srk exploration

Norge Mining

The Bjerkreim Ti-P-V Exploration Project, Southern Norway

Presenter: Jon Russill

Location: NORCE, Stavanger, 23rd September 2020

SRK EXPLORATION

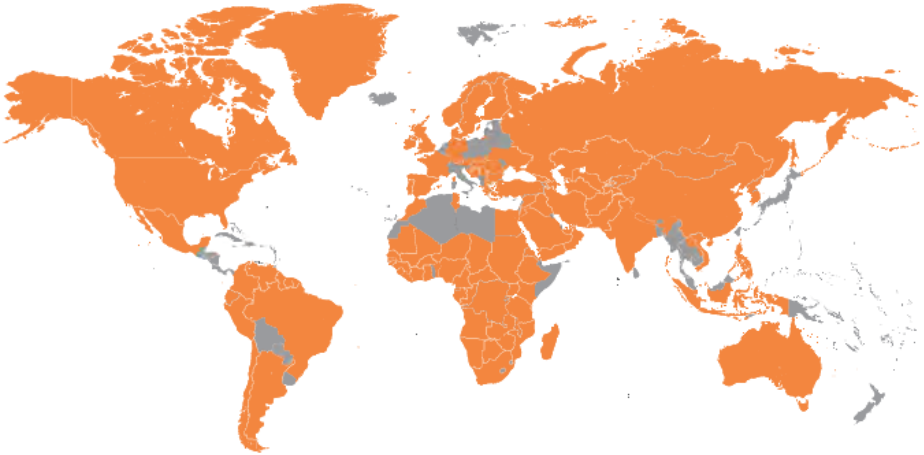
500 CLIENTS

100 COUNTRIES

EMPLOYEE OWNED

SIGNIFICANT GLOBAL REACH

SPECIALIST, TAILORED EXPLORATION SERVICES



1 GOAL – TO SUPPORT OUR CLIENTS ON THEIR EXPLORATION JOURNEY!

ESTABLISHED **2003**

RELIABLE, INDEPENDENT AND OBJECTIVE ADVICE

700 PROJECTS

SRK Exploration – countries worked in

Exploration development of Ti-V-P mineral deposits in the Bjerkreim layered intrusion

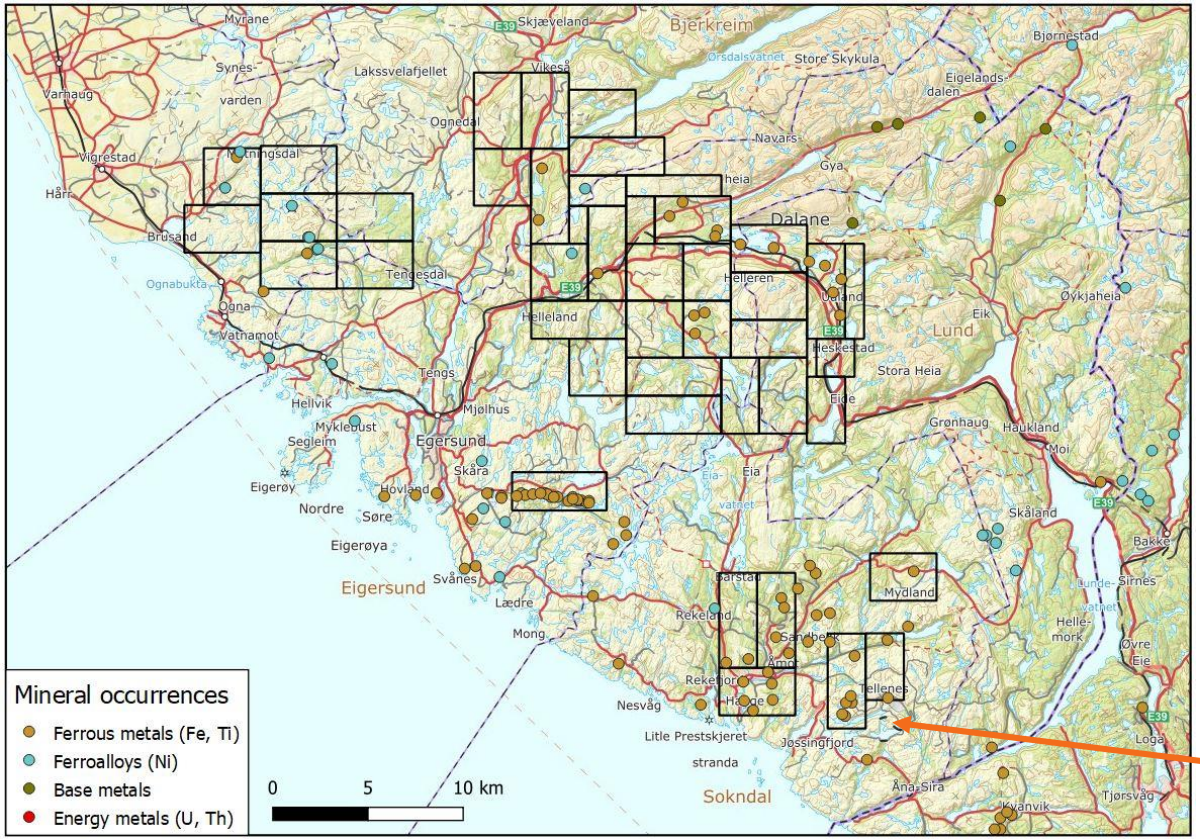
1. Norge Mining PLC
2. SRK Exploration Services Ltd.
3. Geology and mineralisation
4. Previous work
5. Ongoing exploration programme
6. Long-term targets

‘Considerate mining to contribute to a more sustainable future’

Norge Mining

Norge Mining PLC is a junior mineral exploration company with management and board members from Norway, the UK, Switzerland and the Netherlands

Our priorities are to operate in collaboration with local neighbourhoods aiming at minimizing the environmental impact while strengthening the local economy. We want to contribute to a more sustainable global future.



43 mineral exploration licences in Rogaland, covering parts of the Bjerkreim, Lund and Sokndal municipalities.

Licences cover most of the Bjerkreim-Sokndal layered intrusion as well as other targets outside of this.

