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# Alaska State Legislature

## TRANSCRIPT OF TESTIMONY OF

ALPETCO

March 13, 1978

BEFORE THE SPECIAL COMMITTEE ON ROYALTY OIL AND GAS

### Committee:

#### Senators:

Chairman Mike Colletta  
Pat Rodey  
Bill Sumner  
John Sackett  
Kay Poland

#### Representatives:

Chairman Bill Miles  
Charley Parr  
Chat Chatterton  
Joe McKinnon  
Al Osterback

CHAIRMAN: The Senate Panel of the Special Committee that was appointed for review and evaluation of the Governor's Resolution dealing with the sale of the State's royalty oil. The other members of the committee to my immediate right, Senator Kay Poland, Senator Bill Sumner, Senator John Sackett and Senator Pat Rodey. The House likewise constituted a committee and that's chaired by Representative Bill Miles who will introduce his own people. It's at least the intent of the Senate Panel for these first two days of hearings that they're nothing more than informational hearings to acquaint us with what has transpired by the successful, or tentative successfully award winner, and the State's position as to why that specific company or group of companies was selected. The Senate side most definitely comes in with a little bit of a disadvantage insofar as that Representative Miles' committee has had activity in the interim in this area so an apology before (cough-indisc) if meetings do not seem to generate the type of enthusiasm as some might hope. Bear with us, it's only the first two we're going to become acquainted with what has transpired. With that Representative Bill Miles can introduce his people.

### CHAIRMAN BILL MILES:

Thank you Senator Colletta. I'm Bill Miles and to your right is Senator, or Representative Charley Parr and Representative Chat Chatterton. I certainly want to concur with the opening comments made by Senator Colletta as I think as our intent we have, at least I have spent a good deal of time working

with the contracts to listen to your presentation gentlemen, ladies and gentlemen, from ALPETCO, and then we would like to ask some questions at this time but certainly would like you to take the full amount of time for whatever presentation you have prepared. Because of the time constraints that may force us to back up possibly tomorrow, we could have some of you gentlemen back to answer additional questions that may be raised. The House plans to continue its hearings on the royalty oil contract Wednesday and Thursday evenings, I think everybody's (indisc). There's plenty of agendas floating around, if you haven't had one I'll see that you get one. And if necessary, on Saturday. We're intending to raise a number of questions so that we can get as much information as possible. The Governor's urged us to act expeditiously on the contract and we're going to attempt to comply because we asked him first to act expeditiously and hence, if there are some questions that can't be answered we will try to put them in writing beginning of next week in an attempt they can be answered within 7-10 days in writing. And with that unless you have additional opening comments Senator, we will turn it over to the representatives from ALPETCO. If you will please introduce yourself and your representatives and we'll begin.

MR. CHARLES HONIG:

I'm Charles Honig, Chairman of Alaska Petrochemical Company and I will preside during our presentation and I think it would be more appropriate Mr. Chairman if we introduce the people as they participate in the presentation, if that's agreeable.

CHAIRMAN: Your Pleasure.

MR. CHARLES HONIG:

Mr. Chairman and Committee Members, no business endeavor is stronger than or better than the people associated with it. From its beginning ALPETCO has associated world-recognized specialists and experts in each aspect of our proposal. These people are dedicated and will continue to work with us as we go forward. They have been with us in most parts of your state and met with the Royalty Board at many locations. We're here to answer any questions on any aspect of this project and if we cannot answer them as Chairman Miles suggested, we will get the answer as soon as possible. We've agreed to spend our time and effort and money to fulfill this contract because it will be a profitable business venture and we're interested in profits. The State of Alaska will incur no risk nor lose any money in the process. When we succeed, your gain will be substantial and it will be permanent. I'd like to just project some slides if I may to illustrate what we would like to talk about today. We'd like to talk about the ownership of our company, the benefits to the State of Alaska, the viability of the project, and then summarize.

The ownership of Alaska Petrochemical and it's better if we start at the bottom of the chart and go up, as you can see there are three stockholders of ALPETCO: Alaska Consolidated Shipping, Barbour Oil and Alaska Interstate. Alaska Consolidated Shipping owns 20%, Barbour Oil Company, which is a privately-held family company, owns 20%, and Alaska Interstate which is a listed company, owns 60%. Alaska Consolidated Shipping is made up of seven stockholders. The first six listed are, Alaska Native Regional Corporations, which each own 8-1/2% of Alaska Consolidated Shipping. Collectively they own control of that company. Forty-nine percent of ACS, as we call it, is owned by Seatrain Lines, Inc. (ph), also a New York stock exchange listed company engaged in the function shown on the chart. Barbour Oil Company provided the leader of this project in its early phases and whose untimely death we all regretted, because he was a real driver of the project and that was John Barbour. And in honor of John's efforts, we would like to dedicate and name this refinery the Barbour Refinery. Alaska Interstate is an Alaska Corporation, has always been an Alaska Corporation, and consists primarily of the gas transmission and distribution company in Anchorage and Kenai because it was formed right after Alaska became a state in 1959. We're engaged also in exploration production of liquefaction of natural gas in Indonesia which is currently being exported, liquefied and exported to Japan. We're engaged in exploration and production of oil and gas in the U.S. We have an engineering and construction company in the gas processing facilities area which has been in business since 1946, and we're also engaged in pollution control, sulphur recovery processes and manufacturing. So those are the owners of Alaska Petrochemical, the only owners.

Let's talk a moment about benefits to the State of Alaska. We'd like to discuss those listed here. No risk. No subsidy. Additional employment. Additional taxes. The Alaska endowment trust. Shipping capability. Specialized training. Local hire. And controlled industrial development.

First the no risk, no subsidy. Our contract provides no subsidy to ALPETCO. There are no price concessions. We included in our capital requirements all of what are called the off-site facilities, such as ports, docks, utilities. We agreed that we would take no interim crude, no crude during the time the refinery is being put together unless and until we have obtained a commitment for the permanent financing. And once we've obtained that then the contract permits us to take crude on the interim basis, because once the commitment is obtained then everyone can be assured the project is going forward. We obtained from the Department of Energy a favorable opinion which protects the State of Alaska, if we do take crude on an interim basis, and merely provides that an exception in effect so that Alaska can take back the crude even if we have purchased some in the interim. Probably the most important

no risk area that is provided in the contract is what we call performance benchmarks. And those benchmarks provide that the contract may be canceled by the state if ALPETCO fails to obtain each benchmark in the contract and here is a summary of those. During the first six months after ratification of the contract we must give monthly progress reports to the state, thereafter, quarterly reports. Six months from the time the contract is effective, we must have invested at least 2 million dollars. We must have informed the state of our site selection, and we must have begun the optimization design of the Petrochemical facility. Within 12 months we must have invested at least 3 million dollars. The 18 months time period or benchmark is probably the most important, most subsidy of all, it not only requires that we must have committed at least 10 million dollars but more significantly it requires that we must have contracts for the sale of at least 70% of the products the plant would make and we must have obtained financing commitments for at least 1.5 billion dollars, both permanent and interim construction commitments. It provides we must have completed our BIA and we must have filed for permits and finalize plant design. So that's why I said earlier if we make the 18 month benchmark which involves getting financing commitments, then the project is assured of going forward. Then we have additional benchmarks at 24 months on up to 72 months and except for the 30 month one which says we must commence construction by then, the others relate to money and indicate the minimum amount we must have committed to spend by those times, the last one being 72 months we must have committed to invest at least 1.5 billion dollars. So those are the benchmarks for performance provided in the contract. There are provisions for some extensions of time by the state up to, I believe, a maximum of 6 months, pertaining to some of those requirements.

The other major contract items, our economics, our planning, our financing, are based on using 150,000 barrels of crude oil per day. We will purchase that royalty -- that as royalty crude up to that amount of 150,000 barrels per day. It will come first from and then maybe all from up to 85% of Prudhoe Royalty Oil. The state wanted to retain initially 10% and later 15% because of North Pole Refinery of the Prudhoe Royalty Oil and would sell us no more than 85%, because that's less than 100 and because we are dedicating about 2.5 billion dollars to a on-the-ground facility in Alaska. It is essential that we have the 150,000 barrels a day as a feed stock. So in the event that we are not receiving at least 145,000 barrels a day, for as long as a 2-month consecutive period, we may then ask the state to sell us royalty crude from locations other than Prudhoe Bay, but only if we need it to make up that short fall, and then only up to but not to exceed, 70% of such royalty crude. The state insisted on reserving and keeping 30% of that royalty crude which we would not have a right to ask for. So that is simply make-up oil and it is available only to bring us back up to the 150,000 barrel a day limit.

The contract also provides that we will pay the same in-value price that the state would receive had it not sold the oil to us. In addition to that, should the state incur any expenses in connection with making a sale to us in kind, we have agreed to pay those additional costs.

The next item is--requires a public referendum in the event that we request any reduction in price that we would pay, anything, any request for price below the in-value would have to be voted on--would have to not only be acted on by the Legislature but would have to require a public referendum to approve any price concession. We agreed to the point of delivery after long negotiation and we agreed that it would be Pump Station No. 1 so that the State of Alaska does not become a shipper, which it did not want to do. We agreed that we would provide up to 30,000 barrels a day of fuels for in-state use, Arctic fuels, other fuels for use in Alaska. Environmentally, we agreed to comply with Federal and State rules and regulations including all supplemental state standards whether or not those supplemental standards are required by law. We agreed we would observe them even if some of those being contested currently are not upheld. Those are the principle major contract terms.

