Diapir Field Lease Offering
(Sale 87)

Public Hearings

Anchorage

1983

PUBLIC HEARING

ON

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FOR THE

DIAPIR FIELD LEASE OFFERING (JUNE 1984)

PANEL MEMBERS:

ROBERT BROCK	Regional Supervisor, Leasing & Environment Office, MMS
RAY EMERSON	Environmental Assessment Section, Leasing & Environment Office, MMS
ROD SMITH	Regional Supervisor, Field Operations Office, MMS
GERALD REID	U.S. Fish and Wildlife Service

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The panel met pursuant to notice at 1:00 p.m., October 27, 1983, at the Multipurpose Room, Anchorage Historical and Fine Arts Museum, Sixth Avenue, Anchorage, Alaska, Mr. Robert Brock presiding.

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C E R T I F I C A T E

This is to certify that the attached proceedings before a panel convened to hear public testimony on the Draft Environmental Impact Statement for the Diapir Field Lease Offering (June 1984), were taken at the Multipurpose Room, Anchorage Historical and Fine Arts Museum, Sixth Avenue, Anchorage, Alaska, beginning at 1:00 p.m., October 27, 1983, and were had as therein appears, and that this is the original transcript thereof.

Official Reporter

Transcribed October 29, 1983

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P R O C E E D I N G S

1:00 p.m.

MR. BROCK: Good afternoon ladies and gentlemen! This hearing will come to order. Welcome to this public hearing. My name is Bob Brock, Minerals Management Service. I'm the Regional Supervisor for Leasing and Environment and I have been designated to chair this hearing. The purpose of this hearing is to receive views, comments, and suggestions on the Draft Environmental Impact Statement for the Diapir Field Lease Offering scheduled for June, 1984. This document was prepared by the Minerals Management Service in accordance with the National Environmental Policy Act to fully evaluate the potential environmental effects of the oil and gas lease activities associated with the proposed lease offering. Hearings were held earlier this week in Barrow and here in Anchorage. We had two hearings on this particular oil and gas proposal. An official reporter, sitting on my far right over here, will take a verbatim transcript of the entire hearing. Everything that is spoken while the hearing is in session will be recorded. To assure a complete and accurate record of the hearing it is necessary for only one person to speak at a time and the rest remain as quiet as possible. Copies of this transcript will be available through Akulaw reporting service. You may make arrangements with the reporter today, or you can

call Akulaw Court Reporting in Anchorage. Copies are not available through the Minerals Management Service. This is not an adversary proceeding. No one will be placed under oath; however, presentations should be relevant and supported by pertinent data. Speakers will not be asked questions unless a panel member wishes to clarify a point or obtain additional information. Members of the panel are not here to answer questions. The purpose of the hearing is to receive information, not to exchange views. Panel members are present to obtain as complete an understanding as possible of all views of interested parties. Speakers will be called in the order they registered. If a speaker is not present at the time his or her name is called, the name will be placed at the end of the list and we will continue on. If you have not registered and wish to speak, please register with Laura Yoesting back in the corner, sitting behind the table, and we will keep going until we get to you. After hearing from those that are registered, I will open the floor to anybody who would like to make a comment. When you do speak, please begin your remarks with your name, address, occupation, and whom you represent. If you have prepared testimony, please give a copy to the court reporter to help her in her verbatim transcript. If you wish to submit additional written testimony, please give that material to her also. This material will be marked as

an exhibit and entered into the record. Each presentation should be no more than 10 minutes long. The Department will accept written comments and statements from anyone who does not speak here, or who would prefer to put in written testimony. You should write those comments to the Minerals Management Service, Regional Manager, Alaska OCS Region, Box 101159, Anchorage 99510. The comment period closes November 10th. All written comments received prior to that date will be part of the hearing record and will be granted the same consideration as any oral presentation made today or in Barrow.

The panel members for this hearing are, on my far right, Jerry Reid -- I met him several times, I just lost his name for a second -- U.S. Fish and Wildlife Service; Rod Smith, who is the Regional Supervisor for the Field Operations Office of MMS; and on my immediate left, Ray Emerson, who represents the Environmental Assessment Section in the Leasing and Environmental Office.

The first speaker we have today is Mr. Dan Jones from Exxon.

STATEMENT OF DANIEL H. JONES, EXPLORATION COORDINATOR
ALASKA EXXON COMPANY, U.S.A.

Good afternoon, my name is Dan Jones. I am the Exploration Coordinator in Alaska for Exxon Company, U.S.A. here in Anchorage.

I would like to thank the Minerals Management Service for the opportunity to present my company's views on the Diapir Field Lease Offering scheduled for June, 1984. Exxon Company, U.S.A. strongly supports Alternative No. 1 in the DEIS which proposes to offer 3,355 blocks, and believes this proposal is the most acceptable alternative. Further, we believe that activities resulting from this lease sale can be conducted without significant harm and without significant disruption of, or interference with, other uses of the OCS. We agree with the projected impacts of the no-sale alternative which suggests that if the sale is cancelled future OCS oil and gas production could decrease, our dependence on foreign oil could continue, and we might have to turn to alternative energy forms and sources, many of which are not feasible at this time and may not be feasible during the estimated life of the production in the Diapir Field. Indeed, the proposed Diapir Field Lease Offering is vital to the economic and energy security of this country, thus we consider it essential that this sale be held as scheduled.

I would like now to address the remainder of my comments on the DEIS to the following points, the optimistic exploration and development schedule, and the unnecessary lease stipulations, in particular the seasonal drilling restriction.

First, the schedules for exploration and development that appear in the DEIS are overly optimistic by about five years with respect to platform installation and by about four years with respect to first production. This overly optimistic development schedule leads to at least two erroneous assumptions. First, it projects potential impacts sooner than they might actually occur. Second, the schedule appears to shorten the amount of time available for planning and assessment. Those interested in this sale should recognize that exploration and development of oil and gas in the Diapir Field will take a very long time. While the time estimates of individual companies may differ, it is generally agreed that it will take about 13 years from the time of the lease sale until first production. The elements which contribute to this long exploration to production time frame include the geologic complexity of the area, the severity of environmental conditions, the sequential procedures for acquiring geophysical data, and drilling, testing, and analyzing each well. The extremely high cost of development is perhaps the single most important factor in determining the schedule of activities. Because of this high cost it will take considerable time to discover, delineate, and characterize reserves that are large enough to justify these enormous capital investments.

Pre-drilling surveys and permit acquisitions will take

at least a year. And the actual exploration phase could take from three to more than ten years in order to acquire necessary data to make a field development decision, an investment which is likely to run into billions of dollars. Once a decision has been made to develop, it is necessary to conduct scoping studies and conceptual engineering; to prepare detailed development plans, appropriate environmental reports, and an EIS; and, finally, obtain all necessary permits. This entire process normally takes from three to four years. Major commitments for the purchase of equipment for development normally are not made until all major permits are in hand. Construction of facilities, including the support and staging areas, and the hydrocarbon transportation system in addition to development drilling, will add another six years to the time table. Thus, this high level activity, which has the greatest potential for impact, could not occur until about 1991, nearly seven years after the lease sale. Since this schedule is longer than that used for the Alternative 1 impact assessment, the potential for impacts will be later than described. The foregoing timing of activities provides ample opportunity for State and local planning.

My second point is that we believe many of the proposed lease stipulations identified in the DEIS are unnecessarily restrictive and burdensome on operations conducted on the

sale tracts. We recommend that any least stipulation and/or mitigating measure imposed upon lessees be drafted with sufficient flexibility so that its application be considered on a case-by-case basis and in the context of site-specific conditions. Lease terms should also provide flexibility for future modifications or deletion of a lease requirement as information or advances in technology indicate that such a requirement is unnecessary. In assessing potential environmental and socio-economic impacts resulting from potential hydrocarbon development, it is important to emphasize that permit requirements and other regulatory measures currently in effect are designed to prevent or mitigate adverse impacts. Many governmental agencies already exert regulatory and enforcement authority over OCS operations. Exxon is ever conscious of the importance of compliance with the intent and the letter of current regulations in planning and conducting exploration and development activities.

A particularly onerous lease stipulation is the imposition of a seasonal drilling restriction. Exxon opposes this restriction based on our demonstrated ability to operate in a safe and environmentally acceptable manner in the Beaufort Sea. A seasonal drilling restriction results in increased costs to the operator and ultimately to the consumer, and these costs are disproportionate to presumed

benefits. The apparent rationale for imposing such a restriction is the concern about possible oil spills. The public should be made aware that oil spills resulting from an exploratory well control problem are not likely to occur. As you are probably aware, a major oil spill has never occurred as a result of exploratory drilling in the OCS throughout the United States.

In conclusion, the need to move forward with this sale is inseparable from the need to move with the entire OCS leasing program. Recent events in the world oil market have demonstrated how quickly the source and supply of imported crude oil can be disrupted. What could happen to these supplies in the 10 or 15 years it will take us to develop Alaskan OCS resources? Exxon is ready to accept the challenge to explore and produce in Alaskan frontier areas. Our facilities and operations are carefully designed to insure safety and prevention or proper mitigation of potential adverse impacts. We all have a great deal to lose environmentally and economically if we act irresponsibly. Thank you.

