



May 28, 2010

Minerals Management Service  
Alaska OCS Region  
Attn: Pete Sloan  
3801 Centerpointe Drive, Suite 500  
Anchorage, AK 99503-5823

Re: Final Plan of Cooperation, Statoil 2010 Marine Seismic Survey, Chukchi Sea, Alaska

Dear Mr. Sloan:

Statoil is planning to conduct an exploratory 3D marine seismic survey covering 915 square miles in the Chukchi Sea during summer 2010. As a second priority, four single 2D lines may also be acquired.

As required by Chukchi Sea Lease Sale 193, Stipulation No. 5 - *Conflict Avoidance Mechanisms to Protect Subsistence Whaling and Other Marine Mammal Subsistence-Harvesting Activities*, a Draft Plan of Cooperation (POC) has been developed by Statoil. The POC describes the measures Statoil will take to minimize any adverse effects its proposed marine seismic survey may have on the availability of marine mammals for subsistence use. The Draft POC was distributed to the potentially affected stakeholders, subsistence users, community groups, the U.S. Fish and Wildlife, National Marine Fisheries Service, and to the Minerals Management Service in late January 2010.

Statoil held community meetings in the affected communities of Barrow, Wainwright, Point Lay, and Point Hope in January 2010 and met with representatives of the Marine Mammal Co-Management groups (i.e., the Alaska Eskimo Whaling Commission, Ice Seal Commission, Alaska Beluga Whale Committee, Alaska Eskimo Walrus Commission, and the Nanuq Commission) on March 22, 2010. At each of the meetings, Statoil described the proposed survey program and measures Statoil plans to take, or has taken, to minimize adverse effects its proposed marine seismic survey may have on the availability of marine mammals for subsistence use and requested feedback from subsistence users.

The attached Final POC incorporates comments and concerns expressed by potentially affected subsistence communities and subsistence users. Statoil will continue to engage with leaders, elders, community members, and subsistence groups. Consultation, both formally and informally, will continue before, during and after the 2010 seismic survey activities.

Please contact me at [kbe@statoil.com](mailto:kbe@statoil.com) or Caren Mathis with ASRC Energy Services (AES) at 907-339-5483 or [Caren.Mathis@asrcenergy.com](mailto:Caren.Mathis@asrcenergy.com) if you have questions, need additional information or would like a hard copy of the POC document.

Sincerely,

A handwritten signature in cursive script that reads "Karin Berentsen".

Karin Berentsen  
Alaska HSE and Stakeholder Advisor  
Statoil E&P America

Enclosure: Final Plan of Cooperation

cc: Mayor Edward Itta, North Slope Borough  
Karla Kolash, Assistant to Mayor, NSB  
Taquik Hepa, NSB Wildlife Director  
Dan Forster, NSB Planning Director  
Bill Tracey, NSB Planning Commission  
Julius Rexford, NSB Planning Commission  
Lucille Mayor, NSB Planning Commission  
Ray Koonuk, NSB Planning Commission  
Marie Tracey, NSB Village Liaison  
Mayor Sikauruq Martha Whiting, Northwest Arctic Borough  
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Joel Garlic-Miller, USFWS  
Shane Guan, National Marine Fisheries Service (NMFS)  
James H. Lecky, NMFS  
Candace Nachman, NMFS  
Howard Goldstein, NMFS  
Brad Smith, NMFS  
P. Michael Payne, NMFS  
Rance Wall, MMS  
Statoil: Martin Cohen, Jon Kare Hovde, April Parson, Tim Thompson  
Caren Mathis, AES  
Project File  
Administrative Record

MT/EB/NS/GS  
15325-03-10-003/10-015



May 28, 2010

National Marine Fisheries Service  
Office of Protected Resources  
Marine Mammal Division  
Attn: Shane Guan  
1315 East-West Highway  
Silver Spring, MD 20910-3226

Re: Final Plan of Cooperation, Statoil 2010 Marine Seismic Survey, Chukchi Sea, Alaska

Dear Mr. Guan:

Statoil is planning to conduct an exploratory 3D marine seismic survey covering 915 square miles in the Chukchi Sea during summer 2010. As a second priority, four single 2D lines may also be acquired.

As required by 50 CFR 216.104(a)(12), a Draft Plan of Cooperation (POC) has been developed by Statoil. The POC describes the measures Statoil will take to minimize any adverse effects its proposed marine seismic survey may have on the availability of marine mammals for subsistence use. The Draft POC was distributed to the potentially affected stakeholders, subsistence users, community groups, the U.S. Fish and Wildlife, Minerals Management Service, and the National Marine Fisheries Service in late January 2010.

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The attached Final POC incorporates all comments and concerns expressed by potentially affected subsistence communities and subsistence users. Statoil will continue to engage with leaders, elders, community members, and subsistence groups. Consultation, both formally and informally, will continue before, during and after the 2010 seismic survey activities.

Please contact me at [kbe@statoil.com](mailto:kbe@statoil.com) or Caren Mathis with ASRC Energy Services (AES) at 907-339-5483 or [Caren.Mathis@asrcenergy.com](mailto:Caren.Mathis@asrcenergy.com) if you have questions, need additional information or would like a hard copy of the POC document.

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Karin Berentsen  
Alaska HSE and Stakeholder Advisor  
Statoil E&P America

Enclosure: Final Plan of Cooperation

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Taquik Hepa, NSB Wildlife Director  
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15325-03-10-003/10-015



May 28, 2010

U.S. Fish & Wildlife Service  
Marine Mammal Management  
Attn: Craig Perham  
1011 East Tudor Road, MS-341  
Anchorage, AK 99503

Re: Final Plan of Cooperation, Statoil 2010 Marine Seismic Survey, Chukchi Sea, Alaska

Dear Mr. Perham:

Statoil is planning to conduct an exploratory 3D marine seismic survey covering 915 square miles in the Chukchi Sea during summer 2010. As a second priority, four single 2D lines may also be acquired.

As required by 50 CFR 18.124(c)(4), a Draft Plan of Cooperation (POC) has been developed by Statoil. The POC describes the measures Statoil will take to minimize any adverse effects its proposed marine seismic survey may have on the availability of marine mammals for subsistence use. The Draft POC was distributed to the potentially affected stakeholders, subsistence users, community groups, the National Marine Fisheries, Minerals Management Service, and the U.S. Fish and Wildlife Service in late January 2010.

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Alaska HSE and Stakeholder Advisor  
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# Final Plan of Cooperation 2010 Marine Seismic Survey Chukchi Sea, Alaska

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May 2010

Prepared by

**Statoil**  
2130 CityWest Boulevard, Suite 800  
Houston, TX 77042  
[www.statoil.com](http://www.statoil.com)

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2700 Gambell Street, Suite 200  
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Distribution

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## 1.0 INTRODUCTION AND PURPOSE

Statoil is an international energy company with operations in 40 countries, including U.S. offices in Houston, Texas, and Anchorage, Alaska. Building on more than 35 years of experience from oil and gas production on the Norwegian continental shelf, in February 2008 Statoil acquired 16 leases in Outer Continental Shelf (OCS) Chukchi Sea Lease Sale 193 and partnered with Eni for 14 of the acquired leases. Statoil plans to conduct a marine seismic survey in the Chukchi Sea during the open water season of 2010 and has retained Fugro-Geoteam, Inc. as the seismic contractor.

The purpose of this Plan of Cooperation (POC) is to document the engagement that Statoil has had with local stakeholders, and to describe the potential measures Statoil will take, or has taken, to minimize adverse effects its proposed marine seismic survey may have on the availability of marine mammals for subsistence use. Statoil intends to maintain an open and transparent process with all stakeholders throughout the life-cycle of activities in the Chukchi Sea and to cooperate with the local communities to enable coexistence of subsistence activities and Statoil's planned marine seismic survey. This document has therefore evolved as a part of Statoil's engagement process and includes information about subsistence activities and community concerns that Statoil has received.

The POC is an integral part of three major federal authorizations required for the activity: (1) the National Marine Fisheries Service (NMFS) Incidental Harassment Authorization (IHA); (2) the U.S. Fish and Wildlife Service (USFWS) Letter of Authorization (LOA); and, (3) the Minerals Management Service (MMS) OCS Chukchi Lease Sale 193 Stipulation Number 5 (Conflict Avoidance Mechanisms to Protect Subsistence Whaling and Other Subsistence-Harvesting Activities).

The POC document contains the following information:

1. A description of the proposed marine seismic survey;
2. Documentation of consultation with local communities and tribal governments;
3. A description of mitigation measures to reduce the impact of Statoil's planned activity on subsistence;
4. Ongoing Chukchi Sea scientific research which Statoil is conducting to gather information on the marine environment; and
5. The future plans for meetings and communication with the affected subsistence Chukchi Sea communities.

A Draft POC was submitted in January to the relevant agencies and the affected subsistence communities as part of the permit requirements. This final version has been prepared to summarize comments received by Statoil from the subsistence communities.

## 2.0 PROJECT DESCRIPTION

### 2.1 *Overview of the survey*

Statoil's proposed 2010 Chukchi Marine Seismic Survey project in the Chukchi Sea involves using seismic sound-source equipment to gather data on the marine sub-bottom geology in the project area for the assessment of petroleum reserves. This project is specifically a seismic sound-source data acquisition project using a sound-source array towed by a seismic source vessel. The primary data acquisition will be a three-dimensional (3D) seismic survey covering approximately 2,368 square kilometers ([sq km] 915

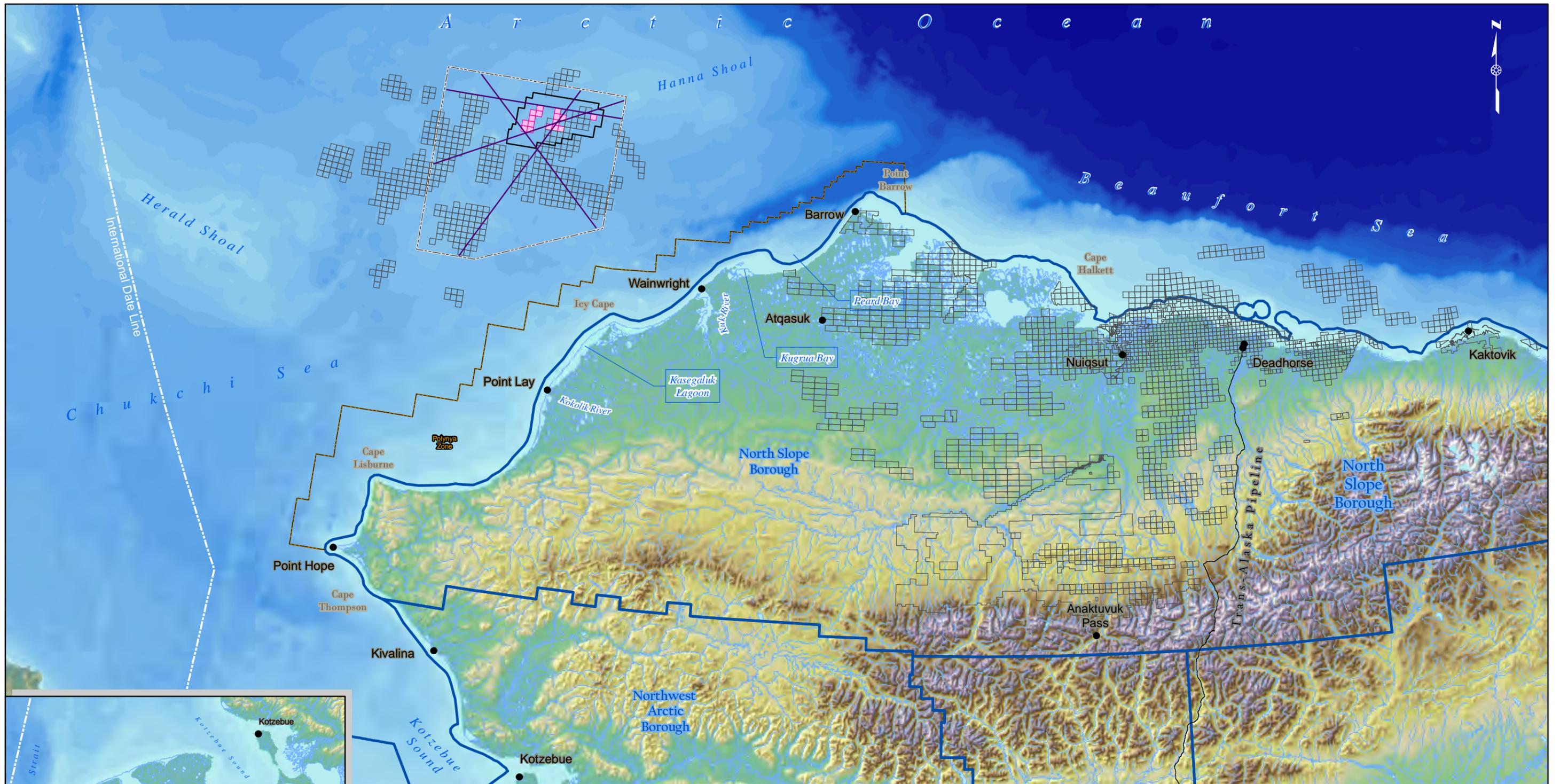
square miles [sq mi]). A small number of single two-dimensional (2D) lines may also be acquired if time and weather conditions permit.

This project does not involve exploratory drilling or any other disturbances of the subsurface geology. The following information details the marine operations of the project, the type and purpose of the equipment to be used, and the logistics involved for conducting project activities during the permitted period.

Three vessels, including a seismic source vessel and two support vessels, will mobilize out of Dutch Harbor, Alaska, to the project area at the beginning of August 2010; the actual departure date is dependent upon ice and weather conditions. It is anticipated that transit time to the project area will be approximately 5 days. Data acquisition is expected to take approximately 60 days. Upon completion of data acquisition, all vessels will demobilize back to Dutch Harbor. To prepare for the marine seismic survey and the permitting process, Statoil has engaged the following consultants:

- ASRC Energy Services (AES) – Geological and Geophysical permit, Letter of Authorization, Plan of Cooperation, Inupiat Marine Mammal Observers (MMOs), and overall community relations with local, state, and federal stakeholders.
- LGL Alaska – IHA, Marine Mammal Monitoring and Mitigation Plan, and scientific MMOs.
- Fugro-Geoteam, Inc. – Seismic contractor.

Figure 1 on the next page describes the project area:



Distance to 3D Seismic Survey Area in miles:

Barrow	158
Wainwright	114
Point Lay	138
Point Hope	246
Nome	645
Dutch Harbor	1297

**Lease Owner**

- Statoil
- All Other

**Permit Area**

- Permit Area
- 3D Seismic Survey Area

**2D Seismic Lines (proposed location)**

- 2D Seismic Lines (proposed location)

\*Notes: The North Slope Borough and Northwest Arctic Borough boundaries extend to the 3 mile State of Alaska jurisdictional boundary.

NAD83, Alaska Albers Equal Area

- Borough
- Polynya Zone
- Village
- Road
- Pipeline

**ASRC Energy Services**  
a subsidiary of Arctic Slope Regional Corporation  
REGULATORY AND TECHNICAL SERVICES



**STATOIL SEISMIC SURVEY AREA 2010**  
Statoil Chukchi 2010 Seismic Acquisition  
Plan of Cooperation

SCALE: 0 25 50 100 Miles

FIGURE: 1

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## 2.2 Vessels

The vessels involved in the seismic survey activities are listed below.

- Marine vessel (M/V) *Geo Celtic*: The seismic source vessel that will tow a 3,000-cubic inch (cu in) sound-source array for data acquisition.
- M/V *Tanux I* or similar vessel: A support and environmental monitoring vessel for marine mammal monitoring, support, and supply duties.
- M/V *Norseman* or similar vessel: A support, environmental monitoring, and crew transfer vessel for marine mammal monitoring, crew transfer, and support and supply duties.

Vessel functions will be under the supervision of the Master on the M/V *Geo Celtic*. Changes will be made to adjust the operation requirements. Either the M/V *Tanux I* or M/V *Norseman* or similar vessels will be available for deployment and retrieval of acoustic recorders for sound-source verification measurements. If necessary, similarly-equipped vessels may be used for this project in place of those noted below in Table 1.

**Table 1** Vessel Information

Vessel Name	Vessel Photograph	Vessel Specifications
M/V <i>Geo Celtic</i> or similar		Length: 100.8 meters (m)/330.7 feet (ft) Breadth: 28 m/91.8 ft Net Tonnage: 3,633 NT Certified to Carry: 69 persons Function: Seismic Vessel
R/V <i>Norseman I</i> or similar		Length: 32.9 m/108 ft Beam: 8.5 m/28 ft Net Tonnage: 133 NT Certified to Carry: 28 persons Function: Monitoring Crew Transfer, and Support Vessel
M/V <i>Tanux I</i> or similar		Length: 53.9 m/177 ft Breadth: 13.8 m/45.3 ft Net Tonnage: 1,050 NT Certified to Carry: 50 persons Function: Monitoring and Support Vessel

## **2.3 Survey**

Upon arrival in the Chukchi Sea, crew aboard the source vessel will deploy the sound-source array and hydrophone streamers and start operation. The source verification measurement will be conducted on the first seismic line to establish a safety zone. Data acquisition is expected to continue for 60 days and be completed in the first half of October, depending on weather conditions. This includes seismic data acquisition and anticipated downtime related to mitigation measures. Data acquisition is expected to occur 24 hours per day. Upon completion of data acquisition, project vessels will demobilize to Dutch Harbor.

The 3D data acquisition process will use a towed sound-source array consisting of 26 active airguns with a maximum discharge volume of 3,000 cu in. The survey area has been reduced to the minimum extent possible and covers 2,368 sq km (915 sq mi).

The 2D data acquisition will be dependent upon weather conditions and ice coverage. Obtaining 2D seismic data is a secondary priority. 2D seismic survey data will be obtained if ice conditions restrict access to the 3D seismic survey area or if 3D seismic survey data acquisition progresses better than anticipated.

A maximum of four 2D survey lines will be collected, and 2D data acquisition will not exceed 675 linear km (420 mi). 2D data acquisition will use the same vessel, sound-source array, and streamer configuration as used for the 3D data acquisition. The sound-source vessel will travel along predetermined lines at 4–5 knots, while the airgun array discharges at 8-second intervals (shot interval 18.75 m [61.5 ft]).

## **3.0 COOPERATION ACTIVITIES**

### **3.1 Community Engagement**

Statoil began its community cooperation process and initial gathering of Traditional Knowledge in connection with its open water seismic project in October 2009. Meetings were held with Chukchi Sea community leaders at the tribal, city, and regional government and Native corporation levels. Statoil will continue to engage with leaders, elders, community members, and subsistence groups, as well as local, state, and federal regulatory agencies to gather and incorporate relevant Traditional Knowledge into their 2010 project performance. Statoil has had the opportunity to engage with North Slope subsistence communities on several occasions, as follows:

- Open Water Meetings 2009 and 2010
- October 27, 2009 presentation to the North Slope Borough (NSB) Planning Commission in Barrow
- October 27 through November 5, 2009 Leadership Meetings in Barrow, Wainwright, Point Lay, and Kotzebue, and meeting with Native Village of Point Hope Executive Director
- December 14, 2009 meeting the NSB Wildlife Department and members of the Alaska Eskimo Whaling Commission (AEWC) to discuss proposed activities, potential impacts, and measure for mitigating impacts
- January 2010, POC meetings in Barrow, Wainwright, Point Lay, and Point Hope. POC Meeting materials and copies of comments received during the POC meetings are included in Appendices A and C, respectively

- February 1113, 2010 AEWG meeting in Barrow, Alaska to discuss the 2010 Draft Conflict Avoidance Agreement (CAA)
- March 22, 2010 Marine Mammal Co-Management Group Meeting. Co-management meeting notes and meeting materials are included in Appendices B and C, respectively
- April 1316, 2010 SINTEF seminars presenting research work on oil spill contingencies in Arctic environmental conditions. Statoil participated with other operators and brought Norwegian and international researchers to Anchorage, Barrow, and Kotzebue to present results from this research effort (SINTEF Joint Industry Program [JIP] study)

Consultation, both formally and informally, will continue before, during, and after the 2010 seismic survey activities. Feedback from the marine mammal co-management group representatives and subsistence users is valued by Statoil and will be useful for our planned seismic survey and potential future activities.

### **3.2 Marine Mammal Co-Management Groups**

Statoil engaged with representatives of the following marine mammal co-management groups on March 22, 2010, in Anchorage, Alaska: the AEWG, Ice Seal Commission, Alaska Beluga Whale Committee, Alaska Eskimo Walrus Commission, and the Nanuq Commission. This meeting provided Statoil information from subsistence users regarding the seasonal use of bowhead and beluga whales, seals, polar bear, and Pacific walrus that may frequent the area within which Statoil is proposing to operate in 2010.

### **3.3 Other Community Cooperation Engagements**

Statoil participated in a JIP on Oil Spills in Ice, where Norwegian authorities allowed oil spills in broken ice for research purposes. Statoil, along with Shell and ConocoPhillips, brought the researchers to Alaska to hold the recent SINTEF Seminars held in Anchorage, Barrow, and Kotzebue from the 13<sup>th</sup> to 16<sup>th</sup> April 2010. Feedback from marine mammal co-management group representatives and subsistence users in attendance at these SINTEF meetings is valued by Statoil and will be useful, particularly in future monitoring and mitigation plans for the next phase of exploration.

## **4.0 MEASURES TO REDUCE IMPACT**

Statoil's aim is to operate in a cooperative manner to enable the coexistence of subsistence activities and Statoil's planned marine seismic survey. Mitigation measures to be implemented during the proposed survey will be based on NMFS requirements, USFWS requirements, and on feedback received from the Leadership and Community meetings and POC meetings. Operational mitigation measures will be conducted so as to reduce the likelihood of harassment by either avoiding areas where marine mammals occur or shutting down noise-generating operations while marine mammals are present.

