

DECISION AND FINDINGS  
IN THE  
CONSISTENCY APPEAL OF  
AMOCO PRODUCTION COMPANY FROM  
AN OBJECTION BY THE  
DIVISION OF GOVERNMENTAL COORDINATION  
OF THE  
STATE OF ALASKA  
JULY 20, 1990

## SYNOPSIS OF DECISION

After a successful bid in Lease Sale 97, Amoco Production Company (Amoco), with Shell Western Exploration and Production Inc. and Union Oil Company of California, acquired an interest in twelve oil and gas leases in the Beaufort Sea. The leases, collectively known as the Galahad Prospect, are located approximately seventy-five miles northeast of Prudhoe Bay, Alaska and thirty-two miles northwest of Barter Island.

Amoco submitted its proposed Plan of Exploration (POE) to the Minerals Management Service of the Department of the Interior (Interior). Shortly thereafter, the Alaska Division of Governmental Coordination (Division) began its review of the consistency certification for the proposed POE.

To evaluate the commercial hydrocarbon potential, the POE proposed drilling up to two exploratory oil and gas wells a year and up to fourteen wells over the life of the lease. Amoco will drill one well and then reevaluate the need for additional exploratory wells.

The Division objected to Amoco's consistency certification for the proposed POE. The Division found the proposed POE inconsistent with the State of Alaska's 1986 Seasonal Drilling Restriction Policy (1986 SDR Policy). The 1986 SDR Policy prohibits drilling below a threshold depth during the first half of the fall bowhead whale migration. A threshold depth is that at which hydrocarbons may be encountered. The Division also requested revisions to Amoco's Oil Spill Contingency Plan and stipulated participation in a specified bowhead whale monitoring program.

Under subsection 307(c)(3)(B) of the Coastal Zone Management Act (CZMA), 16 U.S.C. § 1456(c)(3)(B), and 15 C.F.R. § 930.81, an objection precludes Federal agencies from issuing any permits or licenses necessary for Amoco's proposed activity to proceed unless the Secretary of Commerce (Secretary) finds that the objected-to activity may be Federally approved because it is consistent with the objectives or purposes of the CZMA (Ground I) or otherwise necessary in the interest of national security (Ground II). If the requirements of either Ground I or Ground II are met, the Secretary must sustain the appeal.

Pursuant to subsection 307(c)(3)(B) of the CZMA and the Department of Commerce's implementing regulations, 15 C.F.R. Part 930, Subpart H, Amoco filed a Notice of Appeal requesting an override of the objection on both Ground I and Ground II.

The parties to this appeal are Amoco Production Company and the State of Alaska. Because the appeal involved issues relating to the fall bowhead whale migration and the bowhead subsistence hunt, the Under Secretary for Oceans and Atmosphere invited the North Slope Borough and the Alaska Eskimo Whaling Commission to participate by filing briefs on issues germane to this appeal.

Amoco also raised three threshold issues. First, it stated that the State of Alaska did not make a timely objection to Amoco's consistency certification for its proposed POE. Second, it asserted that the objection was invalid because it was based solely on the 1986 SDR Policy which is not part of Alaska's Federally approved coastal management program. Third, it urged that the Secretary of Commerce should defer to the Secretary of the Interior's findings authorizing Lease Sale 97.

Upon consideration of all relevant information submitted in this appeal, the following rulings and findings are made. The rulings on the threshold issues are:

#### Threshold Issues

1. Timeliness of Objection -- The Division began its consistency review on September 6, 1988 and objected to the consistency certification on March 6, 1989. The Division completed its consistency review within the six month time period imposed by the CZMA.
2. 1986 SDR Policy -- The CZMA requires that a policy, regulation, statute or other guidance must be part of the Federally approved coastal management program before a state can use it in the consistency review process as the basis of an objection. The State of Alaska did not submit the 1986 SDR Policy to NOAA for incorporation into its Federally approved coastal management program, based on the guidance from officials of the Office of Ocean and Coastal Resource Management (OCRM) -- the agency responsible for providing technical assistance and oversight to the states and other interested parties in the area of Federal consistency. Because of the misleading guidance provided by OCRM, the decisionmaker determined that it was not equitable to decide the appeal solely on this procedural threshold issue. Rather, the decisionmaker considered the merits of the appeal under the criteria established by the CZMA and its implementing regulations.

3. Deference -- The concept is inappropriate in the appeals process because the decisionmaker considers de novo all relevant information submitted during the course of an appeal to determine whether the proposed activity is consistent with the objectives or purposes of the CZMA or otherwise necessary in the interest of national security. Thus, deference to a decision made by the Secretary of the Interior for Lease Sale 97 is not an appropriate approach for the decisionmaker in a consistency appeal.

The findings made on Grounds I and II are:

#### Ground I

1. Amoco's proposed project furthers exploration, development and production of offshore oil and gas resources, thus furthering one of the objectives or purposes of the CZMA.
2. Amoco's proposed project will not cause adverse effects on the natural resources of the coastal zone, when performed separately or in conjunction with other activities, substantial enough to outweigh its contribution to the national interest.
3. Amoco's proposed project will not violate the Clean Air Act, as amended, or the Federal Water Pollution Control Act, as amended.
4. There is no reasonable alternative available to Amoco that would permit its proposed project to be carried out in a manner consistent with the Alaska Coastal Management Program.

#### Ground II

There will be no significant impairment to a national defense or other national security interest if Amoco's project is not allowed to go forward as proposed.

#### Conclusion

Because Amoco's proposed project meets the requirements of Ground I, it is consistent with the objectives or purposes of the CZMA. As a result, Federal agencies may issue permits to Amoco to allow it to conduct its proposed activity.

## Factual Background

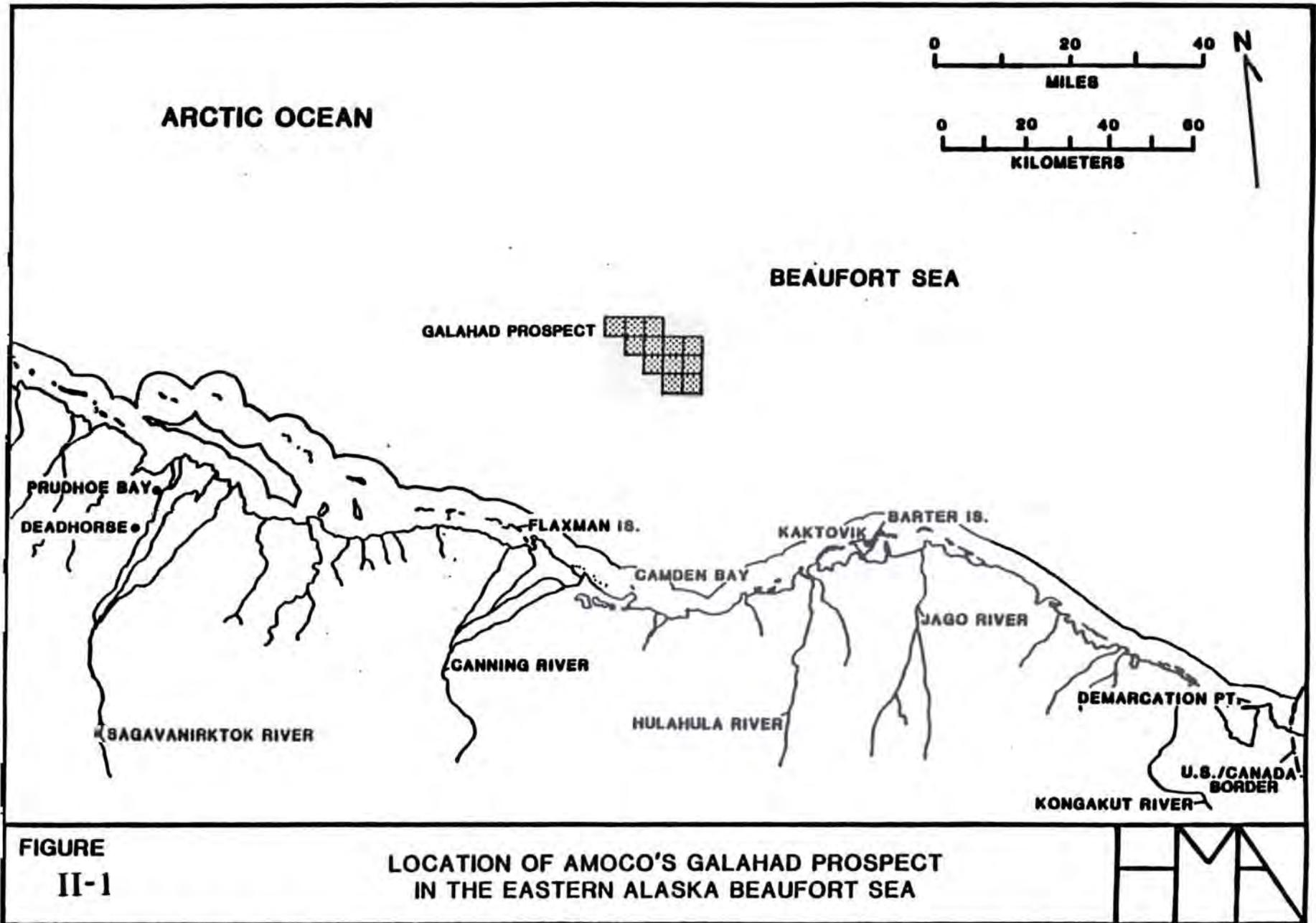
In March, 1988, Amoco Production Company (Amoco) with Shell Western Exploration and Production Inc. and Union Oil Company of California acquired an interest in twelve oil and gas leases in the Beaufort Sea as the result of a successful bid in Outer Continental Shelf (OCS) Lease Sale 97. The leases, collectively known as the Galahad Prospect, are located approximately seventy-five miles northeast of Prudhoe Bay, Alaska and thirty-two miles northwest of Barter Island. See Figure 1. The leases expire April 30, 1998. Amoco Production Company's Statement of Reasons in Support of an Override, June 1, 1989, at i, 1, n.1 (Amoco State.); Letter from Alan D. Powers, Regional Director, Minerals Management Service, Alaska Outer Continental Shelf Region, to Katherine A. Pease, Office of General Counsel, National Oceanic and Atmospheric Administration, dated June 12, 1989, Enclosure 2 at 1 (MMS Letter/Enclosure).

Amoco submitted its proposed Plan of Exploration (POE) to the Minerals Management Service (MMS) of the Department of the Interior (Interior) on September 2, 1988. Four days later, the Division of Governmental Coordination of the State of Alaska (Division)<sup>1</sup> began its review of the proposed POE for consistency with Alaska's Federally approved coastal management program. MMS approved the proposed POE on October 3, 1988, subject to consistency review by the State of Alaska. Amoco State. at i, 14; The State of Alaska's Response to the Secretary's Briefing Request and to Amoco Production Company's Statement of Reasons in Support of an Override, August 11, 1989, at 2-3 (Alaska Response); MMS Enclosure 2 at 2.

Although the POE proposes to drill up to two exploratory wells per season and up to fourteen wells over the life of the lease, Amoco intends to drill a single well and then reevaluate the need for additional exploratory wells. Because water depths at the Galahad Prospect exceed 170 feet, Amoco will use a floating drilling unit secured by anchors and moorlines. Amoco will support the drilling operation at a base in Prudhoe Bay. Amoco State. at 6; Amoco Production Company Final Response, October 13, 1989, Exhibit 52 at 11 (Amoco Reply Br.). Due to the climatic

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<sup>1</sup>The Division of Governmental Coordination is Alaska's Federally approved coastal management agency under sections 306 and 307 of the Coastal Zone Management Act and 15 C.F.R. Parts 923 and 930 of the Department of Commerce's implementing regulations.



PLAN OF EXPLORATION, PROPOSED EXPLORATORY DRILLING OPERATIONS ON THE GALAHAD PROSPECT, OCS LEASE SALE 97 AREA

conditions of the Beaufort Sea, the open water season begins mid-July to early August and ends by late September or early October. There are approximately forty open water days for drilling. Even during the open water season, however, one may still encounter ice, bringing drilling to a halt. To minimize the likelihood of this happening, the drillship will be supported by one or more ice breakers to keep ice from encroaching on the drillship during operations. Amoco State. at 7; Amoco Reply Br., Exhibit 52 at 11. The POE also proposes a bowhead whale monitoring program which will radio tag certain whales, track them, observe them and expose them to recorded drilling noises. The information gathered by the monitoring program will be used for future drilling operations. Amoco State. at 7-8.

On March 6, 1989, the Division of Governmental Coordination objected to Amoco's consistency certification for the proposed POE. To be consistent with the Alaska Coastal Management Program (ACMP), the Division determined that Amoco would have to comply with the State of Alaska's 1986 Seasonal Drilling Restriction Policy (1986 SDR Policy) and to implement a specified bowhead whale research program. Id. at i, 1.

Section 307(c)(3) of the Coastal Zone Management Act (CZMA) provides that Federal licenses or permits required for Amoco's proposed activity may not be granted until either the Division concurs that the activity is consistent with its Federally approved coastal zone management program, or the Secretary of Commerce (Secretary) finds that the proposed activity is consistent with the objectives or purposes of the CZMA or otherwise necessary in the interest of national security.

#### Appeal to the Secretary of Commerce

On April 3, 1989, Amoco filed a Notice of Appeal with the Secretary of Commerce pursuant to subsection 307(c)(3)(B) of the CZMA, 16 U.S.C. § 1456(c)(3)(B). In that notice, Amoco requested an extension of time to submit its supporting statements, data, and other information. Amoco requests that the Secretary find its proposed POE consistent with the objectives or purposes of the CZMA (Ground I) or otherwise necessary in the interest of national security (Ground II). Letter from William S. Davis, Regional Exploration Manager, Amoco Production Company, to Honorable Robert Mosbacher, Secretary of Commerce, April 3, 1989.

The parties to this appeal are Amoco Production Company and the State of Alaska. Because the appeal involves issues relating to the fall bowhead whale migration and the bowhead subsistence hunt, the Under Secretary for Oceans and Atmosphere (Under

Secretary) of the Department of Commerce (Department)<sup>2</sup> invited the North Slope Borough and the Alaska Eskimo Whaling Commission to participate by filing briefs on issues germane to this appeal. Letter from William E. Evans, Under Secretary for Oceans and Atmosphere, Department of Commerce, to Edward Hopsen, Chairman of the Alaska Eskimo Whaling Commission; and Honorable George N. Ahmaogak, Sr., Mayor, North Slope Borough, April 28, 1989. By memorandum dated May 19, 1989, the Secretary delegated to the Deputy Secretary of Commerce the authority to decide this appeal.

Amoco filed its Statement of Reasons in Support of an Override and exhibits on June 1, 1989. The State of Alaska and the North Slope Borough filed their initial briefs on August 11, 1989, and the Alaska Eskimo Whaling Commission filed its initial brief on August 14, 1989. The North Slope Borough and Amoco filed their final briefs on October 11, 1989, and October 13, 1989, respectively. Although the State of Alaska did not file a final brief, it did submit a letter reiterating several points. The Alaska Eskimo Whaling Commission did not submit a final response. On January 9, 1990, the Under Secretary reopened the record in this appeal for the limited purpose of soliciting responses to a comment from the Department of Energy that had been submitted after the record had closed. The Department received no responses. No public hearing was requested or held.

The Department published a notice of appeal and request for comments in the Federal Register (54 Fed. Reg. 19212, May 4, 1989). On May 31, and June 1 and 2, 1989, the Department published a notice requesting comments in the Juneau Empire and The Anchorage Times. The Department published an identical notice in the Barrow Sun on May 26 and June 9, 1989. The Department received five public comments -- three supporting the proposed project and two opposing it.

The Department solicited comments on whether the proposed POE was consistent with the objectives or purposes of the CZMA from the Departments of the Interior, Transportation, and the Treasury and from the Minerals Management Service, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, the National Marine Fisheries Service, U.S. Coast Guard and the Federal Energy Regulatory Commission. Letters to the Departments of State, Defense, and Energy and the National Security Council also requested comments regarding the national security implications of the proposed project. All agencies responded except the National Security Council.

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<sup>2</sup>The Secretary has delegated to the Under Secretary the authority to conduct appeals under section 307 of the CZMA and to make procedural rulings in such appeals. See Department Organization Order 10-15, issued January 15, 1988.

All comments and information received by the Department during the course of this appeal are included in the administrative record. However, only those comments that are relevant to the statutory and regulatory criteria for deciding an appeal are considered. See Decision and Findings in the Consistency Appeal of Long Island Lighting Company, February 26, 1988, at 4, n.4 (Long Island Lighting Company Decision).

### Threshold Issues

Amoco raises two procedural issues in its Notice of Appeal. First, it asserts that the State of Alaska did not make a timely objection to Amoco's consistency certification for its proposed POE. Second, it states that the objection is invalid because it is based solely on the 1986 Seasonal Drilling Restriction Policy which is not part of Alaska's Federally approved coastal management program. In its Statement of Reasons in Support of an Override, Amoco also states that the Secretary should defer to the Secretary of the Interior's findings authorizing Lease Sale 97. Each of these threshold issues will be addressed below.