I'd like to ask Willard Hanzlik who's the Vice-President with ALPETCO and Alaska Interstate if he would talk about additional employment and additional taxes among the benefits, Willard.

MR. WILLARD HANZLIK:

The next item on our list of benefits to the state is additional employment. We believe it is one of the most important contributions that this project can bring to the State of Alaska for employment in this industry. Refining and petrochemical industry represents permanent employment, it is non-seasonal, it is not (indisc), it is permanent, and it creates because of the diversity of the different jobs available in the manufacturing process, opportunities for workers to upgrade their skills and to have careers that develop within the industry. On a preliminary planning basis, our experts who are experienced in the organization and operation of facilities such as the one we contemplate, have indicated that these are the types of jobs for the various refinery units listed on the left which will be needed when this project is brought into operation. We have shown minimums and maximums because at this point in time it is literally impossible to determine precisely the number of employees that will be required. However, the range of 1,900 to 2,500 is a fair range and representative of the number of permanent operating and maintenance employees that will be required by a facility such as this. This does not include the support employees which would--the jobs which would be created in the community to support the facility.

To summarize the--those other jobs and total employment picture, during the construction phase which is expected to last approximately 3-1/2 years, a range of between--an average of between 3,500 and 4,000 construction employees will be required by the project. Now those numbers will not land all simultaneously to start the project for of those there will be a build-up and many of the employees which will be in the construction phase of the project will certainly be qualified and have the skills needed to remain and become permanent members of the community and become operating and maintenance employees. To summarize, in the operating phase, the long-term phase of the project, the 1,900 to 2,500 range which I talked about earlier, plus the shipping requirements of the project which would be conducted by our affiliate, Alaska Consolidated Shipping, would require another 250 to 350 jobs and these would be permanent maritime jobs will be discussed later in the presentation. So we are talking about a total of 2,100 to 2,800 permanent jobs. Now this does not include the multiplier of additional jobs which would be needed in the community and those are estimated from 3 to 4 or 5 times so you are talking about a range of 6 to 10 thousand new permanent jobs.

As far as taxes go a project such as this provides a substantial tax base for local and state government because of the considerable amount of capital investment based on a 2.5 billion dollar facility which is what this facility will be ultimately, and based on the projections which we have--are submitting today to the Institute of Social&Economical Research at their request, these are the tax numbers which are--result from the project. On an average year after the project is in operation, talking about a total of 49 million dollars a year. In additional, these are incremental taxes to the State of Alaska, through the property tax structure, through state corporate income tax and through gross receipt tax. Over the total contract period of a 27-year period. The project is for over 1 billion dollars of additional state and local taxes. One way to look at the comparison between a facility which is designed for the manufacture of petrochemicals versus a facility that is designed for the processing of crude oil into fuels products, is simply to look on a relative-comparison basis and on the same scale is the two bars on the left side represent an average or a typical fuels configured facility (indisc.-cough) which is to be built in Alaska which would cost with all the support structures and utilities and docks and ports, etc. around 750 million and is estimated at about 500 direct permanent employees would be required to operate that facility. The facility which ALPETCO proposes and which would cost 2.5 billion dollars is shown to be substantially greater in terms of the assests invested, therefore the tax base and also the number of employees is substantially greater, several times greater in fact. Mr. Honig.

MR. HONIG: Thank you Willard.

Another benefit to the State of Alaska and provided for in the contract is what we call the Alaska Endowment Trust which

is a charitable foundation and the purpose of this trust would be to further the social, educational, cultural, environmental conditions in the State of Alaska. It would be funded by contributions made by ALPETCO beginning after the operation had been in--after we'd been in operation for 10 years and it would be equal to 5% of the net after tax profit beginning with the 11th year after start up. We estimate the average contribution would be 10 million dollars per year and for 10 years that would be roughly 100 million dollars. The trust would be administered by an independent board of trustees unaffiliated with ALPETCO appointed by the Governor and confirmed by the Legislature. Another benefit involves shipping and training of Alaskans and I would like to ask Jim Strupp who is the Vice-President of ALPETCO and also the Vice-President of ACS if he will discuss those subjects, Jim.

MR. JIM STRUPP:

Thank you Charles. Alaska Consolidated Shipping will act as ALPETCO's shipping arm, will act as it's shipping arm in several ways. Because of the lead time between ratification of the contract and actual commencement of actual product shipment, we will have enough time to complete new buildings and provide specialized ships for the product movements and this should give us a very, very good optimization from a shipping cost standpoint. Mr. Hanzlik indicated before, we will also provide (indisc) opportunities for Alaskan citizens in the maritime industry, those jobs should approximate 250 to 350 full-time maritime jobs. Alaska Consolidated Shipping has experienced management in ship building, searain lines, one of the members of that company is in the ship building business and currently employs 620 employees building tankers as well as other vessels. We have experience in the ship chartering business, manage and charter over 25 vessels at this time and also are experienced in port management, both in the United States and overseas. As you may know, the majority of Alaska Consolidated Shipping is owned by six Alaska Regional Native Corporations, Koniag (ph), Cook Inlet, Aleut Corporation, Bristol Bay, Chulista (ph) and Chugach. And that's backed up by Seatrain Lines, one of the largest shipping companies in the United States.

I'd like to talk now about specialized training for Alaskans. I've kind of broken this down into two phases, that which is already happening and that which is planned. The already happening category, several months ago John Gunderson who is also a director of ALPETCO and a member of the Aleut Corporation, I traveled to Piny Point (ph), Maryland and met with officials of the Harry Lundberg (ph) School Seafarers International Union there. At that time we made arrangements for the beginnings of training programs for Alaskans and currently we have two students from Alaska attending that program, Mr. Ray Klack (ph) who is a member of the Doyon Regional Native Corporation, Mr. Fred Haas (ph) of the Cook Inlet Corporation. They are enrolled in a 3-month basic seaman course and are guaranteed employment upon leaving. The school pays for the total cost of their training, Alaska

Consolidated pays for their transportation to the school. They have indicated to us that they will be more than happy to take in each of their classes several Alaskan citizens as we proceed. We've also made some training program scheduling at our Pride Oil Refinery, which is located--which is owned by Seatrain Lines and located in Abilene, Texas. We felt that it was important to begin schooling of Natives, Alaskan citizens in the basic refinery techniques. We have currently down there in a job rotation program, they've been there for the last 2-1/2 to 3 months, Mr. R. C. Credo Jr. (ph), of the Sealaska Native Corporation, and Mr. Lauren J. Haight (ph) of Cook Inlet. They'll be asked to come back to Alaska once they complete their training and work with us in additional recruitment programs and development of our planned training programs down the road.

We are also planning extensive training programs for Alaskans in all phases of shipping, and plant operation, plant maintenance. These will be in depth programs conducted here in Alaska and outside depending on the area of expertise needed and these programs will be coordinated with the help of Brown and Root, Chem Systems (ph), Alaska state officials, and labor union officials. With that I would like to turn it back to Charles.

MR. HONIG: Thank you Jim.

Next we'd like to hear from a Senior Vice-President of Brown and Root who's been working with us since the beginning of this project and that's Jimmy Norris from Brown and Root. I might tell you a little about his company that he might be too modest to mention. Most of you probably know that Brown and Root operates world-to-wide, it's one of the largest and most diversified engineering and construction companies in the world. Last year I think it had the largest volume of any U.S. construction company. It's a subsidiary of Hal of Burton (ph) which in 1976 had almost 5 billion dollars in revenues and it has a shareholders equity of approximately 1-1/2 billion dollars. It's experienced in Alaska, it built the production facility for BP on the North Slope, it was a joint venture in two northern segments of the Alyeska Pipeline, it's currently building an industrial complex for the big three industries in Alaska. It's experienced in design engineering construction of refineries, petrochemical facilities and off-site facilities. And in Alaska it works through Alaska Constructors which is a union shop company. Jimmy would you like to talk some about the labor policies we will follow.

MR. JAMES C. NORRIS:

Thank you Charles. Since most of the work that we would do is out in front of us, sometime after hopefully you gentlemen see fit to ratify this contract. We will speak briefly of two areas: labor policies would be the first one. The work that Brown and Root does in Alaska would be done through its subsidiary, Alaska Constructors, with headquarters in Anchorage. Construction would be by Alaskan workers insofar as possible. We would maximize the employment of Alaskans. We would do everything possible to work with the local unions and with the Alaskan government to train Alaskan workers using techniques that are already established. I think Mr. Hanzlik mentioned awhile ago that we're looking at 3,500 to 4,000 average construction employees for a 3-1/2 year period. Many of these people can be trained as permanent employees as plant operators and maintenance personnel.

What we want to offer you gentlemen is a clean industry, environmentally safe plant, it's a controlled industrial environment. It's a plant that I have seen over 30 years in Houston, I have watched the growth of the Houston Petrochemical facilities in the Houston area for that length of time. We can say now that in Galveston Bay, which is adjacent to the ship channel, that there is essentially no pollution. It's an area that's good to fishermen, sports fishermen and commercial. It's good to the residential people, it's good to the government, the Manned Space Crafts-- Manned Space Craft Center is just nearby. All of these people live together harmoniously and the petrochemical industry is the biggest--one of the biggest employers of people in the Houston area. As a--I guess something that is indicative of the pollution-free environment is that last week I read something published by the State of Texas that 1977 was a record year for one of our delicacies which is the Blue Crab. Some 7 million pounds came right out of Galveston Bay where all of these petrochemical industries are.

