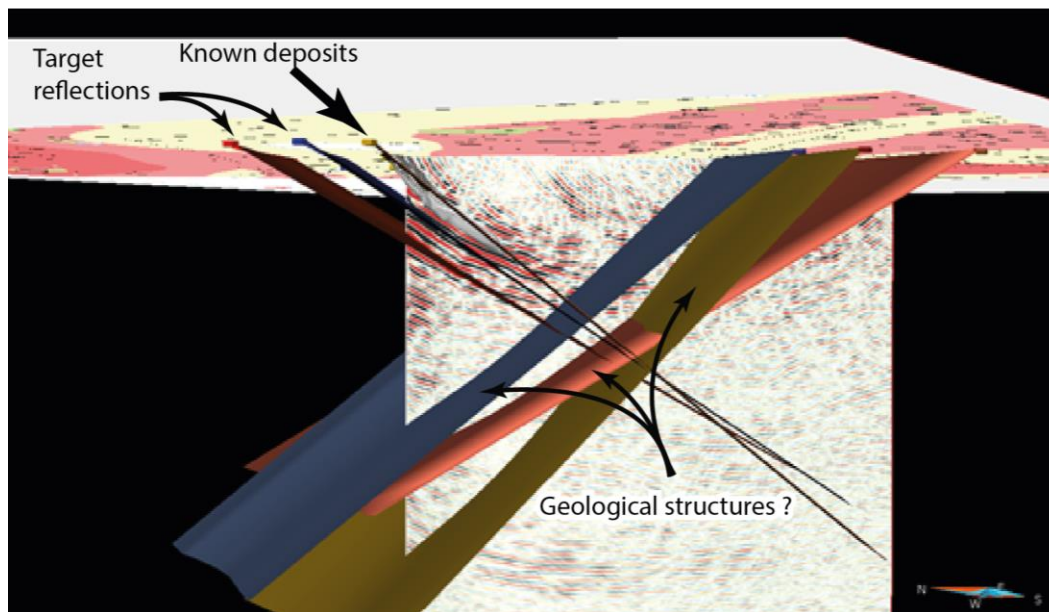


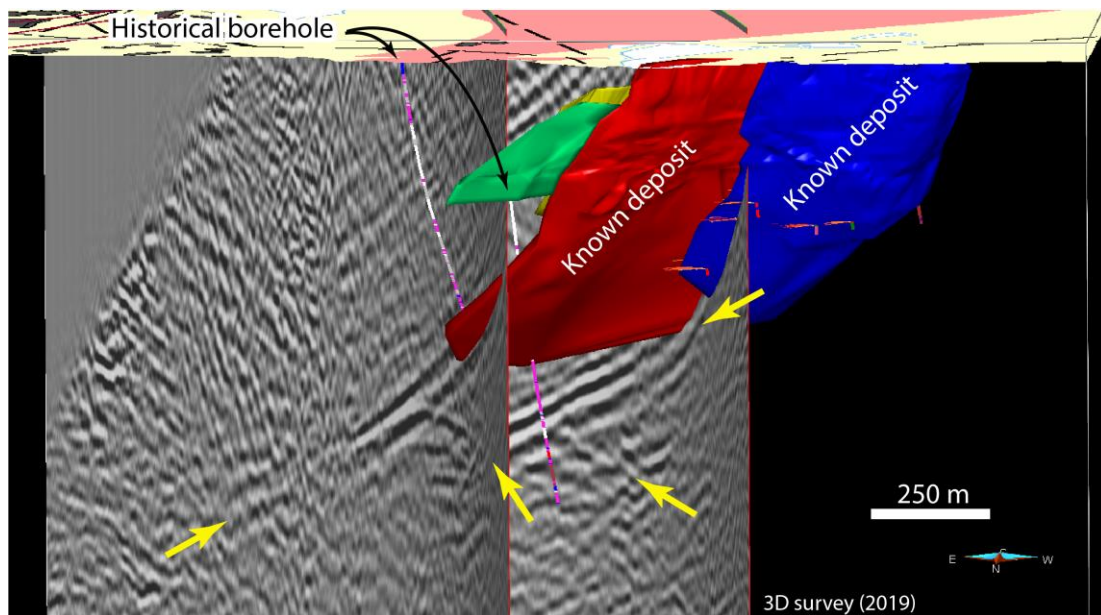
## Nordic Iron Ore reports Smart Exploration is shedding lights on key potential resources and structures in the Blötberget iron-oxide deposits and neighboring areas

