

FETSJÖN

Compilation of Results from Drill-Logs of 52 Diamond-Drill Holes from (2006/2007) with available historical information from the Geological Survey of Sweden (SGU)



Plan Maps : Map-Scale 1:5000 (A4)

Sections : 1:1500 (A4)

September 2018

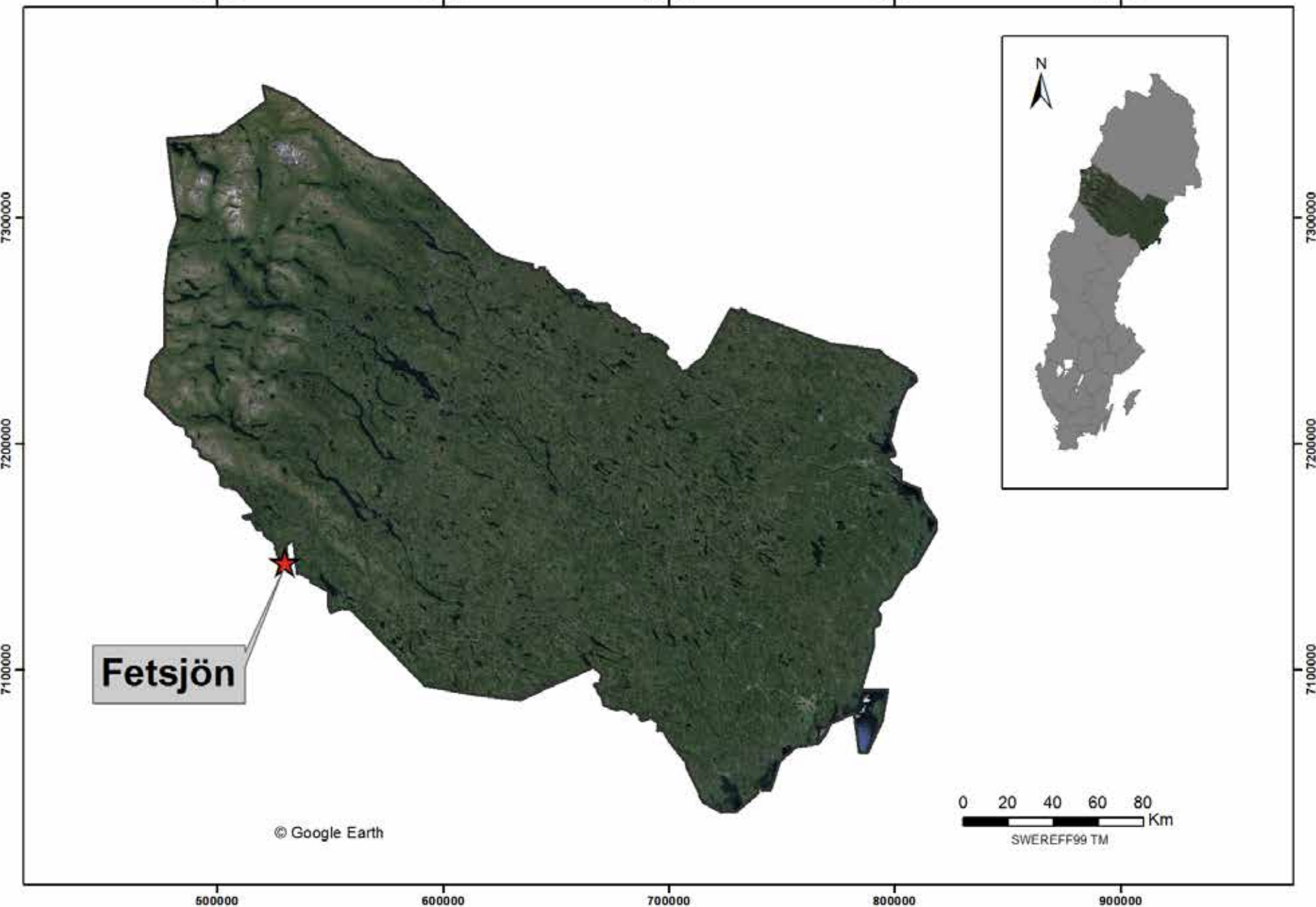
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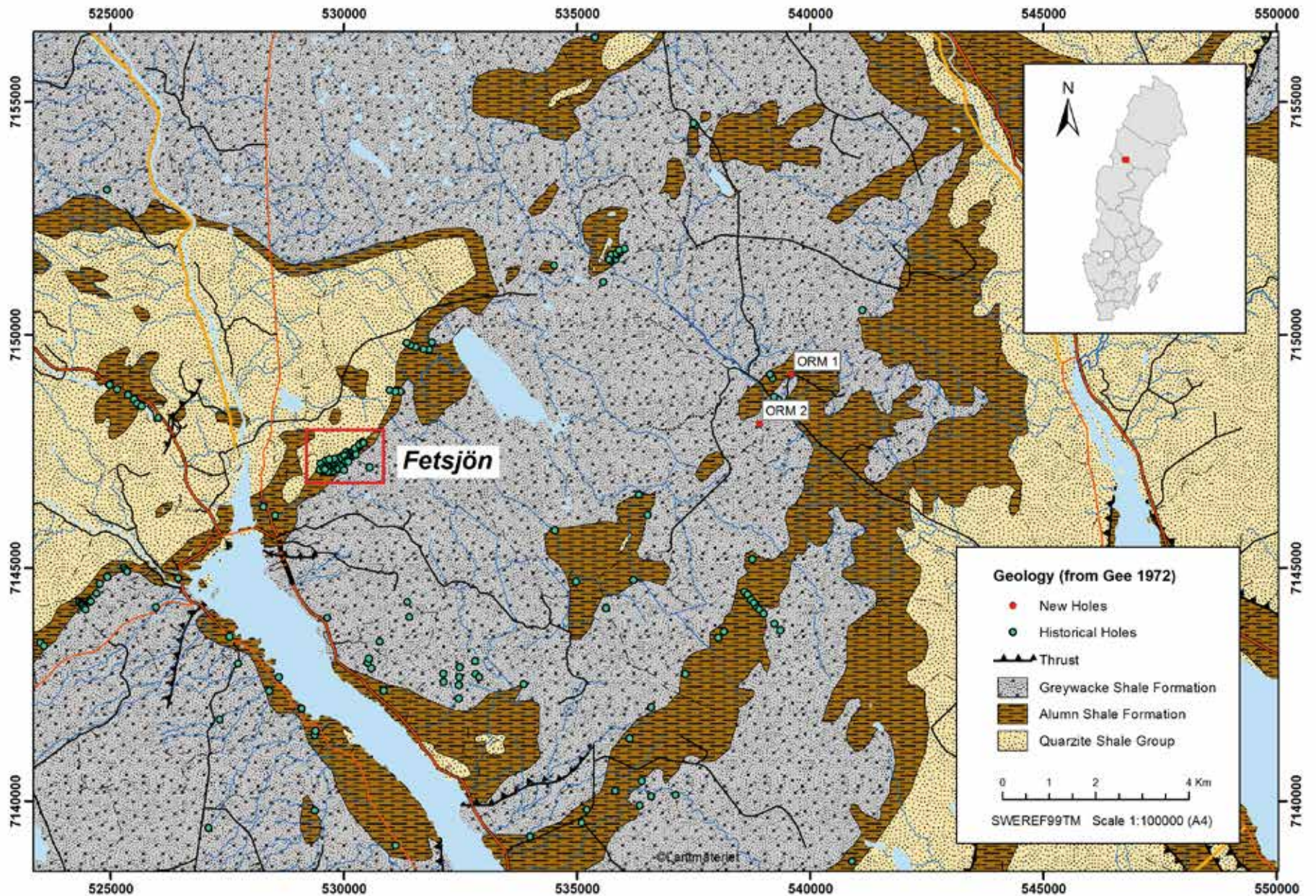
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Fetsjön

