

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILE 8672  
2035 SCOMM 78 SENATE SPEC. COMM. ON OIL & GAS, 1991-1992

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and ship it back out. He referred to coated tanks and crude oil washings that blast the tanks with high pressured guns and said sludge buildup is basically a thing of the past.

Mr. Williams said he believes that Ms. Ott is confusing tank washings even on vessels that are going to dry dock. What happens when a tanker arrives at the dry dock, if painting or something similar is required, then the tanks would be completely swept and dug out. He noted that the \$3.50 that is paid at the Port of Portland is to dispose of ballast water. It is a very much more expensive proposition to dispose of sludge and is usually included in the bid for work, etc.

MR. LAWN, Department of Environmental Conservation, referred to his earlier comments of the investigation, how the plant operated, and writing the permit and said one of the concerns that was addressed by the 309 Order and trying to be addressed by the permit is that it is recognized that the Alyeska plant didn't move the sludge, oil, or solids (material contained in water that comes to shore) and that the plant had to be taken down to physically remove them. In that removal process, the material that seems to go south is the more heavier component. The material that floats in the water is more difficult to process and was a concern in the issuance of the permit.

OSCAR GENE DICKASON, Alyeska Pipeline Company, referred to the comment about diluting sludge and the system being overloaded, and said the ballast waters that come into the facility goes into the 90s tanks, the 90s tanks provide an absolute minimum of four hours of detention time before the water is processed on the dissolved air flotation unit. Any sludge and solids, are going to settle out in the 90s tank during that four hour time. He noted that most of the time more than four hours is involved. Sampling for the polycyclic aromatic hydrocarbons is required by the permit and must happen at least once a month. He explained that the data is reviewed and they look at the top ten peaks to see what is there beyond the EPA priority pollutants. Mr. Dickason referred to the sediments in Port Valdez, and said he testified the previous Tuesday that the data that they have seen is that the sludges are below the lower effects level as defined by NOAA. There is also data that there is no increasing trends in the hydrocarbons that exist in Port Valdez. They are at a stable level. He referred to the testimony he had given the previous Tuesday regarding the impaired water body, and said the new permit was certified by DEC and the company is in compliance with the Alaska Water Quality Standards.

Number 287

MR. ELMER explained that the coating that they use on their vessels is expected to last at least six and close to ten years before they have to be renewed. He explained the recoating process to the

committee members. (Parts of Mr. Elmer's testimony was indiscernible due to the teleconference connection.) Mr. Elmer explained that when a tank has to be recoated, all the blasting work is done at the shipyard after the ship has been taken out of service. All the materials that are gathered, including sand and any scales, are taken off at the ship yard and are not being taken to Valdez in any way or form.

MR. GALE said that not all the ships have coated tanks. He referred to the Coast Guard equipment regulations and MARPOL and said a certain amount of crude oil washings must be conducted for sludge control. The crude oil washing is done during the period in which the cargo is being discharged ashore. That sludge washing is putting the solids into suspension in the crude oil as it goes ashore and most of it goes to the refinery.

MR. LEVINE explained their process for cleaning tanks.

Number 364

MS. OTT asked if the amount of sludge differs between diesel engines and steamships. MR. ELMER said a diesel engine will generate additional materials from the fuel dock to the filters. Oil going into the diesel engine has fuel. (A large part of Mr. Elmer's response was indiscernible). Ms. Ott asked what the quantity of sludge generated on the filters of a diesel engine tanker was, per voyage. Mr. Elmer said the chief engineer of the Exxon Long Beach said he was seeing about 2 gallons per day. On a north bound voyage, the amount would be in the order of about 10 to 12 gallons per voyage or about 1/2 barrel. Ms. Ott noted her confusion regarding the 1/2 barrel for both diesel and non-diesel tankers and he had said earlier that the diesel tankers would generate more.

Number 427

SENATOR COTTEN referred to Mr. Geren's testimony and said it seems cumbersome if there is a questionable load that it would have to be determined on a case-by-case basis. He asked if they intend to review on a case-by-case basis indefinitely. Mr. Geren said he hopes not. He said as they learn about the types of materials that are being transferred, they hope they would be able to arrive at conditions of Best Management Practices Plan or other agreements on just what kinds of materials there are and what conditions are acceptable for discharge (BWT) and what ones are not. He said that would be the line and they wouldn't be looking at them on a case-by-case basis. Senator Cotten asked when that would be determined. Mr. Geren said they probably won't have a final answer until they have concluded their investigation. He said they are going to have a meeting on the 18th. Senator Cotten said part of the equation is to monitor and see if things are working as they're supposed to and the conditions are satisfactory. There is the question of who

should be doing the monitoring. Presently, Alyeska is in charge of the monitoring and they hire a contractor and the EPA relies on the information. He suggested that maybe the EPA or the state should do the monitoring and continue to have the industry pay for it.

Number 495

MR. GEREN said what they have been presently doing with the case-by-case authorization is that if there is any question as to what is in the material, it requires monitoring as part of the authorization. DEC has been independently monitoring the discharges of oil. Senator Cotten asked if the government should or shouldn't be in charge of monitoring as to whether the facilities can handle the materials and what the effect is of the material that goes back into the water. Mr. Geren said in his opinion, he believes that the industry should do it. He said they do compliance inspections and samplings at the federal and state levels, they do review laboratory records and documents submitted by the permittee. There was discussion regarding the monitoring process.

TAPE 2, SIDE 1  
Number 001

MR. LAWN referred to the question of monitoring and said one of the concerns was the adequacy of monitoring and whether it was biased or wasn't biased. An attempted solution was to have a technical advisory group who are world experts on the subject and who were answerable to DEC and EPA. He said if there was some independent oversight, it would answer some of the questions as to whether they are biased or not.

JANICE ADAIR, Department of Environmental Conservation (DEC), said they have a list of fees that can be charged and DEC is presently developing regulations to do that. She said DEC is presently doing independent monitoring at the Alyeska facility. She indicated she would provide information of what that is entailing. SENATOR COTTEN asked that the department furnish a policy comment on DEC and Alyeska doing monitoring and DEC is checking Alyeska's monitoring. He said there is confusion.

Number 048

SENATOR PEARCE referred to the Shetland Island Terminal and said Zodiac is the advisory group who has done the monitoring. She said the council is comprised different because the Shetland Island Council is part owner/operator of the harbor facility. Zodiac is the group that does the environmental monitoring. She said she wasn't sure if they do the monitoring at the terminal, but they do do the monitoring of the environment and the Sullom Voe itself. All the competing groups seem to be comfortable with Zodiac.

Everyone pays for them, she added. Senator Pearce suggested that one group be responsible for contracting and overseeing the work. She said she suspects that the state and federal agencies would support the idea.

This area of the minutes was done verbatim.

MR. WILLIAMS: "What I wanted to say on that was that Drue has really covered a lot of what I was wanting to say. We believe we do a first class job in operating the plant, and doing the tests, doing the monitoring. That is why I agreed with Dan that what we need are some people from the state to see what we're doing. A lot of what we're being accused of is people who don't know what is going on. We do a first class job day after day throughout the year. We have peaks. We have... In fact we say when we've had peaks. Immediately notified... When one happened a couple of weeks ago, the letters were down to EPA within hours of the excursion being noted. We would be delighted to have the state doing what its job is in overseeing what we're doing. The state is responsible for seeing that we comply with the rules. They set the rules and EPA sets the rules. We do our best to comply with those rules. We have no problems at all with the state carrying out its function."

Number 105

SENATOR COTTEN: "I'm sure that you do the best you can and, you know, it's still a matter of who is actually in charge. You're still in charge and you're inviting the state to look over your shoulder on the monitoring. I suggest that it's probably a government function to monitor, and you ought to look over their shoulder, and you ought to pay for it."

MR. WILLIAMS: "I think we should look at what... There are two types of tests. The one sort of test is the daily that we do on effluent going out. That is done in our labs to standard procedures. All that is monitored by the EPA. They have seen our lab and seen that it is up to specs. The other sort of tests are the general tests that are done such as the test that we contract out to the University of Alaska. Those are tests where we've had... We're not doing those ourselves. We've gone and asked a renowned third party to come and do the tests and those results are then available for everybody."

SENATOR COTTEN: "I understand that. Maybe it results in the same thing but the contractors are still working for you. You're giving the direction to the contractors."

MR. WILLIAMS: "I think... with due respect, that statement to say that independent contractors can't be independent which is not really fair."

SENATOR COTTEN: "I think that we both know what were talking about."

MR. WILLIAMS: "Yeah. Let me just add one on that. I'd be delighted if we didn't have all this outside pressure on us. If you can find a way that could take a lot of this pressure off us and industry... when people are accusing us of doing things that we're not doing and putting false claims up against us, we'd be delighted to operate with that system."

SENATOR COTTEN: "Well, I think that I've offered a suggestion of how to get there from here."

GENE DICKASON: "To add one thing on the studies that we do do a toxicity studies, we submit a plan to EPA and to DEC to review and they're told who the contractors are, who will be doing the work, and I'm certain that if they didn't like whom we've chosen to do this, they would tell us so. So, we do have preapproval of the agencies and we are paying for it."

SENATOR COTTEN: "Well, it sounds like you'd resist the suggestion that the contracting responsibility be given to the government. You'd be against that?"

MR. WILLIAMS: "Not really prepared to comment on it at the present moment because I haven't seen what the rest of the deal is."

SENATOR COTTEN: "You're suggesting that the government wouldn't be objective? Is that what you're suggesting? What are you suggesting when... if you'd even hesitate to say that you wouldn't oppose that."

Number 152

MR. WILLIAMS: "What I'm saying is I can't really comment on whether we would fully support the government taking over all of the monitoring programs, because that is like handing over a blank check. You don't know what they're going to charge, what they perceive the efficiency of it or whether it covers all the aspects. We really need to know what the whole deal is on this. I'm not disagreeing with your suggestion, but on the other hand, I'm not actually endorsing it at the present moment either."

SENATOR COTTEN: "Yeah, I got that."

MR. DICKASON: "I think if you were looking at it from the department's standpoint, they would have to be looking at it as not just Alyeska. I mean if you're going to take that whole philosophical change, you're going to be looking at every seafood processor in the state, or every pulp mill ... the two pulp mills in the state and... If you go the rest of Region 10 for Harold, all the industrial dischargers and municipal dischargers would fit

into the same category."

SENATOR MENARD: "But I think one of the issues we're facing here is that we have one of the largest export oil facilities in the state... in the world. I think what we've been trying to do over these past couple of days is how can we not give the impression that the fox is guarding the chickens? That's what it comes down to and that's one of the things that Senator Cotten came up to. And maybe there is a way that we could negotiate something out to see that there is a check and balance, look at the costs of it and see if there is a way. Whether we would get the same result or not... we would get the same result, but the perception. Senator Pearce."

SENATOR PEARCE: "Thank you, I'll ask a specific question or two. The Zodiac Monitoring Committee has in it a member of Zodiac itself, Department of Agriculture and Fisheries for Scotland, two of the oil producing companies, the Shetland Islands Council, which is their state government, the Nature Conservancy Council, the terminal itself, Her Majesty's Industrial Pollution Inspectorate, whatever that is, (indiscernible-coughing) limited, whatever that is. At any rate, they are the people who do the monitoring for Zodiac and oversee the monitoring. Would Alyeska support that sort of model for oversight of their monitoring."

MR. WILLIAMS: "I would answer that saying really that is almost in place because we pay RCAC (Prince William Sound Regional Citizens Advisory Council) \$2 million a year and the idea is that they have a terminal of operation subcommittee and part of that \$2 million per year is to go and have some of their own studies done on the port. That is somewhat in that direction of what you are saying, isn't it?"

SENATOR PEARCE: "Don't ask me. O.K., well then lets take it that step further, if RCAC were set up to be on the mini model like Zodiac, which I think it was and which also the Citizen's Oversight Council was, if we took one or the other or something new, God forbid, to have another entity out there... if we took one of those and the state and the federal government and you all agreed that that entity would be (indiscernible - coughing) doing the monitoring and then giving that information back to everybody rather than you doing some, the state doing some, the feds doing some, and whomever else doing some. Would Alyeska be comfortable with that? If it were either RCAC or the Citizen's Oversight Council."

MR. WILLIAMS: "I think we'd be very willing to look at any of these suggestions, either what you put up or what Senator Cotten has put up, because anything is better than what we've got at the present moment."

SENATOR MENARD: "Then Riki, I guess I'll ask... We've been

kicking this around and if by a flash of wand you were in control, how would you operate it as keeping the question that we're talking about. What would you do? What would change differently in the way it is being monitored?"

MS. OTT: "I was prepared to comment on something else. I would like to share two documents with the committee before the end of the out time. Are we going to..."

SENATOR MENARD: "We're running out of time. Do you want to make a comment on that or not?"

MS. OTT: "Sure. I would endorse doing what the technical advisory group has already recommended. They've recommended a series of studies. The technical advisory group does not agree with Mr. Dickason's comment that there is no trend of PAH in the sediment. The Technical Advisor Group does feel that there is indeed a trend, and I would like to see this group, a scientist be the quality... at least the quality control, quality assurance, and all contracting done through this body of scientists or at the minimum somehow... None of our recommendations have been followed to at this time and I think that... You know we've heard this group referred to several times, but please realize that nothing we've said has been taken up."

SENATOR MENARD: "Dan, do you have a comment on how you think it could be or if it should be?"

MR. LAWN: "Well, the department did a lot of thinking about this process along with the EPA, in the permit process it was recognized that we certainly needed a technical advisory group. We at one time, had talked about having that group be the principle for the studies, contract the studies and so on, and as I recall one of the reasons we ended up in the permit the way we did is we didn't have a funding source for that group to carry on and conduct that activity. So, Senator Cotten's suggestion about a way to do that... fund a group like that would certainly be where the staff was several years ago in our thought processes. What I'd like to do in this whole process, however we do it, is get some of the questions out. Get some of these things resolved once and for all and an independent body that is in control of the contract and the contractor response for that independent body could certainly help to get some of the questions out."

SENATOR MENARD: "Is there anything else? Riki you said you had a couple of ones. If you could make it quick, I have two people who want to testify and then we're going to close it."

Number 260

MS. OTT: "Alright, I can make it quick. I have a... #1 a set of documents. I have the letter from EPA, Regional Administrator Roby

Russell from Alyeska President George Nelson, on 8/15/88, summarizing the 1985 to 88 investigation. As we heard Mr. Geren say, 'The recommendation resulting from that review is that no additional formal enforcement action against Alyeska is appropriate. We arrived at this conclusion because the allegations could not be substantiated, and the allegations I'm referring to here are the transfer of tankers bringing material to Valdez.' I also have three pages from the actual subpoena records and I counted from those... actually two pages I counted one, two, three, four, five, six, seven, eight instances where, indeed, EPA had substantiated claims that the tankers were bringing material to Valdez. Let me just read one of them. 9/10/81, 'Sohio Resolute arrived at Valdez after coming out of a ship yard where its ballast had been put ashore and returned to the ship after repairs were completed.' Another one, '7/8/82, 'A Tanker Thompson Pass had 3,400 barrels of slop on board from a bunker barge in Long Beach.' That's one set of documents, the second set that I believe points out something that has been denied at these hearings which is why I would like to go on record with these documents. They're from the DEC Ballast Water Discharge Certificate Affidavit for the Exxon Valdez, dated 2/28/89, the Alyeska ballast water survey for that same vessel on that same day. Both of these forms show that there was nothing abnormal in the unsegregated ballast. Alyeska's survey did mention 35 barrels of cleaner. However, in the engineer relief notes, which are also part of this package, you'll notice that the Exxon... I'm sorry, this is the wrong set of documents. Same documents DEC Ballast Water Discharge Certificate Affidavit and Alyeska Ballast Water Survey for the Exxon Baton Rouge. On 4/16/89, showing that there was no abnormal ballast... a dirty ballast... discharged ashore to Alyeska. However, I also have a summary of the deposition of First Mate Claud Wendell (indiscernible) from the Baton Rouge who stated that, 'We picked up some slop tank content left behind by the Exxon Houston, which had been cleaned out at Hawaii before dry docking.' To emphasize this, the significant points from this set of documents are that the DEC and Alyeska Ballast water survey forms appear to be inadequate because the reporting of substances other than North Slope crude seem to be inconsistent. In other words, both these forms did not mention liquid ballast coming from shore at Hawaii. Also these documents transfer... document transfers from shore, which have been denied by Mr. Elmer. The third thing that this points out is that this really opens a can of worms because 1) ballast is... liquid cargo is taken from shore. There is no custody, I mean it could be anything. It could be waste from the facilities at shore, it could be just, as indicated here, slops left over from the Exxon Houston. The point is there seems to be a very... This is not really documented very carefully and it is occurring. Significantly, from my first document package with a 1985 EPA investigation, it is important to realize that these tank operators all denied doing anything like this during the first investigations, and EPA dropped the case even after substantiating that the tankers did in fact do this. Here we are in 1991, with

these same claims again. This time we find that this is all common practice. I would be really curious to know at what point between 1985 and 1981, this became common practice."

Number 337

SENATOR MENARD announced that Krista Masiolak, Alaska Environmental Lobby, read her statement into the record: "Suspicion surrounding ballast water undermines Alyeska's credibility in both the settlement and in any development projects they may wish facilitate in the further. If Alyeska wants to be (indiscernible) member of Alaska's society, they must satisfy our suspicions beyond a shadow of a doubt. The lobby would like to see the following: Greater involvement by DEC in the monitoring process. We would like to see an independent study conducted verifying those studies conducted in editing by Alyeska. We would like to see a thorough review of the BWT facility to determine exactly what goes into the facility, how much goes in, and what should be coming out. We would like assurance that the technology used at the treatment facility is the best technology available. There is a lot at stake in Prince William Sound and it is the duty of the state legislature to preserve the integrity of the areas. Thank you."

DICK MYREN explained he has Ph.D., Cornell, 1964, said he was a researcher at Port Valdez from 1971 to 1981, and did the monitoring studies in the intertidal area. In 1978, the small clam population started to decline. The ballast plant went on line in the fall of 1977. He urged independent scientists be used, otherwise, Alyeska will hire people and have done so over the years. Mr. Myren said he has watched DEC deteriorate in the process.

Number 361

meeting at 3:15 p.m.

MINUTES

3/15/91

HOUSE SPECIAL COMMITTEE ON OIL AND GAS

March 15, 1991

3:00 p.m.

MEMBERS PRESENT

Representative Bill Hudson, Chairman  
Representative Dave Choquette, Vice-Chairman  
Representative Pat Carney  
Representative Gail Phillips  
Representative Jim Zawacki  
Representative Mike Navarre

MEMBERS ABSENT

Representative Kay Brown

OTHER MEMBERS PRESENT

Senator Drue Pearce

COMMITTEE CALENDAR

Informational meeting discussing the ballast water treatment (BWT) facility in Valdez and Trans-Alaska Pipeline (TAPS) tanker operations.

WITNESS REGISTER

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#### ACTION NARRATIVE

TAPE 91-15, SIDE A  
Number 001

Chairman Hudson called the committee to order at 3:08 p.m. on Friday, March 15, 1991, and reviewed the agenda.

Members present were Representatives Hudson, Choquette, G. Phillips, Zawacki, Navarre and Carney.

Representative Brown was absent.

Senator Drue Pearce was invited to join the committee.

Number 050

MR. GUS ELMER, President of the Exxon Shipping Company, testified that the Exxon Shipping Company is a separate corporate entity registered in Delaware and is fully owned by Exxon Corporation. Exxon Shipping owns and operates 13 ocean-going tankers, ten of which are crude carriers on the West Coast, and nine of the ten operate in North Slope crude service.