*Nordic Iron Ore AB (NIO) is pleased to report that after the acquisition of a new 3D seismic dataset, the validation of the E-Vib seismic source and HTEM system along with a number of constrained 3D modeling works, new potential resources and key geological structures have been identified adding a great value for our participation in the [Smart Exploration](#) project. See the interpreted fault block model in the Blötberget mine below:*



### 3D Seismic Reflection Survey (May 2019)

After successful testing of a series of 2D seismic surveys (see listed references at the end) that showed potential resources in the downdip and in the footwall of the known iron-oxide deposits, it was clear that a 3D seismic survey can better constrain the 2D interpretations and provide information on possible lateral extent of the mineralization. During April-May 2019, an international team from **Uppsala University** (Sweden), **TU Bergakademie Freiberg** (Germany) and **Geopartner** (Poland), among others put together their forces to acquire a 3D seismic dataset covering an area of 2 by 2 km in the Blötberget area (Ludvika Mines, Sweden). While various teams are processing the data, preliminary results are shedding lights on lateral extent and depth continuation of the Blötberget deposits. More importantly, the dataset is for the first time providing great structural details that may be important for better understanding the tectonic framework in which the deposits are hosted. These results provide NIO with improved confidence of the potential resources in the Blötberget mine and where focused exploration work could be done to increase life of mine. Below see preliminary processing results visualized in 3D along with the known deposits:



#### HTEM Validation Survey (June 2019)

The helicopter-based time-domain (HTEM) system developed in the project to improve signal-to-noise ratio and for deep targeting was validated at the Ludvika Mines covering Blötberget and adjacent areas. The survey and development by **SkyTEM** (Denmark) resulted in a number of conductive anomalies that are currently being carefully investigated by Nordic Iron Ore. We are pleased with the work done and preliminary results of the survey. A picture from the survey is shown below:



#### E-Vib Seismic Source Validation Survey (September 2019)

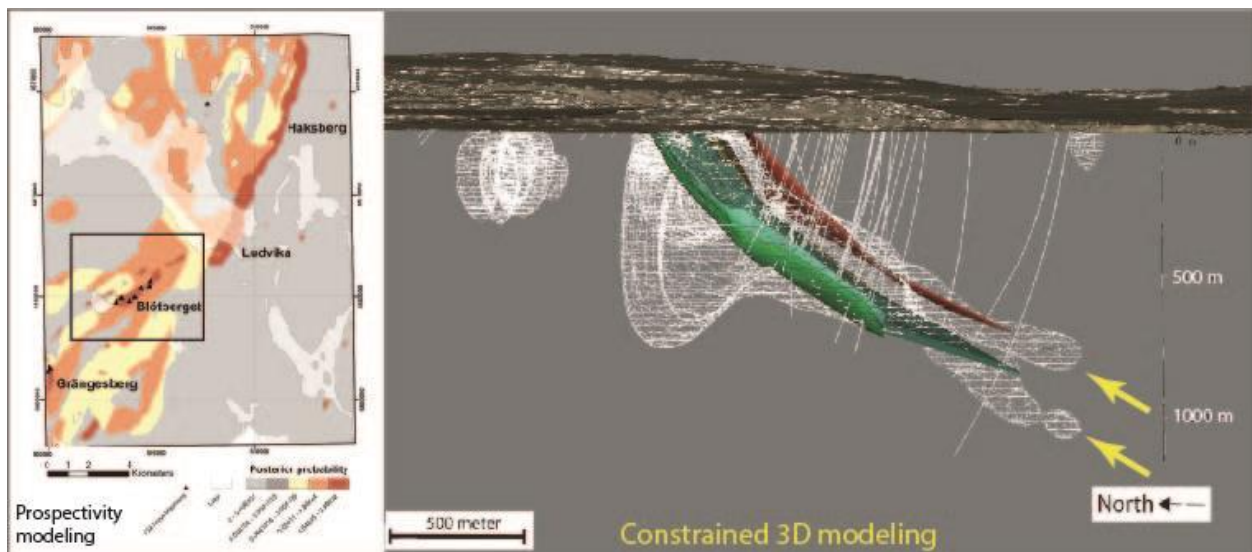
Smart Exploration<sup>TM</sup> also contributed into the development of a broadband seismic source (**Seismic Mechatronics**, The Netherlands) that is electromagnetic-based and uses electric power to operate. The source was tested during September 2019 in the Blötberget mine in collaboration with Uppsala University. Preliminary results not only confirm earlier 2D interpretations and show consistent features, it also images a crosscutting reflection that is