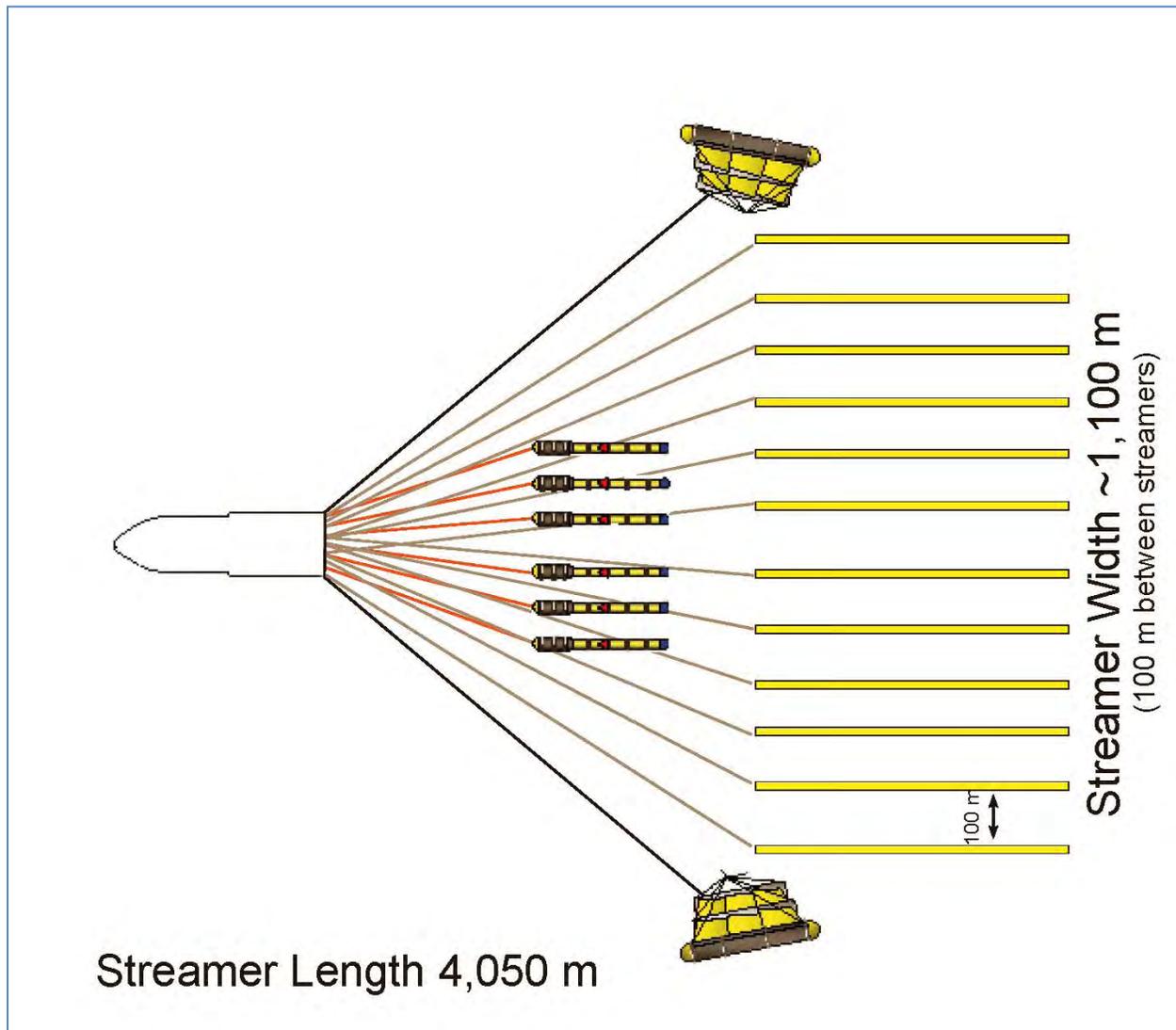
### **4.1 Vessel and Seismic Equipment**

Statoil will use the best known technology and seismic equipment to minimize impacts to the environment. The proposed streamer array is depicted in Figure 2 below. The seismic vessels and equipment have been selected in order to minimize the environmental footprint. For example:

- The seismic source vessel is modern and equipped with the latest technology and waste management system.

- The seismic receiver array contains 12 streamers and is unusually large for the shallow water environment of the Chukchi Sea. The 12 streamer array has been selected to reduce the number of times the vessel has to traverse and the amount of shot points needed to cover the total survey area.

**Figure 2 Streamer Array**



- Solid streamers will be used, which do not contain any contaminants that could leak into the water.
- The seismic airgun array consists of 26 active and 10 spare airguns with a discharge volume of 3,000 cubic inches. This volume has been kept as low as possible without compromising data quality.
- The availability of 10 spare guns allows Statoil to operate more efficiently, reducing unnecessary downtime.

## 4.2 Marine Mammal Monitoring Program

Statoil will employ experienced and trained scientific MMOs and Iñupiaq MMOs with Traditional Knowledge on board the vessels to ensure that appropriate precautions are taken to avoid harassment of marine mammals, including whales, seals, walrus, or polar bears when the vessel is operated near these animals.

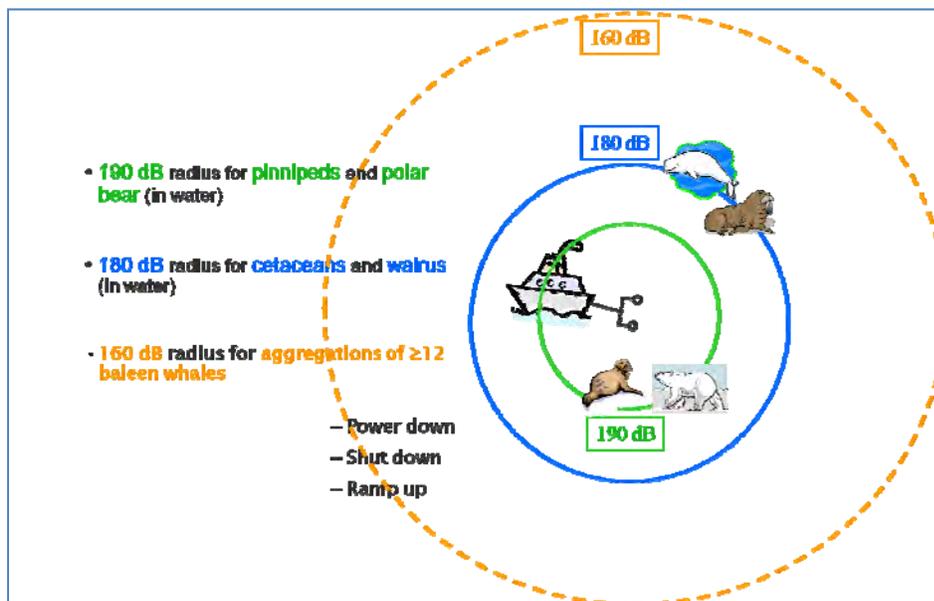
The MMOs will monitor exclusion zones (safety radii) surrounding the seismic airgun array for marine mammals. Based on the results from the sound source verification measurements, the pre-season safety radii will be updated where applicable.

During seismic operations when there is 24 hours of daylight five observers will be based aboard the seismic source vessel and at least three MMOs on the chase/monitoring vessels. As the number of hours of daylight decrease in the fall, the number of MMOs on the source vessel may be reduced. MMOs will be located on the bridge or weather decks of the seismic vessels to watch for marine mammals during the vessel transit to and from the survey area and during seismic data acquisition.

MMOs play a key role in the monitoring of the safety zones and in the implementation of mitigation measures. Their primary role is to monitor for the presence of marine mammals during all daylight airgun operations and during any nighttime ramp-up of the airguns. These observations will provide the data needed to implement the key mitigation measures. When marine mammals are observed within or about to enter designated safety zones, airgun operations will power down (or shut down if necessary). The safety zones are defined as the distance from the source to a received level of  $\geq 190$  decibels (dB) for pinniped and polar bears and  $\geq 180$  dB for cetaceans and walrus. A specific procedure using the support vessels designed to detect aggregations of baleen whales (12 or more) within the  $\geq 160$  dB zone will also be implemented.

The exclusion zones (safety radii) are illustrated below in Figure 3.

**Figure 3 Exclusion Zone or Safety Radius Illustration**



### **4.3 Proposed Mitigation Measures**

For the seismic survey planned during the open water season of 2010, Statoil will implement the following mitigation measures:

1. Vessel and Seismic equipment: use of the best known technology and seismic equipment to minimize impacts to the environment
2. Scientific and Ieupiat MMOs on board the vessels to ensure that appropriate precautions are taken to avoid harassment of marine mammals, including whales, seals, walruses or polar bears
3. Airgun array power down, shut down, and ramp-up procedures will be implemented during the proposed project. Acoustic measurements of the airgun array (sound source verification) will be conducted at the start of the program and used to adjust the safety zones implemented by the MMOs.
4. Implementation of the Polar Bear and Pacific Walrus Awareness and Interaction Plan that addresses food and waste management, personnel training, and safety and communication regarding polar bears.
5. No aerial surveys will be implemented in 2010. Statoil has determined that it would be impractical and unsafe due to the location of the survey area, which is approximately 240 km (150 mi) offshore from Barrow.
6. Statoil is participating in cost sharing for a communication center in the Chukchi Sea and vessels will communicate according to established protocol.
7. Monitoring of ice conditions and ice movement in the project area prior to and during the marine seismic survey
8. Statoil will also be supporting a Search and Rescue (SAR) helicopter based in Barrow for the duration of the open water season, as part of the project plan.

## **5.0 ON-GOING SCIENTIFIC RESEARCH**

Statoil has agreed to participate with other operators in baseline science studies in the Chukchi Sea. This will include deployment of bottom mounted acoustic recorders to determine the general acoustic footprint, and gathering of baseline science data, both in and near Statoil's lease areas. Olgoonik/Fairweather LLC will operate the boat to perform the scientific baseline studies for Statoil as follows:

- Seabed, water column, and plankton sampling and studies at historical exploratory drilling locations in the Chukchi Sea;
- Studies on distribution, abundance, and ecology of Arctic marine fishes in the northeastern Chukchi Sea; and
- Offshore acoustic monitoring program using seabed acoustic recorders to record and analyze marine mammal activity in the Chukchi Sea.

Statoil is also co-funding other research work, for example:

- The laboratory research through Barrow Arctic Science Consortium (BARC) Facility, the University of Alaska Fairbanks where water samples from the Chukchi and Beaufort Seas are analyzed as part of a JIP to evaluate the effects of dispersed oil in cold water environments
- The JIP on Oil Spill in Ice where Norwegian authorities have allowed oil spills in broken ice for research purposes

## **6.0 FUTURE PLAN OF COOPERATION CONSULTATIONS**

Statoil has more than 40 years experience with complex project operations in challenging environments around the world, including in Arctic environments. This experience, along with our open and transparent approach to projects, will be used as a basis to support our goal to form bonds with local Alaskan communities and subsistence user groups.

This POC document has evolved as a result of numerous engagements with community leaders, elders, the AEWC, and marine mammal co-management groups. Information gathered from these engagements has provided important information to Statoil so that it can continue to operate in a sensitive manner with regards to subsistence activities and community concerns. We are thankful to the communities for welcoming us in their communities and spending time together with us.

Statoil plans to continue to engage with the affected subsistence communities regarding its Chukchi Sea activities. As regards the 2010 seismic project, we will be presenting our data on marine mammal sightings and the results of our marine mammal monitoring and mitigation as part of our 90 Day Report to the regulatory authorities. We will also present results, and discuss the survey activity, to local communities after the survey. Finally, we will also present those results at the 2011 Open Water Meeting in Anchorage.

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**APPENDIX A**  
**POC Comments and Meeting Notes**

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**Plan of Cooperation Meeting**  
**Statoil and the Community of Barrow**  
**Inupiat Heritage Center**  
**January 11, 2010**  
**Open House 4:00 - 6:30pm**  
**Presentation 7:00 - 9:00 pm**  
**Barrow, Alaska**

The Plan of Cooperation (POC) meeting between Statoil and the Community of Barrow was held January 11, 2010, Open House from 4:00 to 6:30 p.m. and Presentation from 7:00 to 9:00 p.m. at the Inupiat Heritage Center, Barrow, Alaska. The aim of the POC meeting was to present Statoil's Proposed 2010 Marine Seismic Survey in the Chukchi Sea. Martin Cohen, Exploration Manager, presented and he and his team tried to answer all the questions. Statoil wishes again to use the opportunity to thank the community for accommodating us and taking time to meet and engage with us. We have to the best of our ability tried to summarize the questions and concerns that were raised at the meeting.

The following meeting notes are organized by topic and include the questions asked by the meeting participants and the responses from the Statoil team. Please note that the notes are not intended to represent a direct transcription. If you have any questions or comments please do not hesitate to contact us.

The POC community meetings were noticed with the following organizations: 1) Native Village of Barrow (NVB); 2) City of Barrow; and, 3) KBRW Public Radio Station.

**Meeting attendees are listed below:**

- May Akpik
- Warren Matumeak
- Walter Akpik, Jr.
- John Makete, Shell
- Vern Andrews
- Lillian Maupin
- Arnold Brower
- Tommy Nageak
- Arnold Brower Jr., UIC Real Estate
- Tommy Olemaun, NVB President
- Charles Brower, UIC
- Harry Brower, Jr., Chairman, Alaska Eskimo Whaling Commission
- Ethel Patkotak, NSB
- Anthony Edwardson, President Ukpeakgivk Inupiat Corporation
- Bruce Rexford
- Robert Edwardson
- Rick Rice
- Brionne Elkins, HIA
- Robert Sarren
- Joy Goodyear, NSB Grants
- Joseph Sage, NVB Natural Resources
- Beverly Hugo
- Lawrence Sage, UIC
- Mary Ellen Hugo
- Myrna Loy Sarren
- Micah Hugo
- Yvonne Sarren
- Patrick Hugo
- D. A. Sholley
- Lilly Kanayurak
- Todd Sformo, NSB Wildlife
- Doreen Knodel, UIC Board
- Kuutuuq Taalak
- Rich Koutchak
- Jennifer Ungarook
- Greta Krafur, NSB Wildlife, CSU Veterinary
- Edith Vorderstrasse, Umiaq
- Peter Matumeak

**Statoil Team Members in attendance are listed below:**

- Martin Cohen, Exploration Manager

- Karin Berentsen, HSE & Stakeholder Advisor
- Jon Kåre Hovde, Project Geophysicist
- Michele Wood, Branding Manager, Communications
- Pål Eitrheim, Vice-President of U.S. Government Affairs

**Statoil Supporting Technical Team members in attendance are listed below:**

- Sigbjørn Vigeland, Geophysicist, Fugro-GeoTeam
- Lianne Aerts, LGL Alaska
- Arlene Thomas, Community Relations Coordinator, ASRC Energy Services (AES)
- Elizabeth Benson, Community & Regulatory Planning, AES
- Michelle Russell, Regulatory Affairs, AES

**A. Statoil Experience and Work in Other Places**

1. *Do you have experience offshore in Northern Russia or is your experience on the Russian mainland?*

Statoil has a presence both onshore in Arctic Russia in Kharyaga and offshore in the Barents Sea at the Snohvit Field (Norway) and the Shtokman Field (Russia).

2. *What about Greenland; is it offshore?*

Statoil has extensive experience with seismic surveys and drilling activities on Greenland.

**B. Crew Change**

3. *Please repeat what was said about the crew change in Nome?*

Statoil expects the survey to last about two months from early August to early October. During that time there will be one crew change. There will be three vessels in the Chukchi Sea. The main seismic vessel will stay in the operational area all the time. The support vessels will bring the “on and off” crews to and from Nome.

4. *Why Nome?*

Nome has been chose for safety reasons. Statoil will change crew only once; more than 40 crewmembers will be replaced at once. Nome is the only port in the area that would allow our support vessel to get alongside in the harbor.

5. *Could Kotzebue accommodate the effort? Or is it too shallow?*

The vessels need a reasonably deep water port with mooring to be able to safely do crew change.

**C. Safety Zones/Decibels**

6. *Is the 180 dB or 190 dB the maximum sound marine mammals can hear or is that a comfortable sound level?*

These sound levels are dictated by regulatory requirements and we follow them in order to be in compliance. The 190 dB level is for pinniped and polar bears and the 180 dB for cetaceans and walrus. The National Marine Fisheries Service (NMFS) has established a mitigation requirement to shut down the airguns if aggregations of 12 or more baleen whales are inside the zone with sound levels of  $\geq 160$  dB to avoid disturbance to whales that may be involved in social activities.

7. *Describe how Statoil will track how sound travels and penetrates beyond 12 or 20 miles?*

The output of our sound source will be measured at start of the project and sound levels as a function of distance will be reported. Statoil will participate in the deployment of arrays of acoustic recorders on the seafloor in the Chukchi Sea during the entire survey. At the end of the season, the recorders will be retrieved and the acoustic data records analyzed. These data will allow us to estimate what sound levels were received at what distances from the vessel over time. Additional discussion below:

*180-190 dB is when marine mammals travel differently because they hear the sound.*

These levels are not regarded as harmful, but the whale is likely to divert to avoid the noise.

*On the seismic vessel we were shooting 140 dB and it is very devastating when you are standing on the seismic vessel.*

Sound levels are measured in decibels must be measured when released into the water. Sound levels cannot be measured from the vessel and Statoil has taken note of this question/observation.

8. *Since you are operating 24/7 it will be dark, how do you clear the safety zones in the dark and make sure there are no marine mammals?*

MMOs will be equipped with night vision binoculars. Statoil acknowledges that these have limited effectiveness; however, the Incidental Harassment Authorization (IHA) requires use of the binoculars. The regulations require that airgun operations can only continue during darkness if *at least* one airgun was operating prior to darkness. If, for whatever reason, all airguns have to shut down during the night, operations can only resume if the 180 dB safety radius is visible and no marine mammals are present within that zone.

9. *Weather creates limitations for visibility as well. What do you do when you cannot see due to weather?*

If visibility prevents MMOs from observing the entire 180 dB safety radii, then the same restrictions will be implemented as during darkness. Statoil understands the limitations of visual observations as a mitigation measure during darkness and low visibility conditions and we are participating in studies that aim at developing better technology.

10. *The Statoil website does not show that what is proposed in Alaska will be any different than in other parts of the world. How did you do things differently in other parts of the world versus here? If tighter standards exist elsewhere then we want those applied here. Where is that information to be found?*

The reason why it looks different for different projects is that different projects require different solutions. An impact assessment evaluation of each individual project/area is used to select a recommended solution for a project. This may be why it seems like projects are handled different in other parts of the world.

Statoil has not experienced tighter standards-elsewhere, there could be other issues that need to be handled. For example there is no safety zone with respect to whales in Norway. Statoil implements a safety zone with respect to divers in the water. This safety zone is 1,500 meters.

Statoil is actively participating in a joint oil company research program designed to investigate the seismic sound source effect on mammals. The conclusion resulting from this research effort has so far not revealed any negative long-term consequences with respect to the use of the seismic source in Arctic waters.

#### **D. Seismic Equipment – Technical**

*11. Are the sources and receiver arrays capable of taking on high seas and waves?*

If the sea gets too rough, data will not continue to be collected. A seismic vessel can generally work until a sea state of level 5 on the Beaufort scale is reached.

*12. Are you using smaller airguns than others?*

Statoil will use a 3,000 cubic inch airgun array. These are slightly smaller than the ones previously used by Shell and ConocoPhillips in the Chukchi Sea.

*13. On a decibel scale how small is it?*

Well it depends on how close you are to the source. The source output is approximately 200 dB close to the array. This level is reduced to approximately 180dB at a few miles further out.

*14. Did Statoil use kerosene previously? Describe its use.*

Statoil will not be using kerosene. Previously kerosene was used but now solid streamers are used. Kerosene was used because you could regulate the pressure and control the streamer but it was too much of an environmental hazard. We will use streamers constructed from a solid compound. There will be no emission into the water from the receiver array.

*15. You already drilled; there are wells drilled out in the Chukchi.*

Yes, there were 5 wells drilled in the 1980s by other operators but no commercial discovery was made.

#### **E. Marine Seismic – Location**

*16. Why are you doing 3D on just one area in particular?*

Statoil has used earlier survey information to identify the most promising areas. The 3D program will investigate these areas in more detail.

*17. Does Statoil have only the pink blocks and do the other blocks represent all the other leases?*

The other blocks are leases owned by the oil companies such as Shell or ConocoPhillips. They have already acquired seismic data for their own areas.

*18. How many square miles is the project area?*

The leases themselves are 9 square miles and the permit area is 915 square miles.

#### **F. Seismic Operator – Fugro-GeoTeam**

*19. Are you going to use the same operator as Shell and ConocoPhillips?*

Statoil went out for competitive bid to select a seismic contractor and chose Fugro-Geoteam, which best met Statoil standards. Fugro-Geoteam is a deep sea seismic operator. The Fugro company used for shallow hazards surveys in 2009 is a sister company and the vessels used by that company are similar.

#### **G. Project Details – timing**

*20. What is your start up time and how long will you be out there?*

At the end of last year Statoil put in our permit applications and traveled up here and to the other villages to meet with various community leaders. Statoil is currently in the middle of the community engagement process and this meeting is part of that. Statoil will also be in Anchorage in April for the open water meeting put on by NMFS. The seismic survey will hopefully begin in the early part of August and continue until early October. It will take approximately 60 days, including days for downtime.

#### **H. Marine Mammal Observers**

*21. How many Inupiat MMOs will you have?*

Somewhere between 9 through 11 MMOs will be hired.

*22. In previous times a small number of concerns arose in regards to the qualification of the MMO's on the vessels and experienced hunters would report certain conditions and be contradicted by the scientific community. What assurances will we have that scientists will listen to the MMOs?*

Statoil, as a matter of policy, will try to avoid any potential conflicts between MMOs as far as we have control over individual behavior. Traditional Knowledge is valued highly and we want everyone to feel respected. One reason to try to avoid the escalation of conflicts is to establish a specific point of contact for the Inupiat MMOs within ASRC, a person that people trust and can easily communicate with. We all know that it is difficult to be on boats in small spaces for a long time so to we try to include team building exercises into our training program so people can get to know each other better before anyone goes on the vessels. This will hopefully help to make the transition to the vessels smoother.

*Comment: ASRC, AES, and Ilisagvik College have an established training program that has worked quite well and they worked with LGL and recruited from the villages. This is an ongoing program. Our people combine the two ongoing through Ilisagvik and AES and it is getting better each year.*

*23. What authority do the MMOs have to stop the ship?*

If a MMO sees a whale, there are various measures they can implement. Prior to the start of the project safety radii are established. If the MMO observes a whale that is either entering or within a certain safety radii, they have the authority to ask for a shutdown of the airguns.

#### **I. Impacts to Marine Mammals**

24. *Statoil should meet with ConocoPhillips and Shell; they are facing the same issues and it has been brought up at a lot of meetings.*

Statoil has been in contact with both ConocoPhillips and Shell.

25. *When we hunt and when we shoot into the water the animals leave the area so if shooting seismic 24/7, then the marine mammals will disappear because they hear better than they can see; so in my opinion they will divert around the project and it won't hurt them.*

This is much in line with our observations.

26. *I don't think so; some marine mammals are curious and will come close to check out the vessels.*

(No comments)

27. *In response to above discussion – How do you figure out what study to do if you're not willing to try, we have to give a little to get something.*

Statoil is open to suggestions. We are actively participating in a joint oil company research program designed to investigate the seismic sound source effect on mammals. The conclusion resulting from this research effort has so far not revealed any negative long-term consequences with respect to the use of the seismic source in Arctic waters.

28. *These animals know what this man said is true (the animals get deflected) but what is not being discussed is where does the food that these animals eat go? Where do the animals go?*

Foraging behavior will be part of our research program. We expect the animals to keep safe distance while the seismic source is operational.

29. *In response to above discussion – They (Statoil) are going to be 114 miles out of Wainwright; we don't go that far and I don't think we would go way out there.*

Our activity is not likely to interfere with the substance whale hunt due to the distance from shore.

30. *But it is still devastating to animals; I have been on a vessel for 6 weeks while it operated 24/7 at 140 decibels and I don't know why you would go that high.*

We need a certain output power to be able to detect the echoes from the subsurface.

31. *Have you studied....indiscernible*

The main focus in Norway has been to investigate behavioral changes with respect to the fish. Some minor behavioral have been detected.

32. *I am concerned that there is not enough data to alleviate the worries being expressed and everyone needs to remember that this is Seismic only and prior to development we will have mitigation measures to address various concerns. Today I am going to say that I don't know,*

*knowing we have ways to express our concerns and let the scientific community address the issues raised and get us answers.*

Audience discussion – ConocoPhillips and Shells slides were identical to this one (the decibel slide); we allowed them to do this activity for years and we have seen no difference in Wainwright. We have seen no effects to whaling and animals and Shell and ConocoPhillips have done the same thing for two years. Move on; we already said all this and they said they would look at our concerns and give us data.

*33. What did the wildlife department find about whales that they have been studying, this would be a way to find out, next time you have this meeting include the North Slope Borough so they can talk about their findings. The North Slope Borough Wildlife department takes samples from every harvested whale.*

*(Robert Edwardsen got very upset)*

*34. Statoil is here to do it right that is why we are here tonight.*

Where you are going to do the project is shallow and when you guys are going is where all the little things are that the marine mammals feed on. Please leave your comment on a card (audience).