MR. BROCK: Thank you. Bob Harcharek.

STATEMENT OF DR. BOB HARCHAREK, UKPEAGVIK INUPIAT CORPORATION, BARROW, ALASKA

DR. HARCHAREK: I'm Dr. Bob Harcharek, I'm the (indiscernible) Socio-Scientist from Barrow. Barrow is home

for me and my family. I'm Director of Technical Assistance, Ukpeagvik Inupiat Corporation. Ikpeagvik Inupiat Corporation is the village corporation of Barrow organized pursuant to Section VIII of the Alaska Native Claims Settlement Act, and represents approximately 54% of the North Slope Inupiat. Because the proposed leasing plans and the subsequent Diapir Field sale will directly impact upon Inupiats villages on the entire coast of the north slope of Alaska we deem it important to communicate our unqualified opposition to the proposed lease sale in June of 1984. Our opposition is further strengthened by the fact that the environment of other arctic states, coastlines, weather systems, as well as dependence upon subsistence activities, will be inexorably damaged by an oil leak from whatever means. At the outset we would like to state that based upon extensive review and analysis of all available materials, not merely the Draft Environmental Impact Statement, it is our opinion that the lease sale as proposed would be disastrous to the coastal integrity and the physical survival of the Inupiat people, as well as potentially precipitating major problems of international (indiscernible). We would like to bring to your attention that the area of the proposed lease sale entails an area where Inupiat rights have not been distinguished. At present there are two pieces of litigation which currently impact the proposed lease sale

area. Those suits are very much alike. These are: ICAS, which is the Inupiat Community of the Arctic Slope, and the Ukpeagvik Inupiat Corporation, versus the United States. And the intervention of the Ukpeagvik Inupiat Corporation and the Inupiat Community of the Arctic Slope in the United States versus the State of Alaska dispute. We were notified at the end of July that the Supreme Court of the United States has ruled that the Inupiat should be allowed to intervene in the State and Federal lawsuit. We view this inclusion as such that the Inupiat are the third entity in this area. Although this suit does not address aboriginal title claims, it may affect the Inupiat position on this (indiscernible). We contend that the United States jurisdiction in the adjacent waters is extremely questionable, since the United States has not approved the most recent Law of the Sea Treaty which might have brought about greater jurisdictional claim. We bring to your attention three other important treaties of which the United States is signatory and which relate directly to our position of undistinguishable rights. They are the Convention on the Continental Shelf and the Convention on the High Seas, both dated 1958, and Universal Declaration of Human Rights, dated 1948. Through these covenants the United States has no jurisdiction to interfere with Inupiat rights on the high seas. Furthermore, the activities relating to the

Convention on the Continental Shelf are specifically written not to affect the waters above the Continental Shelf. The current Draft Environmental Impact Statement, as well as previous Draft Environmental Impact Statements, pointed out potentially grave impact upon Inupiats. Recent principles and developing status of International Law substantiate that the aboriginal people have international status and are entitled to subsistence usage, cultural preservation, and physical survival. There are numerous admissions in previous DEIS's, as well as the current document, that subsistence activities and cultural survival are greatly in peril. The Universal Declaration of Human Rights of 1948, and the International Covenant of Human Rights of 1977, both underscore the position that the Inupiat peoples cannot be deprived of subsistence rights. Several principles are embodied in the Helsinki (indiscernible) Act of 1975, of which the United States is also signatory. I would like to comment that the intervention lawsuit, as well as the other litigation, and our concerns relating to the aforementioned international treaties, are being raised by UIC on behalf of our Inupiat shareholders. However, our concerns are being voiced on our rights inherent to us as Inupiat, and not merely as members of the Ukpeagvik Inupiat Corporation, the Inupiat Community of the Arctic Slope, or even just residents of the North Slope Borough. Our concerns are

legitimate. We are a majority in the lease area and our concerns transcend any and all (indiscernible). The Inuit Circumpolar Conference, an international body which has (indiscernible) status with the United Nations, through a resolution number 8308 dated July 28, 1983, substantiates and supports our position. In February, 1982, we made extensive comments on the Diapir Sale 71. These comments are just as relevant to the current proposed Diapir sale. Instead of burdening this body with reiterating all these comments, I would like to request that the written comments pertaining to that sale become a part of the public record of this hearing. However, we would like to point out that the other sales were considerably distant from inhabited areas, major areas of subsistence activity, and obviate even those accompanying Environmental Impact Statements -- oil development and exploration activity would potentially have tremendous belated impact on the people and subsistence activities. Yet, the Environmental Impact Statements, all three for these sales, relatively say that even though the currently proposed sale would impact us more dramatically -- impact the population, the whales, and all of us -- these previous statements pointed out the grave impact upon the Inupiat and our subsistence lifestyle. For these aforementioned reasons we request that the Department of Interior cancel the Diapir Lease Sale scheduled for June of 1984, or

at the minimum, postpone it for at least five years. This delay might provide sufficient time for these matters to be examined rationally and in a scientifically acceptable fashion. At the very least these potentially devastating impacts call for major studies utilizing Inupiat experts in examining the critical problems and providing direction and providing acceptable safeguards.

Haphazardous development in (indiscernible) and meteorological and environmental outgrowths of an oil mishap would influence the (indiscernible). The interagency polar advisory groups draft reports suggest that the Department of Interior's accelerated OCS program will have implications and could lead to arctic precedents not in the best interest of the long-term polar concerns of the United States. The value of these leases will be greatly affected by information yet to be gained in these areas. As major discoveries are made in the already leased Beaufort Sea areas, the value of tracts in the proposed sale area will surely increase, thereby cancel the long-term financial returns to the Federal Government. Environmental data base, physical and biological, for this vast area is wholly inadequate. Much remains to be learned, especially regarding the offshore ice, the habits of several species of fish, and of critical importance to the Inupiat, the bowhead whale.

Specifically pertaining to the Draft Environmental

Impact Statement, I would like to list for you our major concerns. I'll point out that the direct knowledge, scientific knowledge, is inadequate. First, the bowhead's migratory route. The entire area of this lease sale encompasses the entire migratory route of the bowhead whale. We know already that the seismic studies have had its effect on the bowhead whales through the noise effect. All Draft Environmental Impact Statements say that noise is a major noise impact producing agent. One of the concerns is that in this report they don't really get into just how far that noise has this effect. If you read a Government report on the Studies Monitoring Interaction Between Offshore Oil Exploration Activites and the Bowhead Whale (sic), dated July, 1983, it indicates that at least in one instance the noise impacted on the whales 96 miles from the source. Yet this material was not discussed at length in the DEIS. Another point is the oil spill impacts on the bowhead whale. Much of the impacts are based on conjecture and not on scientific evidence. This ties together with the oil clean-up capabilities, which are totally inadequate. As reference I would like to cite the Buzzard Bay Oil Spill - An Arctic Analogue, dated 1977, and I'd like to make this a part of the public record because the analogue ties together the principles of a Canadian Province that will be associated with a spill in the North Slope Arctic.

Another point of concern is the impact on waterfowl. Waterfowl use this area tremendously throughout the spring, summer, and early fall. Spill events during periods of molting and feeding pose the greatest threats. We are concerned about the change -- even if they are minimal, the ingestion of contaminated waterfowl and the effects on the health of our people.

The last comment I'd like to make is with reference to seasonal drilling. We emphatically contend that at the minimum the established drilling windows be adhered to. The State of Alaska has acceded to pressures from the petroleum industry to expand those windows in the recent past. The fall migration of whale already seems to be affected by these expanded windows. Other jurisictions and safeguards have been wiped out and many of the enforcement activities have been severely hampered by the deletion of numerous regulations and financial capabilities by Executive Order from the Office of the President.

We would like to conclude by saying that we believe the people that review this lease sale, the Department of Interior, Minerals Management Service, will look objectively at these statements because they have far more reaching impact than recently stated. Thank you.

MR. BROCK: Any questions. Thank you. The next speaker will be Carl Bauman.

STATEMENT OF CARL J. D. BAUMAN

ALASKA OIL AND GAS ASSOCIATION

MR. BAUMAN: Panel members, my name is Carl J. D. Bauman, I'm an attorney with the law firm of Hughes, Thorsness, Gantz, Powell & Brundin. I am appearing today to speak on behalf of the Alaska Oil and Gas Association, AOGA. AOGA, as you may know, is a trade association whose members account for the bulk of oil and gas exploration, production, and transportation activities in Alaska and on the Alaska OCS. Many of AOGA's members are particularly interested in the proposed Diapir Field Lease Offering. AOGA has requested and obtained permission to make a multiple witness presentation. This should help expedite the hearing process because most of AOGA's members will thereby forego making potentially repetitive presentations at these hearings.