Mr. Elmer expressed his pleasure at being invited to review Exxon Shipping's operations involving vessels that call at Valdez. Mr. Elmer noted that statements alleging that Exxon Shipping, through its operations, violates federal, state and local legislation and regulations, are false and he does not take the allegations lightly.

Before he began to explain Exxon Shipping's tanker operations, Mr. Elmer assured the committee that Exxon Shipping was not transporting wastes from nontanker operations, tankers not in North Slope service, nor discharging wastes from those types of operations to the ballast water treatment (BWT) facility at Valdez.

Number 081

Representative Navarre commented that Exxon Shipping may not be doing the above actions now and asked Mr. Elmer if Exxon Shipping had ever done any of the above in the past.

Mr. Elmer asked if he could defer that question until later in his presentation as he felt it would be better answered at that time.

Mr. Elmer continued his testimony and explained Exxon Shippings operations. (Mr. Elmer referred to charts, which can be seen on Attachment 1. Mr. Elmer's written testimony can be seen as Attachment 2.)

Number 127

Mr. Elmer continued with his presentation and explained the functions and uses of the different tanks on board an Exxon Shipping tankers and the ballasting practices of each tank.

Number 211

Representative Navarre questioned Mr. Elmer's statement that cleaning agents are used to clean the tanks aboard a ship if it was determined to be necessary. Specifically, Representative Navarre wanted to know how often cleaning agents are used.

Mr. Elmer responded that Exxon Shipping had used cleaning agents six times over the last three years. Exxon Shipping feels it has an obligation to the men and women who go down into these tanks to provide a safe working environment. A tanker captain makes the decision as to when cleaning agents are necessary.

Representative Navarre indicated that it seemed as if safety would dictate a greater frequency in the use of cleaning agents.

Mr. Elmer remarked that Representative Navarre's statement was an excellent one and over time it was expected that the use of cleaning agents would become more frequent.

Number 228

Mr. Elmer continued to explain Exxon's tanker operations.

Mr. Elmer continued his testimony by noting what happens upon a tanker's arrival at the BWT in Valdez.

Number 374

Chairman Hudson asked if members had any questions.

Representative Navarre yielded to the Chairman who inquired if the gas-freeing of tanks that was done every 24 to 30 months in order to permit full inspection was a set time limit imposed by Coast Guard regulations.

Mr. Elmer responded that Coast Guard regulations that Exxon Shipping abides by require that a vessel go to dry dock twice within five years, with no one cycle being longer than 36 months.

Number 446

Representative Navarre wanted to know if he could get additional information on the capacity of the nonsegregated and segregated tanks for Exxon's vessels.

Mr. Elmer indicated that this information would be provided.

Representative Navarre wanted to know if Exxon Shipping ever had any trouble getting approval from Alyeska for various operations, as Exxon Shipping's parent company, Exxon, was a significant owner of Alyeska.

Mr. Elmer indicated that this was a situation that had arisen and Exxon Shipping has had requests refused.

Number 503

Representative Navarre questioned exactly what cleaning agent was being used on Exxon Shipping's tankers.

Mr. Elmer indicated that the product used was called CLEANBREAK and was 95 percent or more kerosene. A cleaning analysis of this product was expected soon. CLEANBREAK was not an Exxon product, which was why Mr. Elmer was unfamiliar with its exact composition.

TAPE 91-15, SIDE B  
Number 005

Representative Navarre asked Mr. Elmer if Exxon Shipping had a BWT facility that could handle the level of ballast water that the BWT in Valdez could.

Mr. Elmer responded that for BWT facilities owned by Exxon, the answer was no. Mr. Elmer indicated in reference to other BWT facilities where ballast water could be handled, the answer was yes, in limited amounts. Additionally, he commented that this would not reduce the level of ballast which comes to Valdez.

Representative Navarre suggested that another BWT facility might be needed, perhaps even at Valdez, to better treat

the water. Representative Navarre questioned Mr. Elmer on whether or not he was satisfied with the level of treatment that currently exists.

Mr. Elmer stated that the level of treatment that was ongoing was in full compliance with the EPA (Environmental Protection Agency) and the requirements of Alaska's water quality standards.

Number 041

ROBERT LEVINE, Director of Alaska Maritime Affairs for ARCO Marine, testified that ARCO's procedures in general were very close to Exxon Shipping's procedures. He indicated that the largest thing ARCO does differently from Exxon Shipping was, whenever possible, ARCO transfers tank washings directly to one of ARCO's refineries.

Mr. Levine indicated that ARCO was in the process of reviewing the records, but as of now, ARCO could only identify one time when ARCO transferred the ballast back to Valdez because ARCO could not get it into one of the refineries.

Mr. Levine stated that ARCO does not use cleaning agents at present because ARCO is able to successfully water wash the tanks. However, ARCO was finding this to be more and more difficult due to an accumulation of wax inside the cargo tanks. ARCO was reevaluating the tank cleaning procedures as a result of an accident at one of ARCO's shipyards.

Number 080

Chairman Hudson questioned how the refineries that ARCO used compared in technology and equipment with the BWT facility in Valdez.

Mr. Levine responded that he assumed the refineries were equivalent. The processes may differ, but the technology and the method were very close to being the same.

Number 090

Chairman Hudson asked if ARCO had any tankers or transport vehicles which commingle oil from other parts of the world with Alaska oil. Specifically, was there any possibility that ARCO's nonsegregated or segregated tanks might have contained oil or ballast water from another part of the world.

Mr. Levine indicated that ARCO operates ten ships, which are all on the Alaska North Slope trade; thus, there is a very slim chance for the situation outlined by Representative Hudson to occur.

Number 112

Representative Navarre requested that Mr. Levine supply him with information on ARCO's segregated and nonsegregated tank capacities on each vessel ARCO operates.

Mr. Levine indicated that he would pull this information together for Representative Navarre.

Representative Navarre asked if ARCO had ever shipped substances from shoreside facilities into ballast water.

Mr. Levine responded in the negative and elaborated that ARCO does not backload anything onto the ships as a normal practice. On one occasion the treatment facility was inoperative in one of ARCO's refineries and ARCO did bring washings back to Valdez in lieu of ballast water.

Representative Navarre questioned whether or not ARCO chartered any ships.

Mr. Levine answered that ARCO has chartered ships, which were steamships, as were all of ARCO's other ships.

Number 139

Representative G. Phillips questioned if the rules and regulations governing ARCO's refineries in the Lower 48 were comparable to the regulations at governing operations at the Valdez BWT facility.

Mr. Levine responded that he had never actually sat down and compared the two; however, he assumed the regulations were comparable. The refineries at Alyeska were operating under the same laws.

Number 165

CAPTAIN ROGER GALE, Manager of Marine Transportation for British Petroleum Oil (BP), testified that BP has the largest fleet of tankers operating out of Valdez. He noted that BP is not a corporate citizen, therefore, BP does not actually own any of these tankers. He stated that BP charters 17 tankers which load out of Alaska, and BP is known as the marginal supplier to the West Coast market.

Captain Gale indicated that BP deals with seven different operating companies in Alaska. Therefore, as can be expected, BP has seven different methods of operation, which are all very similar to Exxon Shipping's operations.

Captain Gale explained that transferring tank washings from ships going to dry dock or performing the last voyage in

BP's service was a common practice with BP. Some of the operators use tank cleaning agents and some do not.

Captain Gale agreed with Mr. Elmer and Mr. Lavine that the use of cleaning agents was likely to increase, primarily because the Environmental Protection Agency (EPA) and the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) have reduced the level of benzene to which a worker can be exposed.

Number 232

Chairman Hudson questioned Captain Gale about where BP off-loads contaminated bilge water.

Captain Gale responded that it depended on what Chairman Hudson meant by contaminated bilge water. The bilge water in BP's chartered ships was of the same makeup as the bilge water in Exxon Shipping's vessels. Some of BP's vessels pump all of the bilge water into slop tanks and some vessels use bilge water separators while the ships are away from the coast until the ship comes into shore. Anything collected in the bilges between the time the bilge water separators were shut down and when docking occurs would then be taken ashore for treatment.

Number 253

Representative Navarre asked if BP transferred from onshore facilities to vessels.

Captain Gale replied that until January, 1990, BP did not have any facilities at all on the West Coast. In early 1990, BP acquired a refinery in Puget Sound. Captain Gale emphasized that BP does not load anything from the shore to BP's vessels.

Representative Navarre inquired if this was true for both the East Coast and the West Coast.

Captain Gale responded in the affirmative.

Representative Navarre requested additional information as to the capacity of segregated and nonsegregated tanks on the vessels that BP charters.

Captain Gale responded that he would put this information together and forward it to the committee.

Representative Navarre further requested a scientific analysis or description of the cleaning agent that was used in BP's ships.

Captain Gale replied that he would comply with this request.

Number 278

Representative Navarre asked Mr. Elmer if Exxon had large diesel ships in service.

Mr. Elmer responded in the affirmative and elaborated.

Representative Navarre inquired as to what was done with the diesel sludge from the ships in service in the Alaska North Slope trade.

Mr. Elmer responded that the operation that Exxon followed on the two ships that were in East Coast trade was to discharge the segregated ballast as described earlier, but these ships are not in the West Coast service and, therefore, do not have to go as deep due to less severe weather. Ships in the East Coast trade carry very little extra nonsegregated ballast. Secondly, according to Mr. Elmer, Exxon Shipping does have holding tanks where this material accumulates and only the liquid is pumped off into the slop tank.

Mr. Elmer asked Captain Mazza, tanker captain for Exxon Shipping, whether or not he was familiar with the slops from the ships in the East coast trade.

CAPTAIN ELMER indicated he believed that slops from the East Coast trade are off-loaded at Baton Rouge refinery and (indistinguishable) refinery. Because of the small quantities handled, these ballast water treatment facilities are able to handle the material.

Number 305

Representative Navarre questioned the practices of those ships in the West Coast trade.

Mr. Elmer responded that the material from the filters was sent into the tank Exxon Shipping had described at the lower corner of the engine room. The material sits there and then the liquid, which is predominately water, is pumped off and goes into the nonsegregated ballast and then is off-loaded into the ballast water treatment facility at Valdez. The solid material that accumulates in the tank is cleaned out every six months, is drummed, and shipped to the Lower 48 to be disposed of at an EPA approved site by an EPA approved contractor.

Representative Navarre inquired if Exxon kept records of the amount of sludge actually disposed of, or does the EPA

or the ADEC (Alaska Department of Environmental Conservation) keep the records.

Mr. Elmer responded that the record is kept in the (indistinguishable) book on board the ship. Every action taken on board the ship is recorded in this book.

Number 337

DR. GENE DICKASON, Manager of the Environment Department for Alyeska Pipeline Service Company, submitted written comments to the committee (please refer to Attachment 3) and gave oral testimony.

Dr. Dickason indicated that before coming to work for Alyeska he worked for the University of Alaska and the Environmental Protection Agency prior to that. From 1970 to 1978, as director of the Environmental Protection Agency's Alaska office, Dr. Dickason was involved with the drafting of the first permit for the Valdez Ballast Water Treatment Facility (BWT). Dr. Dickason indicated that at the time of its construction, the BWT at Valdez was a state of the art facility.

Number 378

Dr. Dickason outlined the procedures followed when a ship comes into the Valdez BWT. He explained that the ballast is pumped ashore from a vessel to the (indistinguishable) tanks, which are three large tanks where the ballast comes off the vessel. The ballast waters are allowed to stay there for a sufficient period of time to allow any free oil to rise to the surface and any settleable solvents to come ashore with the ballast to settle to the bottom of these tanks. The sludge on these tanks are collected when the tanks are drained and taken to a dewatering area and tested to determine whether or not a hazardous waste. If the sludge tests positive, the sludge is drummed and taken to a hazardous waste disposal site. Alyeska's permit requires them to notify the ADEC in advance any time one of these tanks was going to be drained.

Dr. Dickason continued and explained that after the gravity separation occurs, the oil that is collected from the surface is taken to the eighties tanks and sent back to the vessel. The water that is decanted below this is taken to the Dissolved Air Flotation (DAF) chambers. At this point, fine bubbles of air and a polymer is added to accelerate the process of separating the remaining oil from the water. A skimmer then removes the oil and returns it to the eighties tanks. The overflow from the dissolved air flotation chambers goes to the impound basins, which go through Alyeska's new biological treatment systems.

Dr. Dickason further explained that at the effluent end of the biological treatment system, Alyeska adds nutrients, phosphorous and nitrogen, for the microorganisms. This substance is then run through an aerator basin to lower the BETX (benzene, ethylbenzene, toluene, xylene) level. Next, this substance is sampled and discharged through a diffuser in the bottom and out into the port of Valdez.

Number 421

Dr. Dickason inquired whether anyone had any questions at this time. There being no questions, Dr. Dickason continued with his testimony and indicated that as part of Alyeska's treatment program, there was a best management practices plan. This was a plan submitted to the EPA for approval in conjunction with the ADEC.

Dr. Dickason indicated the plan addresses many of the items currently being discussed: what can and cannot come into the facility, bilges, tank cleaning, cleaning agents and so on. The best management plan was silent on transfers of ballast from one ship to another.

Dr. Dickason stated that the transfers which were occurring should not have been a surprise to anyone. This matter has been studied and investigated before.

Alyeska, according to Dr. Dickason, does a variety of routine tests at the BWT facility daily. For organics, Alyeska goes through the EPA's priority list quarterly and samples for napaethne quarterly.

In looking at the operating history of the BTW facility, Dr. Dickason observed that BETX concentrations in the effluent have been meeting standards with the old system and it was hoped that the new system, which went on-line a week ago, will do much better. (See Attachment 4 for detailed outline.)

Dr. Dickason indicated that Alyeska went back and reviewed all of the Ballast Water Survey forms submitted since the new permit was issued in June, 1989, which involved a total of 1,484 forms. Of those 1,484 forms, Alyeska was able to identify 72 that had either transferred ballasts on board when the vessel came into Valdez, had used cleaning agents, had a prior cargo that may not have been Alaska North Slope crude, or had some other contaminant in the tanks.

Number 500

Dr. Dickason explained that Alyeska then went back and looked at those actions which appeared to be the most severe, such as having the most cleaning agent. Alyeska was interested in learning if any of these activities

caused a problem in the ballast water treatment system. Alyeska determined through the records that there were none.

In addition to effluent monitoring, Dr. Dickason elaborated that Alyeska conducted many environmental studies over the years. These studies were provided to EPA and ADEC and are on file at the Arctic Environmental Information and Data Center and are public documents for anyone who would like to view them. Dr. Dickason noted that the Institute of Marine Science (IMS) at the University of Alaska, Fairbanks, did much of the work. To date, IMS studies have shown no adverse impact due to Alyeska's operations.

TAPE 91-16, SIDE A  
Number 023

In conclusion, Dr. Dickason stated that the BWT facility was doing its job based on the evidence, and the Port of Valdez was a healthy environment. Dr. Dickason reiterated that Alyeska's new system started up ten days ago.

Representative Phillips questioned if Alyeska had regular inspections by ADEC of Alyeska's records as well as on-site inspections.

Dr. Dickason responded that the opportunity is there for on-site inspections any time ADEC wishes to; however, Dr. Dickason was not sure about the frequency of ADEC's visits. All records are open for review by ADEC.

Chairman Hudson asked if Alyeska had any outside, non-Alyeska inspectors/scientists who conducted studies.

Dr. Dickason indicated that Alyeska had used consultants in designing the facility, but to his knowledge Alyeska had not had anyone come in to run separate tests and samplings.

Number 061

Dr. Dickason elaborated that Alyeska had received inspections from the EPA and he thought the EPA had hired contractors to come in and provide third-party audits.

Number 094

Chairman Hudson indicated there had been statements in the press that exotic organisms had been coming to Alaska via the tanker trade and he wanted to know if Dr. Dickason had seen any evidence of this.

Dr. Dickason responded he believed that in all the work done by the Marine Institute in Fairbanks, if such a thing were occurring, Alyeska would have been informed.

Number 148

Senator Pearce questioned how long the effluent was in biological treatment before it was sent into the port through the diffusers, and was there any dependency to that time period and the number of ships docked.

Dr. Dickason responded that the detention time in the pond depended on the amount of flow that was put through the pond. The system was designed to take flow fluctuations and still meet the standards of the permit.

Senator Pearce inquired if Alyeska had ever had to stop a tanker from off-loading ballast water until Alyeska could catch up.

Dr. Dickason stated that it was his understanding that Alyeska had cued up tankers when the nineties tanks had been filled and there had not been sufficient detention time to get the separation desired.

Senator Pearce questioned if Alyeska dumped different things into the tanks depending on what Alyeska was trying to treat.

To his knowledge, Dr. Dickason responded that the only thing put into the tanks as far as the biological system was concerned was the nutrient described earlier.

Senator Pearce requested clarification on whether it was the microbes which ate the contaminated materials which were toxic, or do the microorganisms eat the toxic material.

Dr. Dickason clarified that the microorganisms eat the toxic substance. He explained that benzene is a natural, biodegradable substance, although it has been described as a hazardous substance.

Number 191

Senator Pearce asked if any crude oil treatment happens in Valdez or does it all happen on the North Slope.

Dr. Dickason responded that in the main terminal storage tanks, there is some water separation that has come down the pipeline, which are then drawn off and run through the ballast water treatment system.

Chairman Hudson questioned how Alyeska ships the sludge out once the tanks are cleaned.

Dr. Dickason indicated that it is drummed, as with any hazardous waste, which is similar to what the ships do.

Number 232

Representative Navarre inquired if the numbers allowed were set by the permit with regard to the effluent.

Dr. Dickason responded in the affirmative.

Representative Navarre questioned if this was the upper limit.

Dr. Dickason responded that it was and elaborated that the standards were continually being tightened.

Representative Navarre requested information on what the projects were for flow-through and ballast water treatment when the plant was designed and whether or not Alyeska was exceeding those projections in terms of whether or not more holding tanks were needed, and so on.

Dr. Dickason promised to provide this information to Representative Navarre.

Number 294

Representative Carney asked Dr. Dickason for his opinion on why he thinks the Valdez harbor has become an impaired waterway.

Dr. Dickason responded that the Valdez harbor was claimed to be an impaired waterway in a document that was issued in the Spring of 1990, and this document stated that, based on the dye studies done in relation to the mixing zone, the mixing may not have been as high as first calculated; and if Alyeska was operating the permit at its maximum levels, the potential was there for Alyeska to be in violation of the aromatic hydrocarbons in the boundaries of the mixing zone.

Dr. Dickason further noted that he had not seen any studies stating that this impairment had actually occurred. In any event, with the new permit, any doubt of the Valdez port being an impaired waterway should be removed.

Representative Carney clarified that he understood that the Valdez port had already been declared an impaired waterway.

Dr. Dickason responded that, to his knowledge, a number of things were discussed relating to the possibility of Valdez being an impaired waterway, but there had been no linkage between that and the BWT facility being the cause.

Chairman Hudson asked if there was a great deal of renewal ongoing in terms of water going in and out of the Valdez port.

Dr. Dickason felt the Coast Guard or the Institute of Marine Sciences would be better able to respond to that question.

