GEO MINING

PROJECT OVERVIEW
IRON, PHOSPHORUS, ILMENITE
ANDØRJA, ESPENES, SELVÅGEN

SUMMARY

Measured tonnages on Andørja is 75 million tones. Significant tonnage 200-500 mill tonnes. 20-35 %Fe + 1,13% P2O5, high quality products (up to 71.5% Fe, 39.7% P2O5)

Measured tonnage Espenes is 10 million Tones. Significant tonnage is 300 million tonnes.

Measured tonnage Selvågen is 44 mill tons, significant tonnages 300-500 mill tonnes. 30%Fe + 2,5%Ti, 0,15 % V + minor quantities of Cu, Co and Scandium.

- ☑ **Projects unique proximity to ice-free fjords should benefit capex and opex**
- ☑ **Historical metallurgical testwork show potential to produce high quality iron ore concentrates**
- ☑ **Sale of by-products gives substantial additional revenue, or lower iron ore opex**
- ☑ **Located in a very politically stable and mining friendly country with excellent infrastructure**

GEO MINING

PROJECT LOCATIONS

Project locations

Espenes

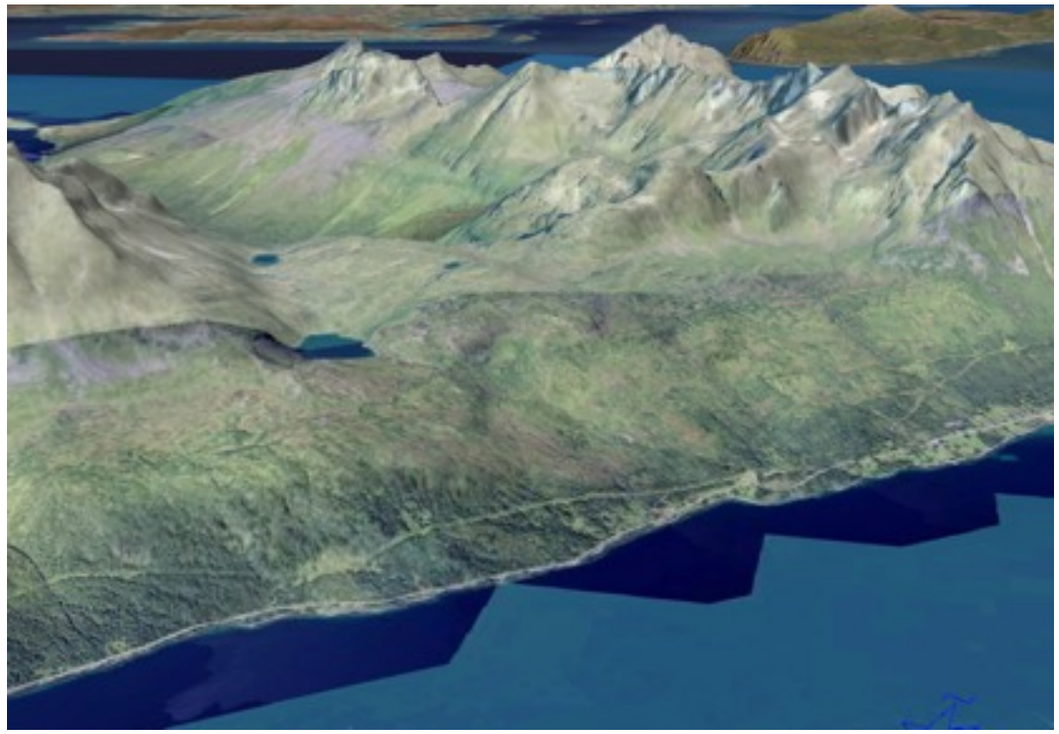
Andørja

Selvågen

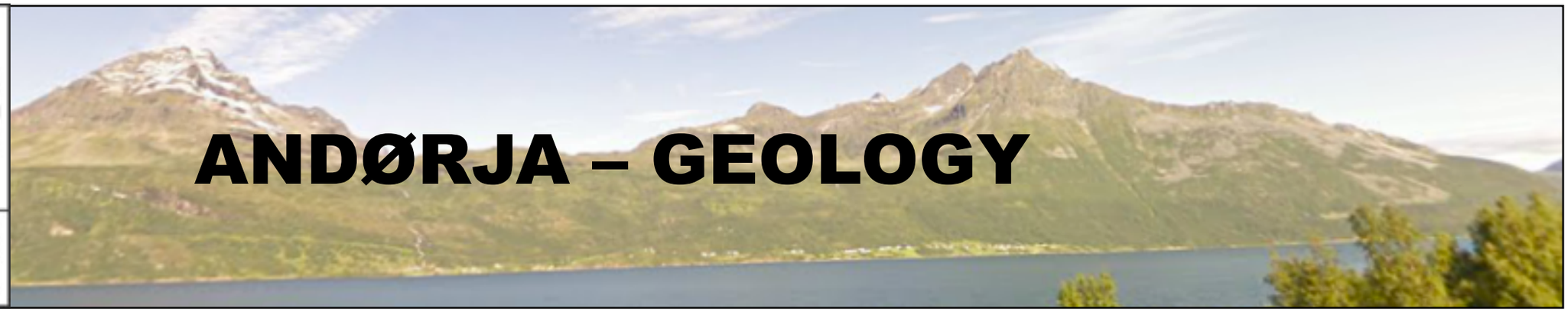
ANDØRJA – PROJECT DESCRIPTION

- **The Andørja project is the most advanced, with significant work completed, including a feasibility study in 1991**
- **The Andørja Project is located on the southwestern side of the Andørja island in Ibestad Municipality**
- **The magnetite deposit on Andørja has been subject of exploration for almost a century**
  - **114 drill holes (13,831m) – mostly in early 60's by Elkem (core from 22 holes available)**
  - **Field surveys**
  - **Test trials**
  - **Feasibility study completed in 1991**
  - **Metallurgical testing for apatite concentrates and ultra-pure magnetite concentrates**
- **The Andørja project has a total resource of 81.9Mt grading from 20%-35% Fe and ~1.13% P as reported in the 1991 Feasibility study***
- **Landowner agreement in place with Ibestad Kommune, which is very supportive of the project**