#### A. Timeliness of Objection

Although Amoco raises this issue in its Notice of Appeal, it did not brief the issue as requested by the Under Secretary. Letter from William E. Evans, Under Secretary for Oceans and Atmosphere, Department of Commerce, to William S. Davis, Regional Exploration Manager, Amoco Production Company; Robert Grogan, Director, Division of Governmental Coordination, State of Alaska; Edward Hopsen, Chairman of the Alaska Eskimo Whaling Commission; and Honorable George N. Ahmaogak, Sr., Mayor, North Slope Borough, dated April 28, 1989. The CZMA and the Department's regulations implementing the CZMA provide that a state has six months to complete its consistency review, otherwise consistency will be presumed. See 16 U.S.C. § 1456(c)(3)(B); 15 C.F.R. § 930.79. Based on the information in the record, the objection is timely. The State of Alaska began its consistency review on September 6, 1988. It objected to the consistency certification on March 6, 1989, which is within the six month time period imposed by the CZMA.

#### B. 1986 Seasonal Drilling Restriction Policy

Amoco questions whether the 1986 Seasonal Drilling Restriction (SDR) Policy is part of the State of Alaska's Federally approved coastal management program, and thus can be used as the basis for

an objection.<sup>3</sup> The 1986 SDR Policy prohibits drilling below a threshold depth during the first half of the fall bowhead whale migration. Before answering Amoco's question, it is useful to examine the relevant Federal regulations concerning consistency review and the incorporation of changes into a Federally approved coastal management program.

When preparing a consistency certification for an OCS project, the permit applicant must prepare a brief set of findings showing that each of the proposed activities is consistent with the provisions of the state's management program. "In developing findings, the person shall give appropriate weight to the various provisions within the management program in accordance with the guidance provided in § 930.58(a)(4)." 15 C.F.R. § 930.77(b)(3). Subsection 930.58(a)(4), in turn, provides, in part, that

[i]n developing findings, the applicant shall give appropriate weight to the various types of provisions within the management program. While applicants must be consistent with the enforceable, mandatory policies of the management program, they need only demonstrate adequate consideration of policies which are in the nature of recommendations. Applicants need not make findings with respect to coastal zone effects for which the management program does not contain mandatory or recommended policies.

Turning to the section of the regulations dealing with the lodging of an objection, one finds that 15 C.F.R. § 930.79(c) states "[i]f the State agency objects to one or more of the Federal license or permit activities described in detail in the OCS plan, it must provide a separate discussion for each objection in accordance with the directives within § 930.64(b) and (d) ...." Subsection 930.64(b) requires that "State agency objections ... describe (1) how the proposed activity is inconsistent with specific elements of the management program ...."

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<sup>3</sup>Specifically, Amoco asserts that the 1986 SDR Policy is not part of the ACMP, and, therefore, the Division failed "to identify any specific element of the ACMP, as the basis for its objection." Amoco State. at 16. It further contends that Alaska did not submit the 1986 SDR Policy to OCRM as an amendment or routine program implementation. Amoco finally alleges that Alaska did not comply with state procedures for amending the ACMP because it developed the Policy without the opportunity for full participation by interested persons or agencies and that the Policy has not been approved by the Governor of Alaska. *Id.* at 19-20. I do not address the last assertion as it would more appropriately be part of the review of the Policy by the Office of Ocean and Coastal Resource Management (OCRM) should the State of Alaska submit it as a program change.

Thus, any objection by a state must be based on a mandatory or enforceable policy which has been incorporated into the state's approved coastal management program. The policy may be a part of the original coastal management program approved by the Office of Ocean and Coastal Resource Management (OCRM) of the National Ocean and Atmospheric Administration (NOAA) or the policy may be submitted after approval of the original management program as an amendment or routine program implementation (RPI). See 15 C.F.R. Part 923, Subpart I, "Amendments to and Termination of Approved Management Programs."

Because OCRM approved Alaska's coastal management program in July, 1979, the 1986 SDR Policy was not part of the program as originally approved. So, if the 1986 SDR Policy is part of its Federally approved coastal management program, Alaska would have to submit it as an amendment or an RPI. For either form of submission, the Federal regulations establish certain procedures to be followed and discuss when the new program element can be used for Federal consistency purposes. If the change is an amendment,<sup>4</sup> a state must provide OCRM with a description of the proposed change, an explanation of why the change is necessary and appropriate, a copy of the public notice of the public hearing, a summary of the public hearing comments and documentation of the opportunities for relevant Federal, state and other interested public and private parties to participate in the development and approval of the proposed amendment. 15 C.F.R. § 923.81(b). Only after approval by OCRM can a state use the policy comprising the amendment in its consistency review process. *Id.* at § 923.82(c)(1) and (2).

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<sup>4</sup>Subsection 923.80(c) of Title 15, Code of Federal Regulations, defines an amendment as

substantial changes in, or substantial changes to enforceable policies or authorities related to:

- (1) Boundaries;
- (2) Uses subject to the management program;
- (3) Criteria or procedures for designating or managing areas of particular concern or areas for preservation or restoration; and
- (4) Consideration of the national interest involved in the planning for and in the siting of, facilities which are necessary to meet requirements which are other than local in nature.

For an RPI,<sup>5</sup> a state must notify OCRM of the RPI and, at the same time, provide notice to the general public and affected parties such as local, state and Federal agencies. If OCRM concurs that the proposed change is an RPI, the state must provide notice to the general public and affected parties. Federal consistency does not apply until such notice has been provided. Id. at § 923.84(b).

Based on a discussion with relevant officials of OCRM, it appears that Alaska did not submit the 1986 SDR Policy either as an amendment or as an RPI. Personal communication, Katherine A. Pease, NOAA Office of the General Counsel, November 29, 1989. The State of Alaska defends its use of the 1986 SDR Policy for consistency review on several grounds. First, Alaska declares that the 1986 SDR Policy is the state's interpretation of existing enforceable state and district program standards and as such provides "predictable guidelines for how the state implements the enforceable ACMP standards in 6 AAC 80.120 (Subsistence), 6 AAC 80.130 (Habitats) and 6 AAC 80.140 (Air, land, and water quality), and standards for offshore drilling in the bowhead whale migration under policy 2.4.3(b)" of the North Slope Borough Coastal Management Program. Alaska Response at 4. Second, Alaska maintains that "[i]ndividual stipulations like the SDR need not be a formal part of the ACMP in order to be valid." Id. at 9. It adds that Amoco has complied with the 1986 SDR Policy in the past. Id. at 5.

Alaska further declares that OCRM was aware that the state was using the 1986 SDR Policy because the state provided it with copies of two consistency concurrences referencing the 1986 SDR Policy during the course of OCRM's CZMA Section 312 evaluation for the period December, 1985 to October, 1987. According to the State of Alaska, OCRM was obligated to raise the issue during the evaluation if it had a question about the application of the 1986 SDR Policy. OCRM did not.<sup>6</sup> Id. at 7-8; see also Amoco State., Exhibit 43 ("Final Evaluation Findings for the Alaska Coastal Management Program for the Period from December 1985 to October

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<sup>5</sup>A routine program implementation is defined as "[f]urther detailing of a State's program that is the result of implementing provisions approved as part of a State's approved management program, that does not result in the type of action described in § 923.80(c) ...."

<sup>6</sup>In its reply brief, Amoco asserts that OCRM's 1987 CZMA Section 312 evaluation did address the unauthorized use of the 1986 Seasonal Drilling Restriction Policy. Amoco Reply Br. at 16. A reading of the evaluation reveals that this is not the case. Rather, the evaluation addressed the use of conditional concurrences, a practice that NOAA has determined will result in an invalid objection. See Amoco State., Exhibit 43 at 13.

1987").

I consider the reasoning of the State of Alaska to justify its reliance on the 1986 SDR Policy. As shown above in the discussion of the applicable Federal regulations, during a consistency review, a state may only rely on the provisions of its Federally approved coastal management program. A state must cite those policies in its objection. In this case, for example, if the Division determined that the proposed activity was inconsistent with certain statutory provisions that are part of its Federally approved program such as 6 AAC 80.120, 80.130, and 80.140 and policy 2.4.3. of the North Slope Borough Coastal Management Program, it would list those provisions in the objection.<sup>7</sup> The Division could then identify an alternative(s), such as the 1986 SDR Policy, that would permit the proposed activity to be conducted consistent with the ACMP.

The answer to Amoco's question, then, is simple. A policy, regulation, statute or other guidance must be part of the Federally approved coastal management program before a state can use it in the consistency review process as the basis of its objection. The fact that a Federal permit applicant has agreed to comply with a policy in the past, does not bind it to comply in future projects if that policy is not part of the state's Federally approved coastal management program.

An examination of the two State of Alaska letters<sup>8</sup> comprising the formal objection reveals that the Division did not identify any provision of its Federally approved coastal management program with which Amoco's proposed activity is inconsistent. Rather, the Division only references the 1986 SDR Policy. As stated in

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<sup>7</sup>My use of this example is not intended to convey the impression that these are the appropriate provisions of the Alaska Coastal Management Program with which Amoco's proposed project was inconsistent. I use them merely as examples. Following the precedent established in previous consistency decisions, I do not consider whether Alaska has properly interpreted and applied its mandatory, enforceable policies in its decision that Amoco's proposed activity was inconsistent with the ACMP. Instead, I have examined the objection solely for the purpose of determining whether it was lodged properly -- that is, whether the objection complied with the requirements of the CZMA and its implementing regulations.

<sup>8</sup>Letter from Robert L. Grogan, Director, Division of Governmental Coordination, State of Alaska, to Cheryl Winkler, Amoco Production Company, dated March 3, 1989; Letter from Robert L. Grogan, Director, Division of Governmental Coordination, State of Alaska, to Cheryl Winkler, Amoco Production Company, dated March 6, 1989.

the Texaco Decision, "[t]o constitute a valid objection, 15 C.F.R. § 930.64(b) and § 930.79(c) require that the objection include a statement of 'how the proposed activity is inconsistent with specific elements of the [state's] management program.'" Decision and Findings in the Consistency Appeal of Texaco, Inc., May 19, 1989, at 4 (Texaco Decision). In that appeal, the decisionmaker found California's objection to the consistency certification for Texaco's individual NPDES permit invalid within the meaning of the CZMA and its implementing regulations because it failed to identify any specific elements of the California Coastal Management Program with which Texaco's proposed activity was inconsistent. As a result, the decision only considered the proposed POE.

The same analysis would appear to apply in this appeal, and, under ordinary circumstances, the inquiry might stop at this point. Circumstances, however, do not seem quite ordinary in light of the State of Alaska's allegations that although OCRM was aware of the Division's use of the 1986 SDR Policy for consistency review, it chose not to sanction the state by reference to this misuse of consistency during the Alaska Section 312 evaluation. Added to this are certain revelations made during a November 29, 1989, meeting between a representative of NOAA General Counsel and officials of OCRM regarding the 1986 SDR Policy. During that discussion, OCRM officials disclosed that they told the representatives of the State of Alaska not to reference the 1986 SDR Policy as part of policy 2.4.3. of the North Slope Borough Coastal Management Program and gave the clear impression to those representatives that Alaska could still use the 1986 SDR Policy for Federal consistency purposes. Personal communication, Katherine A. Pease, NOAA Office of the General Counsel, November 29, 1989.

Although Alaska has not raised the issue directly, I am compelled to consider whether the Department is estopped in this appeal from insisting on compliance with the Federal regulations implementing the consistency provisions of the CZMA due to the erroneous and misleading guidance of OCRM -- the agency within NOAA that is responsible for providing technical assistance and oversight to the states and other interested parties in the area of Federal consistency.

An analysis of the case law concerning application of the equitable doctrine of estoppel against the Federal government reveals an evolving legal area. At one time, based on the considerations of sovereign immunity, separation of powers and public policy, courts were reluctant to apply estoppel against the Federal government. See, generally Portmann v. United States, 674 F.2d 1155 (7th Cir. 1982). In recent years, however, courts have been more willing to assert the principle on several theories. One of those theories is misconduct by a government

official.<sup>9</sup>

The Supreme Court has not delineated what type of conduct by a government employee would estop the Federal government. In Schweiker v. Hansen, 450 U.S. 785 (1981), the Court held that erroneous statements by a field representative of the Department of Health and Human Services and noncompliance with a field manual did not estop the Federal government from denying retroactive social security benefits. In several other cases, the Supreme Court has held that the level of misconduct did not justify the use of estoppel. See Immigration and Naturalization Service v. Hibi, 414 U.S. 5 (1973) (Government not estopped from denying citizenship for failure to publish fully naturalization rights of aliens who served in Armed Forces and to provide authorized naturalization representative overseas); Montana v. Kennedy, 366 U.S. 308 (1961) (Government not estopped from denying citizenship to son born in Italy to an American woman who was erroneously advised by American consul that she needed a passport to return to America which the Consul refused to issue).

Lower courts, however, have applied estoppel against the Federal government based on employee misconduct. See Home Savings and Loan Association v. Nimmo, 695 F.2d 1251 (10th Cir. 1982) (Veterans Administration estopped from demanding guaranty from lender when VA was aware of forgery on loan papers and failed to notify lender), vacated and remanded for reconsideration in light of 467 U.S. 51; Villena v. Immigration and Naturalization Service, 622 F.2d 1352 (9th Cir. 1980) (INS estopped from asserting that alien failed to pursue preference claim when INS did not respond to alien's petition for almost four years); Corneil-Rodriguez v. Immigration and Naturalization Service, 532 F.2d 301 (2d Cir. 1976) (American consul failed to provide prospective alien with warning mandated by Federal regulations); Brant v. Hickel, 427 F.2d 53 (9th Cir. 1970) (Secretary of the Interior estopped based on statement by land manager that permitted bidder could resubmit technically defective bid without loss of priority even though this procedure was not authorized by statute, regulation or decision).

There also is some indication that courts may be more willing to apply estoppel against the Federal government when the case does not involve a claim against the treasury. See Schweiker, 450 U.S. at 788, n.4.

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<sup>9</sup>Some other theories include misrepresentation of procedural as opposed to substantive rules (Hansen v. Harris, 619 F.2d 942 (2d Cir. 1980), rev'd sub. nom Schweiker v. Hansen, 450 U.S. 785 (1981); sovereign versus proprietary activities (Portmann v. United States, 674 F.2d 1155 (7th Cir. 1982)); misrepresentation of facts rather than law (McDonald v. Schweiker, 537 F. Supp. 47 (N.D. Ind. 1981)).

While employee misconduct may give rise to the application of estoppel, the courts also consider the case against the traditional four-part estoppel test. The elements of that test are:

the party to be estopped must know the facts;

- the party must intend that its conduct will be acted on or must so act that the party asserting the estoppel has the right to believe that it was so intended;

the latter must be ignorant of the true facts; and

- the latter must rely on the former's conduct to its injury.

United States v. Georgia Pacific Company, 421 F.2d 92, 96 (9th Cir. 1970).

The fact situation presented by the threshold issue in this appeal falls within two categories of cases where estoppel might be applied -- those not involving a claim against the treasury and employee misconduct. Utilizing the four-part test above, I find, based on the record before me, that OCRM did know the facts of the situation -- that a state may not object to a consistency certification based on a provision that is not part of its Federally approved coastal management program. The information ascertained during the November 29, 1989, meeting with OCRM officials shows that OCRM intended for the representatives of the State of Alaska to rely on its guidance that it was not necessary to submit the 1986 SDR Policy to OCRM for incorporation into its Federally approved program in order to use that policy in Alaska's consistency review process. And certainly, Alaska relied upon this advice to its detriment -- that detriment being the inability to rely on this policy during its consistency review process.

It is not, however, clear to me that the State of Alaska has met the third prong of the estoppel test. The Federal regulations implementing the consistency provisions of the CZMA clearly state that a Federal permit applicant need only certify compliance with the mandatory, enforceable elements of a state's Federally approved coastal management program. Even if the State of Alaska were unaware of this provision,

[p]arties dealing with the Government are charged with knowledge of and are bound by statutes and lawfully promulgated regulations despite reliance to their ... detriment upon incorrect information received from Government agents or employees .... The rationale for this rule is clear. As the laws and regulations are available

for the public to examine, the government should not be held responsible for a claimant's failure to protect his own interests by examining for himself whether a government employee's statement of the law is correct or not. However, this rationale is inapplicable where the government employee misstates facts rather than law. When a government agent or employee gives a claimant incorrect factual information, especially ... where such information is in the exclusive possession of the government, the claimant cannot protect his own interest by examining for himself whether the government employee's statement of fact is correct or not.

McDonald v. Schweiker, 537 F. Supp. 47, 50 (N.D. Ind. 1981). See also Federal Crop Insurance Corp. v. Merrill, 332 U.S. 380, 384-85 (1947) (Persons dealing with the government are charged with the knowledge of the United States statutes and the Federal regulations promulgated pursuant to those statutes).

In this appeal, the misrepresentation by OCRM officials is one of law, not fact. Thus, the State of Alaska is charged with knowledge of the Federal consistency regulations.

The remaining consideration is whether the type of misconduct on the part of OCRM officials rises to the level that would estop the Department from insisting on compliance with the Federal consistency regulations. See, e.g., Yang v. Immigration and Naturalization Service, 574 F.2d 171 (3d Cir. 1978). Because case law does not provide any bright lines in this area, I hesitate to make this judgment. I believe that the misconduct probably does not rise to such a level. However, because I remain troubled by the guidance provided by OCRM to representatives of the State of Alaska concerning its use of the 1986 SDR Policy, I must consider whether it is equitable to decide this appeal solely on the threshold issue that the State of Alaska based its objection on a policy that was not part of its Federally approved coastal management program. I decline to do so. Instead, I will consider whether Amoco's proposed activity is consistent with the purposes or objectives of the CZMA or otherwise necessary in the interest of national security.