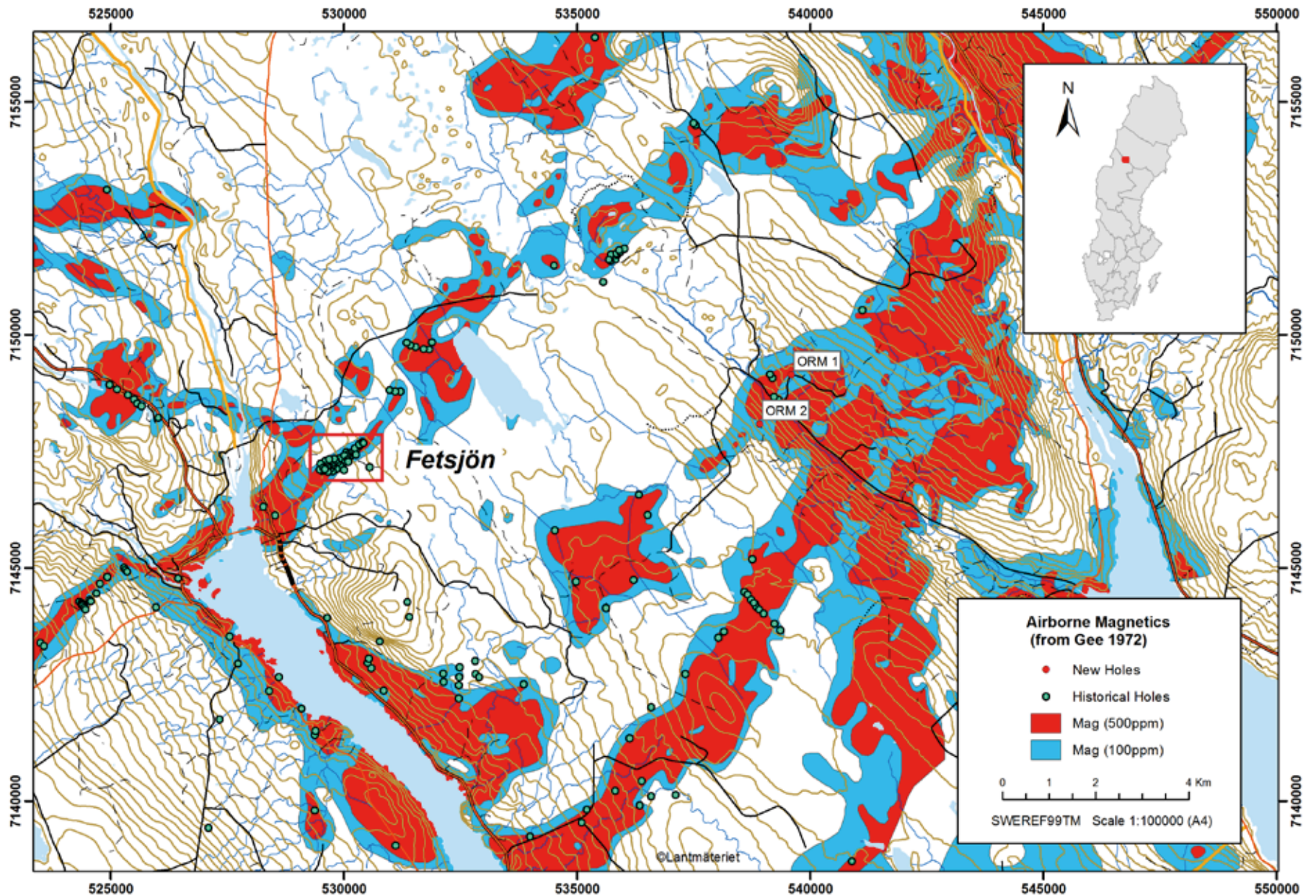
© Google Earth

0 20 40 60 80 Km
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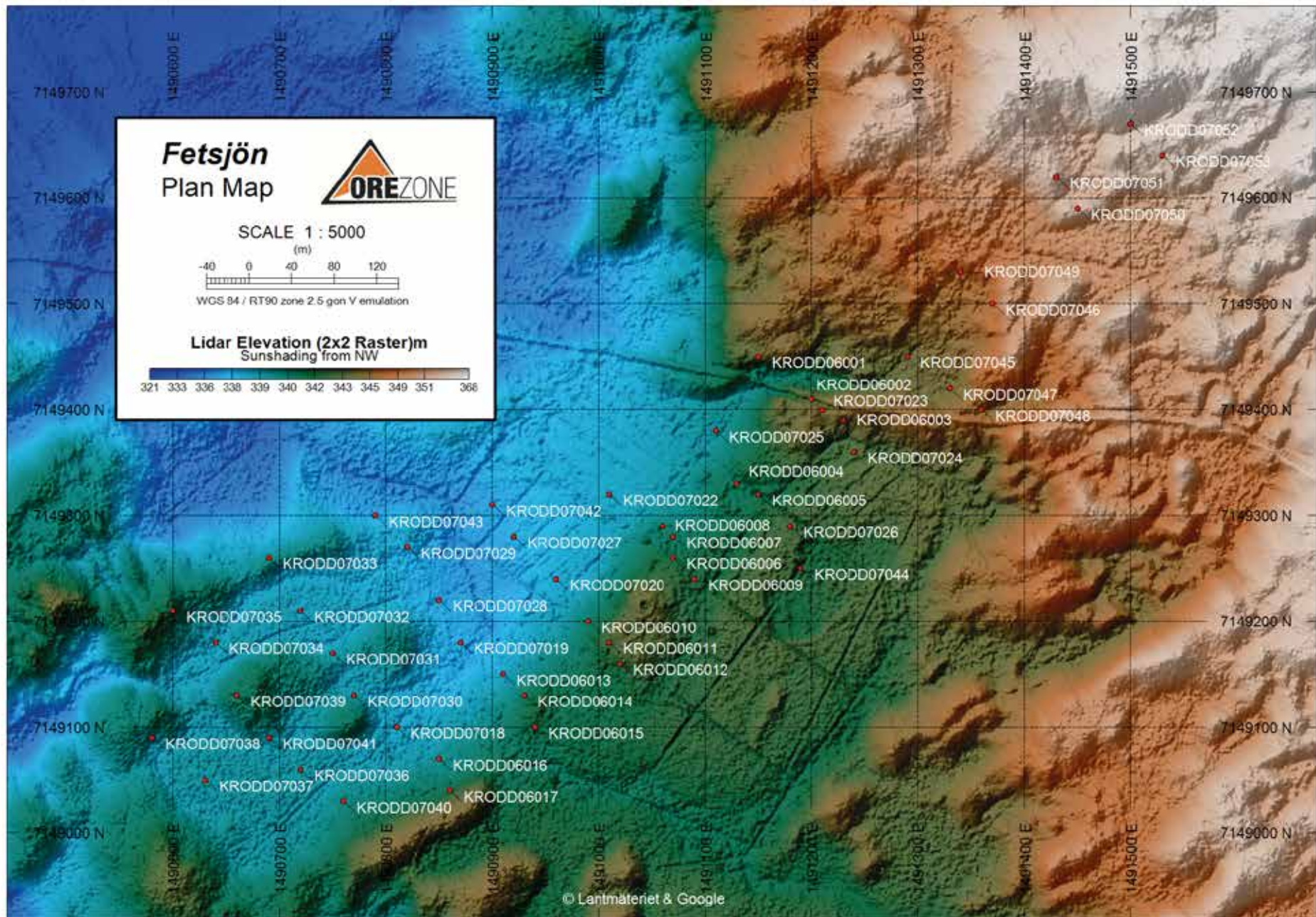
Overview of Project-Position