#### **J. General Comments and Questions**

*35. Having heard and said all that given that the project has the success what is the estimated minimum commercial amount that will make it beneficial to proceed forward. One million, two million barrels, does Statoil have a minimum amount?*

Oil companies have a minimum and must weigh the risk versus reward. It has to be a big discovery for us to keep moving forward.

*36. What is the minimum?*

This will depend on a lot of issues, like expected productivity, cost of the infrastructure need etc.

*37. How much of this Draft (POC) will change?*

This will change and it depends on your input. We will try to put it into the POC.

*38. Last time members of the community traveled to Norway the North Slope Borough spoke highly of Statoil and said that we are in need of more operators like that.*

Thank you.

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**Plan of Cooperation Meeting**  
**Statoil and the Community of Wainwright**  
**Community Center**  
**January 13, 2010**  
**Open House 4:00 - 6:30pm**  
**Presentation 7:00 - 9:00 pm**  
**Wainwright, Alaska**

The Plan of Cooperation meeting between Statoil and the Community of Wainwright was held January 13, 2010, Open House from 4:00 to 6:30 p.m. and Presentation from 7:00 to 9:00 p.m. at the Community Center, Wainwright, Alaska. The aim of the POC meeting was to present Statoil's Proposed 2010 Marine Seismic Survey in the Chukchi Sea. Martin Cohen, Exploration Manager, presented and he and his team tried to answer all the questions. Statoil wishes again to use the opportunity to thank the community for accommodating us and taking time to meet and engage with us. We have to the best of our ability tried to summarize the questions and concerns that were raised at the meeting.

The following meeting notes are organized by topic and include the question asked by the meeting participant and the response from the Statoil team. Please note that the notes are not intended to represent a direct transcription. If you have any questions or comments, please do not hesitate to contact us.

The POC community meetings were noticed with the following organizations: 1) Native Village of Wainwright; 2) City of Wainwright; and, 3) KBRW Public Radio Station.

**Meeting attendees are listed below:**

- Marjorie Angashuk
- Mattie Panik
- Kelly Hopson
- Jay Jay Aguvluk
- A. Nashoalook Jr.
- Cora Akpik
- Max Akpik
- Abbey Ungudruk
- Herbert Tagarook
- Travis Ukpicksoun
- Bob Shears, Olgoonik Oilfield Services LLC
- Jerry Driggs
- Terry Tagarook
- Harris Aguvluk
- Theodar Nash
- Freddie Ekak
- Della Lorean
- Linda Agnasagga
- Billy Nashoalook Sr.
- Sally Aguvluk
- Frances Nashookpuk
- Dennis Aveoganna
- Michael Tagarook
- Walter Nayakik, Jr.
- Kenneth Anashugak
- George Agnasagga
- Nellie Bester
- Andrew Ekak
- Moses Nayakik
- Ransom Agnasagga
- Gladys Nashoalook
- Alyssa Agnasagga
- Maxine Nayakik
- Barbara Hanna
- Donnie Hanna
- Frances Kagak
- Eunice Ahvakana
- Joyce Captain
- Charlie Agnasagga
- Jerry Panik
- Molly Nayakik
- Isabel Nashoalook
- Cassandra
- Carolyn Akpik
- Billy Akpik
- Bonnie Spencer
- Nellie Akpik

- Lizzie Aguvluk
- Elsie Bodfish-Ahmaogak
- Isaiah Agnasagga

**Statoil Team Members in attendance are listed below:**

- Martin Cohen, Exploration Manager
- Karin Berentsen, HSE & Stakeholder Advisor
- Jon Kåre Hovde, Project Geophysicist
- Michele Wood, Branding Manager, Communications
- Pål Eitrheim, Vice-President of U.S. Government Affairs

**Statoil Supporting Technical Team members in attendance are listed below:**

- Sigbjørn Vigeland, Geophysicist, Fugro-GeoTeam
- Lisanne Aerts, LGL Alaska
- Arlene Thomas, Community Relations Coordinator, ASRC Energy Services (AES)
- Elizabeth Benson, Community & Regulatory Planning, AES
- Michelle Russell, Regulatory Affairs, AES

**A. Statoil Experience and Work in Other Places**

*1. How many rigs do you have in Norway?*

Statoil has a mixture of exploration and production installations; platforms, production ships and subsea installations, for example Snøhvit). This is a type of subsea development. Snøhvit is currently the furthest north production facilities in Norway.

*(For further information please refer to Norwegian Petroleum Directorates web page and Fact 2009: <http://www.npd.no/en/Publications/Facts/Facts-2009/>)*

*2. Have you had any spills there?*

Not recently and those that have occurred were smaller fuel spills and none have reached the coasts. In Norway there is also concern with the commercial ship traffic along the coast.

**B. Seismic Equipment – Technical**

*1. If that technology is there why don't we use it? (comment and question regarding subsea development and rig construction)*

Thank you for your comment on subsea development and rig construction. Yes, Statoil uses modern technology for its seismic operations as well as its subsea operations and rig constructions.

**C. Marine Seismic – Location and Details**

*1. Are the other squares leased by other companies (referring to the Location Map slide)?*

Yes, the other leases are marked in grey on the map.

*2. Do you plan to continue with exploration?*

Yes, if the seismic survey evaluation confirms a prospect then we would be planning further exploration.

3. *Yes that's fine. Expand on the issue of existing data – why is it inadequate? Why do you need more seismic data?*

The existing data is only two dimensional data (2D) and it is from the 1980's and it is widely spaced. Newer seismic data would save us from drilling unnecessary exploration wells. Five wells were drilled but 20 years has gone by with no new data. To drill an expensive well we need more certainty and more quality data.

4. *The seismic vessels that have been out there were not over these leases right? So it was not 3<sup>rd</sup> party information that they were trying to sell or anything?*

That is correct

5. *So what is shallow seismic?*

Shallow hazard is seismic survey done in the more shallow rocks below the seabed, it is requested for safety reasons. Shallow hazard surveys need to be done before you drill. Shallow hazards surveys are more of a safety mechanism that is used to look for gas pockets and any other issues that would affect the drilling program.

6. *You guys are doing what everyone is doing but just for yourself, you don't share data?*

Statoil needs data over our leases. Data over other leases are usually not directly applicable to our leases but we do share or trade relevant data, and we do share information when it comes to safety issues.

7. *Yea, that is what I am talking about.*

If Shell was there this year we would share safety information and we are doing that through the use of the communication and call centers. If they are operating then we would join with them on cost and we would join together for some baseline studies. We have a partner on 14 of our leases and we share information about the lease with them.

#### **D. Carbon Capture**

1. *What is Carbon capture and storage? Why would you store Carbon?*

When we extract natural gas, carbon dioxide is produced. We take the carbon dioxide from the gas and store it in underground reservoirs to avoid that it enters the atmosphere.

#### **E. General Comments and Questions**

1. *This is our garden that we are discussing. (General statement why this was an important meeting)*

Thank you for your comment. We have understood that the sea is important for you and your subsistence hunting.

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**Plan of Cooperation Meeting**  
**Statoil and the Community of Point Hope**  
**Qalgi Community Center**  
**January 14, 2010**  
**Open House 4:00 - 6:30pm**  
**Presentation 7:00 - 9:00 pm**  
**Point Hope, Alaska**

The Plan of Cooperation (POC) meeting between Statoil and the Community of Point Hope was held January 14, 2010, Open House from 4:00 – 6:30 pm and Presentation from 7:00 to 9:00 pm at the Qalgi Community Center, Point Hope, Alaska. The aim of the POC meeting was to present Statoil’s Proposed 2010 Marine Seismic Survey in the Chukchi Sea. Martin Cohen, Exploration Manager, presented and he and his team tried to answer all the questions. Statoil wishes again to use the opportunity to thank the community for accommodating us and taking time to meet and engage with us. We have to the best of our ability tried to summarize the questions and concerns that were raised at the meeting.

The following meeting notes are organized by topic and include the question asked by the meeting participant and the response from the Statoil team. Please note that the notes are not intended to represent a direct transcription. If you have any questions or comments, please do not hesitate to contact us.

The POC community meetings were noticed with the following organizations: 1) Native Village of Point Hope (NVPH); 2) City of Point Hope; and, 3) KBRW Public Radio Station.

**Meeting attendees are listed below:**

- Edna Attungana
- Mary Jane Attungana
- Aggie Attungana
- Leonard Barger
- Caroline Cannon, NVPH
- Marie Casados
- Esther Edwardsen
- Ray File
- Aileen Frankson
- Kristi Frankson
- Rickey George
- Patricia Huddell
- Aggie Hunnicutt
- Emma Kinneeveauk, ASRC
- Doreen Koonuk
- Bessie Kowunna, Tikigaq Corporation
- Raleigh Kowunna
- Isaac Killigvok
- Jack Lane
- Adela Lane
- Merel Ligtelyn
- Marlena Omnik
- Alzred S. Oomittuk
- Ronald Oviok
- Ricky Stone
- Rose Stone
- Lillie Tuzroyluk
- Joseph Towksjhea
- Lloyd Vincent
- Edna Nashoopuk
- Leona Omnik
- Billy Stone, Sr.
- Isaac Snyder, Jr.

**Statoil Team Members in attendance are listed below:**

- Martin Cohen, Exploration Manager
- Karin Berentsen, HSE & Stakeholder Advisor
- Jon Kåre Hovde, Project Geophysicist
- Michele Wood, Branding Manager, Communications
- Pål Eitrheim, Vice President of U.S. Government Affairs

**Statoil Supporting Technical Team members in attendance are listed below:**

- Sigbjørn Vigeland, Geophysicist, Fugro-GeoTeam
- Lisanne Aerts, LGL Alaska
- Arlene Thomas, Community Relations Coordinator, ASRC Energy Services (AES)
- Elizabeth Benson, Community & Regulatory Planning, AES
- Michelle Russell, Regulatory Affairs, AES

**A. Safety Zones/Decibels**

1. *What is the radius in miles for the safety zones that you have on each of those graphs?*

Before conducting the survey, a sound source verification test will be conducted to measure the sound levels and to identify the distances for the various safety zones. If marine mammals are seen approaching the safety zones during the survey, the vessel will either power down or shutdown according to the procedures in place. The regulations for the safety radii differ for each type of marine mammal. The safety zone for seals and bears at 190 dB is approximately 750 yards; for whales and walrus at 180 dB it is approximately one-half mile; and, one for baleen whales at 160 dB which is over one mile. [Additional details regarding the safety zones can be found in the Incidental Harassment Authorization application.]

2. *For baleen whales a safety zone of 5-8 miles is not good enough. We can hear the whales from about 10-15 miles away. Also when you are out there, you are destroying their krill. If you kill the krill and other smaller organisms then the whales will die also. This is how seismic operations have affected our whalers for the past 2-3 years. Statoil needs to think not only about the animals that they feed on but their feeding room.*

Statoil will be doing their seismic survey starting in August and going through September and we will be about 100 miles offshore. Do you still think that we will have an effect on some of the whales?

3. *We know it has an effect; we have seen it.*

Statoil does not have any additional information to provide about tomcod at this time. We agree that the whales hear the sound much further out. The safety radii Statoil is presenting today is for specified sound levels and the rules governing establishing these zones were created by regulatory agencies such as NMFS. These are ranges that Statoil will be implementing per regulatory guidelines.

4. *If you get your permits.*

Yes, Statoil must get the permits.

**B. Seismic Equipment – Technical**

1. *Do you have any kind of technical equipment on board that could help you determine if there are animals in your area so you are not just depending on Marine Mammal Observers (MMOs)?*

Statoil has investigated the use of Passive Acoustic Monitoring (PAM), which can be towed behind a vessel.

2. *You can't use it while you're doing seismic testing?*

No, and the results when people have tested PAM have been inconclusive. It works better for some types of marine mammals than others; and for bowhead whales in particular it does not seem to work very well. It has been mentioned that night time monitoring and mitigation requirements are not as effective. Statoil participates in a program called Joint Industry Partnership (JIP) which works to determine what technologies are out there, what works already, and what does not work. Industry is putting investments into JIP to try to make the technology better. To date, visual monitoring using MMOs is the best tool to use.

- 3. Are the airguns loud? Why don't you ever test them at these meetings and show us how they work? How come you don't bring them and show us?*

The airguns are quite loud when you are close up; however, the sound gets reduced the further away you go. They operate in water only and would be impractical to bring to a community meeting. However, perhaps Statoil could look into bringing something to community meetings that we can use for comparison purposes.

### **C. Marine Seismic – Location and Details**

- 1. Are you saying the line around the pink area is 915 square miles?*

The area that Statoil wants to survey is this area here – pointed to the project area on the poster map.

- 2. How many seismic tests are you planning on doing?*

Statoil will be doing one seismic survey, which will cover that area with a seismic survey. The boats will sail up and down in this area here (points to map). The plan is to start in August and carry out the survey in August, September, and October.

- 3. What is the depth of the area you guys are going to do your activity in?*

The water depth is 130 ft or about 20-25 fathoms.

- 4. Are you thinking about doing another survey depending on how the 3D seismic acquisition goes? Are you planning on doing another seismic test in 2011 or 2012?*

The next survey will most likely be a shallow seismic site clearance survey with small air guns compared to the ones used for this survey.

- 5. What is the difference between the shallow hazard seismic and the 3D seismic?*

The seismic that Statoil would like to do this year will investigate deep down into the earth. If we are interested in drilling a well then we will have to do a shallow hazard survey. A shallow hazard survey investigates any shallow hazards that exist on the seafloor. When drilling a well it is important to have this information to avoid any dangerous areas. It is just in these shallow areas where the hazards exist (pointing to the map). Shallow hazard surveys are smaller surveys that use a smaller vessel and a smaller sound energy. For example, sometimes there can be pockets of gas/shallow gas and it would be dangerous to drill through those so the shallow hazard survey is conducted to find these places.

- 6. Will you come back and explain to the people what you will be doing before you start drilling?*

Statoil will come back and talk about how the seismic survey went. We have to prepare a report once we do the survey so we would come to the communities once this is finished. We would love to hear any news from people about how it went. Also, as I explained we might want to drill in the future but that is a decision that we haven't made yet.

7. *Are you going to do any exploratory drilling?*

We may but we haven't decided yet.

8. *After all this is done? What determines whether or not Statoil proceeds with exploratory drilling?*

If the seismic confirms that it looks interesting then we probably would proceed with drilling. We have to look at the data first. Statoil would obviously come back and talk about exploratory drilling before we acted.

#### **D. Marine Mammal Observers**

1. *Do the Inupiat MMOs have the power to shut the boat down?*

Yes, through an agreed-upon procedure, they do have this authority.

2. **\*\* [The following is a comment was left verbatim in order to fully capture how it was presented]** *It is one thing that you put it on paper like you indicated earlier that they, the MMOs will have the authority to stop and halt everything, the activity. That does not make any sense to me. You could say one thing just to see the actual thing happening I mean you say there is twenty-six airguns. I mean you will lower it down to what I mean it is one thing that you indicate that but you see the actual thing...that is why no attachment whether it be UAF that is funded by the oil companies, like she indicated because we know that the currents are way different. I mean it is one thing that you are talking about the 1980s you went back to see if there is any changes what she is indicating is what we want to see actual studies prior to seismic so we can determine the difference from now and then. We know how far our ocean is the currents are like 6 to 7, that is what I have been told, Traditional Knowledge, and you indicated that you use Traditional Knowledge to help the MMO and you know she, our traditional doctor back there Rosella has a lot of knowledge which when you indicate that I am just wondering who is going to say this person is fit to and is knowledgeable about the area and has had...*

3. *Traditional Knowledge is what our elders have. Their ways are better than any scientist because the knowledge they rely on is passed down from generation to generation and it is traditional ecological knowledge that is captured in their thoughts and they improve on it throughout their lifetime.*

Statoil's goal is to incorporate Traditional Knowledge by having the MMOs onboard the vessels.

4. *The Inupiat MMOs are only hired to observe, just to spot an animal; their traditional ecological knowledge is not utilized by...*

Statoil admits that we do not have all the answers on this; we do not think anybody has all life's answers but we need to learn them as we go along. We recognize that this is the same discussion that we have been having for 30 years in the North Sea with fisheries stakeholders. The same concerns have been ongoing for 30 years and we have been working together for 30 years and we are still discussing the issues and we are trying to improve on things. There are still concerns there as well as here, but for the past 30 years we have been operating in the North Sea and it has not ruined the fisheries. We may even have enabled development together, the fishing industry and the oil industry, in parallel and I think that is what we hope to see here too that we can work together to gain advantages for both.

#### **E. Marine Mammals – Traditional Knowledge**

1. *[Translation from Rosella Stone, a village elder] Thank you. She said that they have always had grayling in their camp but she has noticed these last years that their grayling are few and also that the taste and the smell to them are different. She is not sure whether it is the oil companies doing this or whether it is Red Dog doing this she just wants to make sure that we are aware of it.*

Thank you. We are making a note of all questions or comments we receive and if we can provide anything more then we certainly will.

2. *Please note that Rosa Stone is an elder of our community and she has grown up here. She has been in that environment and she knows the difference, the drastic difference that has occurred in a short time to that population, the taste and the smell. So you need to record these comments and make a note that it was coming from an elder.*

Her name is Rosa Stone, Thank you Caroline.

3. *You know, the oil companies have been around for like 3 or 4 years; the Inupiat people have been on the North Slope for thousands of years. We know the migration of the animals that we hunt each year and we know the seasons. We know a lot more and have been here a lot longer than you guys have been around, that is how we have survived over the years by knowledge of our ancestors, our elders. When we hunt our animals and the oil companies come here and say they have technology to do all this seismic activity up here, you know Mother Nature knows no laws and we understand that, that is why we have survived thousands of years by the knowledge of our elders and ancestors.*

Thank you for your comment. Statoil certainly realizes we are newcomers here and that goes without saying. There is no doubt about that and we hope to be working up here in a humble way realizing how much we have to learn.

#### **F. Marine Mammals – Concerns regarding impacts and baseline studies**

1. *I have a question, on your environmental baseline. As I understand it you will be doing your environmental baseline monitoring after the seismic survey. That is what Shell and Conoco are doing also. I don't think these are good baseline studies because you need to do it before you start, at the beginning before the seismic testing begins because that is where the baseline should be at. This way you can see what is actually there before you do any seismic testing because after the seismic testing you have already damaged the ocean floor by then*

*with all the seismic testing. We have already experienced that because of what Shell has been doing with their seismic testing. We didn't get any tomcod for three years and we finally got walrus in and now you guys are coming in to do another one and now it's going to impact us again.*

Statoil does not believe there should be any damage to the seabed due to seismic monitoring.

2. *We know there is because we feel it already. We know what happens after seismic testing and we are finally getting our animals back and now you're going to do seismic testing again.*

Can you describe a bit more what actually happened, what you saw happening?

3. *We haven't been able to have any tomcod for several years and they came back this fall. Now we finally have some walrus on the beach and now you guys are going to do the seismic study and we won't be able to have them anymore. That is the kind of impact we have from the seismic testing.*

And you suppose that was due to the seismic testing?

4. *Yes, we haven't had walrus for years since they did the testing and we finally have our walrus back.*

*A lot of these bowheads have a distinct sound and they don't all sound the same and due to seismic activity it is really going to affect the migration of the whales that come back down south that are headed down south during that time.*

Statoil will deploy an array of acoustic monitoring devices on the seabed prior to the seismic survey; they will stay there during the seismic survey and after the seismic survey. We hope that by analyzing this type of data we will be able to learn some more on the effect of seismic on the migration of the whales.

5. *Are you just going by regulatory standards by having the baseline studies after the seismic testing or can you guys come in on your own and take your baseline studies before you're going to start what you're doing?*

Statoil, along with ConocoPhillips and Shell has funded joint baseline environmental studies. [See additional comment on this topic below.]

6. *You mean after the seismic is done.*

Shell and ConocoPhillips, who performed the baseline studies, had been doing seismic before they did the testing.

7. *Well I wanted them to start the baseline studies before they did their seismic testing because the seismic testing makes an impact, you know the type of damage that might occur during your seismic testing, how much of the seafloor is damaged due to the seismic testing. That is what I don't understand.*

Statoil does realize now that ConocoPhillips and Shell have had aerial monitoring devices for several years that monitor the whale's calls. Statoil has placed our array out before we start our seismic program. It will also record while the seismic is ongoing and it will record even after we have completed the seismic and we will analyze the data.

8. *Well you guys are in a different area of the ocean and their baseline studies were done after the seismic testing. For your 900 square miles where you will be doing seismic it has not been studied by any other oil company because their only interest is to study the baseline for the area they are in.*

Shell and ConocoPhillips have had a number of acoustic monitoring devices across the area and they are not going to have more detailed monitors. There have already been some devices that they have put around our leases as well, so there have been some in this area.

9. *No, that's around it. That is not within it because I know that they do their baseline studies after the fact of the seismic. They don't do it prior to the seismic program. And that is what I want to see done so we know exactly what type of impact is happening to our animals.*

*Is that something that Statoil would consider doing before you guys do that?*

The environmental data collected before, during, and after the survey will be analyzed in order to identify any changes.

10. *Acoustic that is just monitoring to see if there is any animals there. What I am saying is have you guys evaluated and seen exactly what type of plants and animals are in that area period, you know our animals feed on them. The walrus migrate through there too and the bowhead whale and you know you do all that testing and that is another area that is being damaged for them to do their migratory route so that they are having less and less food.*

Samples have been collected from the seabed around the old drill locations from the 1980s. Water samples have been studied for animal life. Other operators did these studies to see if the drilling activity had any affect over the years. The report detailing the study results has just been released so Statoil is looking at the report at this time. This will be an interesting piece of data to present at the Open Water Meetings.

11. *Is that an independent company that did that study?*

No, it was a benthic study. I think it was the University of Fairbanks.

12. *Contracted by the industry?*

Yes.

[\*\*See follow up question in Marine Mammal Observer section]

There actually have been vessels in the North Sea that have had divers dive into the water and the distance required between the seismic source and the divers are 1,500 feet. I mean nobody dives into the water with this distance and there is no question about any physical damage to the divers. What we are looking at is behavior change in the fish.

13. *But there is evidence that that takes place?*

There is evidence that they take another route.

*14. But its more than that I read that it is diversion from the migratory path and can affect mating and feeding. A diver understands what is going on and they understand the risks but animals don't. A cumulative effect cannot be reversed and you can never bring it back.*

I do not disagree.

## **G. Carbon Capture**

*1. Could you explain more about Carbon capture?*

When gas is produced from the underground, sometimes there is carbon dioxide produced with it. Statoil takes the carbon dioxide out and pumps it back down underground and store it in a different sand reservoir. This stops it from being released into the atmosphere.

*2. Does it have any impact on migratory animals?*

I don't think so.

*3. How do you know?*

We do regular surveys of the geological structure and we can see where the carbon dioxide is going. Over a number of years we have been monitoring how it accumulates down there and it is held down there just like hydrocarbons are held down there. So far there have not been any problems.

## **H. Oil Spills**

*1. I don't know about the details but I was told that you are the company who couldn't plug up an oil spill down near Australia for ten days.*

That was not Statoil. I can say that for sure that we had nothing to do with that spill. The well was drilled by a Thai company from Thailand.

*2. What about your oil spill offshore in Norway?*

Statoil did have a spill a couple years ago. That was a spill from one of our platforms. It was dealt with around the platform because the equipment was ready and the spill was contained. There have not been any spills in Norway that have ever reached the coast from the oil industry anyway. There was a spill last year and that was from a ship, a cargo ship.

## **I. General Comments and Questions**

*1. What is LGL? What does LGL stand for?*

I think it is the abbreviation of the first letter of the first names of the owners of the company.

*2. You don't even know that?*

LGL is an environmental consultant company so we have been working with marine mammal monitoring and MMOs in the Chukchi Sea and several other places.

3. *You should know what LGL stands for, you should know that.*

*Did you guys come here last year?*

Statoil came at the beginning of November, not everybody was here, we met with the Native Village Executive Director; we also came in the end of October and first week of November.

