READY	
10-Jun-1999 14:01:00.34	TRANSMIT	PORTLAND.DF	RESET ACCUM B PSEUDO	RESET	
10-Jun-1999 14:01:01.35	EXECUTE	PORTLAND.DF	MASTER --> PLC DOWNLOAD	READY	SUCCESS
10-Jun-1999 14:01:03.36	CHANGE	PORTLAND.DF	CALCULATED BATCH	TOTL VOL	16068.2
10-Jun-1999 14:01:03.37	CHANGE	PORTLAND.DF	CALCULATED BATCH	WTAVG GR	55.9
10-Jun-1999 14:01:03.38	CHANGE	PORTLAND.DF	FLOW COMPUTER BATCH	TOTL VOL	16067.0
10-Jun-1999 14:01:03.39	CHANGE	PORTLAND.DF	FLOW COMPUTER BATCH	WTAVG GR	54.1
10-Jun-1999 14:01:05.40	CHANGE	PORTLAND.DF	CALCULATED DELIVERY	TOTL VOL	16068.2
10-Jun-1999 14:01:05.41	CHANGE	PORTLAND.DF	CALCULATED DELIVERY	WTAVG GR	55.9
10-Jun-1999 14:01:05.42	CHANGE	PORTLAND.DF	FLOW COMPUTER DELIVERY	TOTL VOL	16067.0
10-Jun-1999 14:01:05.43	CHANGE	PORTLAND.DF	FLOW COMPUTER DELIVERY	WTAVG GR	54.1
10-Jun-1999 14:01:06.44	ALARM	PORTLAND.DF	D2500 /API BATCH 2	LOW	0.0
10-Jun-1999 14:01:06.45	ALARM	PORTLAND.DF	D2500 /API BATCH 2	LOW LOW	0.0
10-Jun-1999 14:01:12.46	NORMAL	PORTLAND.DF	PRINT SWITCH	COMPLETE	
10-Jun-1999 14:01:12.47	NORMAL	PORTLAND.DF	BATCH CHANGE	COMPLETE	
10-Jun-1999 14:01:12.48	CHANGE	PORTLAND.DF	BTCH BLK-->PLC DOWNLOAD	COMPLETE	
10-Jun-1999 14:01:22.49	CHANGE	PORTLAND.DF	DELIVERY REPORT	READY	
10-Jun-1999 14:01:22.50	CNTL REQ	PORTLAND.DF	CONSOLE 0	READY	
10-Jun-1999 14:01:22.51	EXECUTE	PORTLAND.DF	DELIVERY REPORT	COMPLETE	
10-Jun-1999 14:01:22.52	CHANGE	PORTLAND.DF	BATCH REPORT	READY	
10-Jun-1999 14:01:23.53	CNTL REQ	PORTLAND.DF	CONSOLE 0	READY	
10-Jun-1999 14:01:23.54	EXECUTE	PORTLAND.DF	BATCH REPORT	COMPLETE	
10-Jun-1999 14:01:25.55	EVENT	PORTLAND.DF	DELIVERY REPORT PORDDL07	RECEIVED	
10-Jun-1999 14:01:28.56	EVENT	PORTLAND.DF	BATCH REPORT PORDBT06	RECEIVED	
10-Jun-1999 14:01:29.57	EXECUTE	PORTLAND.DF	RESET ACCUM B PSEUDO	RESET	
10-Jun-1999 14:01:30.58	CHANGE	PORTLAND.DF	DELIVERY REPORT	COMPLETE	
10-Jun-1999 14:01:30.59	CHANGE	PORTLAND.DF	BATCH REPORT	COMPLETE	
10-Jun-1999 14:01:46.60	CNTL REQ	PORTLAND.DF	CONSOLE 4 CAI	OPEN	
10-Jun-1999 14:01:50.61	TRANSMIT	PORTLAND.DF	V-871 T-106 OUT	OPEN	
10-Jun-1999 14:01:54.62	CLEAR	PORTLAND.DF	D2500 /API BATCH 2	LOW LOW	56.0
10-Jun-1999 14:01:54.63	CLEAR	PORTLAND.DF	D2500 /API BATCH 2	LOW	56.0
10-Jun-1999 14:01:54.64	NORMAL	PORTLAND.DF	D2500 /API BATCH 2	NORMAL	56.0
10-Jun-1999 14:02:38.65	EXECUTE	PORTLAND.DF	V-871 T-106 OUT	OPEN	
10-Jun-1999 14:03:04.66	CHANGE	SEATAC.2	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 14:03:23.67	CHANGE	SEATAC.2	UNIT 4 STATUS	RUN	
10-Jun-1999 14:03:34.68	CNTL REQ	PORTLAND.DF	CONSOLE 4 CAI	START	
10-Jun-1999 14:03:36.69	TRANSMIT	PORTLAND.DF	INJECTION PUMP	RUN	
10-Jun-1999 14:04:28.70	EXECUTE	PORTLAND.DF	INJECTION PUMP	RUN	
10-Jun-1999 14:04:44.71	CNTL REQ	TACOMA.DF	CONSOLE 5 CAI	DEC	
10-Jun-1999 14:04:46.72	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		1745
10-Jun-1999 14:04:47.74	ALARM	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 14:04:48.73	CNTL REQ	TACOMA.DF	CONSOLE 5 CAI	DEC	
10-Jun-1999 14:04:50.75	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		1735
10-Jun-1999 14:05:19.76	TRANSMIT	OLYMPIA.JCT	DRA SET POINT - GPH		6
10-Jun-1999 14:05:45.77	CNTL REQ	RENTON.1	CONSOLE 3 CAI	STOP	
10-Jun-1999 14:05:47.78	TRANSMIT	RENTON.1	INJECTION PUMP	SHUTDOWN	
10-Jun-1999 14:05:53.79	EXECUTE	RENTON.1	INJECTION PUMP	SHUTDOWN	
10-Jun-1999 14:05:58.80	CNTL REQ	RENTON.1	CONSOLE 3 CAI	CLOSE	

10-Jun-1999 14:06:01.81	TRANSMIT	RENTON.1	V-674 INJECT TO RENTN DF	CLOSE	
10-Jun-1999 14:06:01.82	CNTL REQ	RENTON.1	CONSOLE 3 CAI	CLOSE	
10-Jun-1999 14:06:04.83	TRANSMIT	RENTON.1	V-686 T-116 OUT	CLOSE	
10-Jun-1999 14:06:13.84	EXECUTE	RENTON.1	V-674 INJECT TO RENTN DF	CLOSE	
10-Jun-1999 14:06:24.85	CHANGE	SEATAC.2	UNIT 2 STATUS	SHUTDOWN	
10-Jun-1999 14:07:13.86	EXECUTE	RENTON.1	V-686 T-116 OUT	CLOSE	
10-Jun-1999 14:10:00.87	CHANGE	SEATAC.2	UNIT 1 STATUS	RUN	
10-Jun-1999 14:10:41.88	CHANGE	SEATAC.2	UNIT 3 STATUS	SHUTDOWN	
10-Jun-1999 14:16:50.89	UNCMDCHG	ALLEN.2	20" SCRAPER INLET	OPEN	
10-Jun-1999 14:17:05.90	ALARM	PORTLAND.DF	SWING PORTLAND JCT -200	ALERT	
10-Jun-1999 14:19:21.91	CNTL REQ	PORTLAND.JCT	CONSOLE 5 CAI	OPEN	
10-Jun-1999 14:19:23.92	TRANSMIT	PORTLAND.JCT	V-882 UNOCAL GAS	OPEN	
10-Jun-1999 14:19:28.93	NORMAL	PORTLAND.DF	SWING PORTLAND JCT -200		
10-Jun-1999 14:19:29.94	UNCMDCHG	PORTLAND.JCT	V-878 TEXACO GAS	TRAVEL	
10-Jun-1999 14:19:58.95	EXECUTE	PORTLAND.JCT	V-882 UNOCAL GAS	OPEN	
10-Jun-1999 14:20:04.96	UNCMDCHG	PORTLAND.JCT	V-878 TEXACO GAS	CLOSE	
10-Jun-1999 14:20:19.97	TRANSMIT	OLYMPIA.JCT	DRA SET POINT - GPH		6
10-Jun-1999 14:20:19.98	TRANSMIT	CASTLE.ROCK	DRA SET POINT - GPH		6
10-Jun-1999 14:26:49.99	CHANGE	SEATAC.2	UNIT 4 STATUS	SHUTDOWN	
10-Jun-1999 14:29:08	PREV VAL	RENTON.1	CONSOLE 2 CAI	ON	
10-Jun-1999 14:29:08.01	ENTRY	RENTON.1	PROVE STATUS	TAG	OFF
10-Jun-1999 14:29:13.02	CNTL REQ	RENTON.1	CONSOLE 3 CAI	START	
10-Jun-1999 14:29:16.03	TRANSMIT	RENTON.1	PROVE STATUS	IN PROG.	
10-Jun-1999 14:29:28.04	NORMAL	RENTON.1	PROVE SEQUENCE		
10-Jun-1999 14:29:28.05	EXECUTE	RENTON.1	PROVE STATUS	IN PROG.	
10-Jun-1999 14:30:08.06	CNTL REQ	TACOMA.STA	CONSOLE 4 CAI	INC	
10-Jun-1999 14:30:10.07	TRANSMIT	TACOMA.STA	DISCHARGE PSI SP ENTRY		1300
10-Jun-1999 14:30:11.08	CNTL REQ	TACOMA.STA	CONSOLE 4 CAI	INC	
10-Jun-1999 14:30:13.09	TRANSMIT	TACOMA.STA	DISCHARGE PSI SP ENTRY		1330
10-Jun-1999 14:30:14.10	CNTL REQ	TACOMA.STA	CONSOLE 4 CAI	INC	
10-Jun-1999 14:30:16.11	TRANSMIT	TACOMA.STA	DISCHARGE PSI SP ENTRY		1360
10-Jun-1999 14:30:26.12	CNTL REQ	TACOMA.STA	CONSOLE 6 CAI		1435.00
10-Jun-1999 14:30:29.13	TRANSMIT	TACOMA.STA	DISCHARGE PSI SP ENTRY		1435
10-Jun-1999 14:31:05.14	CHANGE	SEATAC.2	UNIT 2 STATUS	RUN	
10-Jun-1999 14:36:50.15	CHANGE	RENTON.1	PROVE REPORT	READY	
10-Jun-1999 14:36:52.16	CNTL REQ	RENTON.1	CONSOLE 0	READY	
10-Jun-1999 14:36:52.17	EXECUTE	RENTON.1	PROVE REPORT	COMPLETE	
10-Jun-1999 14:37:01.18	EVENT	RENTON.1	PROVING REPORT RT1DPR03	RECEIVED	
10-Jun-1999 14:37:05.19	CHANGE	RENTON.1	PROVE REPORT	COMPLETE	
10-Jun-1999 14:39:27.20	UNCMDCHG	BAYVIEW	FER TK-202 OUTLET HOA	HAND	
10-Jun-1999 14:39:44.21	UNCMDCHG	BAYVIEW	FER TK-203 OUTLET HOA	HAND	
10-Jun-1999 14:39:44.22	UNCMDCHG	BAYVIEW	FER TK-205 OUTLET HOA	HAND	
10-Jun-1999 14:40:02.23	UNCMDCHG	BAYVIEW	FER DONUT TO PUMPS	HAND	
10-Jun-1999 14:40:02.24	UNCMDCHG	BAYVIEW	FER TK-204 OUTLET HOA	HAND	
10-Jun-1999 14:40:20.25	UNCMDCHG	BAYVIEW	FER TK-206 OUTLET HOA	HAND	
10-Jun-1999 14:41:26.26	UNCMDCHG	ALLEN.2	20" SCRAPER BYPASS	CLOSE	
10-Jun-1999 14:43:39.27	CHANGE	RENTON.1	PRINT SWITCH	IN PROG.	
10-Jun-1999 14:43:41.28	CHANGE	RENTON.1	CALCULATED DELIVERY	TOTL VOL	41053.5
10-Jun-1999 14:43:41.29	CHANGE	RENTON.1	CALCULATED DELIVERY	WTAVG GR	60.8
10-Jun-1999 14:43:45.30	UNCMDCHG	RENTON.1	PROVE STATUS	COMPLETE	
10-Jun-1999 14:43:50.31	CHANGE	RENTON.1	FACTOR TABLE	READY	
10-Jun-1999 14:43:50.34	CHANGE	RENTON.1	PRINT SWITCH	COMPLETE	
10-Jun-1999 14:43:52.32	CNTL REQ	RENTON.1	CONSOLE 0	READY	
10-Jun-1999 14:43:52.33	EXECUTE	RENTON.1	FACTOR TABLE	COMPLETE	
10-Jun-1999 14:43:54.35	EVENT	RENTON.1	METER FACTORS RT1DMFCUR	RECEIVED	
10-Jun-1999 14:43:58.36	CHANGE	RENTON.1	DELIVERY REPORT	READY	
10-Jun-1999 14:43:58.37	CNTL REQ	RENTON.1	CONSOLE 0	READY	
10-Jun-1999 14:43:58.38	EXECUTE	RENTON.1	DELIVERY REPORT	COMPLETE	
10-Jun-1999 14:43:58.39	CHANGE	RENTON.1	FACTOR TABLE	COMPLETE	
10-Jun-1999 14:44:00.40	EVENT	RENTON.1	DELIVERY REPORT RT1DDL02	RECEIVED	
10-Jun-1999 14:44:04.41	CHANGE	RENTON.1	DELIVERY REPORT	COMPLETE	
10-Jun-1999 14:44:04.42	CHANGE	RENTON.1	PROVE REPORT	READY	
10-Jun-1999 14:44:05.43	CNTL REQ	RENTON.1	CONSOLE 0	READY	
10-Jun-1999 14:44:05.44	EXECUTE	RENTON.1	PROVE REPORT	COMPLETE	