Finally, we want to say that this is a highly capital intensive facility. It's a very sophisticated type of industry and it's also very synergistic. What it's going to do, it will attract other petrochemical facilities to this one as well as what you call the downstream plants which manufacture the polyethylene film and the bottles and such things that you would have from plastics. Thank you.

MR. HONIG: Thank you Jim.

One final point on the matter on economic and social aspects, I'd like to read an editorial that appeared in the Anchorage Times on Sunday, February 19, written by Bob Richards who is the Economist and Executive Vice-President of the Alaska Pacific Bank, because it is particularly good in summarizing

what we've been talking about here. It reads as follows:

This week the administration is to deliver to the Legislature its recommendation regarding disposition of the state's royalty oil. Although several experts have questioned the viability of the four proposals before the Royalty Oil and Gas Development Board, it should be noted that the four bidders have been working closely with the state over the past few months to develop plans that make sense for all parties. Now consultants, Bonner and Moore, Associates, Inc., have concluded that at least three of the four contenders are fully qualified.

It seems to me that anyone concerned about the stability and long run health of Alaska's economy should give careful consideration to this marvelous opportunity to expand the vertical integration of Alaska's industrial base. Our willful act of in-state processing of our resources has contributed to chronic, abnormal fluctuations in Alaska's economy. Expanding the manufacturing operations in Alaska will help create a more stable and, therefore, more socially healthy economy in Alaska. Additionally, the petrochemical industry brings substantial benefits far beyond those of many other industries. It is highly capital intensive and one of the lowest labor intensive industries of any of our nations basic industries. Therefore, expansion by the petrochemical industry results in very little population impact. The highly automated petrochemical operation requires very few workers and therefore imposes very little additional burden on public services such as schools, hospitals, highways, and so forth. So it is very clear to see that the petrochemical industry relative to other potential industries, imposes a very small social cost.

But what about the other side of the coin? What does this industry do in the way of creating social benefits? Again, in this regard the petrochemical industry is a star performer. Its first social benefit results from its employing highly skilled, well educated, and highly paid employees. These people generally have a high participation rate in community affairs. Their high incomes are taxed commensurately high, and their socioeconomic station in life generally implies fewer social problems in the sense of crime, disease, and the like.

The second social benefit emanates from the petrochemical industry is its contribution to creating a more stable economy. The industry is virtually non-seasonal; as we all know those plants down on the Kenai Peninsula keep producing 365 days out of the year. Alaska's other basic industries fishing, forest products, and tourism, are highly seasonal industries. As a result, typically, employment in Alaska in January is one-fourth below the level of employment in July. Such seasonality creates all sorts of problems. The expansion of the petrochemical industry in Alaska will help considerably to reduce the overall seasonality of employment in our state. Another way in which industry employment varies is it swings from year to year.

This phenomenon of course, is referred to as the business cycle. Again, Alaska's fishing and forest products industries are highly cyclical industries. Petrochemical industry, on the other hand, experiences considerably less cyclical fluctuation. Therefore, the expansion of the petrochemical industry in Alaska would reduce both the seasonal and cyclical fluctuations in our economy bringing about a considerably more stable employment situation.

The third major social benefit from the petrochemical industry results from the huge taxes and other forms of government revenue generated from this industry. The key factor here is that revenue flowing to both state and local government exceeds by far the additional burden which the industry and its employees place on state and local government. So there are all sorts of excess funds available for the pursuit of a whole array of social objectives, parks, bike paths, better schools, better health care, and on and on and on. This then is what leads me to a very important conclusion which we should keep clearly in mind. It is simply this--because of the huge public revenue generated by the petroleum and petrochemical industries, this type of economic growth is not only compatible with but indeed is conducive to the pursuit of the whole array of our non-economic objectives.

Perhaps I can summarize by acknowledging the general positive relationship between our quality of life objectives and our economic development. Here we have the opportunity to encourage an industry which will bring wages, highly skilled, well-educated people to stable employment and which many fold more than pays its own way in terms of social impact. The social and economic attractiveness of the petrochemical industry is self-evident. So we've discussed these benefits to the State of Alaska -- no risk, no subsidy, additional employment, additional taxes, the Alaskan Endowment Trust, the shipping capability, specialized training, local hire and controlled industrial development. We've talked about ownership. We've talked about benefits to the State of Alaska. We'd like next to talk about the viability of this project.

There we will talk about management, descriptions and scope, marketing and financing. The organization and management doing what we call the development phase, which is where we are right now, is we have a Board of Directors, as shown -- one of the persons on the Board who is here today but will not speak is Terry McCall; many of you know. The Chief Executive Officer we'll hear from later is Gordon Cain and then we have people and companies involved in the technical aspects, the marketing aspects, the legal aspects, shipping, engineering design and construction, finance, legislative affairs, planning, training for local hire and all of these functions have been active since we started working on the ALPETCO project. One of those that has been very helpful to us in both marketing and in technical considerations is Chem Systems, Inc. and we've had two persons work with us there, the President of the Company, Peter Spitz and the Vice-President of the company, Chuck Campbell. Some of you may recall, Chuck Campbell spoke at the Petrochemical seminar in Anchorage late last year. Chem Systems is one of the leading international firms specializing in marketing and technical support of what we are proposing to build. They have offices around the world. They have a staff of 80 full-time professionals. Their clients include most of the world's leading oil and chemical companies. They're experienced in all phases of petrochemical development worldwide, including the United States, western Europe, Japan, and the Middle East. And they're experts on supply and demand and economics in the field of petrochemicals.

The other, most important ingredient to our management, is the person who's going to be the chief executive officer of our efforts. This person is Mr. Gordon Cain. He has over 30 years experience in the petrochemical industry. As a successful, seasoned chief executive officer, he's been responsible for promotion, putting these together, forming the company, staffing and managing petrochemical facilities in the United States. He's had experience with the Japanese. He's put together a petrochemical joint venture company in South America and he's had experience with petrochemicals in Europe. He is currently President and one of the organizers of Petrotex (ph) Chemical Corporation in Houston. Prior to that he was -- he headed up the petrochemical and chemical activities of Continental Oil. He's also currently Chairman and an organizer of Petrocrema (ph) Argentina S.A. in Buenos Aires. I'd like to introduce Mr. Cain to talk to you about what this facility will do and will look like. Gordon.

MR. GORDON CAIN:

Well Gentlemen, here is a rather simple diagram of the units that we will have in the ALPETCO project. The core of this operation will be an oil refinery which is shown on the left side of the screen. And this refinery will be, for all practical purposes, the same as any of the other refineries that have been proposed to be built here. The one difference in it is that we will take the part of the gasoline fraction that is not necessary for the Alaskan market and some part of the heavy fuel and convert that into a petrochemical feed stock.

Now from this point on precisely what we do is not clear because this will be determined by the market and by the nature of the partners that we get. But in general terms this will include an Aromatics plant which will make such compounds as benzene, toluene (ph), xylene (ph) and an Olefins (ph) plant that will make compounds like ethylene, propylene, and butadiene. And then there will be downstream plants from both the ethylene plant and the Aromatics plant which would make such things as polyethylene, polypropylene, ethylene glycol which is antifreeze, ethyl alcohol, which is a gin or any other such place; polystyrene, polystyrene phenol -- those are all the number of possibilities that might go into boxes that are labeled one, two, three, four, five over there. Now this will be a large complex and will have a very substantial utility requirement, both for electricity and for steam. And so it will be necessary for us to build a large steam, electric plant and very likely the balance of this is such that we will need more steam than we will electricity so it will have some excess capacity to generate electricity. So it is possible that this plant will have the capacity to sell electricity to any of the nearby utilities or even preferably to have one of the utilities build and operate that part of the plant for us. In addition, if there is coal available at the time we go on stream, this could very easily be a coal fired plant. We think by that time the liquid fuels that we will make will be more expensive than coal and it would probably be more economical for us to operate this with coal firing if the coal is available.

Now going back to the refinery for the minute -- as I said, this refinery is essentially the same as the refinery that has been proposed to be put here by some of the other people and the economics of this refinery part of it, the market that it will serve and so forth, are probably the same as the things that have been proposed before. And in examining the viability of the refinery, we think of course this is a viable project -- and we have support for this in that there were at least two or three other proposers that also wanted to build refineries. Now this was, in spite of the fact that everyone recognizes the cost of construction and operation in Alaska, is greater than the cost of construction and operation elsewhere -- but in spite of the fact, we and other people think that we can overcome this Alaska disadvantage in the refinery. Then if you look downstream from that, the Alaska disadvantage, to the extent there is one, gets to be much less in the downstream projects than it was in the upstream project, in the refinery. And by downstream I mean the Aromatics plant, the Olefins plant and all of the plants that use the olefins. Now the reason for this is that in the refinery you upgrade the crude oil only a relatively small amount per barrel. And as a result, this Alaska disadvantage is a fairly significant proportion of the total cost. On the other hand when you go from these petrochemical feed stocks to things like polyethylene, you upgrade the oil a great deal and this same Alaska disadvantage

is proportionately much less than the downstream part of it than it is in the refinery, so that the addition of these petrochemical facilities to the refinery improve the overall economics of the project. And, of course, in improving overall economics, they increase the probability of success of this. Now this is a big, complicated project and in spite of all of the organizations and facilities that you have seen on the earlier charts, it's going to be a big thing to do and it would tax -- it would be frankly beyond our resources to do by ourselves. And so we fully intend to take into the different parts of this enterprise partners who can bring to it know how in the operations of these particular things, people who are knowledgeable of this and money and agreements to take products. And this is an essential part of our plan and we have many indications of strong interest on the part of these potential partners. And there's a good reason that we should get this sort of interest because the petrochemical business in the United States, and in fact all over the world, is sort of divided into two pieces. About half of it is run by oil companies who have sources of raw material and can break that into petrochemicals with all the advantages of having the raw materials supplied. The other half consist of chemical companies who buy their olefins and aromatics from oil companies and those companies are continually uncomfortable at being in the position of not having a resource of raw material for their operation so it is that kind of company who wants the benefit of the certainty of supply that it would have here in Alaska, that we will look to find partners to help us carry this operation out successfully.

