



SHELL ALASKA

Community Update

January 2015

A large blue and white offshore oil rig is positioned on the water. The rig has a tall derrick and various structures on its deck. In the background, there are mountains and a cloudy sky. The water is dark blue with some whitecaps.

EXPLORATION PROGRAM

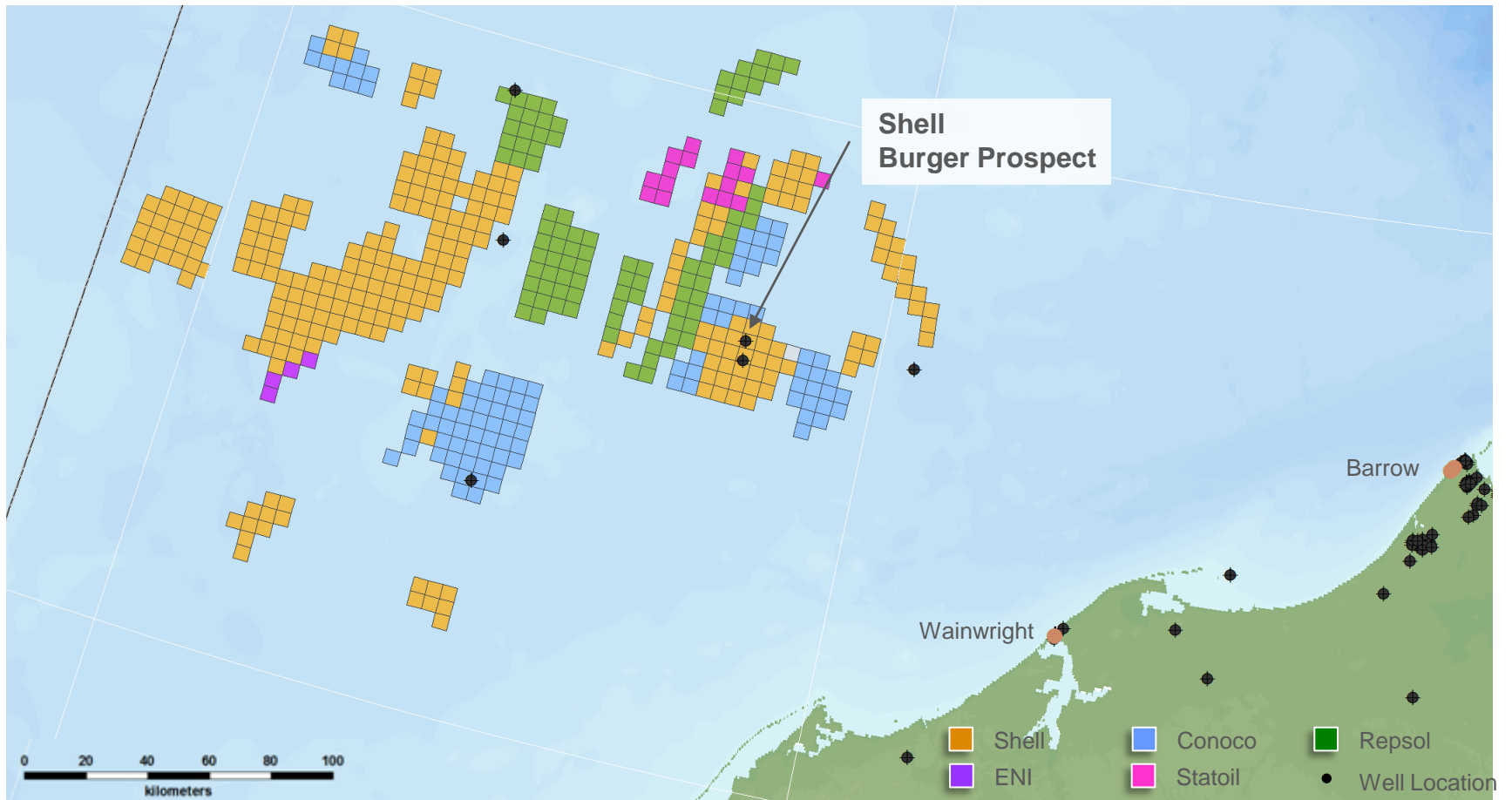
- Committed to developing Alaska's Outer Continental Shelf in a measured and responsible pace
- 2013 and 2014
 - Paused exploration activity

