

## FINDING OF NO SIGNIFICANT IMPACT

Revised Outer Continental Shelf Lease Exploration Plan EA

EP006-Shell 2015

Chukchi Sea, Alaska

### Introduction

In accordance with the National Environmental Policy Act (NEPA), 42 USC 4261, *et seq.*, the Council on Environmental Quality regulations at 40 CFR 1501, *et seq.*, Department of the Interior (DOI) regulations implementing NEPA at 43 CFR Part 46, and Bureau of Ocean Energy Management (BOEM) policy, BOEM prepared an environmental assessment (EA) of the potential effects of Shell Gulf of Mexico (Shell) drilling six exploration wells in the Burger Prospect on the Outer Continental Shelf (OCS) of the Chukchi Sea, offshore Alaska. This action is to be conducted during the open water season of 2015 and in subsequent years until the six well program is completed.

The proposed exploration activities (Proposed Action) are detailed in a Revised Exploration Plan submitted on March 31, 2015, and deemed submitted by BOEM on April 10, 2015 (EP). In 2011, Shell submitted to BOEM a revised EP (EP Revision 1, Shell 2011). This revision included Shell's plan to drill six exploration wells at the Burger Prospect, starting in 2012. This EP was subsequently approved December 16, 2011. In 2012, Shell mobilized the *Discoverer* and its support vessels to the Burger A drill site on the Burger Prospect. Burger A was drilled to a depth of 1,505 feet (ft.) and was temporarily abandoned (TA) according to the Bureau of Safety and Environmental Enforcement (BSEE) regulations at 30 CFR 250.1721-1723. In 2015, Shell requests approval to continue exploration drilling operations at its Burger Prospect.

The notice of preparation of an EA on the Proposed Action was published on April 10, 2015, on Regulations.gov (docket BOEM-2015-0025), sent to potentially affected stakeholders, and posted on the Alaska OCS Region website. The notice stated that "BOEM is inviting the public to comment on issues that should be considered by BOEM in preparing the EA." All comments received were reviewed and considered during the development of the EA and analysis of the Proposed Action.

BOEM prepared the EA to determine whether the Proposed Action may result in significant effects (40 CFR 1508.27) triggering additional mitigation to reduce such effects or an environmental impact statement. The EA analyzes the potential for significant adverse effects from the Proposed Action on the human environment, which is interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment (40 CFR 1508.13 and 1508.14). The EA was also prepared to assist with BOEM planning and decision-making (40 CFR 1501.3b), namely, to help inform a determination as to whether the Proposed Action would cause undue or serious harm or damage to the human, marine, or coastal environment under 30 CFR 550.202.

### Purpose of the Proposed Action

The purpose of the Proposed Action is to resume drilling operations at the six drill sites located at the Burger Prospect identified in the EP.

### Description of the Proposed Action

Shell's proposal is to use the Mobile Offshore Drilling Units *Discoverer* and *Polar Pioneer* to complete a six-well exploration drilling program at locations on the Burger Prospect in the Chukchi Sea. For analysis purposes, BOEM assumes that all six wells would be drilled; however, the information on the subsea geology and properties of the potential reservoir formations obtained from drilling the initial wells may result in Shell deciding to cancel subsequent wells, submit a revised EP to relocate subsequent well sites, or file a Development and Production Plan. Shell's proposed activities would be conducted during the

open-water season (approximately July through October) to avoid difficult ice conditions. No shallow hazards or known archaeological and historical resources are present at these drill sites.

Certain conditions may trigger a suspension of activities at a drillsite prior to concluding exploration drilling activities there. If certain conditions of Shell's Critical Operations and Curtailment Plan are triggered by environmental conditions at a drill site, Shell would suspend drilling operation, secure the well, and move offsite if necessary. The well would either be drilled to completion later that season, during a subsequent season, or secured and permanently abandoned prior to lease termination. The uppermost part of any equipment remaining in an abandoned well will remain below the deepest known ice gouge depth below the mudline.