Regional Geological Position of the Fetsjön-Project



SGU Airborne Magnetics with Position of the Fetsjön-Project



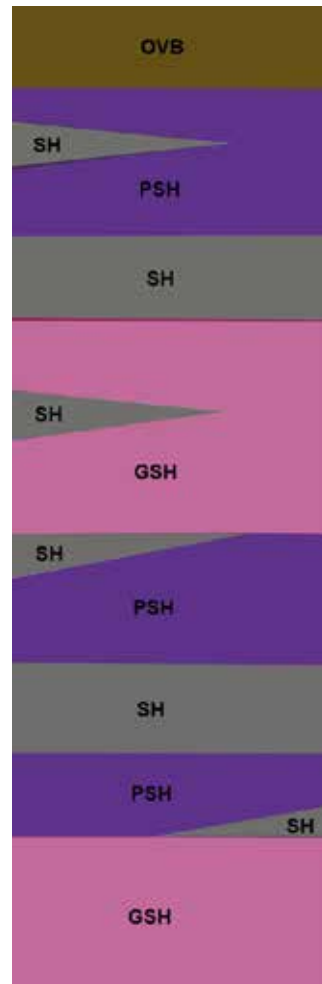
Plan-Map with Drillhole-Positions and Digital Elevation Model (DEM)

Geological and Structural Interpretation

As no tectonical measures were available , the geological interpretation was preliminary made without the estimation of faults and inverse bedding.

Nevertheless there is some indication for at least minor fault tectonics!

Based on the Drillhole-logs from Mawson Resources the following preliminary schematic Lithology-Profile has been developed :



Overburden

Phosphoritic Shale

Shale

Graphitic Shale

Phosphoritic Shale

Shale

Phosphoritic Shale

Graphitic Shale

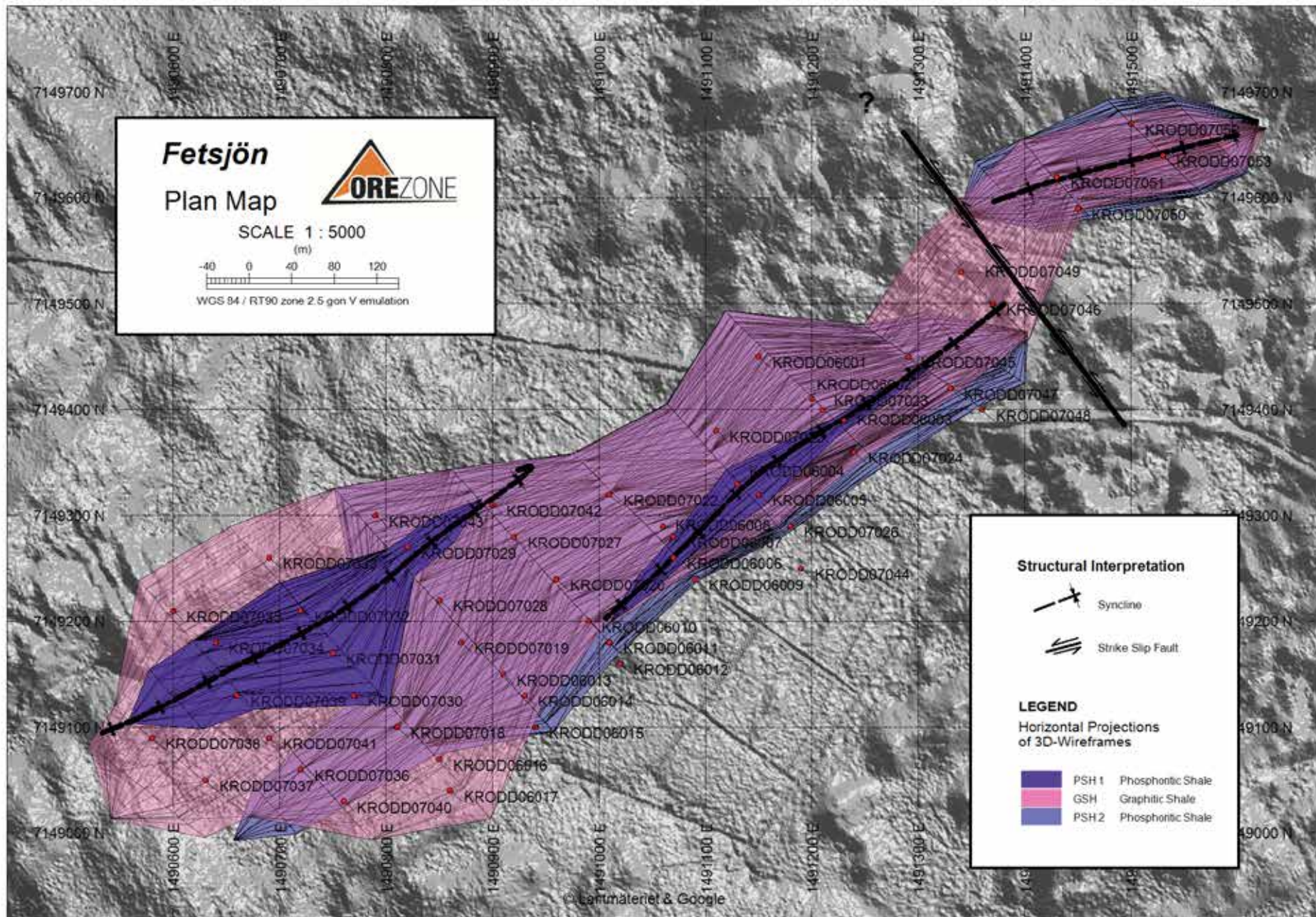
Schematic Lithology Profile

Based on this lithologic scheme a series of 12 NW-SE sections have been constructed with the help of assay-results in the drillhole-traces.

These sections have been wireframed in 3D to create spatial bodies for the Mineralised Geological Units - Graphitic Shale (GSH) and Phosphoritic Shale 1 (PSH 1) and Phosphoritic Shale 2 (PSH 2).