Tellnes ilmenite mine

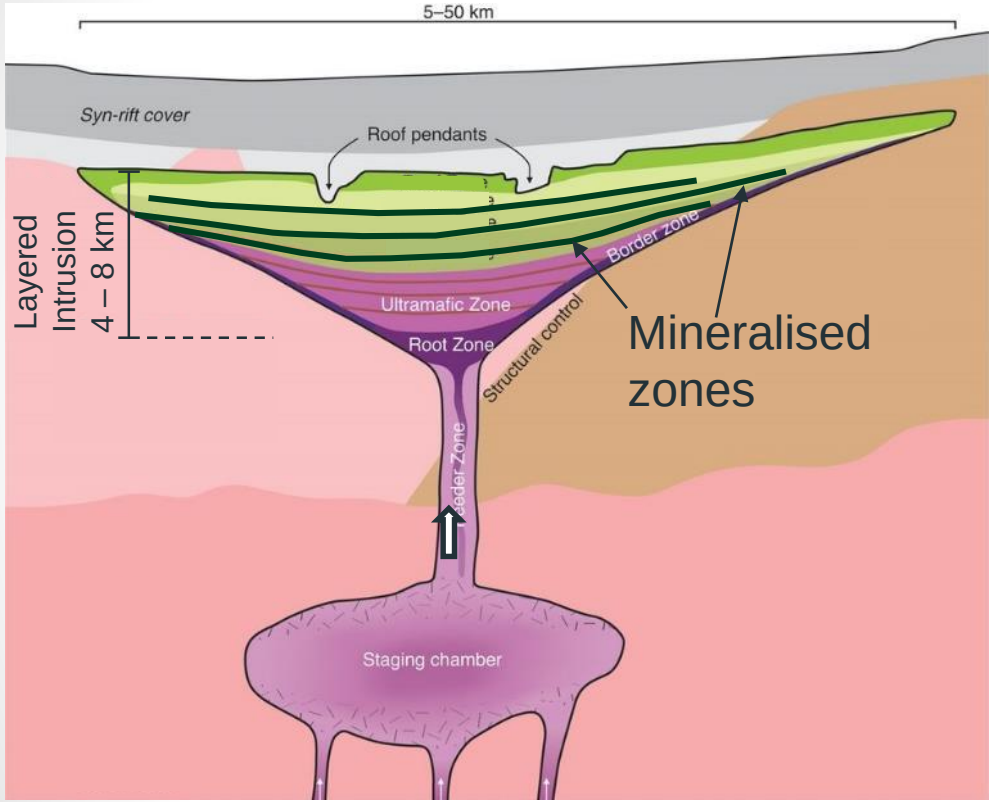
ESG Context

- The social, environmental and political context is complicated but relatively well-understood;
- SRK undertook an early-stage ESG review and provided recommendations for effective stakeholder engagement and grievance management;
- Continued effective stakeholder engagement must be at the forefront of everything we do.

Good stakeholder engagement is at the forefront of all Norge Mining's activities. Norge Mining commissioned SRK to produce a new, unique management system for stakeholder engagement. Now available to other projects.

srk consulting | srkEngage
Stakeholder Engagement Management System

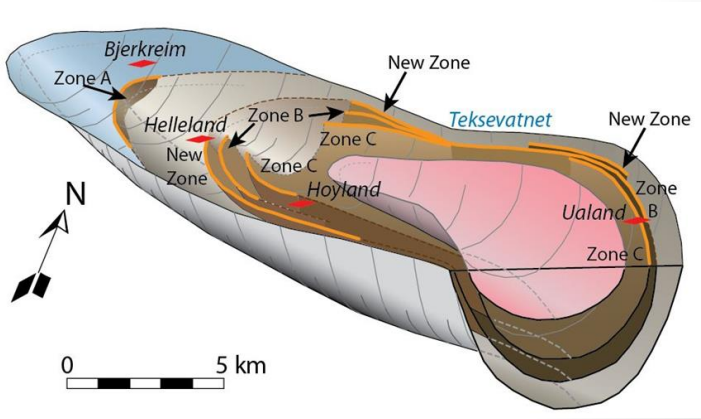
The Bjerkreim-Sokndal layered intrusion



Pulses of magma ascended through the crust and crystallised in flat-lying layers in the upper part of the earth's crust.

At least four or these layers, each 40-150 m wide, contain minerals of economic interest: **ilmenite, apatite and vanadium-bearing magnetite.**

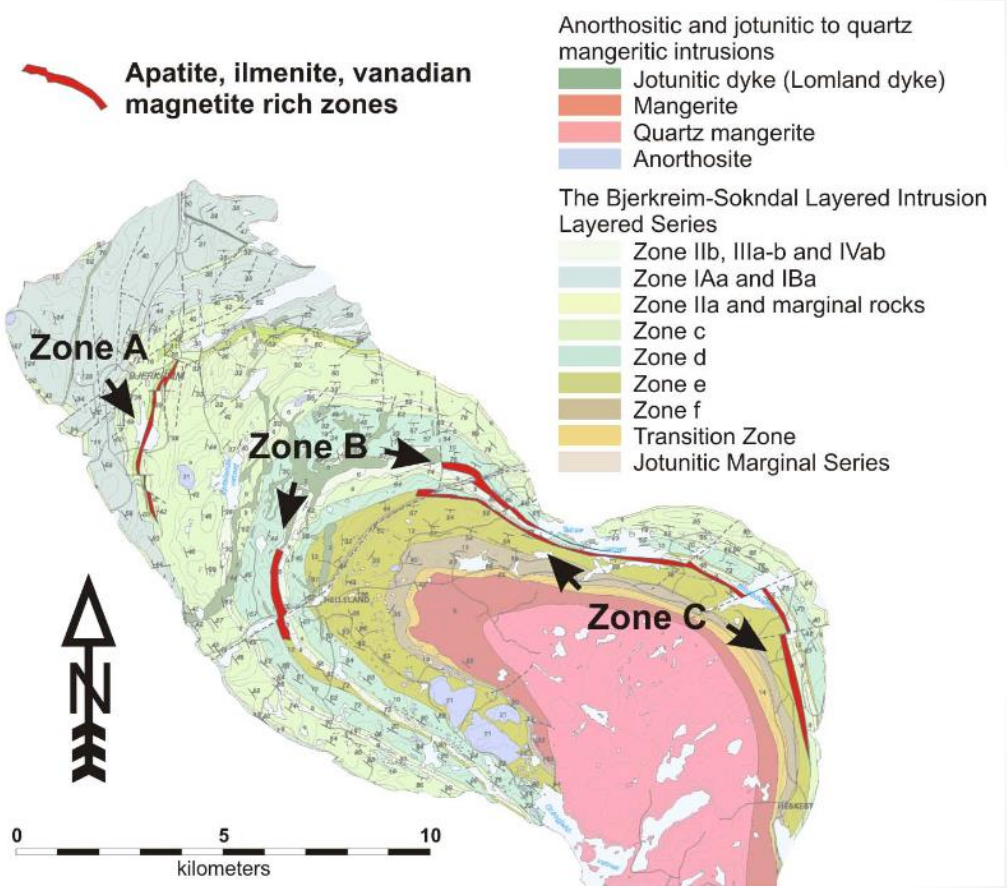
These layers have since deformed into a trough shape on the scale of tens of kilometres and four to eight kilometres deep.



