



Proposal Background

Metamorphic AS staked claim to crown minerals in the Vadasbakti-Måsvatnet area in 2020 after having analyzed the most promising prospects in Norway to develop into an operation that might produce large volumes of minerals for carbon sequestration as well as large volumes of metals for the green economy in a way that would produce minimal mining waste.

Research done by the Norwegian Geological Survey (NGU) in the late 1980s had shown that rocks in the vicinity of Vadasbakti contain high levels of magnesium, nickel, cobalt, chromium and platinum group metals. A review of regional geophysical data subsequently collected by NGU very strongly suggested that the rocks in the area are related to Archean rocks in Finland and Russia that host world-class metal deposits. In the autumn of 2020, Metamorphic collected samples from Vadasbakti mountain. Analyses of these samples confirmed the high potential geology in the area and a plan to drill targets on and in the vicinity of Vadasbakti mountain was drawn up.

Metamorphic submitted an application to drill to the Norwegian Directorate of Mining (DMF) in the June, 2021. This was distributed by DMF to relevant stakeholders. The feedback from Sameting was that of five locations under consideration for exploration drilling, two were not in acceptable locations due to their proximity to a site of Sami cultural heritage (Vadasbakti mountain), two were in locations that might be acceptable for drilling but not eventual mining operations, and only one was in an acceptable location.

Fortunately, highly prospective geology in the area extends beyond Vadasbakti mountain. Unfortunately, knowledge of the geology away from the mountain is even more poor and has never been mapped correctly. This was highlighted after a visit to the area by the University of Tromsø and Metamorphic in August 2021. This revealed a large outcrop of previously undescribed ultramafic rocks with sulphide mineralization located north and east of Vadasbakti mountain. The size, diversity, and exposure of rocks of scientific and economic interest in the Vadasbakti-Måsvatnet area is *significantly* larger than previously thought.

Metamorphic is a values-based company founded on the principles of responsible and sustainable development. We respect the feedback we have received from Sameting and have suspended plans to drill in areas that have been outlined as objectionable. There remains a very large opportunity to develop a flagship, pro-environment mining operation in the Vadasbakti-Måsvatnet area and we wish to pursue this.



Figure 1: Sulphide mineralization in a sample collected NW of Vadasbakti

Goals

The goals of this proposal are to:

- 1) establish through stakeholder consensus, what areas in the vicinity of Vadasbakti are acceptable for mineral exploration and development,
- 2) to map, analyze and drill the most prospective rocks in areas acceptable to be drilled, and,
- 3) to determine how effective the rocks found in the most prospective area for carbon capture.

Brief Description of Tasks and Budget

The goals of this project will be achieved by implementing three Work Packages (one for each goal) as described below.

Work Package 1: Establish Social and Environmental Guidance (for Exploration and Development)

This Work Package will focus on establishing non-technical guidance for exploration and development based on information to be gathered from key Stakeholders. It will incorporate a workshop and follow up activities that will define areas where drilling and exploration will be viewed as acceptable by the Sameting, Lebesby kommune, Reindeer District 13, and other stakeholders. The first workshop is to be facilitated by Orinor and is expected to cost approximately 75 000 NOK. A follow up workshop at the end of the proposed work period in May will review and renew guidelines for continued exploration and development. The cost of the second workshop is expected to be similar.

Work Package 2: Validate Geological Feasibility

This Work Package is focused on establishing that a geological resource of interest exists within the land area defined as acceptable for exploration and development by Work Package 1. The high cost associated with this Work Package (1.3 million NOK) is due to the expense associated with analyzing surface samples and the very high cost of drilling. Expenses associated with analysis of drill core have not been included.

Work Package 3: Validate Carbon Capture Feasibility

This Work Package will involve testing rocks from target areas for their ability to capture CO₂. This work will use processes developed by Cambridge Carbon Capture as well as IFE. It is estimated that sample shipping and sample analysis will cost approximately 50 000 NOK.