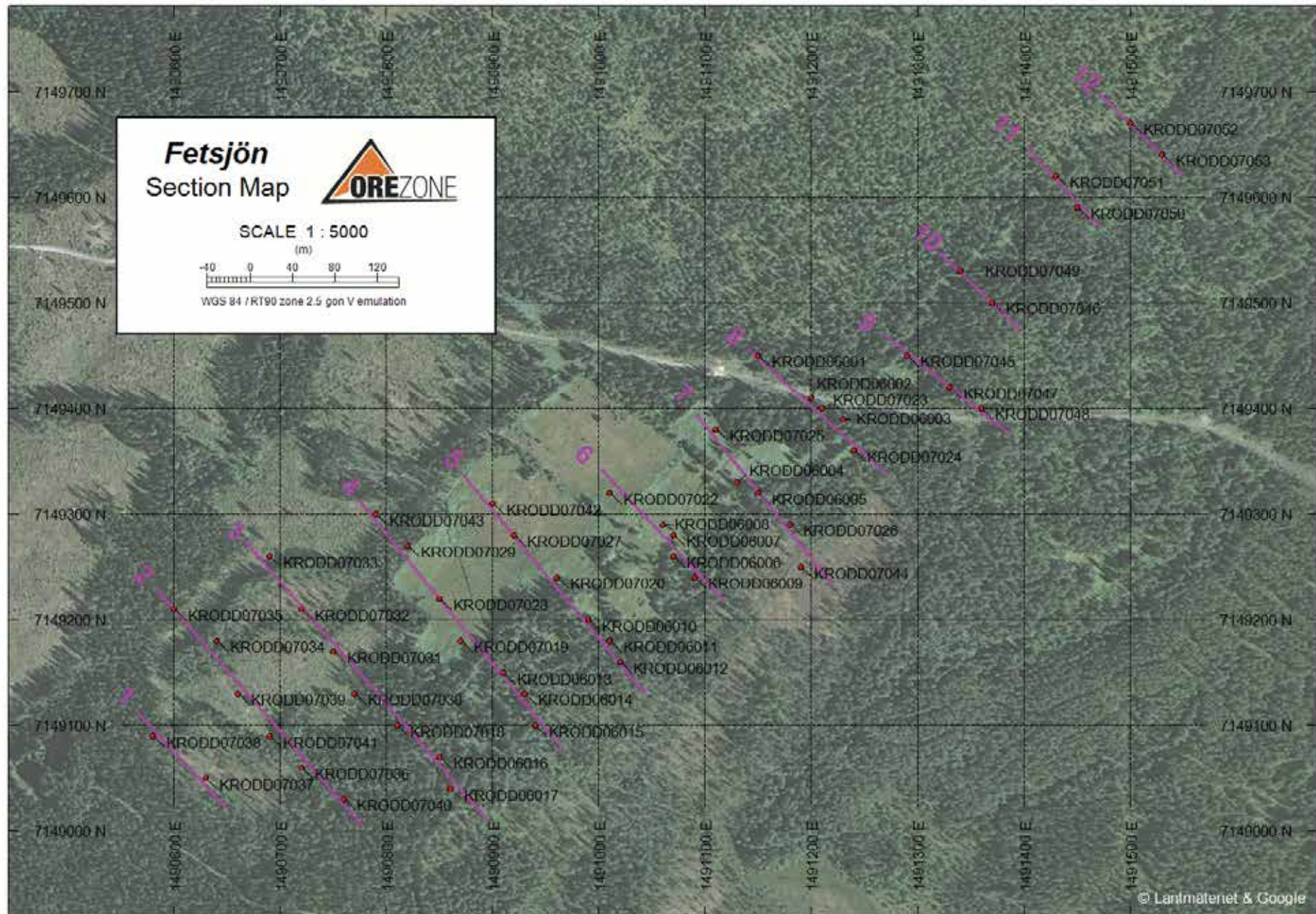
The Main Fold-Axes could be constructed and one Strike-Slip Fault in the NE-Corner of the area had to be postulated.

The following slide shows the Main Geological Units projected to 2D-Plan-Map.

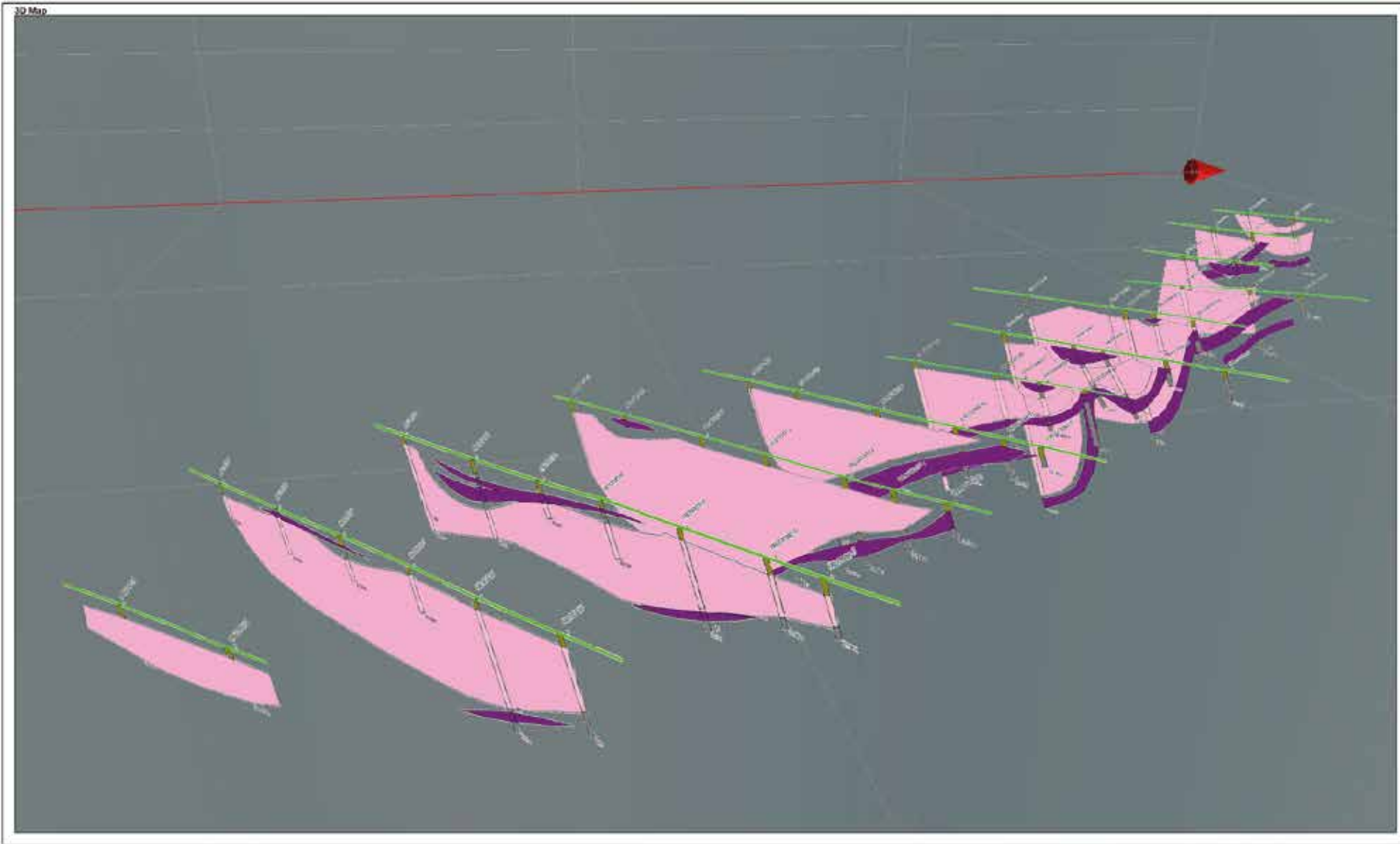


Geological and Structural Detail-Map projected from 3D-Wireframes of Drillhole-

Positions of the NW-SE Sections on the Plan-Map and 3D-Screenshot of all Sections with Drillhole-Traces preliminary Geological Interpretation.



Plan-Map of NW-SE Sections on Satellite Image



Spatial Position of the Sections and the Mineralised Units.
3D-Screenshot with view to N