Mineralisation Style

Exploration Objectives

- Outlining mineralised targets and testing of existing models (NGU)
- Find new exploration targets using observations at surface and modelling of geophysical data, as well as chemical modelling for targets at depth
- Developing the known and new mineral deposits into Mineral Resources and further
- Investigate use of sustainable resource management and mining



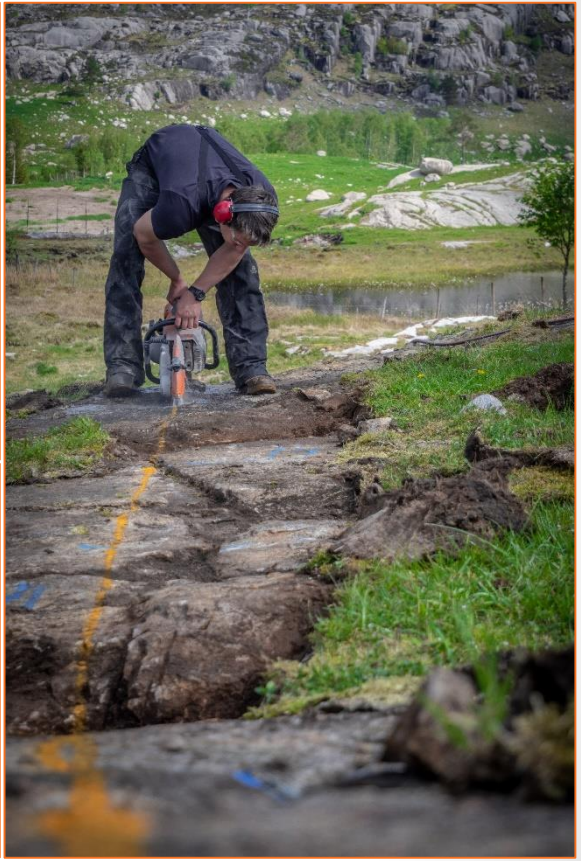
Exploration Programme

Exploration activities

1. Compilation and review of existing data
2. Channel sampling
3. Reconnaissance mapping
4. Mineral processing testwork
5. Geophysical surveying
6. Diamond drilling

Additional activities

1. Stakeholder engagement
2. University involvement (Masters students)



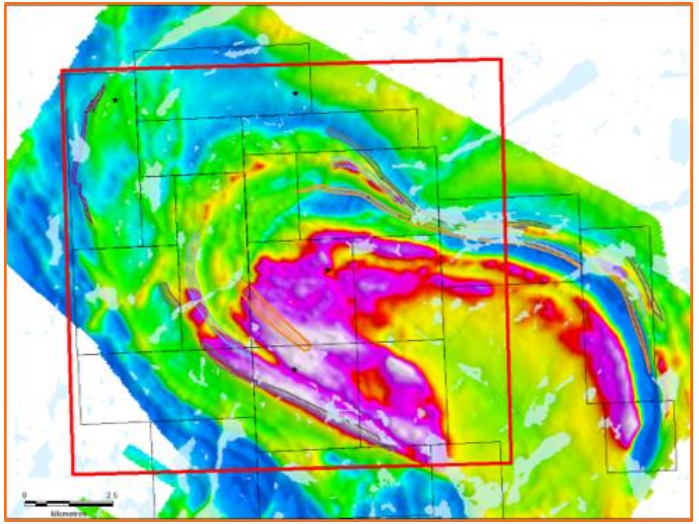
Channel sampling: 2019 programme

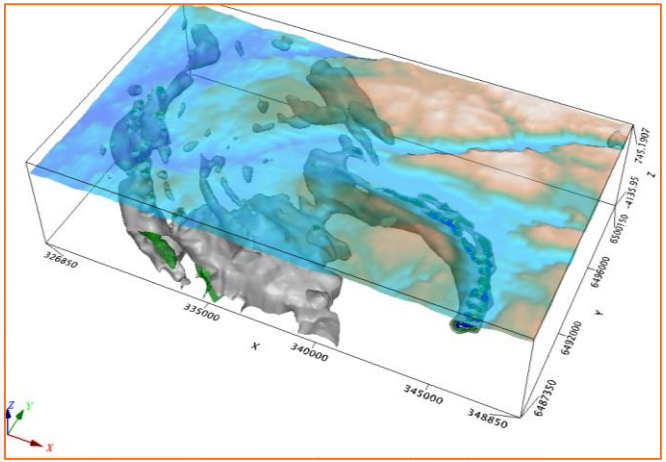
- Focussed on the area west and east of Teksevatnet
- 21 channels in 10 profiles, totalling almost 500 m
- Samples from mineralised Zones B and C as well as a newly defined ilmenite-rich zone – NEW Zone

SRK data						NGU data				
Channel No.	Zone	No. of samples	P2O5 %	TiO2 %	V2O5 ppm	P2O5 %	TiO2 %	V2O5 ppm	No. of samples	location
10+11	B	48	4.14	6.42	1128	3.14	5.61	644	17	Øygrei C
14	B	25	4.14	6.54	1145					
15	B	23	4.19	5.72	858	3.72	6.18	653	9	Lauvneset
1	C	43	2.93	4.62	691	3.73	5.23		5	Øygrei S & Øygrei SW
2+3	C	58	3.45	4.86	737					
20+21	C	44	3.32	4.93	829	4.29	5.38		2	Melhus S
4+5+6	NEW	34	0.11	5.98	781					
7+8+9+12+13	NEW	43	0.11	7.17	931	0.12	7.74	479	5	Øygrei NE
16	NEW	15	0.09	5.74	816					
17+18+19	NEW	65	0.08	6.74	895					

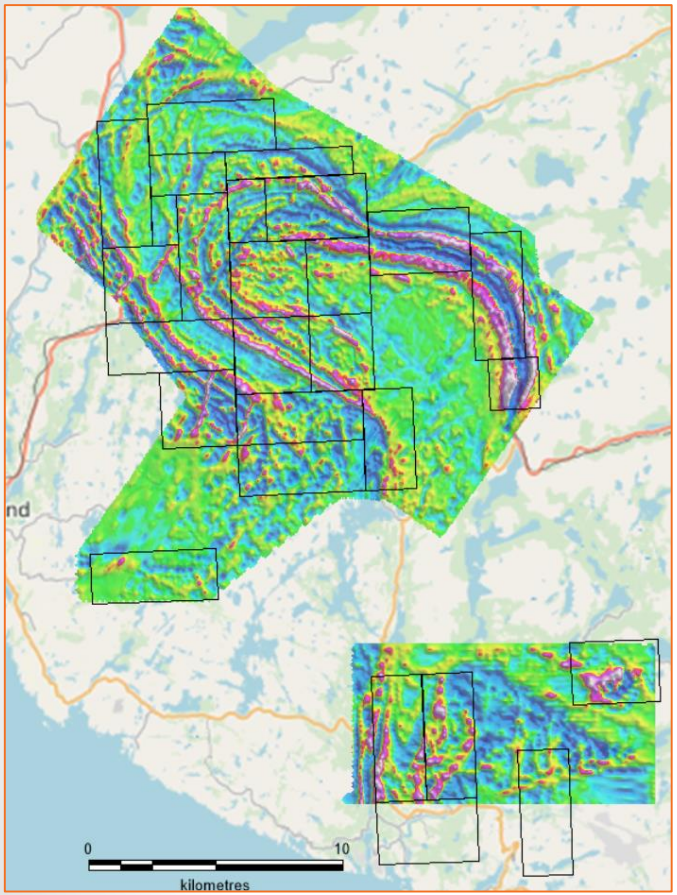
Objectives

1. Improve geological understanding
2. Map extensions of known mineralisation
3. Generate targets
4. Investigate potential for sulphide mineralisation at depth