10-Jun-1999 14:44:17.45	CHANGE	RENTON.1	PROVE REPORT	COMPLETE	
10-Jun-1999 14:48:54.46	CNTL REQ	TACOMA.DF	CONSOLE 5 CAI	INC	
10-Jun-1999 14:48:55.47	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		1745
10-Jun-1999 14:54:13.48	CNTL REQ	RENTON.1	CONSOLE 3 CAI	START	
10-Jun-1999 14:54:14.49	TRANSMIT	RENTON.1	PROVE STATUS	IN PROG.	
10-Jun-1999 14:54:38.50	EXECUTE	RENTON.1	PROVE STATUS	IN PROG.	
10-Jun-1999 14:56:10.51	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	TRAVEL	
10-Jun-1999 14:56:18.52	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	OPEN	
10-Jun-1999 14:56:18.53	UNCMDCHG	BAYVIEW	P-208 SUMP PUMP STATUS	RUN	
10-Jun-1999 14:56:28.54	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	OPEN	
10-Jun-1999 14:58:52.55	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	TRAVEL	
10-Jun-1999 14:58:52.56	UNCMDCHG	BAYVIEW	P-208 SUMP PUMP STATUS	SHUTDOWN	
10-Jun-1999 14:58:59.57	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	CLOSE	
10-Jun-1999 15:00:10.58	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 15:01:23.59	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	OPEN	
10-Jun-1999 15:01:33.60	ALARM	RENTON.1	PROVE SEQUENCE	FAIL	
10-Jun-1999 15:01:33.61	UNCMDCHG	RENTON.1	PROVE STATUS	COMPLETE	
10-Jun-1999 15:01:45.62	CHANGE	RENTON.1	PROVE REPORT	READY	
10-Jun-1999 15:01:45.63	CNTL REQ	RENTON.1	CONSOLE 0	READY	
10-Jun-1999 15:01:45.64	EXECUTE	RENTON.1	PROVE REPORT	COMPLETE	
10-Jun-1999 15:01:57.65	CHANGE	RENTON.1	PROVE REPORT	COMPLETE	
10-Jun-1999 15:04:45.66	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 15:06:57.67	CNTL REQ	RENTON.1	CONSOLE 3 CAI	START	
10-Jun-1999 15:07:00.68	TRANSMIT	RENTON.1	SUMP PUMP	RUN	
10-Jun-1999 15:07:03.69	UNCMDCHG	RENTON.1	SUMP PUMP	RUN	
10-Jun-1999 15:07:04.70	TO FINAL	RENTON.1	SUMP PUMP	RUN	
10-Jun-1999 15:07:18.71	ALARM	CHERRY.POINT	SUCTION PRESSURE	LOW	15
10-Jun-1999 15:07:18.72	ALARM	CHERRY.POINT	METER PRESSURE	LOW	15
10-Jun-1999 15:07:23.73	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	OPEN	
10-Jun-1999 15:07:25.74	CLEAR	CHERRY.POINT	SUCTION PRESSURE	LOW	17
10-Jun-1999 15:07:25.75	NORMAL	CHERRY.POINT	SUCTION PRESSURE	NORMAL	17
10-Jun-1999 15:07:25.76	CLEAR	CHERRY.POINT	METER PRESSURE	LOW	17
10-Jun-1999 15:07:25.77	NORMAL	CHERRY.POINT	METER PRESSURE	NORMAL	17
10-Jun-1999 15:07:34.78	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 15:09:08.79	UNCMDCHG	RENTON.1	SUMP PUMP	SHUTDOWN	
10-Jun-1999 15:12:34.80	CLEAR	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 15:12:41.81	ALARM	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 15:12:46.82	CLEAR	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 15:12:52.83	ALARM	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 15:13:29.84	CLEAR	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 15:13:34.85	ALARM	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 15:13:42.86	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	OPEN	
10-Jun-1999 15:13:45.87	TRANSMIT	SEATTLE.DF	V-702 SCRAPER IN	OPEN	
10-Jun-1999 15:13:49.88	CLEAR	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 15:14:12.89	ALARM	RENTON.1	TANK 116	LO [V]	
10-Jun-1999 15:15:00.90	EXECUTE	SEATTLE.DF	V-702 SCRAPER IN	OPEN	
10-Jun-1999 15:15:29.91	UNCMDCHG	PORTLAND.DF	INJECTION PUMP	SHUTDOWN	
10-Jun-1999 15:15:38.92	CNTL REQ	RENTON.1	CONSOLE 3 CAI	OPEN	
10-Jun-1999 15:15:41.93	TRANSMIT	RENTON.1	V-667 16" SEATTLE MNFLD.	OPEN	
10-Jun-1999 15:16:06.94	CNTL REQ	RENTON	CONSOLE 3 CAI	INC	
10-Jun-1999 15:16:08.95	TRANSMIT	RENTON	INCOMING PSI SP ENTRY		300
10-Jun-1999 15:16:10.96	CNTL REQ	RENTON	CONSOLE 3 CAI	INC	
10-Jun-1999 15:16:12.97	TRANSMIT	RENTON	INCOMING PSI SP ENTRY		400
10-Jun-1999 15:16:14.98	TO FINAL	RENTON.1	V-667 16" SEATTLE MNFLD.	TRAVEL	
10-Jun-1999 15:16:15.99	UNCMDCHG	RENTON.1	V-667 16" SEATTLE MNFLD.	OPEN	
10-Jun-1999 15:16:19	CNTL REQ	RENTON	CONSOLE 3 CAI	INC	
10-Jun-1999 15:16:20.01	TRANSMIT	RENTON	INCOMING PSI SP ENTRY		500
10-Jun-1999 15:16:23.02	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:25.03	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:26.04	CHANGE	SEATAC.2	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 15:16:27.05	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		700
10-Jun-1999 15:16:27.06	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:29.07	CNTL REQ	RENTON	CONSOLE 3 CAI	INC	
10-Jun-1999 15:16:29.08	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		650

.0-Jun-1999 15:16:31.09	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
.0-Jun-1999 15:16:31.10	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		600
10-Jun-1999 15:16:32.11	TRANSMIT	RENTON	INCOMING PSI SP ENTRY		600
10-Jun-1999 15:16:33.12	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:34.13	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		550
10-Jun-1999 15:16:36.14	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		500
10-Jun-1999 15:16:36.15	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:38.16	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:39.17	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		450
10-Jun-1999 15:16:41.18	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		400
10-Jun-1999 15:16:42.19	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:45.20	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:45.21	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		350
10-Jun-1999 15:16:47.22	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		300
10-Jun-1999 15:16:48.23	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:51.24	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		250
10-Jun-1999 15:16:52.25	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	OPEN	
10-Jun-1999 15:16:52.26	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:16:55.27	CNTL REQ	RENTON	CONSOLE 3 CAI	INC	
10-Jun-1999 15:16:56.28	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		200
10-Jun-1999 15:16:57.29	CNTL REQ	RENTON	CONSOLE 3 CAI	INC	
10-Jun-1999 15:16:58.30	TRANSMIT	RENTON	INCOMING PSI SP ENTRY		700
10-Jun-1999 15:16:59.31	CNTL REQ	RENTON	CONSOLE 3 CAI	INC	
10-Jun-1999 15:16:59.32	TRANSMIT	RENTON	INCOMING PSI SP ENTRY		800
10-Jun-1999 15:17:00.33	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	OPEN	
10-Jun-1999 15:17:00.34	UNCMDCHG	BAYVIEW	P-208 SUMP PUMP STATUS	RUN	
10-Jun-1999 15:17:01.35	TRANSMIT	RENTON	INCOMING PSI SP ENTRY		900
10-Jun-1999 15:17:01.36	CNTL REQ	RENTON	CONSOLE 3 CAI	INC	
10-Jun-1999 15:17:03.37	TRANSMIT	RENTON	INCOMING PSI SP ENTRY		1000
10-Jun-1999 15:17:05.38	CNTL REQ	RENTON.1	CONSOLE 3 CAI	CLOSE	
10-Jun-1999 15:17:08.39	TRANSMIT	RENTON.1	V-669 16" RENTON DF MFLD	CLOSE	
10-Jun-1999 15:17:10.40	ALARM	RENTON	TEMPERATURE SEATTLE TRAP	MINUSROC	2.2
10-Jun-1999 15:17:11.41	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:17:14.42	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		150
10-Jun-1999 15:17:16.43	CLEAR	RENTON	TEMPERATURE SEATTLE TRAP	ROC +/-	0.0
10-Jun-1999 15:17:20.44	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:17:23.45	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		100
10-Jun-1999 15:17:23.46	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:17:25.47	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		100
10-Jun-1999 15:17:26.48	CNTL REQ	SEATTLE.DF	CONSOLE 3 CAI	DEC	
10-Jun-1999 15:17:29.49	TRANSMIT	SEATTLE.DF	INCOMING PSI SP ENTRY		50
10-Jun-1999 15:17:40.50	CHANGE	SEATAC.2	UNIT 3 STATUS	RUN	
10-Jun-1999 15:17:43.51	EXECUTE	RENTON.1	V-669 16" RENTON DF MFLD	CLOSE	
10-Jun-1999 15:18:22.52	ALARM	ALLEN.1	16" DISCHARGE PRESSURE	HIGH	1444
10-Jun-1999 15:18:35.53	CNTL REQ	WOODINVILLE	CONSOLE 2 CAI	START	
10-Jun-1999 15:18:58.54	FAILURE	WOODINVILLE	UNIT 2 STATUS	RUN	
10-Jun-1999 15:19:04.58	ALARM	ALLEN.1	16" CONTROL PRESSURE	HIGH	1539
10-Jun-1999 15:19:05.55	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	TRAVEL	
10-Jun-1999 15:19:05.56	UNCMDCHG	BAYVIEW	P-208 SUMP PUMP STATUS	SHUTDOWN	
10-Jun-1999 15:20:07.57	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	CLOSE	
10-Jun-1999 15:20:35.60	CLEAR	ALLEN.1	16" DISCHARGE PRESSURE	HIGH	1440
10-Jun-1999 15:20:35.61	NORMAL	ALLEN.1	16" DISCHARGE PRESSURE	NORMAL	1440
10-Jun-1999 15:20:45.59	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 15:22:16.62	NORMAL	BAYVIEW	FER-ALN SCRAPER OUT		
10-Jun-1999 15:22:38.63	CHANGE	SEATAC.2	UNIT 4 STATUS	RUN	
10-Jun-1999 15:22:59.64	CHANGE	BAYVIEW	P-201 SUCTION	TRAVEL	
10-Jun-1999 15:22:59.65	CHANGE	BAYVIEW	P-201 DISCHARGE	TRAVEL	
10-Jun-1999 15:22:59.66	UNCMDCHG	BAYVIEW	P-201 STATUS	SHUTDOWN	
10-Jun-1999 15:23:16.70	ALARM	BAYVIEW	FER-BPT RECEIVER PSI	HIGH	666
10-Jun-1999 15:23:16.71	ALARM	BAYVIEW	FER-BPT UPSTREAM PSI	HIGH	622
10-Jun-1999 15:23:34.67	UNCMDCHG	ALLEN.1	16" UNIT 2 STATUS	SHUTDOWN	
10-Jun-1999 15:24:16.69	CHANGE	BAYVIEW	P-201 SUCTION	CLOSE	
10-Jun-1999 15:24:16.72	CHANGE	BAYVIEW	P-201 DISCHARGE	CLOSE	
10-Jun-1999 15:24:16.73	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	OPEN	

10-Jun-1999 15:24:21.68	NORMAL	TACOMA.DF	TANK 103	NORMAL	2584
10-Jun-1999 15:24:25.76	CLEAR	ALLEN.1	16" CONTROL PRESSURE	HIGH	1205
10-Jun-1999 15:24:25.77	NORMAL	ALLEN.1	16" CONTROL PRESSURE	NORMAL	1205
10-Jun-1999 15:24:29.78	ALARM	RENTON	API GRAVITY 20 LOCAL	MINUSROC	0.3
10-Jun-1999 15:24:30.79	ALARM	BAYVIEW	FER-BPT API GRAVITY @ 60	MINUSROC	0.3
10-Jun-1999 15:24:53.74	UNCMDCHG	BAYVIEW	FER-BPT STA SDOWN-RESET	SHUTDOWN	
10-Jun-1999 15:24:53.75	UNCMDCHG	BAYVIEW	FER-BPT RECEIVER INLET	TRAVEL	
10-Jun-1999 15:24:53.80	ALARM	BAYVIEW	FER-BPT UPSTRM PSI HI	ALARM	
10-Jun-1999 15:44:30.57	EVENT	SYSTEM	VCS STARTUP		
10-Jun-1999 15:44:43.58	ALARM	SEATAC.2	COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:46.59	ALARM	OLYMPIA.JCT	COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:46.60	ALARM	BAYVIEW	COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:47.61	ALARM	TACOMA.STA	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:44:47.62	ALARM	WOODINVILLE	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:44:47.63	ALARM	RENTON	RENTON PLC COMM STATS	FAIL	
10-Jun-1999 15:44:51.64	ALARM	CASTLE.ROCK	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:44:51.65	ALARM	CHERRY.POINT	COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:53.66	ALARM	ANACORTES.ML	COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:57.67	ALARM	ANA.SHELL	READALL COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:57.68	ALARM	TACOMA.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:57.69	ALARM	ANA.TEX	ANA.TEX COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:58.70	ALARM	PORTLAND.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:58.71	ALARM	SEATAC.1	COMMUNICATIONS	FAIL	
10-Jun-1999 15:44:59.72	ALARM	SEATTLE.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:03.73	ALARM	ALLEN	ALLEN PLC COMM STATS	FAIL	
10-Jun-1999 15:45:03.74	ALARM	LINNTON.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:03.75	ALARM	RENTON.1	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:03.76	ALARM	SEATTLE.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:03.77	ALARM	TACOMA.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:03.78	LOGON	SYSTEM	CONSOLE 11 CAI	KEYBOARD	11
10-Jun-1999 15:45:04.79	ALARM	OLYMPIA.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:04.80	ALARM	TACOMA.JCT	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:45:04.81	ALARM	FERNDALE	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:05.82	ALARM	VANCOUVR.JCT	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:06.83	ALARM	FERNDALE	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:06.84	ALARM	PORTLAND.JCT	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:07.85	ALARM	VANCOUVER.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:07.86	ALARM	VANCOUVER.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:45:10.87	ALARM	MILEPOST.56	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:45:14.88	LOGON	SYSTEM	CONSOLE 12 CAI	KEYBOARD	12
10-Jun-1999 15:45:15.89	ALARM	MILEPOST.46	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:45:21.90	ALARM	MILEPOST.CDR	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:45:22.91	ALARM	MILEPOST.66	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:45:22.92	ALARM	MILEPOST.89	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:45:29.93	EVENT	SYSTEM	COMMUNICATION STATISTICS	PURGED	
10-Jun-1999 15:47:03.94	ALARM	MILEPOST.LWS	MP 239.5 Comm Statistics	FAIL	
10-Jun-1999 15:47:14.95	ALARM	BAYVIEW	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:20.96	ALARM	SEATAC.2	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:22.97	ALARM	OLYMPIA.JCT	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:22.98	ALARM	RENTON	RENTON PLC COMM STATS	FAIL	
10-Jun-1999 15:47:23	ALARM	TACOMA.STA	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:47:23.99	ALARM	WOODINVILLE	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:47:26.01	ALARM	CASTLE.ROCK	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:47:28.02	ALARM	CHERRY.POINT	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:32.03	ALARM	ANA.SHELL	READALL COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:32.04	ALARM	LINNTON.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:33.05	ALARM	TACOMA.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:33.06	ALARM	ANA.TEX	ANA.TEX COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:35.07	ALARM	ANACORTES.ML	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:35.08	ALARM	PORTLAND.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:36.09	ALARM	FERNDALE	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:39.10	ALARM	RENTON.1	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:39.11	ALARM	ALLEN	ALLEN PLC COMM STATS	FAIL	
10-Jun-1999 15:47:40.12	ALARM	OLYMPIA.DF	COMMUNICATIONS	FAIL	

