

# Unicorn Mineral Resources

AGM – 2014

**Stephens Green Club - February 9th 2015**



11/28/2014 12:45



# Unicorn Mineral Resources

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# Unicorn Mineral Resources

## Why Zinc?

- 1. Global demand for zinc is expected to continue to grow, particularly due to influence of China and India.**
- 2. Relatively little exploration over the last 30 years, many of the large world class deposits are almost worked out and will close over the next 4 years (c.15% of world production will be lost) - there are a limited number of new deposits to replace this lost production**
- 3. It is anticipated that this relative loss of production will create a significant zinc supply “gap” that will develop from this and will sustain / increase zinc prices**





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## Why Ireland?

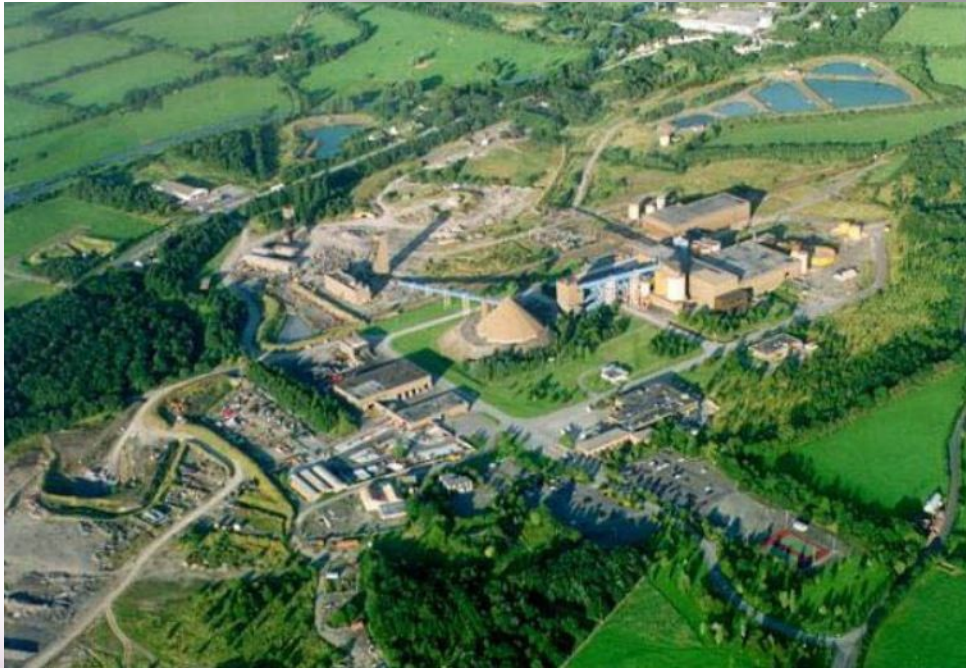
- 1. Irish Carbonate Hosted Zn-Pb Deposits are a recognised “World Class” exploration play.**
- 2. Legislation and government support is excellent. Frazer Institute regularly rates Ireland in the top ten jurisdictions in which to carry out exploration.**
- 3. “Ireland is the largest producer of zinc in Europe, and the tenth largest producer of zinc in the world” - DCMNR, 2012.**
- 4. “Ireland is the third largest producer of lead in Europe, and the thirteenth largest producer of lead in the world” - DCMNR, 2012.**
- 5. “Irish Type” Carbonate Hosted, Zn / Pb deposits are particularly sought after as they tend to be relatively large and relatively high grade.**
- 6. “Irish Type” Carbonate Hosted, Zn / Pb deposits are renown for producing “clean” concentrates (i.e. low concentrations of smelter penalty elements such as As, Se or Hg). As such, in an increasingly environmentally sensitive world they they are highly sought after and command premium prices.**
- 7. Exploration in the Irish Midlands is still making significant discoveries – e.g. Kilbricken in Clare, Stonepark in Limerick and Rapla in Kilkenny. Despite a significant reduction in global and local exploration activity.**