2015 EXPLORATION PLANNING

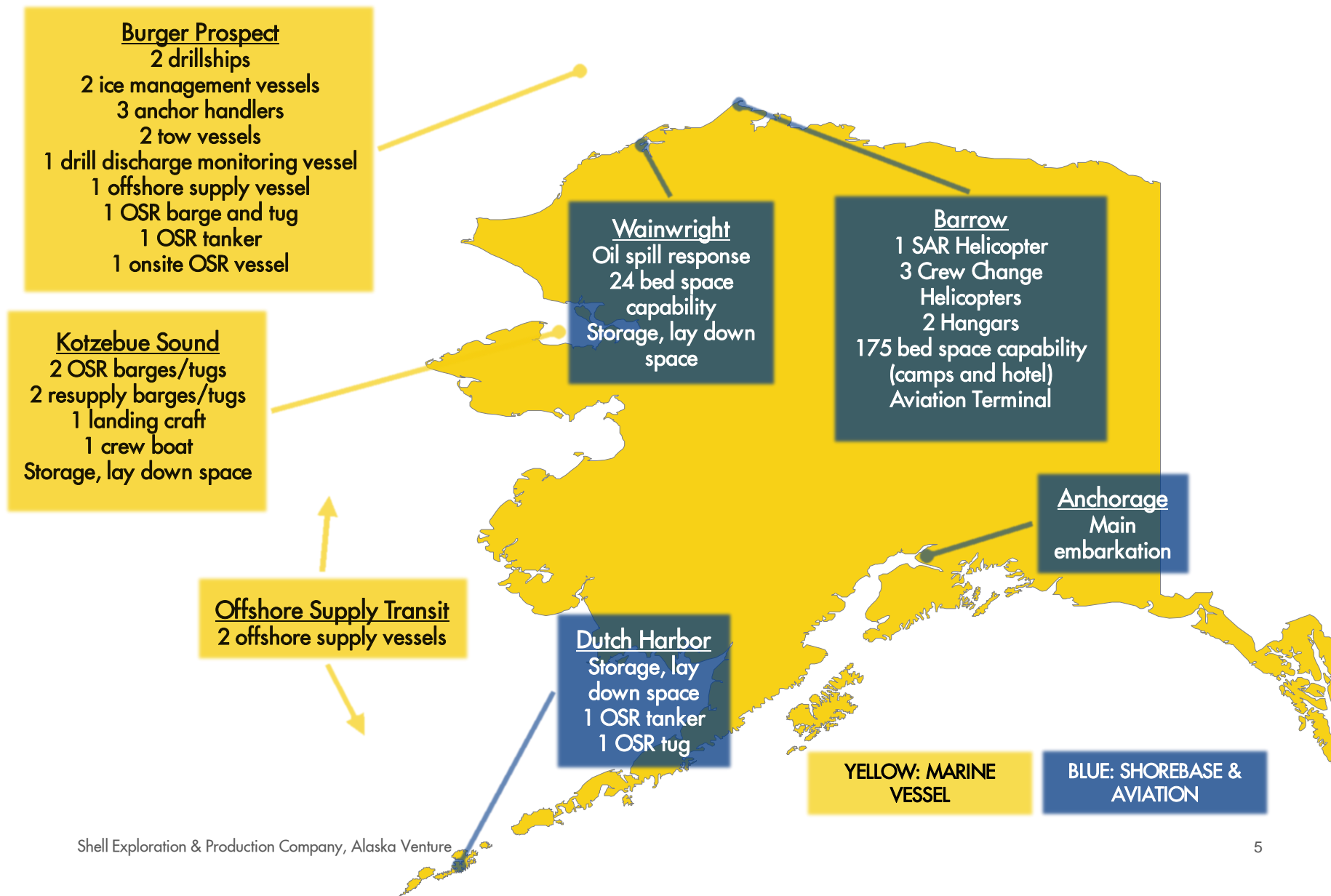


- 2015 – planning for a drilling program in Chukchi Sea at Burger site
 - Drilling rigs:
 - Noble Discoverer
 - Transocean's Polar Pioneer
 - Fleet of support vessels, similar to 2012
 - Anchor handlers, ice management, oil spill response, supply & towing
 - Ninth Circuit – Lease Sale 193

