



**Plan of Cooperation Addendum
Chukchi Sea Exploration Plan, Revision 2
Chukchi Sea, Alaska**

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**Prepared by:
Shell Gulf of Mexico Inc.
3601 C Street, Suite 1000
Anchorage, AK 99503**

Table of Contents

INTRODUCTION.....	1
1.0 POC LEASE STIPULATION AND REGULATORY REQUIREMENTS	2
2.0 MEASURES IN PLACE.....	4
2.1 EP Revision 2 Mitigation Measures	4
2.1.1 Subsistence Mitigation Measures.....	4
2.1.2 Marine Mammal Mitigation Measures.....	7
2.1.3 Mitigation Measures for Activities and Oil Spill Prevention and Response	7
2.2 Exploration Drilling Marine Mammal Monitoring And Mitigation Program.....	8
2.3 Interaction And Avoidance Plan For Polar Bear And Pacific Walrus.....	8
3.0 AFFECTED SUBSISTENCE COMMUNITY MEETINGS	9
3.1 Consultation with Community Leaders.....	9
3.2 Community Meeting Summaries.....	10
3.3 Project Information and Presentation Materials	10
3.4 Meeting Process	11
4.0 CONCLUSION	11

List of Tables

Table 3.2-1 Meeting Dates and Locations for this POC Addendum	10
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List of Figures

Figure 1-1 Location Map: Plan of Cooperation Chukchi Sea EP Revision 2	3
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List of Attachments

- Attachment A Communication and Consultation with North Slope Subsistence Stakeholders
- Attachment B Chukchi Sea Communication Plan

ACRONYMS & ABBREVIATIONS

4MP	Marine Mammal Monitoring and Mitigation Plan
AEWC	Alaska Eskimo Whaling Commission
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
CLO	Community Liaison Officer
COCP	Critical Operations and Curtailment Plan
Com Centers	Communication and Call Centers
dB	decibel(s)
EP Revision 1	Approved Chukchi Sea Exploration Plan
EP Revision 2	Revisions to the approved Chukchi Sea EP (Revision 1)
ft.	foot/feet
IHA	Incidental Harassment Authorization
DIMP	Drilling Ice Management Plan
km	kilometers
LOA	Letter of Authorization
m	meter/meters
MAWP	Maximum Anticipated Wellhead Pressure
mi	mile(s)
min	minute(s)
MMPA	Marine Mammal Protection Act
NMFS	National Marine Fisheries Service
NSB	North Slope Borough
NWAB	Northwest Arctic Borough
OSR	Oil Spill Response
OSRV	Oil Spill Response Vessel
OSRP	Oil Spill Response Plan
POC	Plan of Cooperation
PSO	Protected Species Observers
SA	Subsistence Advisor
Shell	Shell Gulf of Mexico Inc.
USFWS	United States Fish and Wildlife Service
WCD	Worst Case Discharge

INTRODUCTION

Shell Gulf of Mexico Inc. (Shell) has an approved Chukchi Sea Exploration Plan (initial EP and subsequent EP Revision 1) to drill six wells on six outer continental shelf lease blocks in the Chukchi Sea (Figure 1-1). The EP Revision 1, titled *Revised Outer Continental Shelf Lease Exploration Plan, Chukchi Sea, Alaska. Burger Prospect: Posey Area Blocks 6714, 6762, 6764, 6812, 6912, and 6915. Chukchi Sea Lease Sale 193* was approved by Bureau of Ocean Energy Management (BOEM) on December 16, 2011. During the 2012 drilling season, Shell partially drilled the Burger A well. In subsequent years, Shell plans to continue drilling with all six wells drilled to their proposed total depth.

BOEM Lease Sale Stipulation No. 5 requires that all exploration activities be conducted in a manner that prevents unreasonable conflicts between oil and gas exploration activities and subsistence resources and activities. This stipulation also requires adherence to United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) regulations, which require an operator to implement a Plan of Cooperation (POC) to mitigate the potential for conflicts between the proposed activity and traditional subsistence activities (50 Code of Federal Regulations [CFR] §18.124(c)(4) and 50 CFR §216.104(a)(12)). A POC was prepared and was submitted with the initial Chukchi Sea EP, updated with EP Revision 1 and again with EP Revision 2. This POC Addendum provides updates regarding changes in the proposed exploration drilling program, and documentation of meetings undertaken to inform stakeholders of proposed plans for exploration drilling activities.

The POC Addendum identifies the measures that Shell has developed in consultation with North Slope communities and subsistence user groups. The POC measures will be implemented during the planned Chukchi Sea exploration drilling program to minimize any adverse effects on the availability of marine mammals for subsistence uses. In addition, the POC details Shell's communications and consultations with local communities concerning its exploration drilling program, potential conflicts with subsistence activities, and means of resolving any such conflicts (50 CFR § 18.128(d) and 50 CFR § 216.104(a) (12) (i), (ii), (iv)). Shell has documented its contacts with the North Slope communities, as well as the substance of its communications with subsistence stakeholder groups. Tables summarizing Shell's communications and responses are included in Attachment A. As appropriate, this POC Addendum may be supplemented to reflect additional engagements with local subsistence users and any additional or revised mitigation measures that are adopted as a result of those engagements.

Shell will implement the POC and the associated mitigation measures set-forth herein for its Chukchi Sea exploration drilling program.

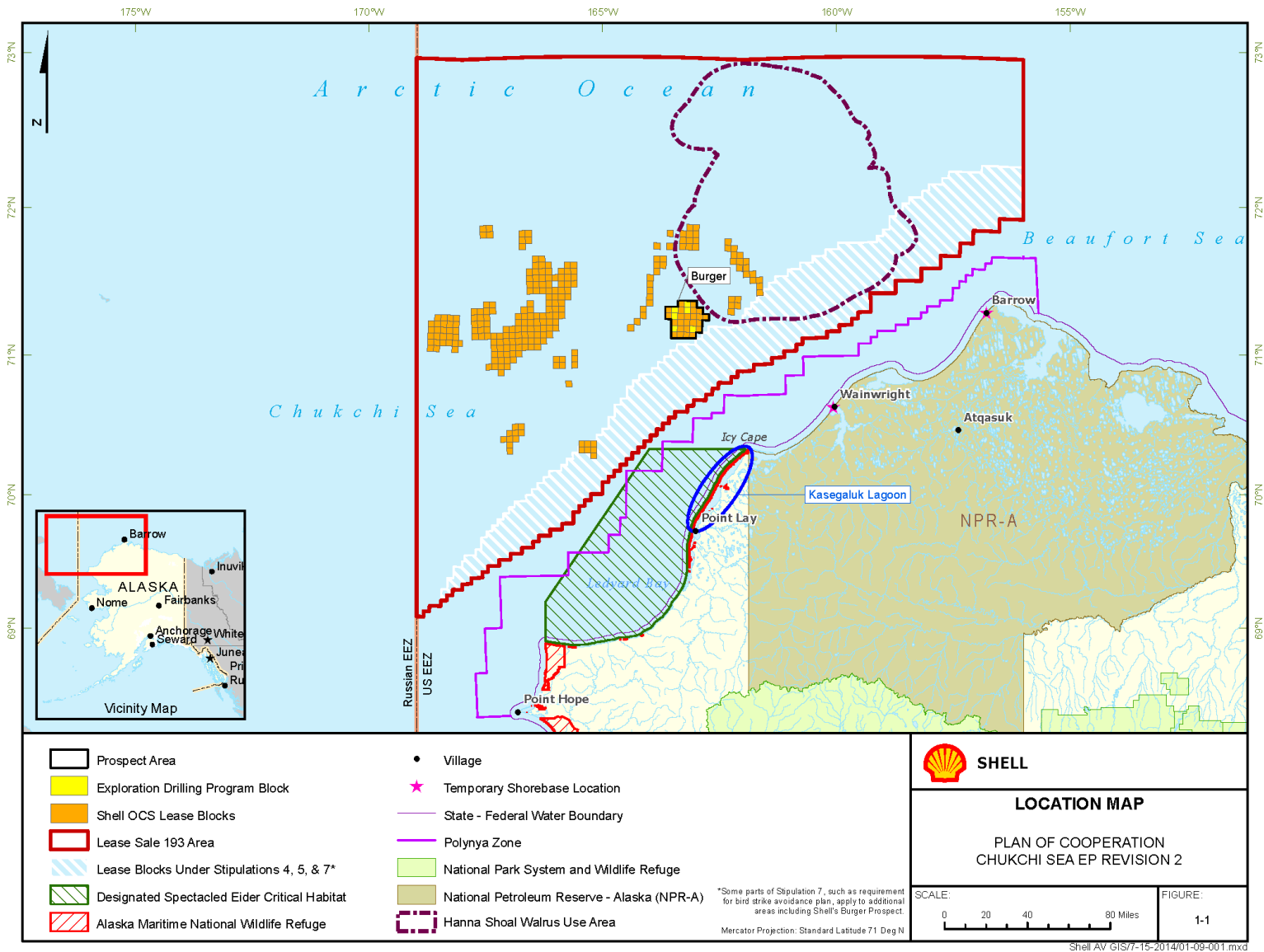
1.0 POC LEASE STIPULATION AND REGULATORY REQUIREMENTS

BOEM Lease Sale Stipulation No. 5 requires that all exploration activities be conducted in a manner that prevents unreasonable conflicts between oil and gas activities, and subsistence resources and activities of the residents of the North Slope. Specifically, Stipulation No. 5 requires the operator to consult directly with potentially affected North Slope subsistence communities such as the North Slope Borough (NSB), the Alaska Eskimo Whaling Commission (AEWC), and co-management groups including the Alaska Beluga Whale Committee, Eskimo Walrus Commission, Ice Seal Commission, and Nanuuq Commission.