Now the reason that these partners want to get into such enterprises as this is because they need the products that we will put out and Mr. Spitz, who Mr. Honig introduced earlier, will discuss with you the market for the petrochemical products of the kind that we propose to make. Peter.

MR. PETER SPITZ:

Thank you, Gordon. I would like to cover with you now the basis for this project in terms of markets, tentative products and product configurations, economics and feed stocks and also how this project will fit into the overall scheme of things in the world of petrochemical manufacture. This is a very major project, certainly for Alaska and for the U. S. as well, in the sense that it is a large petrochemical facility and one that is needed by the world market at least in terms of quantities for the world market, as you will see.

Now, in starting my presentation, I would like to have you think not so much about the year 1978, but rather the period of 1985 and onwards when many people think we will have quite a different situation in the world of energy, particularly petroleum, scene. The many studies that have been carried out in the world oil situation by such respected organizations as the Department of Energy, M.I.T., the CIA, a number of others, have predicted that regardless of exactly when this will happen, there will be a point in time and probably most likely in the late 80's,

when the OPEC countries will no longer either be able to or will wish to, supply the overall gap in demand for world petroleum. At this time right now, of course, there is a surplus of oil, you might even say a glut of oil and there does not seem to be an oil shortage, but as you extrapolate world energy demands and the the key role that oil fulfills in it, it is not too difficult to predict that by some time in the late 80's, certainly no later than the early 90's, this situation's going to change quite dramatically and by what very recent pronouncements by the Department of Energy and by a number of other groups, have said certainly confirm this.

On this basis the ability for any petrochemical manufacturer to have at his disposal the ability to buy a significant amount of crude oil for a long period of time through the 80's and 90's and beyond, will be extremely important and will be worth a great deal and that really is almost the key of the entire project and why we think this project will certainly be viable.

Now ALPETCO originally started looking at the possibility of either building a refinery or a petrochemical plant because it's not obvious that you should build a petrochemical plant. As you know, some of the other proposers chose to select a refinery as their objective. But in looking at the relative world demand growth for petrochemical versus fuel products, you'll come to the conclusion, as you'll see in this first slide, that petrochemicals grow and are expected to grow at a lot faster rate than fuel products. Now fuel products that are represented by the two lower curves seem to grow with such indicators as population and GNP and in fact, as the U.S. and other parts of the world cut down on their energy consumptions, they grow at a lower rate than these indicators. And furthermore, when you look at the fact or think about the fact that the world must try to get by with less oil as time goes by since it's a perishable limited commodity, it will actually grow at a lower rate because oil will be supplanted by coal and nuclear energy and by other alternative energy sources of a more far out nature in 20 or 30 years. So you see the predicted growth rates for petroleum products is really quite low and will get lower as time goes by and these are not just our figures, but they are recognized figures by people who publish such things including even the major oil companies. And, on the other hand, the petrochemical growth rates which have been high and which will be dropping as a result of the fact that things can't keep growing forever at 8 to 10% per year, are still very high and will in our judgment and that of others such as Stanford Research, Arthur D. Little, etcetera will keep growing at the rate of 5 to 6% over the next 10 to 15 years. So looking at these two things, and recognizing that there is not going to be a need for too many more refineries in the United States, in fact Shell had said at one time that the last U. S. refinery will be built in the 1980's, was quite an interesting statement, about a year and a half ago, anyway lead ALPETCO to conclude that building

a petrochemical facility makes a lot more sense. There will be a need, moreover, for petrochemical feed stocks to be made in refineries so that the refinery that ALPETCO plans to design will fit into the overall scheme of things and in that connection we should note that in all parts of the world, other than the U.S., the major olefins like ethylene and propylene have always been made from petroleum feed stocks such as naptha and gas oil and in the U.S. where gas liquids were used over the first 20 or so years of the petrochemical industry, even there in the last several years, approximately 80 or 90 percent of the new ethylene plants have used petroleum rather than gas liquid feed stocks so that is again the point that was very important in ALPETCO's consideration in planning this facility.

Now I would like to cover some of the markets we are thinking about for the petrochemical products for ALPETCO and in the next slide we see that the U.S. West Coast has a fairly large market for petrochemicals because it consists of 28 million people and as I will note again later, it actually has a very, very limited number of petrochemical facilities and actually no world size ethylene plant. This is almost an anachronism. Other companies have thought of building a plant there but have been unable to do so and we therefore look at the West Coast market as a very logical and very important market for the ALPETCO project since this market is currently supplied through rather long and expensive transportation lines from the U. S. Gulf Coast. The other important market we're thinking about and that's very important to the ALPETCO project is the remainder of the Pacific Basin, which is kind of hard to show on one slide but it includes Japan, Taiwan, the Phillipines, Hong Kong, which has a very high import rate of plastic, plastic resins because it exports a lot of plastic fabricated products, Thailand and Malasia, Indonesia and the Phillipines, and not shown, the West Coast of Latin America and some other countries. And this market is growing rapidly because the population is large. Our company has made a lot of projections and has shown that this market will be able to buy a lot of petrochemicals, and will eventually build their own plants, but not for some time -- in many cases, except for Japan, of course, and will be a very important market for a project in Alaska. Now this market has been supplied, to a large extent, from Japan, but in the last year or two Japan has been losing this export market partly to the U.S., because the facilities in Japan are becoming somewhat antiquated and in many cases because feed stocks in Japan are high and because Japan has other problems that will be discussed by the next speaker. So we're talking about supplying the U. S. West Coast and the Pacific Basin, which are currently being supplied from two areas, mainly the Gulf Coast and Japan, which are in a sort of transitional situation. But now what is happening on the Gulf Coast? The situation in the Gulf Coast is that in the past petrochemical plants were built there because of inexpensive gas liquids and because of a highly abundant petroleum and natural gas feed stocks there. As you, I'm sure, know these gas and petroleum products are now in decline there. Every year production rates go down, particularly for petroleum products and will keep decreasing

and so the logic of building plants on the Gulf Coast is no longer there except for the existing infrastructure which will obviously continue to be an attraction to some companies who want to locate there. But the feed stock advantage will no longer be there, particularly as crude oil reaches world market levels. Everybody will be using feed stocks of roughly the same price as time goes by. In Japan where, I said before, there are problems with high feed stock prices and plant siting, there will also be difficulties so what we're really seeing now is a kind of a structural reorientation of the industry where petrochemical facilities are not as likely to be built either on the Gulf Coast or in general near existing downstream facilities but rather in areas where crude oil or natural gas or gas liquids are being produced. This immediately brings in mind the OPEC countries which, as you know, have great ambitions to build petrochemical plants and are in fact building some plants. The problem with the OPEC countries though is that number 1, the construction costs there are even considerably higher than in Alaska on the basis of having absolutely no infrastructure in the sands of the Middle East. We have construction factors relative to the Gulf Coast in the area of 1.6 to well over 2 times that of the Gulf Coast construction cost versus a 1.3 to 1.4 factor frequently used for Alaska. Nevertheless, the OPEC countries will build some plants and will be entering the world market. But to put this in perspective, however, even if two or three projects are built in Saudi Arabia in the next 10 to 15 years, and let's say 2 or 3 or 4 more plants in other parts of the Middle East, this will as you will shortly see, represent only a very small percentage of the world market and certainly not the kinds of production quantities that will dramatically alter the world situation and something to be terribly concerned about.

And so, and then there are other problems, of course, is that the OPEC countries are somewhat unstable in the eyes of a lot of companies that would like to produce there and the fact that these companies are over in the OPEC countries like Saudi Arabia and Iran and Abu Dhabi and so forth, means they are looking for alternatives to what they would like to continue to do on the Gulf Coast and cannot do and that is I believe also why we were able to attract quite a bit of attention to a project in Alaska.

Now we will start looking at the specific markets and market projections that we are contemplating for this project and we're basing some of our thinking on. The next slide is I think interesting because it shows you the power of geometric growth as it were. The 1980 figures for ethylene, propylene and benzene, the three most important petrochemicals, are I think accepted by everybody who knows the business as being quite representative of what will be the situation at that time. Assuming a growth rate as I've indicated before in the area of 5 to 6 percent per year and multiplying this to the 10th and then to the 20th power, which is what you're doing, you arrive at very large amounts of ethylene, propylene and benzene. Now we may be wrong about these projections, though

we are not out of line with other people who make these. Maybe the growth rate in the 90's will only be three or three and a half percent. But even if we talk about ethylene being only 70 billion pounds, you can still see the huge amounts of additional capacity required just for the United States alone. And when we contrast that with the ALPETCO case I've shown and as you see we show it as a case -- there are other cases that make less and more ethylene and propylene. You can see what a relatively small percentage of U. S. production this actually amounts to and this will be shown again in another slide.