Andørja project location



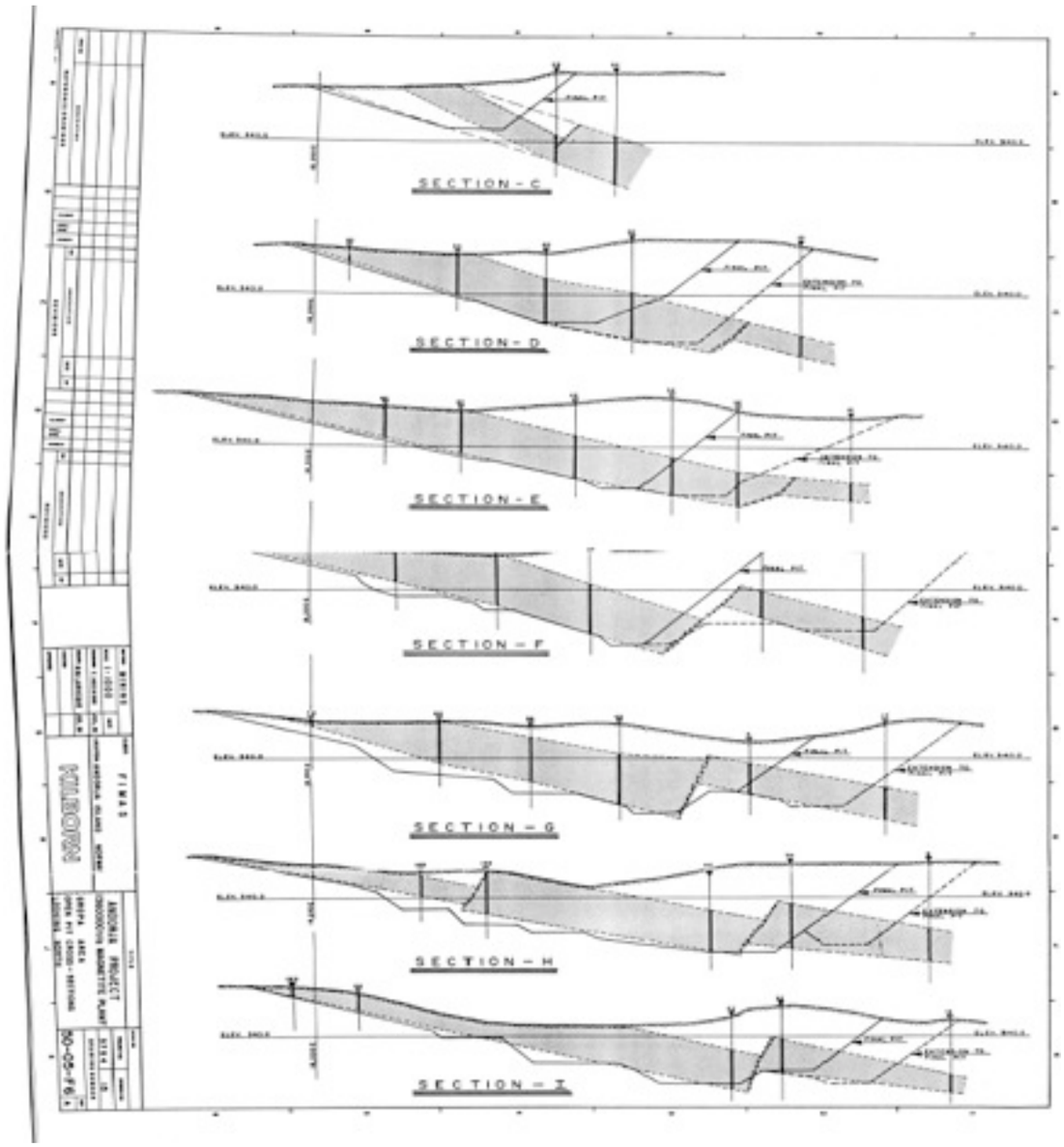
- **The deposit has a strike of more than 2km, and is open to North/North-East, and this area has never been drilled.**
- **In addition, a similar amphibolite schist with magnetite outcrops 6-7 km to the North, drilling can prove if it is the same formation**
- **Significant potential to expand resources**



ANDØRJA – GEOLOGY

- **The Andørja magnetite-apatite deposits are situated in a highly metamorphosed upper allocthon of the Caledonian mountain rage**
- **Banded magnetite layers occur within a 100 m thick amfibolite-mica-schist formation.**
- **Six magnetite rich zones are located within the amphibole-schist**
- **Total iron grades are up to 45 %**
- **Common gangue minerals are quartz, calcite, biotite, epidote, hornblends and garnet**
- **The same amphibolite schist with magnetite zone crops out 6-7 km to the north side of the Trollan Mountain - the Andørja deposits thus have large potential resources**
- **The ore layers dip 10 to 20 degrees towards the east**

Gropa Open Pit Cross Sections*



ANDØRJA – EXISTING RESOURCES WITH POTENTIAL TO EXPAND

- **The Andørja project has a total historical resource of 81.9Mt grading from 20%-35% Fe**
  - **A total resource of 74.6Mt @ 27.72%Fe and 1.13%P were reported from the Gropa, Lia and Kuliberget areas**
  - **In addition, a resource of 7.2 Mt was reported at Måsan (1.5km from Gropa) following drilling of 14 holes**
- **According to the 1991 Feasibility Study, the resource figures are conservative due to:**
  - **Range of influence for the drill holes is low**
  - **Deposit is still open to the northeast and north**
  - **Drill holes are assumed to drift so that thickness observed may be close to true thickness**
  - **Specific gravity is conservatively calculated**
  - **Missing magnetite values are found via a conservative regression with Phosphorus**