Number 339

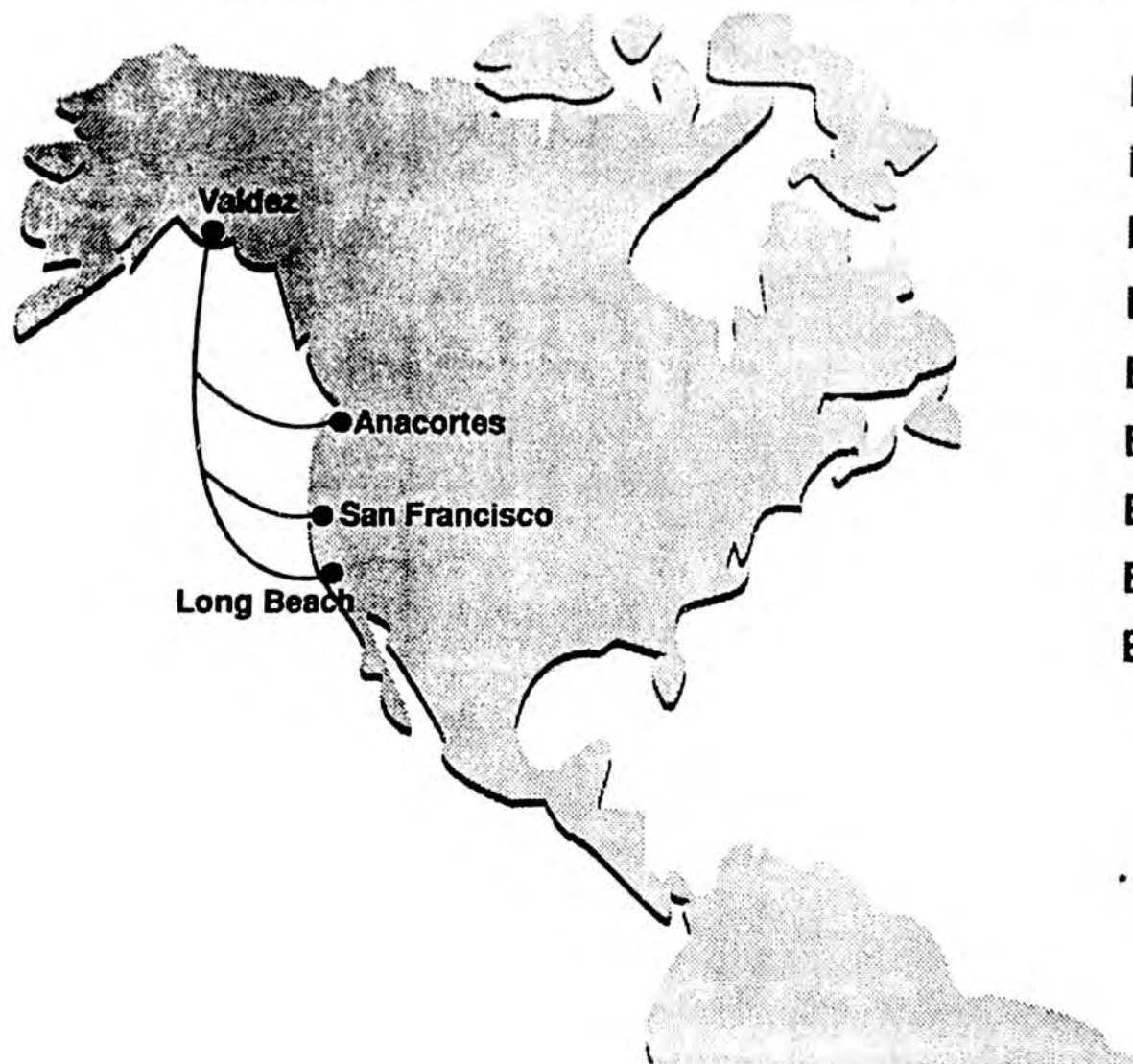
Representative Navarre inquired if testing was done regularly to determine if there was an accumulation of heavy metals in the Valdez port.

Dr. Dickason responded that such testing had been done and elaborated that there had been a slight increase in heavy metals in the sediments near the diffuser, according to the document alleging that the Valdez port was an impaired waterway.

Number 350

Chairman Hudson thanked everyone for attending and adjourned the meeting at 5:11 p.m.

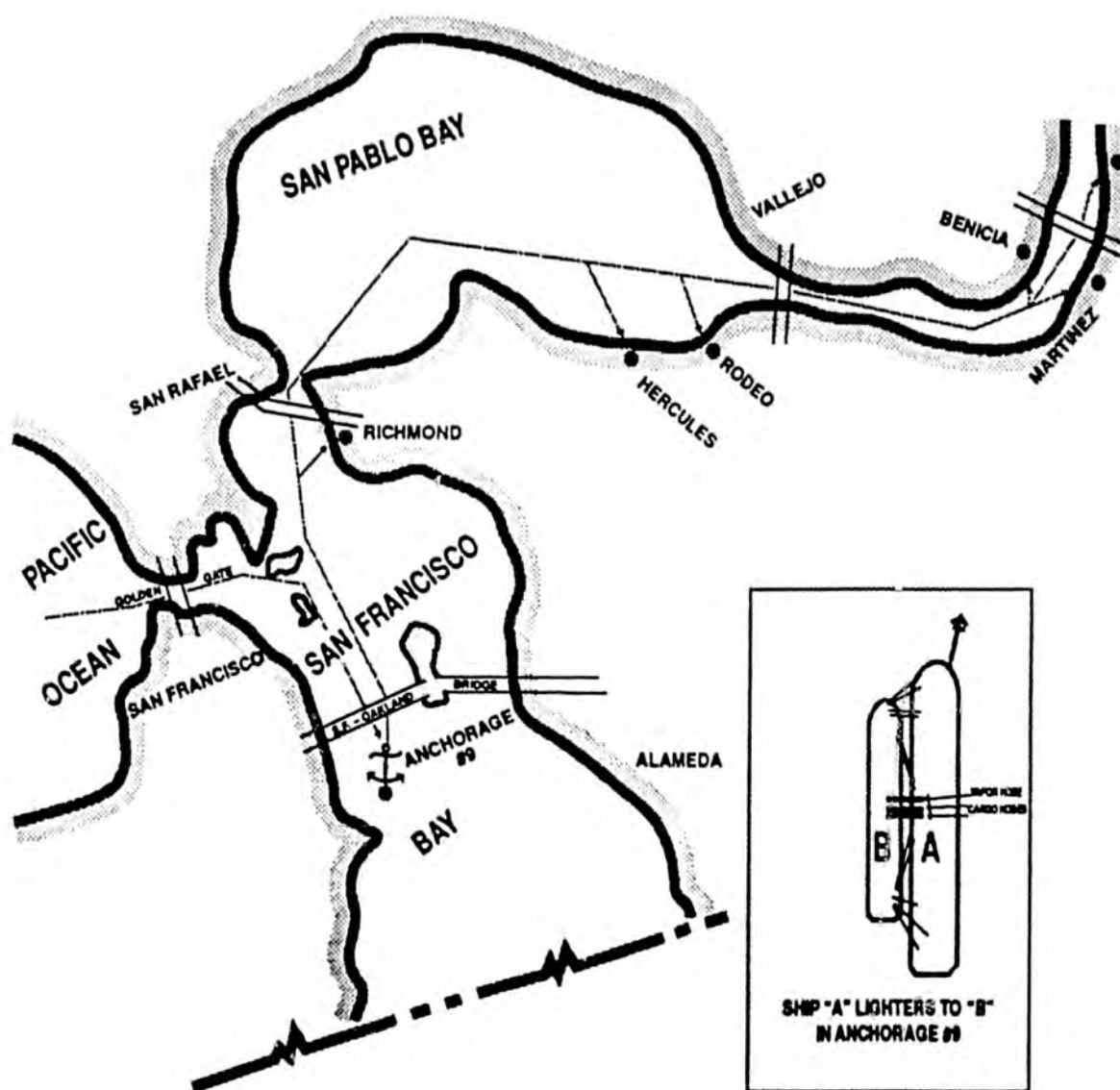
## EXXON SHIPPING COMPANY TRANS WEST COAST CRUDE MOVEMENTS



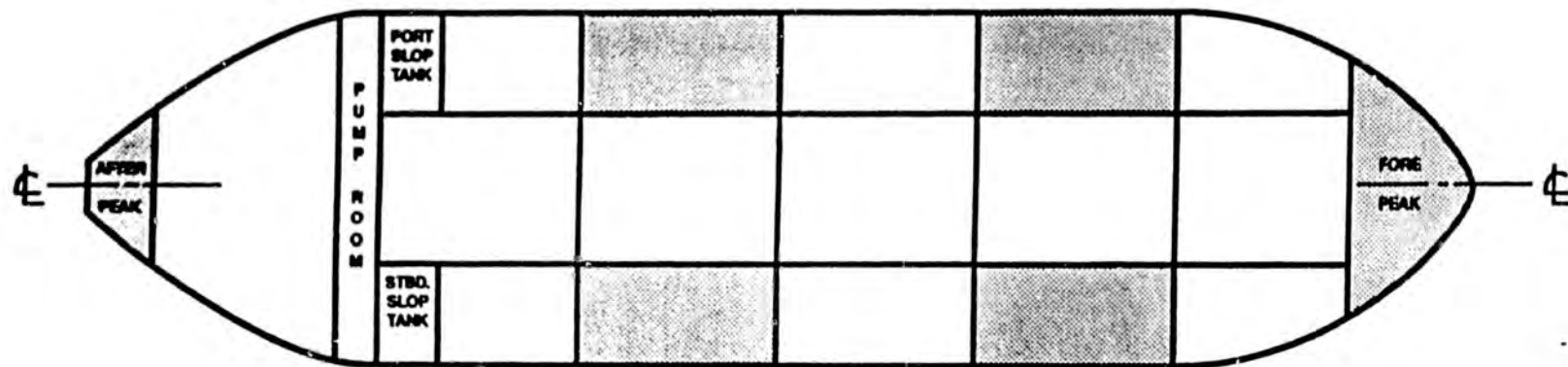
Exxon Long Beach  
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Exxon North Slope  
Exxon Philadelphia  
Exxon Baton Rouge  
Exxon San Francisco  
Exxon New Orleans  
Exxon Baytown\*  
Exxon Galveston\*

\* SF Bay Lighter

## S.F. BAY LIGHTERING OPERATIONS



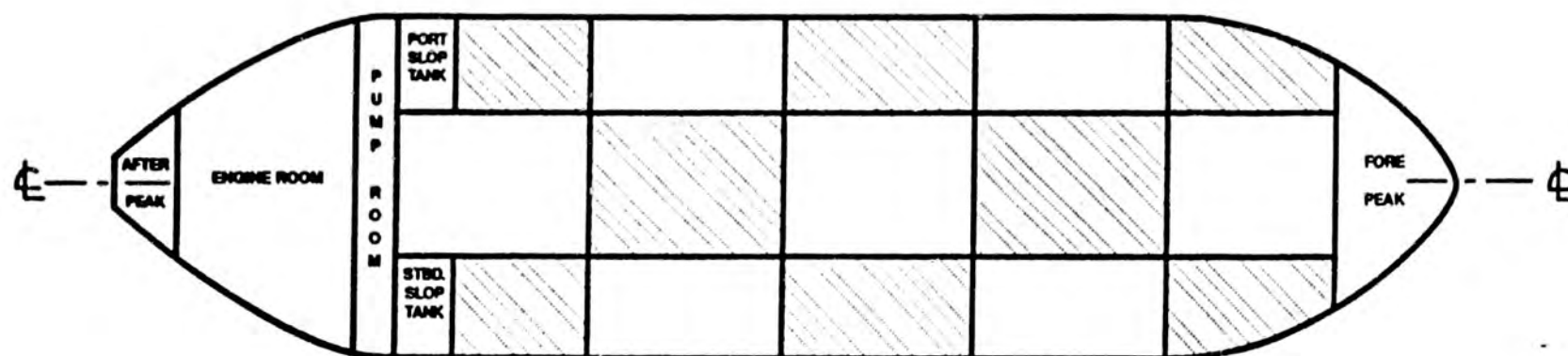
## SEGREGATED BALLAST ARRANGEMENT



SEGREGATED BALLAST TANKS ARE NOT CONNECTED TO THE CARGO SYSTEM

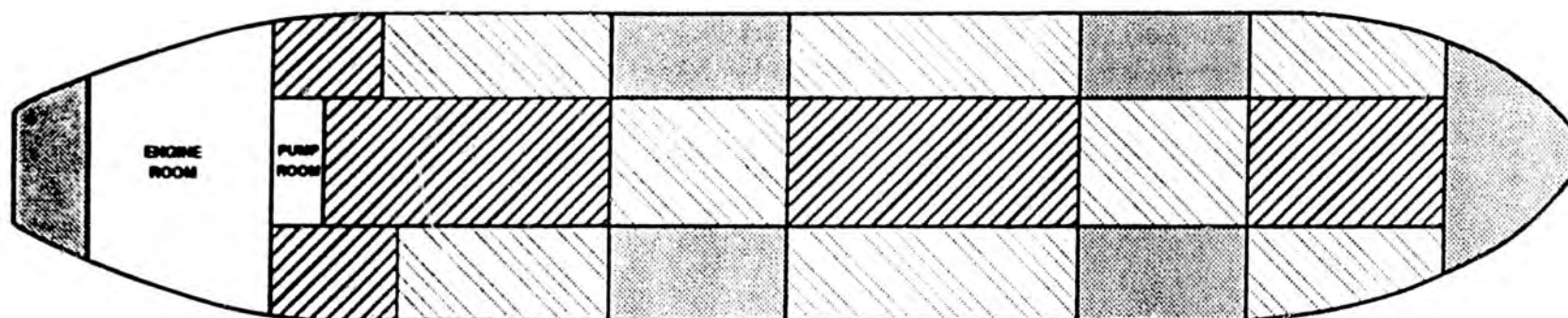
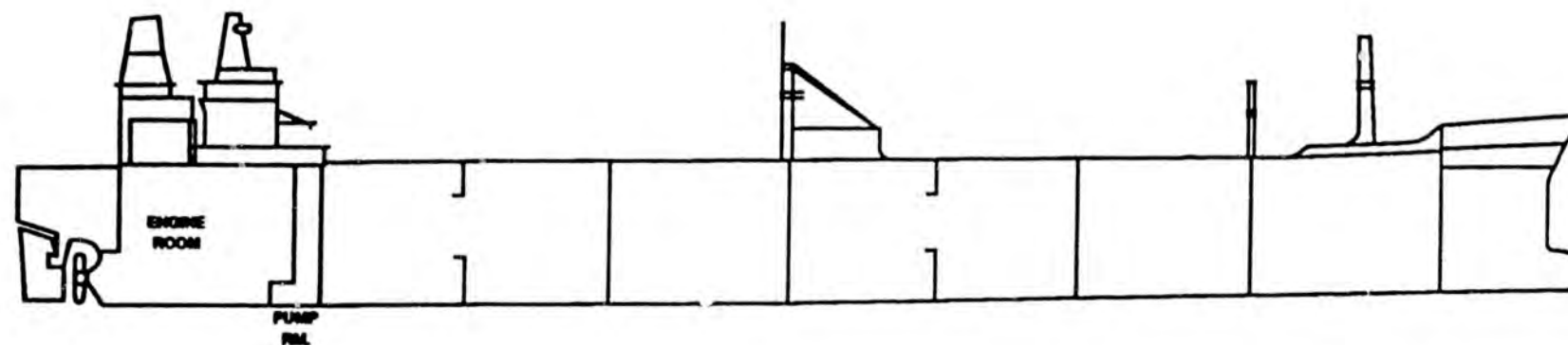
 SEGREGATED BALLAST TANK