4. **\*\* [The following is a comment that was left verbatim in order to fully capture how it was presented]** *At least one month prior to the meeting we ask for all the papers so we can do our research so we can read into it so we can know what we're talking about. You cannot just come into our community and hold a meeting when it is convenient for you. As you indicated there was only a few leaders here and the Executive Director had indicated that you guys had come in with not enough, and she informed you that the process is with the Native Village of Point Hope. That you have to give us at least a month notice so we can review the packet and so we can have the adequate questions. We do not practice the way you practice to just come into the community and assume that we are going to hold a meeting and that we can make a decision. We need to review all documents prior to a face to face meeting. And I did talk with Lily she gave me that information and it was in the latter part of November, but that is not the normal procedure. When you are coming into our village you need to work with us, we have protocol we go through steps and you are a visitor. Let me remind you that you are a visitor in our community. You need to ask us what works best for us so we can get informed and do the research and review the packet, before any decision. Like you come in today and we know that you were coming in but that is a poor practice. That is not the way we conduct business. If we're going to be speaking on behalf of our people we need to see these, review these and make sure that everything is adequate because if there is one thing...you can't say one thing and do the other thing. You know I am hearing that the equipment that you use, I mean she indicated that yes there might be ten whales or maybe one or two and you can't determine if its ten whales versus one. The question would be for that - scientific question would be - how do you determine a whale? Calling out a whale? Because we know all animals that are in distress or that are hurting or anything there is a different calling - there is a different cry. Just like us, human beings - you know when there is something that they are not use to - there is a different cry. Rather than hearing - you cannot determine if that is ten whales versus one whale. So that message, those kind of things are those that we look at, that we search and we want to make sure that everything is adequate. So please if you are going to come to our village respect us.*

I apologize if on our previous visits that there was not enough notice given and I do apologize for that if that was the case and I hope we have given enough notice this time and we certainly do know that we are visitors in your community. We are very aware that we are visitors and we are grateful for people turning up this evening and we hope that we have given you enough notice this time and we hope that we will in the future but thank you for pointing that out and for your comments on the way that you do business in the village and we certainly want to do business in the proper way with you and be polite and respectful and I hope that we can do that in the future.

Thank you Caroline.

5. *\*\* [The following is a comment that was left verbatim in order to fully capture how it was presented] Just for clarification because this is a public meeting and you are making a point that you did come to Native Village and it was not in a...the timing was wrong. Like you indicated, there was only one person (individual). It was a staff person there was not a council member at that table at that time to my understanding. And we always request for ten packets so each individual can have their own packet,( there is seven council members) and then we can have one on file and then whoever is in charge, whether it be wildlife or whomever, so it's a normal practice to have ten packets.*

Thank you for that information.

6. *This is the first time we are seeing this...*

Again, I apologize if you have not received enough information and in enough time and we will make sure that does not happen again in the future if that is the case. [Clarification note: Statoil wished to visit Point Hope in November to present our company as a new company to Alaska and to present the project to village leaders. We approached the village leadership in advance but were unsuccessful in setting up a meeting date. However, since Statoil was already traveling to the Chukchi Sea Villages, we made a decision to include a courtesy visit to Point Hope even if we did not have a pre-scheduled appointment,]

7. *The one concern I have about your title here "Plan of Cooperation" it makes it sound like everybody in the community is cooperating with you and that is one thing that we are not cooperating with you we object to anything offshore because we don't want to stop eating our animals. If there is contamination out there you are not going to go buy whale in another ocean or a seal for us. Money won't replace our food.*

I can understand your comment and the term Plan of Cooperation is inherited by Statoil.

8. *Just to clarify we are not cooperating, I am not cooperating.*

We understand your position and yes we can listen to that and maybe the title could be different but this is an inherited title from other documents so thank you for your comments.

9. *And if we sign in (the registration sheet) that does not necessarily state that we support that. As you know the position that the tribe is that we oppose it because it is our back yard, it is our garden, and we have marching orders and we have our constitution and bylaws that says that we need to protect our way of lifestyle and we will continue to do that so what she is saying is, I want to echo on that so when we sign the sign-in sheet - I refuse to sign it because I don't want to say that I am cooperating to because I am here to observe, to see you know, just to receive some information and just to voice our opinion because all of us that are sitting here are not necessarily supporting you.*

We understand that.

10. *And the NSB whoever went to Norway said that you guys are doing the best job or it seems like you are doing better in giving out more information than the other industry meaning Shell and whomever. You know how do they determine that - how can they speak on our*

*behalf? They cannot do that although you took the planning commission we had one representative from our village and that does not indicate that that individual speaks on our behalf to the fullest. They have a position, a title.*

No, we understand that, that there are obviously different opinions and different positions within the different communities and we hope we can work as well as possible with all shades of opinion.

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**Plan of Cooperation Meeting**  
**Statoil/Community of Point Lay**  
**Community Center**  
**January 15, 2010**  
**Open House 4:00 - 6:30pm**  
**Presentation 7:00 - 9:00 pm**  
**Point Lay, Alaska**

The Plan of Cooperation (POC) meeting between Statoil and the Community of Point Lay was held January 15, 2010, Open House from 4:00 to 6:30 p.m. and Presentation from 7:00 to 9:00 p.m. at the Community Center, Point Lay, Alaska. The aim of the POC meeting was to present Statoil's Proposed 2010 Marine Seismic Survey in the Chukchi Sea. Martin Cohen, Exploration Manager, presented and he and his team tried to answer all the questions. Statoil wishes again to use the opportunity to thank the community for accommodating us and taking time to meet and engage with us. We have to the best of our ability tried to summarize the questions and concerns that were raised at the meeting.

The following meeting notes are organized by topic and include the question asked by the meeting participant and the response from the Statoil team. Please note that the notes are not intended to represent a direct transcription. If you have any questions or comments, please do not hesitate to contact us.

The POC community meetings were noticed with the following organizations: 1) Native Village of Point Lay; 2) City of Point Lay; and, 3) KBRW Public Radio Station.

**Meeting attendees are listed below:**

- Marie Tracey Native Village (NV) of Pt. Lay
- Bob Brouillette, North Slope Borough (NSB)
- Perry Pikok
- Ella Stalker
- William Burt
- Edgar Anniskett
- Nathan Henry Sr.
- Jacob Stalker Jr.
- Lewey Matoomealook
- Rhoda Rexford
- Julius Rexford Jr.
- Virginia Rexford
- Eva Anniskett
- Axel Koenig
- Betsy Stalker
- Eunice Stalker
- Ben Hunsaker
- Gwendolyn Pikok, NV of Pt. Lay
- Bill A. Tracey Sr., NSB
- Tim Rowland, Cully
- Daniel Attungowruk
- Charlie Tazruk

**Statoil Team Members in attendance are listed below:**

- Martin Cohen, Exploration Manager
- Karin Berentsen, HSE & Stakeholder Advisor
- Jon Kåre Hovde, Project Geophysicist
- Michele Wood, Branding Manager, Communications
- Pål Eitheim, Vice President of U.S. Government Affairs

**Statoil Supporting Technical Team members in attendance are listed below:**

- Sigbjørn Vigeland, Geophysicist, Fugro-GeoTeam

- Lisanne Aerts, LGL Alaska
- Arlene Thomas, Community Relations Coordinator, ASRC Energy Services (AES)
- Elizabeth Benson, Community & Regulatory Planning, AES
- Michelle Russell, Regulatory Affairs, AES

#### A. Vessels – Technical

1. *Please explain what you will be doing with any sewage from the boat?*

The vessels have a sewage treatment plant onboard and after the water has been processed by the plant it will then be pumped overboard. Grey water will be pumped directly overboard. This information is also contained in all the permits that we are required to obtain.

2. *Bilge tanks have become a problem when they discharge water from a different location and the water includes an invasive species. How will you handle this issue?*

Statoil is aware that this is a challenge. The vessels will not be pumping any ballast water into the ocean or pumping any ballast water into the tanks. We will in a way use the fuel as our ballast tanks.

#### B. Safety Zones/Decibels

1. *How loud is the sound and how many miles does it go sideways?*

The sound source that will be used is very similar in strength to those used during recent 3D seismic surveys in the Chukchi Sea by other operators. The further the sound travels from the boat the less the sound you have. Generally, the safety zone is expected to be 0.5-1.5 miles but it will be measured at the start of the survey.

#### C. Seismic Equipment – Technical

1. *Do the airguns operate 24/7 regardless of weather?*

Yes, but under certain conditions they will be shutdown. The activity will be operating 24/7 but only 40% of the time the airguns will be going off. This is because the equipment needs to be managed and that takes time. It is not a constant sound. If we stop during the night or if it gets foggy we will have to stop until we can see again. So if we stop in the night we cannot start until we have clear visibility of the safety zones.

#### D. Marine Seismic – Location and Details

1. *Are they (vessels) all coming up in August?*

Yes, in August they will come up from Dutch Harbor.

2. *But you will drill?*

Statoil has not decided whether or not we will drill. The seismic evaluation needs to confirm an attractive prospect and thereafter we would need to engage in additional POC meetings as part of moving to the next phase of exploration activity.

3. *What is seismic?*

Referred back to the slide and described the sound reflection and the act of the hydrophones receiving the sound. We use the data to make a picture of the earth.

4. *Do oil and gas reservoirs leave different footprints on the data sheets that you get from the seismic operations or do they look the same?*

In this area it is difficult to see oil and gas. The data shows the different layers in the earth, not oil or gas. The data and other information are then used to form conclusions. Seismic data shows the traps where the oil and gas gets contained and if a trap (prospect) is located. These need to be identified to do more exploration activity.

**E. Impacts to Marine Mammals**

1. *Will the animals hear it?*

Yes.

**F. Oil Spills**

1. *Read from comment card: "First of all I thank you, all of you for coming to my small village over and over. My big concern is for the mammals that live in what I call my "Garden" that feeds my family and all that live here. This includes fish, ducks and birds. Even if this drilling is closest to Wainwright, I believe that we should have a hazmat building here for fuel clean-up just in case. As soon as you find out about the ocean/ice clean-up please email this information to us so that we can pass this information on to others. Looking forward to more informational meetings."*

Thank you very much for this card and your comment. Statoil is not going to be drilling this year. It is a seismic program only. One or two refuelings are planned. The procedure for refueling has been used around the world. Does that answer your question? Statoil will not be drilling so there should be no reason to worry this year about an oil spill.

**G. Communication and Call Centers**

1. *Will you help with the Com centers and work with Shell to keep them open?*

Yes, Statoil will be helping with the com center; we have a meeting with Shell on Monday (January 18, 2010).

2. *We have Shells equipment in the station; they were leasing space and had three people on the clock. It helped Shell and us because we knew where our boats were and Shell also knew where their vessels were and where other boats were.*

So it was a benefit?

3. *Yes.*

Statoil has already discussed this with Shell and ConocoPhillips and will continue to support this program. For this year's program Statoil plans to have one crew change through Nome. Therefore it might only be on a special occasion that we will have to come close to shore to the Chukchi Sea villages. If the seismic vessels need to come close to shore, they will use the communication protocol to be able to avoid any potential conflict.

**APPENDIX B**  
**Co-Management Meeting Notes**

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**Statoil 2010 Marine Seismic Survey**  
**Plan of Cooperation Meeting**  
**Marine Mammal Co-Management Groups**  
**Captain Cook Hotel, Club Room 2**  
**March 22, 2010**  
**5:30 – 7:30pm**  
**Anchorage, Alaska**

Statoil held a Plan of Cooperation (POC) meeting with the Marine Mammal Co-Management Groups on March 22, 2010, at the Captain Cook Hotel in Anchorage, Alaska. The meeting included a presentation and discussion of project elements, issues, and mitigation. The aim of the POC meeting was to present Statoil's proposed 2010 Marine Seismic Survey in the Chukchi Sea. Martin Cohen, Exploration Manager, presented and he and his team tried to answer all the questions. Statoil wishes again to use the opportunity to thank the Co-Management Groups for accommodating us and taking time to meet and engage with us. We have to the best of our ability tried to summarize the questions and concerns that were raised at the meeting.

The following meeting notes are organized by topic and include the questions asked by the meeting participants and the responses from the Statoil team. Please note that the notes are not intended to represent a direct transcription. If you have any questions or comments, please do not hesitate to contact us. The Marine Mammal Co-Management Group meeting was noticed with the following organizations: 1) Ice Seal Commission (ISC); 2) Eskimo Walrus Commission (EWC); 3) Alaska Nanuq Commission (ANC); 4) Alaska Beluga Whale Committee (ABWC); and 5) the Alaska Eskimo Whaling Commission (AEWC).

**Meeting attendees are listed below:**

- John Goodwin, ISC and EWC
- Pearl Goodwin, Kotzebue resident
- Harry Brower, Jr., ABWC and ANC
- John Hopson, Jr., Oolgoonik Corporation (Whaling Captain)
- George Noongwook, AEWC (Whaling Captain)
- George Ahmaogak, Ahmaogak Associates

**Statoil Team Members in attendance are listed below:**

- Martin Cohen, Exploration Manager
- Karin Berentsen, HSE & Stakeholder Advisor
- Steinar Eldøy, HSE and Impact Assessment Specialist

**Statoil Supporting Technical Team members in attendance are listed below:**

- Caren Mathis, ASRC Energy Services (AES)
- Elizabeth Benson, AES
- Maggie Ahmaogak, AES
- Michelle Russell, AES
- Darren Ireland, LGL Alaska

**A. Crew Change**

1. *Will there be helicopter service while you are out in the area? Are there emergency medical services you have organized for this location?*

Statoil is coordinating with Shell about their plans for search and rescue if they drill a well in 2010. If Shell drills, Statoil would like to share a search and rescue helicopter. Shell is planning to have a search and rescue helicopter based in Barrow and part of the plan is to build a new hanger as well for the helicopter. Statoil will be contributing to that as well if we share cost and we will have a share of that helicopter.

- 2. But there will be no crew change from that location going into Barrow or Wainwright or Point Hope?*

Statoil did consider Barrow and Wainwright as possibilities for crew change. Using helicopters can get expensive and there is a safety issue associated with using a helicopter (*weather/fog and long distance*). Statoil also considered a crew change in Wainwright or Barrow using a vessel. During the survey, which will occur from early August to early October, there will be one crew change approximately 45 people. There will be three vessels in the Chukchi Sea. The main seismic vessel will stay in the operational area all the time. One of the two support vessels will bring the “on and off” crews to and from Nome. Currently, there are no plans for vessels to go to Wainwright or Barrow. However, there may be an occasion or a special reason that we have to get someone on board or pick up equipment. In that case, one of the vessels might need to go to Wainwright.

- 3. The only reason you were going to Nome was because of the deep water port?*

Nome has been chosen for safety and practical reasons. Statoil will change crew only once; more than 40 crewmembers will be replaced at once. Nome is the only port in the area that would allow our support vessel to get alongside in the harbor. We also wanted to minimize vessel traffic to and from the coast especially during the fall hunting period so if we just do one crew change in Nome it seems to solve both issues.

If Statoil needs to exchange a large amount of people, potentially 45, at the same time, the boat out of Wainwright only takes 6 passengers at a time. This creates a logistical problem for those waiting to be transported, and a health and safety issue if crews are to be transferred between a large boat and a small boat in a potentially rough seas. The situation would be very different if Statoil were proposing another type of operation that did not require the need to exchange so many people at once.

- 4. There is no helicopter traffic from the shore to the vessel right?*

That is correct; the only time it could happen is in the case of an emergency.

- 5. I appreciate schedules like August or early August to October and to remind everybody when you hope to get an Incidental Harassment Authorization you have to have a Plan of Cooperation like this that includes the co-management groups. You lay out your plan of operations and then you ask the subsistence communities to see if they have a scheduling issue with your plan of operations, any part of it. That is when they will say whatever they feel that would disturb their subsistence. They raise an issue with your operations, that is what this whole Plan of Cooperation is about you lay out your plan, and you ask the co-management group or villages to see if they have a problem that conflicts with subsistence activities. Whatever you are told, that is what you write into your Plan of Cooperation and report back to NMFS and if there are no conflicts then you report that as well. But in the event that something happens, let's say like an emergency right in the middle of whaling then you would have to contact the AEWG and go through the protocol for an emergency, in other words you are cooperating.*

Statoil will contact and cooperate with the appropriate entities in the case of an emergency to avoid conflict. This is also how we operate and do business in Norway and internationally.

## **B. Seismic Equipment – Technical**

- 1. So when you are conducting all this seismic and looking at the different formations, which of the formations are you looking for, which one are you hoping to find, oil or gas? Oil, gas, what, both?*

Basically there are different rock layers in the earth. Five wells were drilled about twenty years ago so there is some information about what is down there. There is one main layer which we are interested in – the Kuparuk sand stone. This layer is also present in the reservoir at the Kuparuk field on the North Slope. The layer is likely to be early Cretaceous and is about 130 million years old. When that sand stone was deposited, the sea was shallow similar to what it is now, temperatures were a bit warmer and there were dinosaurs walking around. The other wells drilled (5 years ago) show that there was some sand stone. The depth of the sand stone is about 7 or 8 thousand feet below the surface. There could potentially also be some deeper layers which could have oil and gas.

- 2. What is the difference between 3D seismic and 2D seismic?*

The 3D seismic is a technique which was developed in the past twenty years. The idea with a 3D survey is that you shoot very close lines and then assimilate the data together in a computer to make a three-dimensional picture. With the 2D lines you only have single slices of data but if you do a 3D survey you can have a three-dimensional picture or cube of data that allows you to take ‘slices’ in any direction you want. It is similar to a CT scan that is done at a hospital. Some of the CT scans do slices, which gives one layer images or a 2D scan. Another CT scan could create a visual image of your body. That is similar to what we do with the 3D seismic imaging of the subsurface.

- 3. In terms of reducing noise from the airguns, is there much of a noise reduction between a 3D and a 2D survey?*

I think the type of sound source that you use is pretty similar, so I don’t think so.

- 4. Is the noise just more concentrated? I mean are the shots close together? Is the duration of the 3D longer than the 2D?*

The size of the source and the energy are similar. It depends a little on how you do the survey.

- 5. How many microphones do you have?*

Statoil will be using twelve streamers that are four kilometers long; in the past operators have had around six streamers. What this means for Statoil is that we can cover the area faster and in less time and we do not need to do as many sound repetitions. This will result in fewer shots or less sound in the water. In the Chukchi Sea there is not much boat traffic compared to the coast of Norway where operators need to cooperate with commercial fishing to avoid to be interrupted or have to turn around the fishing boats. So they hold meetings with the fishermen to determine the best way for them to operate. In a way, you have an opportunity to avoid conflict with the fisherman and cooperate with them because you are competing for the same area of water. For this to work well the operators have to have a lot of communication to ensure smooth operations.

6. *Does it take less time to do the survey and are there a smaller total number of shots into the water from the sound source?*

The way Statoil has planned the project, utilizing the twelve streamers; it will take less time and a lower total number of shots.

7. *So you are basically using the same gun arrays for the 3D survey as well as when running the 2D lines?*

Yes.

8. *How many miles long are the streamers, you said they were 1,100 meters?*

Approximately 2 miles long.

9. *Are these vessels foreign haul or Norwegian ships or American model or do you know? The Norseman is flies a US flag but I am unsure of the Tanux. Initially Statoil had two other boats but we were informed that we are using two new boats. The new vessels are also of high quality and have good standards.*

10. *How many days will the survey last?*

The survey will last for 60 days.

11. *From early August all the way until October?*

Yes, that is correct.

12. *Who are you getting to interpret all of your recorded data and write it into a monitoring report just like LGL does for BP and Shell?*

LGL will be writing the monitoring report for Statoil. The baseline studies data will be evaluated by several contractors including University groups).

13. *OK will LGL was a big part of that?*

LGL did have a role but they did not do any of the analysis for the benthic data.

14. *Oh OK*

LGL does do some of the acoustics work as well as JASCO and so on and so forth.

### **C. Marine Seismic – Location**

1. *Is this the only area (the 3D seismic survey area) you will be working in for the 2010 Open Water Season?*

Statoil will have a small number of just single 2D lines and it will depend on whether or not we get there in early August and if there is still ice on the 3D seismic area as to where we will be operating first. If the ice is not clear we will start on the 2D survey lines and then proceed to the 3D survey area.

2. *Where is your closest point to Wainwright or Barrow? At what point of time and location?*

That is something that Statoil can still discuss, a little bit will depend on the ice conditions but that is something where we could get some input from the community about what the best time. The nearest we will operate to the coast for the 3D area will be about 95 miles from the coast. For the 2D lines, if we can do it, the line will be about 47 miles from shore; Icy Cape is about the closest we will come. As we understand it, the Beluga hunt is normally in July.

3. *That is correct.*
4. *You guys are 60 miles offshore...*

Statoil will be 100 miles offshore and the main area is about 100 miles or more.

5. *What I am trying to say, being that far out, I doubt there will possibly be no impact on the shoreline because you are so far out but whaling that might be something because Wainwright is in shallow area and they find they have to go 30 miles off shore. Or even Beluga - that is another animal that I don't know when Wainwrights' Beluga whaling is. That might be the only two communities that might conflict. If Wainwright goes whaling for Bowhead or Beluga.*

That is what Statoil discussed with Wainwright during our community Plan of Cooperation meeting. We stated that if we come in we will take a route that is the farthest away from the shore. We also deliberately drew our route as close to the Russian border as possible. We feel that we are a good distance offshore and we did this on purpose.

6. *There is another point I want to bring up. You are going near the St. Lawrence Island and at that time when you are coming out they might be hunting walrus or whatever. I don't know what their schedule is like. I mean you have to think about it as you are going up not only through the Arctic Slope but also those guys around St. Lawrence Island because they are also subsistence hunting. They have a whaling community as well there that conducts a marine mammal hunt as well but a lot of their whaling is in the spring.*

Statoil will not shoot seismic along the route; it is only an indication of the pathway to the seismic area.

7. *You still have to watch out for potential impact; the noise of the vessel alone could scare off all the walrus when the village is trying to harvest. You have to be cognizant of that.*

What is the best way for Statoil to avoid any problems like that?

8. *It probably could be communicated through the AEWG to see what kind of activity is occurring at that time.*

Once we have left Dutch Harbor it would probably be a good idea to keep in touch?

9. *You can get in touch with us through e-mail. Is that possible? Get some e-mail addresses from everyone so they can tell you what is going on or get you telephone numbers. You can communicate directly with them instead of going through the AEWG to Barrow and then all the way back down to St. Lawrence. Before you transit out of Nome let them know you are conducting your activities. The USCG courier boat is south of St. Lawrence Island right now conducting a scientific survey and they contact me every day via e-mail to let me know*

*exactly where they are and how long they plan to be in that area and what the plan is for the following week. Does that make sense?*

Yes, this could be an opportunity.

*10. A friend of mine worked on that port side project because there was a lot of opposition when they were trying to build it so he had to do some agreement with the shareholders and I think he went into the Nome area to make sure, it's a big ship you can see for miles from. It is an ore ship and it stayed out about 4 or 5 miles and they would just barge it in. They have a deadline, I think it is the 7<sup>th</sup> or the 10<sup>th</sup> of July and they don't even try to go there to Red Dog because of the hunt. If you can find the route that leads to that area there you would be clear on the inside you know like they get the clearance all the way around. They have to; they cannot go to the Kotzebue Sound until after the 10<sup>th</sup>.*

Statoil notes your comment.

The next sections reflect the questions Statoil asked and the answers to their questions.

#### **D. Project Details – Timing**

What concerns, if any, does the Ice Seal Commission have at the moment and are there particular issues that are affecting the ice seals? When does the ice seal hunt take place?