Gropa , Lia and Kuliberget Resources*

TABLE 3.1
DEMONSTRATED RESOURCES FOR GROPA, LIA AND KULIBERGET
ABOVE A CUT-OFF GRADE OF 20% MAGNETITE

Zone	Quantity Tonnes	Grade % Mag	Grade % P	Specific Gravity	Average Thickness
1	5,776,000	24.06	0.89	3.29	5.74
3	50,782,000	28.32	1.17	3.35	14.52
Above 3	6,329,000	28.58	1.12	3.36	4.40
4	7,124,000	25.61	1.04	3.30	5.55
5	358,000	35.30	0.88	3.51	3.65
6	4,296,000	27.19	1.09	3.34	6.13
Total > 20%	74,665,000	27.72	1.13	3.35	11.59

ANDØRJA – PRODUCT SPECIFICATION

- **The 1991 Feasibility study design criteria was for a 1.36Mt pa operation, producing 481,600tpa with the following product specification:**
- **Magnetite: 325,000 t of 67.1% and 75,000t of 71,5% Fe with 98% recovery**
- **Apatite: 81,600t of 17.2% P (39.7% P_2O_5) with 67.8% Recovery**
- **Further metallurgical testing has been completed on Andørja ore in 1990-1999 by Minpro AB in Sweden**
- **The 1999 testwork utilised 30t of ore with head grade Fe tot 31.1%, P 1.4% and S 0.4%**
- **The chemical analysis of the final products was reported as 71.8% Fe for iron concentrate and and 17% P for the apatite concentrate**

Minpro Chemical analysis iron concentrate

Fe tot:	**71.8%**
SiO2:	**0.28%**
P:	**0.010%**
S:	**0.029%**
Moisture:	**~9%**

Minpro Chemical analysis apatite concentrate

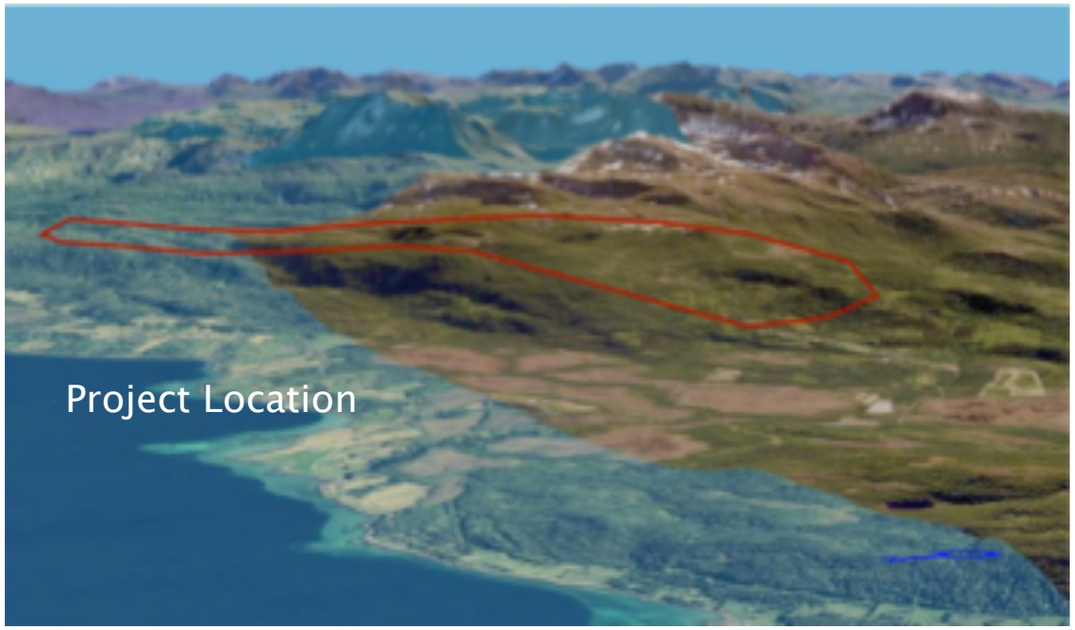
P:	**17.0%**
Fe tot:	**0.078%**
S:	**0.048%**
Cl:	**0.23%**
Moisture:	**~6%**

Testing in the 1990's confirm the potential to produce high grade iron ore and apatite products.