10-Jun-1999 15:47:40.13	ALARM	TACOMA.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:40.14	ALARM	SEATTLE.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:40.15	ALARM	PORTLAND.JCT	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:40.16	ALARM	SEATTLE.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:40.17	ALARM	VANCOUVR.JCT	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:40.18	ALARM	SEATAC.1	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:41.19	ALARM	VANCOUVER.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:44.20	ALARM	TACOMA.JCT	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:47:44.21	ALARM	VANCOUVER.DF	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:46.22	ALARM	FERNDALE	COMMUNICATIONS	FAIL	
10-Jun-1999 15:47:47.23	ALARM	MILEPOST.89	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:47:52.24	ALARM	MILEPOST.56	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:47:56.25	ALARM	MILEPOST.CDR	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:47:58.26	ALARM	MILEPOST.46	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:47:58.27	ALARM	MILEPOST.66	COMMUNICATIONS VIA CPA	FAIL	
10-Jun-1999 15:48:39.59	CLEAR	ALLEN.1	16" CONTROL PRESSURE	HIGH	239
10-Jun-1999 15:48:39.61	NORMAL	ALLEN.1	16" CONTROL PRESSURE	NORMAL	239
10-Jun-1999 15:48:40.28	NORMAL	MILEPOST.89	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:48:43.29	NORMAL	SEATAC.2	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:48:43.30	ALARM	SEATTLE.DF	GROSS FLW RATE SET POINT	HIGH	10000
10-Jun-1999 15:48:44.31	CHANGE	SEATAC.2	UNIT 1 STATUS	RUN	
10-Jun-1999 15:48:44.32	CHANGE	SEATAC.2	UNIT 2 STATUS	SHUTDOWN	
10-Jun-1999 15:48:44.33	CHANGE	SEATAC.2	UNIT 4 STATUS	RUN	
10-Jun-1999 15:48:48.36	ALARM	WOODINVILLE	DRA PUMP INHIBIT	ON	
10-Jun-1999 15:48:48.40	ALARM	BAYVIEW	FER-BPT METER PSI	LOW	1
10-Jun-1999 15:48:48.41	ALARM	BAYVIEW	FER-BPT METER PSI	LOW LOW	1
10-Jun-1999 15:48:48.43	ALARM	BAYVIEW	FER-ALN METER PSI	LOW	0
10-Jun-1999 15:48:48.44	ALARM	BAYVIEW	FER-ALN METER PSI	LOW LOW	0
10-Jun-1999 15:48:48.47	ALARM	BAYVIEW	FER-ALN PUMP DISC PSI	LOW	0
10-Jun-1999 15:48:48.48	ALARM	BAYVIEW	FER-ALN PUMP DISC PSI	LOW LOW	0
10-Jun-1999 15:48:48.51	ALARM	BAYVIEW	FER-ALN PUMP CASE PSI	LOW	1
10-Jun-1999 15:48:48.52	ALARM	BAYVIEW	FER-ALN PUMP CASE PSI	LOW LOW	1
10-Jun-1999 15:48:48.53	CLEAR	BAYVIEW	FER-BPT RECEIVER PSI	HIGH	258
10-Jun-1999 15:48:48.54	NORMAL	BAYVIEW	FER-BPT RECEIVER PSI	NORMAL	258
10-Jun-1999 15:48:48.55	CLEAR	BAYVIEW	FER-BPT UPSTREAM PSI	HIGH	0
10-Jun-1999 15:48:48.56	ALARM	BAYVIEW	FER-BPT UPSTREAM PSI	LOW	0
10-Jun-1999 15:48:48.57	ALARM	BAYVIEW	FER-ALN STATION DISC PSI	LOW	0
10-Jun-1999 15:48:48.58	ALARM	BAYVIEW	FER-ALN STATION DISC PSI	LOW LOW	0
10-Jun-1999 15:48:49.34	NORMAL	BAYVIEW	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:48:49.35	NORMAL	MILEPOST.56	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:48:50.37	NORMAL	CASTLE.ROCK	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:48:51.38	NORMAL	WOODINVILLE	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:48:52.39	NORMAL	TACOMA.STA	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:48:52.42	NORMAL	ANA.SHELL	READALL COMMUNICATIONS	NORMAL	
10-Jun-1999 15:48:52.45	CHANGE	CHERRY.POINT	METER FLOW STATUS	IN PROG.	
10-Jun-1999 15:48:52.46	NORMAL	RENTON	RENTON PLC COMM STATS	NORMAL	
10-Jun-1999 15:48:52.49	CHANGE	CHERRY.POINT	UNIT 1 SUCTION	CLOSE	
10-Jun-1999 15:48:52.50	CHANGE	CHERRY.POINT	UNIT 1 DISCHARGE	CLOSE	
10-Jun-1999 15:48:52.60	CHANGE	BAYVIEW	P-201 SUCTION	CLOSE	
10-Jun-1999 15:48:52.62	CHANGE	BAYVIEW	P-201 DISCHARGE	CLOSE	
10-Jun-1999 15:48:52.63	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 15:48:52.89	ALARM	CHERRY.POINT	DISCHARGE PRESSURE	LOW	34
10-Jun-1999 15:48:52.90	ALARM	CHERRY.POINT	DISCHARGE PRESSURE	LOW LOW	34
10-Jun-1999 15:48:53.64	NORMAL	OLYMPIA.JCT	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:48:53.65	NORMAL	MILEPOST.CDR	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:48:55.66	NORMAL	ANA.TEX	ANA.TEX COMMUNICATIONS	NORMAL	
10-Jun-1999 15:48:55.81	ALARM	PORTLAND.DF	ELECTRICAL	ALARM	
10-Jun-1999 15:48:56.67	NORMAL	LINNTON.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:48:57.68	NORMAL	CHERRY.POINT	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:48:58.69	NORMAL	MILEPOST.46	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:48:58.70	NORMAL	SEATTLE.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:48:58.82	ALARM	FERNDALE	LOW SUCTION PRESSURE	ALARM	
10-Jun-1999 15:48:58.83	ALARM	FERNDALE	MECHANICAL	ALARM	
10-Jun-1999 15:48:58.91	ALARM	FERNDALE	CONTROL PRESSURE	LOW	

10-Jun-1999 15:48:58.92	ALARM	FERNDALE	CONTROL PRESSURE	LOW LOW	44
10-Jun-1999 15:48:58.93	ALARM	FERNDALE	DISCHARGE PRESSURE	LOW	45
10-Jun-1999 15:48:58.94	ALARM	FERNDALE	DISCHARGE PRESSURE	LOW LOW	45
10-Jun-1999 15:48:58.95	ALARM	FERNDALE	SUCTION PRESSURE	LOW	23
10-Jun-1999 15:48:58.96	ALARM	FERNDALE	SUCTION PRESSURE	LOW LOW	23
10-Jun-1999 15:48:58.97	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW	31
10-Jun-1999 15:49:01.71	NORMAL	RENTON.1	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:01.72	NORMAL	OLYMPIA.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:01.73	NORMAL	TACOMA.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:01.74	NORMAL	MILEPOST.66	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:49:01.75	NORMAL	SEATTLE.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:01.76	NORMAL	PORTLAND.JCT	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:03.77	NORMAL	TACOMA.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:04.78	NORMAL	VANCOUVER.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:05.79	NORMAL	TACOMA.JCT	COMMUNICATIONS VIA CPA	NORMAL	
10-Jun-1999 15:49:05.80	NORMAL	VANCOUVER.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:08.88	ALARM	FERNDALE	DRA PUMP INHIBIT	ON	
10-Jun-1999 15:49:11.84	NORMAL	VANCOUVR.JCT	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:11.85	NORMAL	ALLEN	ALLEN PLC COMM STATS	NORMAL	
10-Jun-1999 15:49:16.86	NORMAL	SEATAC.1	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:17.87	NORMAL	PORTLAND.DF	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:29.98	NORMAL	ANACORTES.ML	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:32.99	NORMAL	FERNDALE	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:49:33	NORMAL	FERNDALE	COMMUNICATIONS	NORMAL	
10-Jun-1999 15:50:05.01	CNTL REQ	PORTLAND.DF	CONSOLE 4 CAI	CLOSE	
10-Jun-1999 15:50:08.02	TRANSMIT	PORTLAND.DF	V-871 T-106 OUT	CLOSE	
10-Jun-1999 15:50:20.03	ALARM	PORTLAND.DF	ELECTRICAL	RESET	
10-Jun-1999 15:50:54.04	EXECUTE	PORTLAND.DF	V-871 T-106 OUT	CLOSE	
10-Jun-1999 15:55:07.05	EVENT	SYSTEM	COMMUNICATION STATISTICS	PURGED	
10-Jun-1999 15:55:38.06	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	TRAVEL	
10-Jun-1999 15:55:44.07	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	OPEN	
10-Jun-1999 15:55:44.08	UNCMDCHG	BAYVIEW	P-208 SUMP PUMP STATUS	RUN	
10-Jun-1999 15:55:49.09	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	OPEN	
10-Jun-1999 15:56:49.10	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	TRAVEL	
10-Jun-1999 15:56:49.11	UNCMDCHG	BAYVIEW	P-208 SUMP PUMP STATUS	SHUTDOWN	
10-Jun-1999 15:56:55.12	UNCMDCHG	BAYVIEW	PRODUCT SUMP DISCHARGE	CLOSE	
10-Jun-1999 15:58:10.13	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 15:58:16.14	CHANGE	SEATAC.2	UNIT 4 STATUS	SHUTDOWN	
10-Jun-1999 16:01:01.15	UNCMDCHG	BAYVIEW	TK-206 TANK VALVE	TRAVEL	
10-Jun-1999 16:01:31.16	CNTL REQ	RENTON.1	CONSOLE 3 CAI	CHANGE	
10-Jun-1999 16:01:31.17	NOTICE:	RENTON.1	RT1IBTCHCHNGSTATUS IS CHANGE	CONTINUE...	
10-Jun-1999 16:01:32.18	TRANSMIT	RENTON.1	BATCH CHANGE	COMPLETE	
10-Jun-1999 16:01:36.19	CHANGE	RENTON.1	BATCH CHANGE	IN PROG.	
10-Jun-1999 16:01:36.20	CHANGE	RENTON.1	PRINT SWITCH	IN PROG.	
10-Jun-1999 16:01:36.21	CHANGE	RENTON.1	BTCH BLK-->PLC DOWNLOAD	READY	
10-Jun-1999 16:01:37.22	CNTL REQ	RENTON.1	CONSOLE 0	READY	
10-Jun-1999 16:01:41.23	EXECUTE	RENTON.1	MASTER --> PLC DOWNLOAD	READY	SUCCESS
10-Jun-1999 16:01:41.24	CHANGE	RENTON.1	CALCULATED BATCH	TOTL VOL	45854.1
10-Jun-1999 16:01:41.25	CHANGE	RENTON.1	CALCULATED BATCH	WTAVG GR	60.8
10-Jun-1999 16:01:41.26	CHANGE	RENTON.1	CALCULATED DELIVERY	TOTL VOL	4800.7
10-Jun-1999 16:01:41.27	CHANGE	RENTON.1	CALCULATED DELIVERY	WTAVG GR	60.8
10-Jun-1999 16:01:48.28	CNTL REQ	RENTON.1	CONSOLE 3 CAI	CLOSE	
10-Jun-1999 16:01:56.29	TRANSMIT	RENTON.1	V-644 BP GAS	CLOSE	
10-Jun-1999 16:01:58.30	UNCMDCHG	BAYVIEW	TK-206 TANK VALVE	OPEN	
10-Jun-1999 16:01:59.31	CHANGE	RENTON.1	DELIVERY REPORT	READY	
10-Jun-1999 16:01:59.32	CNTL REQ	RENTON.1	CONSOLE 0	READY	
10-Jun-1999 16:01:59.33	CHANGE	RENTON.1	BATCH REPORT	READY	
10-Jun-1999 16:01:59.34	CNTL REQ	RENTON.1	CONSOLE 0	READY	
10-Jun-1999 16:01:59.35	CHANGE	RENTON.1	BATCH CHANGE	COMPLETE	
10-Jun-1999 16:01:59.36	CHANGE	RENTON.1	PRINT SWITCH	COMPLETE	
10-Jun-1999 16:01:59.37	CHANGE	RENTON.1	BTCH BLK-->PLC DOWNLOAD	COMPLETE	
10-Jun-1999 16:01:59.38	EXECUTE	RENTON.1	DELIVERY REPORT	READY	
10-Jun-1999 16:01:59.39	EXECUTE	RENTON.1	BATCH REPORT	READY	
10-Jun-1999 16:02:02.40	CNTL REQ	RENTON.1	CONSOLE 3 CAI	SHUTDWN	