Consultation is needed “to discuss potential conflicts with the siting, timing, and methods of proposed activities and safeguards or mitigating measures which could be implemented by the operator to prevent unreasonable conflicts.” Stipulation No. 5 also requires the operator to document its contact with and the substance of the communications with subsistence stakeholder groups during the operator’s consultation process.

The requirements of Stipulation No. 5 parallel requirements for receipt of a USFWS Letter of Authorization (LOA) and a NMFS Incidental Harassment Authorization (IHA). The LOA and IHA provide authorization for the nonlethal harassment of species protected by the Marine Mammal Protection Act (MMPA). Both the USFWS and NMFS require an applicant to implement a POC to mitigate the potential for conflicts between the proposed activity and traditional subsistence activities (50 CFR §18.124(c)(4) and 50 CFR §216.104(a)(12)). The POC must identify the measures that will be taken to minimize any adverse effects on the availability of marine mammals for subsistence uses. In addition, both USFWS and NMFS require an applicant to communicate and consult with local subsistence communities concerning proposed activity, potential conflicts with subsistence activities, and means of resolving any such conflicts (50 CFR §18.128(d) and 50 CFR §216.104(a) (12) (i), (ii), (iv)).

Figure 1-1 Location Map: Plan of Cooperation Chukchi Sea EP Revision 2



2.0 MEASURES IN PLACE

The following mitigation measures, plans, and programs are integral to this POC Addendum and were developed through consultation with potentially affected subsistence groups, communities, and the NSB. These measures, plans, and programs will be implemented by Shell during its exploration drilling activities in the Chukchi Sea. The mitigation measures described below allow Shell the ability to monitor and mitigate potential impacts to subsistence users and resources.

2.1 EP Revision 2 Mitigation Measures

The mitigation measures Shell has adopted, and will implement during its exploration drilling activities are listed and discussed below. These mitigation measures reflect Shell's experience conducting exploration activities in Alaska since 2006, and its ongoing consultations with local subsistence communities to better understand their concerns and develop appropriate and effective mitigation measures to address those concerns. Shell's planned mitigation measures have been presented to community leaders and subsistence user groups starting in 2009, and have evolved over time in response to the comments and concerns expressed during the consultation process. Some mitigation measures appear under more than one sub-heading since they pertain to more than one "category" within the mitigation measures.

2.1.1 Subsistence Mitigation Measures

To minimize any cultural or resource impacts to subsistence beluga whaling or walrus hunting, exploration drilling activities will not take place in the Chukchi Sea until or after July 1. Shell will implement the following measures to ensure coordination of its activities with local subsistence users, in addition to minimizing the risk of impact to marine mammals and interfering with subsistence hunting.

Communications

- Shell has developed a Communication Plan and will implement this plan before initiating exploration drilling operations to coordinate activities with local subsistence users, as well as Village Whaling Captains' Associations, to minimize the risk of interfering with subsistence hunting activities, and keep current as to the timing and status of the bowhead whale hunt and other subsistence hunts. The Communication Plan includes procedures for coordination with Com Centers to be located in coastal villages along the Chukchi Sea during Shell's proposed exploration drilling activities.
- Shell will employ local SAs from the Chukchi Sea villages that are potentially impacted by Shell's exploration drilling activities. The SAs will provide consultation and guidance regarding the whale migration and subsistence activities. There will be one per village, working approximately 8-hr per day and 40-hr weeks during the drilling seasons. The subsistence advisor will use local knowledge (Traditional Knowledge) to gather data on subsistence lifestyle within the community and provide advice on ways to minimize and mitigate potential negative impacts to subsistence resources during the drilling season. Responsibilities include reporting any subsistence concerns or conflicts; coordinating with subsistence users; reporting subsistence-related comments, concerns, and information; coordinating with the Com and Call Center personnel; and, advising how to avoid subsistence conflicts.

Aircraft Travel

- Aircraft over land or sea shall not operate below 1,500 ft. (457 m) altitude unless engaged in marine mammal monitoring; approaching, landing, or taking off; in poor weather (fog or low ceilings); or in an emergency situation.
- Aircraft engaged in marine mammal monitoring shall not operate below 1,500 ft. (457 m) in areas of active whaling; such areas to be identified through communications with the Com Centers.
- Aircraft will not operate within 0.5 mi (0.8 km) of polar bears when observed on land or ice.
- Helicopters will not operate at an altitude lower than 3,000 ft. (914 m) within 1 mi (1.6 km) of walrus groups observed on land, and fixed-wing aircraft will not operate lower than 1,500 ft. (457 m) within 1 mi (1.6 km) of walrus groups observed on land.
- If aircraft must be operated below 1,500 ft. (457 m) because of weather, the operator will avoid flying within 0.5 mi (805 m) of known walrus or polar bear concentrations over sea, and will avoid walrus groups by 1 mi (1.6 km) on land.

Vessel Travel

- The drilling units and support vessels will enter the Chukchi Sea through the Bering Strait on or after 1 July, minimizing effects on marine mammals and birds that frequent open leads and minimizing effects on spring and early summer bowhead whale hunting.
- The transit route for the drilling units and drilling support vessels will avoid known fragile ecosystems and the Ledyard Bay Critical Habitat Unit (LBCHU), and will include coordination through Com Centers.
- PSOs will be aboard the drilling unit(s) and all transiting support vessels.
- Vessels will not operate within 0.5 mi (0.8 km) of walruses or polar bears when observed on ice or water.
- Vessels will not operate within 1.0 mi (1.6 km) of walruses or 0.5 mi (0.8 km) polar bears when observed on land.
- When within 900 ft. (274 m) of whales, vessels will reduce speed, avoid separating members from a group and avoid multiple changes of direction.
- Vessels should take all reasonable precautions (i.e., reduce speed, change course heading) to maintain a minimum operational exclusion zone of 0.5 mi (805 m) around groups of 12 or more walruses in the water.
- Vessel speed will be reduced during inclement weather conditions in order to avoid collisions with marine mammals.
- Shell will communicate and coordinate with the Com Centers regarding all vessel transit.
- Use of some lighting on the drilling units and support vessels will be minimized and shaded to reduce potential disorientation and attraction of birds and to reduce the possibility of a bird collision (Bird Strike Avoidance and Lighting Plan, Appendix E, EP Revision 2).

ZVSP

- Airgun arrays will be ramped up slowly during ZVSPs to warn cetaceans and pinnipeds in the vicinity of the airguns and provide time for them to leave the area and avoid potential injury or impairment of their hearing abilities. Ramp ups from a cold start when no airguns have been firing will begin by firing a single airgun in the array. A ramp up to the required airgun array volume will not begin until there has been a minimum of 30 min of observation of the safety zone by PSOs to assure that no marine mammals are present. The safety zone is the extent of the 180 dB radius for cetaceans and 190 dB for pinnipeds. The entire safety zone must be visible during the 30-min lead-in to an array ramp up. If a marine mammal(s) is sighted within the safety zone during the 30-min watch prior to ramp up, ramp up will be delayed until the marine mammal(s) is sighted outside of the safety zone or the animal(s) is not sighted for at least 15-30 min: 15 min for small odontocetes and pinnipeds, or 30 min for baleen whales and large odontocetes.

Ice Management

- Shell has developed and will implement an Adaptive Approach to Ice Management in Areas Occupied by Pacific Walrus.
- Real time ice and weather forecasting from the Shell Ice and Weather Advisory Center (SIWAC).

Oil Spill Response (OSR)

- The primary oil spill response vessels (OSRV) will be on standby at all times when drilling into zones capable of flowing liquid hydrocarbons in measurable quantities to ensure that oil spill response capability is available within one hour, if needed.
- Shell will deploy OSR support vessels that are capable of collecting oil on the water in excess of the calculated WCD flow rate of a blowout in the unlikely event that one should occur. The remainder of the OSR support vessels will be fully engaged within 72 hours.
- In addition to the OSR support vessels, oil spill containment equipment will be available for use in the unlikely event of a blowout. The containment system tug and barge will be located in or near Goodhope Bay, Kotzebue Sound.
- Capping stack equipment will be stored aboard one of the ice management vessels and will be available for immediate deployment in the unlikely event of a blowout. Capping stack equipment consist of subsea devices assembled to provide direct surface intervention capability with the following priorities:
 - Attaching a device or series of devices to the well to affect a seal capable of withstanding the maximum anticipated wellhead pressure (MAWP) and closing the assembly to completely seal the well against further flows (commonly called “Cap and Contain”).
 - Attaching a device or series of devices to the well and diverting flow to surface vessel(s) equipped for separation and disposal of hydrocarbons (commonly called “Cap and Flow”).
- A polar bear culvert trap has been constructed in anticipation of OSR needs and will be available prior to exploration drilling.
- Pre-booming is required for all fuel transfers between vessels.

Air Emissions

- Procuring ultra-low sulfur diesel (ULSD) fuel or a fuel with equal or lower sulfur content to reduce SO₂ emissions for each of the drilling units and all vessels operating as part of the exploration drilling program;
- Use of selective catalytic reduction (SCR) emission controls to reduce NOX emissions on *Discoverer's* primary generation units and certain units on support vessels;
- Use of catalytic diesel particulate filters (CDPF) emission controls to reduce CO, PM, and VOC emissions on the *Discoverer's* primary generation units and certain units on support vessels; and
- Use of oxidation catalysts (OxyCat) emission controls to reduce CO, PM, and VOC emissions on certain units on support vessels.