ESPENES – PROJECT OVERVIEW

- **GeoMining hold the exploration rights at Espenes in Dyrøy municipality**
- **The Espenes iron ore and apatite project is less advanced than Andørja, but holds very good potential**
- **Several surveys and samples were performed and collected in the period 1908-1928**
- **The terrain at Espenes is more amenable to constructing on-shore tailings, which could ease the environmental process**
- **Drilling was carried out in 1939 by AS Sydvaranger (12 holes – 800m+)**
- **Espenes was regarded as the most amenable to mining by AS Sydvaranger geologists in the 1939 report, based on the results of drilling**

Espenes Project Location



- **Historical reports* suggest a resource potential of 300Mt at Espenes**
- **A deposit at Espenes with 7km strike, 25m width, 300m depth and weight 3.35 gives a potential resource of 170Mt – more if deposit continues at depth.**

Espenes could be a significant value driver for GeoMining

ESPENES – PROJECT DESCRIPTION

- 1908 report by Mining Engineer Aug. Siljestrøm: “Espenes deposits are magnetite layers situated 100-400 meters above sea level, strike NE-SW with dip SE 20-40 degrees. Width varies but on average about 20m. Longest strike layer is approximately 6000 meters, the other layers are shorter in strike. The amount of ore is estimated to be 300Mt, and chemical analysis showed 30% Fe, 0,1-0,2% S and 1% P.”
- 1925 report by Engineer J.C. Torgersen: “this is the biggest and most continuous layer in the Sørreisa area. Strike is about 7km and the width is significant. The field is close to the sea, only a few km's, mostly in tree covered terrain. Open pit operation can be built in large scale in the NE part of the layer. The horizontal width of the ore varies a bit, but is averaging 40m.”
- 1928 report by Bergmester Rasmussen, Nordland: “...what characterizes this deposit is its continuity... The deposit is found in trenches over all of its close to 7km strike length. ... The ore is especially well suited for magnetic separation.”
- 1939 report by Worm Lund, AS Sydvaranger: “Drilling has shown ... even orezones with 25m width, 60 degree dip and 23% total Fe, 16% Magnetic Fe. Drilled strike length is 900m... Due to its location, dip, grade, strike and continuity, the Espenes deposit is the most amenable to mining of all the surveyed deposits in Sørreisa. The deposit continues for several kilometres.“

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SELVÅGEN – PROJECT OVERVIEW

Selvåg is located on Langøya island in Bø Municipality in Nordland county. Field surveys in 1891-

The deposit has been subject to detailed exploration by Elkem 1957-82.
Geological field surveys, drill holes and metallurgical tests.

Measured tonnage Selvågen is 44 mill tons, significant tonnages 300-500 mill tonnes.

30%Fe + 2,5% Ti *), o,15 % V + minor quantities of Cu, Co and Scandium.

***) Nordic mining (Engabøfjellet) 154 mill tonnes / 3,8 % Ti.**

SELVÅGEN – PROJECT OVERVIEW

- **Selvågen is located on the North-West part of Langøya, approximately 115km due west of Andørja, in Bø municipality, Nordland county**
- **The deposit was first discovered in 1891, and has subsequently been explored in phases**
  - **1898-1910: mapping and geochem**
  - **1933-1935: survey and metallurgy**
  - **1956-1959: diamond drilling (7 holes - 1028m) and reserve statement**
  - **1978-1981: geological mapping, petralogical studies and geophysics**
  - **1985: geochem and sampling**
- **Total historical "reserve" 194 million tonnes grading 25% Fe* (on a small part of the occurrence only), but several high grade (+50% Fe) intercepts have been recorded – significant upside potential**
- **Ilmenite is also present in the ore, with analysis suggesting grades in the range of 4.7% TiO^2**
- **Lab testing in 1988 showed a 63% Fe HM slig could be produced**