The next slide is taken from a presentation that Union Carbide made to the security analysts a number of months ago -- it's still quite up-to-date. Again it shows the supply of ethylene on the upper part and the reason it (indisc.) each project or projects each year at a certain amount of capacity, the lower (indisc.), the smooth line represents the effective capacity because these plants will operate somewhat lower than the rate of capacity and the lowest curve shows the demand projections -- the reasons the curves digress a little bit is because this really should be shown on a log lock scale to be most properly shown. But in any case, the point is that every three or four years supply catches up with demand -- I'm sorry, demand catches up with supply, unless more plants are required.

The next slide please.

I indicated before we were looking at the U. S. West Coast and here Chem Systems has made a number of studies and facts. I gave a speech at the National Petroleum Refineries Association Petrochemical Meeting last March from which this is one of the presentations or exhibits and this shows that the West Coast market is large and getting larger. None of the materials I show here are actually made on the West Coast today with I believe one exception, polyethylene, which is made in very small quantities, almost negligible.

The next slide please.

It shows the same situation in numbers roughly, again showing this high growth for petrochemical derivatives, ethylene, (indisc.), polyethylene and styrene on the West Coast. You see, for example, polyethylene demand now is in the area of 700 million pounds, slated to grow to 1.9 billion pounds. These demands must come from somewhere and we believe that Alaska, an Alaskan plant, could supply a certain percentage of these and we would only need to sell -- need to fulfill approximately 20 or 30 percent or less of West Coast requirements in order for our project to be viable. The number of companies who market on the West Coast would be interested in obtaining products from other sources so our thinking there is not to

become a new marketer of material but work with existing marketers of these materials on the West Coast and we have already talked to them and as Gordon has said before they have expressed considerable interest in working together with us in the form of joint ventures or other business arrangements.

Moving out to the Pacific basin countries, this next slide is our estimate of net import requirements for a number of these countries and that other slide that I showed you, showed for example that carrying all the plants that have been built and looking at the man increases, the region has a need for net import of a fairly substantial amount of these technical petrochemical and this again therefore the market that we want to go after.

The next slide summarizes the ethylene requirements for both of these markets and shows that this for the U.S. West Coast and for other Pacific basin areas totals of ten World Scale ethylene plants are required through 1990 and we are thinking in terms of one plant at least for the time being so that we are looking at selling--we are looking at ALPECTO fulfilling only 10% of this new market (indisc)--expanded marketed requirement through 1990. And in the last slide we show therefore a number of possible chemicals that could be made in Alaska for fulfilling either or both the U.S. West Coast market or the Pacific Basin market and I think this will explain to you why we have not yet chosen the final configuration for the plant. We must decide which of these chemicals to make and we can't make them all because we want to build world skilled facilities which means probably only 3 or 4 of these types of products should be made and they should be made in fairly large quantities. Now leaving the market and addressing ourselves next to the question of economics and Alaskan economics, which has been certainly criticized in some of the articles I have read in newspapers and some of the statements that have been made. Such statements as ridiculous to build plants in Alaska because of markets elsewhere, etc. also that petrochemical should not be shipped all around the world, they should be made where they are consumed. Well, there are some fallacies in this, although I must admit, it does represent some national wisdom of the--perhaps the 50 and the 60's and early 70's. We had an event that occurred in 73 that has changed a lot of things and you know what it was. The ALPETCO Companies are starting to become interested in building petrochemical plants and so a lot of petrochemicals are going to be shipped all over the world. Furthermore, the world trade in petrochemicals was always very large and in fact, contributes very very substantially to the positive aspect of our balance in trade. Were it not for our exports of petrochemicals our balance of trade would be substantially worse. This also, I think, is important to know in connection with some comments that were made that for every barrel of oil that we can turn to petrochemical and export to Japan we have to import another barrel of oil from the Middle East. That's true. However, the value to the U.S. of petrochemical export is roughly five times the value of the oil

that's imported and so we gain, we have a 5 to 1 leverage in terms of the U.S. balance of trade for converting oil into petrochemicals.

The next point is just how unfavorable are the economics in building a petrochemical plant in Alaska and we fully recognize that there is a disadvantage due to the higher construction costs in Alaska. What we feel are mitigating factors, the factors that will turn the situation around are as follows:

1. We know that the Japanese petrochemical production is expensive because they must import their feed stocks from the Middle East and have very high transportation cost. We feel that an Alaska plant can be competitive in shipping petrochemicals to Japan.

Secondly, as I indicated to you, the logistics in cost of shipping petrochemicals from the Gulf Coast to the West Coast which goes either through the Panama Canal or by hopper car, by rail from the Gulf Coast of California are high and figures indicate that it would certainly be reasonably economic relative to those transportation economics.

Next point is, as I said before, the economics of building petrochemical plants in OPEC countries is high yet they are proceeding. So what really is happening is the world is changing and that petrochemical plants will be built more and more in areas where the feed stocks are because these areas, likely not, in most cases, ship all of their feed stock to world markets that would like to use these feed stocks to aid in their own industrialization program and I think you might say, being accused of being in favor of a project that might have questionable economics could be turned around and could be restated as saying we think that it would be important to find out if it would not be possible to build a viable economic petrochemical facility in Alaska. Because we have a feeling that it can be done and I would like to try it and ALPETCO is taking all the risks in order to be able to do this. And we further believe, as Gordon as indicated, the feed stock security that ALPETCO and it's proposed partners will receive will in our judgment offset the economic penalty that will undoubtedly occur to a sub-minor extent due to an Alaskan petrochemical facility. Finally, to answer a comment along the lines that well, this facility will be built and then it won't be viable and then you know the State will be stuck with a facility that will not be economic. It is our judgment, working with banks and with financial institutions and lenders, there is no way and I think the bankers will address themselves to this at a later point, there is no way that they are going to agree to lend this kind of money we are talking about here unless they completely satisfy themselves that this facility will be economically viable. The banks do not want to get stuck anymore than manufacturing people do.

A final point I would like to talk about briefly, which I alluded to before, relates to gas liquids versus petroleum feed stocks.

This has been discussed at some lengths in the Press and elsewhere and is certainly of interest to Alaska because of the North Slope gas and the extraction of gas liquids that has been proposed.

We don't know all the answers on this by a long shot and I think the reports that have been prepared by various consultants including Gardner and Moore, Salidus (ph) Battelle and others don't all agree with each other either which just shows that the problem is complicated. There are a lot of variables that relate to what the final well head price of gas is going to be, what's going to be the price of gas in the United States, the diamond or the lime, the amount of gas liquids that can be left in the gas, the amount of gas, ethylene, that can be extracted and so forth. Again we don't know the answers and we think there is a lot of uncertainty about this and it's impossible to make any firm plans on this. But we can say some things about it that I think go beyond the specific timing and economics.

One, ALPETCO is interested in cracking gas liquid if they were available to ALPETCO and if so, this will be possible because the cracking furnaces that ALPETCO plans to build will at least in part be designed to crack gas liquid if and when they are available to ALPETCO.

Secondly, the amount of gas liquid that are going to be available no matter whose numbers you look at are going to be very ample. There could be enough there to build a project along the gas pipeline if that turns out to be reasonable and economic as well as cracking gas liquids in the coastal region where ALPETCO plans to build a plant. The projects are not at all competitive because neither one of them serves the Alaskan market anyway. The markets that are being served from Alaska are the world markets I tried to depict in my slides and since there is plenty of feed stock in Alaska if one project makes sense, probably two projects would make sense. Not a market question, strictly an economic question. So we don't think these projects, if the gas liquid project were to come about, we do not think it would become competitive if it's decided to extract liquid and to build an ethylene plant for example ALPETCO could even take the ethylene by pipeline from that location and back out again feed stocks from its own crackers. This project could work with such another project on gas liquids with no trouble at all and this is what our planning is based on but the difference is the ALPETCO project can proceed right now, its based on petroleum feed stocks. Petroleum feed stocks are being used, as I said, in 90% of the world's petro chemical facilities and we think, that certainly there is nothing wrong with that and in fact, there is some positive features because from petroleum feed stocks you make not only ethylene but you make a lot of propylene, benzene, butadiene (ph) and we are looking at a whole spectrum of products where cracking gas liquids really make primarily ethylene and a small amount of propylene.

Finally, on marketing strategies, this has been covered to a considerable extent by Gordon. I've talked about the West Coast and Japan but we do have some other thoughts to communicate to you on Japan and here I would like to introduce Mr. Tydings who has a special background in Japan as a special consulate to the Japanese Embassy and in Washington with a great deal of background in U.S Japanese trade relations and a member of the United Nations Consul for Population Activities. I would like to introduce at this time Mr. Tydings.

Excuse me, one minute. Would the continuity of your presentation be affected greatly if we hold him for about 10 minutes?

Not at all. We will break for ten minutes.

(OFF RECORD)

(ON RECORD)

Hear his testimony and answer questions until tomorrow. So what the schedule will now read tomorrow at 1:30 Commissioner LeResche and Bonard Lord (ph) 3:30.