Before proceeding with the AOGA witnesses on my right and left who have technical expertise, I would like to make a few general comments emphasizing two of the points of primary concern to AOGA. The first is that Alternative I offering the entire proposed sale area on schedule be adopted. And second, that no seasonal drilling limitation be imposed. At the outset it is important to reflect on the purpose of this proposed lease sale. The DEIS states that timely development of OCS resources is an integral part of

the National Energy Plan. According to the DEIS the three overriding energy objectives outlined in the National Energy Plan are, and I quote: "As an immediate objective that will becomore even more important in the future to reduce dependence on foreign oil and vulnerability to supply interruptions. In the near term, to keep U.S. imports sufficiently low to weather the period when world oil production approaches its capacity limitations; and in the long term, to have renewable and essentially inexhaustible sources of energy for sustained economic growth."

AOGA submits that the proposed Diapir Field Lease Offering is an essential step which should be taken on schedule if the national energy objectives are to be met. The DEIS recognizes that economic, political, and social benefits will accrue from the availability of domestic offshore petroleum production and cautions as to Alternative II, cancellation of the sale, that, and I quote: "The cancellation of this proposed Diapir Field Lease Offering could reduce future OCS oil and gas production, perpetuate need for imported oil, and add to a national need to develop alternate energy sources to reduce the impacts from such cancellation."

A failure to promptly proceed to evaluate the hydrocarbon potential of the Diapir Field Lease Offering would be a grave mistake which could not be reasonably justified

or rectified. The mean resource level projected in the DEIS for this lease offering is three billion barrels. This high resource potential must be made available on schedule for careful exploration and development. The discovery here of reserves of that magnitude would help to insure uninterrupted energy supplies for the Nation at a time in the next decade when they may be direly needed. One of the reasons this lease offering is so important is because our Nation's security is threatened by the unstable and uncertain supply of foreign crude oil. The temporary abundance of world crude oil could be rapidly reversed through the threatened escalation of the Iran-Iraq conflict, a worsening of the situation in Lebanon, or by any of numerous other potential events that are beyond the control of the United States. An extended interruption of our petroleum supplies from the Middle East would produce economic disruptions in this country that could severely stress the Nation's domestic social structures as well as its international relations. The potential consequences could be devastating. Industry is aware that the environmental conditions in the Diapir Field demand serious respect in planning an exploratory effort. Those familiar with the industry know of its careful practices and proven ability to operate safely in the OCS in general and in the Beaufort Sea OCS in particular, and also know that all its OCS activities are heavily

regulated, both prior to and after a lease sale, by various Federal and State agencies under several statutory and regulatory schemes.

Industry has the technology and equipment available now to safely explore the Diapir Field and is confident that it can do so without significant adverse environmental effects. Proceeding on schedule with this lease offering in 1984 will present no more hazard to the environment than would waiting until 1986 to conduct the sale, as is considered in Alternative III. No compelling reason has been advanced in favor of such a delay. Likewise, no compelling reason has been advanced to delete the 600 blocks in the western portion of the lease offering surrounding Point Barrow, as is analyzed in Alternative IV. The DEIS indicates that those 600 blocks may contain 900 million barrels of oil. Potential reserves of that magnitude should not be deleted or deferred from this offering. Alternative V, the eastern deletion, considers deletion of 351 blocks east of Camden Bay, which the DEIS states may also contain 900 million barrels of oil. Exploratory drilling in that area is projected to begin in 1985 with no production until 1993 if commercial quantities of oil are discovered. Deletion of these tracts is not projected by the DEIS to significantly reduce the potential effects of the lease offering on marine resources or habitats. An area of such high potential

where petroleum activities have been safely conducted to the east in Canadian waters and to the west in the Alaska Beaufort should not be deleted from this offering. Indeed, if both the eastern and western deletions were made, nearly two-thirds of the projected oil reserves in this sale would have been eliminated from this lease offering.

AOGA therefore strongly supports Alternative I, to offer the entire proposed lease offering on schedule in June 1984. Even if the offering is held on schedule and commercial quantities of petroleum are discovered, the DEIS estimates in its mean resource scenario that it would be 1993 before its first barrel of oil would be produced from the Diapir Field. It is unclear what the state of the world political situation might be in 1993, but it is clear that if this lease offering does not go forward on schedule, the potentially significant reserves in the Diapir Field Lease Offering would not be available to contribute to the Nation's security or energy supply.

As to a seasonal drilling limitation during times when bowhead whales may be present, AOGA submits that no limitation is necessary because the chance of any significant oil spill occurring is extremely remote. Over 5,775 exploratory oil and gas wells have been drilled on the U.S. OCS without a single oil blowout. Since 1956 over 28,000 wells have been drilled in the waters adjacent to the United

States -- that includes territorial waters. Only one blowout in U.S. waters, the one that occurred in Santa Barbara Channel in 1969, resulted in significant amounts of oil reaching our shores. Out of the four billion barrels that have been produced since 1970, only 791 barrels have been lost as a result of blowouts. While industry's record is excellent, the regulatory scheme has been recently tightened even further. The OCS operating orders promulgated last year place on Alaska OCS operators the most exacting requirements found anywhere in the world. AOGA submits that a seasonal drilling limitation for Beaufort and Chukchi Sea tracts is not appropriate because of the extreme unlikelihood that a significant spill will occur; and even if it should, industry has developed and demonstrated the ability to clean up any oil spills that may occur in ice, in ice-free, and in broken-ice conditions. This ability has been the subject of extensive analysis recently, including demonstrations of clean-up capability in broken ice, as Mr. Wayne Simpson will be discussing in more detail.

Thank you for your patience and attention. Dr. Ram Sisodiya of Gulf Oil Exploration and Production Company will be the next speaker on behalf of AOGA, and he will be followed by Mr. Wayne Simpson of Shell Oil Company, and I believe copies of statements have been made available to the panel. Dr. Sisodiya!

STATEMENT OF RAM G. SISODIYA

GULF OIL EXPLORATION AND PRODUCTION COMPANY

DR. SISODIYA: My name is Ram Sisodiya, I'm a Technical Associate with Gulf Oil Exploration and Production Company. I have a bachelors degree from the University of London, England, and a masters and Ph.D degree from the University of Galgary in civil engineering. Since 1974 I have been working on arctic related projects. Before that I participated in evaluating innovative North Sea offshore structures and taught Civil Engineering Structures at McGill University in Canada. I joined Gulf in 1977 and have worked in Houston since 1978. At Gulf I participated in designs and evaluations of exploration, production, and transportation systems to assess costs and the operational feasibility in the Arctic. Some of the exploration systems I helped design are under construction and some are being used successfully in the Canadian Beaufort Sea. I served as a member of an API task group which prepared a bulletin on the design of offshore structures in ice environments. In my presentation today I will address the technology and capabilities of the oil industry to operate in the Diapir Field area. My discussions will include environmental conditions, exploration and production platforms, transportation systems, and logistic support systems. I will discuss most likely systems to be used and will highlight recent developments in

the Canadian and Alaskan Beaufort Seas.

Sea ice and cold temperatures are the primary environmental factors affecting designs of exploration and production systems in the Diapir Field area. The North Slope and the Canadian Arctic have provided the oil industry with the experience of operating in cold environments. While sea ice has been a major concern, our understanding of ice has increased substantially in the recent past. A number of ice data acquisition programs have been funded by the U.S. Government and by the petroleum industry. The petroleum industry projects have generally been either joint industry studies or confidential studies of individual companies. About 250 joint industry studies are listed with AOGA, 80 of which are related to the Alaskan Beaufort Sea ice conditions and ice forces. A similar number of studies have been performed in Canada, some of which included force measurements on actual structures. Ice data acquisition projects have included the use of airborne radar systems to obtain aerial ice coverage data, and the use of laser profilometers to assess pressure ridge size and spacing. Information obtained by such remote data collection methods has been supplemented by field surveys. Design ice conditions are obtained by the statistical analysis of these data. Numerous model tests have been performed, such as this test at Esso test basin in Calgary. This cone-shaped

model is about 30 feet in diameter at its base. Ice rubble, ridges, and ice sheets were tested to failure against the cone. Ice condition data, strength tests, and pressure measurements on the actual structures have provided industry with increased understanding of ice behavior. This knowledge forms the basis for the current design of platforms.

Different types of exploration platforms are feasible for year-round drilling in the area offered for leasing. These include gravel islands, caisson structures, and conical structures. Also feasible are floating drilling vessels with ice reinforcement which will enable us to extend the summer drilling season, depending upon conditions at the site. Choice of system will depend upon site-specific conditions and economic considerations. Gravel islands have been used extensively for exploration drilling in the Alaskan and Canadian Beaufort Seas. Winter islands are constructed in the Alaskan Beaufort Sea by trucking the gravel over floating ice roads. An example is Seal Island, constructed by Shell in about 40 feet water depth. In summer, islands are constructed in the Canadian Beaufort Sea by using sand as dredged material. Issungnak Island shown in this slide was built in 62 feet of water by Esso using sand. Because of shallow beach slopes it required over 6 million cubic yards of sand. Ohio stockpiled 1.3 million yard of gravel last winter on Thetis Island and then barged

it to site this past summer. To reduce the amount of fill required for an island, Dome used caissons at Tarsiut in about 70 feet water depth. The shallow concrete caisson ring shown in this slide sat on a submerged island built up to 20 feet below sea level. Gulf Canada operated the platform and measured ice pressures on the caissons for two years while drilling. Esso has recently installed a similar caisson retained island in the Canadian Beaufort Sea.