CHUKCHI LEASES



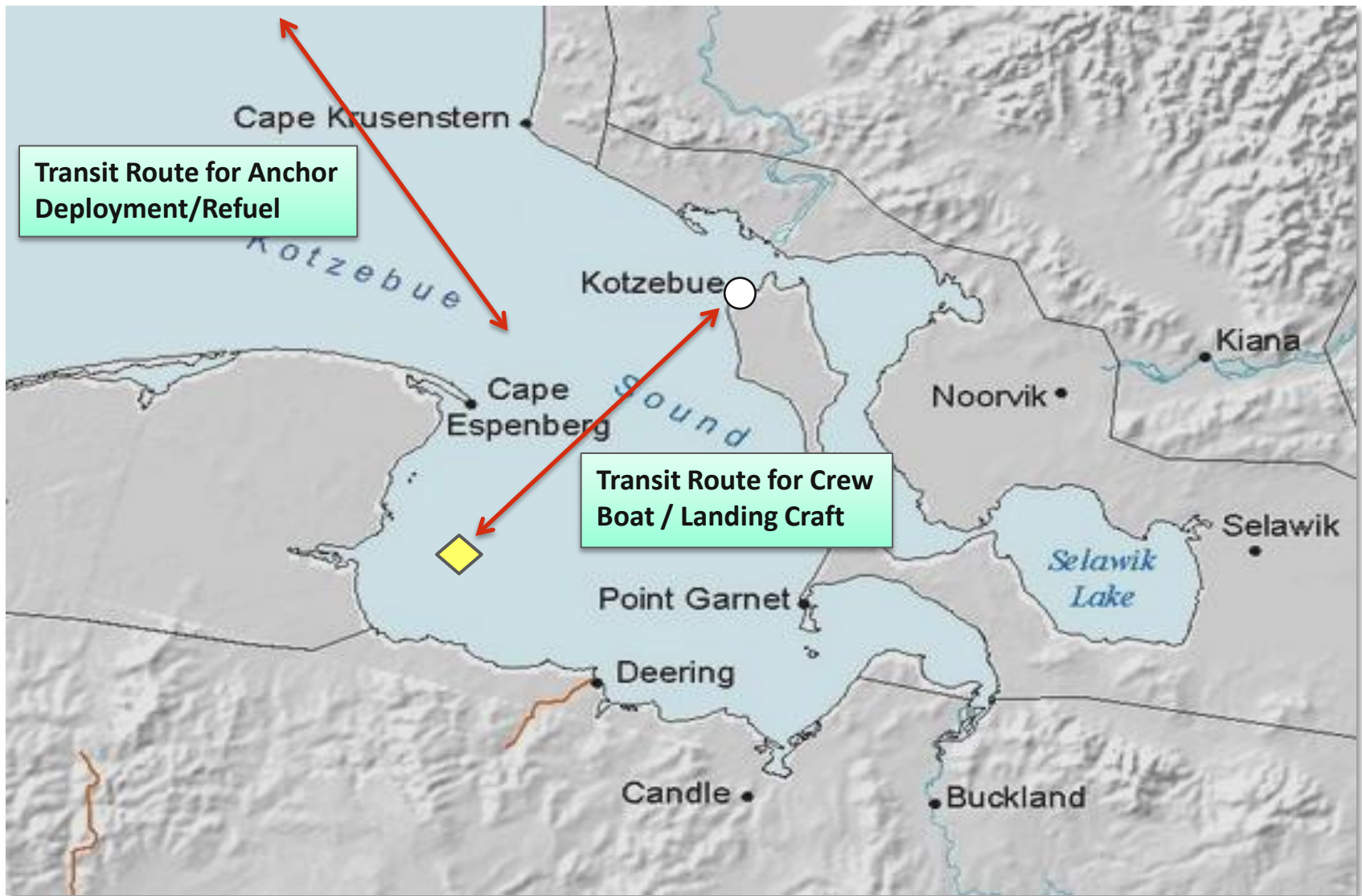
2015 PROPOSED OPERATIONS



- Vessels in state PPOR location in Goodhope Bay
 - Support for Chukchi drilling operations
 - Oil spill response vessels
 - Emergency Response Material Staging
 - July 10 – October 2015
 - 3-4 landing craft/crew boat round-trips per week between fleet and Kotzebue
- Kotzebue footprint
 - 20 crew changing/week
 - 7-10 cargo totes groceries/week
 - Up to 25 rooms utilized at Nullagvik Hotel



KOTZEBUE SOUND 2015 TRANSIT



ACS & CORBIN FOSS



- Arctic Challenger (barge)
- Length: 310.1 ft
- Width: 104.4 ft
- Draft: 19.3 ft
- Accommodations: 72
- Maximum Speed: N/A
- Owner/Operator: Crowley



- Corbin Foss (tug)
- Length: 141.4 ft
- Width: 40.0 ft
- Draft: 18.5 ft
- Accommodations: 11
- Maximum Speed: 12 knots
- Owner/Operator: Foss Maritime