2.1.2 Marine Mammal Mitigation Measures

Marine mammal mitigation measures will focus on the utilization of PSOs to ensure that exploration drilling and support vessel activities do not disturb marine mammal resources and avoid unreasonable interference with the subsistence hunt of those resources. PSOs will be stationed, at a minimum, on the drillship, ice management and anchor handler vessels to monitor the exclusion zone (areas within isopleths of certain sound levels for different species) for marine mammals. For vessels in transit, if a marine mammal is sighted from a vessel within its respective safety radius, the Shell vessel will reduce activity (e.g., reduce speed and/or change course) and noise level to ensure that the animal is not exposed to sound above their respective safety levels. Full activity will not be resumed until all marine mammals are outside of the exclusion zone and there are no other marine mammals likely to enter the exclusion zone. Regular overflight surveys and support vessel surveys for marine mammals will be conducted to further monitor prospect areas. Shell will also implement flight restrictions prohibiting aircraft from flying below 1,500 ft. (457 m) altitude (except during takeoffs and landings, in emergency situations, or for PSO overflights), further reducing the likelihood of impacts.

Anchored vessels, or vessels on DP, will remain at anchor or on DP and continue ongoing activities if approached by a marine mammal. An approaching animal that is not exhibiting avoidance behavior, is likely curious and not regarded as harassed. The anchored vessel, or vessel on DP, will remain in place and continue ongoing activities to avoid possibly causing avoidance behavior by suddenly changing noise conditions.

In addition to the use of PSOs, Shell will implement the measures detailed in 2.1.1 to avoid disturbances to marine mammals that potentially could rise to the level of incidental take, and ensure coordination of its activities with local subsistence users to minimize further the risk of impacting marine mammals and interfering with the subsistence hunt. Complete PSO protocol is located in the Marine Mammal Monitoring and Mitigation Plan (4MP) (EP Revision 2, Appendix B).

2.1.3 Mitigation Measures for Activities and Oil Spill Prevention and Response

BOEM has concluded that the probability of a large oil spill occurring during an exploration drilling project is extremely remote. Nevertheless, as required by both federal and state regulations, Shell has developed and will implement a comprehensive Oil Spill Response Plan (OSRP) during its exploration drilling activities, in addition to other plans including the Drilling Ice Management Plan (DIMP) and the Critical Operations and Curtailment Plan (COCP). The OSRP has been reviewed and approved by federal regulators to ensure that Shell has the spill response resources necessary to respond to any spill that might occur. While the probability of a spill is very remote, Shell will dedicate all necessary resources to respond to any spill that may occur. In addition to the maintenance and implementation of its OSRP, Shell will implement the OSR measures detailed in section 2.1.1 to further minimize any risk of a spill that could impact marine mammals and interfere with subsistence hunting.

2.2 Exploration Drilling Marine Mammal Monitoring And Mitigation Program

Under 50 CFR 218.108, NMFS requires any holder of an IHA in Arctic waters to complete monitoring and reporting requirements established in the IHA and published regulations. Additionally, the USFWS requires all applicants for LOAs to conduct monitoring under 50 CFR 18.128 and BOEM's Chukchi Sea Lease Sale 193 Stipulation #4 requires a site-specific bowhead whale monitoring program. To meet these requirements, a 4MP was developed for the Chukchi Sea exploration drilling program. The 4MP is designed to avoid, minimize, and mitigate potential adverse impacts to marine mammal subsistence resources that may result from offshore activities. The 4MP is included as Attachment B to the Chukchi Sea EP Revision 2. The 4MP for the exploration drilling program includes the following provisions:

- PSOs will support, at a minimum, the transit of the drillships, ice management vessels, and anchor handlers and other activities in the Chukchi Sea. The shipboard PSO program is designed to provide real time observations of marine mammals by trained observers from individual vessels to document exposure to industrial activities. PSOs, at a minimum, will be present on the drillship, ice management vessels, and anchor handlers (i.e., all vessels in transit) to monitor for the presence of marine mammals, assist maintenance of marine mammal safety radii around vessels, monitor and record avoidance or exposure behaviors, and communicate with the Com Centers and local subsistence hunters by marine radio. The experience and abilities of the NSB residents in sighting and identifying marine mammals during Shell's exploration programs contributed significantly to the success of Shell's previous monitoring and mitigation program.
- Aerial Survey Program will collect information in the Chukchi Sea regarding distribution and abundance of bowhead whales and other marine mammals.
- Acoustic Recorders that include a combination of recorder technology, such as pop-up or Directional Autonomous Seafloor Acoustic Recorder buoys, to monitor wide area distribution of marine mammals, specifically bowhead whales, in relation to Shell's proposed activities.
- Sound Modeling of vessels utilized for seismic and exploration drilling activities.
- Sound Source Verification intended for field measurement sound propagation profiles for support vessels that were not already recorded in 2012 or 2013 and will be utilized by Shell in the exploration drilling program in the Chukchi Sea.

2.3 Interaction And Avoidance Plan For Polar Bear And Pacific Walrus

Shell has prepared an interaction and avoidance plan for polar bear and Pacific walrus to meet the requirements of 50 CFR 18.128 for holders of LOAs issued by the USFWS. The plan outlines procedures for mitigating potential impacts to polar bear and Pacific walrus, as well as monitoring program requirements. A copy of the plan for Shell's exploration drilling activities outlined in the EP Revision 1 was sent to the USFWS for the 2012 exploration drilling program and this plan was updated and submitted to USFWS. Measures in the plan which cover all Shell activities associated with exploration drilling are summarized below.

- New polar bear dens, identified by industry, local residents, and regulatory agencies are reported annually and will be incorporated into project plans to ensure both bear and worker safety. Bear dens discovered during exploration drilling activities will be reported to the designated USFWS representatives.
- Trash will be collected and separated so that all food-associated waste is placed in an appropriate bear-resistant dumpster.
- Hazardous wastes, if generated, would be transported off-site for disposal at an approved facility.
- Employees will be prohibited from directly feeding animals or deliberately leaving food for polar bears and other animals.
- If a polar bear is observed, all on-site personnel will be alerted so that work activities can be altered or stopped to avoid interactions. Personnel will contact the designated USFWS representative whenever a

polar bear is sighted. Depending on the distance between the polar bear and the activities this may mean retreating to the safety of vehicles, emergency shelter, temporary buildings, or other safe haven.

- When a polar bear is observed, a designated bear watcher will be assigned to ensure continuous monitoring of the bear's movements. The On-Scene Shell Supervisor will be contacted before any bear hazing activities. Trained polar bear hazers and bear guards will support field activities.
- Exploration drilling and support vessels will observe a 0.5 mi (0.8 km) exclusion zone around any polar bear or walrus observed on water or ice during transit.
- Aircraft will maintain 1,500 ft. (457 m) minimum altitude within, 0.5 mi (0.8 km) of polar bear or Pacific walrus when observed on water or ice, or a polar bear on land. Due to their importance as polar bear summer resting habitat, flight paths for aircraft will be offset from the coastlines of Chukchi Sea barrier islands by at least 0.5 mile (0.8 km) and 1,500 ft. (457 m) above ground level.
- In addition to above, helicopters will not operate at an altitude lower than 3,000 ft. (914 m) and fixed wing aircraft will not operate at an altitude lower than 1,500 ft. (457 m) within 1 mi (1.6 km) of walrus observed on land.
- Vessels will not operate within 1 mi (1.6 km) of walrus or 0.5 mi (0.8 km) of polar bears when observed on land.
- Ice management mitigation measures, such as "ice scouting," will use radar, satellite imagery, observations by trained Ice Advisors from support vessels, and possibly reconnaissance flights to monitor ice movement in areas near the prospect prior to and during exploration drilling activities. These measures will provide an early warning of bears in the vicinity so appropriate measures can be taken to limit polar bear/human interaction.
- Polar bear monitoring, reporting, and survey activities will be conducted in accordance with those outlined in 78 Federal Register 35364-35427.

3.0 AFFECTED SUBSISTENCE COMMUNITY MEETINGS

Affected subsistence communities that are consulted regarding Shell's approved EP and EP Revision 2 include: Barrow, Wainwright, Point Lay, Point Hope, Kotzebue and Deering.

The following table (3.2.1) outlines POC meetings held in several villages between 2012-2014. In 2012, Shell met with villagers and discussed the next exploration drilling program in the Chukchi Sea. In July 2013, Shell personnel travelled to Kotzebue and met with representatives of the borough, city, village corporation and the native village government. In 2013 and 2014, Shell traveled to Barrow, Wainwright, Point Lay, Point Hope, Deering and Kotzebue for POC meetings to update the communities on potential exploration drilling activities in the Chukchi Sea. Revisions to the exploration drilling program that are outlined in the Chukchi Sea EP Revision 2 have been presented during the summer 2014 POC meetings.

Additionally, Shell met with subsistence groups including the AEWG, the Nanuq Commission, the Eskimo Walrus Committee, the Beluga Commission, the Ice Seal Commission, and the Native Village of Barrow, and presented information regarding proposed activities to the NSB and Northwest Arctic Borough (NWAB) Assemblies, and NSB and NWAB Planning Commissions. Several one-on-one meetings were also held throughout the villages.

3.1 Consultation with Community Leaders

Shell holds one-on-one meetings with representatives from the NSB and NWAB, subsistence-user group leadership, the Inupiat Community of the Arctic Slope and Village Whaling Captain Association representatives. These meetings take place at the convenience of the community leaders and in various venues. Meetings began in January 2009 and have continued to date. Shell's primary purpose in holding individual meetings is to inform key leaders, prior to the public meetings, so that they are prepared to give appropriate feedback on planned activities.