- 1. Each region has its own time frame. For instance, the Bristol Bay area starts the first of August as the ice starts to melt. We call them oogruk and they call them mulluks, the bearded seal is one seal that we really concentrate on because we utilize their skin. Bearded seals are large and they have a lot of blubber. Basically the skin is a real asset for making boats, skin boats, the umiaqs. The ring seals are around year long. You can also hunt them during the winter because they stay in their lairs. The ring seals dig themselves into their lairs and have their pups.*
- 2. I went out with scientists for a couple of years capturing seals and doing satellite tagging on them for scientific studies. You know we have concerns with the oil industry impacts on our seals. The impact is basically that our resources are characteristically the same, they are all seasonal. It is important, and we have been stressing the importance of activities such as vessel traffic. We stress that in Kotzebue Sound and ask for vessels to wait until July 7<sup>th</sup> before they pass by our area. We do hold back the ship that takes the ore out of Red Dog because there is still a lot of ice coverage and they would scare the seals. We do trust them you know and they are pretty good about listening to us. They hold off until the ice is gone and then they come. They have never given us any problems. Our resources are important to us and when the seals migrate we have less than a month to hunt. It's not like the people in the North that have the ice go out and come back. It's a little different in our area (Kotzebue /St. Lawrence Island) the ice only goes and there are a number of seals.*

#### **E. Marine Mammal Observers**

- 1. You might have a competition for hiring certified MMOs. Everybody is going to be in a mad dash for them so if I were you I would start lining them up now because Shell and all these other operators are going to be going after them. I am just giving you fair warning. You better start selecting them now.*

ASRC Energy Services, on behalf of Statoil, started the MMO recruiting process prior to Christmas.

- 2. One of the suggestions that were given was to use whaling captains because some of them wanted to become MMOs. We have heard that time and time again that they want to go through the MMO training so that they can get on the ship and some of these people want to get paychecks and you have to start the recruiting process. That is the irony, no one is out there recruiting and looking for whaling captains or subsistence hunters that want to be a part of it, I think you need to push that effort there because you have that short window to do the training.*

Statoil's MMO hiring process is an open process so anyone can apply.

## **F. Impacts to Marine Mammals**

How many seals do you catch in the area about?

- 1. That is pretty hard to say. We have about ten families that come down to Kotzebue from Noatak to go hunt. They live in tents on the beach and go out and hunt. You also have people from Buckland who do the same thing. Deering is right in the coast and they get their oogruk right off the beach and Kotzebue gets theirs right off the beach. Kivalina gets it right off their beach but Selawik, Kiana, and Norwick have to come down to hunt.*
- 2. For the Barrow area, bearded seals, which is one of the ice seals. We have over 47 whaling crews and I would say that 40 of them use the bearded seal skin. They need 5 or more skins to cover the frame of their umiaq; forty times five, that is the amount needed just to put the covering on each boat. They also take additional ones knowing they have to go through the selection process to get the best skins to use for the covering so you can add on two or three more to that five. Eight times forty that gives you just an estimate for Barrow for bearded seals. But it is not always that way every year it changes every year or every several years. In addition it is an opportunistic hunt. You have to deal with the elements; the ice conditions the ocean currents, that is all a factor as to whether or not people are successful. The ring seal is the most utilized according to my observations of the five regions that hunt seals. The ring seal and the spotted seal are used the most as you go up the coast until you get into the Bering Sea. Then bearded seal, walrus, and pinniped are used more. In terms of what our concerns are, it's our food. In terms of if there is an incident that occurs offshore, it's the food species that we depend on for food that we are concerned about. Their health conditions their food prey items. That relationship has always been our concern. We are continually hunting in the ocean to provide for sustenance of different resources. Bowhead being one of the biggest resources but we also have all the other marine mammals that we use and supplement their dietary nutritional needs for the other resources. Walrus skins are used in different areas, they use the walrus hides to make the covering for their umiaq frames.*
- 3. There are two villages in St. Lawrence Island, Gambell and Savoonga. The communities are equal in size and have a total of around 1,600 people living on the island. I have to say one of the world's greatest migrations occurs right off the coast, up north and back just like clockwork every year. The example 88% of our community members rely on marine mammals for sustenance, for food, for clothing, and to make umiaq skins. Consequently almost 42% of the community members are out there looking every day. It takes that amount of effort to feed your family. So that is why marine mammals are so important to the community because people rely on them for food. Very few people can afford...because it has*

*to be flown in and by the time it gets to Savoonga the price is very high and no one can afford to buy it (the supplies in the store). The whales overwinter south of St. Lawrence Island, right now they are pretty close to St. Matthew Island, this is unusual, we have never seen them that far east because of the ice extent. I guess you have to look at what is happening in the winter to get a snapshot of what the spring time will look like. So we have to observe everything, the whole ecosystem; you have to view it this way in order to survive.*

St. Matthew Island is where you see break up first?

4. *Yes.*

Walrus is the marine mammals that you subsist on?

5. *We subsist on walrus, seals, bearded seals, ringed seals, spotted seals, ribbon seals, polar bears, bowhead, 400 pound halibut, king crab, blue crabs, and all kinds of fish. From cod all the way to bowhead.*
6. *Last spring in March I was fortunate enough to go out there to Gambell and Savoonga while they were having a walrus committee meeting and one of the agents wanted to know if there are seal-eating walrus. The agent also asked if you could tell which ones to shoot and which ones not to shoot. In other words if we knew the difference between the walrus that eat seal and the ones that don't. It was a big joke but these guys that hunt do know the difference and the walrus do taste different. The guess is that the walrus were orphaned as babies and their mothers did not show them how to eat so they started eating seals.*
7. *The Beluga hunt takes place in Point Lay and then Kotzebue, I am not quite sure what their schedule is, it is in the first part of July. The last few years though we have been lucky and no one has interrupted the hunt but the hunt was early this year, it took place the first part of July and all the ice was still present. So this is starting in August?*

Yes, originally Statoil was thinking about the first of July but we heard about the Beluga hunt and the ice conditions so we will now start early or mid-August depending on the ice coverage.

8. *I was just clarifying how it is suppose to work in order to refresh your memory as to how this is suppose to work. Just to refresh your memory as to why you are having this POC but right now the only thing that possibly could conflict, since you are starting early August, is that in Kaktovik one of the whalers for Bowhead, whales hunts near the Canadian border and they start September first and then Cross Islands whaling starts September first, and Barrow starts October 15<sup>th</sup> or October 1<sup>st</sup>.*

Is that hunt to the east of Barrow? I thought it was usually to the east?

9. *Depending on the conditions, but yes it is to the east depending on whether we have bad ice conditions. If we do have bad ice conditions and bad weather, then we move over to the west side of Barrow because it is calmer. Then again the missing element is Wainwright. Wainwright and Point Hope are the ones that normally go fall whaling, but Wainwright hosts the meeting for the Whaling captains and depending on how well they do this spring they might have to go fall whaling, so I suspect their schedule would be the same time as Barrow. Point Hope to my knowledge has never gone out hunting in the fall. They have attempted to do so but the weather has never cooperated for fall whaling. But you do see how from early August to early October you could possibly conflict with Wainwright subsistence hunting if*

*they decided to go, but it would be the same time as the whales are coming around their area then. You will find out from Wainwright that they will start whaling this month and next month. If they do poorly in their harvest then you will know that they will go fall whaling and they will start the same time as Barrow. You will need to keep in touch with the AEWC to get a better answer to see if they go fall whaling. This is an example of the Plan of Cooperation for subsistence or whatever all the villages are harvesting in August and October and a lot of them are harvesting caribou. A lot of them are harvesting seals on the coast line and if there is an onslaught of impact from the seismic you will hear it in the villages because they will have a poor harvest from the effects of the seismic. They will start communicating with the AEWC or directly to the operator. That is where your communication center becomes very important because they communicate with the subsistence hunters and they will let you know right away what is going on. Statoil might have to change their operations or something or stand down for a few days and let them finish. That is the whole idea.*

Statoil will begin operations in early August, which should avoid the fall whaling.

10. *OK, I wouldn't bother them.*

11. *In regards to what we heard today about your seismic activities and for the other operators that are thinking of doing the seismic activities as well I want to add something. With multiple sound sources being generated, can that affect your hydrophones that are trying to collect data? Besides that with the multiple sources going on it could be a deflection of our resources with these multiple operators and not knowing how the resources are going to be responsive because we have not see that level of activity.*

Our understanding from the presentation by TGS at the 2010 Open Water Meeting is that TGC should be announcing very soon as to whether or not their survey will actually happen. There is a very good chance that their survey will not happen. It is a speculative survey so they have to get people who are interested to pay in advance for the seismic data. As far as we know, they do not have anyone interested at the moment. We will keep in touch in order to hear the outcome.

12. *It kind of scares me in terms of what TGS is trying to do. I was trying to think if I should be raising questions to our federal government if all these operators are going to be a reality this summer or if it is still up in the air. Just because they had not shared that information prior to the meeting, it is like bringing information at the time of the meeting to the table and saying there is some new stuff coming. I mean that is the thing that we were not aware of, having multiple players or multiple groups conducting seismic at the same time and you know we were given the analogy of using flashlights at different times or that there is an operation right here with the flash light going off and on and here is another one and yet the resources are coming back. How will they respond if they see these multiple lights going off and on or the sound sources coming? You know they may not move because of an unknown situations or too much noise in the water column I mean those are the questions that...*

These are technical questions for Statoil seismic operators; two seismic surveys performed in the same area will interfere with each other. Therefore, the operators would avoid this to enable to collect the necessary quality of the seismic data.

13. *I want to make a point in regards to having multiple operators. We ran across this with Conoco, Shell and GXT. GXT was like similar to the operator TGS, well GXT was like them and there were three seismic operators and they were all going for a CAA and POC. What resulted due to them wanting to do their programs all at the same time was that the*

*subsistence community became concerned that there was going to be three operators and that they were going to cause cumulative effects by shooting at the same time. What resulted to rectify the problem was a shared services agreement. In other words Conoco cut down their (number of) ships and made an agreement with Shell. Conoco elected not to go out and let Shell do all the shooting on their part of their acreage but it was proprietary information so they had to sign confidential agreements and all that kind of stuff. The bottom line was that there were fewer ships and there were only three operators at the time and shared services is what resulted. Because there was so much of a concern that three operators at the same time would be a reality, the communities would have really felt them so they were forced to get into a shared agreement and as a result of that now they have started sharing the expense of the communication centers. They also share emergency services like the helicopter that you are doing, that started that whole process. At first they were ordered at the communities request to see if they could condense into only two operators instead of three and it worked out. Bottom line is that it worked out. And to our surprise it worked out that they had a shared agreement with Conoco and Shell shot some of the seismic for Conoco and transferred their data to them instead of having Conoco on their own boat shooting their own seismic so that is what resulted.*

Statoil understands there are many ways to share resources and will be working closely with ConocoPhillips and Shell. For example, if Conoco Phillips and Shell both want to drill, they could share oil spill response vessels and could share the drilling rig as well.

*14. But when you look at your operations you could look at that too because there might be some tracts that you might be shooting and they are shooting at the same time you don't know that.*

Statoil keeps in touch with other operators. The only other seismic that we know about that might be conflicting is the TGS project but we believe it will not happen. GXT or ION has a plan to shoot seismic in the Beaufort but that does not start until October 2010, which is later and will not conflict with Statoil.

Are there any other schedule or subsistence hunting timelines that we need to be mindful of for scheduling operations?

*15. Your operation is right in the midst of where the resources come when you are nearshore but once you get offshore you are pretty safe in terms of your depiction of where you are going and the timing. You are just going to be getting onto the tail end of our hunt. Maybe they might all be done so they won't be worrying so much about it. In terms of the dissemination of information we have to come back to our constituents to share this information as well. It was stated earlier that the representative for the Alaska Beluga Whale Committee is not here and I wasn't really given the directive to take part on behalf of the Alaska Beluga Whale Committee but being part of the Beluga Committee I will share that information and share it with them and communicate with the board as well.*

## **G. General Comments and Questions**

- 1. We had the Sami people from Norway teach us how to manage reindeer.*
- 2. Wainwright will probably be the most positive community towards oil and gas on the North Slope. We have support for our community to do what we are doing today. We have resolutions from our tribal council and from our city council to do what we are doing today in support of oil and gas. You probably won't see that anywhere else and it is because of the trust that we have put into the industry and the federal government and the knowledge we have gained. Every day*

*we are learning something new. Five years ago I was probably the most vocal person against oil and gas and today you see me speaking on behalf of oil and gas. This is because of the knowledge that I have gained. I have been to Norway and I learned a lot about zero harmful discharge. I took a boat ride from Bodø to Hammerfest. The boat ride was five days long and a lot of fun. I believe that was last year in March that I did that. I brought that information to Wainwright and we asked the AEWG to promote zero harmful discharge in their meeting last year when it was held here in the Captain Cook. This was all because of the knowledge that I gained. If I thought that the industry and the federal government would do harm to my way of life and my sons way of life I wouldn't be here asking you to come and listen to us. I would be asking you to not even come into the ocean, if I honestly felt you were going to do harm to our animals I would not be your friend. Our community wouldn't be your friend and we would push our community to be advocates against oil and gas. Because of the trust and knowledge that we have gained I think we can sit together and work the issues out and work forward, that is where we are at.*

Is it useful if Statoil provided copies of tonight's presentation?

- 3. It would be helpful to have this so we could bring it back to our members. It would make our presentations to the respective Co-Management groups easier.*

Statoil will get on that tomorrow and make packets for each group. We will hand them out tomorrow at the Open Water Meeting. Do you want them divided so that each of you can take your packets home with you and give them to your members? Or do you want us to e-mail them?

- 4. That would be a start. Anytime you do a power point presentation most often they don't provide hardcopies to take home. Because I got scolded many times when I was mayor and I did a lot of this and didn't have hardcopies and so I started providing hardcopies before I even started the presentation. I got scolded over that many a times.*

Will you all be there tomorrow at the Open Water Meetings?

- 5. Yes, I put down an e-mail because I like electronic copies.*

Did you put your e-mail on the sign-in sheet?

- 6. Yes*

Then we can do that as well.

Meeting adjourned at approximately 7:30 p.m.

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## **Appendix C Meeting Materials**

**(Copy of the Handouts and Posters, Notice of the Meetings, Sign-in Sheets)**

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***Plan of Cooperation Meeting  
for  
Proposed 2010 3D Seismic Acquisition  
Chukchi Sea***

**Who:** Statoil USA E&P Inc.

**Why:** To introduce Statoil's Plan of Cooperation and obtain feedback

**When:** January 11, 2010  
Open House 4:00pm to 6:30pm  
Presentation 7:00pm to 9:00 pm

**Where:** Inupiat Heritage and Language Center

Door prizes and refreshments will served at the public meeting



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Barrow, Alaska  
 January 11, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
1) Vera Andrews	Self	842-2247	jandrews@hugboos.net	Box 82
2) LILLIAN MAUPIN	MYSELF	852-7836	LILLIANEMAUPIN@MSN.COM	1497
3) Robert Sarren	self	852-5869	roviik sarren @ gci.net	
4) Kuntung Taale	self	852-7010	n/a	Box 488 Barrow
5) George Olemarum	self	3791		Box 278 Barrow, AK 99723
6) An K. Erich	UIC	240-5171	geochandson@ukpik.com	P.O. Box 890 Barrow, AK
7) Lawrence Sage	UIC	367-4256 852-3108		P.O. Box 349 Barrow AK 99723
8) Myrna Lay Sarren & Yvonne Sarren	self	852-5869	myrna.sarren@north-slope.org	Box 1566 Barrow, AK 99723



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Barrow, Alaska  
 January 11, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
<sup>9)</sup> Beverly Hugo	Self	5333	bf11ug@barrow.net	Box 677
<sup>10)</sup> Mary Ellen Hugo	Self	5333		Barrow AK
<sup>11)</sup> Patrick Hugo	Self	5333		BARW
<sup>12)</sup> Micah Hugo	Self	4844		BARW
<sup>13)</sup> P.A. Solly	Self	0550		BARW
<sup>14)</sup> Tommy G. Nageak	Self	0333		Box 483 Barrow
<sup>15)</sup> Rich Koutchak	Self	715-1117		-
<sup>16)</sup> Robert Edwards	Self	882-6337		Box 876 99723



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Barrow, Alaska  
 January 11, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
17) Edith Vanderskrass	Umiag	677-8267	<del>ediv@vanderskrass.com</del> @uicumiag.com	3201 <del>CS</del> Suite 506 Anchorage, Ak 99503
18) Warren M. Inobel	UIC Board	235-9054		P.O. Box 571 Anchorage, Ak 99503
19) [unclear]	NSB	8522611		
20) Jenife Ungarash				Box 17 Barrow Ak 99723
21) Arnold Browny		8527469		
22) Peter [unclear]		852-6391		Box 171 Barrow
23) Lilly Kanaywak	Self	8525159	lkanaywak@uicumiag.com	Box 887 Barrow
24)				



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Barrow, Alaska  
 January 11, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
25 Joseph Sage	NVB	4411	jsage@nubaron.net	Box 1130
26 Forrest Olemann	UIC	7434	Forrest.Olemann@ukpiik.com	Box 890
27 Brienne Elkins	HIA	0270	brienne.elkins@northslope.org	Box 1774
28 Todd Sformo	wildlife	0350	Todd.Sformo@north-slope.org	
29 Greta M Krafsvur	Wildlife Dept CSU Veterinary medicine student	970-217-9903	Klondi ke.krafsvur@gmail.com	
30 Rick L Rice	self	6585		P.O. BOX 1230
31 Harry Brower	self			P.O. Box 712 Barrow, AK P.O. BOX 2341
32 Bruce A. Rexford	Self	367-3614	rr Rexford@yehowea.com	Barrow, AK 99723



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Barrow, Alaska  
 January 11, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
33 Joy Goodyear	NSB Grants Div	852-0467	joy.goodyear@north-slope.org	PO Box 69 Barrow 99723
34 WARRSA/MATJMEAK	JELF	852-5973		P.O. Box 405 Barrow, AK. 99723
35 Arnold Brower Jr.	UIC	852-7464	arnold.brower@ukpiik.com	Box 892 Barrow, Alaska 99723
36 Charles Brown	UIC	4471	cbrown@ukpiik.com	66 11111
37 John Maktek	Shell	980-5146	Johnj@MAT3.net	P.O. Box 875045 Wasilla, AK 99687
38 Tommy Olenow	WVB	4411		Box 11 30
39 May M. Akpit	Self	5124	send welcome poster	Box 322 Barrow, Ak. 99723
40 Walter Akpit Jr	Self	5124		Box 322 Barrow Alaska



***Plan of Cooperation Meeting  
for  
Proposed 2010 3D Seismic Acquisition  
Chukchi Sea***

**Who:** Statoil USA E&P Inc.

**Why:** To introduce Statoil's Plan of Cooperation and obtain feedback

**When:** January 12, 2010  
Open House 4:00pm to 6:30pm  
Presentation 7:00pm to 9:00 pm

**Where:** Community Center

Door prizes and refreshments will served at the public meeting



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Wainwright, Alaska  
 January 12, 2010

(13)

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
1) Marjorie K. Angashuk		unlisted		Wain-AK 99782
2) Mattie M. Panik		unlisted	mmpanik@hotmail.com	wain-AK 99782
3) Kelly T. Hopson		unlisted	Kelly-tyler@statoil.com	wain-AK 99782
4) Susan Agwulik		unlisted	agwulik.susan@statoil.com	Wain - AK 99782
5) Anna N. Ashoolook				Wain AK 99782
6) Cora J. Alpin		925-1249 cell	alpin.cora@yahoo.com	Box 88 Wainwright, AK 99782
7) Max Alpin	Self			Box 88 Wainwright, AK 99782
8) Abbey Ingudruk	Self	unlisted	None	Bx 74 Wainwright, AK 99782



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Wainwright, Alaska  
 January 12, 2010

(13)

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
9) Herbert Tagarok				Ge 1. De)
10) Travis Upickson				Wainwright AK 99782 Box 86
11) Bob Stears	OLGOWIK OILFIELD SERVICES LLC	907-925-1305	rshears@ olgoowik.com	Wainwright AK 99782 PO Box 162 Wainwright, AK 99782
12) Genay H. Shuyil		907-925-1029	—	P.O. Box 58 Wainwright,
13) FERRY TAGAROK	Self	907-763-7213		POB 96 Wainwright, AK 99782
14) Harris Agarluk		907-763-2169		P.O. Box 148 Wainwright AK 99782
15) Theodor Nasit	Self	925-1254		Wain AK
16) Fredrick E. Eklund	Self	903-6828		ain ak



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Wainwright, Alaska  
 January 12, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
17) <i>Alba</i>		907-763-2113	<sup>75</sup> dellalorsanta@hotmail.com	Box 584 Main St
18) <i>Linda Agnasaggi</i>	Wainwright	763 0026	lagnasaggi@hotmail.com	Box 584 Main St
19) <i>Billy Kishoalook</i>	Wainwright	Cell 306-9873	—	Box 584 Main St
20) <i>Sally Agwuluk</i>	Wainwright	807) 763-2168	—	P.O. Box 148
21) <i>Frances Nashookpak</i>	Wainwright	(907) 763-2245	—	P.O. Box 81
22) <i>Dennis Awoogann</i>	Wainwright	907-763-5782	—	
23) <i>Michael Tagarsok</i>	Wainwright			Box 169
24) <i>Walter Nagalakpa</i>	Wainwright			Box 69



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Wainwright, Alaska  
 January 12, 2010

(13)

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
25) Kenneth Anashook		907.763.4400		P.O. BOX 84 Wainwright AK 99782
26) George Anasook	Self	763-4531		Box 57 Wainwright 99782
27) Melie Bester		763-3493		Wainwright Wainwright AK
28) Andrew Ekak		763-6728		Wain, AK
29) Monee Najahid		763-2918		Wain, AK
30)erson Anasook	Self	763-0025		P.O. Box 161 Wainwright Alaska 99782
31) George Anasook	Self	925-1113		Box 53 Wain, AK 99782
32) Alysa Anasook	Self	925-1200		



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Wainwright, Alaska  
 January 12, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
33) Maxine Nayak	Wainwright		Maxine-s@btmail.com	Box 64 ATN, AK 99782
34) Barbara Hanna	11		alvagabai@kik.com	Box 65 ATN, AK 99782
35) <del>Barbara Hanna</del> Donniethanna	11			
36) Frances K				
37) Eunice Fhuabara	11			
38) Joyce Caplan	11			P.O. Box 106 Atn W 99782
39)				
40)				



Statoil Plan of Cooperation Meeting  
Attendance Sign-In Sheet  
Wainwright, Alaska  
January 12, 2010

(3)

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
41) Charlie Cyrus				
42) JERRY PARK				
43) Moby Nyake				
44) School Washburn				
45)				
46)				
47)				
48)				



Statoil

Statoil Plan of Cooperation Meeting  
Attendance Sign-In Sheet  
Wainwright, Alaska  
January 12, 2010

(13)

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
49) Cassandra				
50) Carolyn Arpik				
51) Bill Arvid				
52) Bonnie Spencer				P.O. Box 87 Wainwright, AK 99782
53) Nellie Arpik				
54) Cheryle Equasda				
55) Alise Podfora Ahmaged				
56) Isarah Agnasagga				