0-Jun-1999 16:02:04.41	EVENT	RENTON.1	DELIVERY REPORT RT1DDL03	RECEIVED	
0-Jun-1999 16:02:05.42	TRANSMIT	RENTON.1	RENTON D.F. STATUS	SHUTDOWN	
0-Jun-1999 16:02:09.43	TO FINAL	RENTON.1	RENTON D.F. STATUS	RESET	
0-Jun-1999 16:02:10.44	CHANGE	RENTON.1	DELIVERY REPORT	COMPLETE	
0-Jun-1999 16:02:10.45	CHANGE	RENTON.1	BATCH REPORT	COMPLETE	
0-Jun-1999 16:02:10.46	CHANGE	RENTON.1	V-643 GAS DIVIDER	TRAVEL	
0-Jun-1999 16:02:10.47	UNCMDCHG	RENTON.1	RENTON D.F. STATUS	SHUTDOWN	
10-Jun-1999 16:02:24.48	TO FINAL	RENTON.1	V-644 BP GAS	TRAVEL	
10-Jun-1999 16:02:26.49	UNCMDCHG	RENTON.1	V-644 BP GAS	CLOSE	
10-Jun-1999 16:02:34.50	EVENT	RENTON.1	BATCH REPORT RT1DBT05	RECEIVED	
10-Jun-1999 16:02:37.51	CHANGE	RENTON.1	V-643 GAS DIVIDER	CLOSE	
10-Jun-1999 16:03:06.52	CNTL REQ	TACOMA.DF	CONSOLE 6 CAI		2150.00
10-Jun-1999 16:03:08.53	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2150
10-Jun-1999 16:03:34.54	CHANGE	SEATAC.2	TR POSITION 8 DISABLE	OFF	
10-Jun-1999 16:03:42.55	TRANSMIT	RENTON	DRA SET POINT - GPH		8
10-Jun-1999 16:03:51.56	CHANGE	SYSTEM	Backup CPU Status	ON-LINE	
10-Jun-1999 16:04:31.57	CHANGE	SEATAC.2	UNITED DISABLE	ON	
10-Jun-1999 16:04:34.58	UNCMDCHG	BAYVIEW	FER TK-206 OUTLET	TRAVEL	
10-Jun-1999 16:04:38.59	CNTL REQ	TACOMA.JCT	CONSOLE 6 CAI		70.00
10-Jun-1999 16:04:42.60	TRANSMIT	TACOMA.JCT	8" PRESSURE SP ENTRY		70
10-Jun-1999 16:04:46.61	PREV VAL	TACOMA.DF	CONSOLE 6 CAI		100.000
10-Jun-1999 16:04:46.62	ENTRY	TACOMA.DF	INCOMING PSI SP ENTRY	INCV	50
10-Jun-1999 16:04:57.63	CNTL REQ	ALLEN.1	CONSOLE 6 CAI		928.00
10-Jun-1999 16:04:59.64	TRANSMIT	ALLEN.1	20" DISCHARGE PRESS SPT		928
10-Jun-1999 16:05:06.65	CHANGE	SEATAC.2	TR POSITION 1 DISABLE	ON	
10-Jun-1999 16:05:06.66	CHANGE	SEATAC.2	TR POSITION 2 DISABLE	ON	
10-Jun-1999 16:05:06.67	CHANGE	SEATAC.2	TR POSITION 4 DISABLE	ON	
10-Jun-1999 16:05:11.68	PREV VAL	LINNTON.DF	CONSOLE 6 CAI		100.000
10-Jun-1999 16:05:11.69	ENTRY	LINNTON.DF	INCOMING PSI SET POINT	INCV	50
10-Jun-1999 16:05:13.70	CHANGE	SEATAC.2	TR POSITION 5 DISABLE	ON	
10-Jun-1999 16:05:13.71	CHANGE	SEATAC.2	TR POSITION 7 DISABLE	ON	
10-Jun-1999 16:05:16.72	PREV VAL	PORTLAND.DF	CONSOLE 6 CAI		100.000
10-Jun-1999 16:05:16.73	ENTRY	PORTLAND.DF	INCOMING PSI SET POINT	INCV	50
10-Jun-1999 16:05:25.74	CHANGE	SEATAC.2	TR POSITION 3 DISABLE	ON	
10-Jun-1999 16:05:38.75	CHANGE	SEATAC.2	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 16:05:44.76	TRANSMIT	RENTON	DRA SET POINT - GPH		8
10-Jun-1999 16:05:44.77	CHANGE	SEATAC.2	TR POSITION 6 DISABLE	ON	
10-Jun-1999 16:06:26.78	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	INC	
10-Jun-1999 16:06:28.79	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2160
10-Jun-1999 16:06:28.80	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	INC	
10-Jun-1999 16:06:29.81	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2170
10-Jun-1999 16:06:31.82	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	INC	
10-Jun-1999 16:06:34.83	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	INC	
10-Jun-1999 16:06:34.84	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2180
10-Jun-1999 16:06:35.85	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2190
10-Jun-1999 16:06:37.86	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	INC	
10-Jun-1999 16:06:40.87	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2200
10-Jun-1999 16:07:58.88	CHANGE	SEATAC.2	TR POSITION 1 DISABLE	OFF	
10-Jun-1999 16:07:58.89	CHANGE	SEATAC.2	TR POSITION 2 DISABLE	OFF	
10-Jun-1999 16:07:58.90	CHANGE	SEATAC.2	TR POSITION 3 DISABLE	OFF	
10-Jun-1999 16:07:58.91	CHANGE	SEATAC.2	TR POSITION 4 DISABLE	OFF	
10-Jun-1999 16:08:09.92	CHANGE	SEATAC.2	TR POSITION 7 DISABLE	OFF	
10-Jun-1999 16:08:21.93	CHANGE	SEATAC.2	TR POSITION 5 DISABLE	OFF	
10-Jun-1999 16:08:21.94	CHANGE	SEATAC.2	TR POSITION 6 DISABLE	OFF	
10-Jun-1999 16:08:33.95	CHANGE	SEATAC.2	UNIT 2 STATUS	RUN	
10-Jun-1999 16:10:02.96	CNTL REQ	BAYVIEW	CONSOLE 2 CAI		700.00
10-Jun-1999 16:10:06.97	TRANSMIT	BAYVIEW	FER-ALN SPT PSI		700
10-Jun-1999 16:10:20.98	CNTL REQ	ALLEN.1	CONSOLE 2 CAI	RESET	
10-Jun-1999 16:10:22.99	TRANSMIT	ALLEN.1	16" STATION STATUS	RESET	
10-Jun-1999 16:10:43	CNTL REQ	BAYVIEW	CONSOLE 2 CAI	RESET	
10-Jun-1999 16:10:44.01	TRANSMIT	BAYVIEW	FER-BPT STA SDOWN-RESET	RESET	
10-Jun-1999 16:10:49.02	TO FINAL	BAYVIEW	FER-BPT STA SDOWN-RESET	SHUTDOWN	
10-Jun-1999 16:10:50.03	UNCMDCHG	BAYVIEW	FER-BPT STA SDOWN-RESET	RESET	
10-Jun-1999 16:10:56.04	CNTL REQ	BAYVIEW	CONSOLE 2 CAI	OPEN	

10-Jun-1999 16:11:01.05	TRANSMIT	BAYVIEW	FER BYPASS TO PUMPS	OPEN	
10-Jun-1999 16:11:08.06	PREV VAL	RENTON.1	CONSOLE 9 CAI		08410020H
10-Jun-1999 16:11:08.07	ENTRY	RENTON.1	V-669 16" RENTON DF MFLD	STAT	08410000H
10-Jun-1999 16:11:12.08	CNTL REQ	BAYVIEW	CONSOLE 2 CAI		700.00
10-Jun-1999 16:11:15.09	TRANSMIT	BAYVIEW	FER-ALN SPT PSI		700
10-Jun-1999 16:11:22.10	CNTL REQ	BAYVIEW	CONSOLE 2 CAI	OPEN	
10-Jun-1999 16:11:25.11	TRANSMIT	BAYVIEW	FER-BPT RECEIVER INLET	OPEN	
10-Jun-1999 16:11:34.12	TO INTER	BAYVIEW	FER-BPT RECEIVER INLET	CLOSE	
10-Jun-1999 16:12:04.13	EXECUTE	BAYVIEW	FER BYPASS TO PUMPS	OPEN	
10-Jun-1999 16:12:24.14	CNTL REQ	BAYVIEW	CONSOLE 2 CAI	OPEN	
10-Jun-1999 16:12:26.15	TRANSMIT	BAYVIEW	FER-BPT RECEIVER INLET	OPEN	
10-Jun-1999 16:12:40.16	CLEAR	BAYVIEW	FER-BPT METER PSI	LOW LOW	214
10-Jun-1999 16:12:40.17	CLEAR	BAYVIEW	FER-BPT METER PSI	LOW	214
10-Jun-1999 16:12:40.18	NORMAL	BAYVIEW	FER-BPT METER PSI	NORMAL	214
10-Jun-1999 16:12:40.19	CLEAR	BAYVIEW	FER-BPT UPSTREAM PSI	LOW	213
10-Jun-1999 16:12:40.20	NORMAL	BAYVIEW	FER-BPT UPSTREAM PSI	NORMAL	213
10-Jun-1999 16:12:45.21	CLEAR	BAYVIEW	FER-ALN METER PSI	LOW LOW	66
10-Jun-1999 16:12:45.22	CLEAR	BAYVIEW	FER-ALN METER PSI	LOW	66
10-Jun-1999 16:12:45.23	NORMAL	BAYVIEW	FER-ALN METER PSI	NORMAL	66
10-Jun-1999 16:12:45.24	CLEAR	BAYVIEW	FER-ALN PUMP DISC PSI	LOW LOW	67
10-Jun-1999 16:12:45.25	CLEAR	BAYVIEW	FER-ALN PUMP DISC PSI	LOW	67
10-Jun-1999 16:12:45.26	NORMAL	BAYVIEW	FER-ALN PUMP DISC PSI	NORMAL	67
10-Jun-1999 16:12:45.27	CLEAR	BAYVIEW	FER-ALN PUMP CASE PSI	LOW LOW	68
10-Jun-1999 16:12:45.28	CLEAR	BAYVIEW	FER-ALN PUMP CASE PSI	LOW	68
10-Jun-1999 16:12:45.29	NORMAL	BAYVIEW	FER-ALN PUMP CASE PSI	NORMAL	68
10-Jun-1999 16:12:45.30	CLEAR	BAYVIEW	FER-ALN STATION DISC PSI	LOW LOW	66
10-Jun-1999 16:12:45.31	CLEAR	BAYVIEW	FER-ALN STATION DISC PSI	LOW	66
10-Jun-1999 16:12:45.32	NORMAL	BAYVIEW	FER-ALN STATION DISC PSI	NORMAL	66
10-Jun-1999 16:12:54.33	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	OPEN	
10-Jun-1999 16:13:29.34	TO FINAL	BAYVIEW	FER-BPT RECEIVER INLET	TRAVEL	
10-Jun-1999 16:13:31.35	UNCMDCHG	BAYVIEW	FER-BPT RECEIVER INLET	OPEN	
10-Jun-1999 16:13:40.36	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	INC	
10-Jun-1999 16:13:41.37	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2210
10-Jun-1999 16:13:43.38	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	INC	
10-Jun-1999 16:13:45.39	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2220
10-Jun-1999 16:13:46.40	PREV VAL	Castle Rock	CONSOLE 9 CAI		1
10-Jun-1999 16:13:46.41	ENTRY	Castle Rock	UnAck Alarm ⊙ RAW		0
10-Jun-1999 16:13:52.42	PREV VAL	Castle Rock	CONSOLE 9 CAI		1024
10-Jun-1999 16:13:52.43	ENTRY	Castle Rock	UnAck Alarm ⊙ STA1		0
10-Jun-1999 16:13:58.44	CNTL REQ	BAYVIEW	CONSOLE 2 CAI		12000.00
10-Jun-1999 16:14:00.45	CNTL REQ	BAYVIEW	CONSOLE 2 CAI		20.00
10-Jun-1999 16:14:02.46	TRANSMIT	BAYVIEW	FER-BPT SPT FLW		12000
10-Jun-1999 16:14:04.47	TRANSMIT	BAYVIEW	FER-BPT SPT PSI		20
10-Jun-1999 16:14:04.48	CNTL REQ	BAYVIEW	CONSOLE 2 CAI		700.00
10-Jun-1999 16:14:06.49	TRANSMIT	BAYVIEW	FER-ALN SPT PSI		700
10-Jun-1999 16:14:08.50	CNTL REQ	BAYVIEW	CONSOLE 2 CAI		12000.00
10-Jun-1999 16:14:11.51	TRANSMIT	BAYVIEW	FER-ALN SPT FLW		12000
10-Jun-1999 16:14:19.52	ALARM	BAYVIEW	TK-209 TANK FLOW(SURGE)	CLOSE	
10-Jun-1999 16:15:12.53	CHANGE	CHERRY.POINT	METER FLOW STATUS	COMPLETE	
10-Jun-1999 16:15:12.54	CLEAR	CHERRY.POINT	DISCHARGE PRESSURE	LOW LOW	65
10-Jun-1999 16:15:19.55	CLEAR	CHERRY.POINT	DISCHARGE PRESSURE	LOW	127
10-Jun-1999 16:15:19.56	NORMAL	CHERRY.POINT	DISCHARGE PRESSURE	NORMAL	127
10-Jun-1999 16:15:25.57	CLEAR	FERNDALE	SUCTION PRESSURE	LOW LOW	36
10-Jun-1999 16:15:32.58	CNTL REQ	CHERRY.POINT	CONSOLE 2 CAI	START	
10-Jun-1999 16:15:35.59	TRANSMIT	CHERRY.POINT	UNIT 1 STATUS	RUN	
10-Jun-1999 16:15:36.60	ALARM	FERNDALE	LOW SUCTION PRESSURE	RESET	
10-Jun-1999 16:15:36.61	ALARM	FERNDALE	MECHANICAL	RESET	
10-Jun-1999 16:15:36.62	CLEAR	FERNDALE	SUCTION PRESSURE	LOW	146
10-Jun-1999 16:15:36.63	NORMAL	FERNDALE	SUCTION PRESSURE	NORMAL	146
10-Jun-1999 16:15:36.64	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW	154
10-Jun-1999 16:15:36.65	NORMAL	FERNDALE	CHERRY POINT IN PSI	NORMAL	154
10-Jun-1999 16:15:39.66	TO INTER	CHERRY.POINT	UNIT 1 STATUS	SHUTDOWN	
10-Jun-1999 16:15:43.67	CHANGE	CHERRY.POINT	UNIT 1 SUCTION	TRAVEL	
10-Jun-1999 16:16:25.68	CHANGE	CHERRY.POINT	UNIT 1 SUCTION	OPEN	