### **Environmental Assessment**

BOEM evaluated the Proposed Action, a No Action, and an Early Start alternative. Other alternatives suggested through internal or external scoping (public comment period) were considered but are not analyzed in the EA. These included operational, temporal or spatial restrictions, early season end, and complete containment of discharges.

#### **Alternative 1. No Action.**

Under this alternative, BOEM would not approve Shell's EP, and the Proposed Action would not occur. This alternative would delay or preclude Shell from completing exploration wells that would inform future decisions about potential exploration and development of Chukchi Sea OCS leases and could thereby result in delayed or lost opportunities to develop the OCS resources. This alternative would also delay or avoid potential impacts to the environment identified in the EA.

#### **Alternative 2. Proposed Action.**

Under this alternative, BOEM would approve Shell's EP, and the Proposed Action would occur. Up to six exploration wells would be drilled in the Burger Prospect in the Chukchi Sea, which would help inform future decisions about potential exploration and development of the Chukchi Sea OCS. Adverse effects to the environment would occur; the level of these impacts would range from negligible to moderate, depending on the specific environmental resource. Anticipated impacts of the Proposed Action on these resources are summarized below:

- **Physical Resources**

The level of effects of the Proposed Action on air quality would be minor because potential adverse effects would be short-term and/or localized. Effects to water quality would be minor because potential adverse effects would be localized and short-term.

- **Biological Resources**

The Proposed Action is expected to have negligible to moderate effects on biological resources. Potential loss of benthic resources compounded by the time required for resettlement and growth would result in minor impacts to lower trophic organisms. Sound and temporary displacement would result in minor impacts to fish. Impacts to birds from vessel and aircraft activities would be minor due to collisions with vessels or offshore structures. Oil and gas activities could have minor to moderate effects on marine mammals in and around the Proposed Action area, mostly through vessel traffic and elevated noise levels. Shell has applied for a Letter of Authorization (LOA) from the United States Fish and Wildlife Service (USFWS) for non-lethal incidental take and intentional take of polar bears and walrus under the Marine Mammal Protection Act (MMPA). They have also applied for an incidental harassment authorization

from the National Marine Fisheries Service (NMFS) under the MMPA for the incidental take of whales and seals.<sup>1</sup>

The Proposed Action is anticipated to result in negligible to moderate levels of effect to all resources in the Proposed Action area if the following mitigation measures, upon which the analysis in the EA is based, are followed: All mitigation measures pertaining to marine mammals are included in Appendix C of the EA. BOEM's authority to enforce these measures is confined to the portion of the project in the OCS.

- **Subsistence Activities, Economy, Public Health, Environmental Justice, and Archaeological Resources**

The proposed action would have little measurable impact on the local economy and would result in negligible impacts.

The Proposed Action would not have a disproportionately high adverse human health or environmental justice impact to residents of the North Slope Borough (NSB). Due to the limited timeframe in which the project takes place, environmental justice impacts from this Proposed Action are negligible.

The Proposed Action is short-term and temporary and would have no measurable effects on North Slope borough routines or community functions. Therefore, cumulative impacts to sociocultural systems will be negligible.

The Proposed Action would have negligible to moderate effects on subsistence harvests for North Slope communities. Potential impacts may come from aircraft and vessels operating in the project area. Potential impacts may be minimized through plans of cooperation, consultation with local subsistence resource representatives, and Shell's commitment to maintain communication with key entities in the community.

No historic or prehistoric properties are likely to be affected by the activities proposed in the 2015 Shell EP. Therefore, the Proposed Action will have a negligible effect on archaeological resources.