[Whereupon discussion ensued among the members as to the the meeting schedule]

JOSEPH D. TYDINGS:

Senator Colletta, Representative Miles and members of the Special Committee. I appear here as a special consul ALPETCO. I also appear as one who has some experience in the legislative branch of the State Government and the executive and legislative branch of our own government. I'm also legal consul in Washington for the Japanese government on matters relating to trade with the United States and consul in Washington for the Kaydonrins (ph) which is the Japanese consul of Industrial Organizations on energy matters, Japanese Federation of Power Companies, Japanese Atomic Industrial Federation, and the Japanese Committee on Energy Policy Promotion, which was organized and headed by Ambassador Sheba (ph) until he was just made Czar over all trade negotiations, industrial matters and related Governmental Reorganization. I'm also representing and consuling ALPETCO with respect to this joint venture with the personal approval and encouragement of the Prime Minister of Japan and the approval of the Chairman of the Energy Policy Committee of the Kaydonrins (ph)

Now there are significant strategic aspects to the marketing of this particular plant and this particular project as they relate to the Japanese people and the Japanese nation. Let me just

refresh your recollection just a little with a more recent history of Japan particularly since World War II. (Cough, indisc) a remarkable degree of energy and know how, Japanese people have been able to rebuild their country after World War II into one of the principal and industrial leaders of the free world. But today they are essentially a nation which imports raw material, adds value to them, and exports them. And the most vital raw material in the Japanese list of imports are the energy raw materials. Japan is forced to import over 90% of its fuel oil and its energy of fuels, other than a little bit of coal they have there. Thirty seven years ago an embargo on oil to Japan by major countries in the world was sufficient to send them to war. That's perhaps, in today's concept, an over dramatization. But the strategic importance of fuel oil feed stocks of petrochemical facilities cannot be over emphasized as it relates to the Japanese people particularly in the 1980's.

The Administer of International Trade and Industry meeting recently issued some statistics which will relate to the Japanese need for increased fuel oil by 1982. And their shortfall in 1982 will be a million and a half barrels of oil a day. Sometime between now and 1982 they've got to find that source of additional fuel.

I think perhaps a word about the relationship in Japanese context between the Government, Kaydonrin (ph) or the Industrial leadership of the country is in order. Since World War II the political leadership of Japan has been divided by a Party call the Liberal Democratic Party. This Party, I would say is a sort of a broad-based philasophical conservative coalition. It is very closely related to the Kaydorrin (ph) or the Japanese Consul of Industry. It is inconceivable that any final decision with respect to the opportunity to participate in so important a project relating feed stocks as this would be made without joint participation by both the government and Kaydonrin (ph).

There is another aspect to the Japanese strategic position in the world today which indirectly relates to this and that is the unique relationship between Japan and the United States. As you know, under the treaties negotiated under General MacArthur at the conclusion of World War II, Japan has not rearmed. Japan's principal trading partner is the United States. The Japanese government and the Japanese people value their relationships with the United States very highly. They are very cognizant of the tremendous strains which have been placed on that relationship by the current trade in balances and particularly by the Japanese exports to the U.S. a number of important commodities which have very strong political constituency. The Japanese government is very aware of the steel caucus in our House of Representatives and in the Senate. They are aware of the constituency which relate to television products, shcws to a great variety of U.S. goods which have been competing and not too successfully with Japanese goods in recent years. They are greatly concerned with the possible retaliation from the United States with respect to trade barriers, which could be economically very, very disastrous

to the Japanese government and thus they have been seeking ways to increase their imports to the United States. There is a major trade delegation in Washington this weekend, sent here purely to try and foster imports from the United States to Japan. If you have followed the journeys and travels of our special trade representative and his deputy in the last weeks of December, you will recall that there was two major meetings in Japan, at which time the Prime Minister stated publicly that his government would make every effort to increase the imports from the United States and, as a matter of fact, he had a shake-up in his entire cabinet. So you have that fact of life of the Japanese government today quite aside from the strategic need of feed stocks or other sources of fuel supply, the trade-in balance and the strain put on you as a Japanese relationship.

Let me, if I might, shift to our own government and our own strategic posture in the United States.

We have seen in the last two years two things, we've seen a basic trade deficit in United States relationship with the rest of the world caused primarily by the need to import oil from the OPEC countries. But in those trade-in balances the great in-balance with the trading nations is between the United States and Japan. Up until a few years ago we were basically equal trading nations. And that Japanese in-balance has caused, as I indicated earlier, protectionist movement in our Congress which we have not seen since the 1930's. The Smooth Holly Tariff (ph) was originally a bill introduced by a Senator Smooth (ph) Representative Holly involving just one commodity in 1930 and before it was through the Congress there were 140 different tariff barriers on it and that led to the whole world breakdown in the 1930's of trade. Now, the position of our government has been since President Eisenhower right through every President, right to the present administration, to try and maintain the United States' role, preeminent role as the greatest trading nation of the world, and we still are the greatest trading nation in the world, and try and keep trade barriers at a minimum. But I can tell you and I think that any responsible reporter from Washington will tell you that pressures on free trade are greater today in Washington than at any time in 30 years. So that United States government has a very serious problem if it's going to maintain our posture as the greatest trading nation and that problem is made greater by the Japanese difference in the balances of trade. So it is this particular project, at this particular time, that is a project in Alaska which would market high value added products, such as chemical products to Japan, with significant dollar amounts, whether we are talking about 40% of the output or 50% of the output or 60% of the output of this plant, this would be a major contribution to the United States trade balances. This particular project at this time falls right in line with what our government is trying to do. We have basic ALPETCO proposal has been presented and briefed to the top career civil servants and our special

trade representative's office, Commerce Departments, State Departments, Treasury, Interior and the National Security Council. We had to do this at a time when we are not the awardee of the contract, when we would have been basically one of the competitors merely to present proposals as basically presented to you and to the Royalty Board. Without exception reaction to our proposal is that it is on all corners, all four corners, consistent with the international trade policy of our government that when the State of Alaska concludes their deliberation, the decision making process and awards the contract, that the top career and the top decision makers in our government will consider what steps, if any, will be appropriate to take in support of this proposal in light of the vital U. S. national interest. They made no representations that it would be put on the formal agenda between the U.S. and the Japanese trade negotiations, but in my judgment, it is difficult to see given the consequences that it would not be given very serious consideration. In my own judgment, I think it would be on there.

To sum up what I have basically stated, the ALPETCO proposal as it relates to Japan, as it relates to marketing in Japan, is an ideal vehicle for Japan to increase its purchases from the United States which Prime Minister Baccoda (ph) has said they are trying to do and which I genuinely believe they are. It will help provide an additional source of feed stock, a steady safe supply pending on the type of negotiations, the type of joint venture which they may enter into which (indisc.) and negotiates with one or more Japanese groups. And (indisc.) the bottom line of the Japanese it could be a very highly profitable joint venture. From our point of view, the United States' point of view, this proposal is in line with the efforts of the special trade representative is making with the admissions of Dick Rivers and Ambassador Strous made in December which was basically to tell the Japanese government they had to increase their purchase from the United States, they had significant effort to reduce the imbalances and bring the trade balances in line, so that we have a proposal which is right in line with our own policy and which would offer, I think significant advantages to the Japanese people and to the Japanese government. I think it's important to know that the timing of the proposal as it comes in 1978 such as to make just about inevitable, a strong Japanese participation as a possible partner for at least some of the production of this complex. Thank you.

CHARLES O. HONIG:

We've talked about the management and the description and scope of marketing and the last point on viability of the project involves financing. From the beginning we have had as our investment bankers, Lehman Brothers, Kuhn Loeb and E.F. Hutton as our co-investment bankers. And as our commercial banker, we have had Chemical Bank and all three of these institutions have met with us and counseled with us and worked with ALPETCO beginning last July and they have attended royalty board meetings with us in Valdez, Anchorage and Juneau and they have met with us in

New York and Houston and they've been posted almost daily on the progress of this project. So they are an integral part of it and we would like for them to address briefly what's involved in the financing and I'll ask first Tom Kenny, who is managing director of Lehman Bros Kuhn Loeb, if he will talk some about the permanent financing aspect. Tom --

TOM KENNY:

Thank you. Good afternoon, Ladies and Gentlemen. Charles introduced me as the managing director of Lehman Bros. Kuhn Loeb, Inc. This is a brand new firm on Wall Street. It was organized in December 1967 (1977) so it's about three months old. However, we have two predecessor organizations that have been around for considerably greater time than that. Lehman Bros. was formed in 1850, Kuhn Loeb Co. was formed in 1867. Both organizations were important investment banking firms during that more than 100 year period of prior to our merger in December of last year. Both investment banking firms were in a forefront of American finance raising capital during that period. More important American business enterprises in significant industry. And as Charles says we have been associated with this important project since its inception, and our thinking concerning the structuring and implementation of the permanent financing has not changed even though we've perhaps elaborated a bit on it during that period of time since we started speaking of it and what we are talking about is structuring a permanent financing as a project financing. I'm talking about the permanent financing for the project as compared to what the construction financing which is what my friends in the Chemical Bank will address in a few moments.

Now, we have told ALPETCO, and continue to tell ALPETCO, that given the approach that they are using that we do believe this project can be successfully financed on a permanent basis, using traditional sources of capital at competitive capital costs. What I mean is, of course, the interest rates and the other capital costs would be similar to those incurred by other high fraying developments of this nature or any other nature in natural resources. As a project financing we would expect a considerable amount of support where the financial structure would come from long term supply contracts running to (indisc. cough) utilizing and using the output of this facility. This will permit us to use a capital structure that probably would be somewhat more heavily step oriented than equity oriented but we anticipated that but certainly there will be plenty of the latter also. In connection with that we would anticipate that there would be participations in the equity of this project or its component parts which you've heard some things about it today by the people who are using the product and entering into the long time supply contracts. Such participation and arrangements would not be unusual but to the contrary something I would expect to take place as Mr. Cain

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develops these arrangements with what he has characterized as his partners in the thing. We have written letters in support of the applications that ALPETCO has been making into the various authorities up here. We stand by those letters, we continue to feel that the structuring as a project financing with long term supply contracts that we can raise the necessary money in the conventional markets. These markets will involve (indisc.) issues of both taxable bonds and untaxable bonds. The total amount of the financing we anticipate may, aggregate as you've heard here about 2-1/2 billion dollars, however, we are talking about a project that is going to be accomplished over a several year period. It's also going to be accomplished in several discrete stages. The capital markets as we understand them at the present time and we think we do understand them, and particularly the U.S. long term capital market. That is going to be the major source of this money we think will, in fact, absorb financing of that magnitude without any difficulty.