10-Jun-1999 16:16:25.69	CHANGE	CHERRY.POINT	UNIT 1 DISCHARGE	TRAVEL	
10-Jun-1999 16:16:29.70	EXECUTE	CHERRY.POINT	UNIT 1 STATUS	RUN	
10-Jun-1999 16:16:31.71	ALARM	FERNDALE	SUCTION PRESSURE	LOW	50
10-Jun-1999 16:16:40.72	CLEAR	FERNDALE	SUCTION PRESSURE	LOW	110
10-Jun-1999 16:16:40.73	NORMAL	FERNDALE	SUCTION PRESSURE	NORMAL	110
10-Jun-1999 16:16:43.74	CNTL REQ	FERNDALE	CONSOLE 2 CAI	START	
10-Jun-1999 16:16:47.75	TRANSMIT	FERNDALE	UNIT 1 STATUS	RUN	
10-Jun-1999 16:16:51.76	CLEAR	FERNDALE	CONTROL PRESSURE	LOW LOW	238
10-Jun-1999 16:16:51.77	CLEAR	FERNDALE	DISCHARGE PRESSURE	LOW LOW	236
10-Jun-1999 16:16:51.78	CLEAR	FERNDALE	DISCHARGE PRESSURE	LOW	236
10-Jun-1999 16:16:51.79	NORMAL	FERNDALE	DISCHARGE PRESSURE	NORMAL	236
10-Jun-1999 16:17:10.80	CLEAR	FERNDALE	CONTROL PRESSURE	LOW	253
10-Jun-1999 16:17:10.81	NORMAL	FERNDALE	CONTROL PRESSURE	NORMAL	253
10-Jun-1999 16:17:23.82	CHANGE	CHERRY.POINT	UNIT 1 DISCHARGE	OPEN	
10-Jun-1999 16:17:24.83	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	INC	
10-Jun-1999 16:17:25.84	TRANSMIT	TACOMA.DF	FLOW RATE SP ENTRY		2230
10-Jun-1999 16:17:26.85	ALARM	FERNDALE	CONTROL PRESSURE	LOW	247
10-Jun-1999 16:17:32.86	ALARM	FERNDALE	DISCHARGE PRESSURE	LOW	214
10-Jun-1999 16:17:33.87	ALARM	FERNDALE	DRA PUMP INHIBIT	OFF	
10-Jun-1999 16:17:34.88	EXECUTE	FERNDALE	UNIT 1 STATUS	RUN	
10-Jun-1999 16:18:00.89	CLEAR	FERNDALE	CONTROL PRESSURE	LOW	266
10-Jun-1999 16:18:00.90	NORMAL	FERNDALE	CONTROL PRESSURE	NORMAL	266
10-Jun-1999 16:18:00.91	CLEAR	FERNDALE	DISCHARGE PRESSURE	LOW	266
10-Jun-1999 16:18:00.92	NORMAL	FERNDALE	DISCHARGE PRESSURE	NORMAL	266
10-Jun-1999 16:20:00.93	CNTL REQ	CHERRY.POINT	CONSOLE 2 CAI	CHANGE	
10-Jun-1999 16:20:00.94	NOTICE:	CHERRY.POINT	CHPIBTCHCHNGSTATUS IS CHANGE	CONTINUE...	
10-Jun-1999 16:20:02.95	TRANSMIT	CHERRY.POINT	BATCH CHANGE	COMPLETE	
10-Jun-1999 16:20:05.96	EXECUTE	CHERRY.POINT	BATCH CHANGE	COMPLETE	
10-Jun-1999 16:20:10	ALARM	CHERRY.POINT	PRINT SWITCH	IN PROG.	
10-Jun-1999 16:20:10.01	CHANGE	CHERRY.POINT	BATCH REPORT	READY	
10-Jun-1999 16:20:10.04	CHANGE	CHERRY.POINT	DELIVERY REPORT	READY	
10-Jun-1999 16:20:10.07	CHANGE	CHERRY.POINT	RESET A	ACTIVE	
10-Jun-1999 16:20:10.08	CHANGE	CHERRY.POINT	RESET B	RESET	
10-Jun-1999 16:20:10.97	CHANGE	CHERRY.POINT	BTCH BLK-->RTU DOWNLOAD	READY	
10-Jun-1999 16:20:10.98	CNTL REQ	CHERRY.POINT	CONSOLE 0	READY	
10-Jun-1999 16:20:10.99	ALARM	CHERRY.POINT	BATCH CHANGE	IN PROG.	
10-Jun-1999 16:20:11.02	CNTL REQ	CHERRY.POINT	CONSOLE 0	READY	
10-Jun-1999 16:20:11.03	EXECUTE	CHERRY.POINT	BATCH REPORT	COMPLETE	
10-Jun-1999 16:20:11.05	CNTL REQ	CHERRY.POINT	CONSOLE 0	READY	
10-Jun-1999 16:20:11.06	EXECUTE	CHERRY.POINT	DELIVERY REPORT	COMPLETE	
10-Jun-1999 16:20:11.09	CNTL REQ	CHERRY.POINT	CONSOLE 0	RESET	
10-Jun-1999 16:20:16.10	CHANGE	CHERRY.POINT	CALCULATED BATCH	TOTL VOL	150429.4
10-Jun-1999 16:20:16.11	CHANGE	CHERRY.POINT	CALCULATED BATCH	WTAVG GR	56.7
10-Jun-1999 16:20:16.12	CHANGE	CHERRY.POINT	CALCULATED DELIVERY	TOTL VOL	108603.6
10-Jun-1999 16:20:16.13	CHANGE	CHERRY.POINT	CALCULATED DELIVERY	WTAVG GR	56.8
10-Jun-1999 16:20:16.14	CHANGE	CHERRY.POINT	FLOW COMPUTER BATCH	TOTL VOL	150429.0
10-Jun-1999 16:20:16.15	CHANGE	CHERRY.POINT	FLOW COMPUTER BATCH	WTAVG GR	55.6
10-Jun-1999 16:20:17.16	CHANGE	CHERRY.POINT	FLOW COMPUTER DELIVERY	TOTL VOL	108628.0
10-Jun-1999 16:20:17.17	CHANGE	CHERRY.POINT	FLOW COMPUTER DELIVERY	WTAVG GR	55.7
10-Jun-1999 16:20:17.18	EXECUTE	CHERRY.POINT	MASTER --> RTU DOWNLOAD	READY	SUCCESS
10-Jun-1999 16:20:20.19	TRANSMIT	CHERRY.POINT	RESET B	RESET	
10-Jun-1999 16:20:21.20	EVENT	CHERRY.POINT	BATCH REPORT CPTDBT08	RECEIVED	
10-Jun-1999 16:20:24.21	EVENT	CHERRY.POINT	DELIVERY REPORT CPTDDL07	RECEIVED	
10-Jun-1999 16:20:28.22	CHANGE	CHERRY.POINT	BTCH BLK-->RTU DOWNLOAD	COMPLETE	
10-Jun-1999 16:20:28.23	NORMAL	CHERRY.POINT	BATCH CHANGE	COMPLETE	
10-Jun-1999 16:20:28.24	NORMAL	CHERRY.POINT	PRINT SWITCH	COMPLETE	
10-Jun-1999 16:20:28.25	CHANGE	CHERRY.POINT	BATCH REPORT	COMPLETE	
10-Jun-1999 16:20:28.26	CHANGE	CHERRY.POINT	DELIVERY REPORT	COMPLETE	
10-Jun-1999 16:20:39.27	CNTL REQ	SEATTLE.DF	CONSOLE 2 CAI	OPEN	
10-Jun-1999 16:20:40.28	EXECUTE	CHERRY.POINT	RESET B	RESET	
10-Jun-1999 16:20:43.29	TRANSMIT	SEATTLE.DF	V-702 SCRAPER IN	OPEN	
10-Jun-1999 16:21:45.30	ALARM	BAYVIEW	ANA-BPT UPSTREAM PSI	LOW	30
10-Jun-1999 16:21:54.31	EXECUTE	SEATTLE.DF	V-702 SCRAPER IN	OPEN	
10-Jun-1999 16:22:45.32	ALARM	BAYVIEW	ANA-BPT METER PSI	LOW	8

