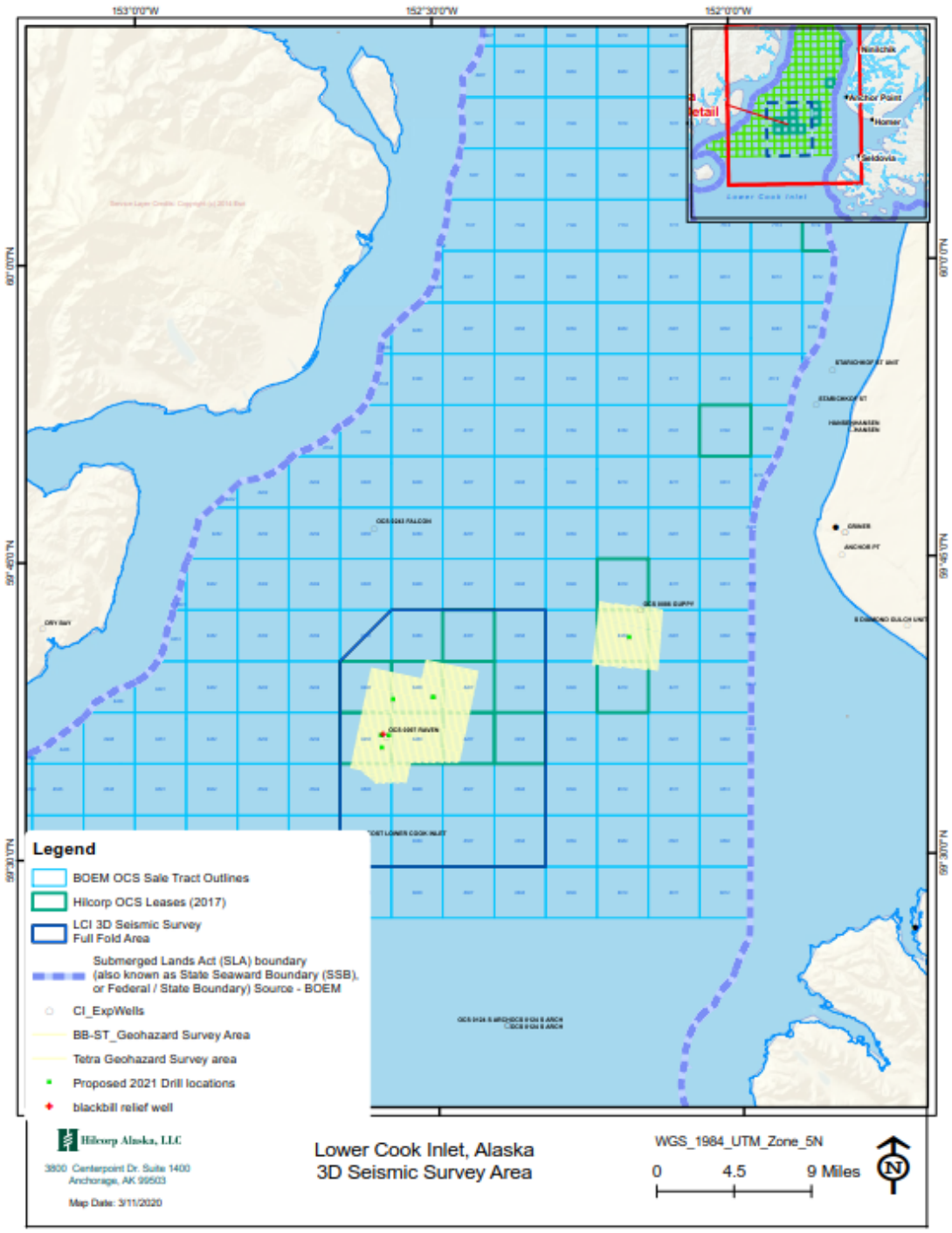
Terrasond Site Survey Study

- **Purpose**
  - In preparation for a 2021 drilling program in the Lower Cook Inlet
    - These studies will allow us to identify surface locations that will be safe for the temporary location of a jackup rig within the Hilcorp-held OCS leases
    - One to four wells with two sidetracks are planned for this 2021 program
- **Timing:**
  - April 10 through April 22
    - Seabed and shallow subsurface imaging
  - April 22 though May 5
    - Shallow core sampling and surface grab sampling
- **Environmental mitigation**
  - This area in the central part of the Lower Cook Inlet has a variety of marine mammal species present, as logged in the 2019 PSO reports completed during the Hilcorp 2019 3D survey
  - Three PSOs will be onboard the survey vessel and will be on duty when acoustic emissions in the marine mammals' sensor range are being used. Mitigation procedures similar to those used in 2019 are in place.
  - During the geotechnical coring and sampling period at least one PSO will be on board the survey vessel.
- **Description:**
  - Two **parts to the survey:**
  - **Imaging the seabed and shallow subsurface (Geohazard)**
  - **Sampling and shallow core sampling for geotechnical analysis (Geotechnical)**
  - **Objective:**
    - **Identify surface locations for the safe, temporary placement of a jackup drill rig**
    - **Ensure no impingement on existing archaeological or unique subsurface habitats**



Alaskan Vessels: Norseman II or Q 105

All offshore work is planned to be completed prior to sport-fishing and tourist season.

Equipment & Survey Activities for Geohazard Evaluation

- Multi Beam for seafloor imaging
- Side Scan Sonar for seafloor and water column imaging
- Chirper for high resolution imaging of upper 50 feet of seabed sediment
- Sparker (2 joule) high resolution imaging for depths down to 500 feet
  - There is a small, low energy, acoustic signature with the sparker that falls within one marine mammal acoustic ranges.
  - PSOs will be on duty when this tool is in use.
  - The sparker will be the main tool used to identify shallow faults, channels, dunes, and other features that are relevant to locating a jackup rig
- Magnetometer to help resolve any seabed images that might be related to shipwrecks or lost cargo
- ADSB to evaluate tidal and storm currents in the region

Equipment & Survey Activities for Geotechnical Evaluation

- Cone Penetrometer measurements:
  - This tool will measure the sediment integrity and shear strength of the near surface sediments
- Vibra-coring
  - This tool is designed to penetrate 25 feet into the seabed, and will be used to recover cores for lab analysis.
    - The core samples will be analyzed in the lab for sediment integrity, and for geochemical analysis
- Box core
  - May be used should additional seabed samples be required