# CARGO ONLY TANK ARRANGEMENT



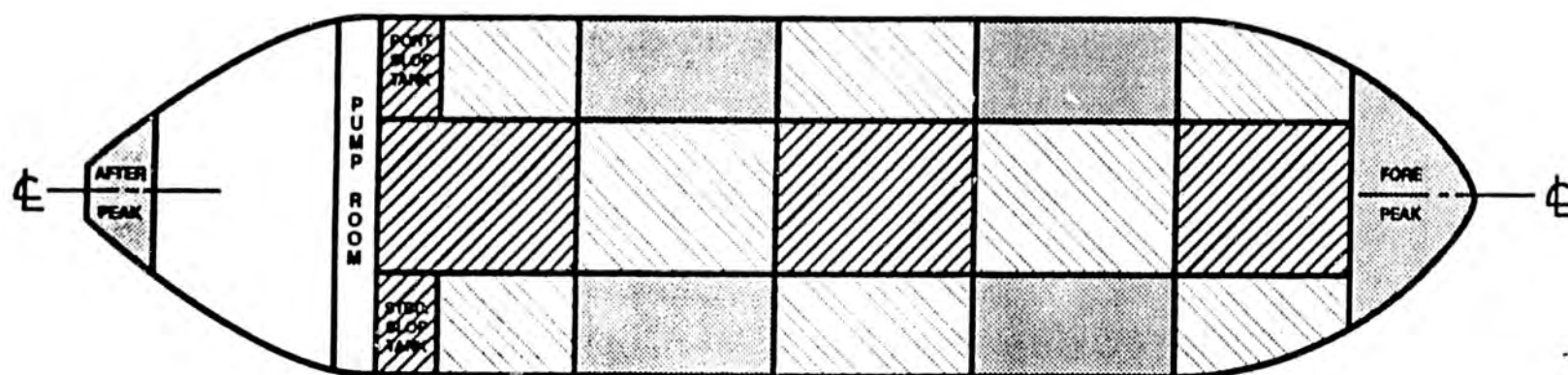
/// CARGO ONLY TANK

# TANKER GENERAL ARRANGEMENT



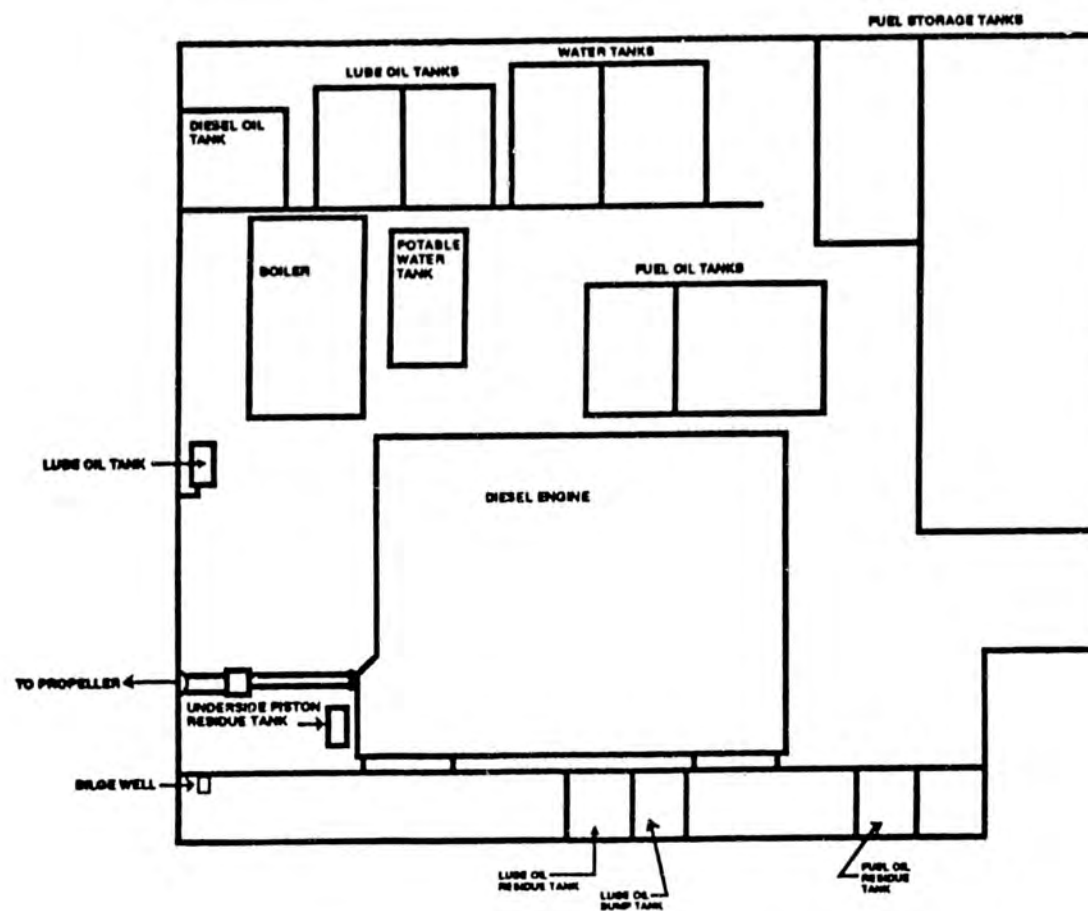
SEGREGATED BALLAST  
NON-SEGREGATED BALLAST/  
CARGO OIL  
CARGO OIL

# SEGREGATED AND NON-SEGREGATED BALLAST ARRANGEMENT

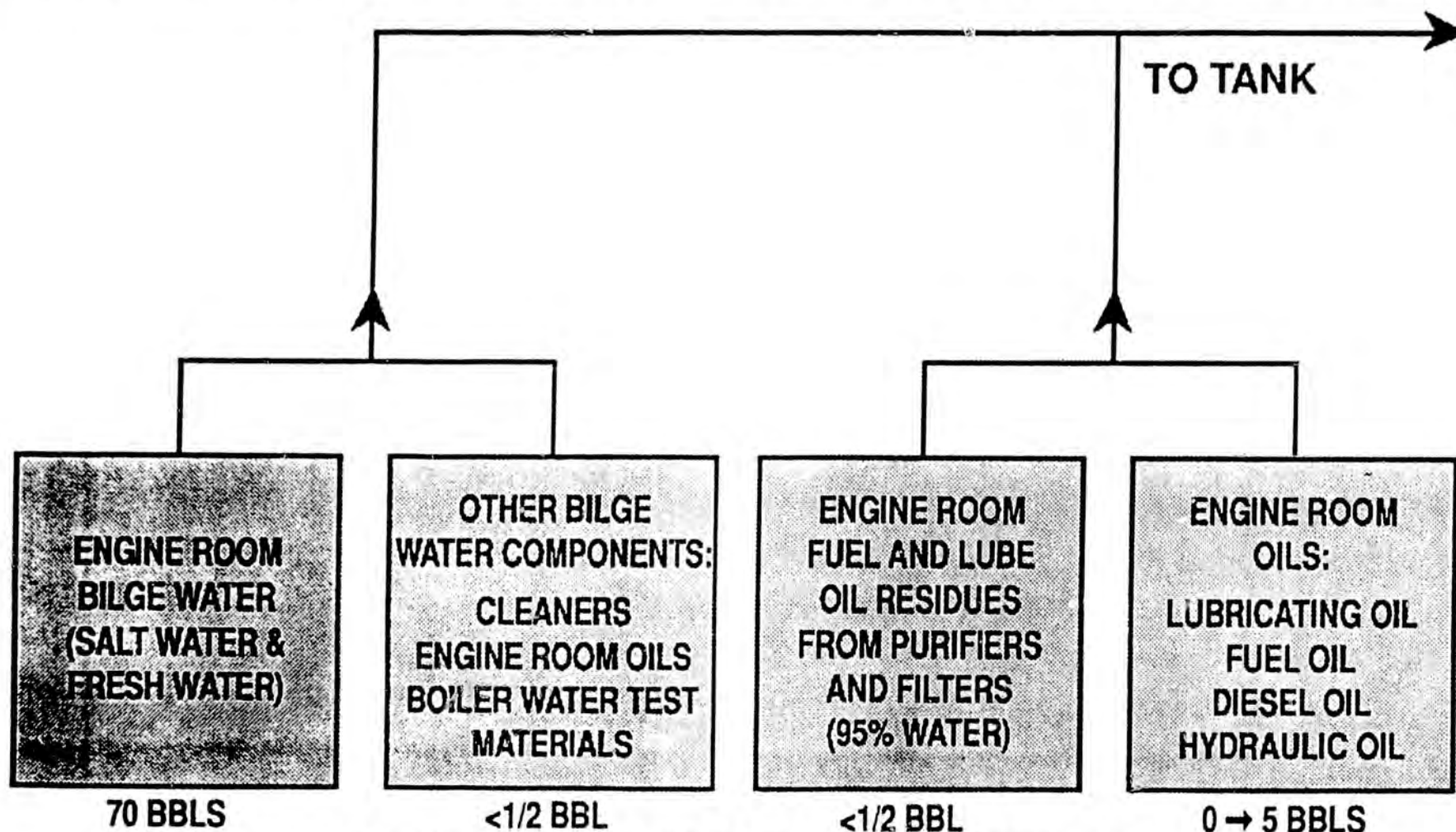


-  SEGREGATED BALLAST TANK
-  NON-SEGREGATED BALLAST TANK
-  EMPTY CARGO TANK

## SIDE VIEW ENGINE ROOM

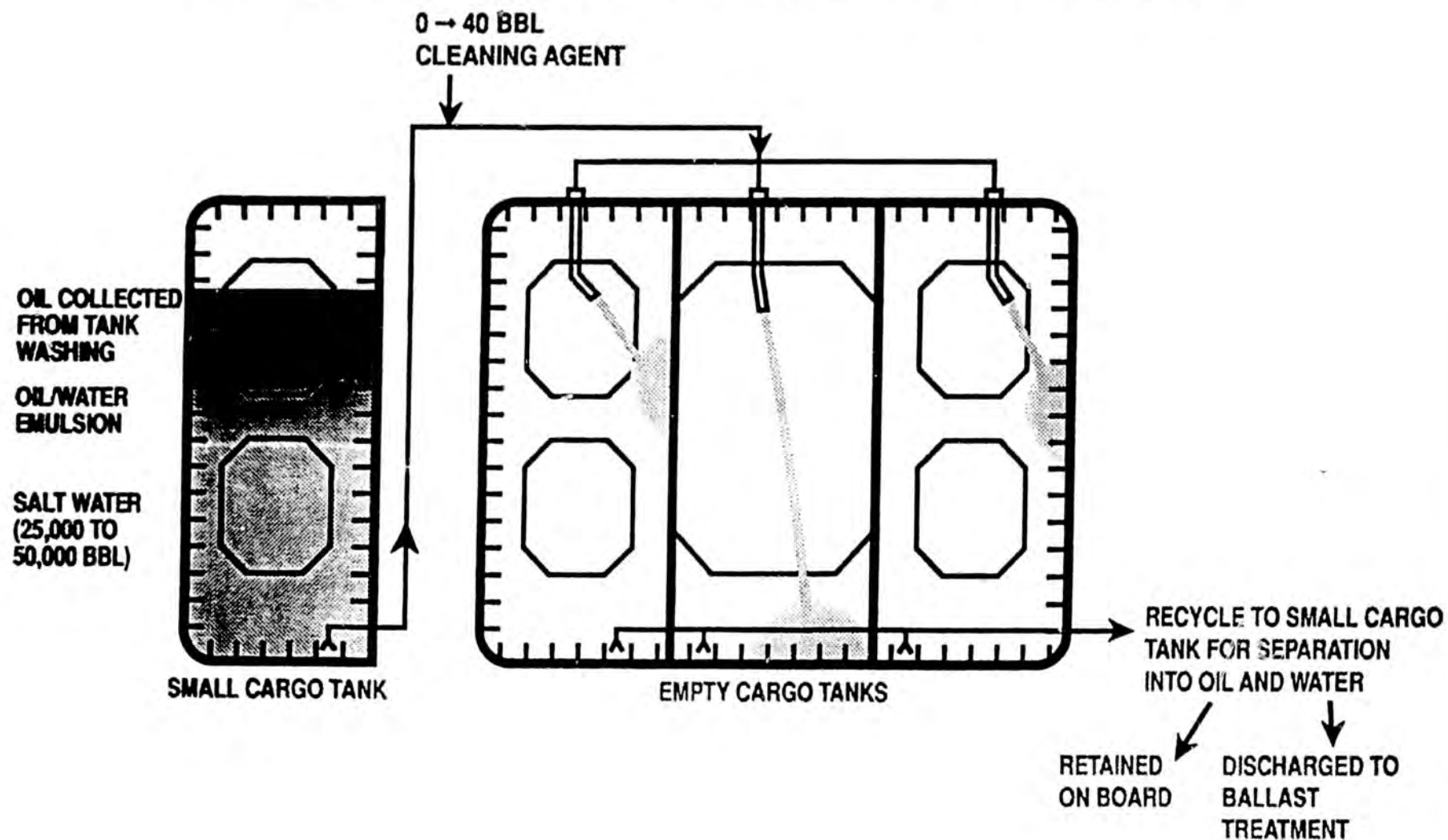


## TYPICAL ENGINE ROOM BILGE AND RESIDUE SYSTEM

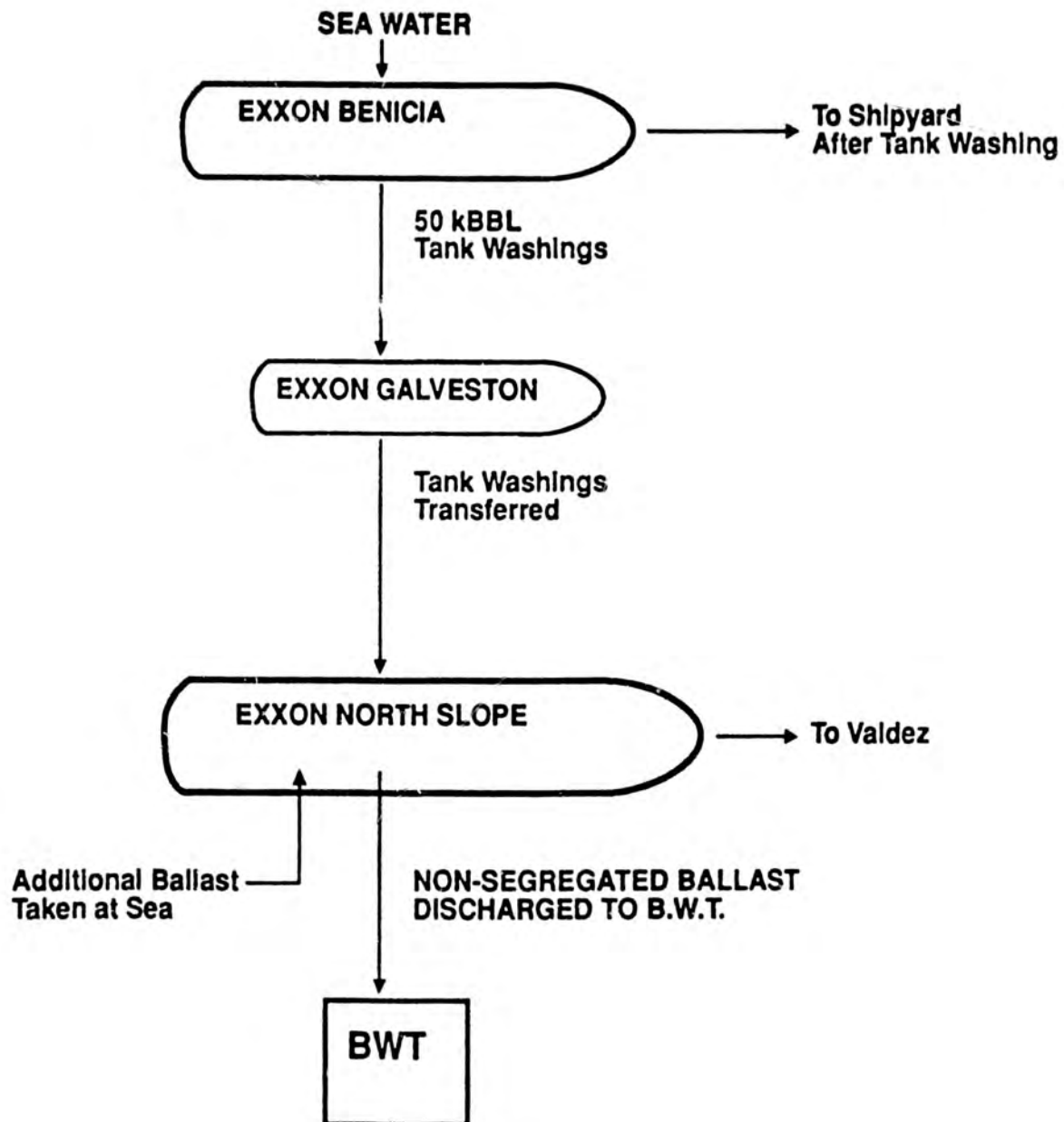


TYPICAL AMOUNTS GENERATED ON A BALLAST VOYAGE

# TYPICAL TANK CLEANING OPERATIONS

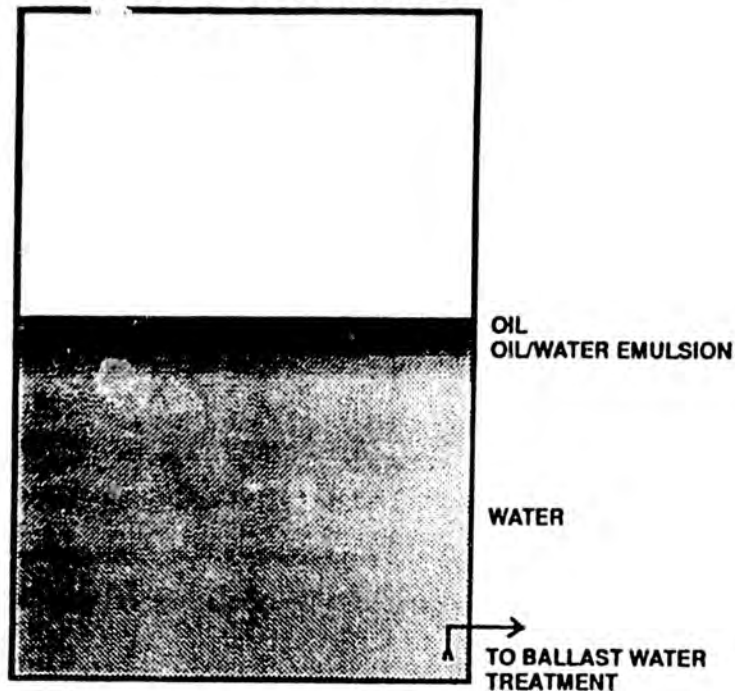


## EXAMPLE OF TANK WASHINGS TRANSFER

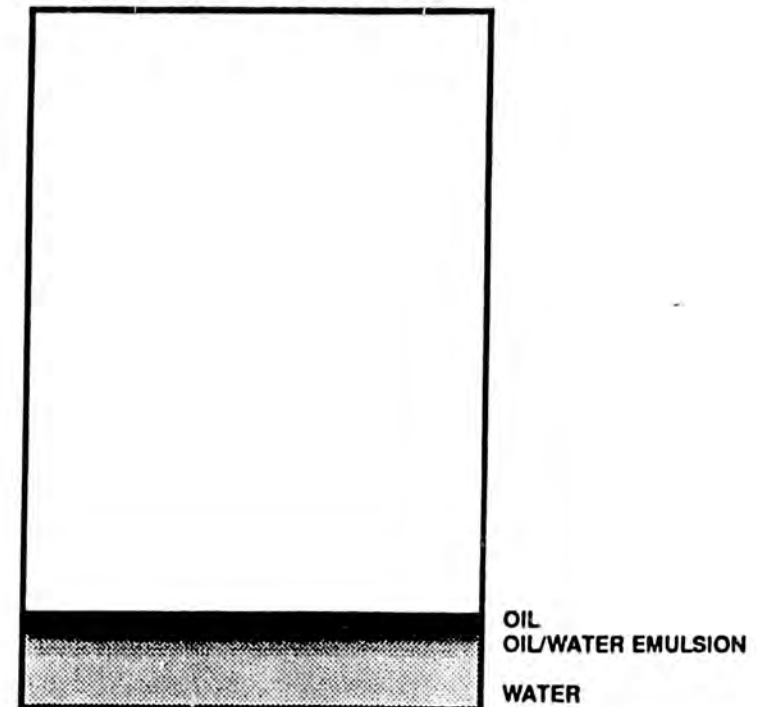


# **OIL/WATER SEPARATION In A Typical Non-Segregated Ballast Tank**

**PRIOR TO DECANTING**



**AFTER DECANTING**



**NOTE: WATER PHASE MAY CONTAIN SOME SUSPENDED OR DISSOLVED OIL**

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Attachment 2

TESTIMONY OF A. ELMER  
PRESIDENT, EXXON SHIPPING COMPANY  
BEFORE THE  
ALASKA HOUSE OIL & GAS COMMITTEE  
FRIDAY, MARCH 15, 1991

GOOD AFTERNOON MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, AND LADIES AND GENTLEMEN. MY NAME IS GUS ELMER, AND I AM PRESIDENT OF THE EXXON SHIPPING COMPANY.

EXXON SHIPPING COMPANY (ESC) IS A SEPARATE CORPORATE ENTITY REGISTERED IN DELAWARE AND WHOLLY OWNED BY EXXON CORPORATION. WE OWN AND OPERATE 13 OCEANGOING TANKERS, TEN OF WHICH ARE CRUDE CARRIERS OPERATING ON THE WEST COAST. NINE OF THESE WEST COAST CRUDE VESSELS OPERATE IN NORTH SLOPE CRUDE SERVICE, AND ONE TRANSPORTS CRUDE OIL FOR EXXON COMPANY, U.S.A.'S OFFSHORE CALIFORNIA PRODUCTION OPERATIONS. WE ALSO HAVE ONE CRUDE CARRIER IN FOREIGN SERVICE AND TWO SPECIALTY CARRIERS THAT TRANSPORT PRODUCTS FROM THE U.S. GULF COAST TO THE U.S. EAST COAST.

WE ARE PLEASED TO BE INVITED TO REVIEW WITH YOU THE OPERATIONS OF OUR VESSELS CALLING AT VALDEZ. AS YOU ARE AWARE, A NUMBER OF ALLEGATIONS HAVE BEEN MADE REGARDING OUR BALLAST OPERATIONS AND THEIR IMPACT ON THE ALYESKA BALLAST WATER TREATMENT PLANT AT VALDEZ. THESE ALLEGATIONS IMPLY THAT THROUGH OUR OPERATIONS, WE VIOLATE FEDERAL, STATE, AND LOCAL LEGISLATION AND REGULATIONS. I AM HERE TODAY TO ASSURE YOU THAT THESE CHARGES ARE CATEGORICALLY FALSE AND TOTALLY UNFOUNDED.

THEREFORE, I AM PREPARED TO EXPLAIN HOW OUR VESSELS CARRY OUT THEIR BALLAST OPERATIONS IN THIS TRADE AND TO RESPOND TO YOUR QUESTIONS. WE WILL ALSO USE A NUMBER OF VISUAL AIDS TO FACILITATE OUR DISCUSSION.