.0-Jun-1999 16:23:09.33	PREV VAL	ALLEN.1	CONSOLE 6 CAI			20.000
.0-Jun-1999 16:23:09.34	ENTRY	ALLEN.1	20" DISCHARGE PRESS SPT	INCV		10
.0-Jun-1999 16:23:21.35	ALARM	BAYVIEW	ANA-BPT METER PSI	LOW LOW	5	
.0-Jun-1999 16:23:36.36	CNTL REQ	BAYVIEW	CONSOLE 4 CAI	DEC		
.0-Jun-1999 16:23:38.37	TRANSMIT	BAYVIEW	ANA-BPT SPT PSI		10	
.0-Jun-1999 16:23:46.38	ALARM	BAYVIEW	P-202 SUCTION PSI	LOW	2	
.0-Jun-1999 16:23:54.39	CNTL REQ	BAYVIEW	CONSOLE 4 CAI	INC		
.0-Jun-1999 16:23:56.40	TRANSMIT	BAYVIEW	ANA-BPT SPT PSI		20	
.0-Jun-1999 16:24:00.41	CNTL REQ	ALLEN.1	CONSOLE 4 CAI	DEC		
.0-Jun-1999 16:24:03.42	TRANSMIT	ALLEN.1	20" DISCHARGE PRESS SPT		918	
.0-Jun-1999 16:24:04.43	CNTL REQ	ALLEN.1	CONSOLE 4 CAI	DEC		
.0-Jun-1999 16:24:04.44	ALARM	BAYVIEW	P-203 SUCTION PSI	LOW	2	
.0-Jun-1999 16:24:07.45	TRANSMIT	ALLEN.1	20" DISCHARGE PRESS SPT		908	
.0-Jun-1999 16:24:08.46	PREV VAL	ALLEN.1	CONSOLE 6 CAI			10.000
.0-Jun-1999 16:24:08.47	ENTRY	ALLEN.1	20" DISCHARGE PRESS SPT	INCV		5
.0-Jun-1999 16:24:33.48	CLEAR	BAYVIEW	P-203 SUCTION PSI	LOW	3	
.0-Jun-1999 16:24:33.49	NORMAL	BAYVIEW	P-203 SUCTION PSI	NORMAL	3	
.0-Jun-1999 16:24:41.50	CLEAR	BAYVIEW	ANA-BPT METER PSI	LOW LOW	6	
.0-Jun-1999 16:24:41.51	CLEAR	BAYVIEW	P-202 SUCTION PSI	LOW	4	
.0-Jun-1999 16:24:41.52	NORMAL	BAYVIEW	P-202 SUCTION PSI	NORMAL	4	
.0-Jun-1999 16:24:51.53	CLEAR	BAYVIEW	ANA-BPT METER PSI	LOW	9	
.0-Jun-1999 16:24:51.54	NORMAL	BAYVIEW	ANA-BPT METER PSI	NORMAL	9	
.0-Jun-1999 16:25:01.55	PREV VAL	CASTLE.ROCK	CONSOLE 6 CAI			18.000
.0-Jun-1999 16:25:01.56	ENTRY	CASTLE.ROCK	DRA SET POINT - PPM	EU		10
.0-Jun-1999 16:25:08.57	PREV VAL	OLYMPIC.JCT	CONSOLE 6 CAI			18.000
.0-Jun-1999 16:25:08.58	ENTRY	OLYMPIC.JCT	DRA SET POINT - PPM	EU		10
.0-Jun-1999 16:25:34.59	CLEAR	BAYVIEW	ANA-BPT UPSTREAM PSI	LOW	31	
.0-Jun-1999 16:25:34.60	NORMAL	BAYVIEW	ANA-BPT UPSTREAM PSI	NORMAL	31	
.0-Jun-1999 16:25:47.61	TRANSMIT	OLYMPIA.JCT	DRA SET POINT - GPH		3	
.0-Jun-1999 16:25:48.62	TRANSMIT	CASTLE.ROCK	DRA SET POINT - GPH		3	
.0-Jun-1999 16:26:57.63	ALARM	BAYVIEW	ANA-BPT UPSTREAM PSI	LOW	29	
.0-Jun-1999 16:27:51.64	ALARM	BAYVIEW	ANA-BPT METER PSI	LOW	8	
.0-Jun-1999 16:28:09.66	ALARM	BAYVIEW	ANA-BPT METER PSI	LOW LOW	5	
.0-Jun-1999 16:28:17.67	ALARM	BAYVIEW	P-203 SUCTION PSI	LOW	2	
.0-Jun-1999 16:28:17.68	ALARM	BAYVIEW	P-202 SUCTION PSI	LOW	1	
.0-Jun-1999 16:29:22.65	ALARM	PLDS	CHP AND FER TO BPT	ALERT		
.0-Jun-1999 16:30:51.69	EVENT	PROCESS	ER$QUEPRC REVIVED			
.0-Jun-1999 16:30:52.70	CNTL REQ	FERNDALE	CONSOLE 2 CAI	START		
.0-Jun-1999 16:30:53.71	TRANSMIT	FERNDALE	UNIT 3 STATUS	RUN		
.0-Jun-1999 16:30:59.72	CNTL REQ	FERNDALE	CONSOLE 2 CAI			300.00
.0-Jun-1999 16:31:02.73	TRANSMIT	FERNDALE	DISCHARGE PSI SP ENTRY		300	
.0-Jun-1999 16:31:17.74	CLEAR	BAYVIEW	ANA-BPT METER PSI	LOW LOW	6	
.0-Jun-1999 16:31:21.75	ALARM	BAYVIEW	ANA-BPT METER PSI	LOW LOW	5	
.0-Jun-1999 16:31:34.76	CLEAR	BAYVIEW	ANA-BPT METER PSI	LOW LOW	6	
.0-Jun-1999 16:31:39.77	EXECUTE	FERNDALE	UNIT 3 STATUS	RUN		
.0-Jun-1999 16:32:01.78	ALARM	FERNDALE	SUCTION PRESSURE	LOW	40	
.0-Jun-1999 16:32:06.79	ALARM	CHERRY.POINT	SUCTION PRESSURE	LOW	2	
.0-Jun-1999 16:32:06.80	ALARM	CHERRY.POINT	METER PRESSURE	LOW	2	
.0-Jun-1999 16:32:07.81	ALARM	FERNDALE	LOW SUCTION PRESSURE	ALARM		
.0-Jun-1999 16:32:07.82	UNCMDCHG	FERNDALE	UNIT 1 STATUS	SHUTDOWN		
.0-Jun-1999 16:32:07.83	UNCMDCHG	FERNDALE	UNIT 3 STATUS	SHUTDOWN		
.0-Jun-1999 16:32:07.84	ALARM	FERNDALE	MECHANICAL	ALARM		
.0-Jun-1999 16:32:07.85	ALARM	FERNDALE	CONTROL PRESSURE	LOW	243	
.0-Jun-1999 16:32:07.86	CLEAR	FERNDALE	SUCTION PRESSURE	LOW	242	
.0-Jun-1999 16:32:07.87	NORMAL	FERNDALE	SUCTION PRESSURE	NORMAL	242	
.0-Jun-1999 16:32:08.88	ALARM	FERNDALE	DRA PUMP INHIBIT	ON		
.0-Jun-1999 16:32:16.89	ALARM	CHERRY.POINT	LOW SUCTION	ALARM		
.0-Jun-1999 16:32:16.90	UNCMDCHG	CHERRY.POINT	UNIT 1 STATUS	SHUTDOWN		
.0-Jun-1999 16:32:16.91	CHANGE	CHERRY.POINT	UNIT 1 DISCHARGE	TRAVEL		
.0-Jun-1999 16:32:16.92	CLEAR	CHERRY.POINT	SUCTION PRESSURE	LOW	265	
.0-Jun-1999 16:32:16.93	NORMAL	CHERRY.POINT	SUCTION PRESSURE	NORMAL	265	
.0-Jun-1999 16:32:16.94	CLEAR	CHERRY.POINT	METER PRESSURE	LOW	265	
.0-Jun-1999 16:32:16.95	NORMAL	CHERRY.POINT	METER PRESSURE	NORMAL	265	
.0-Jun-1999 16:32:17.96	CNTL REQ	CHERRY.POINT	CONSOLE 2 CAI	STOP		

0-Jun-1999 16:32:17.97	NOTICE:	CHERRY.POINT	CHPIU1 STATUS IS STOP CONTINUE...		
0-Jun-1999 16:32:18	CLEAR	FERNDALE	CONTROL PRESSURE	LOW	252
0-Jun-1999 16:32:18.01	NORMAL	FERNDALE	CONTROL PRESSURE	NORMAL	252
0-Jun-1999 16:32:18.98	ALARM	FERNDALE	LOW SUCTION PRESSURE	RESET	
0-Jun-1999 16:32:18.99	ALARM	FERNDALE	MECHANICAL	RESET	
0-Jun-1999 16:32:20.02	EXECUTE	CHERRY.POINT	UNIT 1 STATUS	SHUTDOWN	
0-Jun-1999 16:32:21.03	TRANSMIT	CHERRY.POINT	UNIT 1 STATUS	SHUTDOWN	
0-Jun-1999 16:32:23.04	CLEAR	BAYVIEW	ANA-BPT METER PSI	LOW	9
0-Jun-1999 16:32:23.05	NORMAL	BAYVIEW	ANA-BPT METER PSI	NORMAL	9
0-Jun-1999 16:32:26.06	NORMAL	CHERRY.POINT	LOW SUCTION	RESET	
0-Jun-1999 16:32:26.07	CHANGE	CHERRY.POINT	UNIT 1 SUCTION	TRAVEL	
0-Jun-1999 16:32:28.08	ALARM	FERNDALE	CONTROL PRESSURE	LOW	58
0-Jun-1999 16:32:28.09	ALARM	FERNDALE	CONTROL PRESSURE	LOW LOW	58
0-Jun-1999 16:32:28.10	ALARM	FERNDALE	DISCHARGE PRESSURE	LOW	59
0-Jun-1999 16:32:28.11	ALARM	FERNDALE	DISCHARGE PRESSURE	LOW LOW	59
0-Jun-1999 16:32:43.12	ALARM	FERNDALE	SUCTION PRESSURE	LOW	38
0-Jun-1999 16:32:43.13	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW	48
0-Jun-1999 16:32:50.14	ALARM	CHERRY.POINT	SUCTION PRESSURE	LOW	0
0-Jun-1999 16:32:50.15	ALARM	CHERRY.POINT	DISCHARGE PRESSURE	LOW	0
0-Jun-1999 16:32:50.16	ALARM	CHERRY.POINT	DISCHARGE PRESSURE	LOW LOW	0
0-Jun-1999 16:32:50.17	ALARM	CHERRY.POINT	METER PRESSURE	LOW	0
0-Jun-1999 16:32:52.18	ALARM	FERNDALE	SUCTION PRESSURE	LOW LOW	25
0-Jun-1999 16:32:55.19	CNTL REQ	MILEPOST.07	CONSOLE 1 CAI	CLOSE	
0-Jun-1999 16:32:57.20	ALARM	CHERRY.POINT	LOW SUCTION	ALARM	
0-Jun-1999 16:32:58.21	TRANSMIT	MILEPOST.07	V-MP07 BLOCK	CLOSE	
0-Jun-1999 16:32:58.22	CNTL REQ	MILEPOST.16	CONSOLE 1 CAI	CLOSE	
0-Jun-1999 16:32:58.23	ALARM	FERNDALE	LOW SUCTION PRESSURE	ALARM	
0-Jun-1999 16:32:58.24	ALARM	FERNDALE	MECHANICAL	ALARM	
0-Jun-1999 16:32:58.25	CLEAR	FERNDALE	SUCTION PRESSURE	LOW LOW	51
0-Jun-1999 16:32:58.26	CLEAR	FERNDALE	SUCTION PRESSURE	LOW	51
0-Jun-1999 16:32:58.27	NORMAL	FERNDALE	SUCTION PRESSURE	NORMAL	51
0-Jun-1999 16:32:58.28	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW	57
0-Jun-1999 16:32:58.29	NORMAL	FERNDALE	CHERRY POINT IN PSI	NORMAL	57
0-Jun-1999 16:33:01.30	CNTL REQ	MILEPOST.46	CONSOLE 1 CAI	CLOSE	
0-Jun-1999 16:33:02.31	TRANSMIT	MILEPOST.46	V-MP46 16" BLOCK	CLOSE	
0-Jun-1999 16:33:03.32	TRANSMIT	MILEPOST.16	V-MP16 BLOCK	CLOSE	
0-Jun-1999 16:33:05.33	NORMAL	CHERRY.POINT	LOW SUCTION	RESET	
0-Jun-1999 16:33:05.34	CHANGE	CHERRY.POINT	UNIT 1 SUCTION	CLOSE	
0-Jun-1999 16:33:08.35	ALARM	FERNDALE	SUCTION PRESSURE	LOW	26
0-Jun-1999 16:33:08.36	ALARM	FERNDALE	SUCTION PRESSURE	LOW LOW	26
0-Jun-1999 16:33:08.37	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW	33
0-Jun-1999 16:33:13.38	CHANGE	CHERRY.POINT	METER FLOW STATUS	IN PROG.	
0-Jun-1999 16:33:13.39	CHANGE	CHERRY.POINT	UNIT 1 DISCHARGE	CLOSE	
0-Jun-1999 16:33:14.40	CLEAR	FERNDALE	SUCTION PRESSURE	LOW LOW	35
0-Jun-1999 16:33:14.41	TO INTER	MILEPOST.46	V-MP46 16" BLOCK	OPEN	
0-Jun-1999 16:33:25.42	ALARM	FERNDALE	SUCTION PRESSURE	LOW LOW	24
0-Jun-1999 16:33:33.43	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
0-Jun-1999 16:33:44.44	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
0-Jun-1999 16:33:50.45	CLEAR	CHERRY.POINT	DISCHARGE PRESSURE	LOW LOW	57
0-Jun-1999 16:33:53.46	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	29
0-Jun-1999 16:33:56.47	ALARM	CHERRY.POINT	DISCHARGE PRESSURE	LOW LOW	15
0-Jun-1999 16:33:58.48	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	33
0-Jun-1999 16:34:09.49	EXECUTE	MILEPOST.46	V-MP46 16" BLOCK	CLOSE	
0-Jun-1999 16:34:10.50	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	24
0-Jun-1999 16:34:14.51	EXECUTE	MILEPOST.07	V-MP07 BLOCK	CLOSE	
0-Jun-1999 16:34:18.52	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
0-Jun-1999 16:34:23.53	CLEAR	FERNDALE	SUCTION PRESSURE	LOW LOW	31
0-Jun-1999 16:34:28.54	CLEAR	CHERRY.POINT	DISCHARGE PRESSURE	LOW LOW	64
0-Jun-1999 16:34:29.55	ALARM	FERNDALE	SUCTION PRESSURE	LOW LOW	19
0-Jun-1999 16:34:29.56	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	27
0-Jun-1999 16:34:34.57	ALARM	CHERRY.POINT	DISCHARGE PRESSURE	LOW LOW	30
0-Jun-1999 16:34:34.58	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	34
0-Jun-1999 16:34:34.59	EXECUTE	MILEPOST.16	V-MP16 BLOCK	CLOSE	
0-Jun-1999 16:34:42.60	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	21