***Plan of Cooperation Meeting  
for  
Proposed 2010 3D Seismic Acquisition  
Chukchi Sea***

**Who:** Statoil USA E&P Inc.

**Why:** To introduce Statoil's Plan of Cooperation and obtain feedback

**When:** January 14, 2010  
Open House 4:00pm to 6:30pm  
Presentation 7:00pm to 9:00 pm

**Where:** Qalgi Community Center

Door prizes and refreshments will served at the public meeting



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Point Hope, Alaska  
 January 14, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
1) Emma Kinneveauk	ASRC	Cell 368-1210	ekinneeveauk@asrc.com	Village Resources Box 390 Pt. Hope, AK 99766
2) Alfred S Oomittuk	Point Hope	368-1431	steve_oomittuk@yandex.com	Steve Oomittuk Box 51 Point Hope, AK 99766
3) Marie Casasus	DHO	368-2004		
4) Roy P F. L. C.		368-1287		P.O. Box 240 Point Hope AK 99766
5) Kristi Frankson	DHO	368-2817	kristi.frankson@hotmail.com	P.O. Box 111 Pt. Hope, AK 99766
6) Jack n Lane	P.H.O.	—	—	Box 23 Pt Hope AK
7) Joseph Tomksjha	P.H.O.	368-3249	Joseph Tomksjha	Box 26 Point Hope
8) Robert Kowwuna	P.H.O.	368-2588	Robert Kowwuna	Box 12 Point Hope



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Point Hope, Alaska  
 January 14, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
9) RONALD CIVIOL	Self	368-2096	None	P.O. Box 312
10) RORY STONE	Self	368-3167	None	P.O. Box 311
11) ROBERTSON	-			
12)				
13)				
14)				
15)				
16)				

M



Statoil Plan of Cooperation Meeting  
Attendance Sign-In Sheet  
Point Hope, Alaska  
January 14, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
17 <i>Libby Longman</i>				
18				
19				
20				
21				
22				
23				
24				



Statoil Plan of Cooperation Meeting  
Attendance Sign-In Sheet  
Point Hope, Alaska  
January 14, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
25) Aggie Hannicuff				
26) Ricky George				
27) Adelalane				P.O. Box 271 PITOAK
28) Aileen Frankson				Box 56 P.H.D., AK 99755
29)				
30)				
31)				
32)				



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Point Hope, Alaska  
 January 14, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
B B Ineek higtediya	MCP	0113120- 6270210	mmh3 x54@ll.ni	Zwanenburgwal 1011 7H 06
A ISAAC KILLIBUR S	PomAor Whale Capt'n	368 0024		Amherstham The Netherlands Box 35 Postma
B Leonard Barso	Point Hope	368-1379	leonardbarso@ hotmail.	Box 152 Pt Hope AK 9976
36 Lloyd Vincent	Self	368-5685	—	P.O. Box 124 Pt. Hope, AK 99766
37 Edna Atungana	Self	368-2373	—	Box 26 Pt Hope AK-99766
38 <del>ZS</del> Edvarda	Self	368-3188	—	Box 52 Pt Hope 99765
39 Patricia Tuddeil				
40 Kreen Koonuk	Self	368-2063	—	Box 85 Pt Hope, AK 99766



**Statoil Plan of Cooperation Meeting**  
**Attendance Sign-In Sheet**  
**Point Hope, Alaska**  
**January 14, 2010**

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
41 Bessie Kowunna	City Tikigaq	368-1287	bessie_kowunna@yahoo-	P.O. Box 240 Point Hope, AK 99766
42 Mary Jane Attungana	PHNS			P.O. Box 133 PHO, AK 99766
43 Aggie Attungana	Point Hope AK	368-3882 cell # (907)434-1002	N/A	P.O. Box 133 PHO, AK 99766
44 Marlena Omie	Pt. Hope AK		wfury@att.net	P.O. Box 447
45 Eduard Lashley	PHO			P.O. Box 222
46 Luan-Brink	PHO	368 1310		Box 312
47 Billy Steh	PHO	368-2080		Box 42 Pt Hope, AK 99766
48 Jane Snyder	PHO	368-3167		Box 11 Pt. Hope, AK



**Statoil Plan of Cooperation Meeting**  
**Attendance Sign-In Sheet**  
**Point Hope, Alaska**  
**January 14, 2010**

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
57) Caroline Cannon	Native Village	(907) 368-3005		NUPH BOX 109 Pt. Hope, AK 99766
58)				
59)				
60)				
61)				
62)				
63)				
64)				



***Plan of Cooperation Meeting  
for  
Proposed 2010 3D Seismic Acquisition  
Chukchi Sea***

**Who:** Statoil USA E&P Inc.

**Why:** To introduce Statoil's Plan of Cooperation and obtain feedback

**When:** January 15, 2010  
Open House 4:00pm to 6:30pm  
Presentation 7:00pm to 9:00 pm

**Where:** Community Center

Door prizes and refreshments will served at the public meeting



**Statoil Plan of Cooperation Meeting**  
**Attendance Sign-In Sheet**  
**Point Lay, Alaska**  
**January 15, 2010**

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
1) Marie Tracey	Native Village of Point Lay	(907) 833-2127	marie.tracey@north-slope.org	Box 59029 Point Lay, Alaska 99759
2) Bill Tracey				
3) Bob Bouillette	NSB	852-2804	Lucille Bouillette @Barrow.com	Box 1274 Barrow AK
4) Boby a Babuk				PO Box 59047 Pt Lay, AK
5) Ella M. Stalker		(907) 933-0085		P.O. Box 59117 Point Lay, AK
6) William Burt		907-833-0003	williamjburt@yahoo.com	P.O. Box 59038 Point Lay AK 99759
7) Lynn Annistett		833-0255		P.O. Box 59018
8) NATHAN HENRY SA		2041		59095



**Statoil Plan of Cooperation Meeting**  
**Attendance Sign-In Sheet**  
**Point Lay, Alaska**  
**January 15, 2010**

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
25) Jacob Staucker Jr	self	907-833-2480	inupiaq-2@yahoo.com	P.O. Box 59113 Point Lay, AK 99759
26) Leverly Matoomesook	Self	907 833-2084	leverly-orders@hotmail.com	P.O. Box 59117 Pt. Lay, AK 99759
27) Rhoda Rexford	self	907 833 0018		Box 59084 Pt Lay AK 99759
28) Julius B. Rexford JR	Self	907-833-3994		Box 59102 Pt Lay AK 99759
29) Virginia Rexford	Self	907-833-4592	chaste42@yahoo.com	P.O. Box 59016 Point Lay, AK 99759
30) Eva Annuska	Self	907 833-3901		P.O. Box 59003 Point Lay AK 99759
31) AXEL Koenig	Self	907 833-3101		PO Box 59063 POINT LAY AK 99759
32)				



Statoil Plan of Cooperation Meeting  
 Attendance Sign-In Sheet  
 Point Lay, Alaska  
 January 15, 2010

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
33) Betsy Stallan	My Self.	833-2084	bella-s@hotmail.com	Box 59113 Pt Lay AK 99759
34) Eunice Stalker	Self	833-0035	eunice-stalker@hotmail.com	P.O. Box 59113 Pt. Lay, AK 99759
35) Ben Hunsaker	Self/PSO	833-2911	Benjamin.Hunsaker@slope.org	P.O. 59042 PT. Lay, AK 99759
36) Gwenedyn J. Pizok	Village of PIZ	833-0037	apple-rules-me@yahoo.com	Box 59047
37) Bill A. Tracey Sr	PIZ/NSB	833-2714	bill.tracey@north-slope.org	Box 29
38) Tim Rowland	Cuyy	529-0062	trouland@carterusa.us	P.O. Box 231088 ANCHORAGE, AK 99523
39) Daniel Affunsonruk	Self	833-2075		Box 59013 Pt Lay
40) Charlie Tazryk	Self	833-0033	cwtazrak@yahoo.com	Box 59112

March 9, 2010

Alaska Nanuuq Commission, Charlie Johnson, Jack Umielaq  
Ice Seal Commission, John Goodwin, Harry Brower Jr.  
Eskimo Walrus Commission, Joseph Sage, Victor Karmen  
Alaska Beluga Whale Committee, Willie Goodwin, Harry Brower Jr.

Dear Co-Management Group:

On behalf of Statoil, ASRC Energy Services is providing this Notice for a Plan of Cooperation dinner meeting to the above co-management groups scheduled for March 22, 2010, 5:30 to 8:00 PM at the Hotel Captain Cook, Club Room 1, Tower 1 in Anchorage, Alaska regarding Statoil's 2010 Chukchi Sea Seismic Survey plan of operations. The dinner will be buffet style.

During last week, you were all sent a copy of the presentation materials by email. Hope that you have had a chance to read them. Thank you for confirming to attend this meeting.

The Agenda is as follows:

1. Open with a Prayer
2. Roll Call for Co-Management & Introductions
  - Alaska Nanuuq Commission
  - Ice Seal Commission
  - Eskimo Walrus Commission
  - Alaska Beluga Whale Committee
3. Statoil Introductions
4. Statoil Presentation of 2010 Chukchi Sea Seismic Survey
5. Questions and Answers
6. Adjournment

Thank you.

**Maggie Ahmaogak**  
**Community Relations Coordinator**

**ASRC Energy Services**  
**Regulatory & Technical Services**  
2700 Gambell Street, Suite 200  
Anchorage, AK 99503  
Ph: 907.334.1566 / Fax: 907.339.5475  
a **GREEN STAR®** certified Alaskan business

<mailto:Maggie.Ahmaogak@asrcenergy.com>  
[www.asrcenergy.com](http://www.asrcenergy.com)

Note: Dinner will be Buffet Style.

**STATOIL 2010 CHUKCHI SEA MARINE SEISMIC SURVEY  
MARINE MAMMAL CO-MANAGEMENT COMMISSIONS  
PLAN OF COOPERATION MEETING**

**March 22, 2010**

**Captain Cook Hotel, Anchorage, Alaska  
5:30 p.m. to 8:00 p.m.**

- I. Opening Prayer
  
- II. Roll Call & Introductions
  - a. Alaska Nanuuq Commission
  - b. Ice Seal Commission
  - c. Eskimo Walrus Commission
  - d. Alaska Beluga Whale Committee
  
- III. Statoil Introductions
  
- IV. Statoil Presentation of 2010 Chukchi Sea Seismic Survey
  
- V. Questions and Answers
  
- VI. Adjournment



**Statoil**

**Statoil Marine Mammal Co-Management Plan of Cooperation Meeting**  
**Attendance Sign-In Sheet**  
**Anchorage, Alaska**  
**March 22, 2010**

Name (Please Print)	Representing	Phone No.	E-Mail	Mailing Address
1) John Hopson Jr	Olygonik Wainwright	7632614	JohnHopson@algonik.com	—
2) John Goodwin	FSC Chitina	442-3181	JohnGoodwin@012.NET	
3) Pearl Goodwin		442-3181	Same as John's	Box 413 Kotzebue, AK
4) Harry Brewer Jr	Alaska Eskimo Lulublog	852-7392		PO, Box 570 Barrow, Alaska 99735
5) George Naungook	AECWC	907-984-6008	gnaungook@hotmail.com	Box 202 Savoyage, AK 99769
6) MARTIN COMEN	STATOIL.	713-291-7346	mch@stabil.com	
7) George Almatocaf, Jr	Almatocaf Association	575-8924	George.Almatocaf@alaska.gov.net	1281 Munterway Anchorage, Ak. 99525
8)				



Paġlagivsi

Welcome

Velkommen



**Statoil**  
**2010 Chukchi Sea Seismic Survey**

# Presentation Summary

- Welcome & introductions
- Our purpose here today
- Statoil – who are we?
- 2010 Chukchi Sea seismic survey
- Stakeholder Engagement & Plan of Cooperation
- Questions & comments?

# Team introductions

- Martin Cohen, Exploration Manager, Statoil
- Karin Berentsen, HSE & Stakeholder Advisor, Statoil
- Pål Eitrheim, Washington Representative, Statoil
- Michele Wood, Communications, Statoil
- Jon Kåre Hovde, Seismic Project Manager, Statoil
- Sigbjorn Vigeland, Project Manager, Fugro
- Lianne Aerts, Marine Biologist, LGL Alaska
- Arlene Thomas, Community Liaison, AES
- Elizabeth Benson, Regulatory Advisor, AES
- Michelle Russell, Regulatory Advisor, AES



# Our purpose here today

- Statoil acquired 16 leases in the Chukchi Sea in 2008, with partners ENI.
- We will describe our planned 2010 marine seismic survey program
- To identify potential community concerns regarding the location, timing, and methods for conducting seismic 100 miles plus offshore
- In particular, to identify any possible effects on the availability of whales, seals, polar bear, or Pacific walrus
- To discuss potential mitigation measures for the proposed operations.
- To discuss future opportunities for engagement

# Statoil – who are we?

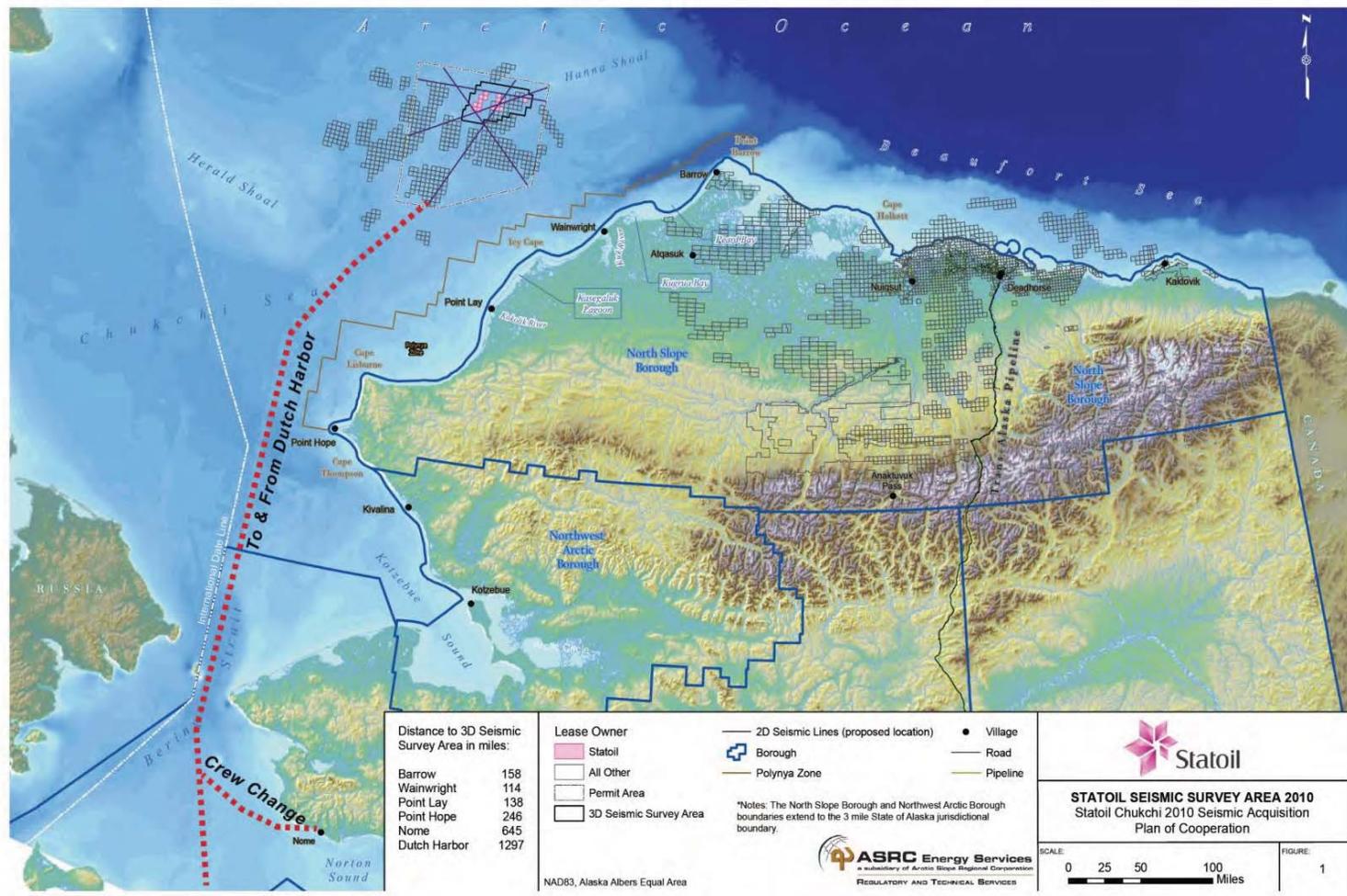
- A global Norwegian energy company, with headquarters in Norway, where we operate nearly 40 offshore oil & gas fields.
- We are now also active in many other countries worldwide.
- We are a major acreage holder in the US Gulf of Mexico.
- We have Arctic experience in Norway, Russia, Greenland and Canada.
- We are a world leader for carbon capture & storage, and offshore wind technology.



# Statoil 2010 Chukchi seismic survey

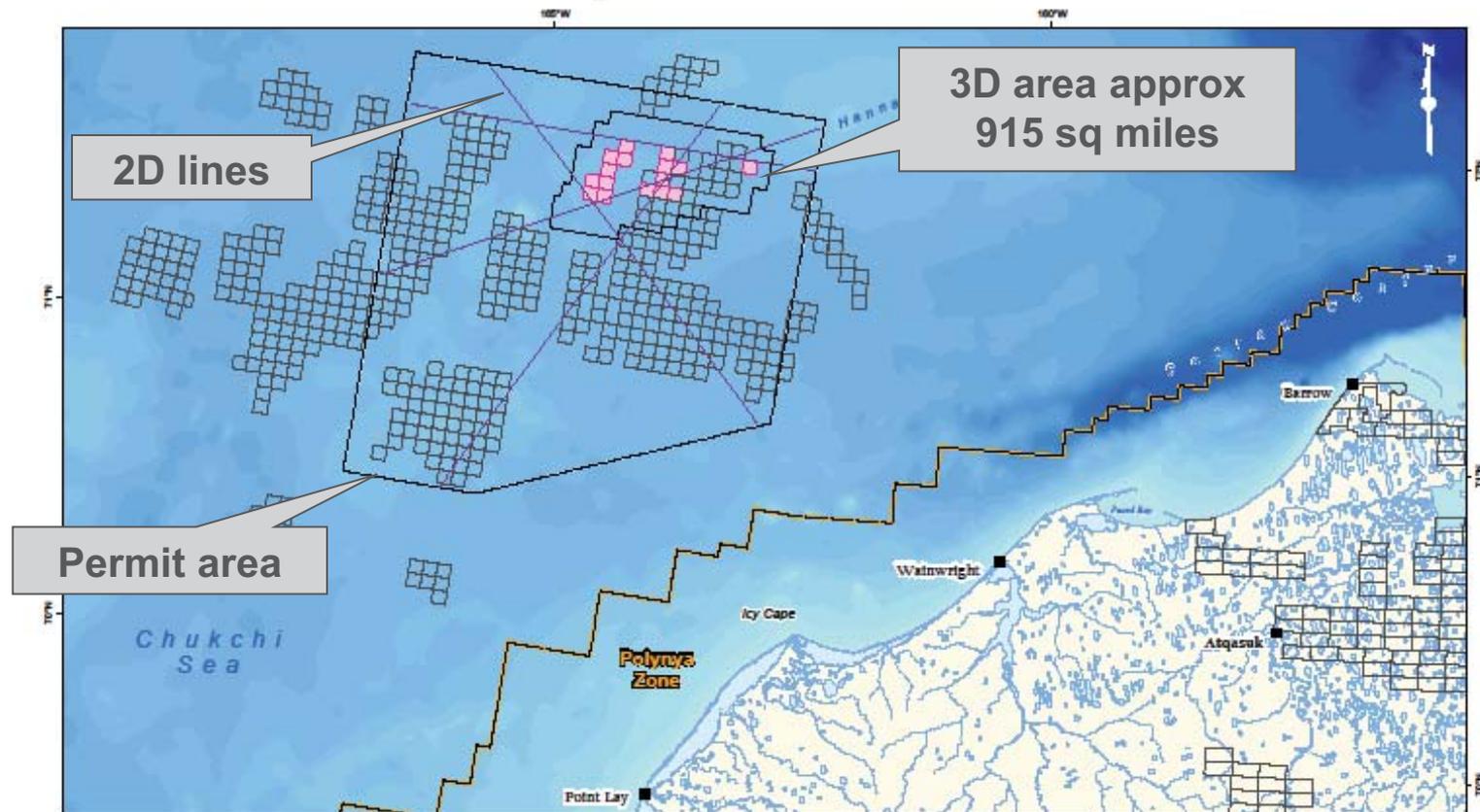
- Survey location
- The purpose of the seismic survey
- Vessels and equipment
- Timing
- Measures to reduce impact

# Survey location





# Lease, seismic and permit areas



- A 3D survey, covering approx 915 sq miles, will be acquired over Statoil's leases.
- A small number of 2D lines may also be acquired, to tie to 1980's wells.