3.2 Community Meeting Summaries

Table 3.2-1 provides a list of public meetings attended by Shell while developing this POC Addendum. Comment analysis tables for numerous meetings held during late 2012, 2013 and 2014 summarize feedback from the communities regarding Shell's planned ongoing exploration drilling activities. Comment analysis tables from 2014 meetings, with responses from Shell and corresponding mitigation measures pertinent to the comments are included in Attachment A. Presentation materials are also included in Attachment A.

Table 3.2-1 Meeting Dates and Locations for this POC Addendum

2012	Meeting Location	Meeting Attendees – Position
23 October	Point Lay	Plan of Cooperation Community Meeting
24 October	Wainwright	Plan of Cooperation Community Meeting
29 October	Barrow	Plan of Cooperation Community Meeting
6 November	Barrow	NSB Assembly Workshop Meeting
2013	Meeting Location	Meeting Attendees – Position
5-7 March	Anchorage	Arctic Open Water Meeting
29 July	Kotzebue	NWAB, City of Kotzebue, Village Corporation and Native Village Government representatives
5 November	Wainwright	Plan of Cooperation Community Meeting
6 November	Point Lay	Plan of Cooperation Community Meeting
8 November	Barrow	Plan of Cooperation Community Meeting
12 November	Point Hope	Plan of Cooperation Community Meeting; Native Village of Point Hope; City of Point Hope
2014	Meeting Location	Meeting Attendees – Position
28 January	Kotzebue	Plan of Cooperation Community Meeting
30 June	Barrow	Plan of Cooperation Community Meeting
1 July	Wainwright	Plan of Cooperation Community Meeting
7 July	Point Lay	Plan of Cooperation Community Meeting
8 July	Point Hope	Plan of Cooperation Community Meeting
9 July	Kotzebue	Plan of Cooperation Community Meeting
17 July	Deering	Plan of Cooperation Community Meeting

3.3 Project Information and Presentation Materials

To present consistent and concise information regarding the planned exploration drilling program as detailed in EP Revision 2, Shell has prepared presentation materials (Attachment A) for meetings with stakeholders across the North Slope.

Attachment A includes a presentation that was given in Wainwright on July 1, 2014. There are slight differences between the lengthy presentations given at each village since the presentations are slightly modified and tailored for each village. Rather than submit five very similar presentations, Shell is submitting the Wainwright presentation.

3.4 Meeting Process

Prior to Shell's public meetings, notices and flyers were sent to each of the communities via email and Shell's locally-based Community Liaison Officers (CLO). Announcements of upcoming Shell meetings were posted by CLO's around the villages and announcements were also transmitted by radio to all the communities.

Community meetings are designed to allow the public to voice their concerns and speak one-on-one with project experts. Subject matter experts were available in the communities to facilitate direct communications and comment cards were supplied to all meeting attendees upon arrival. The comment cards have Shell's return address printed on them to enable community members to send comments in at their leisure. A toll-free phone number and e-mail address were also provided in case questions arose after the meeting. Every effort was made to ensure the maximum amount of feedback was received and that all questions were addressed and answered to the fullest extent possible.

After each meeting, comments were gathered and compiled into a comment analysis table. A separate comment analysis table was completed for each POC meeting. These tables are included in Attachment A.

4.0 CONCLUSION

As discussed in Section 4, and detailed in the attached documents, stakeholders have been provided information relevant to the project and have been invited to offer input on potential environmental, social, and health impacts, as well as and proposed mitigation and conflict avoidance measures. Shell is seeking alignment with stakeholders and, where appropriate and feasible, will incorporate the recommendations of stakeholders into project planning.

As required by applicable lease sale stipulations, as well as anticipated IHA and LOA stipulations, Shell will continue to meet with the affected subsistence communities and users to resolve conflicts and to notify the communities of any changes in its planned activities. The POC Addendum may be supplemented, as appropriate, to reflect additional engagements with local subsistence users and any additional or revised mitigation measures that are adopted as a result of those engagements. Shell respectfully submits that this POC Addendum meets its obligations under Stipulation No. 5, as well as the POC requirements established by applicable USFWS and NMFS regulations (50 CFR 216.104, 50 CFR 18.124 and 128).

Attachment A
Communication and Consultation with North Slope Subsistence Stakeholders:
Community Meeting Comments, Responses and Presentations Given

Issues	Comments	Shell Response	Mitigation Measures
Drill Sites	How far are your prospects in the Chukchi Sea from shore?	Burger is 75 miles from Wainwright	N/A
Protected Species Observers	Are you going to have PSOs from Deering for this season?	We won't have PSOs in moored vessels.	F
Vessel Traffic	I haven't seen any contingencies for related emergencies? The traffic through the Bering Sea has increased dramatically with over 400 vessels passing through. Are you required to help if something happens?	Yes – if there is an accident in the area, the USCG will send out a call to all mariners for help and we will respond.	N/A
Arctic Science	The Science information you are talking about - is it public information?	We share the results on a website called chukchiscience.com and all the reports are there. We recently published several years of results in a publication called Continental Shelf Research. This entire, peer reviewed journal was dedicated to our science program and Shell has paid to have the articles accessed by anyone, free of charge.	N/A
Local Hire	Are you going to have local hire for crew members?	We take local hire very seriously and do our very best to influence our contractors. The first contact is Willie. He will be able to help find out the answers to your questions. We were asked earlier today to provide a list of contractors to the community.	N/A
Community Relations	Will you invite representatives from the City or the Tribe to tour your vessels?	I don't see why not. We have provided many tours of our vessels in the past. We do have safety requirements that must be met for any visitors.	N/A
Community Relations	You will have representatives in the community - are you going to do community activities with the kids?	That is an excellent idea.	N/A

Economics	We bear all the risks – what is the reward? Not just oil spills but noise pollution - lots of risks	We have lots of programs to mitigate those risks. The vessels we are staging here are all about oil spill response. The economic benefits are important for the state without TAPS, 80% of our budget source is gone. We recognize that providing benefits is a long term commitment and that is why we are investing in education in this area.	All
Economics	Any chance of the reward being reduction in the high cost of fuel?	The economics of petroleum don't fit neatly into an equation that provides an easy answer for me to give you. This community is uniquely situated – there is the potential for more benefits to come to this area as a result but I can't guarantee lower fuel costs will be one of them. Most refineries exist outside of Alaska and that feeds into the costs we experience.	N/A
Arctic Science	NWAB Science is \$1M a year? Not as much as your profits	We have made no profits from the Chukchi Sea at yet. We are committing to planning for the future. The exploration phase takes 5 or 6 years.	N/A
Community Relations	Is there any rent that you might be paying to stage your vessels in Kotzebue Sound?	Rent is not required. It is a recognized anchorage area. We have people staged here and there will be economic benefit associated with that. When we started looking at an area to stage the ACS and looked at Kotzebue Sound. It was a place that had protection and was an excellent choice. We are excited about the opportunity to be here and to look for logistics support here in this community.	N/A
Air Emissions	One of your vessels had issues with air emissions – and had to pay a fine. The EPA is the one that fined you but we (the people whose air was polluted) got nothing. Is the new vessel sound?	The Disco emission violations happened at the Burger site primarily when the engines were started. The permit we received from the EPA was not achievable. Responsibility for air permitting has been transferred to the Bureau of Ocean Energy Management, regulatory agency with a lot of experience with oil and gas issues.	N/A

Oil Spill Response	Is there a spill response organization? Do we have community people that are part of the spill response?	There are emergency response personnel. There are no village response teams in this area that we know of. We have committed to connect with the local emergency management services here.	H
Oversight	There should be a watch group that is overseeing your efforts	That is something that you will have to initiate.	N/A
Drilling Program	How soon will we know if you decide to drill in 2014?	We are planning for a drilling season but there are many decisions gates that we must successfully pass through before a final decision is made.	N/A

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Issues	Comments	Shell Response	Mitigation Measures
Drill rig location	How many miles offshore is the Burger site?	65 nautical miles from Wainwright//130 nautical miles from Barrow	N/A
Oil spill response	How many oil spill response vessels will Shell have in the fleet	Nanuq, Klamath, Guardsman, 2 Tankers, Aiviq and Sisuaq have OSR capability as well.	H, L
Vessel specific/oil spill response	Are your tankers double-hulled?	Yes	H
Subsistence	Seals, walrus near Wainwright – are they going to be harmed?	We have near shore oil spill response in addition to the fleet offshore. Oil spill response assets in Wainwright and Pt. Lay. Shell contracts to hold 8 oil spill response trainings each year in Chukchi villages	A,B, C, E, F, G
Subsistence	Flight activities – how will they affect subsistence?	We listen to all concerns: Our subsistence advisor program holds 2 calls each day between pilots/vessel captains/Shell, during which the Subsistence Advisors report where subsistence activities are occurring. Shell then adjusts its operations to avoid those areas.	A,B, C, E, F, G, J
Employment/community impact	Percentage of local hire and impact of inflow of people into community	Barrow housing plan explained. Shell has listened to community, which does not want us in middle of town, impacting the village. We use man camps past NARL, on outskirts of town, so as not to not impact town housing, community, and restaurants.	N/A
Emergency Response	Kulluk situation brought up – concerned how Shell will handle a spill in the arctic with high winds. Doesn't feel Shell is ready for a disaster when it occurs. Mentioned how many people will need to be hired locally as mandated per ICAS resolution 80-8. Should really work with ICAS in hiring.	Thanked him for the comments, will look into the resolution.	H, L