.0-Jun-1999	16:34:48.61	CLEAR	FERNDALE	SUCTION PRESSURE	LOW LOW	33
.0-Jun-1999	16:34:48.62	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	42
.0-Jun-1999	16:35:03.63	ALARM	FERNDALE	SUCTION PRESSURE	LOW LOW	17
.0-Jun-1999	16:35:03.64	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	26
.0-Jun-1999	16:35:10.65	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
.0-Jun-1999	16:35:20.66	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	25
.0-Jun-1999	16:35:28.67	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	37
.0-Jun-1999	16:35:53.68	CLEAR	CHERRY.POINT	SUCTION PRESSURE	LOW	16
.0-Jun-1999	16:35:53.69	NORMAL	CHERRY.POINT	SUCTION PRESSURE	NORMAL	16
.0-Jun-1999	16:35:53.70	CLEAR	CHERRY.POINT	METER PRESSURE	LOW	16
.0-Jun-1999	16:35:53.71	NORMAL	CHERRY.POINT	METER PRESSURE	NORMAL	16
.0-Jun-1999	16:35:54.72	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	28
.0-Jun-1999	16:36:02.73	ALARM	CHERRY.POINT	SUCTION PRESSURE	LOW	12
.0-Jun-1999	16:36:02.74	ALARM	CHERRY.POINT	METER PRESSURE	LOW	12
.0-Jun-1999	16:36:08.75	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	32
.0-Jun-1999	16:36:19.76	CLEAR	CHERRY.POINT	SUCTION PRESSURE	LOW	16
.0-Jun-1999	16:36:19.77	NORMAL	CHERRY.POINT	SUCTION PRESSURE	NORMAL	16
.0-Jun-1999	16:36:19.78	CLEAR	CHERRY.POINT	METER PRESSURE	LOW	16
.0-Jun-1999	16:36:19.79	NORMAL	CHERRY.POINT	METER PRESSURE	NORMAL	16
.0-Jun-1999	16:36:25.80	ALARM	CHERRY.POINT	SUCTION PRESSURE	LOW	13
.0-Jun-1999	16:36:25.81	ALARM	CHERRY.POINT	METER PRESSURE	LOW	13
.0-Jun-1999	16:36:31.82	CLEAR	CHERRY.POINT	SUCTION PRESSURE	LOW	17
.0-Jun-1999	16:36:31.83	NORMAL	CHERRY.POINT	SUCTION PRESSURE	NORMAL	17
.0-Jun-1999	16:36:31.84	CLEAR	CHERRY.POINT	METER PRESSURE	LOW	17
.0-Jun-1999	16:36:31.85	NORMAL	CHERRY.POINT	METER PRESSURE	NORMAL	17
.0-Jun-1999	16:36:32.86	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	28
.0-Jun-1999	16:36:40.87	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
.0-Jun-1999	16:37:04.88	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
.0-Jun-1999	16:37:18.89	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	31
.0-Jun-1999	16:37:29.90	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	29
.0-Jun-1999	16:37:36.91	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	32
.0-Jun-1999	16:37:50.92	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	29
.0-Jun-1999	16:37:55.93	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	32
.0-Jun-1999	16:38:01.94	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
.0-Jun-1999	16:38:06.95	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	32
.0-Jun-1999	16:38:21.96	ALARM	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
.0-Jun-1999	16:38:28.97	CLEAR	FERNDALE	CHERRY POINT IN PSI	LOW LOW	30
.0-Jun-1999	16:39:20.99	CHANGE	SEATAC.2	UNITED DISABLE	OFF	
.0-Jun-1999	16:39:33	UNCMDCHG	SEATAC.2	V-1206 VALVE STATUS	AUTO	
.0-Jun-1999	16:39:33.01	CHANGE	SEATAC.1	T-113 TANK STATE	NEXT DEL	
.0-Jun-1999	16:39:33.02	CHANGE	SEATAC.1	T-113 TANK SEQ NUM	2	
.0-Jun-1999	16:39:52.98	ALARM	PLDS	CHP AND FER TO BPT	NORMAL	
.0-Jun-1999	16:40:54.03	CNTL REQ	TACOMA.DF	CONSOLE 4 CAI	CHANGE	
.0-Jun-1999	16:40:54.04	NOTICE:	TACOMA.DF	TACIBTCHCHNGSTATUS IS CHANGE	CONTINUE...	
.0-Jun-1999	16:40:55.05	EXECUTE	TACOMA.DF	BATCH CHANGE	COMPLETE	
.0-Jun-1999	16:40:56.06	TRANSMIT	TACOMA.DF	BATCH CHANGE	COMPLETE	
.0-Jun-1999	16:40:58.07	ALARM	TACOMA.DF	PRINT SWITCH	IN PROG.	
.0-Jun-1999	16:40:58.08	ALARM	TACOMA.DF	BATCH CHANGE	IN PROG.	
.0-Jun-1999	16:40:58.09	CHANGE	TACOMA.DF	BTCH BLK-->RTU DOWNLOAD	READY	
.0-Jun-1999	16:40:58.10	CNTL REQ	TACOMA.DF	CONSOLE 0	READY	
.0-Jun-1999	16:41:00.11	EXECUTE	TACOMA.DF	MASTER --> RTU DOWNLOAD	READY	SUCCESS
.0-Jun-1999	16:41:02.12	CHANGE	TACOMA.DF	CALCULATED BATCH	TOTL VOL	5976.0
.0-Jun-1999	16:41:02.13	CHANGE	TACOMA.DF	CALCULATED BATCH	WTAVG GR	56.3
.0-Jun-1999	16:41:02.14	CHANGE	TACOMA.DF	FLOW COMPUTER BATCH	TOTL VOL	5988.0
.0-Jun-1999	16:41:02.15	CHANGE	TACOMA.DF	FLOW COMPUTER BATCH	WTAVG GR	55.1
.0-Jun-1999	16:41:04.16	CHANGE	TACOMA.DF	CALCULATED DELIVERY	TOTL VOL	5987.0
.0-Jun-1999	16:41:04.17	CHANGE	TACOMA.DF	CALCULATED DELIVERY	WTAVG GR	56.3
.0-Jun-1999	16:41:04.18	CHANGE	TACOMA.DF	FLOW COMPUTER DELIVERY	TOTL VOL	5993.0
.0-Jun-1999	16:41:04.19	CHANGE	TACOMA.DF	FLOW COMPUTER DELIVERY	WTAVG GR	55.1
.0-Jun-1999	16:41:05.20	NORMAL	TACOMA.DF	PRINT SWITCH	COMPLETE	
.0-Jun-1999	16:41:05.21	CNTL REQ	TACOMA.DF	CONSOLE 0	RESET	
.0-Jun-1999	16:41:10.22	TRANSMIT	TACOMA.DF	RESET ACCUM A PSEUDO	RESET	
.0-Jun-1999	16:41:14.23	NORMAL	TACOMA.DF	BATCH CHANGE	COMPLETE	
.0-Jun-1999	16:41:14.24	CHANGE	TACOMA.DF	BTCH BLK-->RTU DOWNLOAD	COMPLETE	

Jun-1999 16:41:27.25	CNTL REQ	BAYVIEW	CONSOLE 4 CAI	STOP	
Jun-1999 16:41:30.26	TRANSMIT	BAYVIEW	P-202(ANACORTES) STATUS	SHUTDOWN	
Jun-1999 16:41:32.27	CNTL REQ	ANACORTES.ML	CONSOLE 4 CAI	STOP	
Jun-1999 16:41:34.28	CHANGE	BAYVIEW	P-202 ANA DISCHARGE	TRAVEL	
Jun-1999 16:41:34.29	CHANGE	BAYVIEW	P-202 ANA SUCTION	TRAVEL	
Jun-1999 16:41:34.30	CHANGE	BAYVIEW	P-202 STATUS	SHUTDOWN	
Jun-1999 16:41:34.31	UNCMDCHG	BAYVIEW	P-202(FERNDALE) STATUS	SHUTDOWN	
Jun-1999 16:41:35.32	EXECUTE	TACOMA.DF	RESET ACCUM A PSEUDO	RESET	
Jun-1999 16:41:35.33	EXECUTE	BAYVIEW	P-202(ANACORTES) STATUS	SHUTDOWN	
Jun-1999 16:41:35.36	CHANGE	TACOMA.DF	BATCH REPORT	READY	
Jun-1999 16:41:36.34	CNTL REQ	ALLEN.2	CONSOLE 4 CAI	STOP	
Jun-1999 16:41:37.35	TRANSMIT	ANACORTES.ML	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:41:37.37	CNTL REQ	TACOMA.DF	CONSOLE 0	READY	
Jun-1999 16:41:37.38	EXECUTE	TACOMA.DF	BATCH REPORT	COMPLETE	
Jun-1999 16:41:37.39	CLEAR	BAYVIEW	P-203 SUCTION PSI	LOW	78
Jun-1999 16:41:37.40	NORMAL	BAYVIEW	P-203 SUCTION PSI	NORMAL	78
Jun-1999 16:41:37.41	CLEAR	BAYVIEW	ANA-BPT UPSTREAM PSI	LOW	95
Jun-1999 16:41:37.42	NORMAL	BAYVIEW	ANA-BPT UPSTREAM PSI	NORMAL	95
Jun-1999 16:41:37.43	CLEAR	BAYVIEW	P-202 SUCTION PSI	LOW	77
Jun-1999 16:41:37.44	NORMAL	BAYVIEW	P-202 SUCTION PSI	NORMAL	77
Jun-1999 16:41:39.45	TRANSMIT	ALLEN.2	20" UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:41:39.46	CNTL REQ	RENTON.2	CONSOLE 4 CAI	STOP	
Jun-1999 16:41:41.47	EVENT	TACOMA.DF	BATCH REPORT TACDBT00	RECEIVED	
Jun-1999 16:41:41.52	ALARM	BAYVIEW	ANA-ALN STATION DISC PSI	LOW	59
Jun-1999 16:41:42.48	TRANSMIT	RENTON.2	UNIT 2 STATUS	SHUTDOWN	
Jun-1999 16:41:44.49	UNCMDCHG	ALLEN.2	20" UNIT 2 STATUS	SHUTDOWN	
Jun-1999 16:41:44.50	EXECUTE	ALLEN.2	20" UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:41:44.53	UNCMDCHG	ALLEN.2	20" STATION STATUS	SHUTDOWN	
Jun-1999 16:41:45.51	TO FINAL	ANACORTES.ML	UNIT 1 STATUS	RUN	
Jun-1999 16:41:45.54	CHANGE	TACOMA.DF	BATCH REPORT	COMPLETE	
Jun-1999 16:41:46.55	UNCMDCHG	ANACORTES.ML	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:41:46.56	CHANGE	ANACORTES.ML	V-449 UNIT 1 SUCTION	TRAVEL	
Jun-1999 16:41:46.57	CHANGE	ANACORTES.ML	V-450 UNIT 1 DISCHARGE	TRAVEL	
Jun-1999 16:41:49.58	CNTL REQ	ANA.SHELL	CONSOLE 4 CAI	STOP	
Jun-1999 16:41:49.59	EXECUTE	RENTON.2	UNIT 2 STATUS	SHUTDOWN	
Jun-1999 16:41:52.60	CNTL REQ	ANA,SHELL	CONSOLE 4 CAI	STOP	
Jun-1999 16:41:52.61	TRANSMIT	ANA.SHELL	UNIT 2 STATUS	SHUTDOWN	
Jun-1999 16:41:53.62	CHANGE	TACOMA.DF	DELIVERY REPORT	READY	
Jun-1999 16:41:53.63	CNTL REQ	TACOMA.DF	CONSOLE 0	READY	
Jun-1999 16:41:53.64	EXECUTE	TACOMA.DF	DELIVERY REPORT	COMPLETE	
Jun-1999 16:41:53.67	CLEAR	BAYVIEW	ANA-ALN STATION DISC PSI	LOW	462
Jun-1999 16:41:53.68	NORMAL	BAYVIEW	ANA-ALN STATION DISC PSI	NORMAL	462
Jun-1999 16:41:54.65	TRANSMIT	ANA.SHELL	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:41:54.66	EVENT	TACOMA.DF	DELIVERY REPORT TACDDL05	RECEIVED	
Jun-1999 16:41:55.69	TO FINAL	ANA.SHELL	UNIT 2 STATUS	RUN	
Jun-1999 16:41:55.70	CHANGE	ANA.SHELL	V-410 UNIT 2 DISCHARGE	TRAVEL	
Jun-1999 16:41:55.71	UNCMDCHG	ANA.SHELL	UNIT 2 STATUS	SHUTDOWN	
Jun-1999 16:41:59.72	CNTL REQ	ANACORTES.ML	CONSOLE 4 CAI	STOP	
Jun-1999 16:41:59.73	EXECUTE	ANA.SHELL	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:42:00.74	CHANGE	TACOMA.DF	DELIVERY REPORT	COMPLETE	
Jun-1999 16:42:02.75	TRANSMIT	ANACORTES.ML	UNIT 2 STATUS	SHUTDOWN	
Jun-1999 16:42:03.76	CNTL REQ	RENTON	CONSOLE 4 CAI	STOP	
Jun-1999 16:42:06.77	CNTL REQ	TACOMA.STA	CONSOLE 4 CAI	STOP	
Jun-1999 16:42:07.78	TRANSMIT	RENTON.2	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:42:09.79	CNTL REQ	OLYMPIA.JCT	CONSOLE 4 CAI	STOP	
Jun-1999 16:42:10.80	TO FINAL	ANACORTES.ML	UNIT 2 STATUS	RUN	
Jun-1999 16:42:10.81	TRANSMIT	TACOMA.STA	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:42:11.82	TRANSMIT	OLYMPIA.JCT	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:42:11.84	UNCMDCHG	ANACORTES.ML	UNIT 2 STATUS	SHUTDOWN	
Jun-1999 16:42:11.85	CHANGE	ANACORTES.ML	V-478 UNIT 2 DISCHARGE	TRAVEL	
Jun-1999 16:42:12.83	CNTL REQ	CASTLE.ROCK	CONSOLE 4 CAI	STOP	
Jun-1999 16:42:14.86	EXECUTE	RENTON.2	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:42:15.87	EXECUTE	TACOMA.STA	UNIT 1 STATUS	SHUTDOWN	
Jun-1999 16:42:15.88	EXECUTE	OLYMPIA.JCT	UNIT 1 STATUS	SHUTDOWN	