LET ME START BY ASSURING YOU THAT WE ARE NOT TRANSPORTING WASTE FROM NON-TANKER OPERATIONS, WE ARE NOT TRANSPORTING WASTE FROM TANKERS NOT IN NORTH SLOPE SERVICE TO THE PORT OF VALDEZ, AND WE ARE NOT DISCHARGING WASTES FROM THESE TYPES OF OPERATIONS INTO THE ALYESKA BALLAST WATER TREATMENT PLANT OR INTO ALASKAN WATERS.

- 2 -

NORTH SLOPE TANKER OPERATIONSCHART 1 ON:

THIS FIRST CHART DESCRIBES THE TRADE ROUTES OF OUR VESSELS THAT ARE IN ALASKAN NORTH SLOPE CRUDE SERVICE. AS SHOWN ON THIS CHART, THESE TANKER OPERATIONS HAVE VALDEZ, ALASKA, AS THE LOAD PORT. THE CARGO DISCHARGE PORTS ARE IN THE STATES OF WASHINGTON AND CALIFORNIA.

ON AVERAGE, ABOUT 13 CARGOES ARE LOADED EACH MONTH AT VALDEZ ON EXXON SHIPPING COMPANY OWNED VESSELS. ONE CARGO PER MONTH IS DELIVERED TO EXXON COMPANY, U.S.A. CUSTOMERS IN THE PUGET SOUND AREA. THE BALANCE IS DELIVERED TO CALIFORNIA PORTS. AS SHOWN ON THE RIGHT SIDE OF THE CHART, SEVEN VESSELS NORMALLY MAKE THE JOURNEY TO VALDEZ. THEY RANGE IN SIZE FROM THE 72 KDWT EXXON NEW ORLEANS TO THE 211 KDWT EXXON LONG BEACH. TWO ADDITIONAL VESSELS, THE EXXON BAYTOWN AND THE EXXON GALVESTON, SERVE AS OUR LIGHTERS IN SAN FRANCISCO BAY. AS SUCH, THESE TWO VESSELS ARE IN FACT EXTENSIONS OF OUR VALDEZ TRADERS.

CHART 1 OFF

- 3 -

CHART 2 ON:

ON THE SECOND CHART WE HAVE A MAP OF THE BAY AREA, AND USING IT, I CAN GIVE YOU AN EXPLANATION OF THE PURPOSE OF THE TWO LIGHTER VESSELS. EXXON COMPANY, U.S.A.'S REFINERY AT BENICIA AND THE TERMINALS OF OTHER MAJOR REFINERS ARE SHOWN ON THIS MAP. WHEN LOADED, SEVERAL OF OUR LARGER TANKERS REQUIRE WATER DEPTHS WHICH EXCEED THAT AVAILABLE AT THE DISCHARGE DOCKS. THUS, WE BRING THE VALDEZ LOADED VESSEL TO ANCHOR IN AN AUTHORIZED ANCHORAGE ZONE IN THE LOWER BAY AREA. THEN, USING THE EXXON GALVESTON AND THE EXXON BAYTOWN AS SHUTTLE VESSELS, WE DELIVER CRUDE TO THE EXXON REFINERY AND TO EXXON U.S.A.'S CUSTOMERS IN THE BAY AREA. IN SOME CASES, THE LARGE VESSEL PROCEEDS TO A TERMINAL DOCK TO COMPLETE ITS CARGO DELIVERY AFTER ONE OR MORE LIFTINGS BY THE LIGHTER VESSELS. HOWEVER, ON ONE SHIP, WE LIGHTER THE ENTIRE CARGO WITH THE LARGE VESSEL NOT GOING TO A DOCK AT ALL. THUS, THE EXXON GALVESTON AND EXXON BAYTOWN ARE EVERY BIT AS MUCH A PART OF THIS TRADE AS A VESSEL THAT MAKES THE ROUND TRIP FROM CALIFORNIA TO VALDEZ AND THEN BACK TO CALIFORNIA.

CHART 2 OFF

THAT IS A BRIEF OVERVIEW OF OUR VALDEZ/U.S. WEST COAST TANKER TRAFFIC SYSTEM. I WILL NOW TURN TO THE NEXT CHART WHICH WILL HELP EXPLAIN OUR BALLAST OPERATIONS.

## VESSEL CARGO AND BALLAST TANK LAYOUTS

### CHART 3 ON:

THIS IS A PLAN VIEW OF ONE OF OUR VESSELS GIVING THE DETAIL OF THE TANK LAYOUT. FOR THIS PURPOSE, WE HAVE CHOSEN THE CONFIGURATION OF TWO OF OUR LARGER TANKERS: THE EXXON NORTH SLOPE AND THE EXXON BENICIA. THERE ARE 19 TANKS SHOWN IN THIS DIAGRAM. NOTE THAT I HAVE NOT SHOWN THE TANKS WHICH ARE ASSOCIATED WITH THE ENGINE ROOM AND PERSONNEL ACCOMMODATION SPACES. I WILL SHOW YOU A SEPARATE DIAGRAM OF THAT AREA LATER. SOME TANKS HAVE A SINGLE DUTY, WHILE OTHERS MAY SERVE MORE THAN ONE ROLE DURING THE COURSE OF A ROUND TRIP.

### CHART 3 OFF

### CHART 4 ON:

THIS CHART SHOWS THE VESSEL WITH THE SEGREGATED BALLAST TANKS HIGHLIGHTED IN BLUE (360 KB). THESE TANKS ARE USED EXCLUSIVELY FOR CARRYING CLEAN SEA WATER. THE PIPING SYSTEM THAT SERVES THESE TANKS IS TOTALLY SEGREGATED FROM THE CARGO SYSTEM AND, THUS, OIL IS NEVER CARRIED IN THESE TANKS. THEREFORE, THE CONTENTS FROM THESE TANKS, CONSISTENT WITH U.S. COAST GUARD REGULATIONS, CAN BE DISCHARGED DIRECTLY BACK INTO THE SEA WITHOUT FEAR OF POLLUTION.

### CHART 4 OFF

CHART 5 ON:

THIS CHART AGAIN SHOWS A PLAN VIEW OF THE VESSEL BUT THIS TIME THE CARGO ONLY TANKS ARE HIGHLIGHTED IN YELLOW STRIPES. DURING NORMAL OPERATIONS, THESE TANKS ARE USED SOLELY FOR CARRYING CARGO SOUTHWARD.

CHART 5 OFF

CHART 6 ON:

THIS CHART HIGHLIGHTS THOSE TANKS THAT SERVE A DUAL PURPOSE. THEY ARE SHOWN WITH A RED STRIPED PATTERN. ON THE SOUTH BOUND LOADED VOYAGE, THEY ARE CARGO TANKS. ON THE NORTH BOUND VOYAGE, THEY MAY BE LOADED WITH WATER TO PROVIDE ADDITIONAL BALLAST. SINCE THESE TANKS HAVE HAD CRUDE OIL IN THEM, THEY ARE CALLED NON-SEGREGATED BALLAST TANKS. UPON RETURN TO VALDEZ, THE BALLAST WATER IN THESE TANKS IS DISCHARGED INTO THE VALDEZ BALLAST WATER TREATMENT PLANT. THIS IS DONE TO ELIMINATE THE POSSIBILITY OF DISCHARGING OIL INTO THE SEA FROM THE VESSEL.

CHART 6 OFF

## ENGINE ROOM TANK LAYOUT

### CHART 7 ON:

THIS NEXT CHART HIGHLIGHTS SOME OF THE TANKS CONTAINED IN THE STERN SECTION OF THE VESSEL. MOST OF THE TANKS SHOWN ARE THOSE USED IN THE ENGINE ROOM OPERATIONS. THESE TANKS ARE PRIMARILY ASSOCIATED WITH THE FUEL, LUBRICATING OIL, AND HYDRAULIC FLUIDS REQUIRED IN THE ENGINE ROOM. IN ADDITION, THERE ARE OTHER TANKS, NOT SHOWN, SUCH AS THE SEWAGE HOLDING TANKS WHICH, OF COURSE, ARE REQUIRED FOR THE CREW'S ACCOMMODATIONS. THESE LATTER TANKS ARE IN NO WAY CONNECTED TO THE BALLAST SYSTEM.

IN THE ENGINE ROOM, WE HAVE BILGE WATER WHICH IS SIMPLY THE LIQUID (PRIMARILY WATER) THAT ACCUMULATES IN THE BILGE AREA OF THE SHIP, THAT IS THE VERY LOWEST PART OF THE ENGINE ROOM. AS I SAID, IT IS PRINCIPALLY WATER AND SMALL QUANTITIES OF OTHER MATERIALS THAT FIND THEIR WAY TO THE BOTTOM OF THESE ENGINE SPACES.

### CHART 7 OFF

CHART 8 ON:

THIS CHART IS A FLOW DIAGRAM OF THE BILGE SYSTEM. IT ALSO GIVES TYPICAL QUANTITIES AND COMPOSITIONS THAT ARE GENERATED ON A VOYAGE TO VALDEZ. EXAMPLES OF SOME OF THESE "OTHER" MATERIALS IN THE BILGE WATER ARE: ENGINE OIL DRIPPINGS, FUEL, AND DEGREASERS USED TO CLEAN EQUIPMENT. ALL OF THOSE NON-WATER MATERIALS AMOUNT TO LESS THAN ONE-HALF OF ONE BARREL ON A TYPICAL NORTH-BOUND VOYAGE AND ARE PUMPED WITH THE BILGE WATER INTO ONE OF THE SMALLER CARGO TANKS. ALSO, USED CYLINDER OIL AND RESIDUE FROM THE FUEL FILTER AND PURIFICATION SYSTEM (WHICH BY THE WAY IS 95% WATER) IS GATHERED IN THE ENGINE ROOM AND ALSO PLACED IN THIS SMALLER CARGO TANK. THE TOTAL AMOUNT OF MATERIAL WE ARE DISCUSSING IN THE BILGE AND RESIDUE SYSTEM TYPICALLY AMOUNTS TO ABOUT 75 BARRELS PER NORTH BOUND VOYAGE, AND IT IS MORE THAN 95 PERCENT WATER. THIS MATERIAL THEN BECOMES PART OF OUR NON-SEGREGATED BALLAST ON BOARD THE VESSEL. I WILL DISCUSS ON A LATER CHART HOW WE HANDLE THE NON-SEGREGATED BALLAST ONCE WE REACH VALDEZ.

CHART 8 OFF

## USE OF CLEANING AGENTS FOR TANK CLEANING

TURNING BACK TO CARGO TANK OPERATIONS, WE CARRY OUT AN EXTENSIVE TANK STRUCTURAL INSPECTION PROGRAM ABOARD OUR VESSELS, AND PERIODICALLY EACH VESSEL MUST GO INTO A SHIPYARD FOR REPAIRS. THIS IS DONE TO ENSURE THAT OUR VESSELS ARE IN THE VERY BEST POSSIBLE CONDITION. THESE OPERATIONS REQUIRE THAT PERSONNEL ENTER THE TANKS TO SURVEY THE STRUCTURE OF THE VESSEL. PRIOR TO ENTRY, THE TANKS HAVE TO BE CLEANED TO ENSURE THAT THE ATMOSPHERE IS SAFE. TO ACHIEVE THIS, WE USE A WATER WASH TO REMOVE ANY OILY RESIDUE REMAINING AFTER CARGO DISCHARGE. IF CONSIDERED NECESSARY TO ENSURE PERSONNEL SAFETY, A CLEANING AGENT WOULD BE USED. FOLLOWING THE STRUCTURAL INSPECTIONS, THE WASHINGS, CONTAINING SMALL QUANTITIES OF OIL AND VERY SMALL QUANTITIES OF CLEANING AGENT, ARE RETAINED ON BOARD AND SERVE AS PART OF THE NON-SEGREGATED BALLAST ON THE NORTHBOUND TRIP.

### CHART 9 ON:

THIS NEXT CHART GIVES YOU AN OVERVIEW OF THIS OPERATION. FOR PERSPECTIVE, ON A VESSEL WITH A CARRYING CAPACITY OF 1 MILLION BARRELS, WE WOULD USE 35-40 BARRELS OF THE CLEANING AGENT MIXED WITH 50,000 BARRELS OF WASH WATER, ALL OF WHICH BECOMES PART OF THE NON-SEGREGATED BALLAST. AS I HAVE STATED, THE CLEANING AGENT IS A PETROLEUM BASED PRODUCT AND HAS A GRAVITY MUCH LIGHTER THAN WATER AND, THUS, MOSTLY FLOATS ON TOP OF THE BALLAST WATER. THE PROCEDURES WE FOLLOW WHEN DISCHARGING THE NON-SEGREGATED BALLAST AT VALDEZ, WHICH I WILL DESCRIBE ON A LATER CHART, ENSURE THAT A SIGNIFICANT PORTION OF THE CLEANING AGENT SHOULD BE RETAINED ON BOARD THE VESSEL AND COMMINGLED WITH THE CRUDE CARGO ON THE SOUTH BOUND VOYAGE.

CHART 9 OFF

THERE HAVE BEEN QUESTIONS RAISED ABOUT THE USE OF THESE CLEANING AGENTS AND WHETHER THEY ARE HARMFUL TO THE OPERATION OF THE BALLAST TREATMENT PLANT. FIRST, THE CLEANING AGENTS WE USE FOR THE CARGO TANKS ARE PETROLEUM BASED PRODUCTS AND THUS ARE COMPATIBLE WITH THE OIL RECOVERY AND TREATMENT PROCEDURES AT THE VALDEZ BALLAST WATER SYSTEM. SECONDLY, LET ME ASSURE YOU THAT THE USE OF CLEANING AGENTS IS A VERY INFREQUENT OCCURRENCE. OVER THE PAST THREE YEARS, WE HAVE USED CLEANING AGENTS SIX TIMES. AND IN ALL CASES, DISCHARGE OF THE BALLAST WATER ASSOCIATED WITH THIS OPERATION WAS DISCUSSED AND PREAPPROVED BY ALYESKA. FURTHER, THERE IS NO EVIDENCE THAT THE VERY LIMITED QUANTITIES THAT END UP IN THE BALLAST WATER IN ANY WAY INTERFERES WITH THE OPERATION OF THE ALYESKA BALLAST TREATMENT PLANT.

FURTHER WORK HAS BEEN DONE TO REAFFIRM THAT THERE ARE NO PROBLEMS WITH TREATING THE WASH WATER. IN CONCERT WITH EPA, ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND ALYESKA, THE DISCHARGE OF THE BALLAST FROM THE EXXON NORTH SLOPE ON FEBRUARY 18TH WAS CLOSELY SAMPLED AND MONITORED. WE HAD USED THE CLEANING AGENT ON THIS SHIP AND SAMPLES WERE TAKEN BOTH OF THE BALLAST WATER COMING FROM THE VESSEL AND THE EFFLUENT FROM THE BALLAST WATER TREATMENT PLANT. WE HAVE BEEN ADVISED BY ALYESKA THAT ABSOLUTELY NO PROBLEM WAS DETECTED IN THE CHEMICAL ANALYSIS OR IN THE OBSERVED OPERATION OF THE BALLAST WATER TREATMENT PLANT.

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## BALLAST TRANSFER PROCEDURES

CLAIMS HAVE BEEN MADE THAT WE HAVE USED THE EXXON GALVESTON TO TRANSFER WASTE GENERATED FROM NON-VESSEL RELATED CALIFORNIA OPERATIONS TO NORTH BOUND TANKERS SO AS TO DISPOSE OF THIS WASTE INTO THE ALYESKA BALLAST WATER TREATMENT PLANT. THESE ALLEGATIONS ARE TOTALLY FALSE. LET ME EXPLAIN OUR OPERATIONS, AND THIS NEXT CHART WILL ASSIST.

CHART 10 ON:

OUR VESSELS ARE SCHEDULED FOR PERIODIC SHIPYARD REPAIRS EVERY 24 TO 30 MONTHS. THUS, AFTER CARGO DISCHARGE, THE VESSEL DOES NOT RETURN IMMEDIATELY TO VALDEZ. FURTHER, ALL OF THE TANKS HAVE TO BE CLEANED AT THIS TIME TO ENSURE SAFE ENTRY BY CREW AND SHIPYARD PERSONNEL. WE CARRY OUT THIS CLEANING PROCEDURE AT THE OFFLOADING PORT, MOST FREQUENTLY SAN FRANCISCO BAY. IN THIS CASE, THE WASHINGS ARE TRANSFERRED FROM THE VESSEL BEING PREPARED FOR THE SHIPYARD TO THE EXXON GALVESTON. THESE WASHINGS, ALL COLLECTED FROM VESSELS ENGAGED IN NORTH SLOPE SERVICE, ARE RETAINED ON BOARD THE EXXON GALVESTON AND THEN TRANSFERRED TO THE NEXT NORTHBOUND VALDEZ TRADER. ON BOARD THIS NORTHBOUND VESSEL, THESE WASHINGS SERVE AS NON-SEGREGATED BALLAST AND ARE DISCHARGED INTO THE BALLAST WATER TREATMENT PLANT AT VALDEZ. THE WASHINGS REPLACE AN EQUAL AMOUNT OF BALLAST THE RETURNING VESSEL WOULD HAVE TO ADD ON IT'S TRIP NORTH, SO THERE IS NO OVERALL INCREASE IN BALLAST WATER RETURNED TO VALDEZ.

CHART 10 OFF

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## ALYESKA PROCEDURES

CHART 12 ON:

THIS FINAL CHART DISPLAYS THE FORMS WHICH OUR SHIPS' OFFICERS COMPLETE UPON ARRIVAL AT VALDEZ. THE ONE AT THE TOP IS THE BALLAST WATER SURVEY FORM REQUIRED BY ALYESKA. IT ASKS FOR INFORMATION ON THE QUANTITY OF BALLAST WATER, WHETHER BILGE WATER OR ENGINE ROOM RESIDUE WILL BE DISCHARGED, THE USE OF CLEANING AGENTS, ETC. THIS FORM PROVIDES ALYESKA THE INFORMATION THEY NEED TO ENSURE COMPLIANCE WITH THEIR PERMIT.

THE SECOND FORM IS TWO PAGES, AND IT IS FILED BY OUR AGENT WITH THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION. THIS FORM ALSO REQUESTS INFORMATION ON THE VOYAGE, THE QUANTITY OF BALLAST, AND WHETHER THE SHIPBOARD PROCEDURES INCLUDED DISCHARGING BALLAST AT SEA.

CHART 12 OFF

PRIOR TO SUMMARIZING MY COMMENTS, I WOULD LIKE TO ADD THAT IN ADDITION TO THOROUGHLY REVIEWING THE CURRENT OPERATING PRACTICES WE HAVE BEEN FOLLOWING FOR A NUMBER OF YEARS, WE HAVE DONE A GREAT DEAL OF RESEARCH INTO THIS MATTER. WE HAVE REVIEWED OUR BALLAST OPERATIONS OVER THE LAST TEN YEARS; AND TO THE BEST OF OUR KNOWLEDGE, ONLY ON ONE OCCASION WAS WASH WATER FROM A TANKER NOT IN NORTH SLOPE TRADE DISCHARGED AT VALDEZ. THIS OCCURRED IN 1984 AND INVOLVED A SMALL TANKER ON THE WEST COAST. THE BALLAST OPERATION WAS DISCUSSED AND PREAPPROVED BY ALYESKA PRIOR TO DISCHARGE AT VALDEZ.