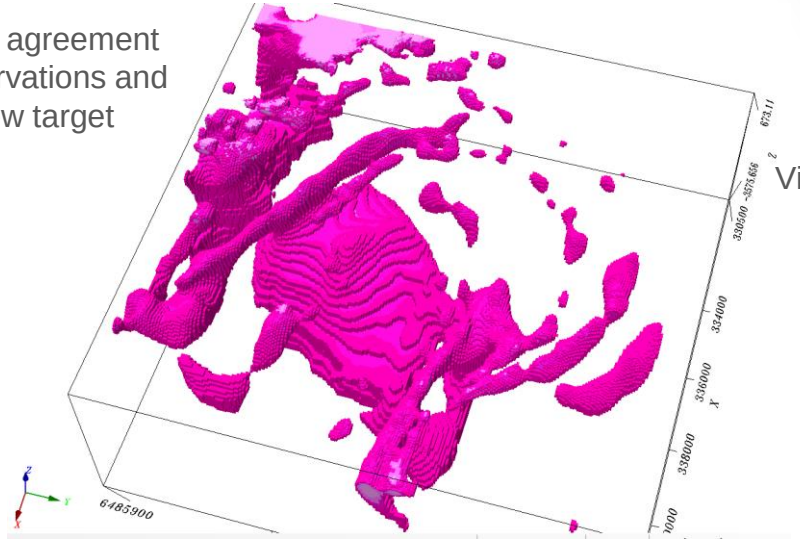




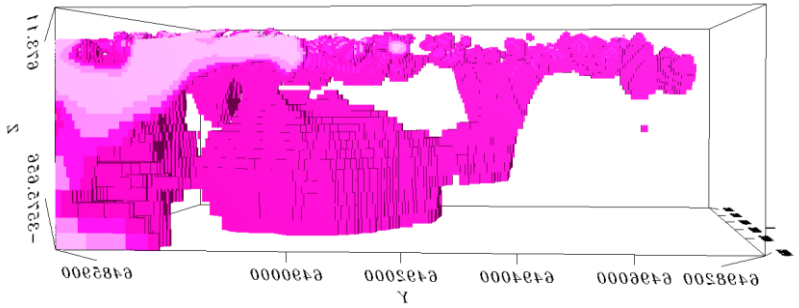
Airborne Magnetic Data



Shows good agreement to field observations and highlights new target areas



View to the west



View to the east

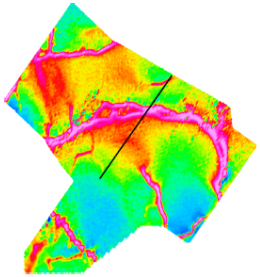
Airborne ZTEM Data

GEOTECH
AIRBORNE GEOPHYSICAL SURVEYS

2D INVERSION PARAMETERS

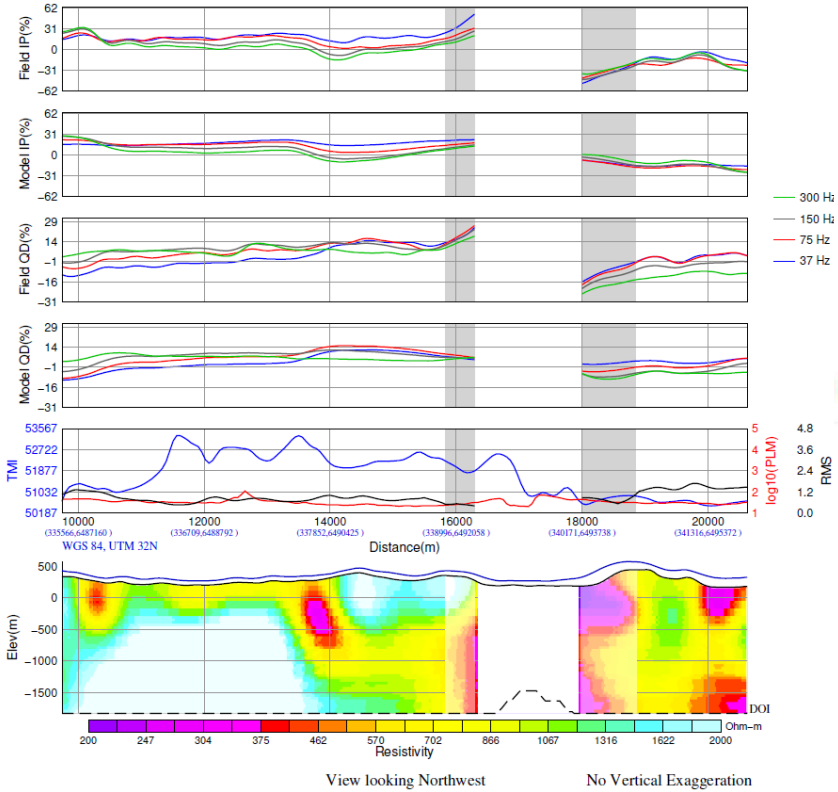
Inversion Code: Geotech AV2DTOPO
Model Mesh: 440 wide x 112 vertical,
Cell Size: 28.48m x 40m
Two (2) Cells between sites
Input Data: In–Phase & Quadrature,
Tzx In–Line (only)
Average sampling rate: 5.350 points,
Total data points: 1536
Frequency (Hz): 37 75 150 300
Input error(%): 3.19 3.19 3.19 3.19
Half–space resistivity: 1250 ohm–m
Output error: 0.999 RMS in 5 iterations