To further reduce the required amount of fill material, Gulf Canada is constructing a deep water mobile caisson named Molikpaq, with the design set-down depth of about 70 feet. This design requires only about 150,000 cubic yards of fill material for 70 feet water depth location. Use of a submerged island will permit the Molikpaq to drill in water depths greater than 70 feet.

In 1982, Dome converted a super tanker into a drilling barge. At the Uviluk location in the Canadian Beaufort Sea, this converted tanker was placed on a submerged island in over 90 feet water depth. In the summer of 1983 this tanker was moved to another location and placed on a submerged island in over 100 feet water depth. The set-down water depth of the tanker is about 25 feet without a submerged island. It uses water as ballast material.Recently Global Marine initiated construction in Japan of a water ballast mobile caisson.

MR. BROCK: Excuse me just a minute, let's wait until that buzz stops. Sorry for the interruption. You may proceed.

DR. SISODIYA: Recently Global Marine initiated construction in Japan of a water ballast mobile caisson. The water depth range of this caisson is about 35 to 50 feet, which can be extended by an additional layer of a concrete section.

Other designs of the bottom-founded platform concepts are being developed. As an example, Brian Watt and Associates is designing in detail this cone structure sponsored by Exxon, Shell, and Socal. Within the last 10 years the capability to drill in the Beaufort Sea with the bottom-founded structures has increased by almost an order of magnitude. This year for the first time a bottom-founded structure was installed in water depths greater than 100 feet in the Beaufort Sea. Since 1977 Dome has used drill ships in deeper waters of the Canadian Beaufort Sea. The ships are ice reinforced to extend the summer drilling seasons. To extend the season further, Gulf has built a floating conical drilling unit called Kulluk, which commenced drilling in the Canadian Beaufort Sea. The structures deployed in the Canadian Beaufort Sea have been monitored carefully by measuring stresses and loads on the structures while drilling. Furthermore, ice conditions and movements

can be monitored and displayed in real time. Dome has used the real time displays in their operations in the Canadian Beaufort Sea. The data used for the display can be from different sources such as satellite imagery or radar. In the display the ice conditions are color-coded so that the ice condition advisor on the platform can monitor the conditions within a 30 kilometer radius of the drilling vessel. The monitoring and forecasting of ice conditions allows the supervisor on the drilling platform to be aware of ice conditions in order that the drilling operations may be continued or halted, as the existing conditions warrant. A decision can also be made to break the ice. With sufficient ice breaker support, in most cases the ice can be broken. This method of operation allows much safer operations than arbitrary dates stipulating when to commence and to end drilling.

If commercial discoveries are made, larger versions of some of the bottom-founded platforms similar to those used as exploration platforms can be used for production platforms. Larger production structures than exploration structures will be able to resist higher ice forces. This slide shows a possible configuration of a concrete island. The design considerations for the production system include minimization of offshore construction time.

Subsea pipelines can be used to bring production from

the offshore structure to the shore. The lines will be buried beneath the sea floor to a depth which would provide protection from ice gouging. Ice breakers and ice breaking supply boats are being used in increasing numbers in the Canadian Beaufort Sea. The experience gained by operating these vessels, and design evaluations, show that the ice-breaking oil tankers are viable. Trucks on ice roads, helicopters, and ice breaking barges have already been used for supply and logistic support. Other possible logistic support systems are shown in this slide.

In summary, this has been a brief review of exploration and production technology likely to be used to explore and produce oil in the area offered for leasing. The technology has evolved from research and operational experience, particularly in the Canadian Beaufort Sea where acreage was opened for exploration about 10 years ago. The Canadian waters are comparable to the depths in the Diapir Field area. These developments over the past decade have provided the industry with the capability of operating safely and efficiently in the Diapir Field area.

MR. BAUMAN: Are there any questions for Dr. Sisodiya? If not, I'd like to turn to Mr. Wayne Simpson from Shell Oil.

STATEMENT OF WAYNE F. SIMPSON

SHELL OIL COMPANY

MR. SIMPSON: My name is Wayne Simpson and I am Production Superintendent for Shell Oil Company's Alaskan Operations. I have worked for Shell for more than 15 years, the last two of which have been spent in Alaska. Since 1979 I have worked closely with the oil industry in developing oil spill response organizations such as the Alaskan Beaufort Sea Oilspill Response Body, Gulf of Alaska Cleanup Organization, and the recently formed Alaska Clean Seas. I am currently a member of the Alaska Clean Seas Executive Committee. During this past year I also served as chairman of an industry-sponsored task group to plan and implement a series of oil spill cleanup capability demonstrations under broken-ice conditions in the Beaufort Sea. A portion of my testimony will include the results of these demonstrations and how such cleanup technology will influence the industry's response capabilities throughout the proposed Diapir Field Lease Offering.

It should be recognized that the oil industry will continue to develop comprehensive oil spill contingency plans and response capabilities comparable to ABSORB's as new lease sale areas become available. Prior to any exploratory drilling, for exmple, ABSORB's resources and its area of coverage would be expanded to include any leases provided under the proposed Diapir Field Lease Offering. Such expansion would include the placement of state-of-the-art spill

control equipment at strategic locations, and the training of immediate response personnel to mobilize and use such equipment under realistic arctic conditions.

The oil industry has now had several years to test and refine its offshore spill prevention and control program for the Arctic. Individual companies, in cooperation with ABSORB, have developed a broad spectrum of response techniques applicable to solid ice, broken ice, and open water conditions of the Beaufort Sea. These activities have involved millions of dollars worth of equipment, field demonstrations, training, and research to prepare for the unlikely, though potential, major oil spill. As in the past, exploration drillsites in the Arctic will continue to have spill response equipment necessary for the immediate containment and control of spillage during varying ice conditions. Such control measures will involve the use of natural ice and snow conditions to reduce oil spreading and transport, the containment potential of the drillsite itself when practical to do so, and any number of ice modification procedures for limiting the spread of oil during solid ice conditions. Many techniques for the recovery of oil on, in, and under ice have been developed and tested for arctic use. Rope mop skimmers, direct suction devices, ice augers, et cetera, have proven effective in removing oil during solid ice recovery operations. In addition, heavily oiled

snow can be scraped up and taken to shore for disposal, or it can be burned in place. Under certain conditions, say during a major blowout, it may be advisable to deliberately ignite the oil at the source so that 90% to 95% of the spill is potentially eliminated before reaching the environment.

Particularly during broken ice periods, the elimination of spilled oil by burning represents one of the industry's primary response techniques. Containment for more efficient removal during burning may be accomplished using Shell's recently developed fire containment boom. This containment boom has undergone extensive tests in which crude oil contained by the boom was burned for several hours on sea water. That shown on the slide, for instance, has survived a two-hour burn. These tests, and many other field demonstrations, were conducted at Prudhoe Bay this year and they are described in the document shown on the screen, Oil Spill Response In the Arctic, Part 2, Field Demonstrations in Broken Ice.

Fire-resistant containment barriers such as Shell's system are intended for relatively short-duration burns and require replacement or backup barriers as needed. Fire containment booms can be airlifted to the spill site and released in a U-configuration within the lee of the drilling structure, or the books can be allowed to drift freely with oil to enhance natural ice containment and the subsequent

capability available to offshore operators in the proposed lease sale area. Capable of maneuvering through densely packed, decaying ice fields, the 65-foot-long ARCAT can be used to chase down and recover spills of crude oil or refined product. In areas where ice concentrations are approximately 25% or less, the ARCAN can be used with a V-boom configuration to broaden its swath width during recovery. Should the ARCAT's oil encounter rate be high for extended periods, the vessel's onboard storage of nearly 8,000 gallons could be supplemented with a barge.

Barges can also be used as logistical support platforms for operating a broad range of oil containment and recovery equipment. Rope mop skimmers, for example, have been operated off the sides of barges in the Beaufort Sea during open water and during heavy ice concentrations. Other skimming devices and water flush-down techniques can also be used in conjunction with barges. The sides of one or more barges can provide excellent barriers for the containment or diversion of oil during recovery. Tug and barge operations have been conducted during open water and during moving broken-ice conditions in the Arctic for many years.

By combining state-of-the-art spill cleanup equipment with such operations, the oil industry has demonstrated that it can meet the logistical support requirements for oil spill cleanup operations. The industry is prepared to take

whatever steps are necessary to move men and equipment to the scene of any emergency in the Arctic. Preparations for oil spill response in the Arctic are no longer simply in the planning stage. Actual field demonstrations have been carried out and hands-on training will continue. There is not enough time now to present the many other response techniques the oil industry has developed for a major arctic oil spill response.