I do emphasize, however, that this decision puts all state coastal management agencies on notice that should they base an objection on a policy that is not part of their Federally approved coastal management program and that objection is appealed, the Department will find, as a threshold matter, that the objection is not valid and that the proposed activity may be permitted by Federal agencies.

### C. Deference

Amoco urges that the Secretary of Commerce defer to the Secretary

of the Interior's decision not to impose a SDR for Lease Sale 97 leases. Amoco State. at 2-3. Alaska argues that the Secretary should not defer to the Secretary of the Interior's decision not to include a SDR in OCS Lease Sale 97 stipulations because Interior's environmental assessment process "does not and cannot be assumed to be setting coastal zone consistency policy for affected states." Further, the state notes that the cost/benefit analysis in Interior's lease sale decision does not apply equally to site specific plans of exploration. Alaska Response at 13-15.

The concept of deference is inappropriate in the appeals process. The consistency appeal process focuses on whether the proposed activity meets the statutory and regulatory criteria for an override established in the CZMA. Any information submitted during the course of the appeal to the extent that it is relevant is considered during the deliberation of the appeal.

The decisionmaker must consider de novo, based on all the relevant information submitted, whether the proposed activity is consistent with the objectives or purposes of the CZMA or otherwise necessary in the interest of national security. Deference, therefore, to a decision made by the Secretary of the Interior for Lease Sale 97 is not an appropriate approach for the decisionmaker in this appeal.

#### Grounds for Reviewing an Appeal

The Department's implementing regulations at 15 C.F.R. § 930.120 provide that the Secretary may find "that a Federal license or permit activity, including those described in detail in an OCS plan ... which is inconsistent with a management program, may be federally approved because the activity is consistent with the objectives or purposes of the Act [Ground I], or is necessary in the interest of national security [Ground II]." See also 15 C.F.R. § 930.130(a). Amoco has requested a review based on both grounds.

The Department's regulations interpreting these two statutory grounds are found at 15 C.F.R. § 930.121 and § 930.122.

#### A. Ground I: Consistent with the Objectives or Purposes of the CZMA

To override a state's objection to a proposed project under the first statutory ground (Ground I), it is necessary to find that the proposed activity is consistent with the objectives or purposes of the CZMA. To make this finding, the proposed activity must satisfy all four elements specified in 15 C.F.R. § 930.121(a).

## 1. First Element

To meet the first of the four elements, the Secretary must find that "[t]he activity furthers one or more of the competing national objectives or purposes contained in section 302 or 303 of the [CZMA]." 15 C.F.R. § 930.121(a).

As noted in previous appeals involving oil and gas exploration or development, the CZMA outlines a number of objectives and purposes including

- development of the resources of the coastal zone (Sections 302(a), (b) and (i) and 303(l));
- preservation, protection and where possible restoration or enhancement of the resources of the coastal zone (Sections 302(a), (b), (c), (d), (e), (f), (g) and (i) and 303(l));
- encouragement and assistance to the States to exercise their full authority over the lands and waters in the coastal zone, giving consideration to the need to protect as well as to develop coastal resources (Sections 302(h) and (i) and 303(2)).

The CZMA also recognizes a national objective in achieving a greater degree of energy self-sufficiency through the provisions of financial assistance to state and local governments (section 302(j)).

Congress has broadly defined the national interest in coastal zone management to include both protection and development of coastal resources. Therefore, as stated in previous appeals, this element will "normally" be satisfied on appeal. In all previous appeals involving oil and gas exploration or development, there has been the finding that OCS exploration, development and production activities and their effects on land and water uses of the coastal zone are encompassed by the objectives and purposes of the CZMA. See, e.g., Texaco Decision at 6; Decision and Findings in the Consistency Appeal of Gulf Oil Corporation, December 23, 1985, at 4 (Gulf Oil Decision); Decision and Findings in the Consistency Appeal of Union Oil Company of California, November 9, 1984, at 8.

Alaska requests the Secretary to find that Amoco's proposed project does not satisfy the requirements of element one. First, Alaska states that only oil and gas exploration or development in the coastal zone furthers the purposes or objectives of the CZMA. Because Amoco's project is located on the Outer Continental Shelf (OCS), Alaska reasons that the proposed project can only be considered by the Secretary under Ground II, necessary in the interest of national security. Alaska Response at ii, 20-21.

I disagree with the State of Alaska's reasoning. As noted earlier, the purposes and objectives of the CZMA are broad, and they are not confined to activities occurring only in the coastal zone. Alaska's contention that an OCS oil and gas project can only be appealed under Ground II does not conform to the plain language of section 307(c) of the CZMA which states "[n]o Federal official or agency shall grant such person any license or permit for any activity described in detail in such [OCS exploration or development and production] plan ... until ... the Secretary [of Commerce] finds, pursuant to subparagraph (A)[of this part] that each activity which is described in detail in such plan is consistent with the objectives of this title or otherwise necessary in the interest of national security." 16 U.S.C. § 1456 (c)(3)(B) (emphasis added). The CZMA clearly establishes the authority of the Secretary to consider an OCS project under Ground I or Ground II.

Alaska also urges the Secretary to reconsider the test used to satisfy element one. Alaska states that "identifying any one national objective or purpose which is furthered by the activity" is inappropriate because the "existence of competing objectives necessitates a consideration of the significance of one objective or purpose as it relates to another competing objective or purpose. An activity that undermines all but one of the national objectives of the CZMA should not be found consistent ... absent an overriding priority for that single objective." Alaska Response at 17. The North Slope Borough raises a similar concern as it notes that a competing national objective -- the preservation of Inupiat culture and the preservation of the endangered bowhead whale stock -- is potentially threatened by Amoco's proposed project. Letter from George N. Ahmaogak, Sr., Mayor, North Slope Borough, to Honorable William E. Evans, Under Secretary, Department of Commerce, dated August 11, 1989, at 1 (North Slope Borough Letter).

The regulations implementing the consistency provisions of the CZMA, 15 C.F.R. § 930.121(a), establish the criterion for the first element of Ground I as "[t]he activity furthers one or more of the competing national objectives or purposes contained in section 302 or 303 of the Act." (emphasis added). Under the regulatory test for element one, therefore, it is only necessary for the proposed activity to further one objective or purpose of the CZMA. It would be inappropriate for the decisionmaker in the consistency appeal process to revise that regulatory criterion.

The Texaco Decision addressed a similar argument concerning competing objectives or purposes. In that appeal, the California Coastal Commission posited that "the goal of the CZMA is not merely to develop coastal resources, but rather is to develop resources in a manner that is consistent with coastal resource protection," another objective or purpose of the CZMA. (emphasis

in the original). Texaco Decision at 5-6. Implicit in the Commission's position was the argument that the impacts of the proposed activity should be considered in determining whether it furthers an objective or purpose of the CZMA. This is similar to the position asserted by the State of Alaska and the North Slope Borough. The Texaco Decision found that "[a]n assessment of the impacts of such proposed activities is appropriately considered under element two infra." Id. at 6. As in the Texaco Decision, I find that the impacts of Amoco's proposed activity should be considered under element two and not element one.

Amoco's proposed POE involves the search for oil and gas in the OCS of the Beaufort Sea. Exploration, development and production of offshore oil and gas resources and their effects on the resources of the coastal zone are among the objectives of the CZMA. Because the record demonstrates that Amoco's proposed activity falls within and furthers one of the objectives of Sections 302 and 303 of the CZMA, I find that Amoco's proposed POE satisfies the first element of Ground I.

## 2. Second Element

To satisfy the second element of Ground I, the Secretary must find that "[w]hen performed separately or when its cumulative effects are considered, [the activity] will not cause adverse effects on the natural resources of the coastal zone substantial enough to outweigh its contribution to the national interest." 15 C.F.R. § 930.121(b).

The second element requires that the Secretary identify: 1) the adverse effects of the objected-to activity on the natural resources of the coastal zone from the activity itself, ignoring other activities affecting the coastal zone; 2) the cumulative adverse effects on the natural resources of the coastal zone from the objected-to activity being performed in combination with other activities affecting the coastal zone; and 3) the proposed activity's contribution to the national interest. The Secretary then must determine whether the adverse effects on the natural resources of the coastal zone are substantial enough to outweigh the proposed activity's contribution to the national interest.

Adverse effects on the natural resources of the coastal zone may result from the normal conduct of an activity either by itself or in conjunction with other activities affecting the coastal zone. They also may arise from unplanned or accidental events such as an oil spill or a vessel collision.

The State of Alaska primarily focuses on the adverse impacts to the fall migration of the bowhead whale and the bowhead whale subsistence hunt that could result from routine conduct of Amoco's exploratory activities as well as adverse effects resulting from an oil spill. While I will concentrate the

majority of my discussion on those areas of concern identified by the State of Alaska, all adverse impacts on the natural resources of the coastal zone contained in the administrative record of this appeal will be considered in balancing the adverse effects against the project's contribution to the national interest.

#### Adverse Effects from Routine Conduct

##### 1) Marine Environment

Amoco's Plan of Exploration discusses in detail the general marine environment of the Alaska Beaufort Sea. It also considers the potential adverse impacts to that environment from routine conduct of its drilling and support operations. Due to climatic conditions in the Alaska Beaufort Sea, the marine environment lacks the diversity found in other areas where oil and gas exploration has occurred.

The physical environmental extremes found in the eastern Alaska Beaufort Sea OCS area influence the abundance and composition of phytoplankton communities. Nearshore areas in the summer usually contain rich phytoplankton communities due to a high nutrient load. Heavy sedimentation, however, at the mouths of major rivers, appears to limit phytoplankton production. Further offshore, phytoplankton populations are limited by water column stratification which may inhibit upwelling of nutrients and by the intermittent or continuous ice cover that prevents light penetration. Abundance of phytoplankton is greatest in the nearshore areas with decreasing numbers as one moves further offshore. Phytoplankton abundance is greatest in water depths of less than sixteen feet. Fewer phytoplankton cells are present in the water column in winter. Amoco State., Exhibit 1 at III-73-74 (Plan of Exploration, Proposed Exploratory Drilling Operations on the Galahad Prospect, OCS Lease Sale 97 Area, Offshore Alaska, July 1988) (Amoco POE).

There are over 100 species of zooplankton in the Alaska Beaufort and northeastern Chukchi Seas although the distribution of zooplankton in the eastern Alaska Beaufort Sea is patchy. Due to low primary productivity by phytoplankton, the standing crop of zooplankton in the eastern Alaska Beaufort Sea is small compared to that in the western Alaska Beaufort and Chukchi Seas. Id. at 76-77.

The infaunal benthic environment is divided into three zones -- nearshore, inshore or coastal and shelf. The nearshore zone extends from the shoreline out to a water depth of approximately seven feet. In this area, the biomass is low, lacking in diversity and dependent on annual or more frequent colonization by available species. The nearshore zone is generally frozen by the annual shorefast ice. Id. at 80. The inshore or coastal zone extends from the seven to sixty-six foot isobath. In this

area, the water salinity is high and the temperature is low. Biomass and diversity increase with depth in the inshore zone out to approximately forty-nine feet where intensive ice-gouging occurs. This ice-gouging greatly disturbs the sediments in which infaunal organisms exist which minimizes their abundance at this depth. Id. The shelf zone extends from water depths of about forty-nine feet to approximately 328 feet. In this area, salinity is high and the water is cold. Biomass is highly variable, indicating patchy distribution. Id. at 81.

Benthic epifaunal organisms live on the surface of the sea floor. They may be sessile or mobile. Mobile epifauna consist mainly of crustaceans, starfish and snails. This group forms a substantial portion of the diets of vertebrate consumers such as birds, fish and marine mammals. Id. Offshore epifauna consist of scallop, sea cucumbers, sea urchins, several species of brittle stars and shrimp. They usually occur in rocky areas. Id. at 82. Kelp is also found in boulder patches. The largest kelp community is approximately 49.2 miles west-southwest of the Galahad Prospect. Kelp areas are characterized by an abundant and diverse flora and fauna, high utilization of the rocky substrate and competition between species for space. Id.

Intertidal invertebrates occupy the flat gravel beaches. There is little if any permanent or resident biota on these beaches because of ice scour and freezing conditions. Id. at 83.

Three basic categories of fish resources are found in the eastern Alaska Beaufort Sea OCS area -- freshwater species that make relatively short excursions seaward from coastal rivers; anadromous species that spawn in fresh water and migrate seaward as juveniles and adults; and marine species that spend their entire life cycle in the marine environment. Although sixty-two species of fish have been collected along the Alaska Beaufort Sea coast, five species comprise over 90% of the numbers present. Those species are the Arctic char, Arctic cisco, least cisco, Arctic cod and fourhorn sculpin. Id. at 78.

Anadromous fish, which include Arctic char, Arctic cisco, least cisco and boreal smelt, concentrate along and immediately adjacent to the mainland shoreline and along the edges and lee sides of the barrier islands. Anadromous fish are highly mobile and use a large portion of the coastline. They prefer the warmer, less saline waters around river deltas. They generally spawn in the fall with the exception of the boreal smelt which spawns in the spring or early summer. During the open water period, they spend much of their time feeding in the nearshore, an area used during the winter for feeding as well. Id. at 78-79.

Marine fish species, such as the Arctic cod, saffron cod, fourhorn sculpin, capelin, and Arctic flounder spawn primarily

during the winter in shallow nearshore areas and offshore waters. The Arctic cod is particularly important in the Beaufort Sea because of its abundance, widespread distribution and importance to the diets of other Arctic species. Id. at 79.

Mammals and birds using the coastal waters of the Alaska Beaufort Sea are highly mobile and utilize a wide variety of food sources. In general, they move into the areas for the short summer season and leave before freeze up. The four types of mammals found in this area are cetaceans, pinnipeds, polar bears and terrestrial species. Id.

Five species of cetaceans have been reported in the Alaska Beaufort Sea. They are the endangered bowhead whale, the endangered gray whale, the beluga or white whale, the narwhal, and the killer whale. The Alaska Beaufort Sea is part of the normal range for the bowhead whale and the beluga whale and is the extreme edge of the gray whale's summer range. Killer whales and narwhals are considered "extralimital." Two other endangered species that may occur in the eastern Alaska Beaufort Sea OCS area are the fin whale and the humpback whale. Id. at 84.

Pinnipeds reported in the Alaska Beaufort Sea include the harbor seal, the spotted seal, the harp seal, the hooded seal, the ringed seal, the bearded seal, the northern fur seal, the northern sea lion and the Pacific walrus. Only the ringed seal, the bearded seal, and the spotted seal are regular inhabitants of the eastern Alaska Beaufort Sea OCS area. The presence of sea ice strongly influences the distribution and seasonal occurrence of these pinniped species. The presence of a stable sheet of landfast ice is of major importance to the ringed seal as females dig lairs into drifts that have formed in the lee of irregularities in the ice. Ringed seals overwinter under the sea ice using breathing holes. Spotted seals are found at or near the ice front during winter and spring. As the ice recedes in the spring, the spotted seals move northward with the ice front. Id. at 84, 87.

Polar bears present in the Alaska Beaufort Sea are part of the northern Alaskan population which is composed of about 2000 members. They are usually found along the shear ice zone between the permanent pack ice of the Arctic Ocean and the seasonal pack ice of the Beaufort and Chukchi Seas. During the summer, few polar bears are found on land, and most can be found along the edge of the permanent pack ice. As the ice sheet advances in winter, polar bears are found along the shear zone between the landfast ice and the drifting pack ice. Pregnant polar bears seek denning sites in late October or early November and give birth in December or January. The dens are generally constructed in deep accumulations of snow on landfast ice, moving pack ice or on land. Females and their cubs remain in the dens until late

March or April. Males and non-breeding females usually do not construct dens. Instead, they remain active year-round, ranging widely over coastal areas and the adjacent sea ice. Id. at 87, 92.

About 150 species of seabirds, waterfowl, shorebirds and raptors consisting of several million individuals are present on the Arctic coastal plain. The vast majority are migratory with only six species present from September to May. The most abundant marine birds are the oldsquaws, red phalaropes, glaucous gulls and common eiders. The major influx of marine birds into the eastern Alaska Beaufort Sea OCS area begins with the spring migration. Shortly after the spring migration, most marine birds disperse to nesting grounds. During the breeding or nesting period, waterbirds can be found on the mainland tundra as well as on the barrier islands. The barrier islands from Oliktok Point to Flaxman Island are the most intensively used. The nearshore and coastal areas of the Beaufort Sea provide important feeding areas for these species. From May through mid-June, the most important areas for marine birds are patches of open water in areas where the water depth is less than eighty-two feet. These areas provide resting and feeding areas for the spring migrants. Id. at 97-98, 101.

From mid- to late July, large numbers of marine birds congregate in coastal lagoons to feed and molt before the fall migration. The fall migration is protracted, and some birds may wait as late as October before departing. Id. at 101.

There are no known live bottom areas or fish banks on or in the vicinity of the Galahad Prospect. Id.