### **Alternative 3. Early Season Start**

Under this alternative, Shell would transit through the Bering Strait and begin operations in the Burger Prospect prior to July 1. The presence of open water (<10% ice coverage, as defined in Section 3.1.3 of this EA) throughout the Burger Prospect area would present the opportunity for Shell to begin the early transit. While the overall impacts to physical, biological, economic, subsistence, and cultural resources would be similar or even slightly greater per season than those from Alternative 2, this alternative could potentially reduce the overall negative impacts and risks associated with oil and gas activities over several seasons by providing Shell an opportunity to complete more work in fewer seasons. It is also possible that overall environmental impacts could be lessened by virtue of concluding the Proposed Action in fewer seasons. Thus the purpose and need of orderly, expeditious, and environmentally sound development in

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<sup>1</sup> The term "negligible" as used in the EA does not have the same meaning as the term "negligible impact" under the MMPA regulations. The Impacts Scale employed in the EA uses the term "negligible" for activities with "little or no impact." It is used to describe and summarize impacts for a variety of resources. While BOEM's definition was chosen for uniformity in NEPA application across all resources (this definition is used in the 193 Second SEIS and by other agencies as well), the definition of "negligible impact" under NMFS and USFWS regulations is written in terms specific to authorizing the incidental take of marine mammals. Under the MMPA, a "negligible impact" is "an impact resulting from the specific activity that cannot be reasonably expected to, and is not reasonably expected to, adversely affect the species or stock through effects on annual rates of recruitment or survival." For these reasons, any direct comparison of levels of effects included in this EA with NMFS or USFWS determinations under the MMPA is inappropriate. As discussed in Section 2.4.1 of this EA, Shell's exploration activities must adhere to the conditions of required MMPA authorizations that would limit impacts on marine mammals to the level of negligible impact under the MMPA.

the OCS is met by potentially reducing the number of seasons required to complete all six wells. This alternative would require Shell to obtain a variance from the USFWS Incidental Take Regulations as described in 50 CFR 18.118(a)(4). If this alternative is selected, the following mitigation measures would reduce potential effects to subsistence resources to minor from activities that occur before July 1:

1. To avoid subsistence whaling camps, air traffic leaving Barrow to service vessels located in the Chukchi Sea should leave in a northwest direction. Air traffic should be closely coordinated with the Barrow Whaling Captain's Association, the Wainwright Whaling Captain's Association, the Alaska Eskimo Whaling Commission, and the NSB Department of Wildlife Management; the Point Lay, Point Hope, and Kivalina Whaling Captain's Associations; and Northwest Arctic Borough's Department of Wildlife.
2. Vessel and air traffic should avoid operating near Wainwright, Point Lay, Point Hope, and Kivalina during the beluga hunt.
3. To avoid disruption of the beluga migration and beluga birthing or feeding sites, there should be limited or no vessel traffic within Kotzebue Sound.

#### **Significance Review (40 CFR 1508.27)**

Consistent with 40 CFR 1508.27, significance is evaluated by considering both context and intensity. Significance varies with the setting of the Proposed Action. For short-term, site-specific actions such as this one, significance would usually depend upon the effects in the specific location rather than in the world as a whole. Both short-term and long-term effects are relevant. For this Proposed Action, the context is the Burger Prospect area of the OCS, and the communities of Wainwright, Barrow, Kotzebue, and Dutch Harbor. It is within this context that the intensity of potential effects of the Proposed Action is considered. Intensity refers to the severity of effect. Pursuant to 40 CFR 1508.27(b), the following ten factors have been considered in evaluating the significance of the Proposed Action:

1. **Impacts that may be both beneficial and adverse.** Potential adverse effects of the Proposed Action to the physical environment, biological resources, and subsistence activities, in consideration of mitigation measures already incorporated into the Proposed Action and otherwise detailed in Appendix C are not expected to be significant. Furthermore, legal standards under the ESA and MMPA provide additional sources of protection for endangered species and marine mammals. Overall, adverse impacts are expected to be negligible to moderate. There are potential beneficial impacts for local residents employed in support of these activities, which are expected to be temporary and negligible. Therefore, the level of adverse and beneficial effects of the Proposed Action does not render the potential impacts significant.
2. **The degree to which the Proposed Action affects public health or safety.** Within its environmental analysis, BOEM considered the distance of the Proposed Action from the local communities, potential effects of expected allowable discharges and emissions, and the potential for the Proposed Action to interfere with subsistence activities. Due to the location and limited duration of the Proposed Action, it is expected to have no effects on public health or safety. Therefore, the degree to which the Proposed Action may affect public health or safety does not render the potential impacts significant.
3. **Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.** The Proposed Action would not take place in historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. BOEM also analyzed the potential to adversely affect such areas, especially the Hanna Shoal area, and subsistence hunting areas. Hanna Shoal is an area identified as ecologically important for foraging walrus during summer and fall. The proposed drill sites are located more than 7 miles south of Hanna Shoal Walrus Use Area, however disturbance associated with vessels and aircraft could displace walrus. In consideration of mitigation measures already in the Proposed Action (described in Appendix C), their compliance with applicable MMPA