The applicability of oil spill response techniques has been reviewed by the industry and reported in a document entitled Oil Spill Response In The Arctic, An Assessment of Containment, Recovery, and Disposal Techniques. A copy of the applicability chart from that report is included in my written testimony. The chart provides an assessment of the major oil spill response procedures for varying ice conditions in the Arctic. It must be emphasized that while the industry has devoted many millions of dollars and many years in developing these capabilities, there has never been a major oil spill from offshore exploratory drilling in the U.S. outer continental shelf.

As we look at the Diapir Field Lease Offering scheduled for June, 1984, the oil industry accepts the fact that drilling operations farther offshore in more dynamic ice conditions will create additional contraints for certain types of oil spill response. Greater distances, however, do

not reduce the effectiveness of response for the vast majority of techniques involving immediate on-site containment, recovering, or burning during the solid ice portion of each year. By properly expanding ABSORB's response capabilities and staging response equipment at key locations, the industry will be able to maintain its present level of preparedness for backup support for even a major blowout.

As pointed out in the draft EIS for the Diapir Field Lease Offering, prevailing winds and currents, and the barrier islands, will tend to keep oil spills away from the mainland. Therefore, there will normally be ample time, even during open water, to achieve a massive offshore and nearshore cleanup program to prevent oil from reaching the shoreline. The industry is constantly improving its technology for oil spill response in the Arctic. These improvements will continue, along with the industry's efforts to maintain both its oil spill training and research programs and its blowout-free track record in the Arctic.

That completes my testimony.

MR. BAUMAN: Are there any questions for Mr. Simpson? If not, we would like to offer for the record as exhibits to our presentation, the two documents referenced by Mr. Simpson. Those are: The Industry Task Group, Oil Spill Response in the Arctic, An Assessment of Containment, Recovery, and Disposal Techniques, April 1983, and Oil Spill

Response in the Arctic Part 2, Field Demonstrations in Broken Ice, August 1983. I have two copies of those for the panel.

MR. BROCK: Ray has a question.

MR. EMERSON: I would like to ask Dr. Sisodiya a question. Did you have a chance to look at the section on arctic technology in the DEIS, and if so, what were your impressions?

DR. SISODIYA: On what?

MR. EMERSON: The capabilities that we express in the DEIS on the industry in the Arctic? That was in the Draft Environmental Impact Statement.

DR. SISODIYA: I'm sorry, I did not go to the technical part of the DEIS.

MR. BROCK: We'll take a 10 minute break and then resume with Tom Cook. We'll adjourn for 10 minutes.

(Off record)

MR. BROCK: The hearing will be back in order, please. We'll start the meeting again with Mr. Tom Cook.

STATEMENT OF THOMAS COOK

CHEVRON U.S.A.

MR. COOK: Good afternoon, Mr. Chairman and members of the panel. My name is Thomas Cook and I am employed by Chevron U.S.A. in Anchorage as Exploration Representative for Alaska. Chevron appreciates the opportunity to offer

a brief statement on the Draft Environmental Impact Statement for proposed OCS Lease Offering No. 87. We have thoroughly reviewed the DEIS for this important lease offering and we commend the Minerals Management Service for producing an.....

MR. BROCK: I guess they can't hear you, Tom, will you see if the switch is on?

MR. COOK: Why don't we start over?

MR. BROCK: Can you hear now? Okay, would you start again, please, Tom?

MR. COOK: Good afternoon, Mr. Chairman and members of the panel. My name is Thomas Cook. I am employed by Chevron U.S.A. in Anchorage as Exploration Representative for Alaska. Chevron appreciates the opportunity to offer a brief statement on the DEIS, Draft Environmental Impact Statement, for proposed OCS Lease Offering No. 87. We have thoroughly reviewed the DEIS for this important lease offering and we commend the Minerals Management Service for producing an objective and balanced assessment of the potential impacts which may result from the proposed sale. In our judgment the authors of the DEIS have objectively described and analyzed the possible impacts which could stem from the proposed lease offering and a representative range of alternatives to the proposal.

We would like to offer a brief comment on the proposed

mitigating measures, particularly the consideration being given to the seasonal restrictions on drilling. On balance, the proposed mitigating measures are reasonable and well conceived. However, Chevron believes that any rigidly imposed seasonal restrictions in drilling over such a large area is unjustified and counter productive. We are, however, encouraged by the more limited seasonal restriction which is presently under consideration, particularly as compared with the seasonal restriction which was imposed on the 1979 Joint Federal/State Beaufort Sea Sale area. As proposed, the seasonal drilling restriction would prohibit drilling below a predetermined threshold depth during broken-ice conditions unless the lessee can demonstrate the capability to clean up oil in broken ice. The oil industry has shown its ability to clean up oil in broken-ice conditions with a series of tests conducted during the summer of 1983. These demonstrations were observed by representatives of Federal, State and local governments. Since the demonstrated techniques are generally available to all potential lessees, we believe the broad prohibition against year-round drilling should be eliminated. We believe that a continued examination of factual information relating to oil spill risk, oil spill cleanup technology, and the opportunity to explore in the Beaufort Sea under carefully monitored conditions will continue to demonstrate that seasonal restrictions on drilling

operations are unnecessary. The fact that the Minerals Management Service has shown a willingness to consider new information on this important issue and to moderate its earlier position is a very positive development.

We would also like to comment on the scenarios which describe the timing and levels of operations for exploration, development, and production. The scenarios for the various resource estimates are much improved over scenarios presented for the 1979 Joint Beaufort Sea Sale and the 1982 Diapir Field sale. We do believe that the time frames leading to discovery and production are somewhat optimistic, as conceded by the authors. Moreover, the scenarios, even though optimistic, demonstrate the need for a maximum lease term of 10 years. We fully agreed that a 10-year lease term is justified for the proposed Diapir Field Lease Offering. Since admittedly optimistic assumptions for the timing of discovery and production support the application of the maximum lease term, we urge the Minerals Management Service to offer a 10-year lease under the final terms for the proposed lease sale.

Chevron strongly supports the proposed Diapir Field Lease Offering and we urge that all of the tracts proposed in Alternative I be included in the sale. The offering of the maximum of acreage will provide the greatest opportunity and incentive to discover badly needed new energy sources without

undue risk to environmental and cultural values. The offering of the maximum acreage will also tend to reduce environmental impacts by allowing the resources of the entire area to be considered in the design of transportation and support facilities. If the area is fragmented by the deletions described in Alternatives IV and V, transportation and support facilities cannot be planned and designed in an optimum manner.

Thank you for the opportunity to comment on the Draft EIS for OCS Sale No. 87. We reiterate our appreciation for the factual and objective nature of the document and our belief that its content provides a useful basis for decision making for this promising area.

I'll be happy to answer any questions.

MR. BROCK: Thank you, sir. Mr. John Paul Jones.

STATEMENT OF JOHN PAUL JONES

DEPUTY DIRECTOR, NUNAM KITLUTSISTI

MR. JONES: Good afternoon. My name is John Paul Jones. I am here today to testify on behalf of Nunam Kitlutsisti on the Diapir Field Lease Offering Draft Environmental Impact Statement. Nunam Kitlutsisti represents 56 Yupik Eskimo villages of the Yukon/Kuskokwim Delta region. I will keep my comments brief today. We will be submitted written comments to you in addition to my testimony.

Nunam Kitlutsisti is very concerned about the overall

approach the Federal Government is taking with the Alaska OCS program. The area-wide leasing process, reduced studies effort, and weakening lease stipulations means that less and less protection is being given to our coastal resources and to our people. These area-wide offerings are very troubling to us. The Minerals Management Service is offering very large sales in extremely hazardous areas. The Navarin Basin offering is close to 29 million acres. The Diapir Field is 18 million acres. In roughly one year MMS is preparing to offer between 170 and 200 million acres in Alaska alone. How will you manage leases scattered over thousands of miles of arctic oceans? We think you are going to have serious problems with this. The U.S. General Accounting Office seems to agree with this. In a letter to Interior dated July 28th they found that the Alaska OCS program lacked detailed planning and and was not staffed adequately. The GAO concluded that MMS had not taken the steps necessary to implement the program. Despite this, you are proceeding with these large offerings as fast as you can. We urge you to drop the area-wide concept and to reschedule smaller offerings for both the Diapir and Navarin Basin.

Of course, we don't have much hope that Interior will do this. You have repeatedly ignored our concerns on this issue just as you have ignored GAO's concerns. Because of this we have formally requested that Congress take a look

at the Alaska OCS program. We have asked the Alaska Congressional delegation and the Governor to have oversight hearings in Alaska on the OCS program. We hope that Congress, especially Alaska's delegation, will listen more to local input and address our concerns.

We are also concerned about the lack of meaningful stipulations on the new sales. The seasonal drilling restriction lacks sufficient buffer periods to insure the safety of marine mammals and bowhead whales. Also, it does not have stronger requirements for pack ice areas where hazards are greater.