Line L2060_02 over IP 75 Hz TPR image

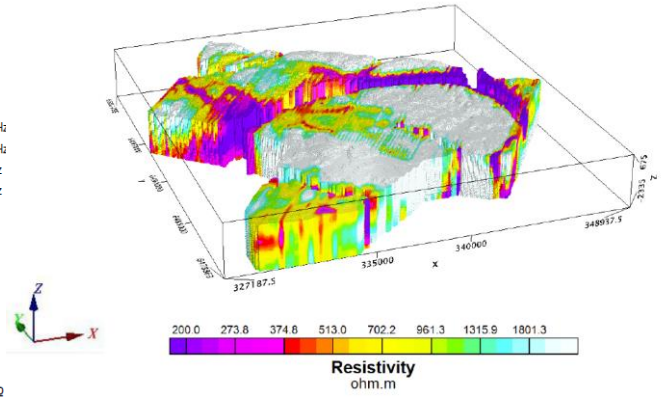


Norge Mining A1 Bjerkreim Layered Intrusion, Norway
Geotech ZTEM System Resistivity–Depth Image Project UT190155, Line L2060_02 Flight 8, 2019/10/03
Flown and Processed by Geotech Ltd. 270 Industrial Parkway South Aurora, Ontario, Canada L4G 3T9 www.geotech.ca
2019/12/ 5

L2060_02, A1
ZTEM 2D Inversion, 1250 ohm–m start model



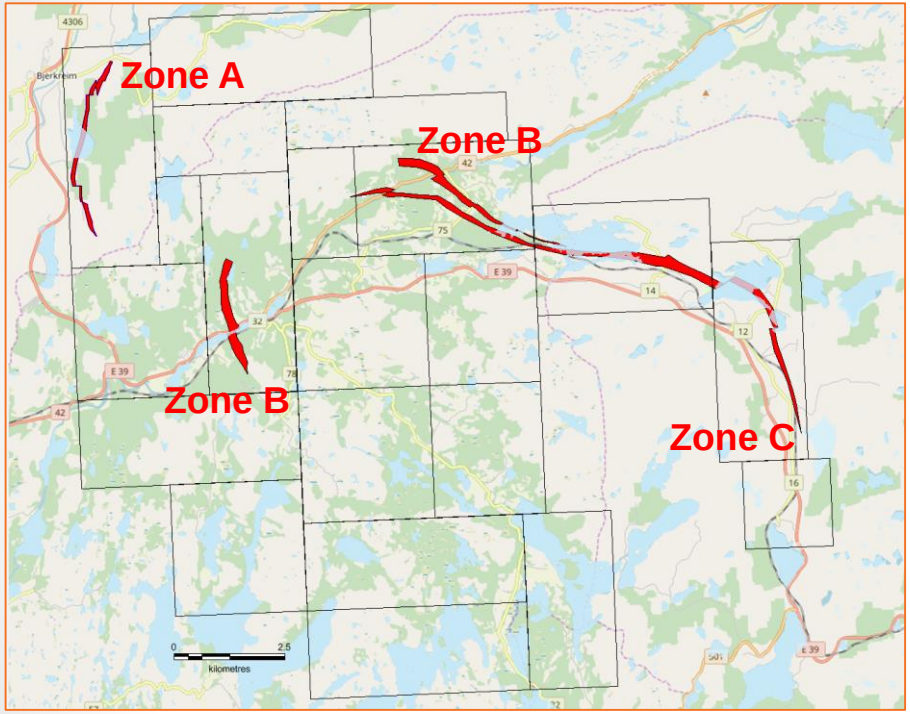
3D view of 2D ZTEM inversion Results – A1



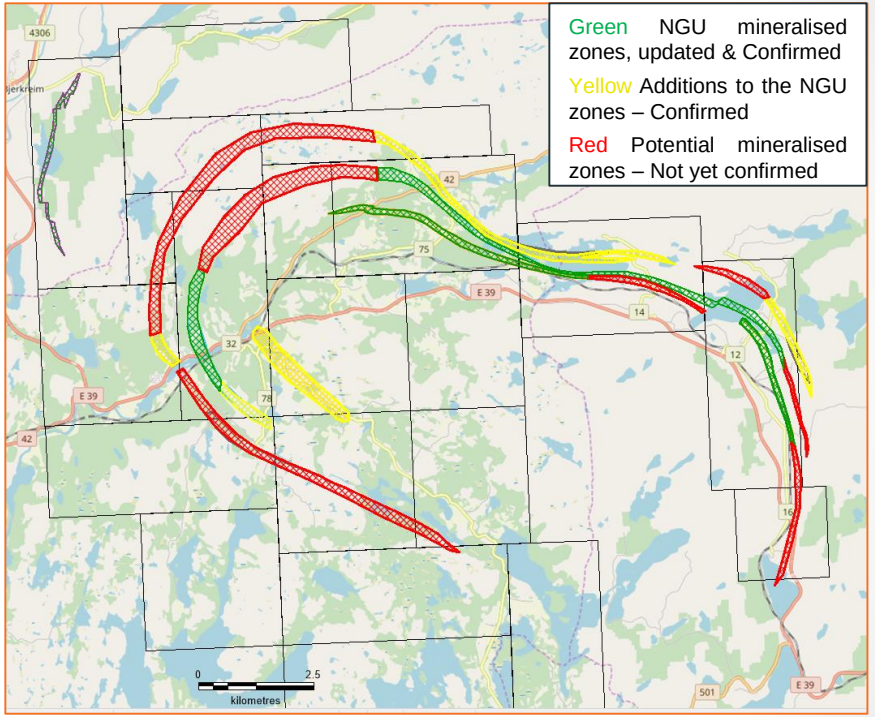
- Deep conductive feature appears to be real (i.e. not related to powerlines)
- Position shows correlation to deep magnetic and dense features
- Observed on many lines
- Possible connectivity to surface features?

Expanded Interpretations of Mineralisation

Comparison to NGU Data



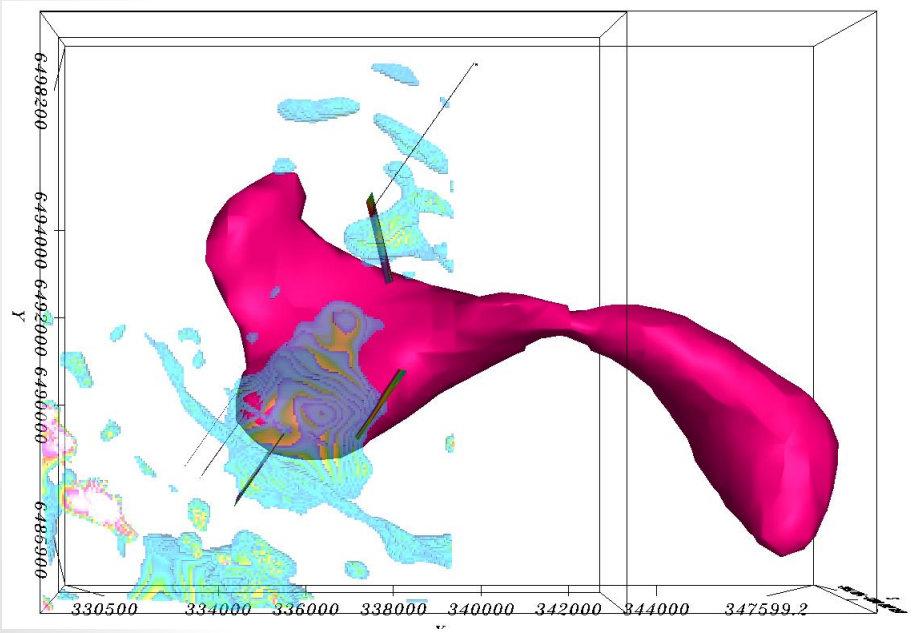
Original NGU delineation only included zones with Ti, V and P