Issues	Comments	Shell Response	Mitigation Measures
Waste Disposal	Are you going to be dumping your trash in the ocean? Do the tankers have capability for water disposal, etc?	We will not dump our trash in the ocean. We will store it on our barges and bring it down to the Lower 48 for appropriate disposal.	N/A
Drilling Vessels	How many anchor points do each vessels have	The Polar Pioneer has eight 15 ton anchors. The Discoverer, eight 9-15 ton anchors. One of the anchor features is a remote release system so if there is ice approaching, rather than waiting while we bring up all the anchors, we can remotely release them and move our rigs out of the way of ice.	N/A
Development	Once in development, is Shell pumping anything back in the ground/water?	Water and natural gas are pumped back into some wells around the world to help recover more oil from those wells. It is too early to tell if that will occur in the Chukchi. You really have to know the reservoir intimately to pump water/gas back into it.	N/A
Ice/Weather	Lag in helicopter time to respond during Kulluk situation. And search and rescue question. Can the helicopters fly in high winds, like 80 miles per hour?	Helicopters will have rotors that won't freeze like they did in Kulluk. Explained helicopter limitations and additional vessels to accommodate search and rescue if they cannot fly due to high winds.	N/A
Drilling Vessels	Concerned about the Burger area even when there's no ice. Where the rigs are, with high winds, believes the swells are going to pull the anchors loose.	Shell has contingency plans and if needs to, will take rigs out of the storm. Have remote rapid release mechanism for our rig anchors, so we can move them quickly.	N/A
Drilling Vessels	Concerned about the age of the 30 year old rig.	The Polar Pioneer has been completely refurbished. It's tested and has a successful track record in subarctic waters. It's valuable because of this.	N/A
Ice/Weather	Concerned about the ice and pulling out in time before it ices over	Ice gouge study explained.	N/A
Ice/Weather	Need to go look around the ice this year to see what Shell is facing next year.	Thanked for comment.	N/A

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Issues	Comments	Shell Response	Mitigation Measures
Drill sites	Were the two drill sites capped in 2012?	Yes, the top holes were permanently sealed with concrete and weren't at oil-bearing depths.	N/A
Drilling Units	What types of rigs are going to be used?	Described two rigs we will bring to Chukchi if we drill in 2015 – Polar Pioneer and Noble Discoverer.	N/A
Drilling Units	The Polar Pioneer is decades old. Is it going to fall apart?	No. Was built in 1985 and has been completely renovated twice in its life. It's being modified and renovated now. The reason we chose to go with this type is because it's proven in subarctic waters. Difficult to find rigs that have this track record.	N/A
Drill sites	What is the distance from Wainwright to the Burger site?	65 nautical miles straight	N/A
Drill sites	How deep is the ocean near the Burger site?	About 150 feet.	N/A
Wastes	Will Shell contaminate the landfill?	No, everything except food waste will be shipped out.	N/A
Oil Spill Response	Is anyone qualified in oil spill response and to train others in Wainwright? And in 15 to 20 ft swells, can the oil spill be contained?	We contract with ARS to provide 2 oil spill response trainings per year in Wainwright.	H, I
Oil Spill Response	If there is an oil spill under the ice is there submersibles capable of containing an oil spill?	Yes, we have ROVs that can assist underwater if a spill occurs. We will only be operating in open water. The US Coast Guard also certifies all of Shell's vessels.	H, L
Oil Spill Response	How much oil spill containment efforts have been tested in Norway?	Not a lot, enough to test the condition and in different circumstances.	N/A
Oil Spill Response	Is Shell trained for oil spill response in rough terrains?	Shell has received specific training overseas. Shell hasn't been able to test here in Alaska because it isn't allowed by the US Government. But, Shell does extensive training in Valdez, and vessel crews receive training before the season.	N/A

Issues	Comments	Shell Response	Mitigation Measures
Oil Spill Response	If rough waves are out in the ocean near Burger can vessels launch from Wainwright? And what about in low tide? There is in need of a launch dock other than at the beach.	Yes, outside of Wainwright. Good comment on needing a new launching dock. Shell will take this into consideration.	N/A
Oil Spill Response	Can light gas be contained in the event of a spill? Will it be burned or how will it be disposed?	Yes, with a sea boom. Primary plan is to contain it with the boom. Shell needs permission to burn it but plans on disposing of any oil properly	H
Subsistence Advisors	How do people become Subsistence Advisors?	Once Shell starts ramping up, Shell will advertise through our contractors and will be looking for people to work in the communication centers. Olgoonik can also connect people with job opportunities.	N/A
Safety Zone	Does Shell have boundaries around the Burger site that other vessels cannot approach?	There is a zone around the drilling rigs that other vessels will be asked not to enter if they approach.	N/A
Drilling Units	Is Discoverer the vessel that was having trouble in Kodiak?	No, that was the Kulluk and it has been sold.	N/A
Oil Spill Response	How far are the oil spill response vessels going to be?	Several layers of response – immediate response near the drilling rig, near-shore response in the Chukchi, and more response assets in Kotzebue Sound.	H, L
Invasive Species	With such a wide array of vessels, they are coming from somewhere not used to the Arctic climate and potentially marine life attached to the vessels or rodents – what is Shell doing to eliminate the exposure to invasive species?	A good number of these vessels have to be fit to purpose for the Arctic and cleaned of all invasive species. Shell hasn't contracted all its vessels yet. Once we do, those will be outfitted too.	N/A
Oil Spill Response	How many gallons will Shell's tanker hold?	It's in excess of 500,000	H
Support Fleet	Are Shell's vessels made for breaking ice?	Yes, our Ice Management vessels can do this.	N/A

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Issues	Comments	Shell Response	Mitigation Measures
Oil	Was any oil found in 2012?	The wells were only drilled half-way. Shell is still yet to complete the drilling.	N/A
Drilling	Is Shell going to drill whether it is half-way right or not?	No, Shell isn't going to drill unless all measures are in place to drill responsibly.	N/A
Permits	Does the President of the United States need to approve or sign Shell's permit plans?	No, but federal agencies do provide permits for our drilling program.	N/A
Leases	Once the oil leases became available for sale, it seems like it was a race to the oil.	When Shell entered into Alaska in 2005 and 2006, several lawsuits were filed because Shell didn't listen to and collaborate with the communities. Since then, Shell has changed our strategy to listen to community members and baseline studies to ensure all safety and regulatory measures are adhered to and at a responsible pace.	N/A
Oil rigs	Are the other oil companies going to be using different rigs than Shell?	Shell can't speak on behalf of any other company. As of right now, there aren't any plans for any other companies to use Shell rigs.	N/A
Development plans	Statoil visited Pt. Lay in 2013; does Shell have any plans with informing residents of Shell's plan to drill? Or training and educating residents in their oil development plans?	Coming further in slide pack. Yes, community members will be informed of Shell's plan to drill and train and educate those who are qualified and able to.	N/A
Invasive species	Are the vessels carrying any foreign species?	When our vessels enter into the United States, they will be purged in Seattle before arriving to Alaska and be cleared by customs and immigration.	N/A
Crew change outs	Why is Shell using Barrow to switch the crew members when Pt. Lay and Wainwright are closer sites?	The reason Shell is staging out of Barrow is because there is the hangar infrastructure for helicopters there. If Shell does find oil, there may be a potential for adding new hangars elsewhere.	N/A
OSR	Are residents trained in OSR?	Yes, community members are trained twice a year.	N/A

Issues	Comments	Shell Response	Mitigation Measures
OSR	A community member expressed concern for Pt. Lay – a lack of OSR training. Also mentioned she thought Wainwright and Pt. Hope were receiving more Shell benefits from exploration than Pt. Lay	A community member identified himself as being one trained by Shell. Shell seeks qualified people to hire but they must pass a drug tests. If 6 people can't pass the test, then those who can are flown into Barrow for the training.	N/A
Communication Center	In regards for the communication center, the money has gone to Cully Corporation. They have no affiliation with the tribe and Shell should look into correcting this.	Shell met with the tribe earlier in the day and appreciated hearing this information from them and will look into this matter.	N/A
Whaling	Does Shell have a shutdown date period during fall whaling?	Shell did have a shutdown date in the Beaufort Sea in previous years because the whaling was so close to the drill site. Shell doesn't do so in the Chukchi Sea because we are so far offshore but uses the Subsistence Advisors and PSO to help minimize our impact on the bowheads during the fall hunting season.	D
Satellite tracking	Is Shell involved in any of the satellite tracking for mammals?	Shell has worked closely with federal agencies and the NSB; and also uses nautical recorders that can track the migration of mammal sea life.	N/A
Belugas	A recommendation was made for Shell to donate to the Beluga whale tagging program and that Shell should have OSR equipment in Pt. Lay.	Shell acknowledged the NSB Wildlife Department and their efforts. Shell donates to the NSB to address projects such as beluga tagging. Shell has a NSB science agreement. Shell does have OSR equipment in Point Lay.	N/A
Previous baseline studies	Pt. Lay had some baseline studies about water usage, is Shell using any of this knowledge from Steven Braun and Associates?	Shell is aware of the information and recently used it in our EIS for trends and patterns.	N/A
Oil	How does Shell know there is oil at the wells?	Shell has drilled at least 5 oil wells in the past and found evidence of a structure that Shell believes has oil.	N/A