The oil spill stipulations are weak. How will MMS determine whether or not the oil companies can actually clean up an oil spill in broken ice? The State recently held some tests onshore to see if industry could do this. The fireproof boom melted, the igniters worked only part of the time, in some tests the oil wouldn't burn and when it burned substantial oil was left in the water. Most importantly, this was a test done in a 20 x 20 (sic) foot pit onshore, not in the sea. If the tests failed in a pit, how well will it work in packed ice? The oil spill stipulation should require a test in the water before drilling is allowed.

A final note on stipulations. Neither of these stipulations has State concurrence authority in them. As you

know, there are questions about whether or not MMS can give concurrence authority to the State. Can you give such authority? If so, put it in the stipulation. If not, the EIS should describe what authorities the State has to affect decisions on this issue. We need this issue resolved because it is going to affect leases in Norton Sound, Navarin Basin, St. George Basin, and probably others as well.

Finally, I want to say something about subsistence resources. Obviously, this lease sale can affect, or will affect, subsistence resources of the North Slope people. It will also affect resources used by Delta villagers too. Many of the birds which come through our area go up to the North Slope. Our people depend on these birds. The spotted seals, walrus, and beluga whales also go through the Diapir sale areas. Our villagers depend on these marine mammals for their subsistence. Yet this DEIS doesn't look at the effects of this sale on our villages and the subsistence of our people. The cumulative impacts section of this EIS must thoroughly evaluate the effects of this sale on our resources and our people. It should also look at the combined effects of Norton and Navarin sales along with this Diapir sale.

Thank you very much.

MR. BROCK: Any questions?

MR. REID: Yes, I have a question. I must have missed

something along the line. You said neither of these stipulations has State concurrence. I assume you're talking about the seasonal stip, and what was the other stipulation you were talking about?

MR. JONES: I'm talking about the stipulations that -- the stipulation authority Secretary of Interior Watt, when he was in, made with the Governor that the State has concurrence authority. And we fail to see anywhere in the EIS that the State has concurrence authority -- or concurrence in the stipulations.

MR. BROCK: You're talking about the two sales.....

MR. JONES: Uh-huh.

MR. REID: Oh, I thought he was talking about two sets of stipulations, I got confused there.

MR. BROCK: One's cleanup and one's seasonal.

MR. REID: Oh, okay. Okay, is that correct, you're talking about the cleanup stipulation and the seasonal stipulation?

MR. JONES: Yeah, uh-huh.

MR. REID: Okay, fine.

MR. BROCK: Thank you, sir. Mr. Peter Hanley.

STATEMENT OF PETER HANLEY

SOHIO ALASKA PETROLEUM COMPANY

MR. HANLEY: My name is Peter Hanley, I'm Senior Environmental Planner with Sohio Alaska Petroleum Company.

Sohio Alaska Petroleum Company welcomes the opportunity to present comments on the Draft Environmental Impact Statement for the Diapir Field Lease Offering. This testimony summarizes our prinicpal comments on the DEIS. More detailed comments will be provided in our written submittal.

Overall, the DEIS is a well researched, thorough analysis of the available data and potential impacts, particularly those sections dealing with the physical and biological environments. Our principal concerns with the DEIS relate to the same areas that Sohio and other industry reviewers have criticized in previous Alaska OCS environmental impact statements, and we are disappointed that the same problems have reappeared in this DEIS. These problems include: 1) unrealistic petroleum development scenarios; 2) proposed seasonal drilling restrictions on exploration operations that are unjustified by oil spill risk analysis; 3) presentation of impact conclusions; and 4) highly speculative and unbalanced conclusions on social and cultural impacts that are not supported by empirical data and analytical rigor.

Alternatives - with respect to the alternatives, the proposed action offers the greatest opportunity to rationally explore this high potential petroleum province. The projected environmental impacts do not warrant deletion of large areas of prospective petroleum resources. The eastern

deletion, Alternative V, for example, would remove high potential petroleum prospects in the same geologic province in which major discoveries have been made in the adjacent Canadian Beaufort Sea.

Petroleum Development Scenarios - The Diapir DEIS suffers from the same optimistic exploration and development assumptions that have characterized earlier Alaska OCS EISs. Indeed, the text acknowledges that, quote: "potential lessees may consider these exploration assumptions optimistic", unquote. But then adds that "they are considered reasonable". Nine years from the lease sale to initiation of production portrayed in Table II-2 is very optimistic. The proposed Endicott development illustrates the significant length of time from discovery to production for a Beaufort Sea field, that fortuitously is located in shallow water close to Prudhoe Bay. If the decision to develop is made, oil production from Endicott is anticipated to commence in 1988, or 11 years after the first exploration well was drilled, and 10 years after the discovery was made. We suggest that 12 to 14 years is more reasonable for the deeper water areas of the Beaufort and Chukchi Seas. We recommend that MMS consult the 1981 National Petroleum Council Report, U.S. Arctic Oil and Gas, which presents an industry consensus on estimated development time frames for Alaska frontier petroleum areas.

Using optimistic assumptions exaggerates the projected impacts since exploration and development activities are compressed into a short time frame.

Proposed Seasonal Drilling Restrictions - The seasonal drilling restrictions proposed to protect the bowhead whale are unwarranted and not supported by an analysis of oil spill risks. The proposed stipulations which prohibit, quote: "exploratory drilling and testing and other downhole activities below threshold depth", unquote, during the migration of the bowhead whale, are recommended largely because of the perceived high risk of an oil spill contacting the whales, presumably large spills related to blowouts from exploration wells.

The DEIS does not provide any supporting data on oil spill risks related to exploratory operations. The oil spill risk analysis presented in the DEIS relates to production activities, (platforms, pipeline, tankers), not exploration. Such an analysis would have shown that the risk of a major oil spill related to blowouts from exploration wells is infinitesimal. An analysis of OCS oil and gas blowouts by the U.S. Geological Survey, an open file report 83-562, relating to exploration and production drilling, concluded, quote: "Since 1970, no oil spill of one barrel or more has occurred as a result of a blowout during the drilling of 12,167 wells. Furthermore, the amount of

oil spilled during non-drilling operations has been decreasing over the past 12 years", unquote.

In addition to the problems noted with the oil spill risk analysis, the DEIS contains no discussion of the oil industry's oil spill cleanup capabilities in open water and broken ice conditions, only winter spill response in the landfast ice zone was mentioned. It was further stated that pack ice cleanup has not been demonstrated. However, U.S. and Canadian data and field demonstrations have provided considerable experience in spill cleanup for all arctic ice conditions.

Finally, the oil spill trajectory and related impact analyses ignore any cleanup and natural dispersion of the oil. In formulating stipulations to protect the environment we strongly encourage the MMS to insure that the recommended mitigation measures are based upon: 1) A thorough review of the risks to the environment presented by that activity; 2) A thorough analysis of empirical data related to the effectiveness of mitigation measures; 3) A balance of the costs and benefits of the mitigation measures; and 4) Provision of flexibility to insure regular reevaluations based upon new environmental information and the record of the effectiveness of the existing mitigation measures.

Impacts on Sociocultural Systems - We are particularly disturbed that the DEIS projects that impacts to

sociocultural systems, and subsistence in particular, from this lease sale would be major despite the fact that impacts on the biological resources are generally predicted to be minor to moderate. No analysis is presented to support this linkage. The impact conclusions are, for the most part, speculative since they are not supported by any data related to the impacts of past or ongoing projects, such as Prudhoe Bay development and existing Beaufort Sea Lease Sale exploration. Further, the baseline description of sociocultural systems notes the resilience of the Inupiat people with respect to change, the preservation of subsistence lifestyles alongside a cash economy, and the strength of the Inupiat leadership, all factors which would mitigate future impacts and preserve the subsistence lifestyle. With respect to subsistence resources, no evidence is presented to show any decline as a result of Prudhoe Bay development and Beaufort Sea exploration to support the dire conclusions of the impact analysis.

On page III-53, the DEIS mentions, quote: "...relatively plentiful supplies of caribou, fish, and other subsistence foods...", unquote. It is important therefore that the DEIS provide the historical context of subsistence activites and resource availability in the North Slope/Beaufort Sea area in order to give an understanding of the potential impacts that could occur as a result of Beaufort Sea exploration

and development. The important issue for this EIS to review, therefore, is not the impact of all North Slope/ Beaufort Sea leasing activities on the Inupiat, but it is what the incremental impact of this particular sale, in the context of previous sales, will be on the Inupiat.

We strongly recommend that sociocultural section of the DEIS be reevaluated and appropriate supporting data presented. Thank you.

MR. EMERSON: Maybe I wasn't following you too closely, Peter, but your third thing you were going to lead into was impact conclusions?

MR. HANLEY: That's correct.

MR. EMERSON: What did you mean by that?

MR. HANLEY: It includes the sociocultural. In some sections of the DEIS, what has happened is there's long discussion about how a particular impact can be avoided, and then it says the impact is moderate and then it tends to say that the impact could be major, however. Whereas the major impacts are not discussed, sometimes, at the length perhaps that some minor impacts are discussed.

MR. BROCK: Thank you, sir.

MR. HANLEY: Okay.

MR. BROCK: Mr. Eric Smith.