## 2) Potential Adverse Impacts to Marine Environment

After generally discussing the marine environment, Amoco's POE outlines the potential impacts on the marine environment from routine operations. Amoco's POE states that "[r]outine operations should not result in a reduction in the population of harvestable resources, a reduction in the availability of harvestable resources, or a limitation on the access of subsistence users to harvestable resources. The proposed drill sites and areas that will be passed over or traversed by project-related aircraft and vessels do not correspond to areas where harvestable resources concentrate and they are generally outside the areas where subsistence use activities traditionally take place." Id. at IV-20.

The submissions in this appeal concentrate on impacts to the bowhead whale and subsistence use of the bowhead whale. Although I discuss those two issues in depth, I also will consider potential adverse impacts on the marine environment in general.

a) Bowhead Whales

Bowhead whales, an endangered species, are the northernmost of the great whales. Their population is estimated at 7800. Resident natives of the North Slope hunt the bowhead whales for subsistence. Bowhead whales migrate from the Bering Sea into the Beaufort Sea in the spring and travel into the Canadian Beaufort Sea where they stay feeding from June through August. While the spring migratory path varies in distance from shore depending on water depth and coastal topography, the bowhead whales usually travel within ten miles offshore. At certain coastal promontories such as Cape Lisburne and Point Barrow, the whales may be within a few kilometers from shore. In early to mid-September, the bowhead whales migrate westward along the coast of Alaska. The fall migration route is relatively broad across the Beaufort Sea shelf. Many whales stay in nearshore paths while others migrate far offshore. Most whale sightings in the fall have been from ten to fifty kilometers offshore. By early September, the bowhead whales are feeding and migrating in the Alaska Beaufort Sea. The migration through the eastern Beaufort continues until mid-October. Amoco State. at 9; Amoco Reply Br., Exhibit 52 at 19 (Environmental Assessment, "Proposed Regulations Governing the Taking of Small Numbers of Marine Mammals Incidental to Oil and Gas Exploration in the Beaufort and Chukchi Seas," Office of the Chief Scientist, NOAA, dated May 11, 1989) (NOAA EA); Proposed Rule and Request for Comments, "Incidental Take of Marine Mammals," NOAA, 54 Fed. Reg. 40703, 40706 (Oct. 3, 1989) (NOAA Proposed Rule).

The major potential impact on bowhead whales from routine operations on the Galahad Prospect results from noise caused by drilling, icebreaker activity, supply vessel activity, and aircraft. Such noises can travel long distances over the water. The noise produced by such industrial activities is in the same frequency range as most bowhead whale vocalizations which are used as navigational and communication devices. As a result, the industrial noise may interfere with the bowhead whales' calls. The Alaska Eskimo Whaling Commission, Response to Amoco Production Company's Statement of Reasons in Support of An Override, dated August 14, 1989, at 21-22 (AECW Response).

The NOAA EA comments that there has been little opportunity to assess directly the impacts of industrial activities on bowhead whales in Alaskan waters due to the imposition of seasonal drilling restrictions in previous lease sales and the fact that most previous OCS activity in the Beaufort Sea occurred in winter when bowhead whales are not present. NOAA EA at 28-29. Alaska notes that there have only been two site-specific noise impact studies conducted in conjunction with Alaskan Beaufort Sea drillship operations. The National Marine Fisheries Service

(NMFS), commenting on one such study,<sup>10</sup> stated that it "clearly demonstrates that bowhead whales exhibit strong avoidance behavior to the drilling activities .... Whales actively responded to industrial activities at distances of up to 25 km or greater." It also stated that the study shows that migration was displaced by the drilling activity. Alaska Response, Exhibit 15, Enclosure at 1-2. The North Slope Borough also asserts that whales passing an operating drillship in the Alaska Beaufort Sea avoided the area within ten kilometers of the ship, and some reactions were evident at even greater ranges. North Slope Borough Letter at 2 (citing MMS Report #6945, MMS 89-0006, "Analysis and Ranking of the Acoustic Disturbance Potential of Petroleum Industry Activities and Other Sources of Noise in the Environment of the Marine Mammals in Alaska").

In its EA, NOAA said that there is no evidence that drilling operations and support vessels act as barriers to migration. It added, though, that during study periods, ice conditions were light, and whales could pass north or south of a drilling rig. NOAA was uncertain whether bowhead whales would approach an operating rig to continue migration if there were heavy ice conditions, and the rig was in the migratory path. NOAA EA at 30.

NOAA also considered a five year Canadian Beaufort study in its EA. That study concluded that bowhead whales

- in general, show considerable tolerance to ongoing noise from drilling or dredging;
- react more strongly to moving or rapidly changing noises such as startup noises or approaching vessels;
- orient away from moving vessels up to four kilometers away and actively avoid moving vessels two kilometers or less;
- cease avoidance movements when vessels are out of range but may remain scattered for longer periods of time; and
- react in a more varied fashion to aircraft with most reactions to fixed wing aircraft occurring at altitudes of less than 1500 feet, and unless aircraft noise is sustained or intense, it is likely to cause only temporary disturbances.

NOAA EA at 30-31, 33.

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<sup>10</sup>Responses of Bowhead Whales to an Offshore Drilling Operation in the Alaskan Beaufort Sea, Autumn 1986," LGL Limited Environmental Research Associates.

Determining the potential adverse impacts of routine operations on bowhead whales, the NOAA EA states "[a]lthough some impacts to individuals may occur ... [we] do not believe proposed exploratory activities will produce noise levels expected to reduce appreciably the likelihood of survival and recovery of the bowhead whales by reducing the reproduction, numbers, or distribution of the species." Id. at 39. The Marine Mammal Commission concurred that noise and disturbance from exploration is likely only to have no more than temporary and localized effects on bowhead whales. It is not likely to affect either survival or productivity. Id. at 46. NOAA concludes its EA by stating that "based on the best scientific information available the effects of currently planned exploration will not adversely affect the species through effects on annual rates of recruitment or survival if certain conditions are met." Those two conditions are:

- no take of marine mammals until spring migration has passed Point Barrow; and
- each activity requires a site-specific monitoring program.

Id. at 50-51.

NOAA notes that its conclusion is based on the total level of activity estimated by MMS. If more activity were to occur, NOAA would reevaluate its conclusions. Id. at 51.

The NMFS Section 7 Biological Opinion on Lease Sale 97 considered the potential impacts of noise on the bowhead whales. Such potential impacts include disruption of feeding, short or long term deviations from migration routes, interference with reproduction and communication, physiological stress and abandonment of traditional use areas. Amoco State., Exhibit 10 at 8 (Letter from William E. Evans, Under Secretary, Department of Commerce, to W. D. Bettenberg, MMS, attaching OCS Lease Sale 97 Biological Opinion). The NMFS, in commenting on this appeal, noted that in November, 1988, it issued a new Section 7 Biological Opinion for all areas in the Arctic Region. That opinion concluded that "exploration activities in the Arctic Region are not likely to jeopardize the continued existence of any endangered or threatened marine mammal as long as exploration did not take place in the spring lead system of the bowhead whale. This opinion [does] not include any seasonal restrictions during open-water months such as drilling only above threshold depth until a percentage of bowhead whales have completed their fall migration." The NMFS further commented that

[i]n earlier biological opinions issued for Lease Sales in the Arctic Region, NOAA Fisheries [NMFS] concluded that

exploratory drilling during the fall migration of the bowhead whale would jeopardize the continued existence of the species. Based on these earlier opinions, the Minerals Management Service and the State placed seasonal drilling restrictions on the oil companies. However, starting with Lease Sale 97 issued in May 1987, NOAA changed to a no jeopardy opinion as long as exploratory drilling did not occur during the spring bowhead whale migration. In formulating this opinion, we used the best available information submitted by the Minerals Management Service on the probability of an oil blowout during exploratory drilling, recent research on effects of noise associated with drilling activities on bowhead whales, and the results of research available and considered relative to the issuance of opinions for the Beaufort Sea and Chukchi Sea. The same information was used to make the findings for the proposed rule that will allow an incidental take of marine mammals.

Memorandum from James W. Brennan, Assistant Administrator for Fisheries, NOAA, to Katherine Pease, Assistant General Counsel, NOAA, dated June 30, 1989 (NMFS Memorandum).

The NMFS does, however, sound a cautionary note in its Proposed Rule where it states

[t]he ability of the bowhead whale to accommodate increasing industrial disturbance is uncertain. Some accommodation undoubtedly can occur, but the level of stress imposed on the species as a result cannot be predicted. A decreased use by bowhead whales of the Canadian Beaufort Sea industrial areas, as evidenced from aerial surveys during the summer, has been noted .... However, changes in bowhead whale abundance has also occurred outside the main industrial area. One suggested cause for the decreased use is the effect of increased disturbance from industrial activity that began in the early 1970's and significantly increased since 1980. Variation in food availability (zooplankton concentrations) may also have been involved.

Present and proposed OCS exploratory and development activities in the Arctic Region may eventually adversely affect the successful life cycle of bowhead whales. At present, we are unable to predict what these tolerance thresholds might be, but we do not believe that the foreseeable additive effects of previous and planned sales should exceed this level of concern.

NOAA Proposed Rule at 40709.

In its comments on this appeal, Interior stated that it has completed thirty-three studies on the bowhead whale and other

topics directly related to the seasonal drilling restriction. It concluded that those "[s]tudies have shown no trend for significant offshore displacement of the bowhead fall migration pathway due to exploratory drilling activities." Letter from J. M. Hughes, Deputy Assistant Secretary - Land and Minerals Management, Department of the Interior, to Honorable William E. Evans, Under Secretary for Oceans and Atmosphere, Department of Commerce, dated July 12, 1989, at 5 (Interior Letter). In its comments, MMS notes that potential adverse impacts to bowhead whales are mitigated by the imposition of Stipulation No. 7, which requires site-specific monitoring and Information to Lessee conditions (k) and (f). Condition (k) "provides that the Regional Supervisor, Field Operations has the authority and intends to suspend operations whenever bowhead whales are subject to threat of serious, irreparable or immediate harm to the species, based on information from the lessees' and MMS' monitoring programs." Condition (f) "identifies restrictions on vessel and aircraft activities to avoid behavioral disturbances to marine mammals." MMS Enclosure 2 at 10.

Amoco will take steps to decrease potential adverse impacts on bowhead whales from routine operations. During the consistency review process, it agreed to change its POE to avoid non-essential vessel traffic during the bowhead whale migration. Amoco State. at 15. Air traffic will originate at Prudhoe Bay and will follow an existing aircraft corridor along the coast to Camden Bay and then will take a direct route to the drillsite. Under Amoco's lease:

- helicopters and aircraft must maintain at a one-mile horizontal distance from the observed marine and terrestrial mammal concentration areas;
- it must minimize or reroute traffic to avoid disturbances to bowhead whales; and
- must maintain a minimum altitude of 1500 feet while in transit to the drilling unit unless it would jeopardize safety of personnel.

Id. at 25, n.13; Amoco POE at IV-37.

Amoco's POE outlines further protection for the bowhead whales. Should bowhead whales be encountered by a project-related vessel, Amoco will observe the following guidelines:

- the vessel will operate at a speed that will make collisions with endangered bowhead whales unlikely; if visibility decreases to less than 3 miles (5 km), vessel speed will be reduced.

the vessel will maintain a minimum approach distance of 1

mile (1.6 km) from endangered bowhead whales.

• if the vessel inadvertently approaches within 1 mile (1.6 km) of (an) endangered bowhead whale(s), the vessel operator will take every precaution to avoid harassment of the animal(s) by:

- reducing vessel speed within 300 yards (275 m) of the animal(s);

  - steering around the animal(s), if possible;

- operating the vessel in such a way as to avoid separating members of a group of animals from other members of the group;

- operating the vessel to avoid multiple changes in direction; and

- checking the waters immediately adjacent to the vessel to ensure that no animal(s) will be injured when the propellers are engaged.

Amoco POE at IV-38.

The routine operations of the drillship and project-related vessels and aircraft may have a slight adverse impact on the bowhead whale as the result of noise. This noise may cause the bowhead whales to avoid or orient away from the drillship or project-related vessels. Based on the studies conducted to assess the impacts of such noise on the bowhead whales, I conclude that the adverse effects will be temporary and will not cause a major disruption of the fall bowhead whale migration. In addition, Amoco will take a number of steps to lessen adverse impacts to bowhead whales from routine operations. I find it unlikely that Amoco's proposed activity will create a barrier to migration or will interfere significantly with reproduction or communication by the bowhead whales.

#### b) Other Marine Resources

The POE summarizes the potential, project-related impacts on phytoplankton, zooplankton, benthic communities, nekton communities, pelagic birds and marine mammals. Amoco concludes that the potential impacts on each of these groups will be minimal. See Amoco POE at IV-23-52. I include a table prepared by Amoco entitled "Summary of Potential Impacts on Flora and Fauna from Routine Operations." See Table I. Based on my analysis of Amoco's discussion in its POE, I conclude that adverse impacts to the marine resources in the area of the Galahad Prospect will be temporary and minimal.

### 3) Subsistence Uses

Resident natives of the North Slope hunt bowhead whales during the spring and fall migrations. The International Whaling Commission (IWC) establishes quotas. The Alaska Eskimo Whaling Commission (AEWC), through a cooperative agreement with NOAA, allocates strike quotas to seven native villages. Although most native villages conduct their hunt in the spring in the open ice leads, the villages of Kaktovik and Nuiqsut only hunt in the fall as the bowhead whales do not pass their villages in the spring. Unused strikes may be transferred to other native villages. NOAA Proposed Rule at 40706.

A successful hunt may depend upon both favorable weather and ice conditions. During the time period 1973 through 1988, Kaktovik landed twenty-seven whales, and at least one whale each season except in 1975, 1985 and 1987. Nuiqsut landed a whale in 1973, 1982, 1986 and 1987. The whalers of Kaktovik expressed concern in 1985 and 1987 when they did not land a whale because there was considerable seismic and drilling activities occurring during the migration. Data gathered during aerial surveillance during 1985 indicated that whales were present in the traditional hunting areas. It is possible that bad ice conditions in 1985 and bad weather conditions in 1987 interfered with the hunt. On the other hand, Kaktovik landed three whales in 1986 and one in 1988 when there were exploratory activities taking place in the vicinity of the hunting grounds. Contributing to those landings may be the fact that 1986 was an exceptionally good ice year and a good year for hunting. NOAA Proposed Rule at 40710.

During the time period 1964 to 1987, most takes of bowhead whales have occurred within twenty miles from shore.<sup>11</sup> See Figure 2. In Kaktovik, hunting activities are generally conducted within ten miles from the coastline but may be as far as twenty miles offshore.

The farthest harvest was approximately twenty-three miles from shore. Nuiqsut hunters, using a barrier island such as Cross Island or Flaxman Island, hunt within ten miles of these islands but may travel out as far as twenty miles. Sometimes they join the Kaktovik hunters. According to MMS, the whale harvest closest to the Galahad Prospect was about fifteen miles, and twenty-five miles from the proposed first well location. MMS Enclosure 2 at 12. Both Amoco and the AEWC state that the nearest recorded whale harvest to the Galahad Prospect occurred eight miles away. Amoco State. at 28; AEWC Response at 23.

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<sup>11</sup>The Alaska Eskimo Whaling Commission states that hunters have been known to take whales as far as thirty-five to forty miles offshore. AEWC Response at 7.