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SUMMARY

TO SUMMARIZE MY COMMENTS:

- (1) THE ONLY MATERIAL THAT EXXON SHIPPING COMPANY'S VESSELS DISCHARGE DIRECTLY INTO ALASKAN WATERS IS THE CLEAN SEA WATER CONTAINED IN THE SEGREGATED BALLAST TANKS.
- (2) THE BALLAST WATER WE DISCHARGE INTO THE ALYESKA BALLAST WATER TREATING PLANT IS THAT DIRECTLY ASSOCIATED WITH OUR ALASKAN NORTH SLOPE CRUDE TANKER OPERATIONS.
- (3) TO ENSURE THE SAFETY OF THE ATMOSPHERE IN OUR TANKS FOR PERSONNEL, WE INFREQUENTLY USE SMALL VOLUMES OF PETROLEUM BASED CLEANING AGENTS TO CLEAN CARGO TANKS BEFORE INSPECTIONS OR REPAIRS. A SIGNIFICANT PORTION OF THE CLEANING AGENT IS RETAINED ON BOARD. DISCHARGE OF THE BALLAST WATER CONTAINING VERY LIMITED QUANTITIES OF THE CLEANING AGENT IS ACCEPTED BY ALYESKA AND DOES NOT CREATE BALLAST WATER PERMIT PROBLEMS.
- (4) INFREQUENTLY, WE DO CARRY OUT BALLAST TRANSFERS BETWEEN SHIPS PRIOR TO SHIPYARD REPAIRS. THIS IS A SIMPLE EXTENSION OF THE ALASKAN NORTH SLOPE LOGISTICS OPERATION.
- (5) WE CAREFULLY FOLLOW ALYESKA PROCEDURES SO AS TO ASSIST THEM IN MEETING THEIR PERMIT REQUIREMENTS.

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, THIS CONCLUDES MY PREPARED TESTIMONY. I TRUST THAT THIS TESTIMONY HAS MADE IT VERY CLEAR THAT WE OPERATE IN A VERY REPUTABLE MANNER, AND WE TAKE ANY ALLEGATIONS ABOUT OUR OPERATIONS VERY SERIOUSLY.

I THANK YOU FOR YOUR ATTENTION AND WOULD BE PLEASED TO RESPOND TO ANY QUESTIONS YOU MAY HAVE AT THIS TIME.

**Testimony of**  
**Gene Dickason**  
**Manager, Environment Department**  
**Alyeska Pipeline Service Company**

**Before The**  
**House Special Committee on Oil and Gas**  
**Alaska Legislature**  
**March 15, 1991**

My name is Gene Dickason and I am the Manager of Alyeska Pipeline Service Company's Environment Department. Alyeska appreciates the opportunity to testify before the House Special Committee on Oil and Gas on the Ballast Water Treatment (BWT) facility in Valdez. My testimony today will address charges that Alyeska has received and processed unpermitted substances at the Valdez BWT facility. Exxon Shipping Company will discuss its vessel operations that affect discharges from Exxon vessels to the ballast water treatment facility.

To begin, I would like to state that Alyeska is in full compliance with the terms and conditions of the NPDES permit granted by EPA and concurred upon by ADEC for the operation of the BWT facility at Valdez. If, by discussing the exact operations of our facility and the operations of the tankers unloading ballast at Valdez, we can generate confidence among you that our facility is operating in an environmentally responsible manner, then we will happily do so. It is in that light that I make the following remarks.

First, let me describe ballast water treatment generally. The facility at Valdez is designed to clean oily water from incoming tankers and terminal operations. Two processes are used to treat the oily water: mechanical oil/water separation techniques are used to recover oil from the oily water and biological treatment is used to remove dissolved hydrocarbons. Water from this system is then discharged into Port Valdez, as allowed by an NPDES permit for the facility. The new permit limits the amount of aromatic hydrocarbons (BETX) in the effluent to 1.3 ppm. Except for occasional exceedances, Alyeska has been meeting this standard for several years.

Before I discuss tanker operations and the BWT facility, I will provide a brief regulatory history of the BWT facility at Valdez.

It has been a policy of the United States to encourage the onshore disposal and processing of oily water from tank vessels since it became apparent that marine disposal of unprocessed ballast was environmentally unsound. This policy was formalized with the passage of the Ports and Tanker Safety Act of 1978, the Prevention of Pollution from Ships Act of 1980 and the ratification of the International MARPOL Conventions in 1973 and 1978.

The United States and the State of Alaska implemented this policy by requiring in the original federal and state Right-of-Way Agreements that Alyeska build and operate a BWT facility at the Valdez Marine Terminal. Since that time Alyeska has received a series of three NPDES permits issued in 1975, 1980 and 1989 for the discharge of treated water into Port Valdez. The current permit was originally granted in June, 1989 and was slightly modified in November of last year.

The permit requires Alyeska to operate the BWT facility under a series of operating rules known as Best Management Practices Plan or BMPP. In concert with the permit, this series of procedures agreed to by Alyeska, EPA and DEC spells out the detailed processes Alyeska must undertake to correctly implement the NPDES permit. The BMPP associated with the current BWT NPDES permit for was approved in 1987 and has been amended from time to time since then.

### The Issues

Recently charges have been made that tankers have collected toxic wastes from West Coast sources and "dumped" them into Alyeska's BWT facility. My response to these charges will take three parts. First I'll describe a bit of regulatory history of specific relevance to this case, then I'll discuss the four major areas of concern we have been working with EPA, ADEC and the tanker owners to resolve. Finally I'll summarize our BWT facility's excellent environmental record.

The issue of inappropriate discharge into the Valdez BWT facility is not new. In 1985 similar assertions were made regarding illegal use of Alyeska's terminal as an illicit dumping site for toxic substances. At that time the EPA investigated this allegation and in 1988 determined that "no additional enforcement action is appropriate at this time." The allegations "could not be substantiated or had already been addressed by EPA and resolved by Alyeska." The State of Alaska also conducted an investigation into these charges and found no reason to take action against Alyeska. With a few exceptions, industry practices have remained constant since the time of that investigation

Alyeska and the Prince William Sound Tanker Association have made a good faith effort since the current allegations were made to cooperate with the EPA or ADEC to review and evaluate tanker operations that might affect the performance of the BWT system. As recently as March 8, 1991, we met with ADEC and EPA officials, at Alyeska's request, to explain tanker operations, and to identify questions that must be resolved in order for Alyeska to accommodate all reasonable tanker practices. The tenor of the meeting was constructive; the regulators were genuinely interested in learning about the tanker practices and resolving open issues.

To identify and characterize tanker operations that might affect BWT performance, Alyeska reviewed all 1484 Ballast Water Survey forms submitted by tankers as part of their deballasting procedures since June 1989, when the current permit became effective.

Upon arrival at the Terminal tanker captains submit their forms, which detail the types and quantities of ballast to be off-loaded. This type of documentation is required before any ballast are off-loaded. A copy of a submitted Ballast Water Survey Form is attached.

Of the 1484 forms, 71 indicated that ballast water was affected by something in addition to ANS crude oil originating on board the deballasting vessel. You will note that the attached form is one of the forms indicating anomalous ballast. Alyeska's summary of the 71 forms provided to the EPA and DEC is attached. As you can see the 71 incidents noted fall into four categories: 1) Transferred Ballast, 2) Cleaning Agents, 3) Prior Cargo Not ANS Crude and 4) Other Contaminants. Alyeska shared this information with the EPA and DEC to provide a basis for review and discussion of normal operations of tankers in the TAPS trade. A representative of the Prince William Sound Tanker Association attended the meeting to provide first-hand knowledge.

#### Transferred Ballast

Transfers of ballast water and tank washings from one vessel in the TAPS trade to another vessel bound for Valdez are fairly common and occur when vessels are going into dry dock, need to have a tank inspected or are leaving the TAPS trade on behalf of a particular owner or charterer.

Vessels are required to enter dry dock at least once every two and one-half years. Recently, the Coast Guard has requested that the six vessels in the TAPS trade in the 165,000 dwt class undergo semi-annual structural inspections. These activities require tanks to be washed, before entering a shipyard or other facility. The available facilities on the West Coast have a limited capacity to receive and treat tank washings and ballast. As a result, either the ballast may be stored on shore and then returned to vessel for its subsequent trip to Valdez or they are transferred to another north bound TAPS trade vessel for discharge to the BWT facility in Valdez. The end result is the same. Ballast water from ANS trade vessels is treated at our BWT facility using procedures designed to recover and treat the oil in the water. While we are reviewing this issue with EPA and DEC, case by case prior approval will be required before Alyeska can receive

"transferred ballast". Alyeska will only seek approval if the transferred ballast comes from another vessel in the TAPS trade.

#### Cleaning Agents

In order to thoroughly clean a tank to make it safe under OSHA standards for human entry, cleaning agents are sometimes used. Our present permit allows Alyeska to accept crude tank washings from TAPS trade vessels containing petroleum-based cleaning agents, as ballast into our BWT system. We believe that petroleum based cleaning agents do not have a deleterious effect on our system and do not contain other harmful substances. We will be working with the EPA and DEC to develop a list of approved cleaning agents that are compatible with the BWT system.

#### Prior Cargo Not ANS Crude

As you can see from the attachment, during the last 20 months 40 vessels arrived in Valdez whose prior cargo was not ANS crude oil. We believe each of the prior petroleum cargoes was compatible with the BWT system and did not cause any problems for us in meeting our permit limits. A preliminary review of our BWT performance during that same period of time indicates that there was no correlation between these prior cargoes and system upsets.

The EPA and DEC agreed that our permit allows Alyeska to receive ballast contaminated with non-ANS crude prior cargoes and indicated that they knew of no reason that those cargoes should negatively affect our permit compliance.

#### Other Contaminants

It is inevitable that the operation of tankers will consume fuel and a variety of lubricants. Relatively small amounts of these petroleum

products are captured in vessel bilges, along with water. Under existing regulations and operations, these waters may be discharged to the BWT facility, for oil recovery and treatment. Most of these used petroleum products, that are not dissolved in water, are retained on board, mixed with the tankers crude oil cargo and are ultimately transferred to a refinery. Discussions with the agencies will continue, in order to identify engine room practices and to verify that these sources of oily water do not impair the performance of the BWT facility. We are cooperating with the agencies in an attempt to resolve any concerns they may have.

Alyeska is satisfied that these discussions will yield a better understanding of tanker practices by the regulatory agencies and allow Alyeska to fully accommodate the necessary operations of the tankers that carry ANS crude.

#### Environmental Studies of Port Valdez

I would also like to briefly comment on the general issue of the environment in Port Valdez after almost 14 years of operation of the BWT facility. Port Valdez is probably the most carefully scrutinized marine environment in all Alaska, if not the world. The level of study and examination of the physical environment as well as the plant and animal communities has been as comprehensive as any done anywhere in the world for a facility such as this. These studies conclude that the marine life in Port Valdez appears not to have been adversely affected at all by the operation of the BWT facility.

As an example of the impacts of this project let me summarize a recent series of experiments. An independent contractor attempted to find out what concentration of the actual BWT effluent would be necessary to kill two of the most sensitive marine creatures naturally occurring in the area, coon-striped shrimp and pink salmon smolts. The idea was to place a

group of each into water with increasing concentrations of effluent and judge their reactions. Remember that the effluent when released into Port Valdez is immediately diluted and significant concentrations never actually exist in the water column.

The results were that it was impossible to determine the acute toxicity as required by the Department of Environmental Conservation because of the high survival rates of the fish and shrimp in 100% BWT effluent. Given the tremendous dilution rate of the effluent when it is discharged this demonstration of the effluent's relative intoxicity should quell much of the controversy surrounding the BWT facility's impact on Port Valdez.

Another issue recently raised is "heavy metals." Critics imply that Port Valdez is being polluted with an unacceptable level of heavy metals discharged from the BWT facility. Heavy metals monitoring was required under previous BWT NPDES permits. Alyeska complied with the requirements, monitored the heavy metals levels in the effluent and notified EPA as required. However the level of heavy metals found in the effluent was so low that EPA eventually reduced the permit's metals monitoring requirement so that we only monitor for zinc, which is used for cathodic protection against corrosion in the vessels. Periodic testing since then has failed to show significant quantities of heavy metals either.

### **Procedural Changes**

Alyeska has examined its BWT intake procedures in light of the recent concern with the issue of transferred ballast. While agency review is underway, Alyeska has agreed to take additional steps to assure EPA and DEC that unacceptable materials are not off-loaded to, or treated by, the BWT facility at Valdez. For the time being, Alyeska and the affected tanker owners have agreed to seek EPA approval on a case by case basis before discharging any ballast transferred from other vessels, or associated "washings", into the BWT

facility at Valdez. A memorandum was sent to all tankers in the Valdez trade making them aware of the new procedures. A copy of that memorandum is attached for your review. These interim procedures will evolve as discussions with the EPA and DEC continue.

Additionally, Alyeska is obtaining from the tanker owners information about the contents of the cleaning agents used during periodic crude tank cleanings. We have no knowledge of cleaning agents being used other than those we are permitted to handle at the BWT, but we will gather additional information on this issue.

In conclusion I would like to emphasis four points made in these comments:

1. Alyeska has not violated the terms of the current NPDES permit for the BWT facility at Valdez.
2. The BWT facility is treating substances the facility was designed to treat; and that state and federal law require us to treat.
3. An elaborate legal and administrative system has been established to insure that vessel operators fully disclose the contents of any discharges into the BWT facility at Valdez, and
4. We are fully cooperating with the EPA and ADEC to learn even more about on-vessel operations that might affect the BWT facility and Port Valdez.

Alyeska appreciates the opportunity to present this information to the Committee. I would be pleased to provide further information on any of these issues.

Dickason Testimony  
March 15, 1991  
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Attachments:

- 1) February 1991 Valdez Marine Terminal Ballast Water Treatment Operations, History and Effects
- 2) Ballast Water Survey Form, Exxon Long Beach, 5/5/90
- 3) Summary of Ballast Water Survey Forms
- 4) Memorandum, March 4, 1991, Captain T.F. Plummer to Tank Vessels

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**VALDEZ MARINE TERMINAL  
BALLAST WATER TREATMENT**

**- Operations, History and Effects -**

February 1991

**Alyeska pipeline**  
SERVICE COMPANY

**VALDEZ MARINE TERMINAL  
BALLAST WATER TREATMENT**

**- Operations, History and Effects -**

**I. BWT Operations**

- A. Elements**
- B. Facilities**

**II. BWT History**

- A. The Law and Permits**
- B. Standards and Compliance**

**III. BWT Effects**

- A. Environmental Studies**
- B. Conclusions**

## I. BWT OPERATIONS

### A. ELEMENTS

Tankers arriving at Alyeska's marine terminal in Valdez almost invariably contain ballast water: seawater taken on for stability by tankers after they have delivered their cargo at the prior port of call. When carried in a ship's tanks which are otherwise used for oil, the ballast water becomes contaminated with the remnants of the oil previously contained there.

This "non-segregated" ballast must be discharged into the ballast water treatment (BWT) system for processing by Alyeska. The oil content of the ballast water as it is pumped from the vessels is usually less than 1 percent.

The Alyeska BWT system has a two-fold purpose: (1) to recover crude oil from the ballast water and (2) to separate and process the water in order to return it safely to the sea. The residue oil separated out during treatment is returned to the crude oil system. The remaining water, when processed sufficiently to remove contaminants, is discharged through a diffuser into the waters of Port Valdez.

During the past 13 years, more than 10,000 tankers have arrived at the Alyeska terminal in Valdez. The BWT facilities process about 16 million gallons of ballast water daily.

**BWT/2**

## **B. FACILITIES**

The Alyeska BWT system has been an integral part of the Trans Alaska Pipeline System since its inception. Although the BWT plant was designed initially to remove oil and grease compounds, the process also removed some aromatic hydrocarbons. The regulations at the time required only oil and grease removal. The BWT system now involves a three-step process as illustrated in Attachment 1 and described below: two steps to remove insoluble oil and one step to treat the soluble fraction of the oil in the water.

### **Settling Tanks**

After a vessel docks at the Valdez terminal, the ballast water is piped to one or more of three settling tanks for the initial stage of oil recovery. Each of the three tanks has a 430,000 barrel capacity. Oil naturally floats on water, and the oil separation process uses this principle.

As the oil floats to the surface of the water, floating skimmer pans siphon off the oil from the top of the tank. The oil is then piped to one of two oil storage tanks nearby where it remains until it is returned to an outgoing vessel. This initial oil recovery process is usually complete in less than four hours.

### **Dissolved Air Flotation**

The water which has been clarified through the separation process in the settling tanks then flows through a pipe to the Dissolved Air Flotation (DAF) chambers, a special recovery plant containing six cells, for further oil recovery. This stage of the BWT process relies on microscopic bubbles of air and a polymer to accelerate the process of separating the remaining oil from the water.

The air bubbles and the polymer attract the oil molecules and cause them to float to the surface. The polymer forms a sticky microscopic lattice in the water. The air bubbles float the polymer to the surface, attracting and holding together the oil molecules which have risen to the tops of the DAF cells. The recovered oil is piped to one of two oil storage tanks, and the waters flow on to the impound basins for biological treatment.

### Biological Treatment

In the early days of operation, Alyeska's impound basins were used for final collection prior to discharge. If upstream processes did not work properly, then the contents of the basins could be recycled for further treatment. The two parallel impound basins, each approximately 380' by 225' by 13' deep, have sloped sides, except for the discharge ends which are vertical concrete walls. Surface underflow and overflow weirs retain any surface pollutants. The working volume of each basin is approximately 135,000 barrels (5,500,000 gallons).

In 1986, Alyeska decided, on its own, to add a biological treatment process in the two impound basins. The process is based on the discovery that, if the proper conditions exist, certain microbes will 'eat' dissolved oil molecules converting this oil to carbon dioxide, water and more organisms. Specifically, the microbes reduce the concentration of water soluble chemicals (aromatic hydrocarbons) which are present in the crude oil and become dissolved in the ballast water, four of which are collectively known as BETX (benzene; ethylbenzene; toluene; xylene).

The number of microbes which are found in the ballast water from the ships varies depending on where the vessel picked up the ballast water, how long the ballast water has been in the oil tanker and the degree to which the tanker's voyage involved agitation or calm sailing. The BWT system operators work to ensure a proper environment to increase both the population and activity of these oil-eating microbes.

The microbes live in water and need oxygen and nutrients to metabolize the BETX. The ballast water acts as a seawater medium to which nitrogen and phosphorous are added as nutrients. Oxygen is added through the use of aerators which float on the surface of the impound basins. Like most living things, the microbes occasionally perform at less than optimal levels, causing an 'upset' or rise in BETX levels to occur. As seen in Attachment 2, such upsets have not exceeded the current permit limit. Since March of 1990, the monthly average has flattened out altogether.

Because of recent and pending Federal regulations, Alyeska is building new treatment facilities. A new concrete structure, separated into two large tanks, will replace the lined impound basins which have been in use since 1977. The two concrete tanks will facilitate further improvements in the biological treatment process, particularly in mixing, aeration and process controls.

Air strippers will be installed at the end of each of the new tanks and will be used only if necessary to handle the infrequent occasions when an 'upset' has occurred and the oil-eating activity of the microbes decreases. Without the air strippers, these occasional upsets could result in BETX effluent concentrations above regulated levels. The new facilities are due to be operational by February of 1991 and will cost approximately \$30,000,000.

After biological treatment, the ballast water then flows to an outfall line which terminates at the diffuser. The outfall diffuser system was designed to maximize the dilution of the treated ballast with the natural waters in Port Valdez. The treated water travels a distance of 1200 feet in the pipe before reaching the first diffusion port or outlet.

Effluent is discharged through 20 diffuser ports spaced at approximately ten-foot intervals. Water depths along the 200-foot long diffuser range from 200 to 270 feet. Diffusion takes place in the "mixing zone," the area of water near the terminal where mixing is permitted and where compliance with State water quality standards is measured.