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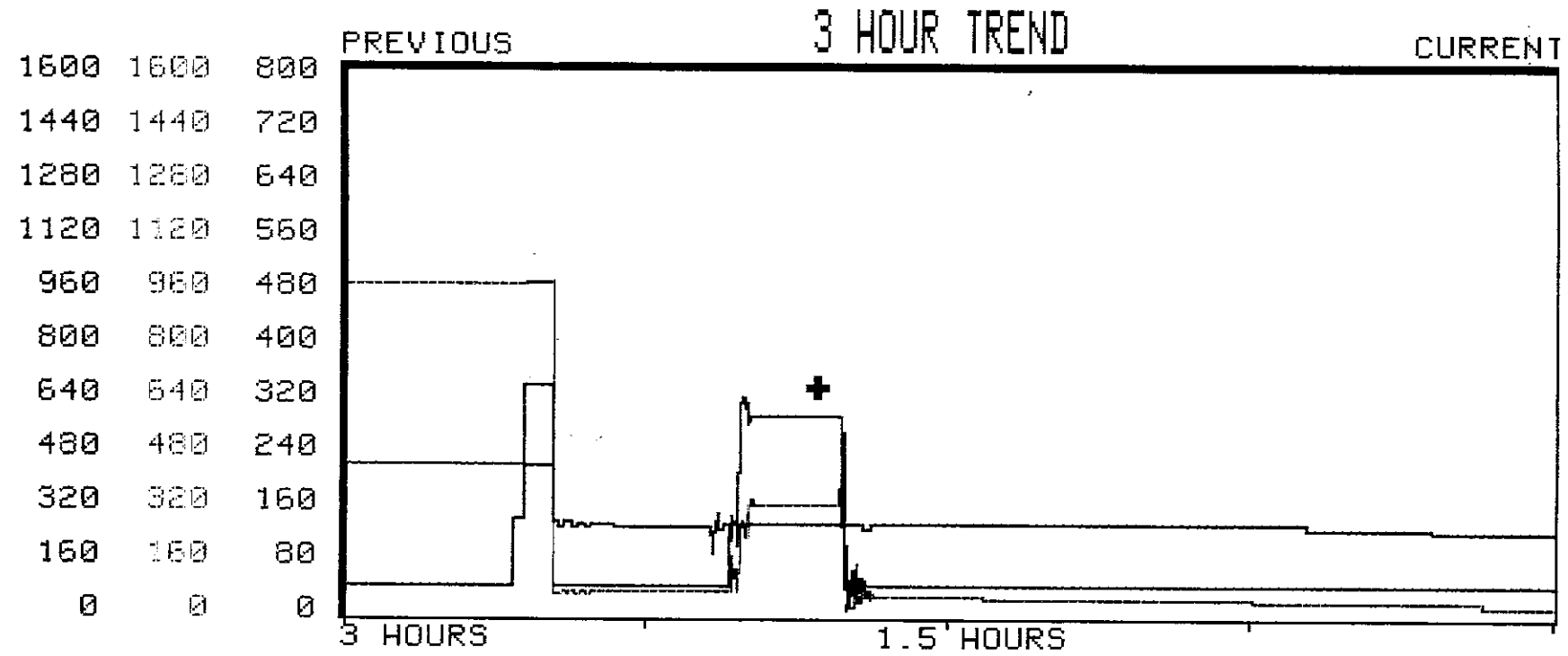
Exhibit TSM #5



	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	---- CURSOR READINGS ----
INS	CHPHDISCHRGE	34	70	550	NO TREND
INS	FERHDISCHRGE	5	225	1321	NO TREND
INS	BPTHPT1901	218	25	620	NO TREND

MILEPOST.46 WOODINVILLE MILEPOST.56

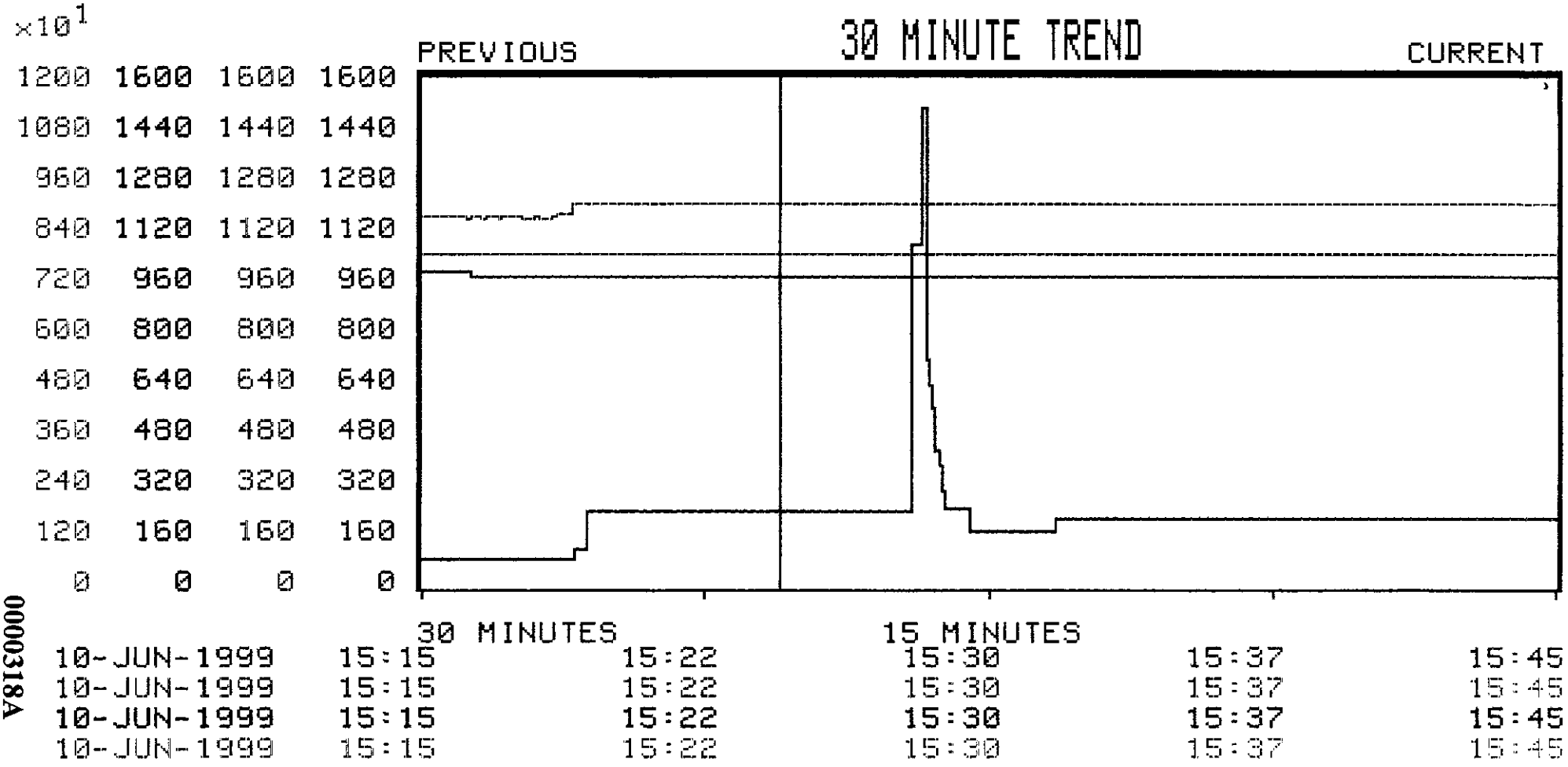


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Exhibit 15 with #6

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	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	---- CURSOR READINGS ----		
INS	FERHDISCHRGE	6	225	1321	10-JUN-1999	15:24	962
INS	FERHCONTROL	20	250	1450	10-JUN-1999	15:24	1031
INS	BPTHPT1901	86	25	620	10-JUN-1999	15:24	215
INS	FERHNETFLOW	0	-100	12000	10-JUN-1999	15:24	8904

10-JUN-1999 22:59:07
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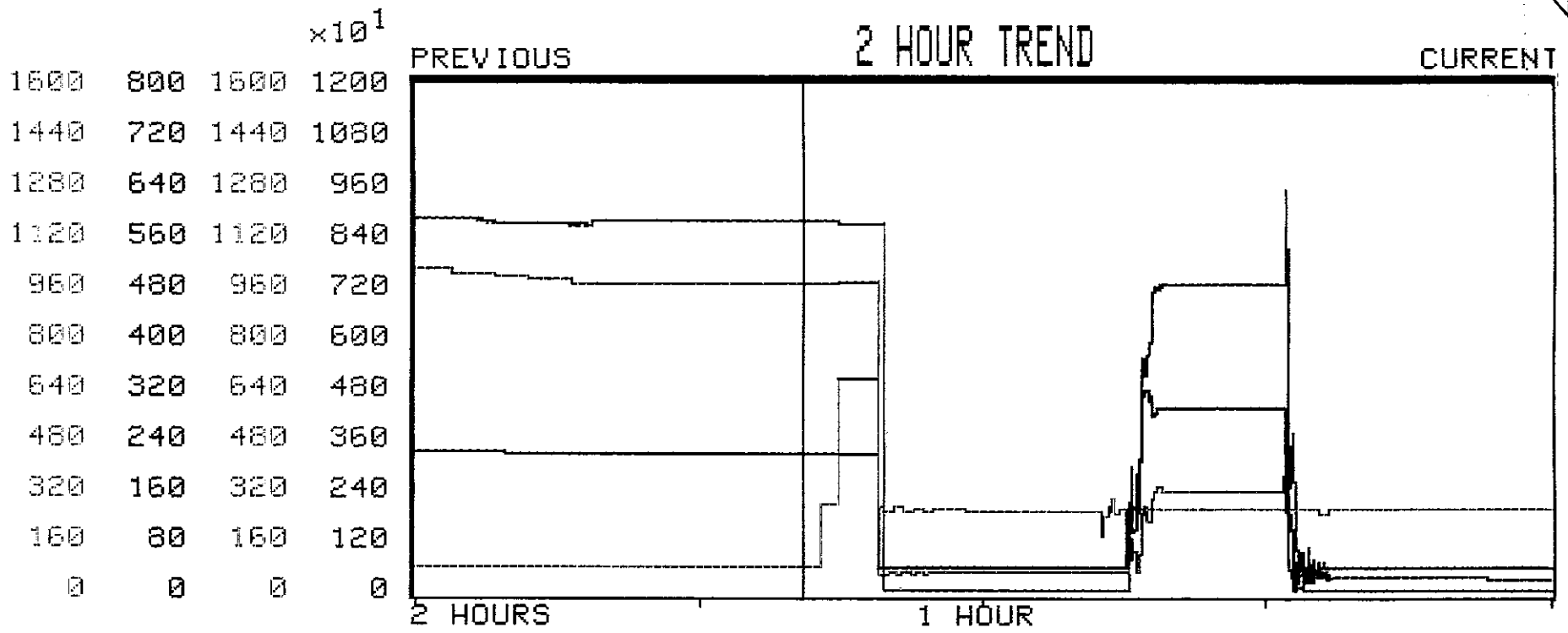
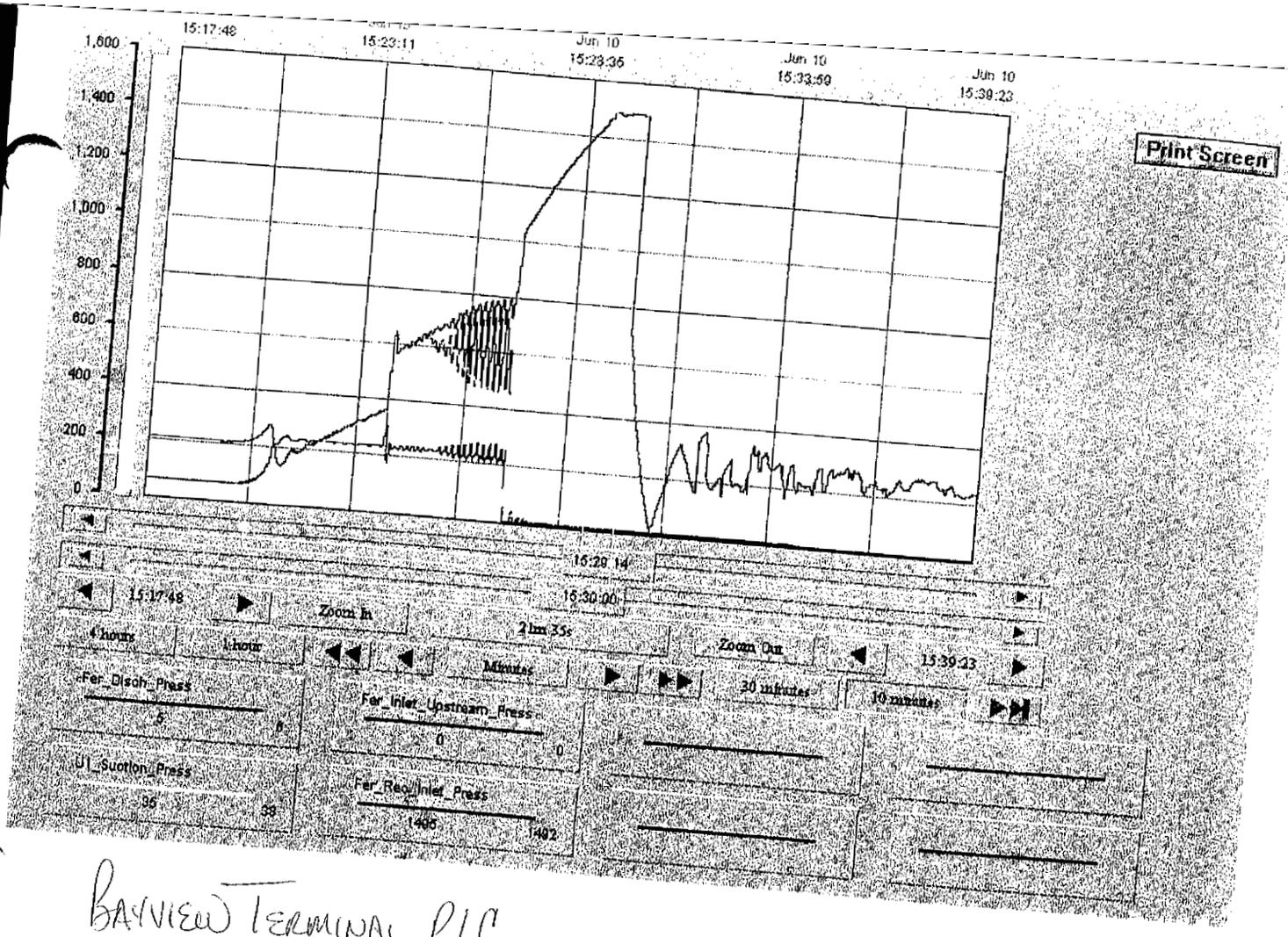
Exhibit #7



	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	---- CURSOR READINGS ----	
INS	FERHNETFLOW	0	-100	12000	10-JUN-1999 15:40	8682
INS	FERHDISCHRGE	2	225	1321	10-JUN-1999 15:40	962
INS	CHPHDISCHRGE	36	70	550	10-JUN-1999 15:40	211
INS	BPTHPT1901	109	25	620	10-JUN-1999 15:40	66



BAYVIEW TERMINAL PLC

Exhibit T. Smith #8

AUB