authorizations will further reduce the potential for contact and disturbance of walrus. BOEM also evaluated the degree to which the proposed activities would affect subsistence hunting areas. No significant impacts to subsistence hunting areas or activities are anticipated as a result of the proposed exploration drilling or support activities. Consideration of potential site specific effects of the Proposed Action on unique geographical areas does not render the potential impacts significant.

4. **The degree to which the effects on the quality of the human environment are likely to be highly controversial.** BOEM evaluated the degree to which the potential effects of the proposed activities may be highly controversial. In developing the EA, BOEM reviewed relevant studies, scientific literature, past BOEM NEPA analyses, and NMFS and USFWS analyses. BOEM solicited comments from federal, state, and local agencies that were cooperating or participating agencies in development of the EA. BOEM reviewed public comments, in part to determine if substantial questions exist on whether the proposed action would cause significant degradation of any environmental factor. Concerns raised by stakeholders were fully considered and addressed as appropriate in the EA. Furthermore, the effects analyses in the EA are based on the best available scientific information. Sufficient information was available to support sound scientific judgments regarding the potential for environmental effects. The following recent NEPA reviews and other environmental evaluation documents, as well as d on-going studies, were reviewed and incorporated as appropriate:
- Final Second Supplemental Environmental Impact Statement – Chukchi Sea Planning Area Oil and Gas Lease Sale 193 in the Chukchi Sea, Alaska (2015 Second Supplemental Environmental Impact Statement, OCS EIS/EA BOEM 2014-669)
  - Final Supplemental Environmental Impact Statement – Chukchi Sea Planning Area Oil and Gas Lease Sale 193 in the Chukchi Sea, Alaska (2011 SEIS, OCS EIS/EA BOEMRE 2011-041)
  - EA -- Shell Gulf of Mexico, Inc., 2012 Exploration Drilling Program, Burger Prospect, Chukchi Sea Planning Area, and Finding of No Significant Impact (OCS EIS/EA BOEM 2011-061)
  - EA – Shell Gulf of Mexico, Inc., 2010 Exploration Drilling Program, Burger, Crackerjack, and SW Shoebill Prospects, Chukchi Sea Outer Continental Shelf, Alaska, and Finding of No Significant Impact (OCS EIS/EA MMS 2009-061)
  - Final EIS – Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea (2007 FEIS; OCS EIS/EA MMS 2007-026)
  - Revised OCS Lease Exploration Plan Chukchi Sea, Alaska (2015 Shell EP)
  - January 20, 2015 Biological Assessment (BA) to NMFS
  - January 20, 2015, BA to USFWS
  - Letter of Authorization (LOA) and Incidental Harassment Authorization (IHA) Applications
  - USFWS Biological Opinion for Oil and Gas Activities Associated with Lease Sale 193, 2015
  - Hanna Shoal Ecosystem Study (AK-11-03)
  - Pinniped Movements and Foraging: Walrus Habitat Use in the Potential Drilling Area (AK-09-01)
  - Ice Seal Movements and Foraging: Village-based Satellite Tracking of Ringed and Bearded Seals (AK-12-05)
  - Abundance Estimates of Ice Associated Seals: Bering Sea Populations that Inhabit the Chukchi Sea during Open-Water Period (AK-12-x10b)
  - Walrus Seasonal Distribution and Habitat Use in the Eastern Chukchi Sea (AK-13-06)

- Distribution and Abundance of Select Trace Metals in Chukchi and Beaufort sea Ice (AK-13-03-04)

The potential effects of the Proposed Action are not anticipated to be highly controversial, and are not expected to render the potential impacts significant.