STATEMENT OF ERIC SMITH

TRUSTEES FOR ALASKA

MR. SMITH: My name is Eric Smith and I represent Trustees for Alaska. I guess I have comments on four areas concerning the Draft Environmental Impact Statement. The first is discussion of the alternatives that are in the document. One of the alternatives that's identified is delay of the sale and cancellation of the sale. We support delay of the sale. The area that is being offered for lease -- parts of that area have already been offered for lease. There's a great deal of activity going on up there now, there's been some exploration, the oil companies have started to do more exploration in the Sale 71 area, and it's our feeling that you've got a lot of activity that's putting stress on the ecosystem and on the culture. It's going to continue to put stress and probably more stress on both of those things. And we just find it difficult to figure out why to add any more stress at this time. There's an oil glut, and (indiscernible). So we feel under the circumstances it would be best to at least delay the sale for awhile and see what's up there and let the development of what's already begun continue. I have a question regarding this. There's an oil estimate, I guess, of 3 billion barrels of oil reserves, and it wasn't clear to me from reading the document whether or not that included the oil to be found under the tracts which have already been leased. So it's just a question on the Statement.

Finally, if you are going to hold a sale then we urge that there be some deletions. We don't exactly support any of the alternatives in this respect, we think you ought to delete blocks for the reasons identified in the Draft; we think you ought to delete the western blocks that you did mention for the reasons identified in the Draft. We're also real worried about the blocks in the far northwestern part of the tract, in fact that whole set that goes way out to sea. That's an area of serious ice, very deep water, and very tough conditions. We just don't think it's very safe, especially environmentally. Those are operating conditions (indiscernible). The second thing I wanted to talk about is a couple of stipulations, the first is the seasonal drilling restrictions. We are very pleased that the Minerals Management Service has decided to continue using seasonal drilling restrictions. We think it's a very prudent method of insuring there isn't any jeopardy to the bowhead whale. However, we do have concerns which we've also addressed many times and the North Slope Borough has addressed many times. And that is why the Minerals Management Service hasn't adopted a buffer period. Essentially, as I understand it, the way the seasonal drilling restriction works is it goes into effect when the whales show up and ends when the whales leave. Leaving aside some of the uncertainties with regard to that, I just don't understand

how the Minerals Management Service can comply with the National Fisheries Service recommendation that oil be kept out of the area where whales pass through when drilling is permitted up to the date of their arrival. You can't instantaneously clean up oil; not even oil companies will say they can do that, it takes a finite amount of time to clean up oil that has been spilled. That necessarily suggests that you've got to have a certain period of time to clean up the oil from an oil spill before the whales arrive. You just can't get around it, you need some time to clean up the oil.

The other restriction concerns the prohibition on exploratory drilling below threshold during broken ice. I have two comments about that, they're interrelated. The first is, I was here for part of the discussion of the capability to clean up oil in broken ice. And I think a lot of that was based on the demonstrations that were done for the State of Alaska earlier this summer. The oil industry, I got the impression, presented this as a success story, that they had in fact demonstrated that capability. I don't agree with that, and I think there's a film that has been on the television and is certainly available, from the North Slope Borough if nobody else, which indicates this test was not exactly a raging success. The boom they were going to use to retard the spread of oil melted, it didn't last very

long. We were subsequently told at a meeting with DEC that that boom was ready for two hours and DEC was thinking about having a replacement boom every two hours, which is kind of unbelievable. Some of the oil didn't burn. They never tested this stuff out in the Beaufort itself, the actual burning test was done in a pond, which is not exactly representative of the Beaufort Sea conditions of broken ice. The Arctic Cat that they ran around, and mops and all that business, it was done in very rigid circumstances, there was no burning of oil, there was no oil spill, there was none of the sort of tension that accompanies an actual oil spill. And I guess the final point on this aspect of it is that even the State is not too happy about the ability of the oil companies to clean up a spill unless they torch the well. And that raises a whole host of different questions which I won't address right now. But if they do, under those circumstances, which is a requirement -- even the State thinks they've got to torch the well and then they might be able to clean up. We have some question about that. Essentially the question is, the ultimate question is, how is Minerals Management Service going to assure this? And that raises a second aspect of my question about the stipulation. Leaving aside the question of State concurrence, it seems to me that Minerals Management Service should go through some kind of public proceeding to make a determination

of this magnitude. Essentially what Minerals Management Service is saying is, we will determine whether you've got the capability to clean up oil. Now, Trustees for Alaska and other groups may have difficulty with the way the State ran its demonstration and the conclusions they may or may not have reached, but the fact of the matter is that it was somewhat public, they had public hearings about it, and the information was eventually available. They still haven't made a decision, they have solicited viewpoints of a wide variety of organizations and individuals about the adequacy of the tests that were performed. There is none of that public process before determination by the Minerals Management Service. And I think that the Federal Government should, at the very least, be as open as the State, and perhaps more so. So I urge that this stipulation be modified to include a public process element into it, incorporate some kind of standard like theoretical and physical capability to clean up oil.

The third thing I'd like to briefly address is the analysis of impacts on whales in the Draft Environmental Impact Statement. The Environmental Impact Statement is usually a kind of a grab-bag, everything that the writer can think of is thrown in to sort of cover the field to make sure nobody can come in and say, no, no, no, it's inadequate. Usually it has a tone or tenor that leans one way or the

other, but this is one of the first I've read where the tone or tenor is far, far stronger towards an assumption that there won't be any trouble. And I find this a little hard to believe. When you read this thing it sounds as though there won't be any effect on the whales at all. There are statements about how there might be temporary one or two day problems, maybe a couple of whales will die, but the overall impression you get from reading the document is no problem, if an oil spill happens, it happens. If seismic testing goes on there won't be any trouble. There's this whole flavor to it. Specifically, I don't think the DEIS adequately addresses the various uncertainties. This is an area of -- in a state of flux, there's new data coming in all the time, there are holes in the data everywhere that everybody writes about. Under the regulations promulgated by CEQ there's a requirement that areas of uncertainty be clearly identified. They're not clearly identified here. Belatedly there's a lot of discussion about different impacts, there was some discussion -- perhaps I should say St. Aubin's study, where things are mentioned about oil not affecting the skin of dolphins. That's very important, I think that's a useful thing to know, but what's not identified in the DEIS is the bowhead skin, or even whale skin. Now, there may be a connection and there may not, but this is the kind of thing that an EIS, if it's going to be a

useful decision document, has got to indicate. Here's our data, this is as far as it goes, this is what we think it demonstrates, this is what we need to know. And the DEIS doesn't do any of those things. Similarly, there's a Reeves (sic) -- I guess Reese (sic) study that we obtained a copy of that indicated there were effects on whales 96 miles from the testing vessel. Now, that may or may not mean anything, I get the impression from the description that the authors of the Impact Statement thought that was a meaningless piece of data, but it certainly is relevant to report, or even discount it if you feel it necessary to do so, but it at least ought to be reported because it's a fairly significant finding.

And finally on that, there is the Braithwaite study on baleen fouling which isn't mentioned in there at all.

The last thing that I want to discuss is an old friend of ours, the worst case analysis. I'd like to come at it from both the standpoint of policy and law. First, from the policy standpoint, it's kind of related to the standards (indiscernible). A lease sale is not just a paper transaction, it's not just a statement that says, yeah, we're going to sell you this lease and then we'll think about how we're going to do it. It sets the tone for the entire proceedings which are to follow. While a lease sale is not irrevocable, it does make it very -- it is much, much more

difficult to undo what is happening after a lease sale has been held than before. The lessee's have a property right. You have to have a whole bunch of findings in order to deprive them of that property right, it becomes very difficult to disapprove exploration plans, production plans, or to cancel a lease. So while it's not an irrevocable commitment, it's certainly a very important commitment. And since it's such an important commitment, it becomes very important, since this is about the last time you will look at the entire thing on a broad-scale basis, to take a kind of broad-scale approach that a worst-case analysis can give you. Essentially what it says is, what's the worst thing that can happen as we see it. And that can be important to your decision about whether it's worth the risk to lease certain tracts, whether it's worth the risk of holding the sale at all, whether you want to impose a seasonal drilling restriction, for example. You may decide the need for it is somewhat remote or the damage that can be done is sufficient that a seasonal restriction is worth it. Obviously the Minerals Management Service made that decision without doing a worst-case analysis, but that's an example of how it can be useful. But I think more interesting than useful, and is certainly required in this case, there are a bunch of requirements that trigger a need for a worst-case analysis. The first is that there are significant adverse impacts possible. And

that certainly is the case. You've got findings of jeopardy from both oil spills and seismic testing from the National Fisheries Service in other parts of the Arctic area. You've got possible effects on birds, fish, and other marine animals. So there's clearly significant impacts possible. The second thing is, of course, missing information. Again, there's a lot of missing information. All of the oil spill data that's being used is principally from the Gulf of Mexico. The Gulf of Mexico is not the Beaufort Sea. There haven't been that many exploration wells up in the Beaufort and there certainly haven't been any under the kind of conditions we're talking about for this lease sale. So you can't say you can identify the possibility of a spill. You also have the problem of -- you also have the uncertainties of identifying the trajectory if a spill should occur. There was a study that Interior Department, Energy Department, and Defense Department released entitled A Study of the United States Arctic Research Policy and the Possible Roles of the Naval Arctic Research Laboratory, and in that they said: "methodologies are presently unavailable for locating spilled oil under sea ice or for tracing its trajectory under ice and broken ice fields, and for design and use of oil recovery equipment." That's a fairly damaging statement. What it tells you is that while you have a model for trajectories that will approximate where

the oil is going to go, you can't know for sure because they haven't been able to model the ice (indiscernible), which is real important up in the Beaufort. It's the uncertainties. Of course, they have lots of uncertainties, there's missing information.