CHARLES HONIG: Thank you, Tom. I also would like to call upon another investment banker who is Executive Vice President of E.F. Hutton, who also by the way served under both Johnson and Nixon as the public member of the National Water Pollution Control Commission, Jim Lopp.

JIM LOPP:

Thank you, Charles. You know our public relations firm put out a slogan that when E.F. Hutton talks people listen. Which people as you travel around the country you make great mention of that after reviewing the contract the State put together, I believe that when Alaska talks, ALPETCO listens. I--reviewing it suggested that if anything more was traded, I think we wanted to be in the spot of raising the financing of the State. You have a very financable contract at this point of time.

Because of the magnitude of the project, I thought maybe we might just mention a few of the assets of the E. F. Hutton Co. in terms of what we hope to be able to bring to the table to help to raise the capital that is going to be required.

E. F. Hutton Co. is about 75 years old and has 190 offices in the United States, 12 in Europe, has about 2700 salesmen with representation of about 500,000 or half a million, retail and institutional accounts. So we believe that we will be able to bring a lot of these resources to bear in the placement of the securities.

Last year E. F. Hutton Co. managed to co-manage in the placement of debt securities and equity securities 4.2 billion dollars. As my co-investment banker pointed out, we have been involved in this project since its inception and we have continuously supported the ability of this project to be financed given its economic viability. I think it's important for members of the Senate and House to understand that projects like this have been financed in

the past on a project financing basis and maybe a few examples would be helpful.

Down Australia way, we've had very huge iron ore projects such as Savage River, Rogue River and Hammersly (ph) which has been financed on a project basis such as we are talking about here. In British Columbia you may be familiar with the Four D (ph) coal project as well as the Lorne X Copper project which has been financed on a project basis. I think maybe one of the best analagous situations to what we are talking about here, is in Indonesia, 21 utilities from Japan, financed a billion and a half dollar L & G facility to supply them with gas for 20 years. This was 100% debt finance and Alaska Interstate who was involved in structuring this transaction, retained the 22% interest in that project. That basically is the type of thing that we are talking about here.

Now, interesting enough let's talk just a quick moment about where these funds are going to come from. The commercial banks are going to talk about their construction funds and revolving credit agreements. We also look for credit to come from suppliers, export financing, medium and long term debts, both taxable and tax exempt and we also believe, and we said this to ALPETCO, that we will be able to raise required equity to support the financial structure of this balance sheet that they have projected. The taxable debt will be provided mainly by, on a private placement basis, with life insurance companies, pension, profit and retirement funds. The tax exempt portion of the debt and we believe in some of the members of our organization under the banner of another firm, were involved in coming up with the idea of financing the facilities at Valdez on tax exempt basis and spent quite a bit of time on that. and we've taken the analagous facilities, docks, wharfs, and some of the infrastructure and believe that under Chapter 61, Title 44 of the Alaska law, we can finance maybe up to 350 million of this financing with tax exempt bonds. Now this is important to the economic viability or helps support it in that the debt rate on tax exempt bonds is some 2% below that of taxable credit. I think Charles, this would rap up my summary of it.

CHARLES HONIG:

Thank you, Jim. We'd like next to hear from our Commercial Banker and speaking for Chemical Bank is Senior Vice President, Grenville Paynter, who also likes to fish in Alaska.

GRENVILLE H. PAYNTER:

Thank you, Charles. I guess it is appropriate to mention a little bit of Chemical Banks pedigree.

We were started in 1824. We ended up last year with total assests somewhere in excess of 31 billion dollars, we were in excess of 100 million last year, we have capital funds in excess of a billion 6.

The short term or the intermediate term facilities that we are concerned with in the banking side are neither exotic nor esoteric

but are very typical of the kinds of projects that we are looking at these days. They are ones that also many of our cohorts in the banking fields are familiar with and we have discussed them not only with existing banks that work with Alaska Interstate but also with banks in Alaska and in other money centers and without exception, we've gotten great expressions of strong interest in these kinds of credits. There are three basic ones we are talking about. The first is at the request of Alaska Interstate, we've examined their situation to determine how best and to raise the amount of equity that they would put into ALPETCO in the beginning. We have determined that a hundred million dollars would be easily raised and we have also told them that we would make 20 million dollars of that available upon ratification of the contract to help them with or supply the money for the start-up cost.

We have further told them that we will take 50 million of that total credit ourselves. We have indicated to ALPETCO that we believe that a bank group for the interim construction financing of the refinery could be set up. That under present plans a 400 million dollar commercial bank credit should be satisfactory. This credit would be set up against a take-out commitment from long term lenders. Of this 400 million dollars Chemical Bank would be willing to take up to 100 million dollars and would act as agent for the group of banks that would provide the remaining funds. Other forms of financing such as already has been mentioned, supplier credit would substantially fund the remaining short term needs.

Finally, we have talked with ALPETCO about the working capital requirements, the marketing, the royalty crude oil. This encompasses the phase during construction of the refinery after the company has met the benchmarks Charles has referred to in his presentation. Our analysis leaves us to believe that a working capital line in the amount of a hundred million dollars would be adequate and here again, Chemical Bank would be willing to take up to fifty million of this financing. Needless to say, each of these various credits is subject to a satisfactory credit agreement. But in each case they are typical of agreements that we work with every day. I'd like to conclude my remarks by maybe restating my opening comment that the Commercial Bank role in this project is personally conceptualized is a role that No. 1 we are familiar with and No. 2 we believe can be successfully duplicated on behalf of Alaska Petrochemical Co.

CHARLES HONIG:

Thank you, Gren. The closing comment on the matter of financing relates to joint ventures and I'll just briefly refer to a chart that shows some of the possibilities. This is different from Gordon Cain's chart on the refinery but in petrochemical complex but it shows various ways that ALPETCO can work with others in

putting together in Alaska this type of facility. For instance, we refer to the center part as the core of refinery and that would be primarily in that respect just sulfur recovery, sulfur removal and the ports and docks might be owned municipally or owned separately from ALPETCO, the utilities likewise. As Gordon said we might bring in a big brother partner, a chemical company who might agree to build a olefins plant or one who might be interested in the aromatic aspects. So there are all kinds of possibilities for joint ventures which will result in our associating companies as Gordon mentioned with know-how and money and experience in this particular area.

I'd like to ask Gordon Cain if he might summarize what we have presented today.

GORDON A. CAIN:

Senator Colletta, Gentlemen of the Special Committee, word summary suggests that we are reaching the end of this presentation which may be of some relief to you. So I won't take too long to do this.

You have decided that you want to process your oil in Alaska if you can do this without any penalty to the State. Commissioner LeResche and the Royalty Board have examined the proposals that you have been presented with and they have reached the conclusion that the proposal that includes a refinery and a petrochemical operation (cough-indisc) presented by ALPETCO is the best of the proposals that you have received. Some of the factors that might have gone in their consideration are that this will create three or four times as many jobs and three and four times as much tax money in Alaska as any of the alternative proposals. Also, as I mentioned earlier, the addition of these petrochemical facilities to the refinery improve the possibility of the overall project and increase the probability of success. Mr. Spitzalluded to the fact that this project is not competitive with and probably will help your ability to use your gas liquids later. We would be a potential customer for these gas liquids, we don't want so much of them that it would impose on--impinge on your other project if you decide to go ahead with it. We will both, the gas liquid project and our project, will be competing in a world market in which there are ten or fifteen other plants of the same size that we are and the fact that one of those plants is in Alaska and one of those plants is our plant, will have little significance. Whether this gas liquids plant that is competing with us is in Alaska or Indonesia is not going to make that much difference in the overall competition because both of us are only trying to get somewhat less than 5% of the market that we are dealing with.

Now, you have been told that our project is the best project but you still have a reasonable question is the best good enough.

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Now is this best project one that is likely to go ahead and have a chance for success. Now, if we were talking about a project that is going on stream today or if we thought the future was going to be a continuation of the present, if we thought that there would always be a surplus of crude oil, if we thought that there would always be an over-supply of petrochemicals, we would not be here talking to you at all. It would not make any sense to build this project or to put this much money in this. But none of us and none of the experts in this matter, think that things are going to continue as they are now. Prevailing wisdom is that by the mid 80's there will be a shortage of crude in the world. As you can see, the growth of petrochemicals, even if you used the lowest probable growth, will require that there be on a world wide basis a plant like the one we are talking about, built every six months somewhere in the world just to keep up with the lowest anticipated growth rate. So that although a billion and a half, two billion and a half, three billion and a half dollars is a lot of money in the context of this world petrochemical situation, this is a relatively small part of the whole thing. And the question really is what are the things we have that would make this a viable project, make it possible for us to compete in the world market?

Now this plant will come on stream in the late 83's - early 84. By that time we think that there will either be a shortage of crude oil in the world or it will be obvious that there is going to be a shortage. And since people operate on the basis of what they expect to happen, if people think there is a potential shortage of crude at that time, a source of petrochemical that is located in a political stable region, political special to this context doesn't necessarily mean that everybody gets reelected. It just means that nobody siezes the plant. In a politically stable region that the market price will be a very attractive source of chemicals for users of petrochemicals.