Selvågen Project Location

- **The occurance is a proterozoic layered titanium/ magnetite occurrence of magmatic origin. It is a synform intrusive lens.**
- **The entire occurrence has a strike of 6km and is up to 2km wide, and 70 degree dip**
- **Only two lenses in the South West forms the "Reserve" of 194 million tonnes**

SELVÅGEN – EXCERTS FROM HISTORICAL REPORTS

- **1987 Johannes Søyland : “The most interesting deposit in Northern Norway is Selvågen. It contains over 200 million tonnes possible ore. There is 44 million tonnes probable ore containing over 30% magnetite in what has been designated as the “North Ore Body”. The occurrence also contains ca. 150 million tonnes possible ore in what is called the “South Ore Body” and the rest of the occurrence”**
- **1987 Analysis report from Norsk Jernverk AS, Metallurgical Division**

NJ/.nr.	Fe^{tot} %	SiO_2 %	TiO_2 %	Al_2O_3 %	MnO %	CaO %	MgO %	P %	S %	C %
789	25.2	31.9	4.7	6.0	0.3	10.4	11.0	0.045	0.2	0.05

Co %	Cu %	Ni %	Au ppm	Pt
0.012	0.033	0.016	0.01	ikke påvist

- **1988 “Oppredningsforsøk med Selvågmalm” (Lab concentration test) “At the laboratory concentration test have been carried out using Selvåg ore with 27% Fe, 2.5% Ti. 170 ppm Cu, and 110 ppm Ni. By crushing, grinding and magnetic separation a HM product, 81% -325 mesh and grades 63% Fe, 3.1 Ti, 92ppm Cu and 210ppm Ni has been produced. ”**

GEO MINING

NORWAY IS A VERY GOOD PLACE FOR MINING COMPANIES

- Norwegian mineral and mining industry had turnover of NOK 12.7Bn in 2012, employing ~5900 people at 1178 producing quarries or mines
- Long mining history from world famous Kongsberg silver mines and Røros copper mines
- In recent years, several older or past producing mines have reopened or are undergoing large capex developments
- Many national and international companies actively exploring in the country
- Location of several smelters and producers of specialty metals/minerals
- 28% corporate tax
- Low license costs and good security of tenure
- Well developed access and infrastructure – roads, rail, power, telecommunications
- Norway ranked 6th in Resource Stocks 2012 World Risk Survey

Map of Norway – deposits of national interest

OWNERS HAVE A VERY EXPERIENCED BACKGROUNG

Geir Ingemundsen (48) - CEO

- Geir has extensive management experience from leading Norwegian companies
  - Head of Mesta's aggregate and gravel division
  - Head of NCC Roads AS (Region East)
  - Controller, manager, regional head and CFO in various companies within Franzefoss Bruk AS
- Geir has a MBA from the Oslo School of Management, a Bachelor in Marketing from NMH, a degree in structural engineering from NKI School of Engineering, and has completed a course in strategic leadership at IFL in Stockholm
- Geir is a Norwegian citizen and resides in Oslo

Ole Skardal (46) - Chairman

- Ole has 19 years experience from the mining and aggregates business
  - Responsible for mining in Franzefoss Bruk AS
  - Head of Franzefoss Pukk AS export business
  - Regional Head Franzefoss Pukk AS
  - Head of Mesta's aggregate and gravel division,
  - Head of Business development Mesta's aggregate and gravel division
- Director of Arctic Race of Norway, a pro cycling race broadcasted to 100+ countries and organised by ASO (owner and organiser of Tour de France and other major events)
- Ole has a MsC in Mining Engineering from the Norwegian Institute of Technology
- Ole was born at Andørja, and has strong local and regional contacts
- Ole is a Norwegian citizen and resides in Oslo

*** 2 : Pseudocolor Slope (Degrees) ***

Andørja

Mjøsundbrua

Sjøvegan

Lavangen