5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.** In determining the significance of effects of the proposed action, BOEM evaluated the degree to which the potential effects of the proposed action may be highly uncertain or involve unique or unknown risks. Exploration drilling in the Arctic OCS has more than two decades of history. From 1981-2002, a total of 35 wells were drilled in the Arctic OCS; five of these wells were drilled in the Chukchi Sea, including one well on the Burger prospect itself. The technologies and procedures used in exploration drilling conform to well-established industry standards, and the components of exploration drilling that may impact the environment are well understood. If BOEM approves Shell's Revised EP and exploration drilling occurs, BSEE inspection personnel would be on site throughout the drilling operation to monitor the operation and enforce and verify compliance with conditions of approval of the EP, lease stipulations, and BOEM and BSEE drilling, safety and environmental regulations.

The potential impacts of exploration activities have been addressed in several previous NEPA documents, including EISs and EAs. Estimated probabilities of small oil spills are included in Appendix A and Section 2.4.8 of the EA. With respect to the potential effects of a large or very large oil spill, the EA incorporates by reference the extensive analysis of the risks of small, large, and very large oil spills, pollution prevention, and spill response provided by the 2015 Sale 193 Final Second SEIS – the document from which the EA tiers. This analysis is supported by a dataset that includes over 15,000 wells drilled on the OCS.

The effects of the Proposed Action are not highly uncertain, nor does the Proposed Action involve unique or unknown risks. Risks and effects have been identified and evaluated in the EA, the documents to which it tiers and other documents incorporated by reference. Therefore, the degree to which the potential effects of the Proposed Action may be highly uncertain or involve unique or unknown risks does not render the potential impacts significant.

6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.** In compliance with the OCSLA, the regulations at 30 CFR Part 550, BOEM has conducted a technical and environmental review of the Proposed Action. All EP's are subject to a review and evaluation by BOEM based on the specific facts of each Plan and the proposed activities at issue. Any future OCS oil and gas activities that are not described in the Proposed Action and analyzed in the EA would require separate review and approval before they could proceed. Thus, the Proposed Action here will not serve as a precedent for future actions nor represent a decision in principle about a future consideration. Accordingly, the degree to which the Proposed Action may establish a precedent for future actions or represent a decision in principle about a future consideration does not render the potential impacts significant.
7. **Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.** Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts. The EA considered the potential cumulative effects of the Proposed Action when combined with other past, present, and reasonably foreseeable activities. The EA concludes that the Proposed Action is not reasonably anticipated to produce significant impacts or to add to the effects of other activities such that the incremental effects of the action result in significant effects. Therefore, the degree to which the potential effects of the Proposed Action may

be related to other actions with individually insignificant but cumulatively significant impacts does not render the potential impacts significant.

8. The degree to which the Proposed Action may affect districts, sites, highways structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. Activities associated with the Proposed Action are not anticipated to disturb historic or prehistoric properties, as supported by shallow hazard surveys and archeological assessments in the area of proposed activities, and detailed in the 2015 Shell EP. Allowable discharges and emissions are not expected to affect the coastal area. The Proposed Action is not expected to adversely affect, or cause the loss of, any scientific, cultural, or historic resources. Therefore, the degree to which the Proposed Action may adversely affect historic resources does not render the potential impacts significant.
9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.** In determining whether the action alternatives may adversely affect endangered or threatened species or designated critical habitat, BOEM engaged in formal consultation with the USFWS and NMFS. On March 30, 2015, the USFWS provided a Biological Opinion (BO) for activities that may result from Lease Sale 193 in the Chukchi Sea. The USFWS concluded that it is unlikely that exploratory drilling activities occurring within the first incremental step of the consultation will violate section 7(a)(2) of the ESA. However, the USFWS determined that adverse effects on listed species are anticipated. In their BO, they provided incidental take authorization for listed spectacled and Steller's eiders from offshore activities, and required that operators get a Letter of Authorization under the MMPA for polar bears. In separate correspondence dated March 30, 2015, the USFWS concurred with BOEM that onshore activities are unlikely to adversely affect listed eiders. In regard to the listed stock of northern sea otter, informal consultation with the USFWS is on-going. On May 6, 2015, BOEM requested concurrence with a determination that the proposed action may affect, but is unlikely to adversely affect, listed sea otters.