## II. BWT HISTORY

### A. THE LAW AND PERMITS

#### The Clean Water Act

The objective of the Federal Water Pollution Control Act (U.S.C. 466 et seq.), now known as the Clean Water Act, is to restore and maintain the chemical, physical and biological integrity of the Nation's waters.

Under the Clean Water Act, Alyeska is required to obtain a National Pollutant Discharge Elimination System (NPDES) permit in order to discharge processed water from the BWT facility. The Environmental Protection Agency (EPA) has the authority for issuing the NPDES permit which can be in effect for any period up to five years. If EPA fails to issue a new permit in a timely manner, the provisions of the previous permit remain in effect until the new permit is issued.

Although the responsibility for developing and issuing the permit rests with the EPA, the Alaska Department of Environmental Conservation (ADEC) is authorized to add to NPDES permits such provisions as are necessary to meet State water quality standards or are otherwise related to water quality. Water quality standards are enforceable limits placed on concentrations of a pollutant in the receiving water. ADEC must certify that the water discharged under an NPDES permit meets State water quality standards before EPA can issue the permit.

#### The First Permit

The first NPDES permit for the BWT was issued in 1975, two years prior to start-up of the pipeline and three years after the passage of the Clean Water Act. It placed limits on oil and grease, acidity and flow volumes. These categories of limits are standard practice worldwide for such facilities, and, as seen in Attachment 3, these are still the only three categories of limits required at the Sullom Voe terminal in the Shetland Islands of Great Britain today.

Additionally the original permit required Alyeska to develop a monitoring program to determine the effects of the ballast water discharge on water quality and marine biota of Port Valdez. Prior to the beginning of terminal operations, the University of Alaska's Institute of Marine Science (IMS) conducted baseline studies to obtain data to use comparatively in subsequent monitoring studies.

#### The Second Permit

The second NPDES permit was issued to Alyeska in 1980. The limits on oil and grease (reported as total hydrocarbons) were unchanged,

## BWT/6

but the EPA imposed reductions on discharge volumes. The permit also required Alyeska to conduct monitoring studies.

With this permit, the EPA additionally imposed limits, for the first time, on aromatic hydrocarbons, specifically BETX -- substances which had coincidentally been removed in the BWT facility without regulation. The limits imposed on BETX were based on performance studies of the treatment plant and were set at 6 parts per million (ppm) for a daily average and 9 ppm for a daily maximum. Besides imposing specific restrictions for BETX, the EPA also required a study of available technology to reduce BETX.

In response, Alyeska invested heavily in research to find the best way to gain control over and further reduce BETX. Among the methods investigated was biological treatment. Experts were unsure, however, whether the biological treatment method would work in the specific environment at Valdez.

More studies revealed that, despite the relative cold in Valdez and other adverse conditions, biological treatment might indeed be the answer. In 1986, after a series of bench tests, Alyeska decided to try full scale biological treatment. Soon it became apparent that the biological process was a resounding success: the average reduction of BETX varies between 80 and 90 percent.

This permit expired by its terms in June 1983. Alyeska had applied for renewal eleven months before, but EPA did not issue a new permit until 1989. In the meantime, the facility continued to operate under the second permit.

### The Third Permit

The third NPDES Permit was issued in May 1989 and is still in effect today. Discharge limitations are significantly more strict. BETX has to meet a 1.3 ppm daily maximum limit year-round. As seen in Attachment 3, the Sullom Voe terminal, which is roughly the same size and latitude of the Valdez terminal, has no such requirements. The EPA gave Alyeska until October 1991 to meet the new BETX standards.

Additional limits were placed on naphthalene, a polynuclear aromatic hydrocarbon, to below detection limits. Polynuclear aromatic hydrocarbons (PAH) are considered more persistent than BETX and tend to accumulate in marine organisms. The biological treatment process already reduced PAH to below detection levels as required by the permit. Limits on flow were reduced, moreover, and new limits were also placed on the total amount of solids and organic material present in the water.

Stipulations of the present permit also include conducting effluent toxicity tests. The tests required are (1) chronic (sublethal) tests on sea urchin and mussels and (2) acute (survival) tests on shrimp and pink salmon. Biological, sediment and tissue monitoring is also mandated. The permit also establishes a Technical Advisory Group that has been meeting and making recommendations to ADEC and the EPA.

## B. STANDARDS AND COMPLIANCE

### Water Quality Standards

The EPA publishes criteria intended to provide technical guidance to State governments for the establishment of water quality standards. These State standards then become enforceable limits placed on concentrations of a pollutant in the receiving water. In early guidelines for developing water quality standards in the mid 1970s, EPA recommended that, where long term/chronic toxicity data were unavailable, short term/acute toxicity levels could be divided by a very conservative and arbitrary safety factor of 100 to establish standards intended to protect against chronic (i.e., long term) exposure.

As more data on the relationship between acute and chronic toxicity became available, EPA issued new guidelines which made clear that a ratio of 100-to-1 was reserved for compounds that demonstrated little or no degradation in aquatic ecosystems, e.g., persistent chemical compounds such as chlorinated pesticides. For nonpersistent, degradable compounds (such as BETX), a ratio of 20 to 1 or less was considered by EPA to be more in line with available data.

In 1979, ADEC revised its water quality standards for the State of Alaska. At that time, there were few data on the long-term effects of hydrocarbons on marine species. ADEC set a receiving water limit of 10 parts per billion (10 ppb) for total aromatic hydrocarbons.

The State decision was apparently based on (1) a study of reported short term/acute lethal threshold concentration levels for several species of larval crustaceans found in the literature of the time and (2) applying the then recommended EPA 'safety factor' for non-biodegradable toxins of 100-to-1.

Alyeska has voiced objections to ADEC's approach. EPA's guidelines for setting water quality standards were revised in 1985 in light of more recent scientific studies. EPA's recommended approach is to utilize actual test results, where available, and to use arbitrary safety factors only as a last resort. ADEC's standard for aromatic hydrocarbons conflicts with current scientific data and is far more stringent than what is now known to be necessary to protect aquatic life.

#### EPA Compliance

In 1985, responding to public concern about BWT operations, the EPA issued a Compliance Order listing 12 items to be investigated. Three years later, after EPA had completed a detailed investigation of allegations that the Alyeska facility had violated its NPDES permit, Alyeska received a letter from EPA's Regional Administrator which stated as follows:

"The investigation included interviews with Alyeska employees, ship's crews, and other people familiar with the ballast water treatment operation, a review of EPA and Alaska Department of Environmental Conservation files, review of Alaska Public Utilities files, and a review of ship deballasting records and Alyeska ballast water treatment records. . .

"The recommendation resulting from that review is that no additional formal enforcement action against Alyeska is appropriate at this time. We arrived at this conclusion because the allegations could not be substantiated or have already been addressed by EPA and resolved by Alyeska as a result of previous Section 308 and Section 309 actions."

### III. BWT EFFECTS

#### A. ENVIRONMENTAL STUDIES

There is an extensive body of scientific literature on Port Valdez, compiled during numerous studies conducted since 1971. As would be expected, there have been detectable amounts of hydrocarbons in the environment, at various locations in the water column and sediments. Some are related to human activity: BWT operations; ash settling in the water from wood burning in fireplaces; combustion sources, such as boat engines, and minor oil spills. Greater concentrations of PAH (polynuclear aromatic hydrocarbons) were found in 1985 in mussels and sediments in the Valdez small boat harbor than near the ballast water outfall.

Hydrocarbon found in the water can also emanate from natural sources, not attributable to human activity. Some marine algae produce certain kinds of hydrocarbons. Terrestrial plants also produce hydrocarbons. Activities of nature also affect the marine environment, e.g., mud slides, high runoff from storms and water temperature changes. The 1964 earthquake had a profound effect on Port Valdez. Observers have found fluctuations in the diversity, abundance and total weight of benthic (bottom dwelling) organisms over time, but these are believed to be related to such activities of nature or to specific construction projects as opposed to routine BWT operations.

The key question is whether hydrocarbons from the BWT discharge have caused any significant harm to marine life. The University of Alaska's IMS has conducted a series of studies of Port Valdez beginning in 1971 and continuing to 1987. As a result of this work,

Dr. Howard Feder of IMS concluded that "... once construction activities were completed, terminal operations did not affect the organisms on the bottom either in the deep basin or within the mixing zone."

Further, a study conducted in 1987 found that levels of aromatic hydrocarbons in the sediments near the BWT outfall are actually decreasing. The study, "EPA-ADEC Proposal for Monitoring Sediment Chemistry and Infauna in Port Valdez for the Fall of 1987," conducted by the IMS, also found that the diversity, abundance and total weight of benthic (bottom dwelling) organisms increased between 1985 and 1987. Significantly, the biological treatment facilities, voluntarily put in place by Alyeska in 1986, have reduced BETX levels by between 80 and 90 percent on average, and PAH has been reduced to below detection levels.

Two scientists assembled a monograph on Port Valdez during the time the biological treatment facilities were being put into place. The monograph, Environmental Studies in Port Valdez, Alaska, contained papers by various scientists and regulatory officials with extensive knowledge of the Port. The scientists who assembled the monograph were David G. Shaw of the University of Alaska's Institute of Marine Science (IMS) and Mohammad J. Hameedi of NOAA (the National Oceanic and Atmospheric Administration of the U. S. Department of Commerce).

Regarding the quality of the environmental studies done to date, the following was written by Dr. Donald W. Hood, Professor Emeritus, University of Alaska in the Foreward to the monograph: "The studies (of Port Valdez)... have been well planned, of the highest quality, and well documented in open literature. The overall study effort certainly ranks among the best ever done on a marine ecosystem." Hood affirms the findings of the monograph edited by Shaw and Hameedi: "... it appears that no ecologically or socially significant biological change has occurred that can be related to the ballast discharge."

In the monograph, Douglas R. Redburn, Section Chief, Water Quality Management, at the ADEC notes that accumulations of petroleum hydrocarbons above background levels in marine sediments near the ballast water outfall "... were, and remain, not a violation of state standards until they cause deleterious effects to aquatic life." Redburn further states that petroleum hydrocarbon accumulations near the BWT diffuser "have not been conclusively linked to any adverse changes in monitored biological populations or community structure."

In December 1988, the National Oceanic and Atmospheric Administration (NOAA) published the results of the first three years of the Pacific Coast phase of its National Benthic Surveillance Project which examined water quality effects in 31 sites in Alaska, Washington, Oregon and California. The focus of the studies was on whether chemicals could be found in the sediments and in liver tissue, bile and stomach contents of bottom fish at those sites.

Several months prior to the release of the report, in October 1988, however, the media published a story which made it appear that adverse effects were found in Port Valdez and that the BWT system was causing harm to the marine environment. A reading of the report reveals that NOAA had examined ten Alaska sites, including Port Valdez.

The sites which NOAA listed as meriting specific attention as a result of its studies were (1) Dutch Harbor (for aromatic compounds, chromium and PCBs in flathead sole); (2) Boca de Quadra near Skagway in Misty Fjords National Park (for sclerotic renal lesions in flathead sole and silver in sediments), and (3) Nakhu Bay near Skagway (for silver, cadmium and selenium in sediments). The studies revealed that Port Valdez was not an area of concern; it was neither included on the list nor even discussed in the text as a problem area.

Many of the contaminants NOAA tested for were not detected at all in fish from Valdez, and for those contaminants found at detectable levels, the levels were not significant at Port Valdez compared to

other sites. In fact, Alaska was cited for having higher levels of water quality on the whole than the other western states tested.

Also in October 1988, Port Valdez was placed on ADEC's "List of Contaminated Waterbodies." The reason Valdez was listed, as explained in the ADEC report, related to Alyeska incidents occurring three years previously:

"In the fall of 1985 and the spring of 1986, two additional mixing zone verification studies were conducted by Alyeska and EPA. These studies demonstrated conformance with the aromatic hydrocarbon standard at the boundary of the mixing zone in March, but found occasional violations of water quality criteria at certain depths and stations in September and October, when the water column is vertically stratified. These documented excursions are the basis for listing Port Valdez as impaired and including it on the 304(1) priority pollutant short list." ("List of Contaminated Waterbodies," p. 93.)

Most importantly, these mixing zone verification studies were conducted before the impound basins were converted into biological treatment units. The effluent from the treatment plant was much higher in September and October 1985 than in subsequent years when the biological process was working (see again Attachment 2). Alyeska has petitioned for removal of Port Valdez from the list.

## B. CONCLUSIONS

In June 1990, University of Alaska IMS investigators Feder and Shaw issued their final report entitled "Environmental Studies in Port Valdez, Alaska: 1989." With regard to benthic organisms, they stated:

"In summary, as concluded in all previous reports, all techniques used in the analysis of infaunal data in 1989 and previous years indicate that marine terminal activities in Port Valdez are not negatively affecting the benthic organisms in the deep basin or the shallow nearshore waters."

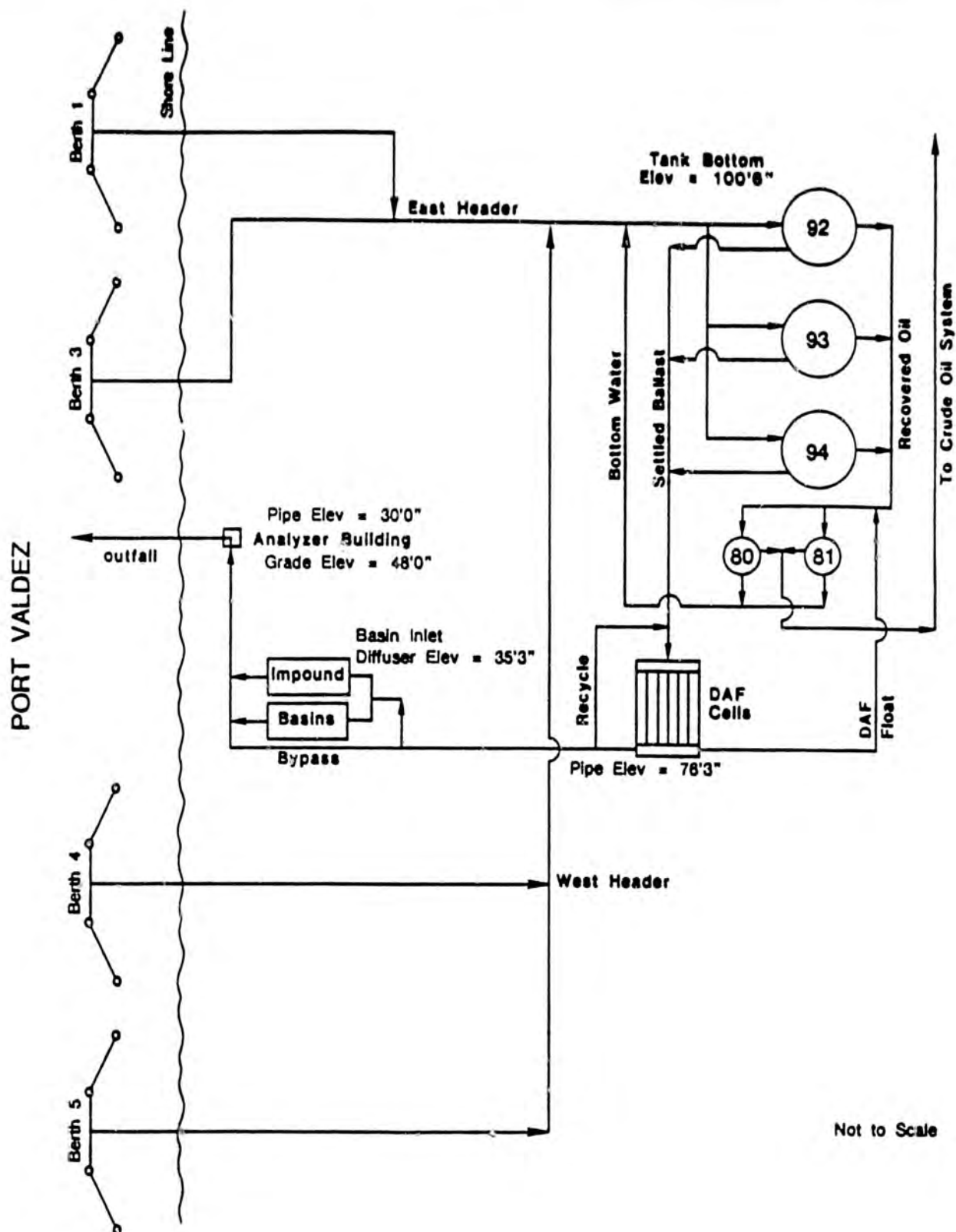
## BWT/13

Benthic organisms are considered to be excellent indicators of environmental stress caused by petroleum hydrocarbons. These are small animals that live in the mud and are relatively stationary. Unlike a fish, for example, they are not passing through but live continuously in the same area. Thus, Alyeska has been able to monitor them for the past 12 years both in the outfall area and elsewhere in the Port of Valdez. As indicated above, it appears that no harm has come to them from BWT operations.

Recently, there has been increasing interest in toxicity studies as a measure of the effect of the effluent. Alyeska has been conducting toxicity tests for several years. The scope of the tests required in the latest NPDES permits range from assessing the effluent effects on shrimp and salmon smolt to evaluating the level of impairment of fertilization when sea urchin sperm and eggs are placed in varying concentrations of effluent. Thus, these tests measure subtle effects on very sensitive organisms.

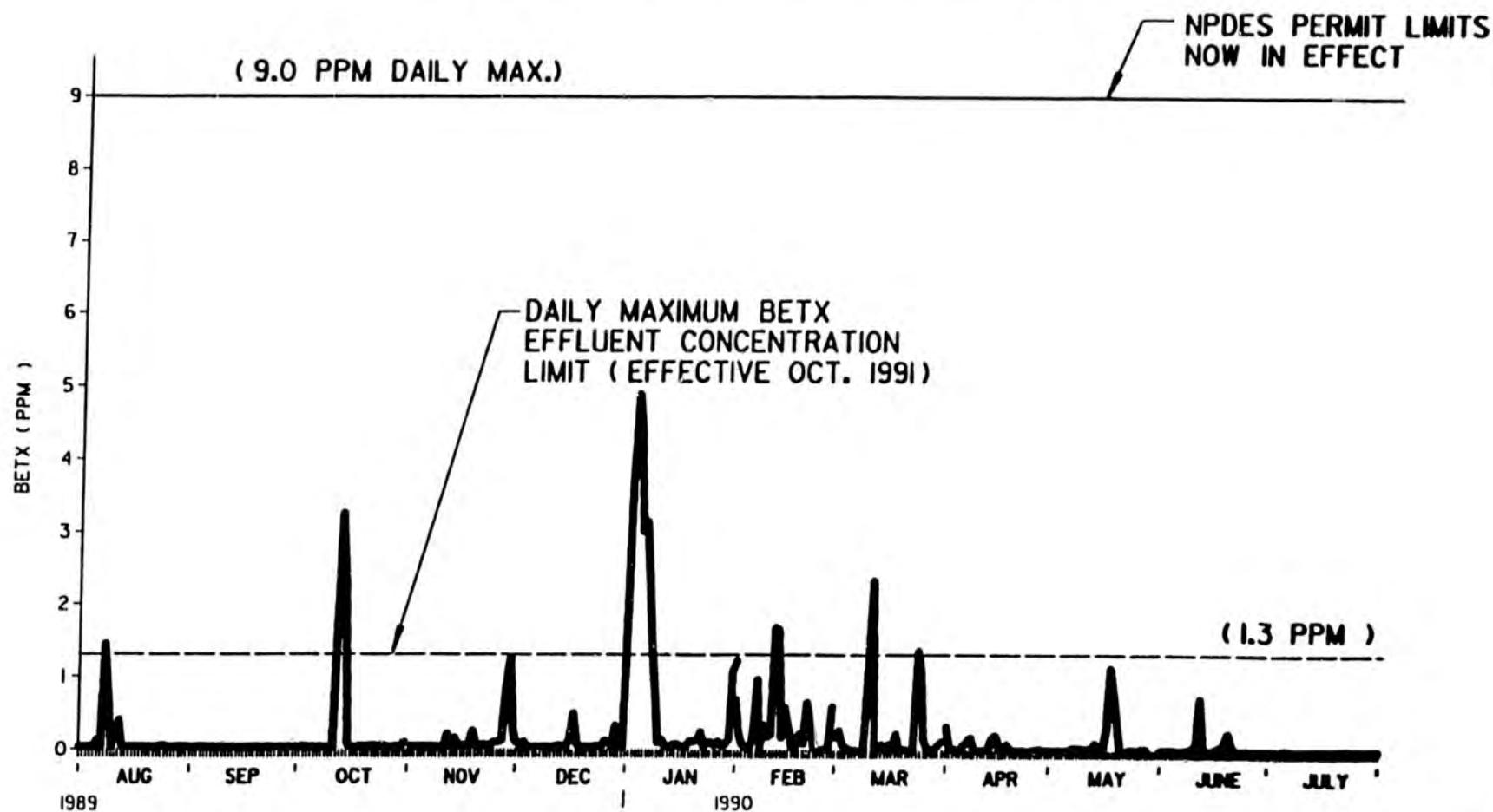
During 1990, Alyeska had several bioassay studies performed on the BWT effluent. The effluent toxicity was so low that the consultants performing the work (Battelle Northwest and ENSR) were unable to determine any acute toxicity level at all for coonstripe shrimp or pink salmon smolt. The only tests that showed any acute toxicity were for mysid shrimp and purple sea urchins, neither of which are found in Prince William Sound. These tests indicated toxicity when the test water contained 25-30 percent BWT effluent. In reality, however, the effluent is diluted well below these concentrations in the zone of initial dilution, an area very near the outfall, used by EPA to determine compliance.