Issues	Comments	Shell Response	Mitigation Measures
Past oil wells	In the past few weeks, there were helicopters flying around the old drill sites. Did Shell have anything to do with these on land oil wells that were capped?	These oil wells were likely drilled by the Navy years ago. The helicopters were likely checking on the coal wells, not the oil wells. The government was doing so to ensure they are in compliance with safety and compliance regulations.	N/A
OSR	What preventative measures has Shell taken to prevent a failure in tow systems similar to Kulluk?	The US Coast Guard was instrumental in helping Shell during the Kulluk Incident, and identified measures for Shell to improve in its recent report – such as, better management of Shell contractors. This is an example of measures Shell has implemented to prevent a similar incident.	N/A
Vessels	Does Shell use scuba divers around the drill site?	Shell has underwater remote vessels, unsure about scuba divers.	N/A
PSO	Does every vessel have PSO's?	Yes, all of them.	F, G
Vessels	Are these tankers single or double hulled?	Double hulled.	N/A
Pirates	Does Shell expect any pirating?	Shell hasn't been aware of any pirating to date, but remains in close communication with the Coast Guard in case it ever does become an issue. Explained what happens when unauthorized persons board a vessel.	N/A
OSR	Does Shell have only one OSR vessel? This was a concern because community members didn't feel it was enough to contain an oil spill, if one were to happen.	Shell has a 4 level OSR plan. It was explained in great detail. Shell has a unique plan and system in place with assets situated that are fully capable of OSR.	H, L
Native Hire	What is the percentage Shell will use once drilling begins for local Native hire?	Shell is at the beginning of exploration and if we are successful with growing, Shell is committed to local hire and will partner with organizations when moving forward.	N/A

Issues	Comments	Shell Response	Mitigation Measures
Subsistence/ Permitting	Shell, on your permits, has a start date of July 1. This date coincides with beluga hunting because Shell , at that time, will likely interfere with the beluga migration because you will be in Pt. Lay waters moving north up to the rig . What’s Shell’s plan for timing and moving through the Bering Strait? Would like to see Shell to commit to changing their permit to July 15.	The Subsistence Advisor program will be running before July 1 to not impact the hunting. As far as July 1, from a regulatory view, Shell tends to lean towards existing permits. The key is learning coexistence between subsistence and exploration, and in some instances, it won’t be fitting and plans may need to be modified.	A, B, C, E, F, G

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Resupply	How many trips per season are your OSVs making back and forth between Dutch Harbor and your Chukchi fleet?	5 to 8 per vessel but possibly up to 30 round trips total	N/A
Oil spill restitution	I attended a Shell meeting in Europe and was told that Shell will not provide restitution for oil spill victims.	Shell initiated its Good Neighbor Policy, in collaboration with Wells Fargo Bank, in which we have \$25 million ready to go for restitution in the event of an oil spill.	N/A
Conflicts with subsistence	If Shell does impact subsistence hunting, will Shell recompense people? If their vessels cause the walrus to stampede or leave our area, will Shell recompense our hunters who didn't get any walrus?	In 2012, Shell's onshore science program involved helicopter flights over land. Our Subsistence Advisor Program worked well, but there were a couple times our helos got too close to hunting by accident or because hunters moved quicker than we learned about. Shell worked with our Subsistence Advisors to investigate each incident, and if we found that our flights did cause hunters to lose hunting opportunities, we did recompense them. Shell would follow the same principles with its offshore activities.	A, B, C, E, F, G
Drilling discharge	Do we use oil-based drilling mud in our drilling?	No, we have chosen less toxic, non-oil-based drilling muds for our drilling operations.	N/A
Waste water discharge	What about waste water? Does your waste water follow the latest regulations?	We have installed brand new MSDs – marine sanitation devices – on our two drilling rigs this year. They use the latest technology and are up to date on the latest regulations.	N/A

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Science	Is there opportunity for high school students to go on vessels for science learning opportunities?	We are looking at possible vessel tours in Good Hope Bay. Comments are captured for regulators. Shell will look at incorporating more opportunities for students to participate in these activities.	N/A
Logistics	Can native tribe members participate in daily logistics teleconference?	Subsistence advisor talks daily with community members and relay issues during teleconference. Will look into this.	N/A
Science	Can traditional native experts participate in science activities and participate on the actual teams in order to bridge traditional local science knowledge with conventional western science?	Shell answered that there would be dialogue between traditional and western science input.	N/A

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Kulluk	A question was asked about Kulluk. What preventative measures is Shell taking to ensure a situation like at Kulluk does not happen?	Kulluk situation described, as well as lessons learned by Shell. Referenced Coast Guard report and Shell's internal investigations.	N/A
Subsistence	The vessels won't affect any wildlife?	The Subsistence Advisor program and the Protected Species Observer (PSO) programs were described.	A, B, C, E, F, G
OSR	Concern was expressed in OSR. And mention of shallow waters in Goodhope Bay.	Shell will not be drilling in Goodhope Bay so an oil spill is unlikely. Burger drilling site was further explained.	H
OSR	A community member expressed that every coastal village should have OSR equipment and training because in currents up to 90 mph, OSR vessels may not make it to the spill for up to 5 days.	The OSR vessels that will be in Goodhope Bay were described in further detail. Maniksaq thanked the community member for his comment.	H
Location	A community member mentioned she has seen many barges in Goodhope Bay. She wanted to know why Goodhope Bay was chosen.	The State has designated Goodhope Bay as Potential Place Of Refuge. This is why barges will be staged here.	N/A
Local hire	How many people will be hired in Deering?	One person as a subsistence advisor and it varies for the communication center.	N/A
Local hire	A question was asked to further discuss the PSO.	For stationary vessels with no personnel on board, such as barges, Shell hasn't decided whether PSOs will be placed. Local hire was discussed further.	F, G
OSR	How many days is it going to take to get to Pt. Barrow in the case of an oil spill?	Shell also has OSR vessels located near the drill rigs that provide immediate response. Vessels that are stationed in Goodhope Bay will not be needed for days because of the vessels near the site.	H

Extraction	Will Shell be drilling during the winter time or will it be seasonal? Concerned was expressed about ice conditions during winter time and the effect it will have on extracting oil.	Ice is a concern. Shell is proposing now to drill when ice does not cover Burger drill sites. If we are successful at finding oil, we would look at putting in a structure that can function within year-round environmental conditions. The preferred method would be to build a pipeline underwater that wouldn't be impacted by ice. The timing for this is yet to be determined.	I
Oil spill	What happens to plankton, etc. during an oil spill – will it affect the whales?	The role of whale food has been studied for the past 7 years to ensure that we take them into account during the case of an oil spill. This effort of extensive studies is to protect all marine life in the case of an oil spill.	N/A
Vessels	How many vessels will be stationed in Goodhope Bay?	We are still in the planning stages so the number isn't final but is potentially 16-18 in the Chukchi Sea and 10 in the Kotzebue Sound.	N/A
Partnerships	Will Shell partner with UAF on their different studies?	Shell does work closely with UAF and is looking forward to our partnership with the Northwest Arctic Borough.	N/A
Partnerships	A question was asked about the technical center in Kotzebue.	Shell has a 3 year partnership with the Alaska Technical Center in Kotzebue. We donate \$100,000 to them each year.	N/A
OSR	Concern was expressed not about drilling, but what Shell plans to do after drilling. And further concern about OSR.	OSR training was explained.	N/A
CLO	Who is a Shell advocate in the Kotzebue region?	Willie Goodwin Jr. is our Community Liaison Officer in Kotzebue.	N/A

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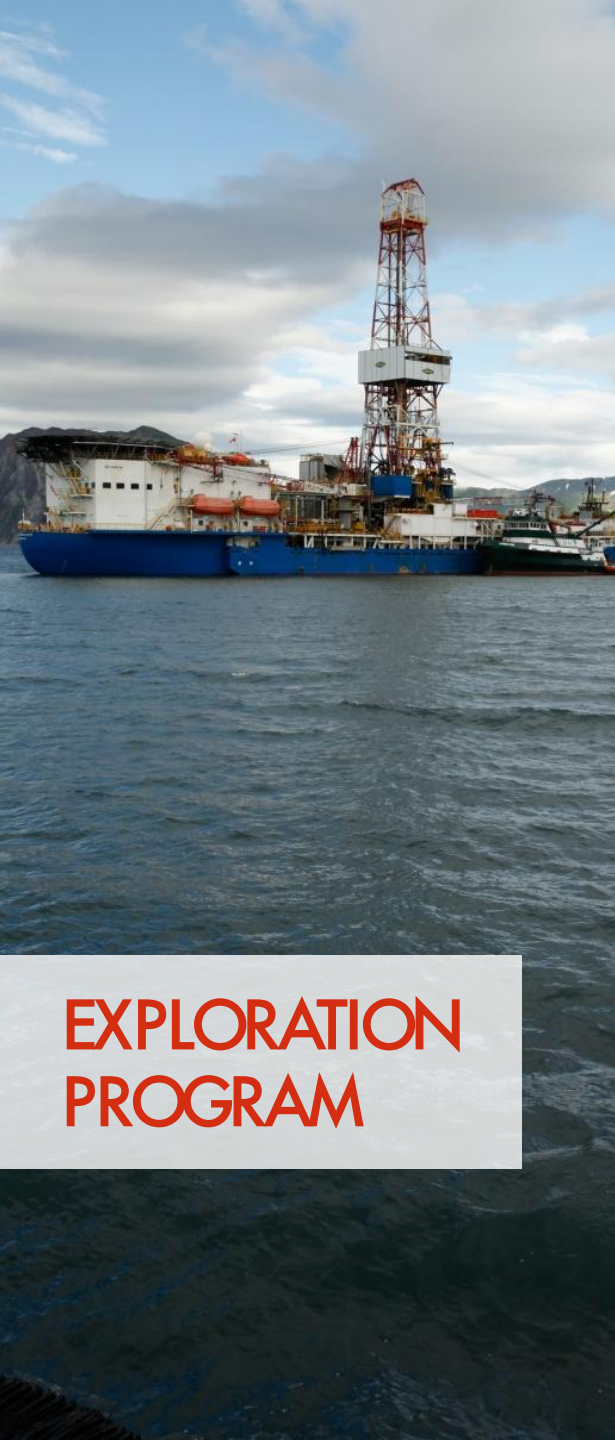
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SHELL ALASKA