interpreted to be from a fault zone south of the study area. NIO exploration team is carefully studying this for its geological implications. A picture of the seismic source from the survey is shown below:



### Constrained 3D magnetic modeling and prospectivity mapping work (2019)

Nordic Iron Ore has also benefited from the contribution so far made by the experts from the **Geological Survey of Sweden (SGU)**. Their tasks have included constrained 3D magnetic and prospectivity modeling. These works have resulted in also new potential resources around lake Väsman, as well as in the Blötberget area. SGU tasks will involve integrating available data and those that have been acquired recently in the area in order to produce a common earth 3D model of the region for future planning and exploration purposes. Below results of the prospectivity and constrained magnetic modeling are shown:





**Blötberget deposits**

The Mineral Resources in Blötberget are estimated at Measured 45 MT @ 42%Fe, Indicated 10 Mt @ 36%Fe, Inferred 12 Mt @ 36%Fe and have been used as the basis for defining a **Mineable Reserve of 34.1Mt**, with a run-of-mine grade of 36.3%Fe

Most of the mineral extraction from the Blötberget operation, before its closure in 1979, was above the 240 m level. Nordic Iron Ore plans to restart mining operations at the 280 m level in 2022, subject to financing of the project during 2020.

Before closing in 1979, construction of a new haulage level began at 330 m and a ramp to the 160 m level; these facilities were however never put into operation. Before resumption of extraction activities, NIO will complete necessary renovations and technical upgrades to the existing underground infrastructure that remained since the mine's closure.

**About Nordic Iron Ore AB**

Nordic Iron Ore AB is a mining development company that aims to develop and resume iron ore production at Ludvika Mines in Blötberget, Håksberg and to develop the intermediate Väsman iron field. NIO has all the necessary permits in place for the mine in Blötberget and will be able to produce iron ore of extremely high quality from significant mineral resources. Nordic Iron Ore has worked closely with the local community, **Ludvika Kommun** and local organizations such as Samarkand 2015, to help promote the project and prepare for the possible increase in the local workforce. It is expected that there will be several hundreds of additional jobs brought to the region both directly and indirectly. Support and interest from the local community has been very encouraging for the projects and has provided the company with the "social license" to proceed with the redevelopment.

Smart Exploration has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 775971. The project started in December 2017 involving partners from 27 organizations from nine EU countries. Blötberget is one of the six validation sites.



**Disclaimer / Cautionary statement:** Nordic Iron Ore AB, Uppsala University nor partners in the projects accept responsibility for the adequacy or accuracy of this release.

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**Webpages:**

Smart Exploration: [www.smartexploration.eu](http://www.smartexploration.eu)  
Nordic Iron Ore: <http://nordicironore.se>  
SkyTEM: <https://skytem.com/geophysical-surveys/>  
Geopartner: <https://www.geopartner.pl>  
Uppsala University: [www.geo.uu.se](http://www.geo.uu.se)  
Geological Survey of Sweden: [www.sgu.se](http://www.sgu.se)  
TU Bergakademie Freiberg: <https://tu-freiberg.de>  
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Ludvika Kommun: <https://www.ludvika.se>