And the final standard is, is this missing information essential to choice of one of the alternatives, or important to a choice of one of the alternatives? Again, I submit the answer is, yes, it is. The worst-case is that the lease sale sets the tone for this entire thing. A decision maker is going to want to know what is happening. He's sine qua non of the entire decision of whether to hold an oil and gas lease sale as to what its environmental effects are going to be. If you have missing information that goes to the heart of those environmental effects, and you're not real sure what the probability of a spill is, you're not real sure where the oil's going to go, you're not real sure of what the oil's going to do, you're not real sure about what the seismic testing is going to do -- all these uncertainties, they are the things that lie at the heart of your decision as to whether to hold a sale, when to hold a sale, and what tracts to lease. It's got to be essential to your decision. To say that you can make up for it later, as the Government has often argued, I think begs the question. It may also be important to the decision as to whether to

approve a particular exploration development plan. It's also important as to whether or not to hold a lease sale. So for these reasons we urge you to do a worst-case analysis and submit that it's required as a matter of policy.

That's all my comments.

MR. BROCK: If you want to give me a call tomorrow, I will find out for you the amount of oil. Any questions? Thank you, sir. Dave Benton.

STATEMENT OF DAVID BENTON

AN INDIVIDUAL

MR. BENTON: I didn't come prepared to testify but I can't resist. My name is David Benton, I'm testifying on behalf of myself. I would just like to add a few things to what Mr. Smith said. The last EIS I closely examined was the Navarin Basis EIS. And in that EIS, after reviewing the information on bowhead whales, it struck me that the MMS has taken a decided turn towards an unbalanced Environmental Statement. I've always had my problems with these things, like everybody, but at least I thought that you were striking somewhere down the middle of the road with the kind of information you presented. With the Navarin Basin EIS there was a dramatic shift and you selectively chose information to back up claims that this would have no effect on the -- in fact, it struck me that that Environmental Impact Statement was edited by your lawyers, that it involved litigation on

this kind of subject. For example, you used Geraci and St. Aubin's work but you forgot to use Braithwaite's work which showed 30 days effect on baleen. And there's a lot of examples like that which I'm sure other people will point out. Another thing that struck me is that looking at the bowhead whale information is that, really, the studies program is sort of missing its arrow. I can remember a few years back when I was on the Regional Technical Working Group we were talking about bowhead whale studies and what needed to be looked at, we were very concerned about the effects of oil on bowheads. The baleen balance studies that Braithwaite put together were fraught with problems, yet they did present some information but sort of missed the question. I think Geraci and St. Aubins sort of missed the question. What happened in both of those studies is that they basically took some baleen, coated it with oil and ran some water through it and, in the case of Geraci and St. Aubins, they said okay, whatever passes through at this rate and whatever passes through at this rate will have this or that effect. Braithwaite took that one step further and put some raw shrimp in there and said, yeah, so many shrimp get through and so many won't. It still doesn't answer the question, what happens when a bowhead whale swallows a mouthful of water and oil, and what happens to the baleen when that happens? What's really of importance

is how well baleen filters oil out and what happens to the oil when it filters it. There hasn't been any work done on that kind of question. And it's the central question of what's going to happen to baleen if the bowhead encounters an oil spill in a feeding area, or an area where they're moving around with their mouths open. Until you look at that question you haven't answered the central issue about bowhead whales, and that is, what's going to happen to them if they encounter an oil slick? With regard to Geraci's work on skin, those were dolphins, and they used gasoline and little suction cups. That isn't like immersing an animal, or majority of the animal's body, in something viscous like an oil slick, whether or not it sticks to the skin, what kind of effects it might have on the animal, and whatnot, those kind of questions aren't answered. In fact, it doesn't even answer where the oil goes, or the petroleum product goes when it discolors the dolphin's skin, does it evaporate out in the suction cup, does it get ingested through the skin into the body? Those questions aren't really answered. The interesting thing is that the discoloration from the petroleum products seemed to go away. Well, it did, but the whole question of what happens with petroleum products on whale skin becomes quite central. If it went into the skin, and that's what we've been saying all along because they don't have a layer of dead cells,

it's much more likely to absorb it. We don't know the answer to that question. So Geraci and St. Aubin's work really doesn't tell us much of anything other than that oil can discolor dolphin's skin and we all know that it does. You folks ought to start pointing out those kind of things because you really are presenting a one-sided case. The other thing that I wanted to mention, and I can actually ask the question of Rod there if I could, is, what about in the Navarin Basin DEIS, and in some degree in the Diapir DEIS, a large supposition is that the OCS Operating Orders will take care of most of our problems and make everything right with the world. And we asked the question on the Navarin Basin DEIS and I haven't seen an answer to this question as yet, how are we going to evaluate whether or not the OCS Operating Orders are going to do a good job on the site-specific kind of operation when you're looking at such large areas with such different environmental conditions? In the Navarin Basin, for example, we're talking about areas between 100 and 200 meters in water depth, and varying ice conditions, and things like that. In the Diapir Field we're talking 18 million acres split over a large distance from about 5 to 200 meters in water depth. Large differences in ice environments, large differences in geographic spread. The EIS can't deal with those kinds of differentials. And my question is, is there going to be a separate Environmental

Impact Statement, not just as sort of a cursory review of exploration plans, but an Environmental Impact Statement that analyzes how the OCS Operating rules are going to be applied on a case-by-case basis? I think I can answer that question, and the answer to that question is, no. If that is indeed the case, then there needs to be something added into this Environmental Statement to shows how the OCS Operating Orders are going to do the job. There's never been an Environmental Statement on the OCS Operating Orders. There haven't been any public hearings on those operating orders. We have not seen how those operating orders are going to do the job in a large area such as this Diapir or the Navarin offer. And until we see that I think it's really just spurious to start talking about how the OCS Operating Orders are going to do a lot of the things they claim they will do. The conditions are just too variable. We don't know what kind of conditions are going to apply at 200 kilometers off Point Barrow versus conditions that are going to apply to a point just off Prudhoe Bay somewhere. And I think that serious consideration should be given to upgrading the DEIS so that it looks at that kind of thing, or else, you know, doing it through the operating orders.

That's all I have to say.

MR. BROCK: Any questions? Thank you.

That concludes the registered participants, is there anybody in the room who did not register who would like to make a statement at this time? Hearing none, it's 3:07 and we'll conclude the hearing. Thank you all for participating.

(Off record)

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END OF HEARING
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Alaska Eskimo Whaling Commission
Box 570
Barrow, Alaska 99723

October 24, 1983

AEWC STATEMENT ON DIAPIR FIELD

Industrial clean up efficient has not improve since January 28, 1977 in Buzzards Bay, Massachusettes. Oil spill which is only 20,000 gals. recovered from 81,000 gals. spill; Now this is in Massachusettes not the Arctic. This summer there was suppose to be a demonstration on oil spill response, but the weather did not cooperate in the Arctic, so we will expect the industry to have a oil spill on a calm day. Clean up on oil spill is from Nil to 24% effective clean up in mild climate. Here in the Arctic oil spill will be next to impossible to clean up as proven by the oil industry in their failure to do a demonstration oil spill clean up.

"The loss of a communication channel and the loudness of the ship noises might well result in the dispension of normally herding marine mammals and may interfere with normal reproduction" p. 275 of "The Question of Sound from Icebreaker Operations": the proceedings of a workshop, Feb. 23 & 24, 1981 Toronto, Ontario. Arctic Pilot Project was stopped because the noise pollution was the most eminent danger along with the oil spill.

We have told the government and the oil industry over and over that the Diapir Field is a critical habitat of the bowhead whale and other marine mammals. If the bowhead is really in a critical

endangered species list than I would be willing to stop hunting the animal if the oil industry will stop their off-shore oil activities.

The United States has no jurisdiction and no claim in the Arctic. (United States of America vs. Mario Saime Escamilla, Congressional Record 97th Congress, 2nd session Dec. 9, 1982 and the law of the sea of the Arctic.) So this lease sale should be at least deleted or delayed and we know federal government will loose billions and billions when the Inupiaqs know that the Diapir Field is larger than North Sea Fields.

As the Commission member of the Alaska Eskimo Whaling Commission I feel this should help your staff in making it clear that this lease is a direct threat to the will being of the Inupiaqs and animals of the Arctic.

Percy Nusunginya, Commissioner
Alaska Eskimo Whaling Commission