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Deposit	Tonnes (Millions)	Zinc %	Lead %	Silver g/t	Copper %
Navan	c. 110.0	10.1	2.6	11.0	
Pallas Green	42.0	8.0	1.0		
Lisheen	22.0	11.5	1.9	26.0	
Silvermines	17.7	6.4	2.5	23.0	
Tynagh	9.2	5.0	6.2	66.0	0.5
Galmoy	8.6	12.8	3.0		
Ballinalack	5.7	6.8	1.1	27.0	
Courtbrown	1.0	3.5	2.0	14.0	
Harberton Bridge	3.9	8.1	1.2	10.0	
Boston Hill	0.8	2.7	1.1		
Gortdrum	3.8			25.0	1.2
Avoca	16.0				0.6
Bunmahon	0.8				3.0

# Unicorn Mineral Resources

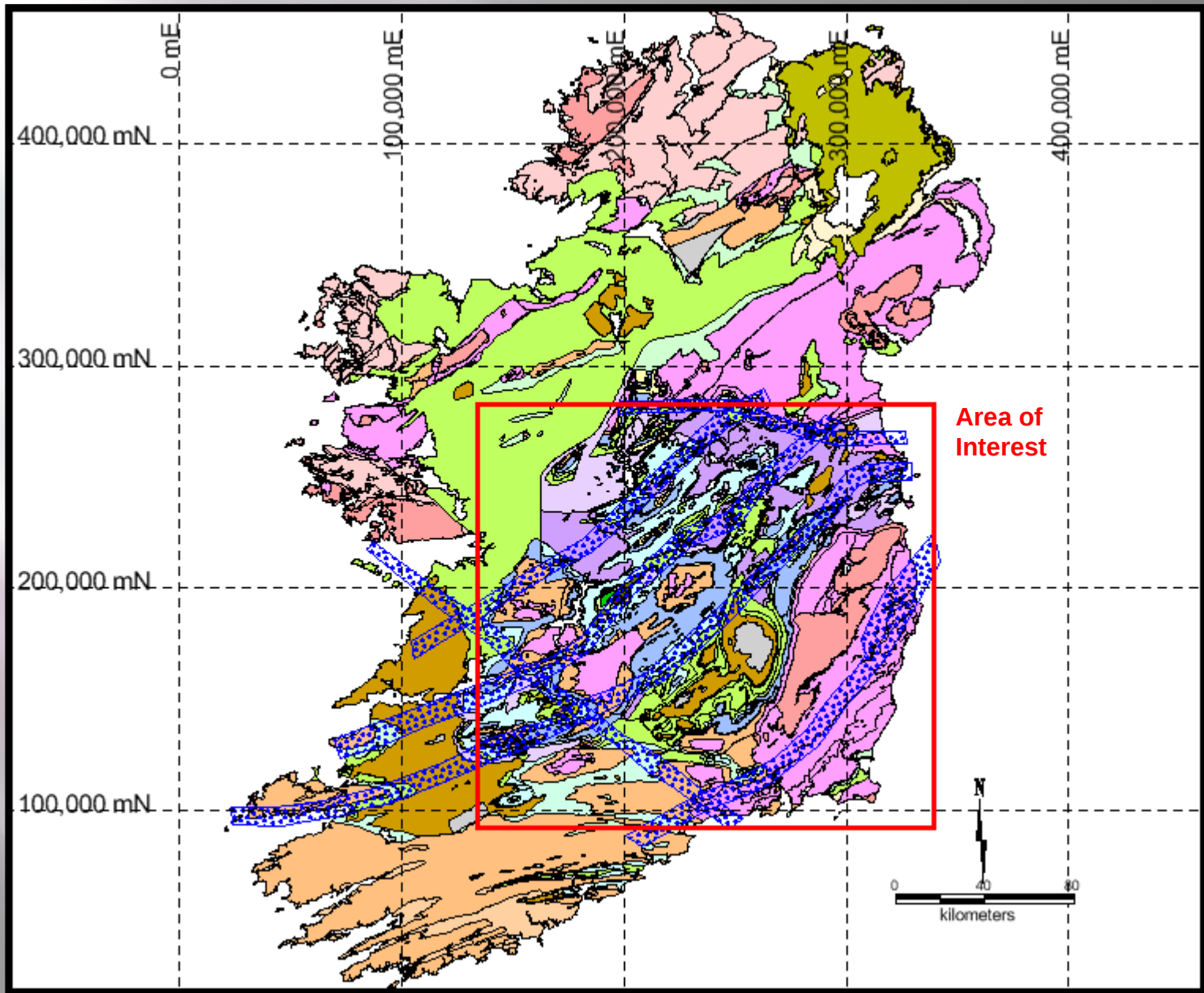


Tara Mines



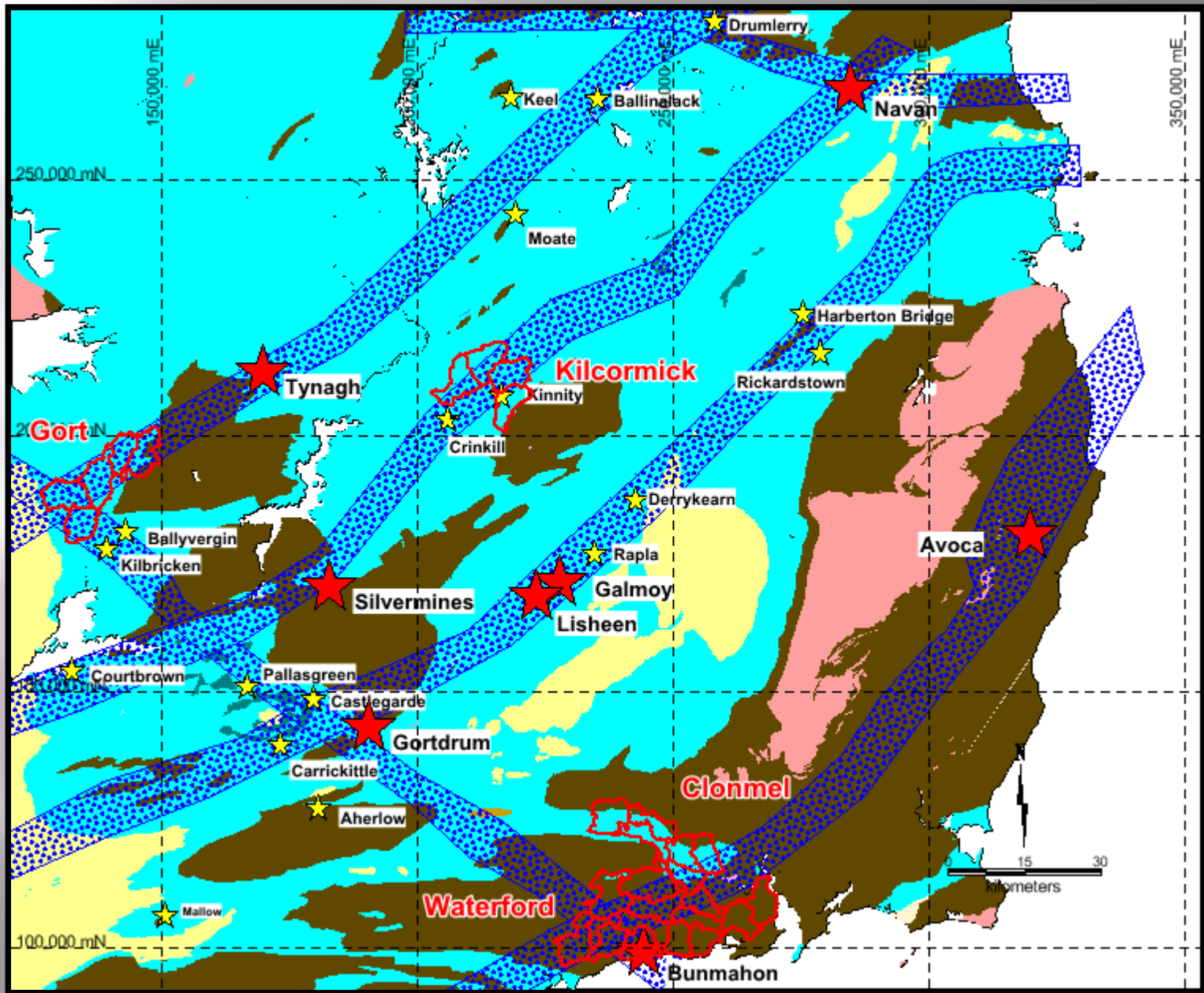
Lisheen Mine

# Unicorn Mineral Resources





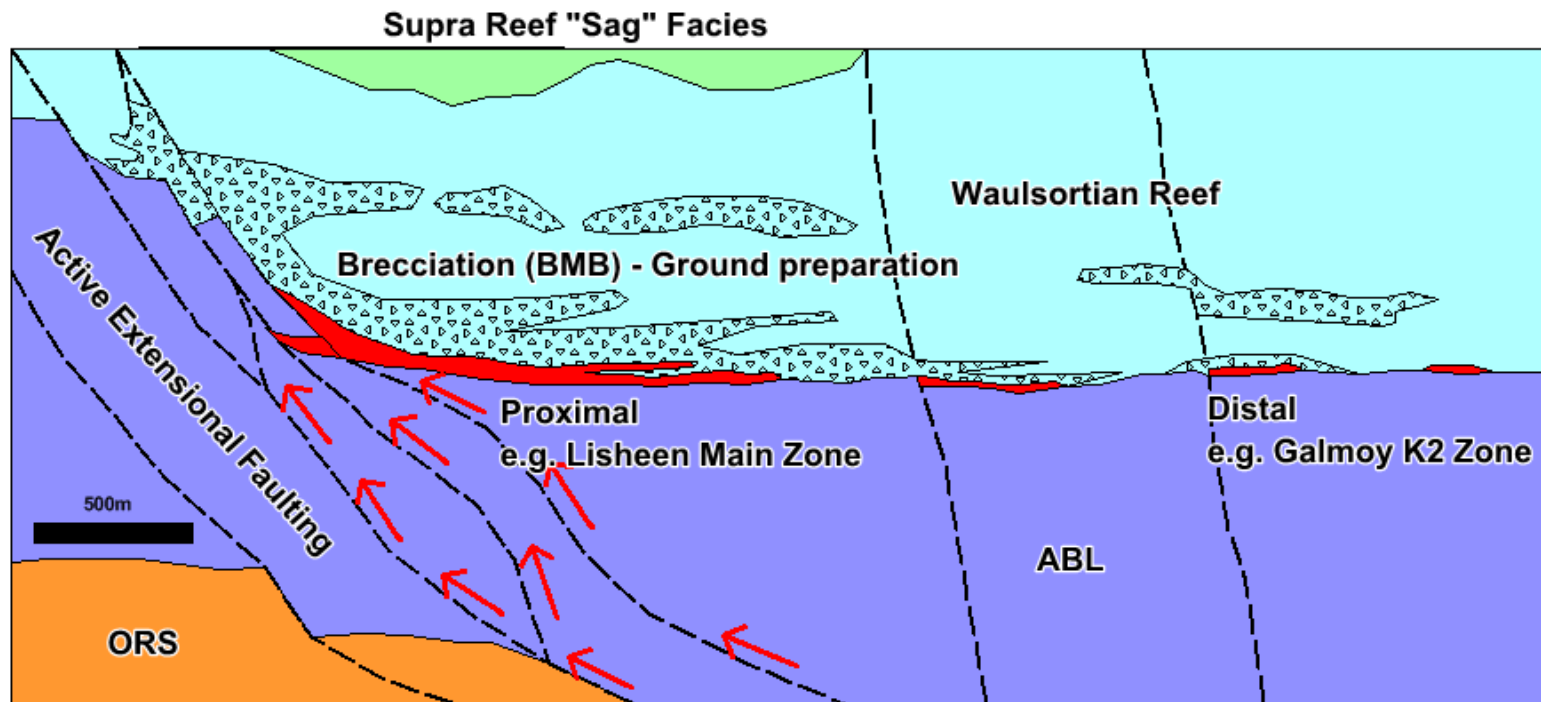
# Unicorn Mineral Resources





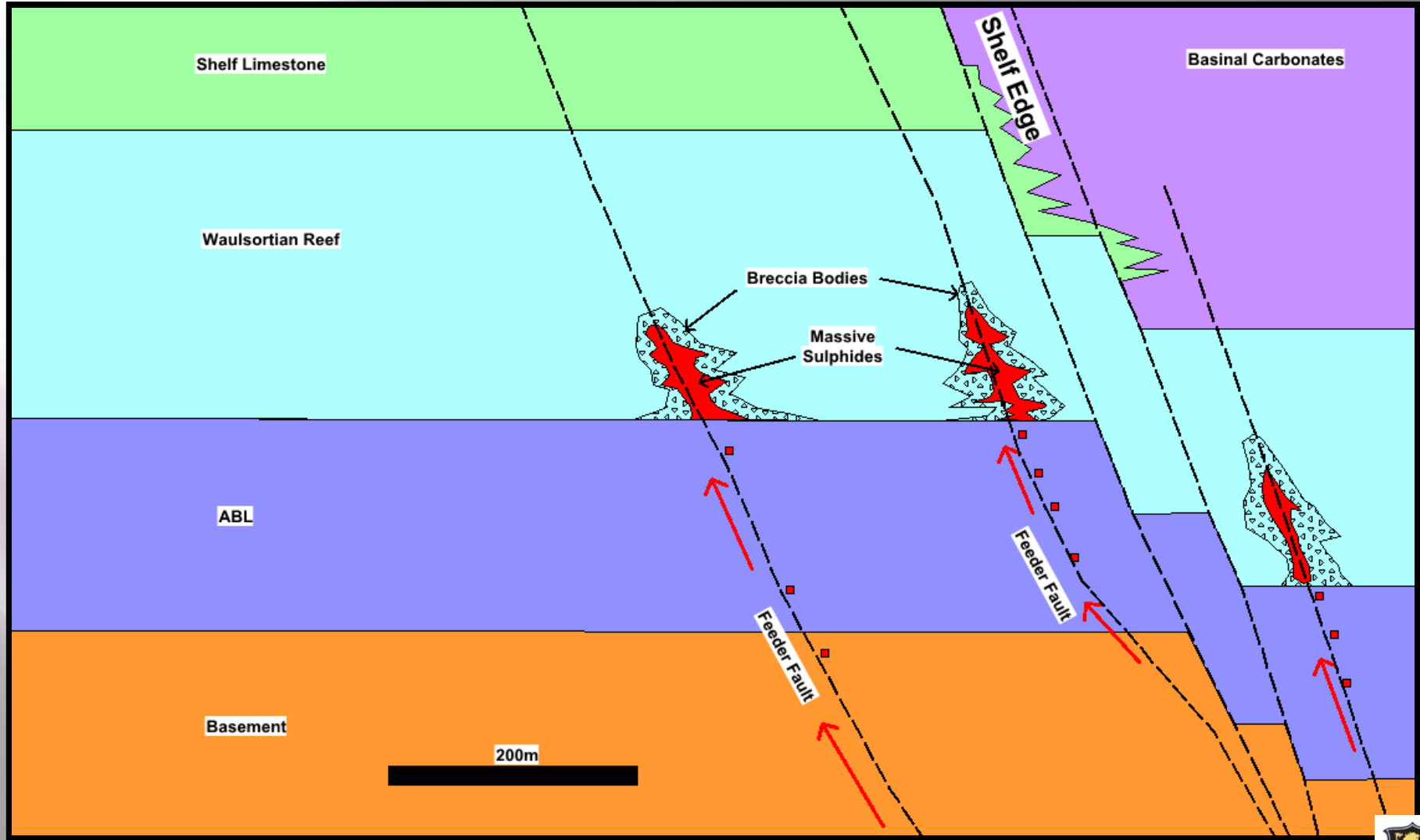
