NE GreenlandSPAN | Gravity Gradiometry Integrated with 2D Seismic

PROGRAM OVERVIEW
ION’s Northeast GreenlandSPAN™ integrates 50,000 sq km Full Tensor Gravity Gradiometry (FTG) survey with more than 17,000 km of 2D seismic data to significantly improve the interpretation and geological understanding of the entire margin. This project addresses long-standing frontier exploration challenges by combining excellent deep 2D structural imaging with a cost-effective 3D perspective to improve interpretation between lines. Without any well constraint in this frontier province, ION has significantly upgraded its original interpretation based on the addition of this data set.

Jointly designed and acquired by ION and ARKeX, the NE GreenlandSPAN FTG program was acquired over the 2012 and 2013 licensing round blocks in an airborne grid of 2 x 10 km. The survey covers the East Greenland Rift Basins Province, specifically the north and south Danmarkshavn Basins, the Thetis Basin and the northern part of the Northeast Greenland Volcanic Province. The data was collected using state-of-the-art FTG technology.

Gravity gradiometry is an efficient, cost-effective way to develop a 3D view of the subsurface. It provides a multitude of scanning functions for exploration groups, allowing geoscientists to expand their interpretation in areas with little or no data. Calibrated to existing seismic interpretation, the data can also provide updates to the velocity model for potential reprocessing of existing data. The resulting integrated product is a workstation-compatible 3D earth model that best fits all the data and can be further updated as new control data is acquired.
PROGRAM OBJECTIVES

→ Provide a regional look at the NE Greenland margin in 3D without the cost or time delay of acquiring traditional 3D reconnaissance seismic data
→ Improve understanding of key geologic features, placing them in a basin-wide context
→ Establish and map continuity of large prospective anticlines and faulted structures
→ Regionally map and define the scale and depth of the basins and distribution of structural elements over a huge area to integrate with widely spaced 2D seismic coverage

KEY COMPONENTS

→ 50,000 sq km covering the East Greenland Rift Basins Province, specifically the north and south Danmarkshavn Basins, the Thetis Basin and the northern part of the Northeast Greenland Volcanic Province
→ FTG grid size is 2 x 10km flown at a height of 120 meters
→ Gravity and magnetic data acquired
→ Integrated geologic and geophysical interpretation

Data example of the Northeast GreenlandSPAN Full Tensor Gravity Gradiometry (FTGG) project

ABOUT BasinSPAN

BasinSPAN surveys are geologically inspired, basin-scale seismic data programs acquired and depth-imaged using the most advanced geological and geophysical processing tools available. They provide upstream companies with the ability to evaluate the geologic evolution, deep basin architecture and depositional and structural histories of entire petroleum systems in a region. Our global 2D BasinSPAN library consists of data from virtually all major offshore petroleum provinces providing asset managers significant risk mitigation as they develop exploration and appraisal programs with greater confidence.

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