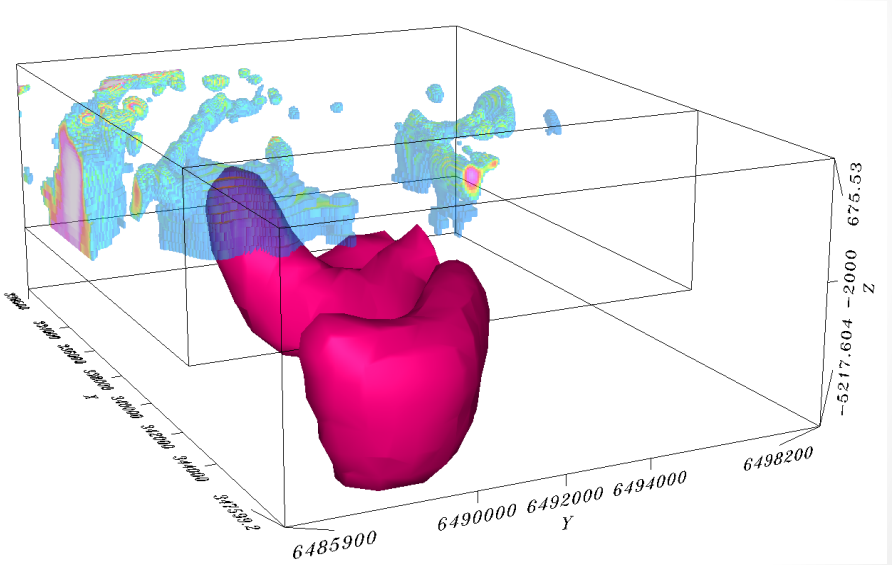
New interpretation with extensions and new occurrences. Extension of Zone B is significant

Integrated Gravity and Magnetic Models

Large, dense body lying at great depth below the intrusion. Appears to have an arm reaching up into the large magnetic body which, in turn, reaches to surface and is coincident with ZTEM Anomaly C