ARCTIC ENDEAVOR & POINT OLIKTOK



- Arctic Endeavor (barge)
- Length: 205 ft
- Width: 90 ft
- Draft: 15 ft
- Accommodations: N/A
- Maximum Speed: N/A
- Owner/Operator: Crowley



- Sea Prince (tug)
- Length: 190 ft
- Width: 32.0 ft
- Draft: 8.5 ft
- Accommodations: 8
- Maximum Speed: 8 knots
- Owner/Operator: Crowley

TUUQ & LAUREN FOSS



- Tuuq (barge)
- Length: 400 ft
- Width: 99.5 ft
- Draft: 19.33 ft
- Accommodations: N/A
- Maximum Speed: N/A
- Owner/Operator: Foss Maritime



- Lauren Foss (tug)
- Length: 141.4 ft
- Width: 40.0 ft
- Draft: 19.5 ft
- Accommodations: 11
- Maximum Speed: 12 knots
- Owner/Operator: Foss Maritime

AMERICAN TRADER & TUG



- American Trader (barge)
 - Length: 382.2 ft
 - Width: 105 ft
 - Draft: 20 ft
 - Accommodations: N/A
 - Maximum Speed: N/A
 - Owner/Operator: Foss Maritime
- Shell Exploration & Production Company, Alaska Venture



- Tug (Barbara Foss)
- Length: 126 ft
- Width: 34.0 ft
- Draft: 14.6 ft
- Accommodations: 9
- Maximum Speed: 10 knots
- Owner/Operator: Foss Maritime

LANDING CRAFT



- Landing Craft/Crew Boat (TBD)
- Length: 134 ft
- Width: 32 ft
- Draft: 6 ft
- Accommodations: 17
- Maximum Speed: 10 knots

- 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
- Northwest Arctic Borough Science Agreement



**MITIGATION
MEASURES**



OIL SPILL PREVENTION

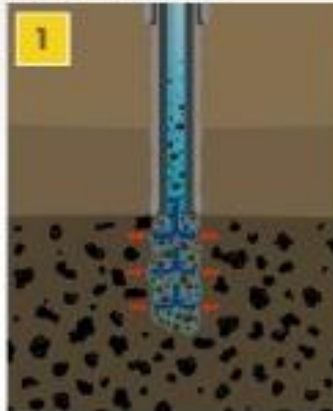
- Extensive training and preparation
 - Drilling the well on paper
- Bottomhole pressure control
 - Drilling mud
- Real-Time Operations Center
- Well design and construction

MULTIPLE BARRIERS

4 BARRIERS



DRILLING FLUID



BLOW OUT PREVENTER



CAPPING STACK



ARCTIC CONTAINMENT SYSTEM



- **Offshore Recovery**
 - Subsea Containment System
 - OSR Vessel with Skimming Vessels
 - Arctic Tanker
 - Vessel of Opportunity
 - Booms, Skimmers, and Pumps
- **Nearshore Recovery**
 - Oil Spill Response Barge
 - Skimming Vessels
 - Mini Barges
 - Booms, Skimmers, and Pumps
- **Onshore Recovery**
 - Pre-staged Equipment and Personnel
 - Booms, Skimmers
 - Landing Craft and Utility Vessels



**OIL SPILL
RESPONSE**

2014 SCIENCE



- Building a strong understanding of the Arctic environment
- Offshore Oceanographic Studies
 - Integrated ecosystem wide baseline studies (benthos, zooplankton, marine mammals, sea birds)
- Ice and Metocean buoys
 - Provides critical data for ice and weather forecasting and supports NOAA forecasting
 - Ocean currents
- Northwest Arctic Borough Science Agreement
 - Addressing community information requests
 - Conducting local and regional science
 - Incorporating traditional knowledge



2015 SCIENCE

- Oceanographic Research
 - Using seafloor acoustic devices to record sea mammal calls
 - Deploy sea ice and metocean buoys
- Environmental Monitoring at drilling rigs
 - Seafloor and seawater sampling program
- Continue Northwest Arctic Borough Science Agreement
 - Support Subsistence mapping initiative and other science projects
- Partner with federal agencies to conduct oceanographic research
 - Arctic Marine Biological Observatory Network



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)

ANCHOR HANDLERS



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



Tanker (*TBN – not contracted*)

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



Harvey Explorer

- **Drilling Discharge Monitoring**
- Length: 240 ft
- Width: 56 ft
- Draft: 14.5 ft (max draft)
- Accommodations: 42 (includes crew cabins)
- Owner/Operator: Harvey Gulf