TABLE I

SUMMARY OF POTENTIAL IMPACTS ON FLORA AND FAUNA  
FROM ROUTINE OPERATIONS

FLORA OR FAUNA TYPE	POSSIBLE IMPACT	REASON WHY IMPACT IS MINIMAL
Phytoplankton	Decrease in photosynthesis caused by increased turbidity due to the discharge of dredge materials (i.e., if glory holes are constructed), drilling muds, and drill cuttings.	Occurs in limited area, normally no more than 3,280 feet (1,000 m) from discharge point.
	Toxic effect of drilling muds.	Toxicity levels of drilling muds are reduced to acceptably low levels when discharged in accordance with the general NPDES permit.
Zooplankton	Smothering or decrease in filter feeding efficiency caused by increased turbidity.	Occurs only in the immediate vicinity of discharge point and for short time.
	Toxic effect of drilling muds.	Toxicity levels of drilling muds are reduced to acceptably low levels when discharged in accordance with the general NPDES permit.
	Entrainment and death in cooling systems of drilling units.	Entrainment will cause negligible impact on zooplankton populations because of temporary nature of activities.
Benthic (Bottom-Dwelling) Animals	Smothering or burial by dredge materials (i.e., if glory holes are constructed), settled muds and cuttings, and anchor implacements.	Affects only a small area usually within few hundred meters of a drilling site. The changes will be temporary and highly localized. Some local species populations may

TABLE I

FLORA OR FAUNA TYPE	POSSIBLE IMPACT	REASON WHY IMPACT IS MINIMAL
Nekton (swimming or mobile animals)	None	<p>be displaced because of localized changes in physical properties of the sediment.</p> <p>Smothering and clogging unlikely because animals can move away from disturbances.</p> <p>Toxicity levels of drilling muds are reduced to acceptably low levels when discharged in accordance with the general NPDES permit.</p>
Pelagic Birds	Collisions with structures; disturbance due to human presence and noise.	<p>Proposed operations will occur away from staging, nesting, and molting areas.</p> <p>Collisions are unlikely and would affect an insignificant number of birds.</p> <p>Project-related aircraft and vessels will comply with the recommendations in Section 14(f) of the Information to Lessees portion of the Final Notice of Sale.</p>
Marine Mammals (pinnipeds and cetaceans)	Disturbances due to human presence and noise.	<p>Proposed operations will occur away from hauling out and breeding areas.</p> <p>Project-related aircraft and vessels will comply with the recommendations in Sections 14(f) and (k) of the Information to Lessees portion of the Final Notice of Sale.</p>

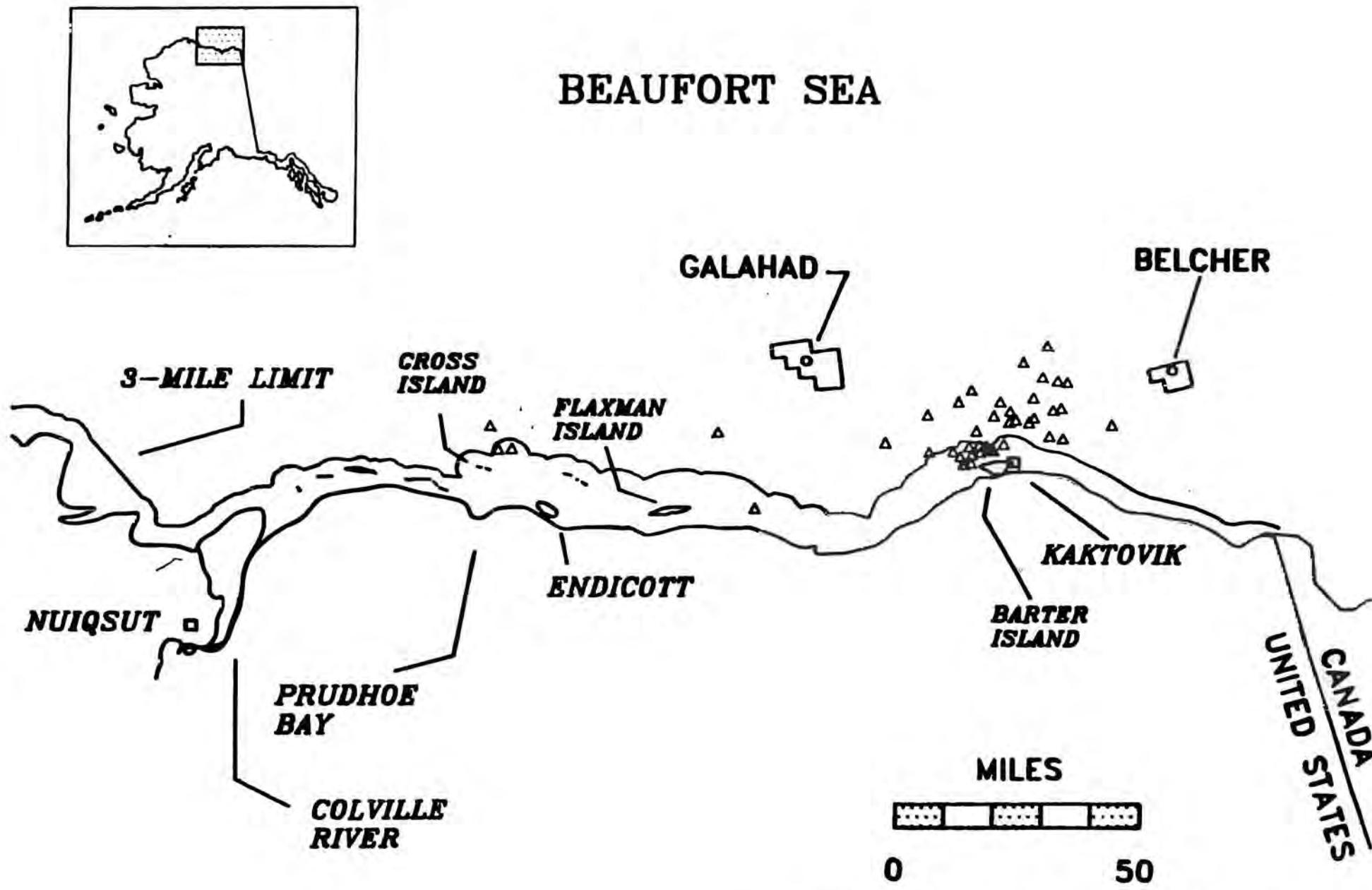


FIGURE 2  
 Δ BOWHEAD WHALE HARVESTS (1964 - 1987)

(SOURCE: NORTH SLOPE BOROUGH)

MINERALS MANAGEMENT SERVICE  
 ALASKA OCS REGION

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Stipulation No. 7 of Lease Sale 97 requires lessees to consult with local subsistence communities and the AEWC to avoid undue interference with subsistence activities. In 1986, several oil and gas companies developed an Oil/Whalers Cooperative Agreement with subsistence villages to minimize interference between exploratory drilling activities and subsistence whaling by providing a system for communication among industry operators and whaling crews. *Id.* Amoco, as in previous years, signed the Oil/Whalers Cooperative Agreement in 1989. That agreement, provides in part, that the lessee operator will suspend or curtail seismic and supply boat activity when near a whaler actively engaged in a hunt. The agreement also commits the lessee operator to participate in furnishing emergency supplies and assistance to whalers if operating during the migration. Amoco Reply Br. at 7, n.2. The AEWC states that it cannot realistically assess this agreement due to weather and ice conditions, and the timing and location of industrial operations. AEWC Response at 24.

The AEWC believes that Amoco's proposed activity may have a negative impact on the subsistence hunt as support vessel traffic will traverse daily the principle fall whaling grounds of the Village of Nuiqsut. *Id.* at 23. Amoco recognizes that project-related vessel traffic could cause user conflicts especially should they occur in the immediate vicinity of whaling activities during heavy ice conditions which would shorten the whaling season. Amoco believes that reinitiation of the Oil/Whalers Cooperative Agreement will help to eliminate such conflicts by establishing a radio network to facilitate communications between project related vessels and whaling boats. The radio network would permit the regular compilation and rapid dissemination of information on project vessels and whaling boat locations, activities they are engaged in and their movements. Amoco POE at IV-19-20.

The AEWC conveys that subsistence hunters report that whales are scarce in areas of industrial activity. When hunters spot whales that have just gone through an industrial noise area, the whales exhibit highly erratic swimming behavior and are skittish, making it virtually impossible to take the whales. AEWC Response at 22. The North Slope Borough also raises concerns. While acknowledging that the Galahad Prospect is beyond the area where traditional hunting activities generally occur, it feels that noise generated by support activities could impact subsistence whaling if it causes the whales to migrate further offshore than normal. It also thinks that the noise could reach nearshore waters and affect the bowhead whales. North Slope Borough Letter at 3. The State of Alaska, as well, expresses concern that the noise could affect migration routes with unknown biological consequences and that such deflection may impact subsistence whaling. Alaska Response at 25.

In its comments on the NOAA EA, the Marine Mammal Commission declared that exploratory activities are not likely to have a significant adverse effect on the availability of bowhead whales to native subsistence hunters. NOAA EA at 47. NOAA concluded that over the next five years, it is not likely that the availability of bowhead whales will be reduced to a level insufficient for harvest to meet subsistence needs if the following conditions are met:

- there is no take by industry activities until the bowhead whales are past Point Barrow; and
- industry continues its cooperative efforts with villages that participate in the subsistence hunt.

Id. at 51 -52.

NOAA cautioned, however, that its opinion is limited to exploratory activities only, and if evidence in the future reveals that exploration was reducing the availability of bowhead whales for subsistence purposes, it would reevaluate its findings. Id. In its proposed rule concerning the take of marine mammals incidental to oil and gas exploration activities in the Beaufort and Chukchi Seas, the NMFS makes the finding that "the impact of the requested activities on populations of marine mammals, including bowhead whales, will be negligible, and there will be no unmitigable adverse impacts on the availability of the species for a subsistence harvest by Alaska natives." NMFS Memorandum.

In the discussion on adverse impacts on the bowhead whales from the routine operations at the Galahad Prospect, I concluded that there would only be slight adverse impacts. I also found that routine operations would not cause a major or permanent deviation by the bowhead whales from their fall migratory route nor would such operations create a barrier to migration. I find that bowhead whales are highly likely to be present in their traditional use areas during their migration. Relying heavily on the expert opinions of the Marine Mammal Commission and the National Marine Fisheries Service, I find that the routine operations associated with Amoco's proposed exploration of the Galahad Prospect will not significantly impact the availability of bowhead whales for subsistence harvest.

#### 4) Potential Impacts on Other Uses of the Area

There is only one continuous commercial fishing operation in the Alaska Beaufort Sea which is located in the vicinity of Colville River delta, approximately 115 miles west of the Galahad Prospect. The fishery is conducted by a single family, mainly in the fall, using gill nets set under the ice. The target species are Arctic cisco, least cisco, broad whitefish and humpback

whitefish. Because of the distance of its proposed operations from this area and the fact that no project-related aircraft or vessels will pass over or near the delta, Amoco states that there will be no effect on the commercial fishing operation. Amoco POE at III-38, IV-11-12. I concur with Amoco's assessment.

There are no mariculture activities in the vicinity of the Galahad Prospect. Nor do any recreational sites exist on or in the Galahad Prospect. *Id.* at IV-12-13. The nearshore and onshore areas adjacent to the Alaska Beaufort Sea are used for recreational purposes. Noise from aircraft and vessels travelling to and from the drill site may impact slightly on recreational users' enjoyment of this area.

#### Adverse Effects from Unplanned Events

##### 1) Oil Spills

###### (a) Probability of Blowout and Land Contact

As discussed in previous consistency appeals involving exploratory oil and gas drilling, the risk of an oil spill is low. *See, e.g.,* Texaco Decision at 17-18. Statistics from several reports illustrate this low risk. A U.S. Geological Survey report "Outer Continental Shelf Oil and Gas Blowouts" (1980) found that from the period 1971 through 1978, there were seventeen blowouts from the drilling of 2250 exploratory wells in the Gulf of Mexico. Three years later, MMS published "Outer Continental Shelf Oil and Gas Blowouts, 1979-1982" which documented eight blowouts for 1,580 exploratory wells drilled on the United States OCS. To update these statistics, Amoco gathered information for the years 1983 through 1985 and found eight blowouts from the drilling of 1501 exploratory wells on the United States OCS. Totalling these figures shows that there have been thirty-three blowouts during the drilling of 5337 wells on the United States OCS. Amoco State., Exhibit 34 at V-30-31 ("An Evaluation of the Potential Impacts of Exploratory Drilling and Scientific Research Operations on Subsistence Resources and Subsistence Use Activities in the Alaska Beaufort Sea," July 1988) (7/88 Evaluation). A similar statistic is found in "Probability of An Oil Spill from Offshore Exploratory Drilling: A Summary" which documents thirty-one blowouts resulting from the drilling of 4824 exploratory wells during the period 1971 - 1984. Amoco State., Exhibit 40 at 1. The probability of an exploratory well blowout on the United States OCS is 0.64 percent. *Id.* at 4.

Although there have been some blowouts resulting from exploratory drilling, it is interesting to note that no oil has been spilled as the result of a blowout from any exploratory drilling in the United States OCS or the Canadian Beaufort Sea. Most blowouts

consist of gas and drilling muds.<sup>12</sup> Id. at 1-2, 4.

In its EA, MMS considered the probability of an oil spill from Lease Sale 97 activities. The likelihood of a spill of 1000 barrels or greater during exploratory drilling is approximately 0.0004 percent. MMS predicts that exploration spills would be only platform and minor supply spills. During exploration in northern Alaskan waters, spills of less than 1000 barrels occur approximately once every fifty-seven drilling days. These spills average 0.25 barrels in size. MMS estimates that there will be thirty-one such spills releasing a total of eight and one-half barrels of oil. Beaufort Sea Sale 97, Final Environmental Impact Statement, June 1987, at IV-A-4, 6 (Lease Sale 97 FEIS).

MMS also has calculated the probability of an oil spill from Lease Sale 97 reaching the Alaskan shoreline. Using the launch points closest to the Galahad Prospect, a major oil spill originating at these launch points has less than a 0.5% conditional probability of contacting all land segments between Demarcation Point and Point Barrow. For certain of these segments the conditional probabilities of contact range from 1 to 8%. Within ten days of a spill there is an 11% chance of contact with one land segment; and within thirty days, there is a 9% chance of contact with one land segment. 7/88 Evaluation at V-32. There is a 9% chance of an oil spill hitting any portion of the coastline of the Arctic National Wildlife Refuge. Amoco Reply Br. at 17, n.6.

(b) Containment

The Alaska Eskimo Whaling Commission expresses concerns that an oil spill from the Galahad Prospect could be difficult to bring under control in the Arctic due to the limited number of open water days which could constrain containment efforts. It further cites the limited effectiveness of current containment technology such as the effectiveness of open ocean containment booms in waves over two to three feet. It believes that current technology for cleaning up oil spills is "seriously inadequate" for use under Arctic Ocean conditions. The AEWC also relies on recent information from the International Whaling Commission's

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<sup>12</sup>A blowout could, of course, involve oil -- for example, Ixtoc I, an exploratory well off the coast of Mexico, spilled a substantial amount of oil when it blew in 1979, and it took many months to bring the blowout under control. However, a more recent exploratory blowout in the Canadian OCS involving the Kulluk, the drillship Amoco intends to use at the Galahad Prospect, occurred on June 5, 1989, and involved only natural gas. AEWC Response at 4, 31.

Scientific Committee<sup>13</sup> which found that emergency plans for oil spill containment and cleanup have not been effective in the past and may be very difficult to implement in remote regions. AEWC Response at 11, 31-32, 34-35. The U.S. Fish and Wildlife Service also raises a similar concern by observing that "[t]he risk and consequence of spills is [sic] undoubtedly greater during periods of the year when floes of broken ice are present. Oil spill cleanup would be extremely difficult under such conditions." Letter from Richard Smith, Acting Director, U.S. Fish and Wildlife Service, Department of the Interior, to Katherine A. Pease, Assistant General Counsel, National Oceanic and Atmospheric Administration, July 3, 1989 (FWS Letter).

Amoco notes that the potential impact of an oil spill is dependent upon a number of factors such as the amount of oil spilled, the duration of the spill, meteorological and oceanographic conditions and the effectiveness of response operations. It adds that oil spreading rates in Arctic waters are between 100 and 1000 times less than in more temperate waters. 7/88 Evaluation at V-32. Amoco states that should a major oil spill occur, there will be response equipment located on the drilling unit and other equipment available through Alaska Clean Seas and other response organizations. Amoco POE at IV-22. Under its Oil Spill Contingency Plan, the drilling unit will be equipped with curbs, gutters, drip plans and drains linked to a sump system. The sump will serve as a final trap for hydrocarbon liquids in the event of an equipment upset and will automatically maintain the oil at a level sufficient to prevent the discharge of oil into OCS waters. Both training of personnel and drills to assist in the response to a spill are part of this plan. The plan lists response equipment available onsite and from offsite sources. Amoco POE at II-34-35. In addition, Amoco has agreed to supplement its plan as follows:

- listing communication systems to be relied on in the event of an oil spill;
- making available to all spill response personnel a simplified field manual containing basic elements of the contingency plan; and
- listing spill response contractors and equipment that will be available to Amoco during drilling operations.

Amoco Reply Br. at 32-33.

Commenting on this appeal, the Department of Transportation notes

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<sup>13</sup>The functions of the Scientific Committee include determination of stock classifications and quota levels. AEWC Response at 7.

that "[t]he Coast Guard reviewed the oil spill contingency plan for the exploration operations and notified the Alaska Outer Continental Shelf Regional Office of the Minerals Management Service that it found the plan acceptable." Letter from Patrick V. Murphy, Deputy Assistant Secretary for Policy and International Affairs, Department of Transportation to Katherine A. Pease, Assistant General Counsel, National Oceanic and Atmospheric Administration, Department of Commerce, dated June 23, 1989 (Transportation Letter).

(c) Impacts on Natural Resources in General

The State of Alaska expresses concern that a major oil spill from the Galahad Prospect could result in significant disturbances and impacts to subsistence resources attempting to avoid the contaminated area and significant disruption of subsistence use activities by limiting access to areas. Alaska Response at 11. Amoco focused on the adverse impacts of oil spills in the 7/88 Evaluation. Other submissions in this appeal also discussed potential impacts. I summarize some of those impacts below. Others will be discussed in more detail after this summary.

Cetaceans (Other than Bowhead Whales) -- Possible effects include fouling of baleen plates, possible disruption of respiratory functions, ingestion of oil with unknown effects on the physiology, reduction of food supply through contamination of habitat, and irritation of skin and eyes. Whales might avoid oil contaminated water which could delay migration long enough for them to become trapped in ice. Benthic feeding species such as the endangered gray whale are more likely affected than species feeding on zooplankton.

Pinnipeds -- Occurring species include the ringed, bearded and spotted seals as well as walruses. Because juvenile and adult members rely on thick, subcutaneous fat layers for insulation, they are not likely to suffer significant heat loss from oil contamination. Newborn pups, however, have a long-haired pelt and might lose thermal insulation from oil contact and could die from exposure. These species are likely to suffer from severe eye irritation. There is little evidence that these species avoid oil contaminated water. Generally, the broad distribution of pinnipeds reduces the likelihood that a significant number would come in contact with oil.