# Vessels

- The seismic contractor is Fugro-Geoteam.
- The main vessel will be the Geo Celtic - a modern seismic vessel.
- 2 smaller vessels for equipment handling, marine mammal monitoring, & crew change



**M/V Geo Celtic**

**Length:** 330.7 feet  
**Breadth (max):** 91.8 feet  
**Net Tonnage:** 3,633 NT  
**Certified to Carry:** 69 persons  
**Function:** Seismic Vessel



**SSV Gulf Provider**

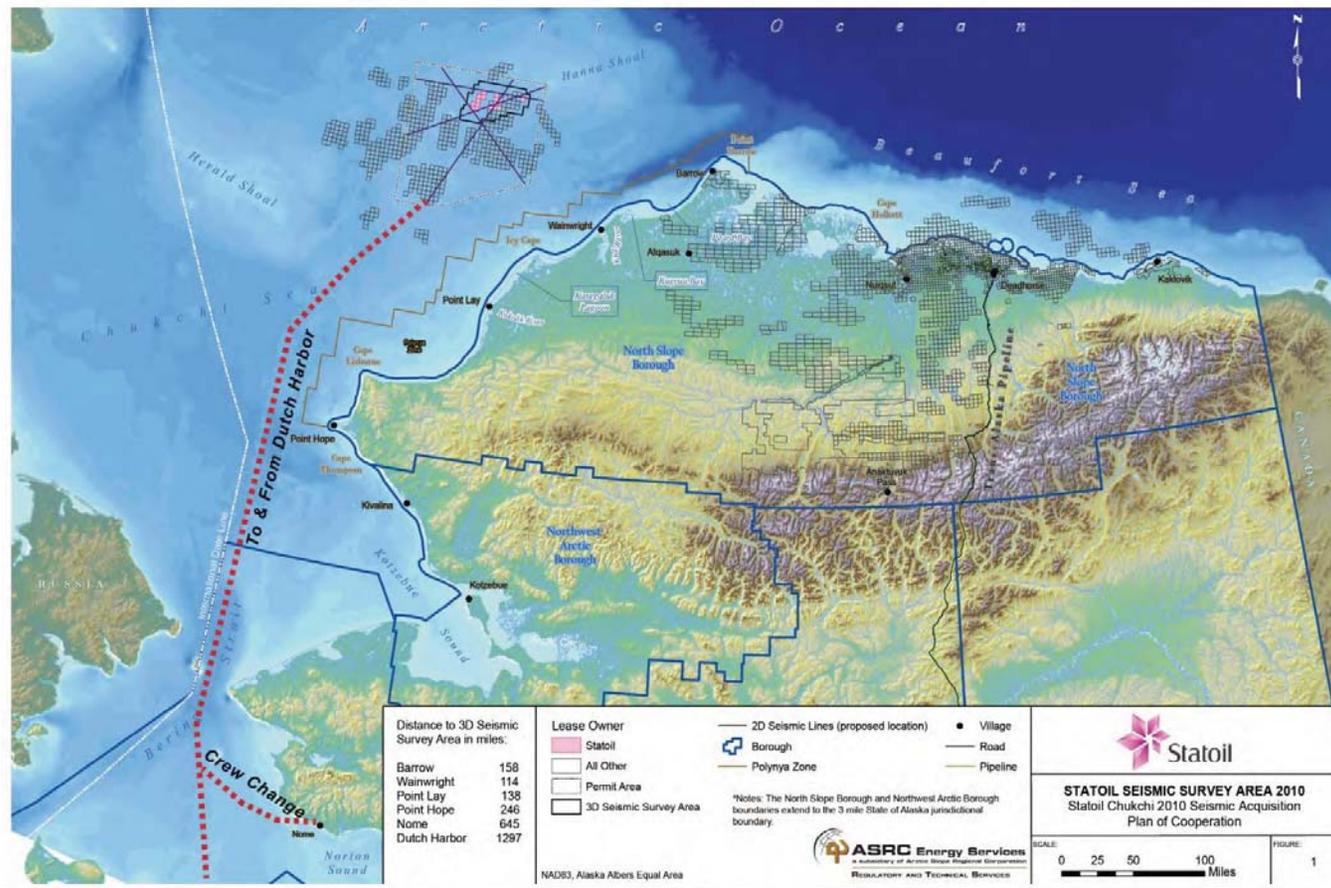
**Length:** 190 feet  
**Beam:** 38 feet  
**Net Tonnage:** 277 NRT  
**Certified to Carry:** 60 persons  
**Function:** Monitoring/Crew Transfer Vessel



**M/V Thor Alpha**

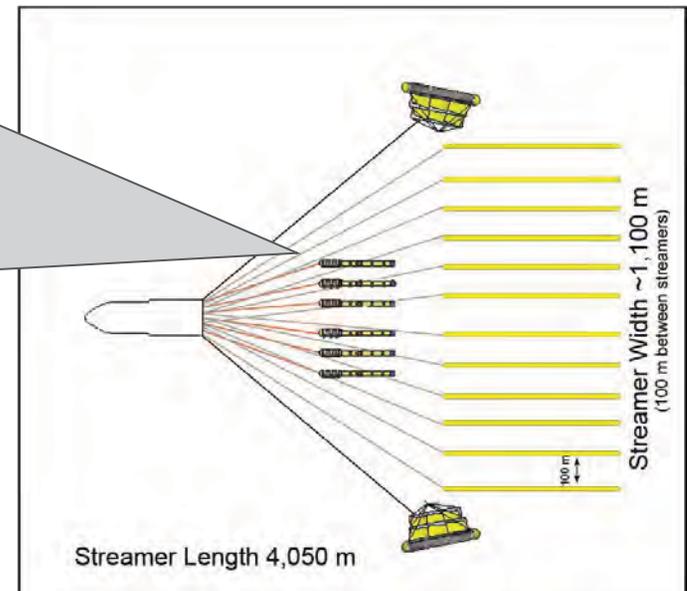
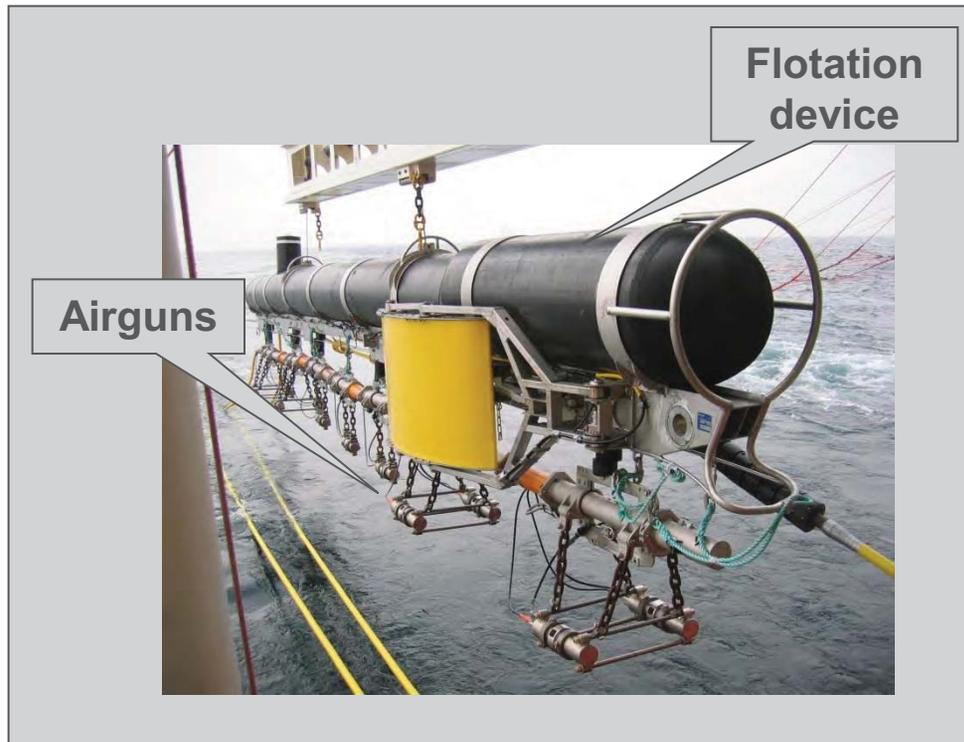
**Length:** 165.8 feet  
**Breadth:** 41 feet  
**Net Tonnage:** 315 NT  
**Certified to Carry:** 50 persons  
**Function:** Chase/Monitoring Vessel

# Vessel transit route



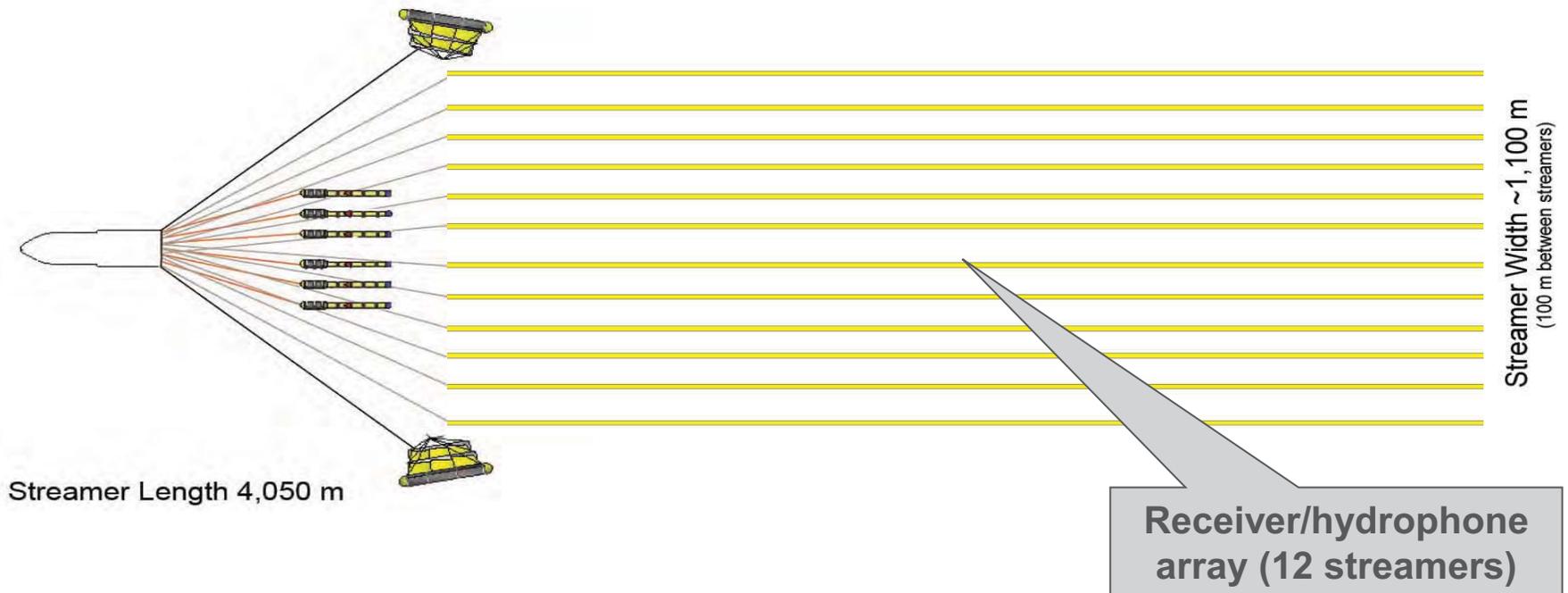
- Survey to be conducted early August – early October 2010, ice & weather permitting.

# Equipment - seismic sound source



- Airguns fire compressed air into the water.
- Total volume of airguns 3000 cu in.

# Equipment - seismic receivers



- Each streamer is a line of steerable hydrophones
- 12 streamers will be used to reduce survey time
- Solid streamers will be used to avoid pollution

# Measures to Reduce Impact



## Survey Area

The survey area is located far offshore and will not interfere with subsistence activities.

Statoil will prepare a polar bear interaction plan that addresses food and waste management, personnel training, and safety and communication regarding polar bears.



## Ice Management

Ice conditions (radar, satellite imagery) in the project area will be monitored during the seismic survey in order to minimize survey

time and activity close to the ice edge.

## Com & Call Centers

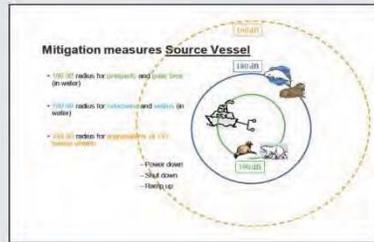
Statoil will, together with Shell and ConocoPhillips, operate a Search and Rescue (SAR) helicopter and shore communication and call centers to improve the area's emergency systems.



## Marine Mammal Monitoring

Vessels operated by Statoil will take every precaution to avoid harassment of marine mammals, including whales, seals, walrus or polar bears in the water when a vessel is operated near these animals.

- Marine Mammal Observers (MMOs) will be employed on all 3 vessels.
- An additional (third) vessel has been contracted primarily to assist with marine mammal observation.
- Scientific and Inupiat MMOs
  - 5 on source vessel until mid-August, then possibly 3 or 4
  - 2 or 3 on support vessels



## Mitigation Procedures

- Establishment of safety radii through sound source verification measurements of airgun array.
- In the established exclusion or safety zone, power down, shut down, and ramp-up procedures will be in place.

## Environmental Baseline Monitoring

Statoil is participating in environmental baseline monitoring with Shell and ConocoPhillips. This includes:

- Seabed and water sampling and analysis over old drill sites
- Fixed seabed acoustic recorders to monitor marine mammal activity in the Chukchi Sea.
- Ecological studies of Chukchi fish populations.

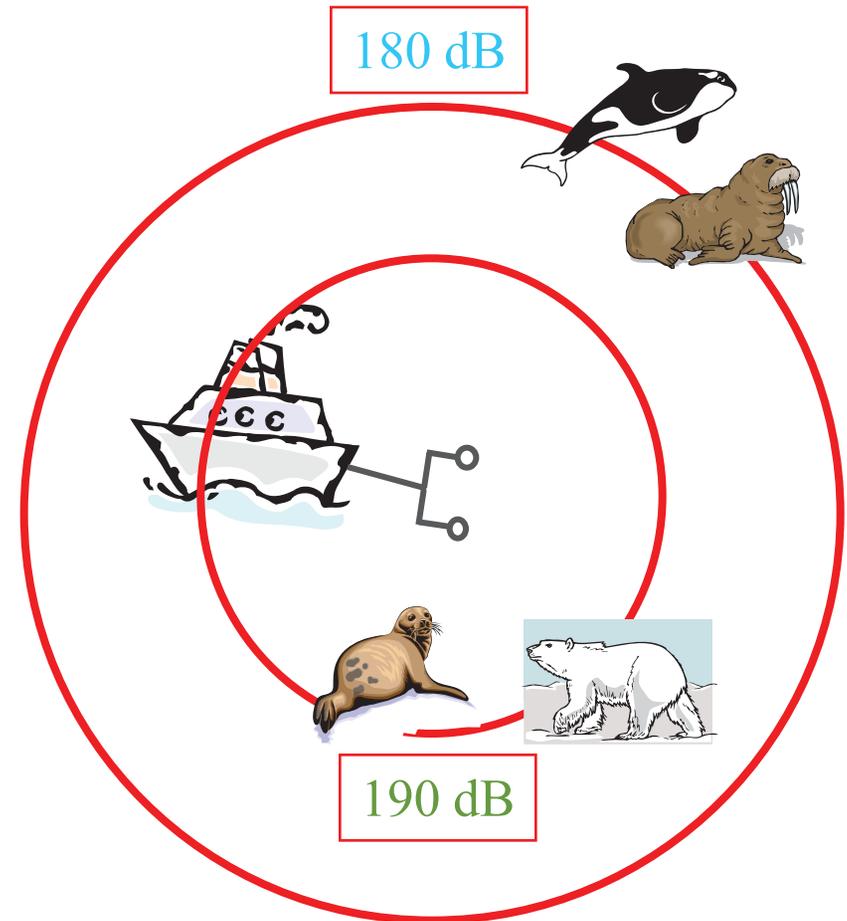
# Marine Mammal Monitoring

- Marine Mammal Observers (MMOs) will be employed on all 3 vessels.
- An additional (third) vessel has been contracted primarily to assist with marine mammal observation.
- Scientific and Inupiat MMOs
  - 5 on source vessel until mid-August, then possibly 3 or 4
  - 2 or 3 on support vessels
  - LGL & ASRC will recruit & train MMOs
  - Reporting to agencies during survey

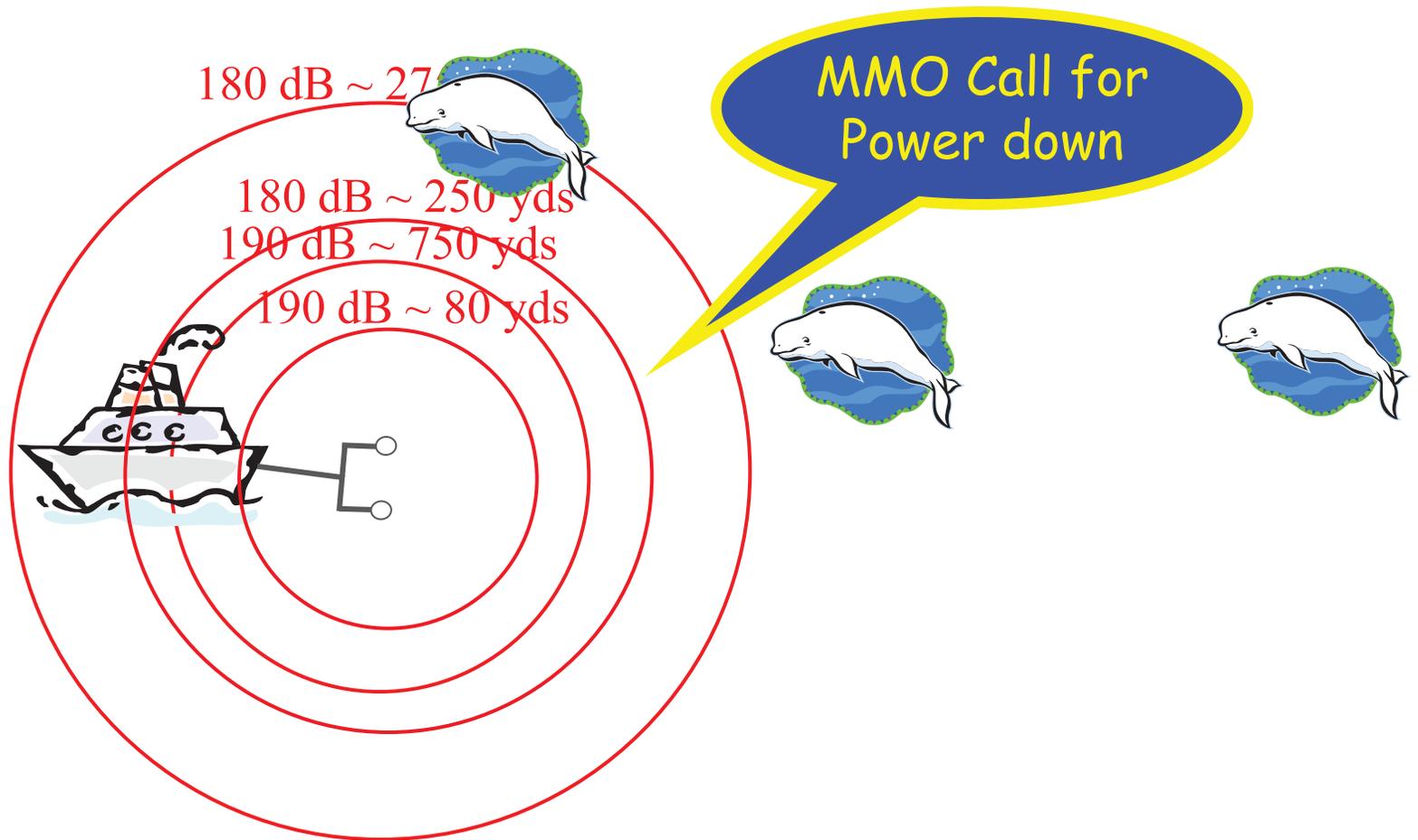


# Procedures to mitigate impact

- Sound source verification will be used to establish safety radii distances
- If marine mammals are observed in or approaching safety radii, then seismic power down or shut down
- 190 dB radius for pinnipeds and polar bear (in water) – approx 750 yds.
- 180 dB radius for cetaceans and walrus (in water) – approx 2750 yds
- 160 dB radius for aggregations of  $\geq 12$  baleen whales – approx 5 – 8 miles



# Power down procedure



# Shut down procedure



# Seismic timeline

- Lease awards - July 2008
- Permit applications made - December 2009
  - IHA, G & G, and LOA permits
- Stakeholder engagement - November 2009 onwards
- Seismic Acquisition - early August – early October 2010
- 90 day report to be submitted after survey

# Stakeholder Engagement & Plan of Cooperation

- North Slope Borough visit to Norway, March 2009
- October/November 2009
  - North Slope Borough Planning Commission & Wildlife Dept
  - Village Leadership Meetings (Chukchi villages & Kotzebue)
- **January 2010 – village public POC meetings**
- April 2010 NMFS Open Water Meeting, Anchorage
- Further community visits spring, summer, and fall 2010
- Updates to North Slope & Northwest Arctic Boroughs

# Future Statoil activity

- 2008 - lease awards (valid for 10 years)
- 2010 - 3D seismic acquisition
- 2011 - seismic evaluation
- 2011/2012? – possible shallow hazard seismic, and site survey
- 2013? (2012?) – possible well drilled – depends on seismic evaluation, drilling results of other operators, & regulatory approval



# Statoil Values

- Our culture is founded on strong values & high ethical standards.
- We contribute to sustainable development in the countries where we work.
- We aim to maximize local involvement in our projects, and to develop local skills & job opportunities.
- We ensure transparency and respect for human rights & workforce standards in our operations.
- We emphasize high health, safety & environmental standards in all areas of our work.

**Quyanaqqak!**

**Thanks for your attention!**

**Tusen takk!**



Paġlagivsi

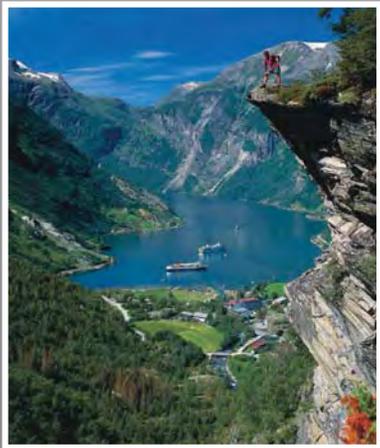
Welcome

Velkommen



## Facts About Norway

- The Kingdom of Norway is a constitutional monarchy, located in Northern Europe.
- The population is 4.7 million.
- Norwegians have a high standard of living, life expectancy, overall health, and housing standards.
- Norway's wealth is based on rich natural resources including fishing, forestry, hydroelectric power, and petroleum exploration.
- Norway is one of the world's largest exporters of seafood, oil, and natural gas.
- Norwegians attach great importance to maintaining high environmental standards.



Geiranger fjord - Pixdaus.com



# Modern Norway



## Geography

- Norway's mainland stretches from 59° south to 71° north, including the Arctic islands of Svalbard and Jan Mayen.
- Hammerfest and Nordkapp are at a similar latitude to Barrow, Alaska.



Sami reindeer - www.visitsweden.com

## Living with the Sea

- Norway has 58,000 km of coastline and islands along the North Atlantic Ocean and the Barents Sea.
- Norwegian people have long been connected to the sea for food and economic survival.
- Norwegian whalers traveled to Northern Alaska in the 19th Century.
- The fishing industry is still very important to coastal communities.
- Since 1970, the offshore oil and gas industry has become very important to Norway's economy.



## Indigenous People

Sami, the indigenous people of Northern Norway, engage in coastal fishing, fur trapping, and reindeer herding.



# Statoil and the Norwegian Experience



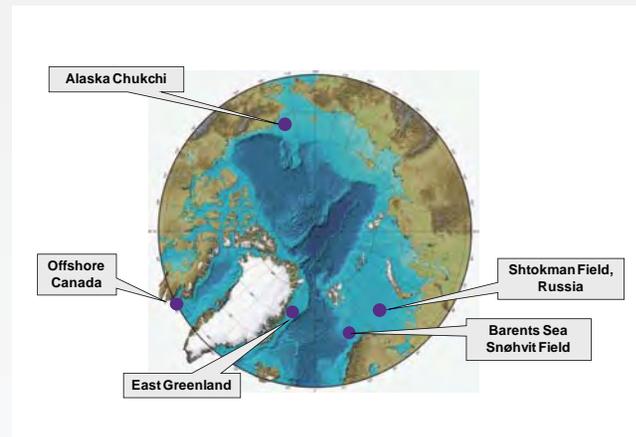
## A Global Norwegian Energy Company



- Global energy company with headquarters in Norway. Approximately 29,500 employees in 40 countries.
- World's third largest net seller of crude oil.
- Operator for 39 producing oil and gas fields - equity production of 1.9 million barrels of oil equivalent per day.
- The fourth largest acreage holder in the U.S. Gulf of Mexico.
- World leader for carbon capture and storage.



## Statoil Arctic Projects



- Our origins are in the Norwegian North Sea. Oil was discovered in the late 1960s. Similar timeline to Alaska's North Slope.
- Established as the Norwegian state oil company. The Norwegian state is the biggest shareholder.
- Exploration moved north with time.
- Snøhvit the first Arctic field developed in 2008.
- Norway has high environmental standards.



## Ethics, Values, Social Responsibility



- Our culture is founded on strong values and high ethical standards.
- We aim to develop technologies and manage projects that will meet the world's energy and climate challenges in a sustainable way.
- Our group requires high ethical standards of everyone who acts on our behalf.

## Social Responsibility Policy



### Our Approach:

- We embrace advances in technology to reduce environmental impacts.
- We contribute to sustainable development based on our core activities in the countries we work.