Example Sections

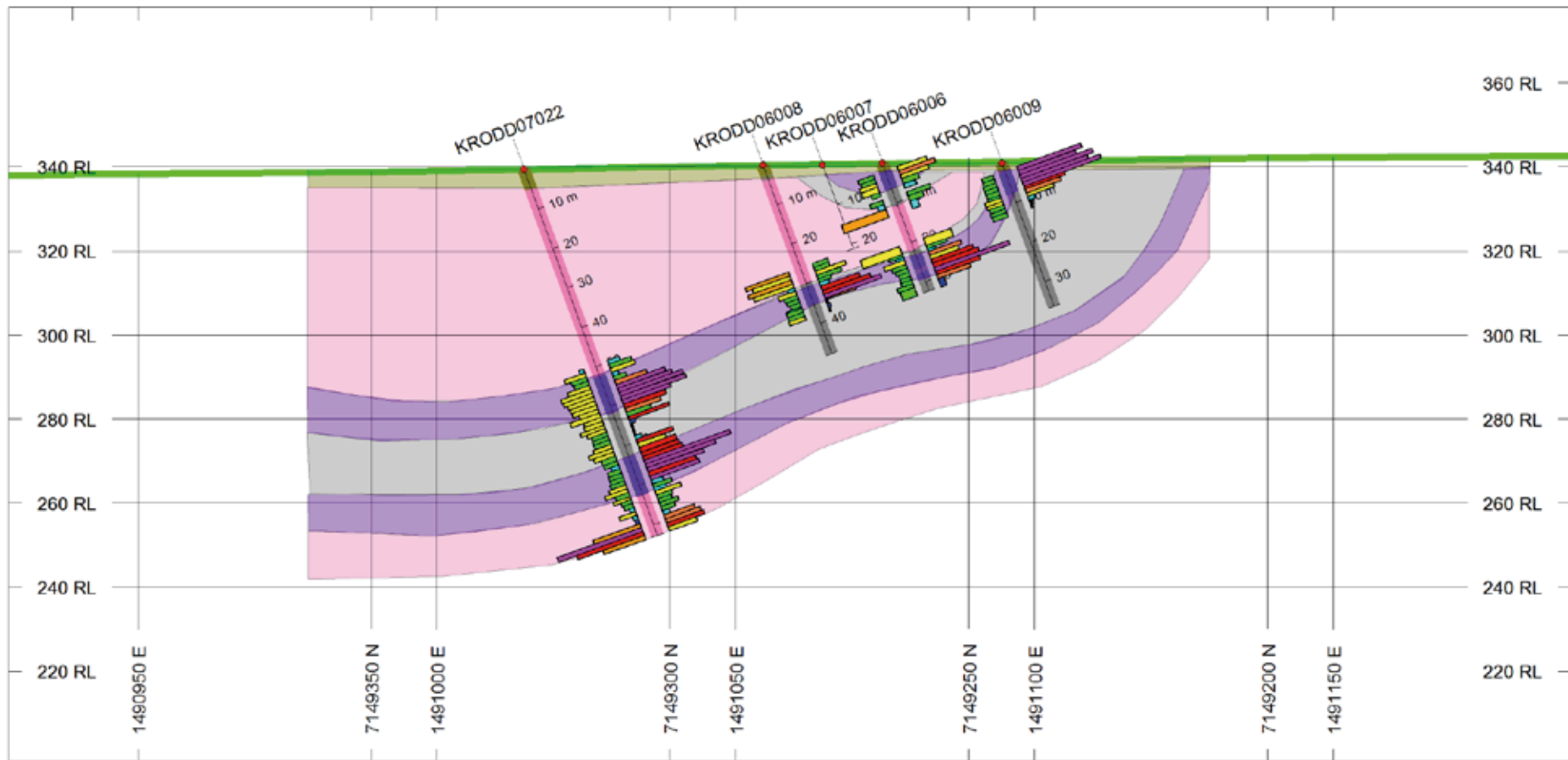
Section 6 with an overlay of Vanadium-Assays (left side) and Uranium (right side).

Section 9 with an overlay of Molybdenum-Assays (left side) and Total Rare Earth Elements (TREE).

Strip-Log for a typical Drillhole: KRODD07045.

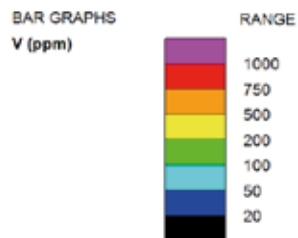
Uranium and Total Rare Earth Elements (TREE) are clearly bound to the Phosphoritic Shale (PSH) Units -

whereas V, Mo, Ni, Cu and V reflect the Structures of the Graphitic Shale (GSH).



LEGEND

LEFT SIDE



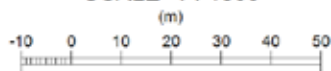
TOPOGRAPHY

Topo Fetsjön 1.GRD

ROCK CODES

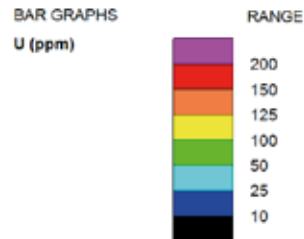
ROCK CODES	DESCRIPTION
GSH	Graphitic Shale
OVB	Overburden
PSH	Phosphortic Shale
SH	Shale

SCALE 1 : 1500



WGS 84 / RT90 zone 2.5 gon V emulation

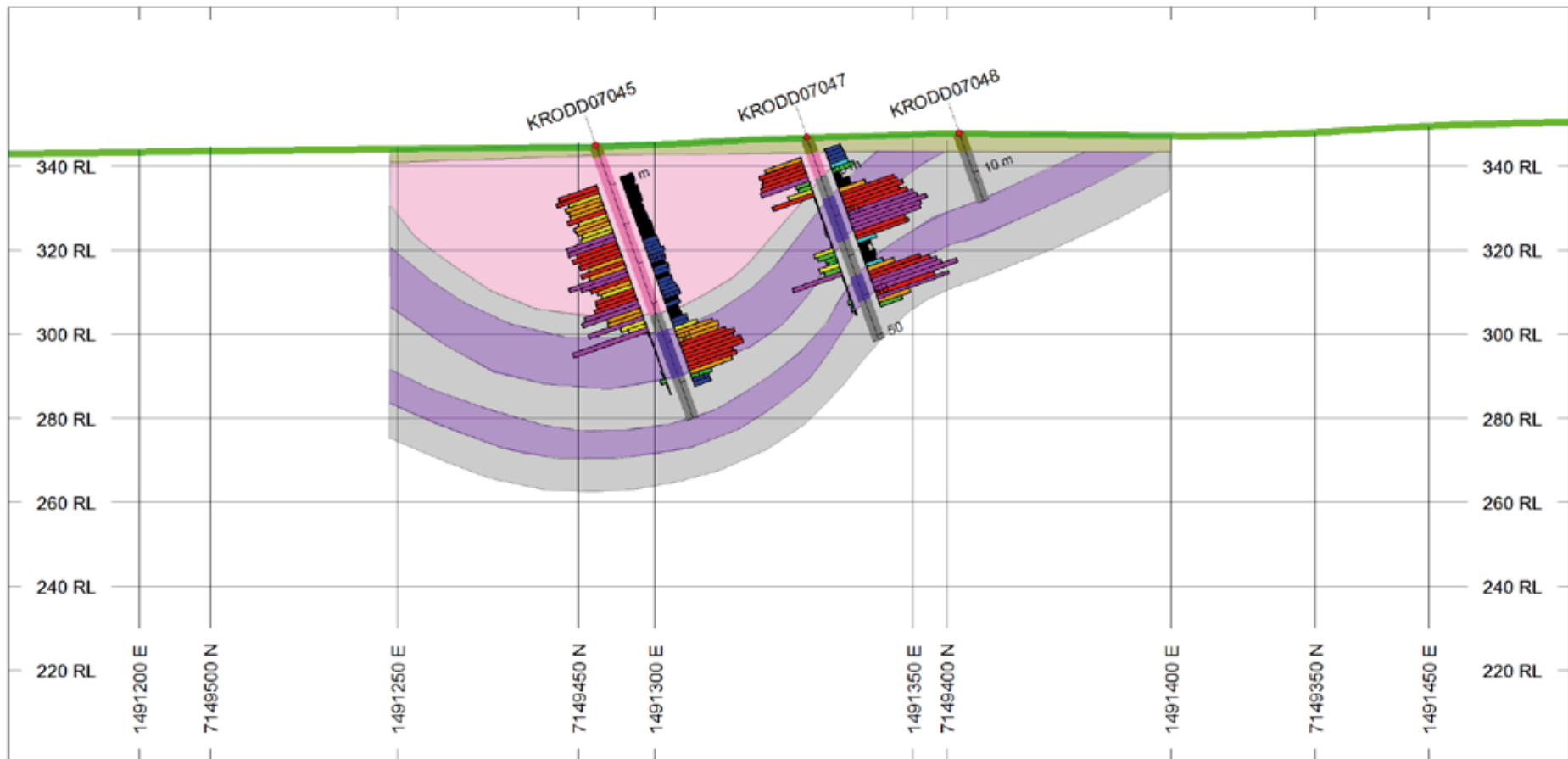
RIGHT SIDE



Fetsjön
Section 6

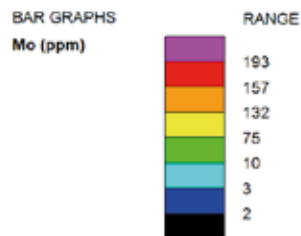


Example Section 6 with Vanadium-Assays (left side) and Uranium-Assays (right side)