For further information, contact Corporate Affairs, Alyeska Pipeline Service Company, 1835 South Bragaw Street, Anchorage, Alaska 99512 or call (907) 265-8312.



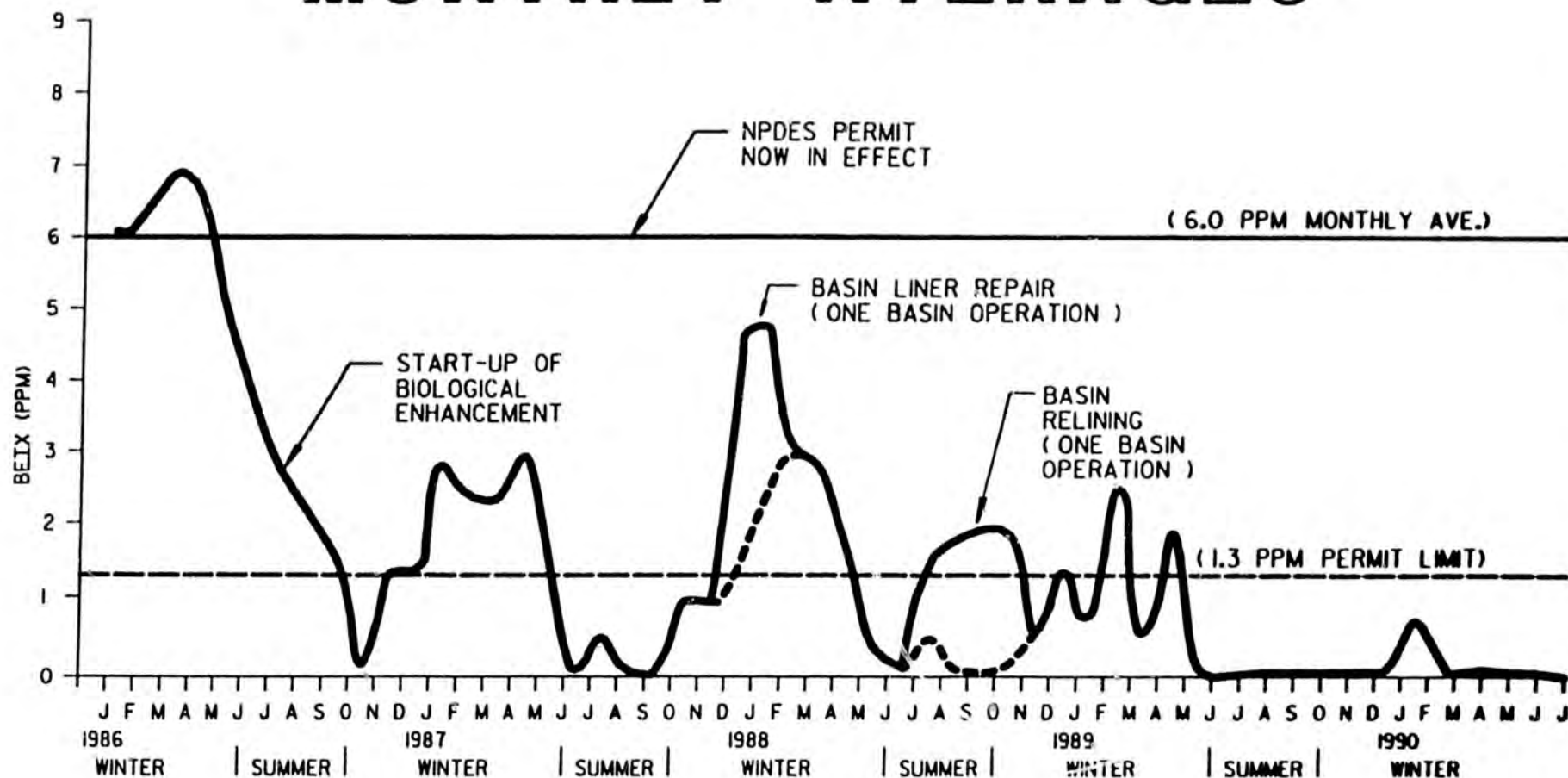
General Schematic - Ballast Water Treatment Facility

# BETX FINAL EFFLUENT DAILY VALUES



**Alyeska pipeline**  
SERVICE COMPANY

# BETX FINAL EFFLUENT MONTHLY AVERAGES



-----PROJECTED LEVEL  
(FOR TWO BASIN  
OPERATION)

SEASONS AS DEFINED  
BY 1991 NPDES

# Alyeska pipeline

REVISÉD 8/31/90

|                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                              |                                                                             |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------|
| Ship Name<br><b>EXXON LONG BEACH</b>                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                              | Born<br><b>#3</b>                                                           | Date<br><b>5/5/90</b> |
| In From<br><b>San Francisco Calif.</b>                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                              | Outbound To<br><b>San Francisco Calif.</b>                                  |                       |
| Information Provided By<br><b>Chief Mate</b>                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                              | Form Completed By<br><b>C/M E. Stalzer</b>                                  |                       |
| Amount of Dirty Ballast to Discharge:<br><b>200,000 Bbls</b> (bbls.)                                                                                                                                                                                                                                                                                                                                                   | Location Dirty Ballast Taken Aboard:<br><b>San Francisco Calif.</b>                                                                                                          | Used Tanks:<br><b>1C, 3C, 5C, P &amp; S Slop</b>                            |                       |
| Were Dirty Ballast Tanks Washed Prior to Filling?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                                                               | Method of Washing<br><input type="checkbox"/> C.O.W. <input type="checkbox"/> Hot Seawater <input type="checkbox"/> Cold Seawater                                            |                                                                             |                       |
| Were Cleaning Agents Used:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                                                                                      | Amount of Cleaning Agent Used:<br><b>None</b> gal.                                                                                                                           | Type and Name of Cleaning Agent:<br><b>None</b>                             |                       |
| Was Last Cargo Other than North Slope Crude?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                                                                    | Cargo if Other than NSC<br>_____                                                                                                                                             | Estimated Amount of Other Residue to be Pumped Ashore:<br><b>ZERO</b> bbls. |                       |
| Will Slop Tank Contents be Pumped Ashore?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                       | Is There Anything Other than North Slope Crude Residues in the Dirty Ballast to be Discharged Ashore?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | List Other Residues and Estimate Amounts:<br><b>None</b>                    |                       |
| Will Bore Water be Discharged?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                                                                                  | Are there any unusual substances in the Bore Water?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                   | If Yes, identify:                                                           |                       |
| <p>If dirty ballast tanks were washed and cleaned, or if residue other than North Slope Crude exist, notify the Marine Supervisor prior to commencing discharge ashore. A determination must be made as to potential process adjustments required to maintain process control. Retain this completed form in Ship's file. If BWT process is adjusted, then attach a copy of this form to the BWT Batch Data Sheet.</p> |                                                                                                                                                                              |                                                                             |                       |
| <p>Comments:<br/><b>15,000 bbls tank washing slops from Exxon Galveston (water only) in port slop tank</b></p>                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                              |                                                                             |                       |

3657 (2/88)

This will go off with dirty ballast and is counted in the total of 200,000 bbls.

**SUMMARY OF BALLAST WATER SURVEY FORMS**  
(Alyeska Pipeline Service Co. ballast water treatment facility)

1. **FORMS REVIEWED:** All--June 1989 (permit effective date) thru Feb. 18, 1991
2. **FORMS SELECTED:** 71
3. **SELECTION GROUNDS:**
- |                       |            |
|-----------------------|------------|
| Transferred ballast:  | 11         |
| Cleaning agent:       | 7          |
| Prior cargo not ANSC: | 40         |
| Other contaminant:    | 9          |
| Other:                | <u>5</u>   |
| <b>TOTAL:</b>         | <b>72*</b> |
- (\* Total exceeds 71 because one form indicates both transferred ballast and cleaning agent.)
4. **TRANSFERRED BALLAST:**
- 11 cases (10 Exxon, 1 Mobil)
  - 1 involved a cleaning agent
  - 3 involve transferred Exxon Valdez cleanup wastes approved for disposal in BWT facility by EPA and ADEC
5. **CLEANING AGENTS:**
- 7 cases total (4 BP, 3 Exxon)
  - 1 did not discharge at Valdez
  - Two agents: Clean Break (5x)  
Cold Wash (2x)

6. PRIOR CARGO NOT AMS CRUDE:

-- 40 cases total

-- 16 voyages by SANSINENA II  
(prior cargo = Alaska "Drift  
River" crude in 14 cases)

-- Others (some with 2 prior):

- 1 Nikiski charge stock
- 2 Northwest charge stock
- 3 San Joaquin crude
- 1 Barrows Island crude
- 14 LSFO/BFO/resid.
- 1 tapis crude
- 1 Marib crude
- 1 Virgin Gas Oil (fuel)
- 1 Isthmus
- 1 Gasoline/diesel

7. OTHER CONTAMINANTS:

-- 9 cases total

-- Types:

- 4 degreaser
- 1 sodium nitrite
- 1 #6 fuel oil
- 1 bunker tank washings
- 1 Vacuum Gas Oil  
(cutter)
- 1 Cutter Stock

8. OTHER CASES:

-- 5 "other" cases total

-- 2 involve barge UT-10 dis-  
posing of Exxon Valdez wastes  
with EPA and ADEC approval

-- 3 involve apparent "false  
positives," i.e., checking a box  
on the survey form in error when  
ballast is actually normal



VALDEZ MARINE TERMINAL PO BOX 300 VALDEZ, ALASKA 99686 TELEPHONE (907) 386-6620 TELEX 090-89864

## NOTICE TO TANK VESSELS IN THE TAPS TRADE

MARCH 4, 1991

RE: TANKER DISCHARGES TO THE VALDEZ MARINE TERMINAL BWT FACILITY

As a result of recent discussions between Alyeska Pipeline Service Company and Region 10 of the US EPA, the following types of tanker ballast discharges must be preapproved for the time being, by the EPA in consultation with the Alaska Department of Environmental CONservation before they are received by Alyeska's Valdez Marine Terminal Ballast Water Treatment Facility:

1. Transferred Substances: Any ballast water, bilges, slops or other substances that have been transferred from any other source to the vessel calling at Valdez.

2. Contaminated Ballast: Any ballast, bilges or slops that are contaminated, as a result of vessel operations, by any substance other than crude oil, petroleum products (including petroleum based cleaning agents) or by normal bilges and slops practices.

During the past two weeks the EPA has approved specific requests, but has required sampling, analysis and particular care to avoid the oil phase in offloading. Ballast contaminated with bunker tank washings must be noted on the Ballast Water Survey form and will require sampling, analysis and care taken to discharge only the water phase.

In addition to these requirements, all the provisions of the Ballast Water Survey Form remain in effect. To seek approval as described in this notice, contact Gene Dickason at (907) 265-8678 as far in advance as possible. Requests for approval can only be processed during normal business hours.

Alyeska Pipeline and Roger Gale, on behalf of the Prince William Sound Tanker Association, will meet with the EPA and the DEC in Seattle on March 8, 1991 to discuss tanker practices that affect the ballast water discharged to Alyeska in Valdez and accommodation of those practices under Alyeska's NPDES permit. We will continue to work with the EPA and DEC to attempt to resolve all issues that have been raised. Other issues for discussion will include ballast affected by non Alaska North Slope crude oil, by residual fuel oil, any by engine and pump room practices.

Yours truly,

*John D. Baldridge*

*for*

Capt. T. F. Plummer  
Marine Manager

MINUTES

3/18/91

**HOUSE SPECIAL COMMITTEE ON OIL & GAS**

**March 18, 1991**

**3:00 p.m.**

**MEMBERS PRESENT**

Representative Bill Hudson, Chairman  
Representative Dave Choquette, Vice-Chairman, arrived later  
Representative Pat Carney  
Representative Gail Phillips  
Representative Jim Zawacki  
Representative Kay Brown, arrived later  
Representative Navarro, arrived later

**MEMBERS ABSENT**

None

**OTHER HOUSE MEMBERS PRESENT**

Representative Mary Miller  
Representative Pat Parnell  
Representative Gene Kubina

**COMMITTEE CALENDAR**

Informational meeting discussing the ballast water treatment facility (BWT) in Valdez and the Trans-Alaska Pipeline (TAPs) tanker operations.

\*HB 190: "An Act making a special appropriation to the Office of the Governor for a nationwide campaign promoting support for oil and gas leasing, exploration, and development in the Arctic National Wildlife Refuge; and providing for an effective date."

**MOVED OUT OF COMMITTEE**

**WITNESS REGISTER**

Lt. Commander John McQueeney  
Chief, Marine Port Safety and Security  
United States Coast Guard  
c/o Commander (M)  
17th Coast Guard District  
P.O. Box 3-5000  
Juneau, Alaska 99802  
(907) 463-2208

Position Statement: Offered information on TAPs tanker operations.

Steven Torok  
Chief, State Operations Section  
U.S. Environmental Protection Agency  
3200 Hospital Drive  
Juneau, Alaska 99801  
(907) 586-7619

Position Statement: Offered information on TAPs tanker operations and BWT facility in Valdez.

Art Ronimus  
Environmental Engineer  
Alaska Department of Environmental Conservation  
3601 C Street, Suite 1334  
Anchorage, Alaska 88503  
(907) 563-6522

Position Statement: Offered information on TAPs tanker operations and BWT facility in Valdez.

Representative Jim Zawacki  
Alaska State Legislature  
P.O. Box V  
Juneau, Alaska 99811  
465-4853

Position Statement: Prime sponsor of HB 190.

Malcolm Roberts  
Deputy Chief of Staff  
Governor Walter Hickel  
P.O. Box A  
Juneau, Alaska 99811  
465-3500

Position Statement: Commented on HB 190.

Earnest Polley  
Alaska State Chamber of Commerce  
634 West 12th Street  
Juneau, Alaska 99801  
(907) 586-2323

Position Statement: Supported HB 190.

Patricia Garoutte  
President  
Public Awareness Committee for the Environment  
100 Trading Bay  
Soldotna, Alaska 99669  
(907) 283-7170

Position Statement: Testified against HB 190.

June Weinstock  
Northern Alaska Environmental Center  
1339 6th Avenue  
Fairbanks, Alaska 99701  
(907) 452-8610

Position Statement: Opposed HB 190.

Linda Brown  
Northern Alaska Environmental Center  
108 Corneilla Lane  
Fairbanks, Alaska 99709  
(907) 464-8461  
Position Statement: Opposed HB 190.

Gregory Spry  
Alaska Natural Energy Institute  
P.O. Box 83876  
Fairbanks, Alaska 99708  
(907) 457-4334  
Position Statement: Opposed HB 190.

Larry Landry  
Northern Alaska Environmental Center  
218 Driveway  
Fairbanks, Alaska 99701  
(907) 452-5021  
Position Statement: Opposed HB 190.

Catherine Doss  
7050 Crawford  
Anchorage, Alaska 99503  
(907) 243-6843  
Position Statement: Opposed HB 190.

Pamela Brodie  
Sierra Club  
241 E. 5th Avenue, #205  
Anchorage, Alaska 99503  
(907) 276-4048  
Position Statement: Opposed HB 190.

Karen Jettmar  
430 West 7th Avenue, #210  
Anchorage, Alaska 99510  
(907) 272-7453  
Position Statement: Opposed HB 190.

Mary Irvine  
Alaska Environmental Lobby  
P.O. Box 22151  
Juneau, Alaska 99802  
(907) 463-3366  
Position Statement: Opposed HB 190.

## PREVIOUS ACTION

BILL: HB 190

PRIME SPONSOR: ZAWACKI

CO-SPONSOR: M.A. MILLER, BAKER

| JRN-DATE | JRN-PG |     | ACTION                               |
|----------|--------|-----|--------------------------------------|
| 03/06/91 | 00391  | (H) | READ THE FIRST TIME -<br>REFERRAL(S) |
| 03/06/91 | 00391  | (H) | O&G, RESOURCES, FINANCE              |
| 03/08/91 | 00427  | (H) | CO-SPONSOR ADDED: BAKER              |
| 03/18/91 | N/A    | (H) | O&G AT 03:00 PM CAPITOL ROOM<br>124  |

## ACTION NARRATIVE

TAPE 91-17, SIDE A  
Number 003

Chairman Hudson called the House Special Committee on Oil and Gas to order at 3:05 p.m. on Monday, March 18, 1991, and reviewed the agenda.

Representatives Hudson, Carney, Zawacki, and G. Phillips were present.

Representatives Choquette, Brown, and Navarre were absent.

Number 033

LT. COMMANDER JOHN MCQUEENEY, Chief of Port Safety and security for the Seventeenth Coast Guard District, expressed his intention to review the requirements under international law and U.S. law for the carriage of crude oil in tankers, and specifically the practice as it occurs in the Trans-Alaska Pipeline (TAPs) trade.

Commander McQueeney explained that MARPOL 73-78 was an international convention for the prevention of pollution by ships 1973 and was amended by protocol in 1978 (MARPOL 73-78). An international treaty began in the early 70's under the auspices of the International Maritime Consultative Organization, a body under jurisdiction of the United Nations. The International Maritime Consultative Organization later changed its name to the International Maritime Organization (IMO).

Commander McQueeney further explained that MARPOL 73-78 had five annexes. Annex One concerned oil and oil's treatment as a pollutant. Annex Two dealt with noxious liquid substances or chemicals that were carried in bulk. Annex Three related to packaged hazardous materials. Annex Four