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Faroe oil easier to find with new technology

Soon it should be easier to find oil in the subsoil also in the Faroes. The Norwegian seismic company PGS has developed a brand new technology, which completely revolutionises the seismic world. This could have a massive influence on exploration for oil and gas in the Faroes area as this could resolve the basalt problem, which has dogged exploration efforts in the Faroes for years. Optimism This cutting edge technology has created a new optimism in the oil industry, as it will soon become easier and not least cheaper to find oil. It is the seismic company PGS, which is behind the new GeoStreamer technology, which proved its worth, when oil was discovered on the Johan Sverdrup prospect area on the Utsira cape on the Norwegian plateau. This discovery was made in 2011 and is the largest discovery made in the Norwegian oil history. Use seismic -Many of the new oil companies, which have gained a foothold on the Norwegian plateau, have increased the pressure on the larger oil companies. The competition has changed and no oil company is permitted to hold an acreage license without working on it. This stance has seen a considerable increase in activity levels, but in order to drill a well a model of the subsoil is necessary and this is where seismic is our tool, says Berit Osnes, the area manager for PGS Multiclient Europe. In brief, it may be explained that seismic are pressure waves creating a sound pulsation. Sound has many frequencies, which penetrate the subsoil and are reflected and much in the same way as doctors use ultrasound to create an image of an unborn child, geologists interpret seismic to create a 3D image of the subsoil. If you turn on a stereo in your living room and enter the adjoining room, you mainly hear the bass, which are low frequency waves. This is comparable to the seismic sound waves. Low frequency waves give a deep penetration and provide information on mountain ridges and liquids in the

subsoil. High frequencies tell us how the construction is for example if gas is present in shallow areas creating a possible danger for leaks when drilling. Before the invention of GeoStreamer, we had to compromise between depth and detail, but now we are able to collate information on both simultaneously, says Osnes. Extend reach Previously, the GeoStreamer technology has been used in seismic cables, which were laid on the seafloor. This was extremely expensive, so the oil companies had to select a specific limited area, which they wished to detail closer. Overall, this was not satisfactory. With GeoStreamer, the cables are towed by a vessel, which thereby covers a much larger area. PGS recognises a great potential in GeoStream and they will soon acquisition another vessel, which will enable them to map a far greater area in a much shorter time. PGS shoots seismic for oil companies, but it also shoots seismic for themselves and after interpreting the seismic they sell the results on to interested oil companies - - Through GeoStream, the oil companies can acquisition data from 1000 sq.km. for the same price as 200 sq.km. cost. This represents a massive savings, Osnes explains. She also maintains oil companies are interested in acquisitioning seismic from other areas, other than those they are in control of - -Geologists can learn a great deal by studying adjacent areas, as this may tell them what their area could contain. Exciting for the Faroes One of the main obstacles preventing hydrocarbon discoveries in the Faroe subsoil has been, and still is the basalt. Although technological advances over the past few years has been considerable, where both the equipment and work programmes have been improved, the exploration in the Faroes demands extensive seismic surveys. Such surveys are conducted every year, among others also by PGS, in order to determine where to locate a well. Therefore this new GeoStreamer technology is very interesting seen from a Faroe perspective. Photo A PGS seismic wessel doing reperations in Tórshavn Faroes