Now, at that point we will have a plant that was completed in the early 80's. With inflation running like it is now, every one of the two plants a year after our plant is built will cost more than our plant will because of inflation. You will have a plant that will be producing petrochemicals that will be growing at at least 5% a year rate, we will be producing less than 5% of the requirement for the Pacific basin for these particular products. We are not looking for a great part of the market. We expect to have one, two or three very knowledgable partners in different parts of this enterprise and with all of those things we think that we can have a, we know that we can have a viable project. Now a question has been raised in the course of this, even with all of this, how do we overcome the disadvantage of the hard cost of operating in Alaska? And this is a very valid question, its one we have to answer for you and its one, equally important, we have to answer for the bankers.

Now, first, we don't think that the disadvantages in Alaska are nearly as great as the construction of the pipeline would suggest.

We hope and certainly intend that we build this for far less premium than the pipeline was built for.

Second, we expect certain things that will help us to compete with the rest of the world.

Mr. Spitz mentioned some transportation cost advantages which are significant but still not enough to close the gap. The financial people they think that we can finance this with more debt than the normal project. And this is an economic benefit. But even that isn't enough to close the gap. The main thing that we have to close the gap is that we will be competing at that point, at least in part, with projects that are being built in Korea, Singapore, Middle East and other places like that, that at least have some possibility of instability and some possibility of interruption of supply.

Now, the project in Alaska certainly has less of that risk. Therefore, we expect that our plant with our partners will be their favored source of supply. We don't expect anybody to pay us a bit more per pound than they pay anyone else because they can't and stay competitive. But we do expect one thing that they can give us that will not cost them anything and that is to give us a larger percent of their requirement than the average. To give us enough--this is so that we can run our plant at a higher than average rate of the other competitive plants. Now, this doesn't sound like much but just some simple facts on this kind of plant. This kind of plant has a break even point of about 70% which means that you don't make any money until it gets up to about 70% and then you start making a lot of money. And with this high break even point it means that at 80% you make some amount of money. At 90% you make twice as much money as you make at 80%. So this is a highly leverage sort of operation. Now if we can run this plant at 10% higher than the average of our competitors, we can more than make up the Alaska disadvantage even if we assume some rather large disadvantages here. Now we expect to be able to do that because the people that we will have as partners and the people that we will have as customers will want to keep this plant alive, will want to keep this assured source of supply in being to the extent that these are Japanese plants. They will want to contribute to the improvement of balance of payments between us and the Japanese.

Now, with all these factors, with the organization we have, with the partners we expect to get and with the help of the people in Alaska, we expect to be able to make this a viable possible petrochemical project and to make Alaska an important factor in this part of the industrial world.

Thank you, gentlemen.

CHARLES HONIG:

Thank you, Gordon. In closing I would like to just flash on the screen for a moment the eleven recommendations, contractual recommendations that Mr. Miles' State Energy Policy Committee made last year. We believe that ALPETCO has -- we were conscious of these, as we negotiated the contract and we believe we have met all eleven of these contractual recommendations. And those were first that the contracts have a cancellation or termination provision which ours has -- that it require local training and hire, which it does; that completion of the refinery be tied to the sale of crude to assure there would be a refinery and this exists in our contract. That the in-value price be paid which we agreed to do. That there be compliance and security provisions in the contract which there are. That the point of delivery be LACT meter one, which it is. That there be no subsidy and there is none. That the method of payment should minimize the float of the funds and I assure you it does. That in-state fuels, use of fuels, be provided for, which it is. That in-state processing be required by the contract, which it is and that the quantity not be guaranteed by the State, and it is not. Thank you gentlemen. I apologize for the length of the presentation but there has been so much talk about it over a period of time -- we assembled these people here, we felt we should address it fully. Alright, thank you very much and as we stated in our opening remarks that we needed some information (indisc.)

CHAIRMAN MILES:

Thank you. I'm tremendously satisfied and pleased with the project. I don't think there's any doubt about it, especially after what we heard today. Perhaps one of them would like to comment on how the effect of committing undiscovered reserves to the project would affect the financing.

CHARLES HONIG:

Jim?

ALPETCO REPRESENTATIVE:

Okay. Would you care to repeat that question please, I didn't quite catch it. The committing of reserves?

CHAIRMAN MILES:

Yeah, the 70%, the undiscovered -- essentially undiscovered reserves.

ALPETCO REPRESENTATIVE:

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Let's try and keep this in perspective. We are going to go out and raise 2-1/2 billion dollars worth of financing. The lenders under these loan agreements are going to want to have some assurance that the debt's going to get repaid. People who we are going to sell the equity to want to be assured they are going to get a return on that equity. Now the only thing that really could happen, once they put up the money, is that the crude oil is available so that it can be processed, sold and the profits made. And I think for any types of these financing, everyone that I alluded to in my remarks, the raw material has been first, and the most key ingredient --

you have to have the economic viability, the raw materials and the take of the product.

It's a three legged stool. You take away any one of those assurances and the stool falls down. So before anybody goes into this type of agreement on financing, they are going to have to understand that there is enough material there you can run through the plant and make the product of which the profit is going to service the debt. And so we were hopeful and we have been very hard on ALPETCO and we've lost. We wanted a 100% of the royalty oil out of Prudhoe Bay but we understood that that had already been committed and we wanted 100% of the other royalty oil because, as once again, there is no guarantee that the State can deliver oil. All you can deliver is what you get and we want to make sure for the financial viability of that project that at least you get 150,000 barrels a day of crude. Because I tell you when we shift the other way the lenders are going to say to us but how do we know we are going to get a sufficient supply of crude to be able to serve--you know, to run this refinery. Really, everything we've said is based on our supply of crude and that's really the foundation of where we start. We've got to have that supply of crude.

CHAIRMAN MILES:

Some of that is undiscovered yet.

UNIDENTIFIED SPEAKER:

That's right.

CHAIRMAN MILES:

Then your--that doesn't really--it obviously doesn't cause the financial people too much of a problem.

UNIDENTIFIED SPEAKER:

What undiscovered? Well, to the extent it continues to be discovered it will be beneficial to us. Right now the reserves that we've heard about seem to be in sufficient supply.

CHAIRMAN MILES:

Yeah, I think we all expect more oil but it is a certain, a little bit riskier than taking 150,000 known (indisc)

UNIDENTIFIED SPEAKER:

It gives us more assurance however than not having any.

UNIDENTIFIED SPEAKER:

Okay.

UNIDENTIFIED SPEAKER:

The more assurances that we can have, the better off we are.

CHAIRMAN MILES: Mr. Chatterton.

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MR. CHATTERTON:

Thank you Mr. Chairman. I apparently need a little bit of clarification on an obvious misconception that I have. I believe that I heard you Mr. Lopp say that the project can be financed given its economic viability. I can understand that and I heard you, Mr. Paynter, say that subject to a satisfactory credit agreement why you could support it. Now, that's what I heard. Now, have I misconstrued this? You have not given this your stamp of financial approval yet? Is that correct?

MR. PAYNTER:

No, we haven't given our stamp of approval based on the assumptions that I made in my remarks and I think just reiterated.

UNIDENTIFIED SPEAKER:

And if I can talk to.....what I said.....

MR. HONIG:

This is Mr. Paynter ....

UNIDENTIFIED SPEAKER:

Oh, I'm sorry. That's okay. I apologize.

MR. PAYNTER:

We, of course, on the short term side look to the long term take-out and if they are satisfied, if they are able to sell to long term investors and long term lenders the note, the equity, the wherewithall then the commercial banking side of this is taken out.

UNIDENTIFIED SPEAKER:

Okay. Together with all these ifs why everything's fine.

UNIDENTIFIED SPEAKER:

That's right.

(Indisc.-interrupted)

CHAIRMAN MILES:

Mr. Chatterton.

MR. CHAT CHATTERTON:

Thank you. One question to Mr. Norris that may sound a little bit not connected with the subject dependent upon the response. Mr. Norris, your parent company is Haliburton (ph). To your knowledge

is any division or subsidiary of Haliburton (ph) engaged in the exploration for oil, production of oil and gas?

MR. NORRIS:

No, sir.

MR. CHATTERTON:

Thank you. Thank you, Mr. Chairman.

CHAIRMAN MILES:

There is a clause in the contract 2.6 Delivery of TAPS Fill by Seller, which essentially says that the State will supply trans-Alaska system pipeline fill and storage tank bottom requirements and that the State won't get paid till the termination of the contract. Twenty-seven years down the pike. How much oil is that--what actually is--what is pipeline fill and why shouldn't we get paid for 27 years? How much is it?

UNIDENTIFIED SPEAKER:

Well--this is a product(cough-indisc) our negotiations and we wanted the point of delivery to be Valdez and the State of Alaska wanted the point of delivery to be at the other end of the crude oil pipeline because they did not want to be a shipper. And all of our arguments have been for the delivery to be at Valdez. So in exchange for our agreeing to take the delivery at LACT Meter I the State agreed we could pay for the line fill at the end of the contract period or if upon termination immediately preceding termination.

CHAIRMAN MILES:

How much is that?

UNIDENTIFIED SPEAKER:

It's about -- well it's 85% of 1/8 of--in dollars it's about 9 million dollars.

UNIDENTIFIED SPEAKER:

But by the time it's ultimately paid for it will be paid for in the value of the oil at that time so if oil is \$20 a barrel then it will be paid for at the rate of \$20 a barrel (indisc.-interrupted)

CHAIRMAN MILES:

By unanimous consent we certainly appreciate the presentation....

(End of Meeting)

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