LEGEND

LEFT SIDE



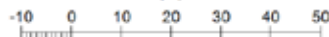
TOPOGRAPHY

Topo Fetsjön 1.GRD

ROCK CODES

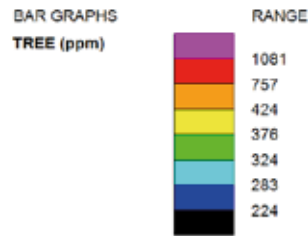
LABEL	DESCRIPTION
GSH	Graphitic Shale
OVB	Overburden
PSH	Phosphoric Shale
SH	Shale

SCALE 1 : 1500
(m)



WGS 84 / RT90 zone 2.5 gon V emulation

RIGHT SIDE



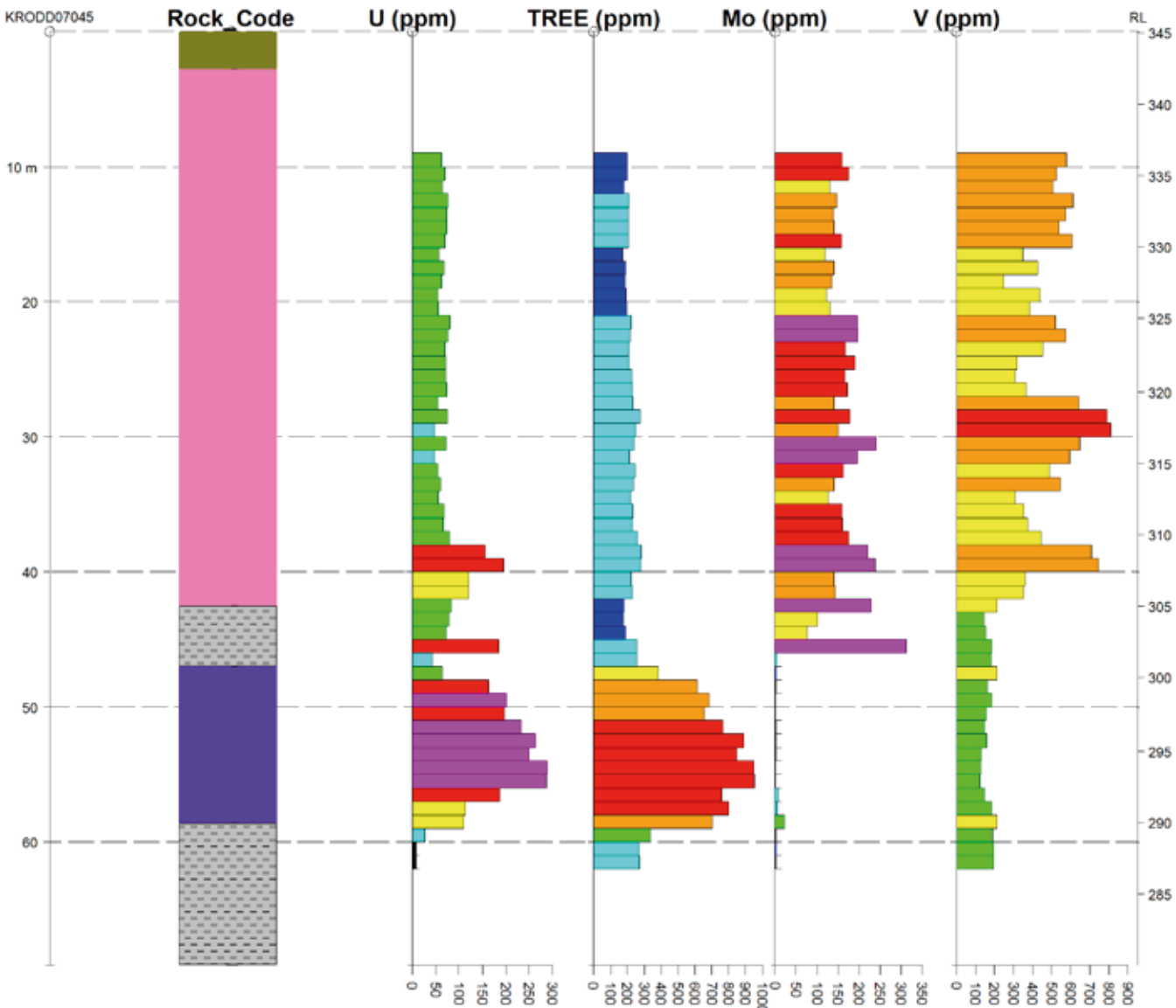
Fetsjön
Section 9



Example Section 9 with Molybdenum-Assays (left side) and Total Rare Earth Element-Assays (right side)

STRIP LOG: KRODD07045

Easting 1491290.0 Northing 7149450.0 RL 345.0 Azimuth 138.0 Dip -70.0 Depth 69.1



STRIP

STRIP	Rock_Code	PAT	LABEL	DESCRIPTION
1	Rock_Code	GS	GS	Graphitic Shale
		OVB	OVB	Overburden
		PSH	PSH	Phosphoric Shale
		SH	SH	Shale

2 U ppm

BAR PLOT	Value
Light Purple	200
Red	150
Orange	125
Yellow	100
Light Green	50
Light Blue	25
Dark Blue	10
Black	0

3 TREE_ppm

BAR PLOT	Value
Light Purple	1081
Red	757.2
Orange	424.8
Yellow	375.7
Light Green	323.6
Light Blue	200
Dark Blue	100
Black	0

4 Mo_ppm

BAR PLOT	Value
Light Purple	192.6
Red	157.3
Orange	132
Yellow	74.5
Light Green	9.5
Light Blue	3
Dark Blue	2
Black	0

5 V_ppm

BAR PLOT	Value
Light Purple	1000
Red	750
Orange	500
Yellow	200
Light Green	100
Light Blue	50
Dark Blue	20
Black	0