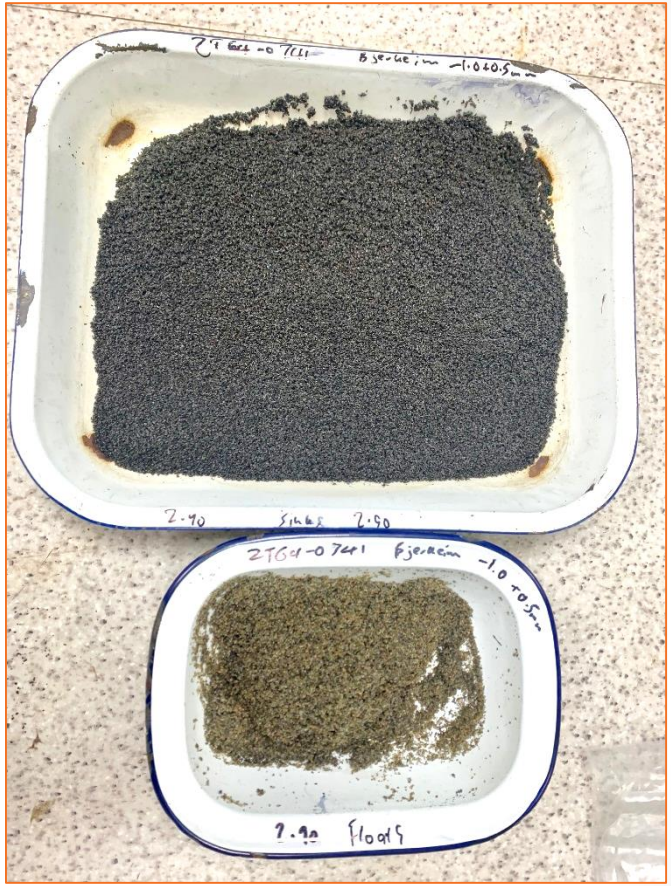
Plan View



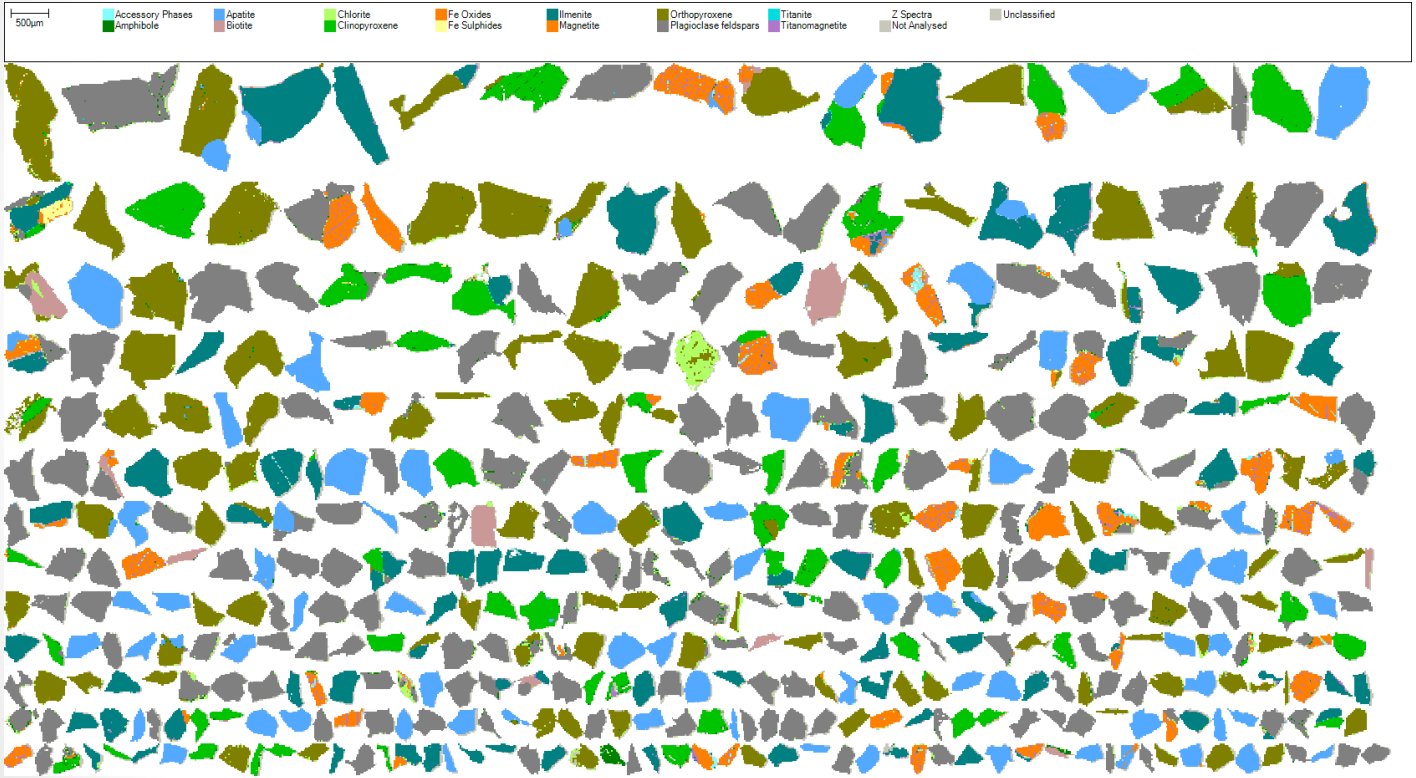
View from southeast

Objectives

1. Establish the mineralogy
2. Confirm mineral liberation
3. Optimise grinding size
4. Optimise processing flowsheet
5. Confirm that the minerals can be recovered

