



Miljøstyrelsen for Råstofområdet  
Environment Agency for Mineral Resources Activities

**Re.: Shell Greenland A/S 2013 site survey in Baffin Bay Blocks 5 (Anu), 6 (Pitu) and 8 (Napu). Preliminary Environmental Impact Assessment. Additional Work Scope.**

Shell has submitted an EIA on their planned survey activities in the Anu, Napu and Pitu blocks in 2013. This survey represents a change of scope compared to the scope submitted in January 2013 followed by a draft EIA that went to public hearing in April and was finalized in July 2013. The present preliminary EIA for an additional work scope shares most of the basic conditions with the original EIA including the responses to questions and comments presented during the public hearing. Our comments below therefore mainly deal with the suggested change in scope and program.

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**The scope**

The planned survey includes

- 2D high resolution seismic survey in total of twelve sites of varying size (2 – 12 km<sup>2</sup>) and along connecting tie-lines. The duration of the seismic activities is 10 days.
- environmental baseline survey for the sites
- service of metocean boys and
- deployment and recovery of acoustic monitoring recorders

The seismic activities will take place between August 1<sup>st</sup> and October 15<sup>th</sup> in the Anu and Napu blocks and between August 1<sup>st</sup> and October 1<sup>st</sup> in the Pitu block in order not to interfere with the narwhal and white whale migration.

The seismic surveys cause the most significant environmental concern. Parts of the seismic activities are taking place 10 km within the “Narwhal Protection Zone I” with a minimum distance of 55 km to the coast and 40 km from the Melville Bay Nature Reserve. The impacts of the seismic sound reach further into the area. The Narwhal Protection Zone I delimits the narwhal summering grounds, and according to the guidelines seismic activities should be avoided or be of limited extend (a few widely spaced lines), and if such surveys are approved, impact studies on the narwhal shall be considered.

### **The EIA**

The acoustic modelling shows that the seismic signals will be audible in large parts of the Protection Zone 1. Behavioural response of narwhals can be expected at a distance up to 6 km, whereas (temporal) damage to the hearing sensitivity of the narwhals is only expected closer than 30 m from the air gun. The impact on behavioural response due to seismic noise is accordingly regarded as “moderate” on a regional scale (i.e. up to 10 km from the survey site) whereas other impacts are only locally significant. Maintaining a safety zone of 500 m should prevent any physical damage to the animals hearing apparatus.

The EIA fulfils the requirements stipulated by the Greenland authorities, seen from both a technical and an environmental point of view, and the descriptions of the environment are adequate. DCE and GINR do not necessarily agree with the evaluation of the environmental impacts, but they are sufficiently dealt with.

### **Mitigation and management**

The knowledge of narwhal’s sensitivity to seismic noise is limited and advice has been provided based on the precautionary principle. Given the extent of activities carried out in 2012 in Baffin Bay, DCE and GINR recommended that two consecutive years with seismic activity in the Baffin Bay area should be avoided, in order to avoid potential cumulative effects. This in practice meant restraining from seismic activity in Baffin Bay in 2013.

DCE/GINR evaluate that there will be a risk for impacting narwhals (scaring away from a critical habitat) if the new activity program inside the narwhal protection zone is carried out. However, due to the limited extend of the seismic survey both in regard to sound pressure and to the duration of the survey, this risk most likely will be small.

If seismic surveys in the Narwhal Protection Zone I are approved, GINR and DCE advice in accordance with the guidelines, that a narwhal monitoring program shall be implemented in the Melville Bay summering grounds in the future (recognising that it will be too late to initiate monitoring in 2013). Such a program should repeat the activities from the 2012-programme, including the catch in cooperation with the local hunters and aerial surveys (at least every other year) to estimate population size and distribution before, during and after seismic activities.

Finally is it important to stress, that the project has to keep within the proposed timeframe (see above).