Community Update

July 2014



EXPLORATION PROGRAM

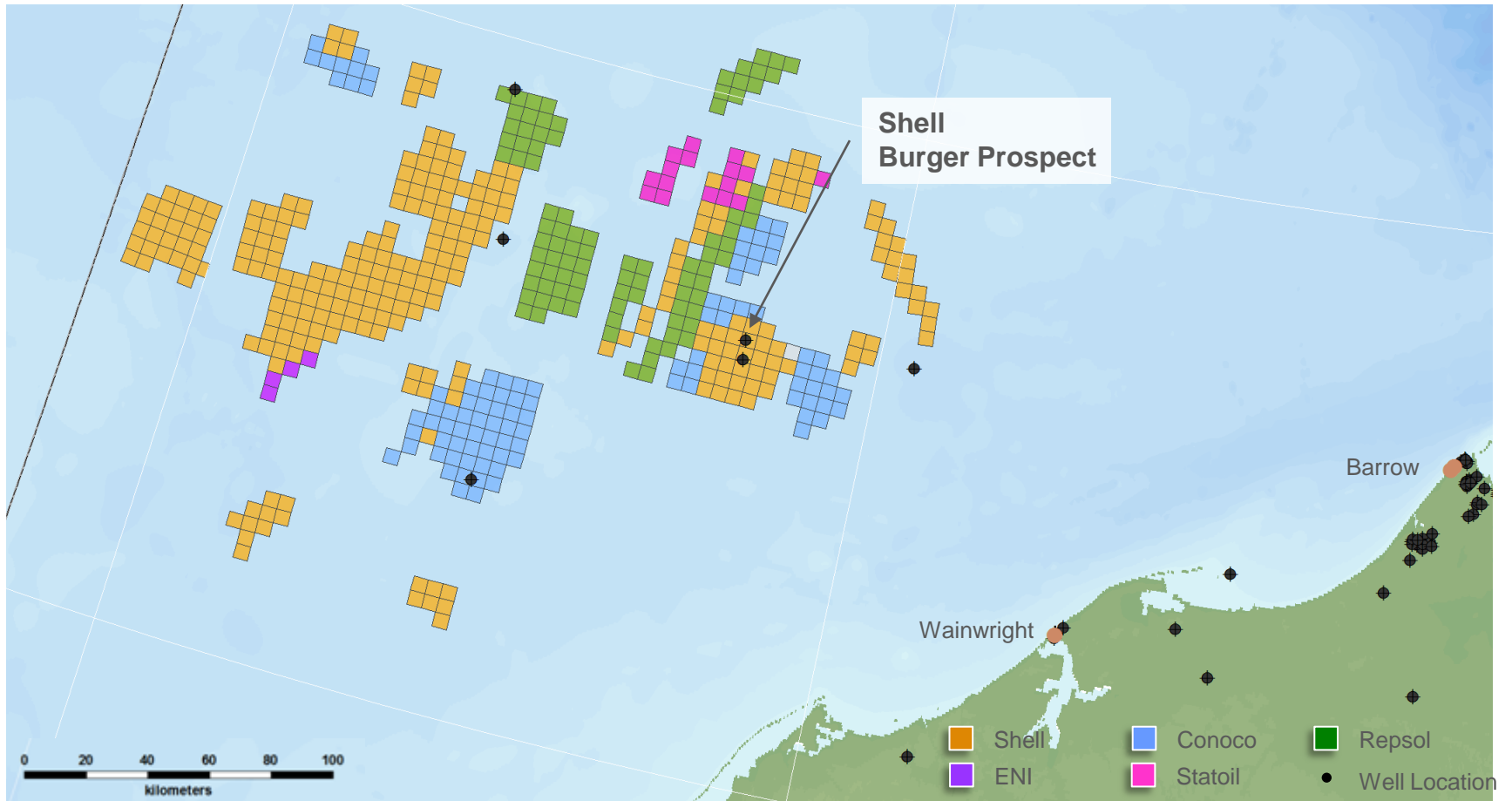
- Committed to developing Alaska's Outer Continental Shelf in a measured and responsible pace
- 2013 and 2014
 - Paused exploration activity

2015 EXPLORATION PLANNING



- 2015 – planning for a drilling program in Chukchi Sea at Burger site
 - Drilling rigs:
 - Noble Discoverer
 - Transocean's Polar Pioneer
 - Fleet of support vessels, similar to 2012
 - Anchor handlers, ice management, oil spill response, supply & towing
 - Ninth Circuit – Lease Sale 193

CHUKCHI LEASES

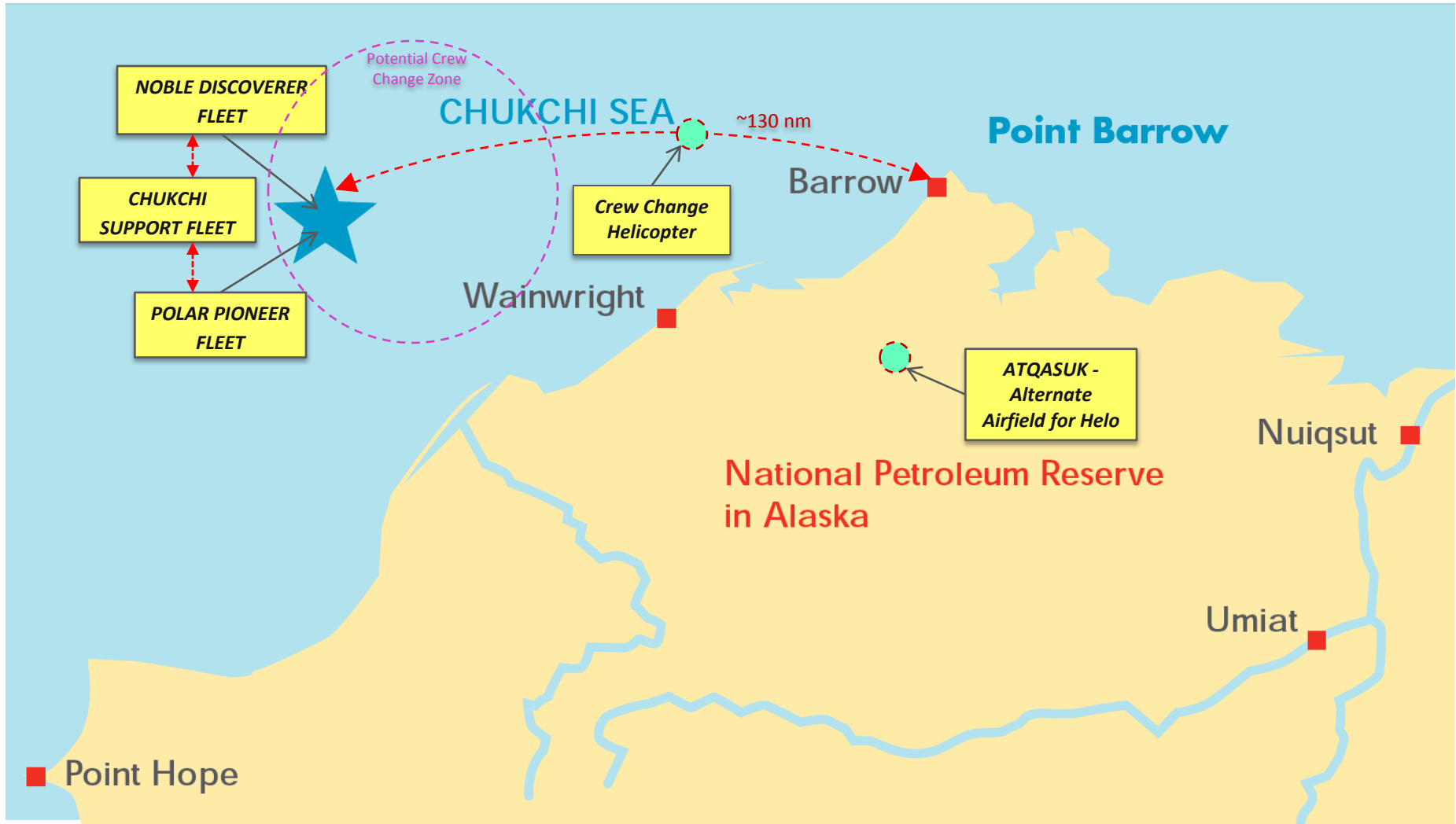


- Oil spill response support
 - Camp, yard and crew change
- June to October 2015
 - Charter crew change flights from Barrow
 - 15 personnel, once every 3 weeks
 - Accommodations
 - Olgoonik 24-bed camp
 - 15 personnel
 - 4 camp support (local hire)
 - Yard space
 - Oil spill response equipment storage
 - Waste
 - Camp kitchen waste at Wainwright Landfill
 - All other waste to Lower 48 for disposal

An aerial photograph of a coastal settlement, likely Wainwright, Alaska. The image shows a cluster of buildings, including several large white cylindrical storage tanks, situated on a grassy plain next to a body of water. A yellow vertical bar is on the left side of the image, and a white text box is overlaid on the right side. The text in the box reads "2015 WAINWRIGHT OPERATIONS" in red, bold, sans-serif font.