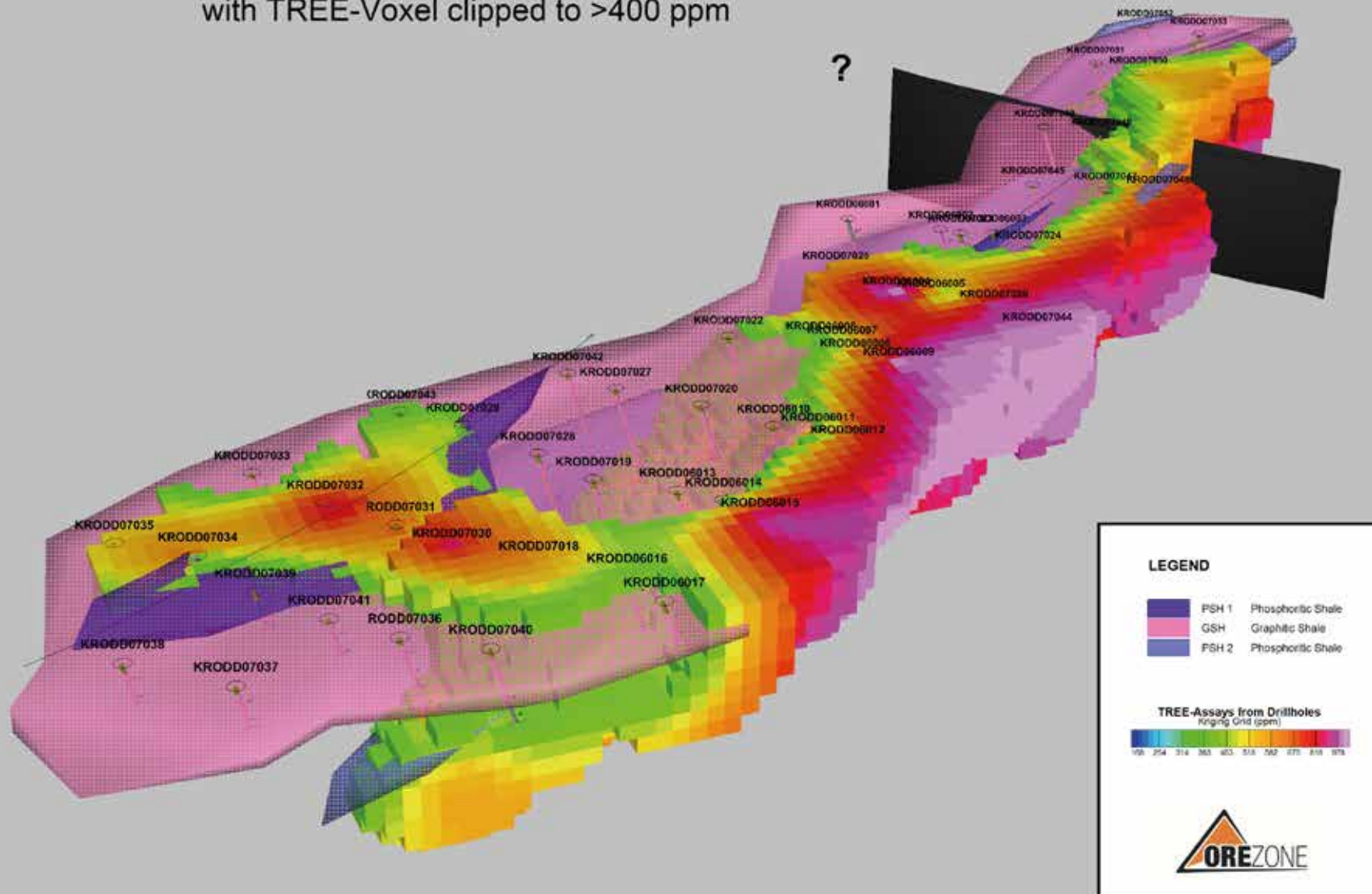


Strip-Log for a typical Drillhole (KRODD07045) with different trends for U/TREE and Mo/V

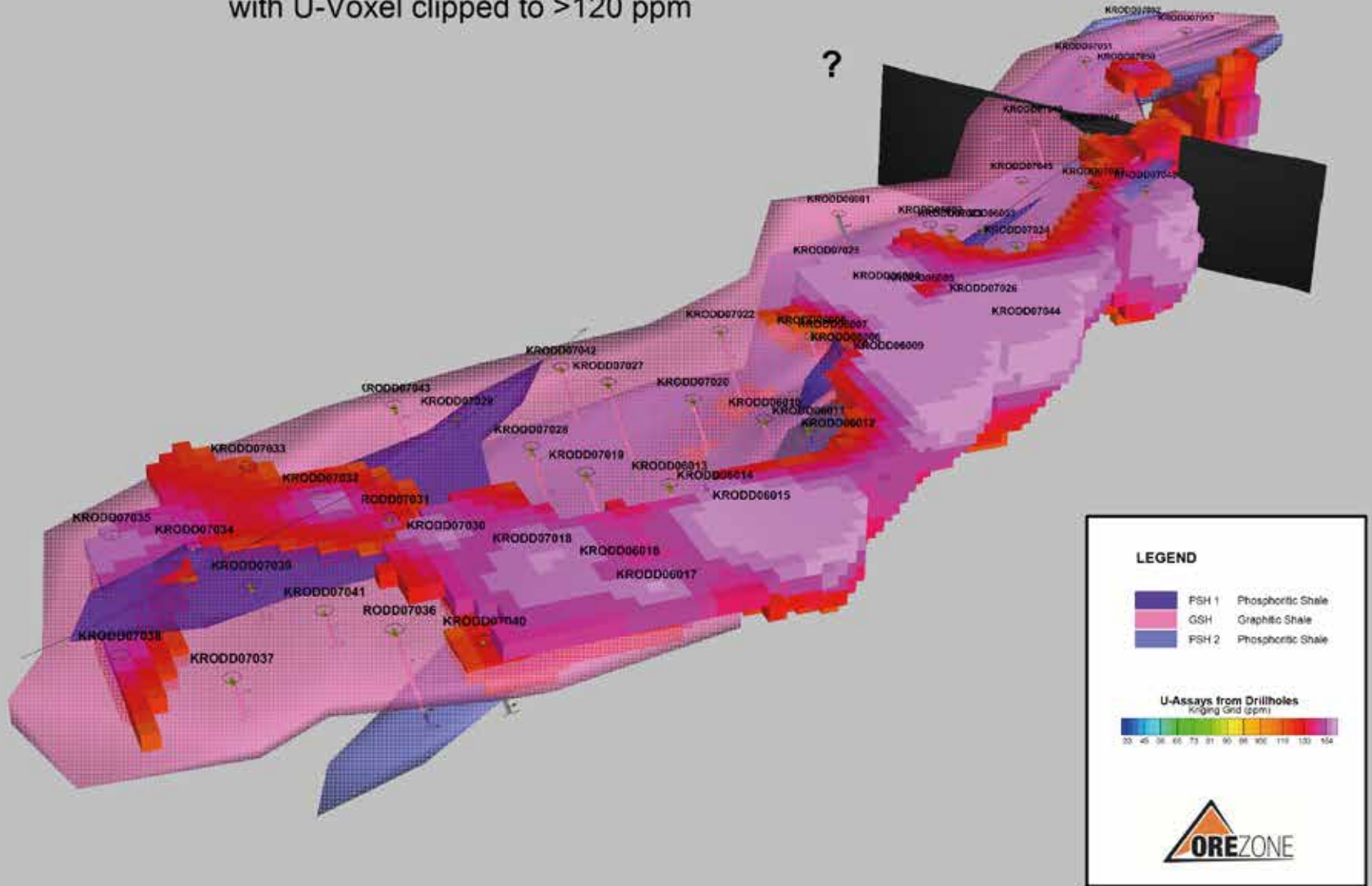
3D Model of the Mineralised Shales with an overlay of Assays for TREE, U, Mo, Ni, Cu and V.

The Geochemical Trends appear even more clearly in 3D-Space.