BOEM requested formal consultation with NMFS, Alaska Region, on the potential effects on listed species and critical habitats from activities that may result from Lease Sale 193 in the Chukchi Sea, and on January 20, 2015, provided a Biological Assessment (BA) to NMFS. Consultation with NMFS is on-going, and a final BO is expected by June 1, 2015. The BO considers the effects of oil and gas activities on threatened and endangered species and critical habitat under the jurisdiction of NMFS.

Under the ESA, no incidental take of a protected species is authorized unless an Incidental Take Statement is issued by USFWS or NMFS. BOEM's approval of Shell's EP would include any Reasonable and Prudent Measures and associated Terms and Conditions required through the ESA consultation process from NMFS or the USFWS.

In regard to MMPA authorization, Shell has applied for a letter of authorization from USFWS and an incidental harassment authorization from NMFS. Such authorizations are only available where the Services determines that the number of marine mammals taken incidentally would be small, the activities would have no more than a negligible impact on the stock, and there would be no unmitigable adverse effects to subsistence activities.

Consistent with those determinations, the EA concludes that any adverse effects to endangered or threatened species from the Proposed Action are expected to be short-term and localized. No destruction or adverse modification of critical habitat is anticipated. Therefore, the degree to which the Proposed Action may adversely affect endangered or threatened species or its habitat does not render the potential impacts significant.

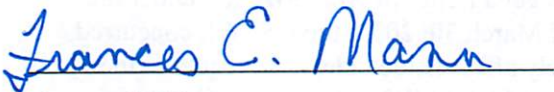
10. **Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.** In determining whether the Proposed Action may violate



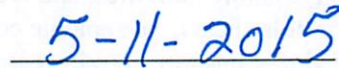
Federal, State, or local law or requirements imposed for the protection of the environment, BOEM considered the information in the EP, supporting documents submitted by Shell, regulatory and permitting information submitted by Shell (e.g., application for an NPDES General Permit) Shell's applications for an LOA and IHA from USFWS and NMFS, respectively, as well as public comment. Approval of the exploration plan would be a conditional approval. Under the conditional approval, Shell may not commence exploration activities prior to the receipt of all necessary permits and authorizations. BOEM also determined that no additional consultation under section 106 of the NHPA is required, as the consultation done for the 2012 EP remains valid. Furthermore, the OCS Lands Act authorizes BSEE to inspect all oil and gas operations on the OCS. The inspection examines all safety equipment, and consists of scheduled and unannounced inspections. Therefore, consideration of whether the Proposed Action threatens to violate Federal, State, or local law or requirements imposed for the protection of the environment does not render the potential impacts significant.

### Finding of No Significant Impact

I have considered the evaluation of the potential effects of the Proposed Action and the review of the 40 CFR 1508.27 significance factors. It is my determination that the Proposed Action would not cause any significant impacts. It is my determination that implementing the Proposed Action does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969.



Frances E. Mann



Date

Acting Regional Supervisor, Office of Environment

Alaska OCS Region

Attachment: Environmental Assessment, 2015 Shell Chukchi Sea EP EA, Chukchi Sea, Alaska. OCS EIS/EA BOEM 2015-020.

Copies of the EA can be obtained by request to Bureau of Ocean Energy Management, Alaska OCS Region, 3801 Centerpoint Drive, Suite 500, Anchorage, AK 99503-5823 or (800) 764-2627, or by accessing <http://www.boem.gov/ak-eis-ea/www.boem.gov>.