2015 WAINWRIGHT OPERATIONS

2015 CHUKCHI CREW CHANGE OPERATIONS



- Collaboration and communication with subsistence users
- Communication Centers
- Subsistence Advisors
- Public community meetings twice a year
- Protected Species Observers on all vessels
- Community Liaison Officers
- Maximizing opportunities to utilize local contracting
- North Slope Borough Science Agreement



**MITIGATION
MEASURES**

2014 SCIENCE



- Offshore Ecological Studies (Aug – Oct)
- Jointly funded by Shell, ConocoPhillips and Statoil
- Eco-system wide baseline studies (benthic, zooplankton, fisheries, marine mammals, DSAR's, sea birds)
- Ice and Metocean buoys
- Provides critical data for ice and weather forecasting
- Supports NOAA forecasting
- Building a strong science baseline
- North Slope Science Agreement



2015 SCIENCE PROGRAM

- Continue Offshore/Nearshore Ecological Studies (August – October)
 - Jointly funded by Shell, ConocoPhillips and Federal agencies
 - Eco-system wide baseline studies
 - Ice and Metocean buoys
 - North Slope Science Agreement

■ North Slope Borough Baseline Studies Program

- Surface drifter current buoys
- Ringed seal satellite tracking
- Workshop on sea ice and currents
- Bowhead and beluga hearing
- Assessment of bowhead sense of smell
- Stress monitoring in Arctic mammals
- Contaminants and biomarkers in beluga whales
- Bowhead ship strike and entanglement scar baseline
- Caribou calving, fox den, & wolverine surveys

DRILLING RIGS



Discoverer

- **Drilling Rig**
- Length: 514 ft
- Width: 71 ft
- Draft: 26 ft
- Accommodations: 124
- Owner/Operator: Noble Corporation



Polar Pioneer

- **Drilling Rig**
- Length: 279 ft
- Width: 233 ft
- Draft: 30 ft
- Accommodations: 100
- Owner/Operator: TransOcean (Panama)

ICE MANAGEMENT



Nordica

- **Ice Management**
- Length: 380 ft
- Width: 85 ft
- Draft: 27 ft
- Accommodations: 77
- Owner/Operator: Arctia Offshore (Finland)



Fennica

- **Ice Management**
- Length: 380 ft
- Width: 85 ft
- Draft: 27 ft
- Accommodations: 77
- Owner/Operator: Arctia Offshore (Finland)

ICE MANAGEMENT



Aiviq

- **Anchor Handler**
- Length: 360.8 ft
- Width: 80 ft
- Draft: 28 ft
- Accommodations: 64
- Owner/Operator: Edison Chouest



Ross

- **Anchor Handler**
- Length: 256 ft
- Width: 54 ft
- Draft: 18 ft
- Accommodations: 39
- Owner/Operator: Edison Chouest



Tor Viking

- **Anchor Handler**
- Length: 274 ft
- Width: 59 ft
- Draft: 20 ft
- Accommodations: 23
- Owner/Operator: Trans Viking (Sweden)

FLEET RESUPPLY



Sisuaq

- **Fleet Resupply**
- Length: 292 ft
- Width: 64 ft
- Draft: 19.6 ft
- Accommodations: 50
- Owner/Operator: Harvey Gulf

Champion

- **Fleet Resupply**
- Length: 300 ft
- Width: 64 ft
- Draft: 19.6 ft
- Accommodations: 50
- Owner/Operator: Harvey Gulf

Supporter

- **Fleet Resupply**
- Length: 300 ft
- Width: 64 ft
- Draft: 19.6 ft
- Accommodations: 50
- Owner/Operator: Harvey Gulf

OCEAN-GOING TUGS



Ocean-going Tug (*TBN - not contracted*)

- **Tug Support Vessel**
- Length: 146 ft
- Width: 46 ft
- Draft: 21 ft
- Accommodations: 13
- Owner/Operator: Crowley



Ocean-going Tug (*TBN – not contracted*)

- **Tug Support Vessel**
- Length: 146 ft
- Width: 46 ft
- Draft: 21 ft
- Accommodations: 13
- Owner/Operator: Crowley

OIL SPILL RESPONSE



Guardsman

- **Tug Support - OSR**
- Length: 136.2 ft
- Width: 36.6 ft
- Draft: 20 ft
- Accommodations: 11
- Owner/Operator: Crowley

Klamath

- **Oil Spill Response**
- Length: 333 ft
- Width: 76 ft
- Draft: 22 ft
- Accommodations: 0
- Owner/Operator: Crowley

Nanuq

- **Oil Spill Response**
- Length: 301 ft
- Width: 60 ft
- Draft: 21 ft
- Accommodations: 41
- Owner/Operator: Edison Chouest

TANKER & DRILL DISCHARGE MONITORING



DDM Vessel

Tanker (*TBN – not contracted*)

- **OSR/Refueling**
- Length: 748 ft
- Width: 105.9 ft
- Draft: 46.8 ft
- Accommodations: 24
- Owner/Operator:
Transpetrol (Singapore)

TBD (*not contracted*)

- **Drilling Discharge Monitoring**
- Length: TBD
- Width: TBD
- Draft: TBD
- Accommodations: TBD
- Owner/Operator: TBD



Attachment B
Chukchi Sea Communication Plan

COMMUNICATION PLAN EXPLORATION DRILLING PROGRAM CHUKCHI SEA, ALASKA

The following Communication Plan will be used during each exploration drilling season to coordinate activities with local subsistence users, including the Alaska Eskimo Whaling Commission (AEWC), Eskimo Walrus Commission (EWC), Alaska Nanuuq Commission (ANC), Alaska Beluga Whale Committee (ABWC), Ice Seal Committee (ISC), and village Whaling Captains Associations (WCA). Each planned drilling season in the Chukchi Sea will begin with transit through the Bering Strait into the Chukchi Sea on or after July 1, then on location at a drill site on or about July 4 and end on or about October 31.

The Communications Plan will be implemented in two phases. Phase I describes the guidelines already in place to ensure proper communication during the drilling season. Phase II describes what to do in the event Shell Gulf of Mexico Inc. (Shell) activities potentially affect subsistence activities and how to keep subsistence user groups informed of Shell activities. Phase I and II are designed to minimize the potential for interference of Shell activities with subsistence activities and resources and to keep operators up-to-date regarding the timing and status of the beluga and bowhead whale migrations in the Chukchi Sea as well as the timing and status of other subsistence hunts.

Drilling program operations will be performed in compliance with all applicable permits and authorizations, including the Plan of Cooperation (POC), Letter of Authorization (LOA) per U.S. Fish & Wildlife Service (USFWS), Incidental Harassment Authorization (IHA) per National Marine Fisheries Service (NMFS) and Lease Stipulation #5 from Chukchi Sea lease sale 193 per the Bureau of Ocean Energy Management (BOEM).

PHASE I

- Shell will fund the operation of Communication and Call Centers (Com Centers) in the coastal villages to enable communications between Shell operations and vessels, local subsistence users, and Subsistence Advisors (SA), thereby notifying the subsistence community of any vessel transit route changes and avoiding conflicts with subsistence activities.
- Protected Species Observers (PSO) will be onboard exploration drilling-related vessels with responsibilities to; monitor for the presence of marine mammals, assist with the maintenance of marine mammal safety radii around vessels, monitor and record avoidance or exposure behaviors, and communicate with the Com Centers and local subsistence hunters by marine radio.
- If a conflict arises with offshore activities, the PSO will immediately contact the vessel captain and the Com Centers. The Com Centers will then contact Shell's simultaneous operations emergency response team. If avoidance is not possible, the next phase will include communication between a Shell representative and a representative from the impacted subsistence hunter group(s) to resolve the issue and plan an alternative course of action by either industry or the subsistence groups.
- Shell will employ local SAs from the Chukchi Sea villages that may be potentially impacted by Shell's exploration drilling activities. The SAs will provide consultation and guidance regarding whale migration and subsistence activities. There will be one SA per village, working approximately 8 hours per day and 40 hours per week during each drilling season. The subsistence advisors will use local knowledge (Traditional Knowledge) to gather data on subsistence lifestyle within the community and provide advice on ways to minimize and mitigate

potential negative impacts to subsistence resources during each drilling season. Responsibilities will include reporting any subsistence concerns or conflicts, coordinating with subsistence users, reporting subsistence related comments, concerns, and information, coordinating with the Com and Call Center personnel, and advising on how to avoid subsistence conflicts.

- Aircraft traffic will not fly below 1,500 ft. (457 m) altitude (except during takeoffs and landings, in emergency situations or for PSO overflights) while over land or sea. If flights need to deviate from their routine planned routes due to an emergency, weather or other unavoidable reasons, the new flight information will be shared as outlined by Shell's Health, Safety, Security, and Environment (HSSE) requirements with Com Centers so area subsistence users can be notified.
- Regular overflight surveys and support vessel surveys for marine mammals will be conducted to further monitor prospect areas and identify areas currently being used for subsistence activities to avoid potential conflicts with users.

PHASE II

All guidelines in Phase I will be adhered to in addition to the following:

- If potential conflicts are identified between Shell activities and subsistence activities; the Com Center Action Plan will be used to manage the issue.
- Shell will continue with engagements and regular communications with the AEW, EWC, ANC, ABWC, ISC, and the WCAs of Barrow, Wainwright, Point Lay and Point Hope once transiting of vessels begins through the Chukchi Sea, during drilling activities, and during mobilization from the Chukchi Sea.