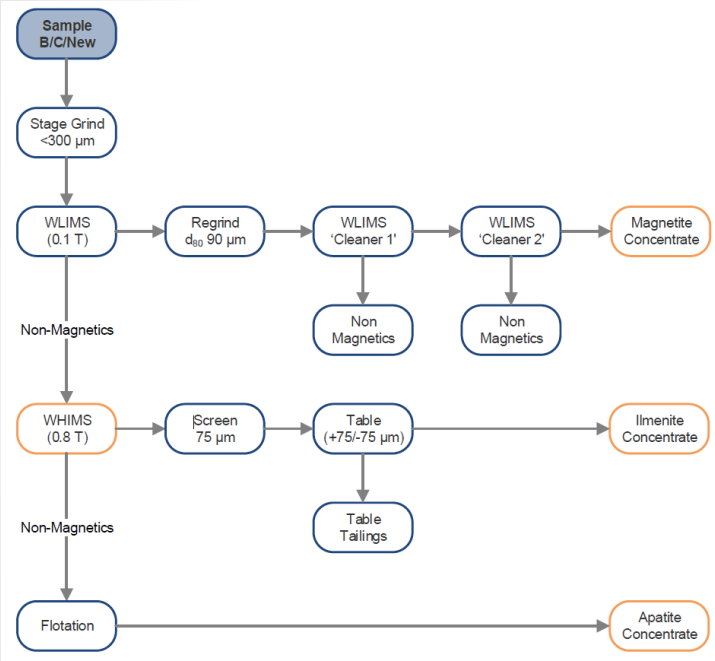


Zone B -0.25 mm SEM Mineral Mapping

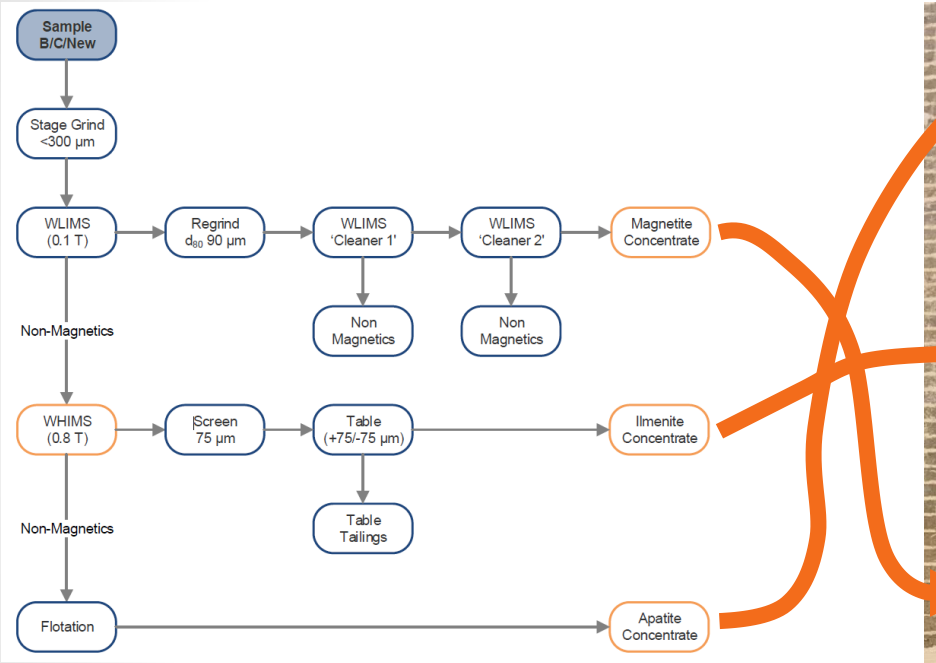


Good liberation of target minerals

Mineral Processing Testwork



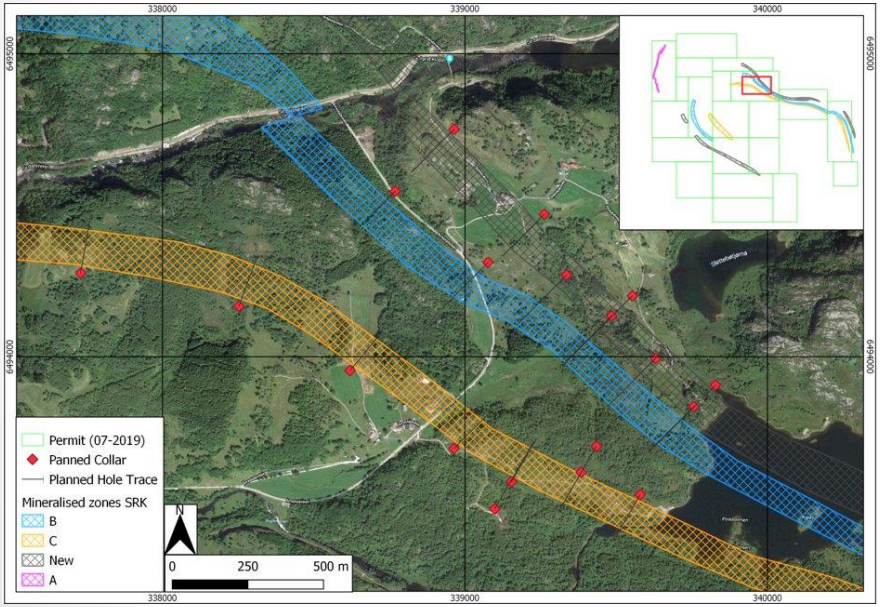
Mineral Processing Testwork



2020 Drilling Programme

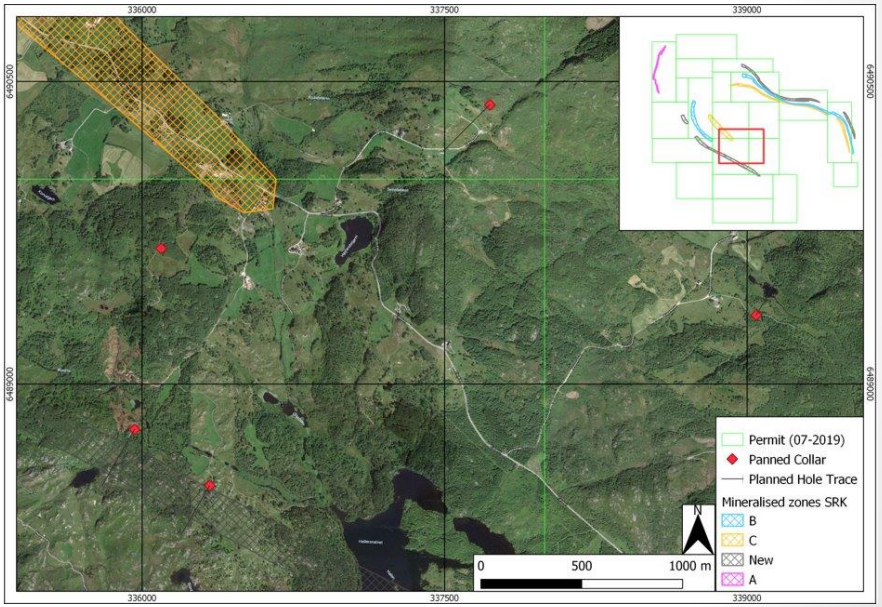
Øygrei

- Develop Mineral Resources for Ti-V-P
- 19 drillholes
- Depths of 230-500 m
- Total 6,150 m

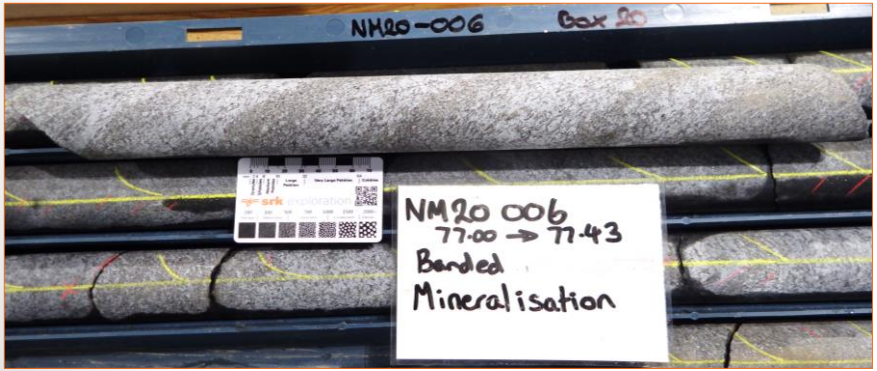


Høyland

- Test new targets or different types of mineralisation
- 5 drillholes
- Depths of 300-2,000 m
- Total 3,720 m



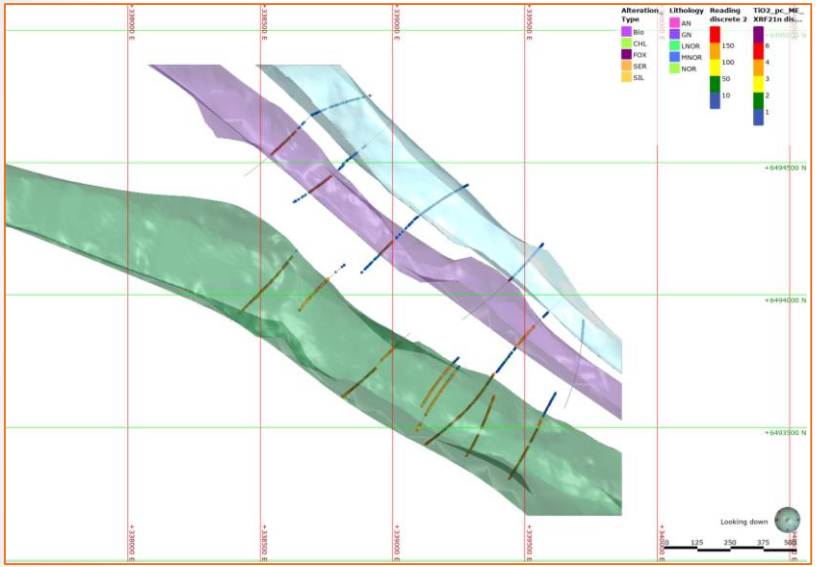
2020 Drilling Programme



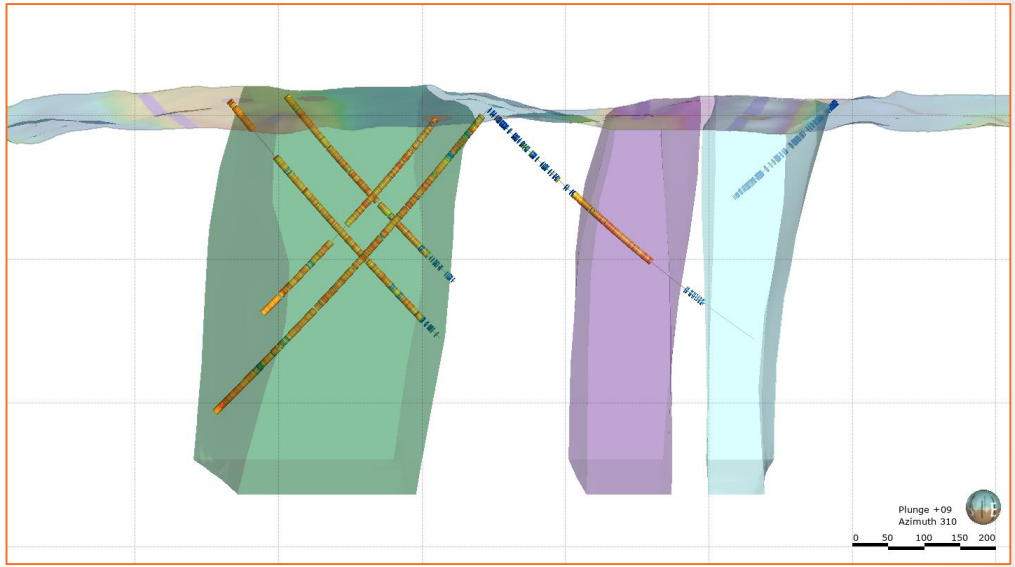
- Four rigs on site;
- Drilling so far confirms and expands on interpretations of Ti-V-P mineralisation;
- More than 13,000 m drilled since late May 2020;

2020 Drilling Programme

- Very deep drill hole aiming to reach 2,200 m.



View from above



View towards the northwest