Polar Bears -- Oil-fouled bears become hypothermic rapidly when exposed to wind and low temperatures. Consumption of crude oil, either through grooming or eating oil contaminated prey can be toxic to the bears. Direct oiling and oil ingestion can result in death. Eye irritation is likely. Polar bears also may be adversely affected as a

result of impacts on the number or distribution of its primary prey species such as ringed seals. The number of polar bears potentially affected would be low as there are few in coastal areas from July until November.

Seabirds -- A spill occurring during winter would have no immediate effect unless oil remained following the spring breakup period. Spills occurring at other times are very likely to affect birds. Sea ducks such as oldsquaws and eiders are likely to suffer direct mortality. Other birds such as black brants may be contaminated directly. Direct contact will result in oiling of plumage, which in turn results in loss of waterproofing and possibly buoyancy. Other impacts include various pathological effects from oil ingestion and reduced productivity from egg or chick mortality or displacement from local habitats. Oil could reduce food supplies.

Fishes -- Because of climatic conditions, there is a lower species diversity and reduced numbers. Anadromous and marine fish are broadly distributed in the nearshore area and only a limited number of fish would be affected. For most species, contact would be brief because of their highly mobile behavior, but less mobile species such as fourhorn sculpin would be more susceptible to lethal or sublethal oiling. Capeline spawning areas on the shoreline could be contaminated and result in lethal or sublethal effects on all life stages. Sublethal chronic effects may occur if fish are exposed to low-level concentrations over a long period of time. Such effects include declines in growth and reproductive rates. Because most species spawn during the winter under ice, eggs would not be greatly exposed to oil contamination. Buoyant eggs, however, from species such as arctic cod, could be affected.

Plankton -- Initial response probably would be a localized decrease in growth and productivity of diatoms.

Phytoplankton -- Changes in community structure, productivity and abundance of phytoplankton would be relatively short-term due to the weathering and dissipation of oil and replacement of phytoplankton from unaffected areas by ocean currents. If oil trapped in shoreline areas is gradually released, there would be longer term but localized effects on nearshore phytoplankton.

Zooplankton -- Zooplankton such as crustaceans, worms, clams, snails, starfish, fish and fish eggs would likely not be significantly affected unless in nearshore areas. A subsea blowout would probably have greater effects than a surface spill on these species.

Ichthyoplankton -- Generally more sensitive to oil than adult fish. Fish eggs are usually less sensitive to oil than larvae. The most vulnerable period appears during and immediately after hatching. Effects include slower embryonic growth, changes in heart activity, decreased hatching success, irregular swimming behavior, paralysis, tissue damage, reduced feeding, altered respiration rates and various external and internal body deformities.

Benthos -- Would be affected only if oil reached the sea bottom. The probability of this happening is greatest in shallower, nearshore environment. Effects on infaunal organisms would be of lesser importance because of their low abundance and diversity and reduced ecological significance in this region. Effects on epibenthic crustaceans would range from direct mortality to sublethal effects that include a variety of physiological and behavioral dysfunctions. Most susceptible molluscs would probably be bivalves due to their relative immobility. Recovery of snail populations would begin more quickly due to their ability to move in and recolonize from adjacent uncontaminated areas.

7/88 Evaluation at V-36-60; FWS Letter.

(d) Impacts on Bowhead Whales

The State of Alaska is concerned that bowhead whales may be adversely affected by an oil spill as the result of exploratory activities on the Galahad Prospect. It states that there is up to a 21% probability of an oil spill originating from the Galahad Prospect contacting the bowhead whale migration area. Alaska Response at 9.

The potential impacts on the bowhead whale from contact with oil are similar to those described above for other cetaceans. Basically, effects can range from death to illness caused by ingestion or inhalation to irritation of skin and eyes. There is some speculation that the skin of the bowhead whale may be partially resistant to oil. The bowhead whales also may face a localized reduction of food resources and perhaps temporary displacement of some feeding areas. Another potential adverse impact is the fouling of its feeding mechanism, baleen. If the baleen remains fouled for a number of hours, food organisms might be contaminated, causing ingestion of oil. According to submissions in this appeal, there have been no recorded sightings of a whale with its baleen fouled by oil. 7/88 Evaluation at V-37; Amoco State., Exhibit 10 at 6-7; MMS Letter, Exhibit 26 at III-14 (Proposed Beaufort Sea Lease Sale 97, Environmental Assessment, January 1988) (MMS EA). MMS believes that the effect

of oil on the functioning of baleen would last no more than one to three days and "would not appreciably impair feeding efficiency ...." It also noted that it was not probable that cetacean blowholes would become clogged by oil. MMS Enclosure 2 at 11.

There is contradictory evidence on whether the bowhead, or other whales for that matter, can detect oil on the surface of the water and learn to avoid it. Endangered gray whales migrating through the Santa Barbara Channel area offshore of California swim through areas of natural oil seeps. Following the Exxon Valdez oil spill in Prince William Sound in 1989, 173 observations were made of cetaceans from March 25 to April 9, 1989. Eighty percent of cetaceans were swimming in light oil sheen; 10% in moderate oil sheen; and 10% in heavy oil sheen. None was showing attempts to avoid the oil. And, as of May 15, 1989, there was no cetacean reported dead as an apparent result of the oil. Alaska Response, Exhibit 17 at 3; 7/88 Evaluation at V-42.

In its comments on this appeal, MMS states "even if bowhead whales were to encounter spilled oil during the 'open-water' season, studies show that it is likely for free-ranging whales to experience either minimal short-term effects, or no effect at all from the oil (Richardson et al., 1985). If any short-term effects did occur, all but a small percentage of them would be eliminated within an hour after the animals' return and exposure to clean water." It concluded that an oil spill would only have minor short-term effects on bowhead whales. MMS Enclosure 2 at 11; see also MMS EA at III-14.

The AEWG disagrees with the MMS conclusion that the impacts on the bowhead whale would be minor. It points out that if there were a spill, MMS's estimated mortality of bowhead whales exceeds the IWC Scientific Committee's estimated replacement yield. AEWG Response at 12, n.28.

Commenting on the Environmental Assessment for "Proposed Regulations Governing the Taking of Small Numbers of Marine Mammals Incidental to Oil and Gas Exploration in the Beaufort and Chukchi Seas," the Marine Mammal Commission concurred that there is a low probability of an oil spill during exploration occurring and contacting bowhead whales or habitat important to their survival or productivity. The Commission did, however, recognize that the potential impact of an oil spill is independent of its probability of occurrence. NOAA EA at 47-48. NOAA's 1988 Biological Opinion on Lease Sale 97 under Section 7 of the Endangered Species Act, based its finding of no jeopardy, in part, on the low probability of an oil blowout during exploration drilling. NMFS Memorandum at 2. The State of Alaska, as well, acknowledged that the probability of bowhead whales encountering an oil spill is low. Alaska Response at 26.

## Impacts on Subsistence Uses

The MMS EA considers the impact of an oil spill from exploratory drilling on the Lease Sale 97 tract as a whole and predicted that the probability of an oil spill occurring and contacting the Wainwright subsistence harvest area as 2% in the spring and 6% in the winter. The probability for contacting Barrow all winter is 37%. During the open water season, the probability is 23%. The probability of an oil spill occurring and contacting the Kaktovik subsistence harvest area all winter is 20% and during the open water season, it is 9% within 10 days of the oil spill. Overall, there is little likelihood that the Wainwright subsistence harvest will be affected. An oil spill could affect whaling in Barrow either in the spring or fall and in Nuiqsut and Kaktovik for one year. MMS classifies this as a moderate effect. MMS EA at III-23, 26.

Alaska states that the probability of oil from a spill originating from the Galahad Prospect contacting offshore subsistence resource areas is 18%. Alaska Response at 9.

The AEWG notes that an oil spill could present a barrier to subsistence activities. Cleanup activities could entail substantial noise and create physical obstruction which could reduce access by hunters. The AEWG points out that subsistence hunting is opportunistic, and a disruption of a few weeks can vastly diminish the food supply for an entire year. AEWG Response at 25-27.

## Conclusion

Based on the record, I find that the risk of a major oil spill from an exploratory well on the Galahad Prospect to be slight. While there is a likelihood of a small spill of a barrel or two, the effects of such a spill would be minor. In addition, Amoco has developed an Oil Spill Contingency Plan which has been approved by the Coast Guard. Due to the extremely low probability of an oil spill occurring, I conclude that it is unlikely that there will be any significant adverse impacts on the natural resources of the coastal zone or the availability of the bowhead whales for subsistence use resulting from an oil spill originating from the Galahad Prospect.

### 2) Drilling Ship and Support Vessel Safety

Amoco proposes to use a floating drilling unit specifically developed for offshore oil and gas exploration in Arctic regions. The unit will be moored by anchors, and all mooring lines will be equipped with remote anchor release units. The unit is designed to allow for a quick disconnect from the anchors should the drilling vessel need to withdraw quickly due to unmanageable ice

encroachment. Amoco POE at II-3, 8.

Support aircraft consists of helicopters to move personnel and small supplies between Deadhorse and possibly Barter Island and the drilling unit. Helicopter routes from Deadhorse are planned to follow an existing aircraft corridor along the coast between Prudhoe Bay and Camden Bay and then proceed directly offshore to a drill site. Helicopters operating from Barter Island will travel directly offshore to the drill site. Id. at II-16.

Amoco plans to use three ice class support vessels to be dedicated to the project at all times. One additional ice class support vessel may be used to transport supplies and equipment from shore. Id.

Amoco's POE delineates the safety systems it will employ to maintain the integrity of the drilling unit and to protect the environment during its proposed operations. Those actions include:

- assessment of potential shallow drilling hazards;
- hydrogen sulfide contingency planning;
- curtailing activities during adverse meteorological and oceanographic conditions;
- drilling a relief well if a blowout occurs; and
- plans to cover the loss or disablement of the drilling unit or support craft.

Id. at 19.

In addition, Amoco will equip the drilling unit with blowout preventer equipment, adequate quantities of mud, firefighting, evacuation and lifesaving equipment, and vessel/meteorological monitoring equipment which meets the standards set by MMS and the U.S. Coast Guard. Amoco will test equipment regularly and will conduct performance monitoring and personnel training programs to minimize the potential for accidents. Id.

Based on the record developed in this appeal, there appears to be minimal vessel traffic in the Alaska Beaufort Sea. Amoco states that there will be "very slight risk of a collision with vessels operating in the vicinity of the drilling unit or between project and non-project related vessels ...." The potential for a collision will be mitigated by Amoco's compliance with all applicable Coast Guard safety, navigation and notice requirements. Id. at III-40; IV-11.

Amoco will use a state-of-the-art drilling vessel designed for

Arctic conditions and will employ safety equipment on the drilling vessel. These actions should minimize the possibility of an accident on the drilling vessel that may adversely impact the natural resources of the coastal zone. The risk of a vessel collision appears slight, and Amoco will comply with the applicable Coast Guard regulations. In addition, the temporary nature of Amoco's proposed activity will lessen the potential adverse impacts to the environment. For all of these reasons, I find that Amoco's proposed project will not cause a significant adverse impact on the natural resources of the coastal zone as a result of a drilling rig accident or vessel collision.

#### Cumulative Adverse Effects

The State of Alaska did not cite cumulative adverse impacts as a potential problem nor did it discuss this issue in its submissions. Amoco, as well as MMS, did provide some information concerning the potential cumulative adverse impacts from Amoco's proposed project being conducted in conjunction with other activities in the general vicinity of the Galahad Prospect.

As in previous oil and gas exploration and development appeals, I rely on the standard used in the Gulf Oil Decision to determine the proper scope of cumulative effects to be considered. In that decision, the Secretary construed "cumulative effects" to mean "the effects of an objected-to activity when added to the baseline of other past, present and reasonably foreseeable future activities occurring in the area of, and adjacent to, the coastal zone in which the objected-to activity is likely to contribute to adverse effects on the natural resources of the coastal zone." Gulf Oil Decision at 8.

Neither party to the appeal has suggested the appropriate geographical area to consider for the cumulative impact analysis. And, unlike other oil and gas exploration or development appeals, there appear to be few activities occurring in the general vicinity of the Galahad Prospect. I adopt the suggestion of the Minerals Management Service and will confine my analysis to the eastern Beaufort Sea.

MMS has identified only one other proposed OCS oil and gas related activity near the Galahad Prospect. That activity is Amoco's Belcher Prospect located approximately seventy miles to the east. MMS Enclosure 2 at 13. Considering both the Galahad and the Belcher Prospects, Amoco states that it will not have more than one drillship and will not drill more than one well at a time in the Beaufort Sea OCS area. Amoco State. at 6, n.3.

In its discussion of potential cumulative effects, Amoco examines Lease Sale areas 97, BF, 71 and 87 as well as potential activities in state waters. It states that as many as five or as few as two drilling units may be operating on the OCS from these

leases, and two units may be operating in state waters. Amoco Reply Br., Exhibit 52 at 10. This geographic scope, of course, is much greater than I have chosen. Even considering this larger area, there appears to be only slight likelihood of simultaneous drilling of wells.

Amoco also considers a two drillship scenario and concludes that there would not be significant cumulative adverse effects on the bowhead whale. It reached this conclusion based on the spatial distance between the drilling rigs and the short duration of the drilling. There likely would be only a low level of industrial activity producing noise. Amoco also asserts that if two wells were drilled at the same time, there would be little chance of more than one oil spill. Amoco State. at 29, 35.

Amoco's POE evaluates further cumulative impacts to the marine environment should its proposed activity overlap with drilling and research/monitoring operations by other companies in the vicinity of the Galahad Prospect. I summarize those impacts below:

Phytoplankton, Zooplankton, Benthos -- population levels in the vicinity of the Galahad Prospect are projected to be low. It is unlikely that simultaneous operations would occur at sites that are close together (i.e., less than three miles). Therefore, wastes at each drill site would enter the water column near the disposal sites or spread in low concentrations over a small area. The quantity of discharge would be low compared to the natural sediment load.

Nekton -- cumulative impacts would be negligible due to low fish concentrates and mobility of these species. Operations would only affect a small ocean area, and exposure would be of limited duration.

Birds -- bird concentrations offshore are low. Simultaneous operations would likely be subject to similar mitigation measures requiring all aircraft and vessels to maintain at least a one mile horizontal distance and aircraft at least a 1500 foot vertical distance from known bird staging, nesting and molting areas. Impacts should be negligible.

Marine Mammals -- because whales and seals are widely dispersed, cumulative impacts should be negligible. Amoco assumes that all operations would be subject to similar mitigation measures designed to minimize the potential impacts on the bowhead whale.

Amoco POE at IV-26-47.

In its comments on this appeal, MMS states that the potential

cumulative adverse impacts to the bowhead whale and subsistence whaling would be negligible. MMS Enclosure 2 at 14. It notes that "[s]ubsistence whalers are more likely to be affected in the cumulative case than by the individual activity. However, the EA 88-03 concludes that the proposal will not likely result in a significant adverse cumulative effect on the bowhead whale population and subsistence whaling." Id. MMS also identifies several other ongoing activities in the eastern Beaufort Sea that could contribute to the cumulative adverse effects on the natural resources of the coastal zone. It states that vessel traffic, such as the annual sealift to Prudhoe Bay, and the resupply of coastal communities as well as seismic activities occur throughout the range of the bowhead whale. It points out that most of this activity occurs west of the Galahad Prospect and after the spring and before the fall bowhead whale migration. Id. MMS concludes that Amoco's proposed project would only contribute negligible, incremental effects in combination with other nearby activities affecting the natural resources of the coastal zone. Id.

As discussed in the section on oil spills, MMS considered the probability of an oil spill from Lease Sale 97 activities. It determined that the likelihood of a major oil spill (1000 barrels or greater) during exploratory drilling is approximately 0.0004 percent. MMS Enclosure 2 at 11; Amoco State., Exhibit 40 ("Probability of An Oil Spill from Offshore Exploratory Drilling: A Summary") at 4, 7/88 Evaluation at V-31; Lease Sale 97 FEIS at IV-A-5. This statistic is for all exploratory activities over the life of Lease Sale 97, not for the more discrete time period covered by Amoco's proposed activity.

Amoco's proposed activity would impact a much smaller area than that considered in the MMS EA. Thus, the potential adverse cumulative impacts would be substantially less. In addition, the fact that Amoco's proposed project is temporary and short term also lessens its potential cumulative adverse impact. Because of the temporary nature of the exploratory drilling (approximately 70 days per well), effects that would not be present after the time that drilling is completed and the drillship removed, such as the risk of oil spills or vessel collision, would not cumulate with future activities. Instead, they would only cumulate with similar effects scheduled to be occurring during the drilling period. See Gulf Oil Decision at 8. Even if Amoco's proposed project did occur during the time period of another drilling activity, it is not likely to contribute significantly to other possible adverse effects due to the great distance between potential drill sites.

Although there is a slight probability of oil spills occurring in the Alaska Beaufort Sea from Lease Sale 97 activities, Amoco's proposed project will not add significantly to the cumulative adverse effects on the natural resources of the coastal zone.

I find that Amoco's proposed project will not contribute significantly to the cumulative adverse effects on the natural resources of the coastal zone due to its temporary nature and the limited exploration, support, and other industrial activities likely to occur in the vicinity of the Galahad Prospect.