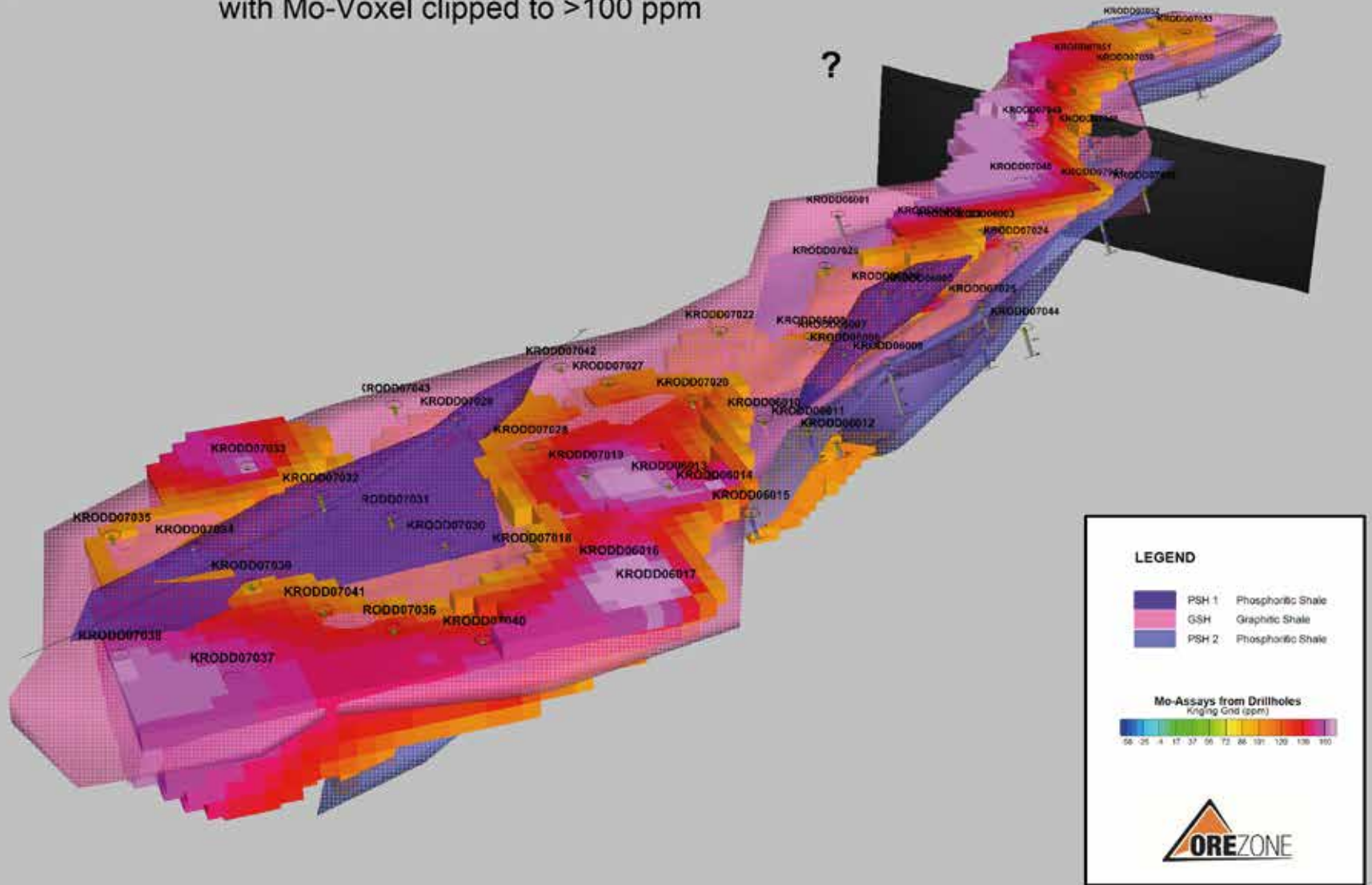
The following slides show 3D-bodies from the Mineralised Shales with an overlay of 3D-Grids (Voxels) for the elements above. The data of the voxels have been clipped so that only the high-grade areas show and the underlying 3D-bodies can be recognized. That makes it easy to compare the different trends.



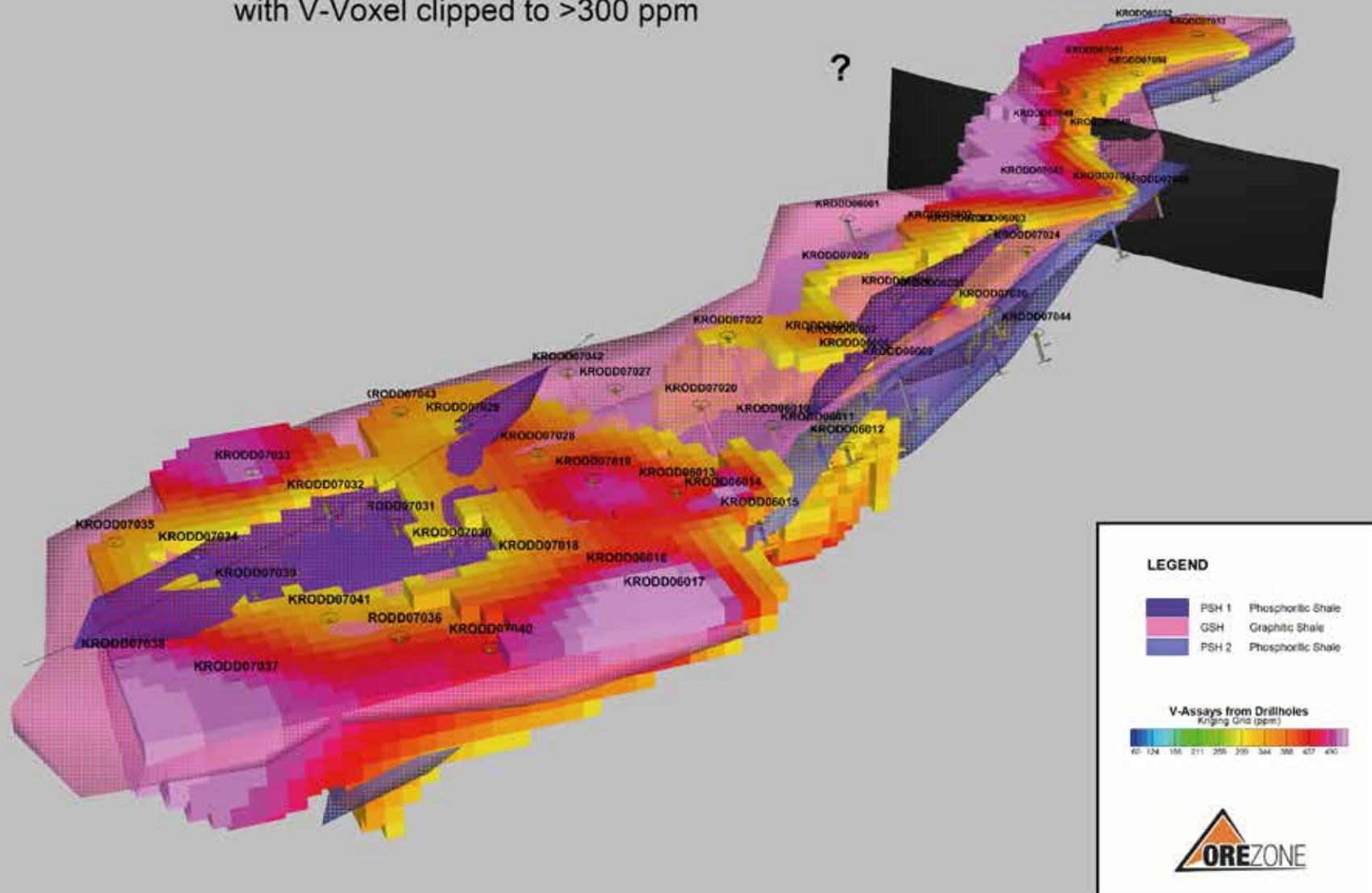
The Assays of the Total Rare Earth Elements (TREE) show their maximum within the Phosphoritic Shales (PSH 1+2)



Even the Uranium (U)-Assays show the same trend as TREE and culminate in the Phosphoritic Shales (PSH 1+2)



On the other hand show Molybdenum (Mo)-Assays their highest values within the Graphitic Shale (GSH)



Vanadium (V) shows clearly a similar trend as Molybdenum (Mo) and the same can also be shown for Nickel (Ni) and Copper (Cu).

Conclusions

The area of Fetsjön shows two units of metallogenic potential within the Alumn Shale Formation:

The **Phosphoritic Shale (PSH)** which holds mostly **Rare Earth Elements** and **Uranium**,
and

The **Graphitic Shale (GSH)** with enrichment mainly of **Vanadium**,
Molybdenum, **Nickel** and **Copper**.

Unfortunately no assays were available for **Graphite**, but as similar rocks from the region (e.g. Ormbäcken) have shown values of >10% C it should be quite interesting to reassay the existing core for Graphite - nevertheless if the ongoing discussion about battery-metals is regarded.