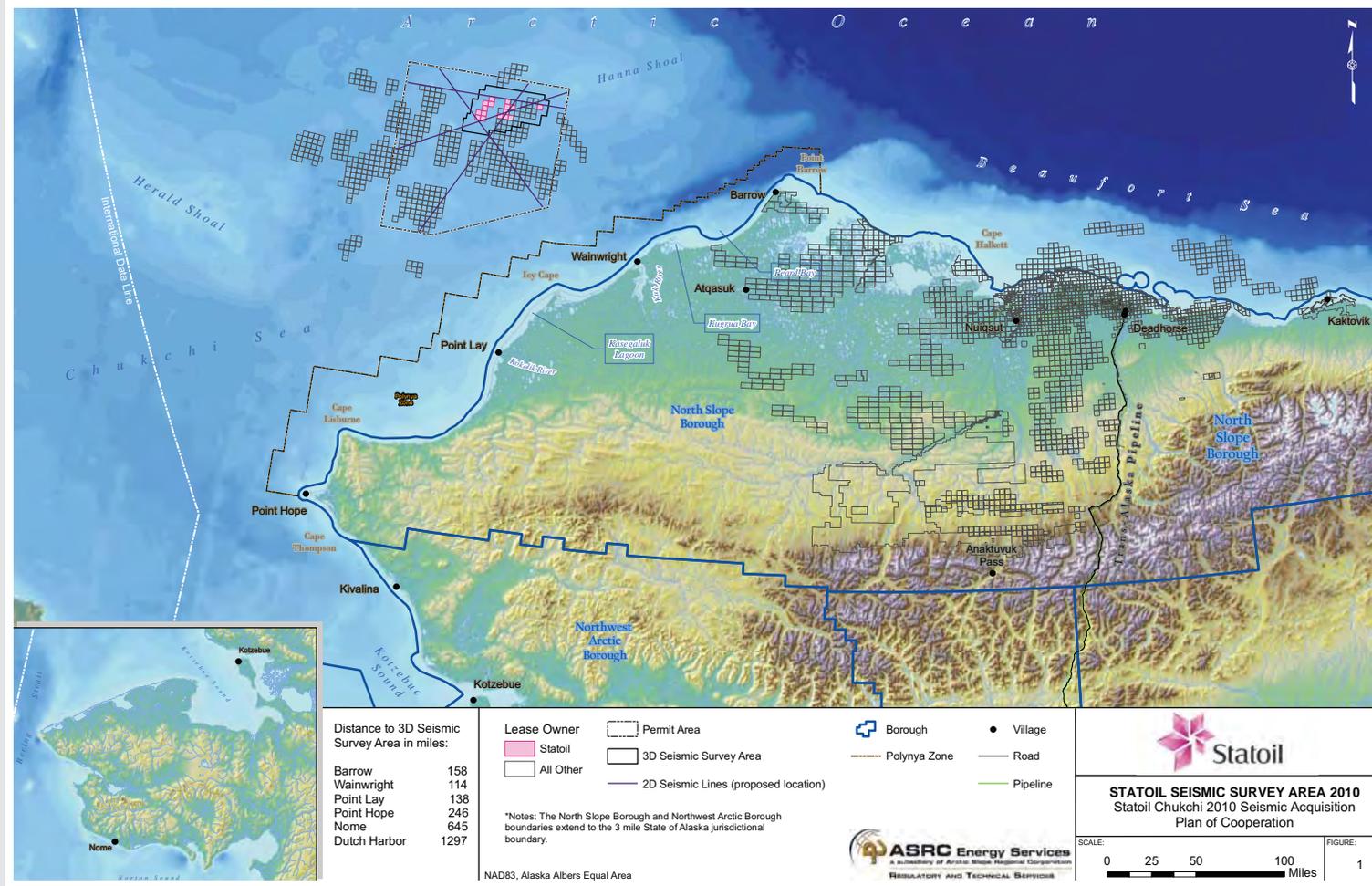
### We are Committed to:

- Contributing to local content in our projects by developing skills and opportunities in the societies where we operate.
- Ensure transparency, anti-corruption, and respect for human rights and labor standards.

# Location/Vicinity Map

During Lease Sale 193 in February of 2008, Statoil acquired 16 leases in the Chukchi Sea. Out of the 16, 14 were a joint venture with ENI. ENI contributed 40% towards the purchase of the leases and Statoil contributed 60%. Statoil is the operator for these leases.

The term for these leases commenced July 2008 and will expire in July 2018 after a 10-year term.



## DISTANCE TO 3D SEISMIC SURVEY AREA:

Barrow.....158 miles    Wainwright.....114 miles    Point Lay.....138 miles  
 Point Hope.....246 miles    Nome.....645 miles    Dutch Harbor.....1297 miles



# Vessel Transit Map



**M/V Geo Celtic**

Length: 330.7 feet  
 Breadth (max): 91.8 feet  
 Net Tonnage: 3,633 NT  
 Certified to Carry: 69 persons  
 Function: Seismic Vessel



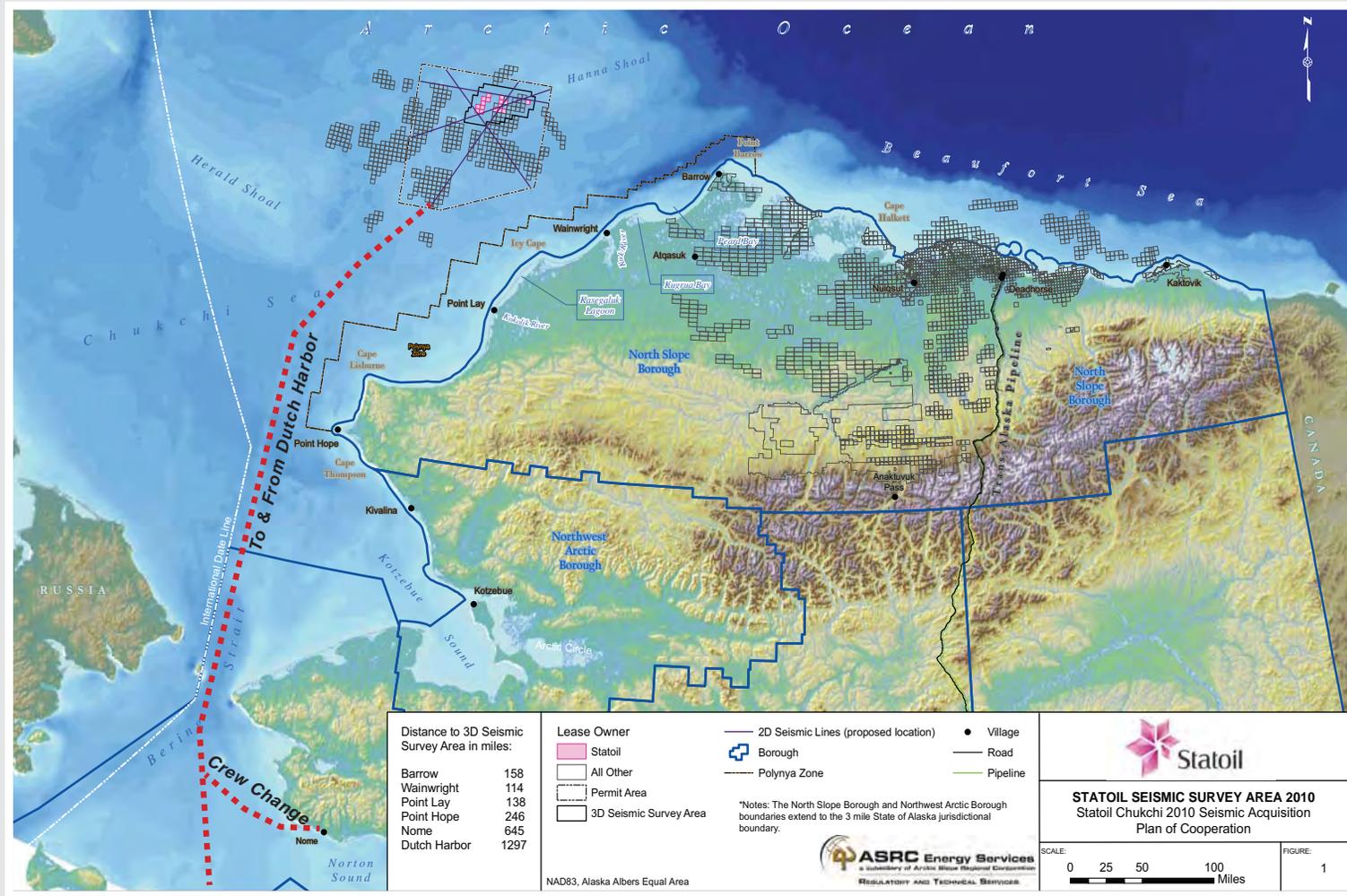
**SSV Gulf Provider**

Length: 190 feet  
 Beam: 38 feet  
 Net Tonnage: 277 NRT  
 Certified to Carry: 60 persons  
 Function: Monitoring/Crew Transfer Vessel



**M/V Thor Alpha**

Length: 165.8 feet  
 Breadth: 41 feet  
 Net Tonnage: 315 NT  
 Certified to Carry: 50 persons  
 Function: Chase/Monitoring Vessel



**DISTANCE TO 3D SEISMIC SURVEY AREA:**

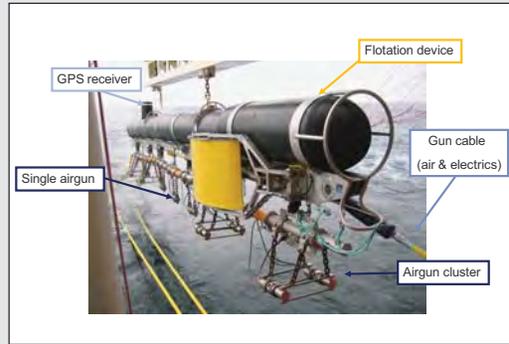
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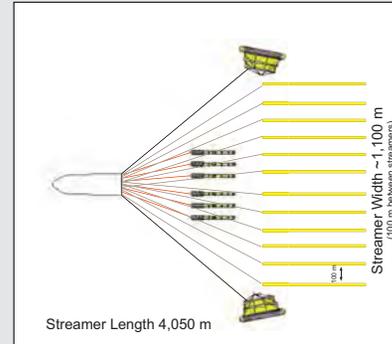
# Marine Seismic

The proposed project is a three-dimensional (3-D) Seismic Survey in the Chukchi Sea. If the 3-D survey does not progress due to ice and weather condition or if time allows, two-dimensional (2-D) lines designed to tie the 3-D data to the surrounding geology will be acquired in the field.

The purpose of the proposed seismic survey is to collect seismic reflection data that reveal the sub-bottom profile for assessments of petroleum reserves in the area.



This is an example of one of the strings for the airgun array.

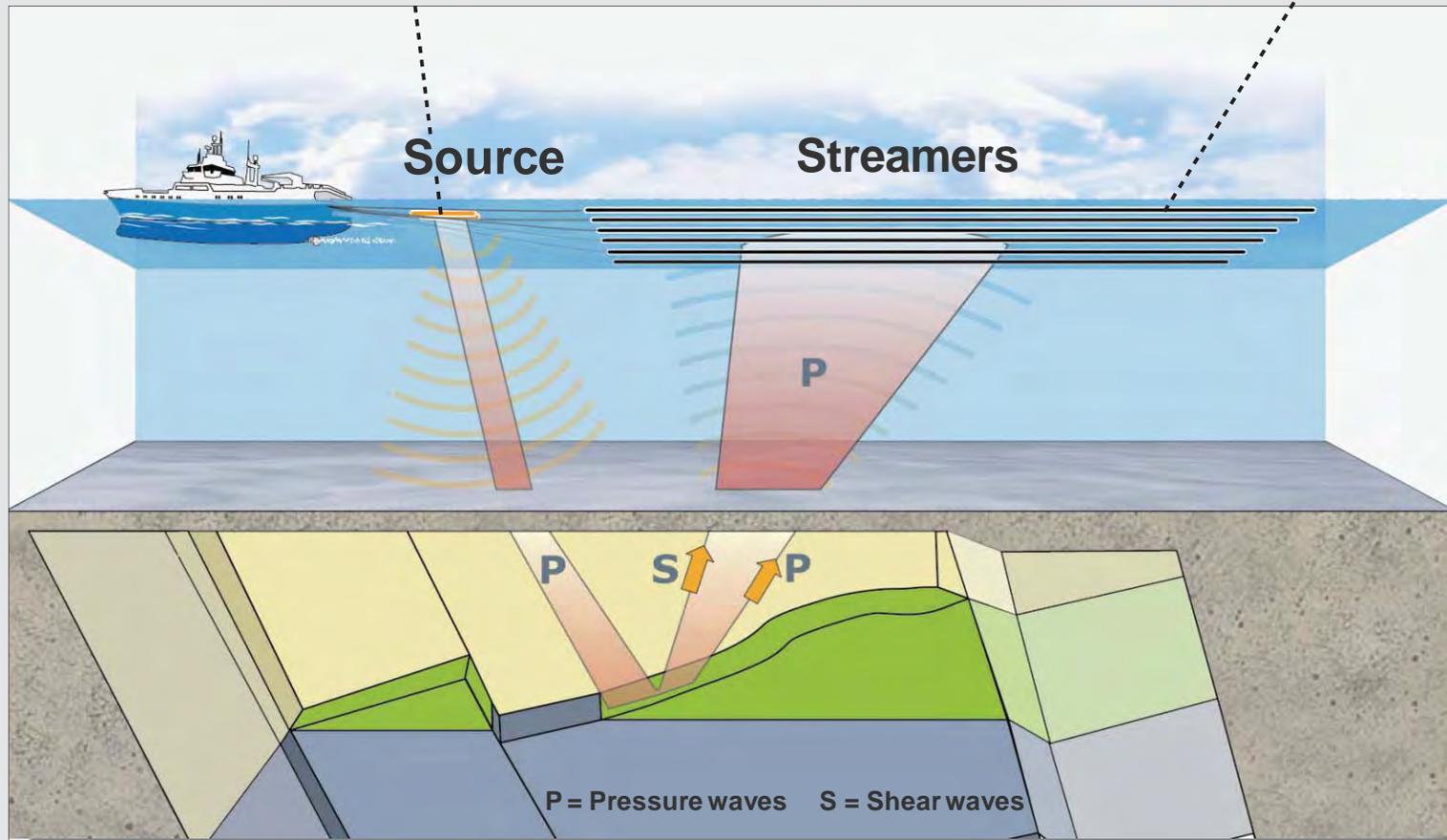


Twelve streamers will be towed behind the vessel.

## Environmental Mitigation Measures

Statoil will use the best known technology and seismic equipment to minimize impacts to the environment.

- The seismic source consists of an array of 26 active airguns which fire a burst of compressed air into the water.
- There will be 10 spare airguns that allow Statoil to operate more efficiently and quickly.
- Air gun discharge volume has been minimized to 3,000 cu inches to minimize noise yet provide the energy needed to acquire the data.
- Solid streamers will be used, which do not contain any contaminants that could leak into the water.
- A wide, 12-streamer spread will be used. This reduces the time required for the survey and the number of shots to be fired.



## Survey & Vessel Design



The seismic vessel and its equipment have been selected to minimize the environmental footprint.

### Seismic Vessel

The seismic vessel is new, built in Bergen, Norway in 2007 and equipped with the latest technology and an up-to-date environmentally-friendly design.

### Seismic Receiver Array

The receiver array has doubled in size from previous surveys, to 12 streamers, to reduce the number of shotpoints needed to survey the area.

Solid streamers will be used, rather than kerosene, thereby reducing the risk of pollution into the environment.

### Seismic Source Array

The size has been deliberately kept as small as possible. The focus is directed downward, thus minimizing the sound energy radiated sideways across the area.

# Measures to Reduce Impact



### Survey Area

The survey area is located far offshore and will not interfere with subsistence activities.

Statoil will prepare a polar bear interaction plan that addresses food and waste management, personnel training, and safety and communication regarding polar bears.



### Ice Management

Ice conditions (radar, satellite imagery) in the project area will be monitored during the seismic survey in order to minimize survey

time and activity close to the ice edge.

### SAR / Communication and Call Centers

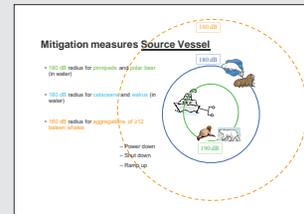
Statoil will, together with Shell and ConocoPhillips, operate a Search and Rescue (SAR) helicopter and shore communication and call centers to improve the area's emergency systems.



### Marine Mammal Monitoring

Vessels operated by Statoil will take every precaution to avoid harassment of marine mammals, including whales, seals, walrus or polar bears in the water when a vessel is operated near these animals.

- Marine Mammal Observers (MMOs) will be employed on all 3 vessels.
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### Mitigation Procedures

- Establishment of safety radii through sound source verification measurements of airgun array.
- In the established exclusion or safety zone, power down, shut down, and ramp-up procedures will be in place.

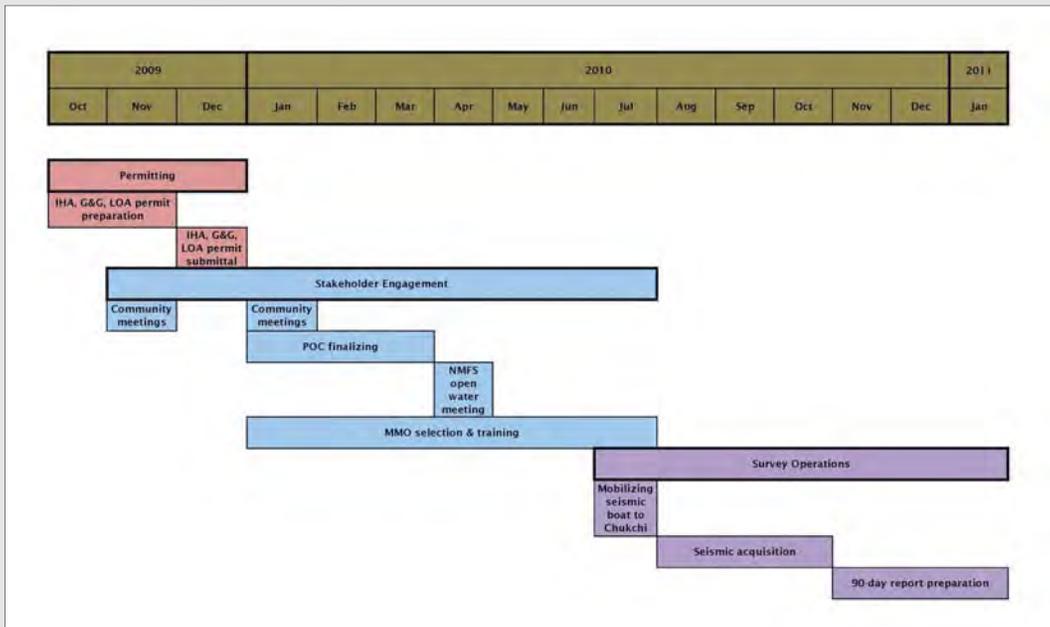
### Environmental & Baseline Monitoring

Statoil is participating in environmental baseline monitoring with Shell and ConocoPhillips. This includes:

- Seabed and water sampling and analysis over old drill sites
- Fixed seabed acoustic recorders to monitor marine mammal activity in the Chukchi Sea.
- Ecological studies of Chukchi fish populations.



# Exploration Timelines

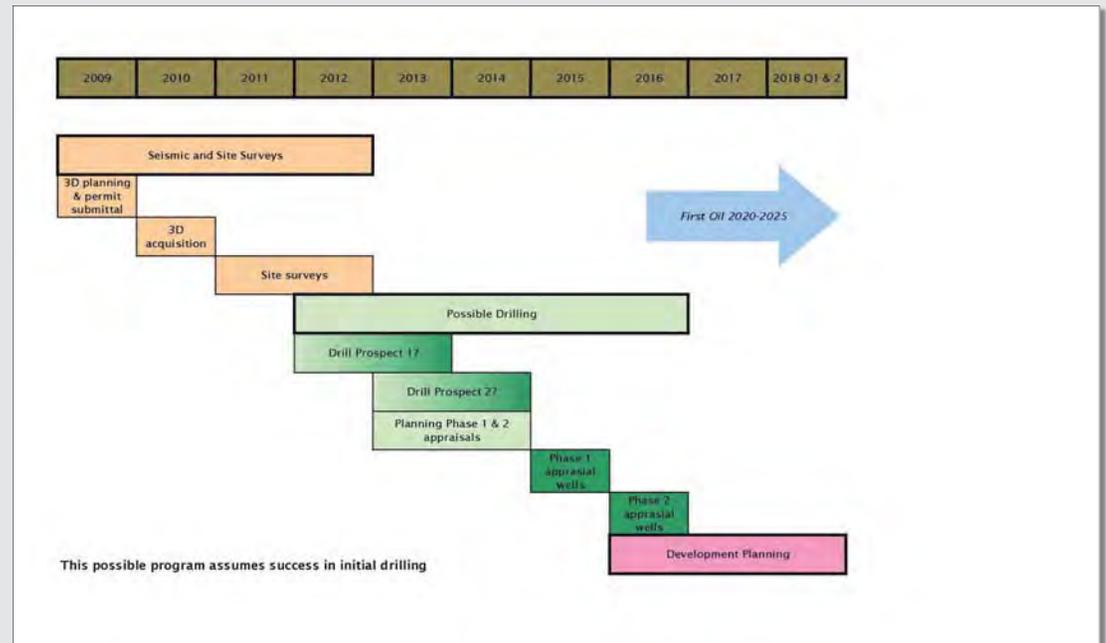


## 2010 Seismic Timeline

This timeline reflects the schedule for the proposed 2010 Marine Seismic Program.

## Possible 10 Year Program

This timeline indicates a possible 10 year lease work program.



**Appendix D**  
**Answers to Questions from Meeting**  
**with**  
**NSB Planning Commission**  
**and**  
**NSB Wildlife Department**

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### **NSB Planning Commission's meeting, November 3, 2009, Barrow.**

Statoil presented its 2010 Open Water Seismic Survey at the NSB Planning Commission's meeting. A representative asked what fish types we had in Norway.

The types of fish Norwegians catch is found on the following web pages:  
[http://www.ssb.no/fiskeri\\_havbruk\\_en/](http://www.ssb.no/fiskeri_havbruk_en/). Click on 'table and charts' on the left side ([http://www.ssb.no/english/subjects/10/05/fiskeri\\_en/fig-2009-12-21-02-en.gif](http://www.ssb.no/english/subjects/10/05/fiskeri_en/fig-2009-12-21-02-en.gif)):  
Catch, by main group of species caught: 70 % Pelagic fish (ex. Herring, Sardines, Mackerel, Blue Whiting), 22,9 % Codfish, 4,6 % Crustaceans (Crabs, Shrimps, etc) and mollusks, .. Today, fish is the third most important export product after oil/gas and metal, and accounts for 4.5 per cent of the total Norwegian export value. The largest share of our export goes to Denmark, Russia, France and Japan.

### **Wildlife department meeting, December 14, 2009, Barrow.**

The Wildlife department asked if they would be able to receive information regarding vessel trajectory. Statoil responded that we anticipated that we would be able to share such information after the survey, we would just have to check how this could be practicably could be done. Statoil has later responded that we will be able to share such data after the survey is completed.

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Distribution: 1 copy each

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<p>Mayor Edward Itta North Slope Borough P.O. Box 69 Barrow, AK 99723 <a href="mailto:edward.itta@north-slope.org">edward.itta@north-slope.org</a></p>	<p>Caroline Cannon, President Native Village of Point Hope P.O. Box 109 Point Hope, AK 99766 <a href="mailto:caroline.cannon@tikigaq.org">caroline.cannon@tikigaq.org</a></p>
<p>Taqulik Hepa NSB Wildlife Director P.O. Box 69 Barrow, AK 99723 <a href="mailto:taulik.hepa@north-slope.org">taulik.hepa@north-slope.org</a></p>	<p>Thomas Olemaun, President/Executive Director Native Village of Barrow P.O. Box 1130 Barrow, AK 99723 <a href="mailto:tolemaun@nvb-nsn.gov">tolemaun@nvb-nsn.gov</a></p>
<p>Dan Forster NSB Planning Director P.O. Box 69 Barrow, AK 99723 <a href="mailto:dan.forster@north-slope.org">dan.forster@north-slope.org</a></p>	<p>June Childress, President Native Village of Wainwright P.O. Box 143 Wainwright, AK 99782 <a href="mailto:jchildress@olgoonik.com">jchildress@olgoonik.com</a></p>
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**Marine Mammal Co-Management Groups**

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Project File

Administrative Record

QUALITY CONTROL REVIEWER



Michelle Turner  
Associate Scientist