#### Contribution to the National Interest

Regarding the proposed project's contribution to the national interest, Amoco cites the Final Environmental Impact Statement (FEIS) for Lease Sale 97 which estimates economically recoverable oil from Sale 97 tracts to range from a low 110 million barrels of oil to a mean of 600 million barrels to a high of 1.66 billion barrels with a likelihood of discovery at 69%. In addition, the FEIS estimates 7.75 billion feet of gas reserves. Amoco State. at 23, 35. I note that since the issuance of the FEIS in June, 1987, MMS has prepared an environmental assessment on the lease sale because new resource estimates had been calculated. MMS now estimates the undiscovered economically recoverable oil resources for the Lease Sale 97 area as a low of 310 million barrels, a mean of 870 million barrels and a high of 3.39 billion barrels of oil with the probability of a commercial accumulation of 14% rather than the previously estimated 69%. MMS EA at I-1; MMS Enclosure 2 at 16.

The State of Alaska questions the proposed project's contribution to the national interest. It points out that since the first Federal lease sale in 1976, no oil has been produced from Alaska's OCS. Thus, there is no guarantee that the proposed activity will make any contribution to the nation's energy needs. On the other hands, the state does not deny that Amoco's exploration may help to reduce the nation's dependence on foreign oil imports. Alaska Response at 1, 22-23.

Unlike lessees in previous oil and gas consistency appeals, Amoco does not estimate the potential reserves on the Galahad Prospect. Instead, it states that it is impossible to project the precise amount of the resource but asserts it is "likely to be a significant percentage of the resources recited by MMS for the entire sale area." Amoco Reply Br. at 23. MMS states that while an estimate of the resource size on Galahad Prospect has not been publicly released, the fact that Interior received the highest bid in Lease Sale 97 for the Galahad Prospect indicates that it is the most promising prospect in the sale area. MMS Enclosure 2 at 16. MMS adds that "[t]he high costs and risks involved with exploration and development in the Alaskan Beaufort Sea mandate that companies like Amoco first explore the prospects with the highest potential for economic success (discovery)." Id.

The Department sought the views of a number of Federal agencies regarding the national interest in Amoco's proposed project. I summarize their comments below:

The Minerals Management Service of the Department of the Interior notes that "[e]xploration and development of the oil and gas resources of the Alaskan OCS is [sic] critical to this national policy of expeditious domestic-energy development. The Federal Government correctly links much of the Nation's ability to develop domestic energy resources to oil and gas resources off the Alaska coast in the Beaufort Sea."

MMS Enclosure 2 at 16.

The Department of Energy "believes that development of OCS energy resources, carried out in a manner consistent with national environmental goals, is one of few options available to mitigate the rapid decline of U.S. domestic oil production." It adds that "U.S. oil imports are projected to reach unprecedented levels in the mid-1990s, and alarming proportions by the turn of the century." It concludes that "new discoveries of oil and gas can only be made through exploratory drilling, which is one in a long series of steps that must be taken before the first barrel of oil is actually produced. By getting the Gallahad [sic] Prospect exploration underway now, the U.S. could be assured of new petroleum supplies in the late 1990s. This would coincide with a timeframe in which the need for domestic oil resources would be especially acute."

Letter from W. Henson Moore, Deputy Secretary of Energy, Department of Energy, to Honorable William E. Evans, Under Secretary for Oceans and Atmosphere, Department of Commerce, November 30, 1989.

The Department of Defense indicates that "domestic exploration and identification of potential petroleum reserves are an important element in maintaining energy security. Thus the Department views responsible Outer Continental Shelf (OCS) oil exploration, including mitigation measures to protect the environment, as necessary." It points out that "43 U.S.C. 1341(b) provides that crude oil from the OCS can be used to meet national defense requirements during a national energy emergency." It adds that "development of OCS petroleum resources can take up to five years once all environmental and regulatory approvals are received."

Letter from Jack Katzen, Assistant Secretary of Defense (Production & Logistics), Department of Defense, to Honorable William E. Evans, Under Secretary for Oceans and Atmosphere, Department of Commerce, June 27, 1989.

The Department of Transportation observes that "[t]he level

of future hydrocarbon production from these leases is unknown prior to exploration findings. Any substantial oil and gas production would contribute to U.S. energy needs. To that extent it would reduce United States dependence on imported oil from vulnerable and potentially unreliable foreign sources ...."

Transportation Letter.

The Federal Energy Regulatory Commission finds that although there is an excess of available natural gas supplies at this time, "as these supplies are produced and depleted, new supplies will be needed. Development of the Federal Outer Continental Shelf (OCS) leases assists in providing these new supplies." It further states that "while future development of this area is important to maintaining secure, long-term supplies for the United States, its development should incorporate all practical efforts to mitigate any potential impact from the project."

Letter from Kevin P. Madden, Director, Office of Pipeline and Producer Regulation, Federal Energy Regulatory Commission, to Katherine A. Pease, Assistant General Counsel, National Oceanic and Atmospheric Administration, Department of Commerce, June 9, 1989.

The Department of the Treasury sees "significant benefits to the national interest ... from development of domestic energy resources ... additional oil reserves ... can be used, along with the Strategic Petroleum Reserve, in the event of a supply disruption abroad." It also comments that there is a "long lead time required for oil production to come on stream following exploration (5-8 years), and that, if approved, Amoco's project would provide additional oil supplies in the 1990's when the Department of Energy forecasts oil prices to be higher." The Department further says that "postponing oil exploration and development imposes costs ... in terms of the oil which will not be available in the 1990's. To maintain our national energy production, it is important to have a continuing stream of economically viable exploration and development projects so that new oil production from these projects will be available to replace declining activity from older or exhausted wells."

Letter from Maynard S. Comiez, Director, Office of Policy Analysis, Department of the Treasury, to William E. Evans, Administrator, National Oceanic and Atmospheric Administration, June 8, 1989.

The Department of the Interior notes that "[i]mport dependency poses threats to the Nation's interest .... When

petroleum is not readily available, exporters can gain leverage over national policy decisions .... Until sufficient energy alternatives are developed, these threats can only be offset by maintaining or increasing domestic petroleum production. The initial step in maintaining or increasing domestic supplies is exploration and inventory."

Interior Letter at 3.

There is no estimate concerning the potentially recoverable reserves on the Galahad Prospect. Further, the probability of discovering a commercial accumulation of hydrocarbons is relatively low -- 14%. The fact that the size of reserves may be uncertain or the chances of recovery low, however, does not mean necessarily that no national interest purpose is served by exploration. How great that national interest might be becomes part of the balancing performed below. Therefore, I find that Amoco's proposed project will further the national interest in attaining energy self-sufficiency by ascertaining information concerning the oil and gas reserves actually available for production.

#### Balancing

In the discussion above, I found that Amoco's proposed activity, when considered alone, will not have a significant adverse effect on the natural resources of the coastal zone. I also have concluded that Amoco's proposed project, when considered in conjunction with other activities that may be conducted in the general vicinity of the Galahad Prospect, will contribute slightly to the cumulative adverse effects to natural resources of the coastal zone. I also noted that the potential adverse impacts from Amoco's proposed project are temporary in nature and will cease when Amoco has completed its exploration of the leasehold.

I have determined that there is little possibility of an oil spill as the result of Amoco's exploratory activities, and thus, there is little risk to the natural resources of the coastal zone from an oil spill. I also have found that Amoco's proposed project contributes little to the potential risk of an oil spill from other activities occurring in the eastern Alaska Beaufort Sea. I find that there would be a slight risk from other nonroutine activities such as a vessel collision. In particular, I have found that Amoco's proposed activities, either individually or cumulatively, will not significantly affect the bowhead whale population, the fall bowhead whale migration or the bowhead whale subsistence hunt.

While there is no estimate for the potentially recoverable reserves on the Galahad Prospect, I have determined that Amoco's proposed exploration will further the national interest in

attaining energy self-sufficiency by providing information concerning the oil and gas reserves actually available for production. Although there has been no commercial recovery of oil and gas from the Alaska Beaufort Sea OCS, in this balancing exercise, I weigh heavily the fact that Amoco's proposed project is in a frontier area. It is important for the national interest of energy self-sufficiency to encourage exploration in such areas, provided that the activities are conducted in a sound environmental fashion.

I conclude that Amoco's proposed project's adverse effects on the natural resources of the coastal zone, when performed separately or in conjunction with other activities, do not outweigh the proposed project's contribution to the national interest. I, therefore, find that Amoco's proposed project satisfies the second element of Ground I.

### 3. Third Element

To satisfy the third element of Ground I, the Secretary must find that "the activity will not violate any requirements of the Clean Air Act, as amended, or the Federal Water Pollution Control Act, as amended." 15 C.F.R. § 930.121(c). The requirements of the Clean Air Act and the Federal Water Pollution Control Act are incorporated into all state coastal programs approved under the CZMA. CZMA Section 307(f).

#### Clean Air Act

Sections 108 and 109 of the Clean Air Act (CAA), 42 U.S.C. § 7408 and § 7409, directs the Administrator of the Environmental Protection Agency to prescribe national ambient air quality standards (NAAQS) for air pollutants to protect the public health and welfare. CAA Section 110, 42 U.S.C. § 7410, requires each state to prepare and enforce an implementation and enforcement plan for attaining and maintaining the NAAQS for the air mass located over the state.

Under the Outer Continental Shelf Lands Act, the Secretary of the Interior is responsible for regulating air emissions from activities on the OCS. The United States Court of Appeals for the Ninth Circuit determined the scope of that authority vis a vis regulation by EPA in California v. Kleppe, 604 F.2d 1187 (9th Cir. 1979). The Ninth Circuit held that the Secretary of the Interior was responsible for establishing and enforcing emission levels for OCS activities significantly affecting the air quality of any state. Interior must set these emissions standards at levels permitting state and local governments to attain the air quality standards of the Clean Air Act. 604 F.2d at 1196.

The land areas adjacent to the Alaska Beaufort Sea are contained within the Northern Alaska Intrastate Air Quality Control Region

(NAIAQCR). The State of Alaska has designated the NAIAQCR as an area in which the ambient air quality is better than the NAAQS. There is only one major source of industrial emissions in Arctic Alaska which is the Prudhoe Bay/Kuparuk complex, some seventy-six miles west-southwest of the Galahad Prospect. Amoco POE at III-19-20. Amoco does not expect any significant impacts on onshore air quality as its operations will be occurring more than thirty miles offshore. *Id.* at III-20, IV-5; Amoco State. at 37.

MMS has determined that Amoco's proposed project will comply with Interior's air emissions standards for OCS oil and gas point sources. MMS Enclosure 2 at 17. The State of Alaska concurs that the proposed POE will not violate the Clean Air Act. Alaska Response at 27.

Because Amoco cannot conduct its proposed exploratory drilling without complying with Interior's regulations, Amoco will meet the relevant standards of the Clean Air Act. Therefore, I find that Amoco's proposed project will not violate any requirement of the Clean Air Act.

#### Federal Water Pollution Control Act (Clean Water Act)

Sections 301(a) and 403 of the Clean Water Act (CWA), 33 U.S.C. § 1311(a) and § 1342, provide that the discharge of pollutants is unlawful except in accordance with a National Pollutant Discharge Elimination System (NPDES) permit issued by the Environmental Protection Agency.

Amoco states that any adverse impact on water quality will be minor and short term. The major types of wastes to be discharged include drilling mud, drill cuttings and wash water, deck drainage, sanitary wastes, domestic wastes, desalinization unit wastes, boiler blowdown, fire control system test water, non-contact cooling water, ballast water, bilge water and test fluids. Amoco POE at IV-8-9. The Amoco POE observes that "[a]ll liquid wastes will be discharged in accordance with the effluent limitations and monitoring requirements established by the EPA and set forth in the general NPDES permit for the Beaufort Sea, which prohibits the discharge of visible oil and floating solids. *Id.* at IV-9. Amoco has applied for coverage under the general NPDES permit, but has not yet applied for its individual NPDES permit. Amoco State. at 37; MMS Enclosure 2 at 18.

Reviewing the proposed project, the Alaska Department of Environmental Conservation determined that "[d]ischarges of solid and liquid wastes will be conducted in accordance with the EPA permitting requirements established in the NPDES permit for the Beaufort Sea, and will have no impact on state waters because of the distance from shore." Amoco State., Exhibit 32 at 1. In its submissions during the course of this appeal, the State of Alaska agreed that the proposed POE will not violate the Clean Water

Act. Alaska Response at 27.

In EPA's comments on this appeal, it stated that "[t]he proposed activities of the Appellant will not violate the requirements of the Clean Water Act unless the Appellant violates the terms of the National Pollution Discharge Elimination System (NPDES) general permit (AKG284100) which was issued for Lease Sale 97." Letter from Richard E. Sanderson, Director, Office of Federal Activities, EPA, to Honorable R. Kent Burton, Acting Under Secretary for Oceans and Atmosphere, Department of Commerce, at 2.

Because Amoco cannot carry out its proposed exploratory drilling without meeting the terms and conditions of EPA's general permit and individual permit, and thereby meet the standards of the Clean Water Act, I find that Amoco's proposed project will not violate the requirements of the Clean Water Act.

#### 4. Fourth Element

To meet the fourth element of Ground I, the Secretary must find that "[t]here is no reasonable alternative available (e.g., location[, ] design, etc.) which would permit the activity to be conducted in a manner consistent with the [State coastal] management program." 15 C.F.R. § 930.121(d).

This element is decided by evaluating the alternative(s) proposed by the state in the consistency objection. See Long Island Lighting Company Decision. Whether an alternative will be "reasonable" depends upon its feasibility and the balancing of advantages of the alternative against its costs. Gulf Oil Decision at 22.

In its March 3, 1989, letter to Amoco, the State of Alaska identified three measures that, if all implemented, would render Amoco's proposed project consistent with the ACMP. Those measures are revisions to Amoco's Oil Spill Contingency Plan, participation in a specified bowhead whale monitoring program and compliance with the 1986 Seasonal Drilling Restriction Policy. Letter from Robert L. Grogan, Director, Division of Governmental Coordination, State of Alaska, to Cheryl Winkler, Amoco Production Company, dated March 3, 1989 (Alaska 3/3/89 Letter).

##### a. Oil Spill Contingency Plan

The state requested Amoco to amend the Oil Spill Contingency Plan by

- listing communication systems to be relied on in event of an oil spill;

making available to all spill response personnel a

simplified field manual containing basic elements of the contingency plan; and

- listing spill response contractors and equipment that will be available to Amoco during drilling operations.

Alaska Response at 37.

The State of Alaska indicates that it is uncertain whether Amoco has agreed to these revisions. Id.

Amoco contends that the state did not object to its proposed Oil Spill Contingency Plan but merely imposed a condition on it. It further states that it "either has or will take all necessary action to comply with these requirements, and the state is fully aware that Amoco will make the requested modifications to the OSCP." Amoco Reply Br. at 32-33.

The requested modifications to Amoco's Oil Spill Contingency Plan appear to require little expense and time for the potential benefits that may be provided in the event of an oil spill. Under the Gulf Oil Decision test, I find that this is a reasonable alternative. Further, Amoco has indicated its intention to make the requested modifications.

#### b. Bowhead Whale Monitoring Program

The State of Alaska proposes that Amoco participate in a bowhead whale monitoring program to determine the effects of noise from drilling activity and related support activities on bowhead whales and the bowhead whale subsistence hunt. The monitoring program will be "based on aerial observations of bowhead distribution and behavior in the area of drilling operations coupled with acoustic studies to measure sound levels and propagation characteristics around the operations ...." Alaska 3/3/89 Letter, Attachment 2.

Amoco argues that this monitoring project does not constitute a reasonable alternative for the following reasons. First, it is vague. Second, it may be costly, and third, it has no effect on land or water uses of the coastal zone nor does it constitute an alternative method for conducting the drilling activities. Amoco State. at 39-42. Each of these contentions is addressed separately.

Amoco asserts that by proposing this monitoring program, Alaska has not met the burden of describing the alternative as established by the Decision and Findings in the Consistency Appeal of Korea Drilling Company, LTD., January 19, 1989 (Korea Drilling Decision). Amoco State. at 40. The Korea Drilling Decision held that the state agency empowered to conduct the Federal consistency functions has the burden of identifying an

alternative. Once that alternative is identified, the burden shifts to the appellant to demonstrate that the alternative is unreasonable. Korea Drilling Decision at 23. Any proposal must be specific enough to describe an alternative that would permit the proposed activity to be conducted in a manner consistent with the state's coastal management program. Id. at 24.

Instead of a specific proposal, Amoco states that Alaska has only set forth "vague and general 'minimum requirements'" which may change in the future resulting in an open ended process of continued state supervision and approval. Amoco State. at 40. The state counters that it has provided a list of specific elements that would be required and suggests that a program similar to that conducted by Shell Western previously would fulfill the requirements of this proposal. State Response at 36-37. After examining Attachment 2 to Alaska 3/3/89 Letter which outlines the requirements of the monitoring program, I find that it is not so vague as to fail the standard articulated in the Korean Drilling Decision.

Although asserting that the costs of the whale monitoring program exceed the benefits, Amoco states that it cannot quantify precise costs due to the vague parameters of the program. It does estimate start up costs such as design, legal fees and technical fees as between \$150,000 - 300,000. Amoco State. at 42; Amoco Reply Br. at 31. It is difficult to determine how Amoco derived the cost estimate. Amoco does not state that it estimated the cost for each element of the proposed monitoring plan nor does it even break the figures into discrete categories for design and various other fees. Neither does it appear that Amoco attempted to get a cost estimate from Shell Western which conducted a program that would satisfy the State of Alaska's requirement. Finally, it is not even clear for what period of time "start up costs" covers.

I hold that Amoco has not met the burden under Korean Drilling Decision to demonstrate that the costs of the whale monitoring program are unreasonable.

There remains, however, the most crucial question concerning this alternative -- that is the nexus of this proposal to the requirement that the alternative would permit the proposed activity to be conducted in a manner consistent with Alaska's coastal management program. Amoco states that the proposed monitoring program does not have any effect on the land or water uses of the coastal zone, for example, in any way affect the frequency of whales in coastal waters. Rather, it is merely a study which will be used to regulate drilling activities in the future. Amoco State. at 39, 42.

Alaska acknowledges that the proposed monitoring program is not "in and of itself" an alternative that would lessen effects on

the coastal zone. Instead, it is designed to generate information necessary to determine if the POE or future activities will significantly interfere with subsistence activities or the availability for subsistence purposes. Alaska Response at 36.

While the goals of the proposed monitoring program may be commendable, there must be a nexus between the alternative and conducting the proposed activity consistent with Alaska's coastal management program. I do not find such a nexus here. As Amoco aptly states, the proposed monitoring program does not suggest an alternative method of conducting drilling or support activities for Amoco's proposed project. It is merely an information gathering mechanism. While Amoco may voluntarily agree to undertake such a study, that study cannot be imposed upon it under the guise of Federal consistency. I therefore find that the proposed bowhead whale monitoring program is not an alternative within the meaning of 15 C.F.R. § 930.64(b).

I note, in passing, that Stipulation No. 4, "Industry Site-Specific Bowhead Whale Monitoring Program," of Lease Sale 97 requires lessees to conduct a site-specific bowhead whale monitoring program during exploratory drilling operations. Amoco Reply Br., Exhibit 49, Attachment. Amoco states that it will supplement the research program at the Galahad Prospect with site-specific aerial monitoring as required by the Minerals Management Service to comply with Stipulation No. 4. Amoco Reply Br. at 31. Such a monitoring program should provide information useful to the Federal government and the State of Alaska.

c. 1986 Seasonal Drilling Restriction Policy (SDR)

The SDR Policy is a measure that has been used by the Department of the Interior and the State of Alaska for exploratory drilling on the Beaufort Sea OCS. The policy is based on a determination of a threshold drilling depth and the midpoint of the bowhead whale migration. The policy was developed to reduce the risk of an oil spill during the bowhead whale migration. Interior included a SDR stipulation in three lease sales in the Beaufort Sea -- Joint State/Federal Sale BF (1979), OCS Lease Sale 71 (1982) and OCS Lease Sale 87 (1984). Both Interior and the State of Alaska have relaxed the SDR requirements since they were first imposed in 1979. Thirteen exploratory wells have been drilled on leases subject to a SDR Policy. Amoco State. at 9-10, 43; Alaska Response at 30; MMS Enclosure 2 at 1.

Interior did not include a SDR stipulation in Lease Sale 97. Interior based this decision on a National Marine Fisheries Service Biological Opinion on Lease Sale 97 which concluded that the exploratory phase of the lease sale is not likely to jeopardize the continued existence of any endangered or threatened marine species. MMS Enclosure 2 at 1.

The policy works as follows. A threshold drilling depth is determined. This is the depth at which hydrocarbons may be encountered. The midpoint of the fall bowhead whale migration is also calculated. Amoco State. at 10. Under the State of Alaska 1986 SDR Policy, exploration from floating drilling structures such as that to be used by Amoco is subject to the following restrictions:

- drilling above a predetermined threshold depth and testing through casing is allowed year-round subject to the following condition. If the exploratory drilling is conducted in the main migratory path during the bowhead whale migration, the operator must conduct research on the effect of noise from drilling activity and support activities on whales and subsistence hunt; and
- drilling below threshold depth is prohibited upon beginning of the fall bowhead whale migration until one-half of the whale population has passed the drillsite.

Alaska Response, Exhibit 4 at 3-4 (1986 SDR Policy).

Amoco urges the Secretary to find that the 1986 SDR Policy is not a feasible alternative because neither the threshold drilling depth nor the midpoint of the bowhead whale migration can be determined easily. Concerning the threshold depth determination, Amoco notes that there is no prior drilling history in this area, and only seismic data is available. Amoco State. at 43. Interior, as well, does not consider the determination of a threshold drilling depth viable due to the largely untested geology in the area. Interior states that seismic data alone do not show the presence of hydrocarbons. It adds "[i]n the absence of nearby well data to document faults and stratigraphy and velocity data, determining a threshold depth from seismic data is speculative and unreliable. There are no well data available in the area of Galahad to refine or confirm a threshold depth determination from seismic information." MMS Enclosure 2 at 21. Amoco also cites the experience with Shell's Corona Project and its own Belcher Prospect, both in Beaufort Sea frontier areas, where the predetermined threshold depths were not supported by actual geological conditions. According to Amoco, experience demonstrates that a predetermined threshold depth is impractical and of limited value. Amoco State. at 10.

Amoco states that it is very difficult to determine the midpoint of the fall bowhead whale migration as approximately 7000 whales are spread over thousands of square miles. These whales may not be very visible due to murky waters, weather conditions and broken ice. *Id.* at 44. Alaska agrees that determining the midpoint of the bowhead whale migration is far from an exact science. Under the state's 1986 SDR Policy, the midpoint is

based on a determination made by the National Marine Fisheries Service which has, along with MMS, developed standard procedures for determining the midpoint that are based on a comparison of historical migration data with current information. Therefore, Alaska states that an approximate midpoint date can be determined. Alaska Response at 32; Exhibit 21 at 2.

Amoco contends that the projected costs for complying with the 1986 SDR Policy far outweigh any benefits. Amoco acknowledges that the costs will be dependent on whether drilling is above or below the threshold level when the fall bowhead whale migration begins. Amoco thinks that it is more likely to be at or below the threshold level at the Galahad Prospect because Amoco will start drilling as early in the season as possible. If a shut down of drilling is required, MMS estimates that it will cost Amoco between \$500,000 to 900,000 per day. Amoco estimates that it will cost approximately \$600,000 per day based on experience at its Belcher Prospect in 1988. Amoco State. at 45. Amoco next examines historical information on the bowhead whale migration and finds that in 1985, 1986 and 1988, MMS determined that the fall migration averaged thirty-four days. Only in 1986, did MMS determine the midpoint of the migration which was twenty-three days after the migration commenced.<sup>14</sup> Id. at 45-46. Using the range of seventeen to twenty-three days of when drilling would have to shut down, Amoco estimates the costs of the application of the 1986 SDR Policy to be from \$10.2 to 13.8 million dollars. Id. at 46.

Amoco estimates that it will take seventy days to drill one exploratory well. It proposes to use an ice-reinforced drill ship with an ice breaker and two ice-reinforced support vessels to extend its ability to operate during the short drilling season. MMS Enclosure 2 at 21. A shut down of drilling could eliminate approximately one-half of the average forty open water operating days for drilling at the Galahad Prospect and could reduce the overall drilling season up to 20%. Because the Galahad Prospect is located farther offshore than any other well drilled to date on the Beaufort Sea OCS, MMS believes that it will be more susceptible to downtime due to ice and weather conditions. Thus, the shut down may prevent completion of a well in one season which would require use of the drillship into the next drilling season. Such a delay would cost approximately \$20 million dollars for the first exploratory well on the Galahad Prospect. Id. at 22; Amoco State. at 11, 46.

In addition to the delay time and associated costs, MMS raises

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<sup>14</sup>In 1987, there was no drilling activity. In 1988, no midpoint determination was made due to heavy ice conditions, a limited number of whale sightings and no critical need to make a midpoint determination. MMS Enclosure 2 at 22.

other concerns about the imposition of a SDR on the Galahad Prospect. It states that

[d]uring periods of suspension, potential changes in the well bore conditions make re-entering a well less preferable than uninterrupted drilling from a safety standpoint. Further, extended periods of suspension can result in damage to the well bore or the formation which can increase drilling time and severely reduce the amount and accuracy of geological information obtainable from the well ....

MMS Enclosure 2 at 22.

Alaska, on the other hand, feels that the alternative is reasonable because Amoco, Shell Western Exploration and Production and Union Oil Company have conducted drilling operations consistent with the state's SDR Policy. It points out that Amoco complied with the SDR Policy in 1989 on its Belcher Prospect. Alaska Response at 29. Alaska also states that Amoco's Belcher Prospect exploratory drilling began in the 1988 drilling season and has extended into a second drilling season even though it did not have to shut down drilling due to the SDR Policy. Alaska contends that the drilling of this exploratory well may even extend into a third drilling season. While the State of Alaska agrees theoretically with Amoco that the SDR Policy may eliminate some of the available drilling days during the open water season, it states that ice conditions are also a major factor in drilling in the Arctic. Thus, it is difficult to know what time, if any, could be lost due to such conditions. Id. at 33.

In response, Amoco explains its Belcher Prospect. Because its lease included Interior's SDR stipulation, Amoco waited until the fall so it could use a drilling vessel not available until early September. As a result, all drilling occurred above threshold depths during the fall bowhead whale migration. Ice conditions prevented the 1988 completion of that exploratory well. Amoco Reply Br. at 28. Amoco acknowledges that it is possible that the 1986 SDR Policy might not interfere because drilling may not be far enough along to require a shut down. Thus, it adds that the costs associated with the SDR Policy are somewhat uncertain. Id.

The benefit of the 1986 SDR Policy is that it may reduce the chances of migrating bowhead whales encountering an oil spill should an exploratory well blowout occur. This protection, though, is not complete. Even the State of Alaska recognizes that a blowout could occur pre-migration and expose the entire whale population. See Alaska Response at 26. Likewise, a blowout could occur after one-half of the population of migrating bowhead whales has passed the drill site -- still exposing a number of bowheads to the impacts of an oil spill. Further, the SDR Policy is not intended to lessen the effects of drilling

noise on bowhead whales as there is no difference between noise from drilling either above or below threshold limits. Amoco Reply Br., Exhibit 49 at 2. Of course, if a drilling ship were shut down, some noise would be eliminated but the record does not discuss what beneficial impact that unknown level of reduction might be.

I find that the 1986 SDR Policy does provide some environmental benefit by slightly decreasing the risk of exposure of migrating bowhead whales to an exploratory well blowout. However, the risk of an exploratory well blowout is very low. See discussion under Element Two, supra. Alaska also acknowledges that the risk of the migrating bowhead whale population encountering a spill is low. Alaska Response at 26.

The feasibility of the 1986 SDR Policy is less clear. I believe that the process for determining the midpoint of the bowhead whale migration, while not totally precise, provides a reasonable methodology. I am less comfortable with the concept of a predetermined threshold level. Submissions by Amoco indicate that experience shows that the concept has proven less than accurate. See discussion above.

Examining the administrative record before me, I find that imposition of the 1986 SDR Policy on the Galahad Prospect is likely to eliminate almost one-half of the open water days potentially available for drilling. I accept Amoco's uncontradicted estimate that for each day the drilling is shut down, costs will be approximately \$600,000. Taking the lowest estimate generated by Amoco, a seventeen day delay would result in an additional cost of \$10.2 million dollars. I point out that I do not make a monetary value estimate for a bowhead whale or for the traditional subsistence hunt nor do I believe such a valuation would be appropriate in balancing the costs and benefits of this alternative. Rather, I balance the costs to Amoco against the potential risk to the bowhead whale population and the subsistence use of that resource. I find the potential risk to bowhead whales to be low, the potential benefit of the alternative to be slight, and the potential costs to Amoco to be great. I also question the feasibility of determining with a fair degree of accuracy the threshold depth level.

Based on the record before me, I find that the costs outweigh the benefits of this alternative and determine that it is not a reasonable alternative.

#### 4. Conclusion for Element Four

I find that the modifications to Amoco's Oil Spill Contingency Plan are reasonable. I find that the imposition of a bowhead whale monitoring program is not an alternative that would permit Amoco's proposed project to proceed consistent with the Alaska

Coastal Management Program. I further find that compliance with the 1986 SDR Policy is not a reasonable alternative. Because Alaska has determined that all three alternatives must be fulfilled before Amoco's proposed project would be consistent with the Alaska Coastal Management Program, I find that there is no reasonable alternative available to Amoco that would permit its proposed activity to be conducted in a manner consistent with the Alaska Coastal Management Program.

5. Conclusion for Ground I

Based on the findings made in this decision, I find that Amoco has satisfied the four elements of Ground I. Amoco's proposed project is consistent with the objectives or purposes of the CZMA.

B. Ground II: Necessary in the Interest of National Security

The second statutory ground (Ground II) for override of a state objection to a proposed project is to find that the activity is "necessary in the interest of national security." To make this finding, the Secretary must determine that "a national defense or other national security interest would be significantly impaired if the activity were not permitted to go forward as proposed." 15 C.F.R. § 930.122. (emphasis added). Additionally, the Secretary must seek and accord considerable weight to the views of the Department of Defense and other Federal agencies in determining the national security interests involved in the project, although the Secretary is not bound by such views. Id.

Analyzing previous oil and gas consistency appeal decisions, Amoco states that the potential recovery of hydrocarbons is greater than any considered by the Secretary. Amoco adds that the Lease Sale 97 region is one of "the most promising areas" for oil and gas exploration. Amoco State. at 49-50.

The State of Alaska counters that the estimates of recovery relied upon by Amoco are for the whole lease sale area which covers approximately 68,316 acres. Alaska notes that neither Amoco nor MMS have provided information concerning the recovery from the Galahad Prospect. The state asserts that there will be no significant impairment of a national defense or other national security interest if Amoco's project is not permitted to go forward as proposed. Alaska Response at 16, 39.

The Under Secretary requested the views of several Federal agencies concerning the national security interest of Amoco's proposed project. Specifically, the Under Secretary asked those agencies to "identify any national defense or other national security objectives directly supported by Amoco's Plan of Exploration. Also, please indicate which of the identified

security objectives directly supported by Amoco's Plan of Exploration. Also, please indicate which of the identified national defense or other national security interests would be significantly impaired if Amoco's activity were not allowed to go forward as proposed." Letter from William E. Evans, Under Secretary to Honorable Brent Scowcroft, Assistant to the President for National Security; Honorable James D. Watkins, Secretary of Energy; Honorable James A. Baker III, Secretary of State; and Honorable Richard B. Cheney, Secretary of Defense, May 12, 1989. I summarize below the comments received concerning the national security issue:

The Department of State indicates that "[n]ew indigenous hydrocarbon production continues to be essential to our nation's energy security. U.S. production and exploration has generally declined since 1985 largely as a result of weaker oil prices." It notes that "[i]ncreasing dependency on imported oil makes it more urgent than ever to take advantage of economically-viable opportunities for new domestic production." It concludes that "[d]evelopment of these reserves would make a significant contribution to limiting U.S. dependence on imported energy, and contribute to the strength of the U.S. economy. We therefore believe timely development of Amoco's Galahad Prospect would contribute to our nation's security."

Letter from John P. Ferriter, Deputy Assistant Secretary for Energy, Resources and Food Policy, Department of State, to William E. Evans, Under Secretary for Oceans and Atmosphere, Department of Commerce, June 12, 1989.

The Department of Defense comments that "DoD access to OCS crude oil should also be viewed in light of the depletion of the Naval Petroleum Reserves at Elk Hills, California, which are available to DoD in the event of an emergency under current statutes. Since DoD will be dependent upon secure sources of liquid hydrocarbons at least for the next few decades, the importance of proving new oil reserves that may be available then remains a valid concern." Defense ends its comments by stating that "such exploratory efforts should be encouraged and are important to national and defense security since they provide a potential source of petroleum to meet a [sic] energy security threat in the future."

Defense Letter at 2.

The standard for meeting the criteria of Ground II is clearly stated in 15 C.F.R. § 930.122 -- significant impairment to a national defense or other national security interest if the particular project is not allowed to go forward as proposed. The decisionmaker in consistency appeals must make an independent

determination based on the record developed in the appeal. That individual will give considerable weight to the comments of any Federal agency that delineates how a national security or defense interest will be significantly impaired.

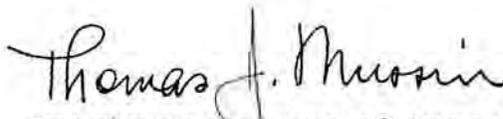
The letters sent to Federal agencies in this appeal concerning Ground II requested specific information concerning Amoco's proposed project. The Federal agencies responded with general, conclusive statements that there is a national security interest in OCS oil and gas exploration. Such general statements without more specific information do not meet the criteria established in the regulation.

#### Conclusion for Ground II

The regulatory criteria for an override based on Ground II establishes a difficult test. Neither Amoco nor any Federal agency commenting on Ground II has explained specifically how the national security interest of energy self-sufficiency or a national defense interest will be significantly impaired if Amoco's proposed activity is not allowed to proceed as proposed. Based on the record before me, I find that the requirements for Ground II have not been met.

#### Conclusion

I have found that Amoco's proposed project is consistent with the objectives or purposes of the CZMA (Ground I). As a result, Federal agencies may issue permits to Amoco to allow it to conduct its proposed activity.

  
Deputy Secretary of Commerce