# Unicorn Mineral Resources

## “Irish Type” Waulsortian Hosted - Geological Model



# Unicorn Mineral Resources

## “MVT” Type - Geological Model



# **Unicorn Mineral Resources**

## **Gort Block – Targeting Rational**

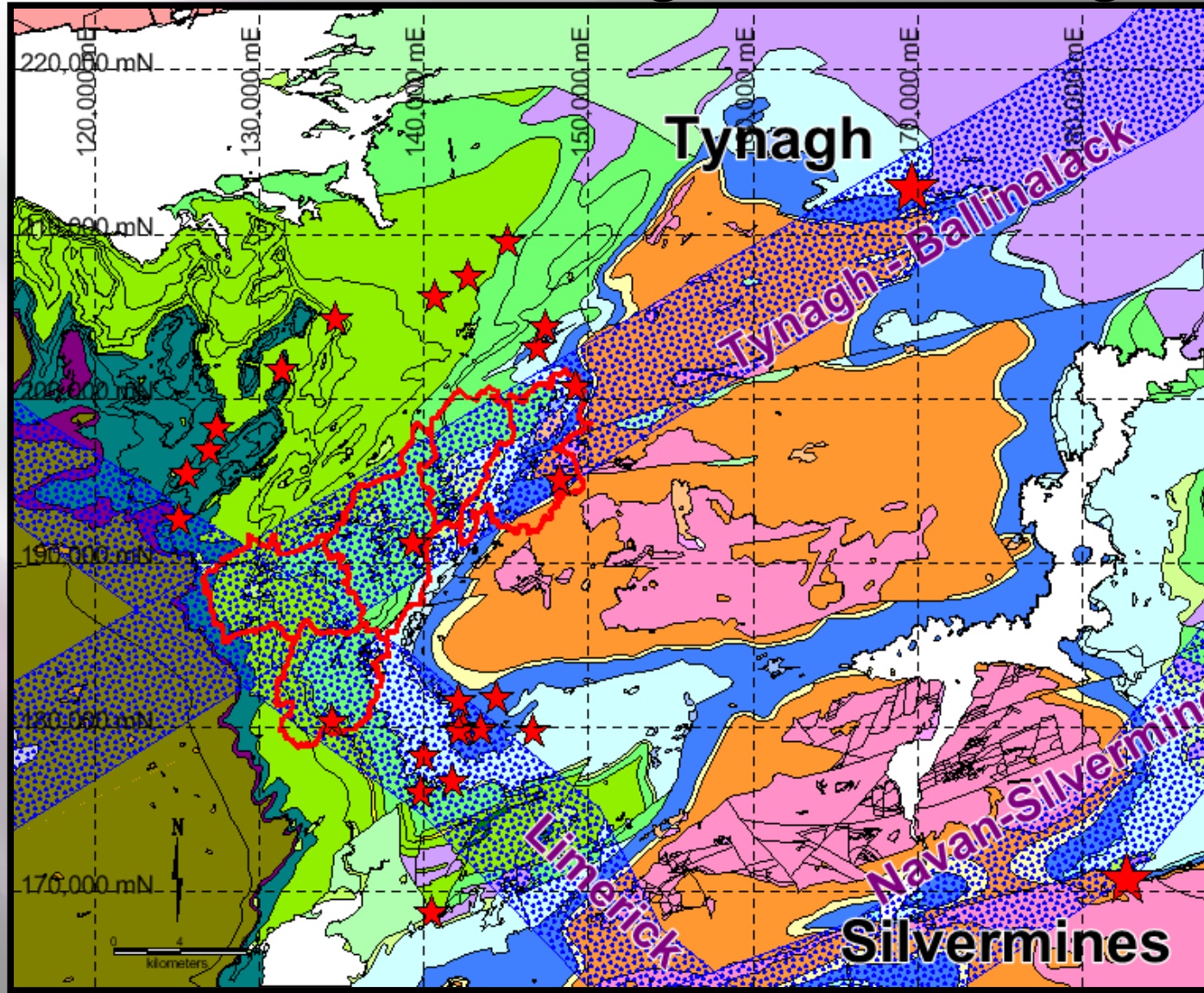
- 1. Located along the Tynagh – Ballinalack Mineralising Trend**
- 2. Extensive development of well developed Waulsortian Reef**
- 3. Located just 5km along strike from the significant Zn / Pb / Cu deposit recently discovered by Lundin at Kilbricken. (Strong analogies to Tynagh)**
- 4. Clear evidence of active faulting controlling local subsidence and basin development.**
- 5. Relatively unexplored - Historical focus in the Irish Midlands Orefield has been the central parts of the basin. Margins were generally considered less prospective, recent successes (Pallas Green, Stone Park, Kilbricken and Lakelands) have disproven this hypothesis.**
- 6. Mineral occurrences of Zn / Pb in the Supra Reef throughout the region and evidence of Cu mineralisation in sub Reef faulting.**



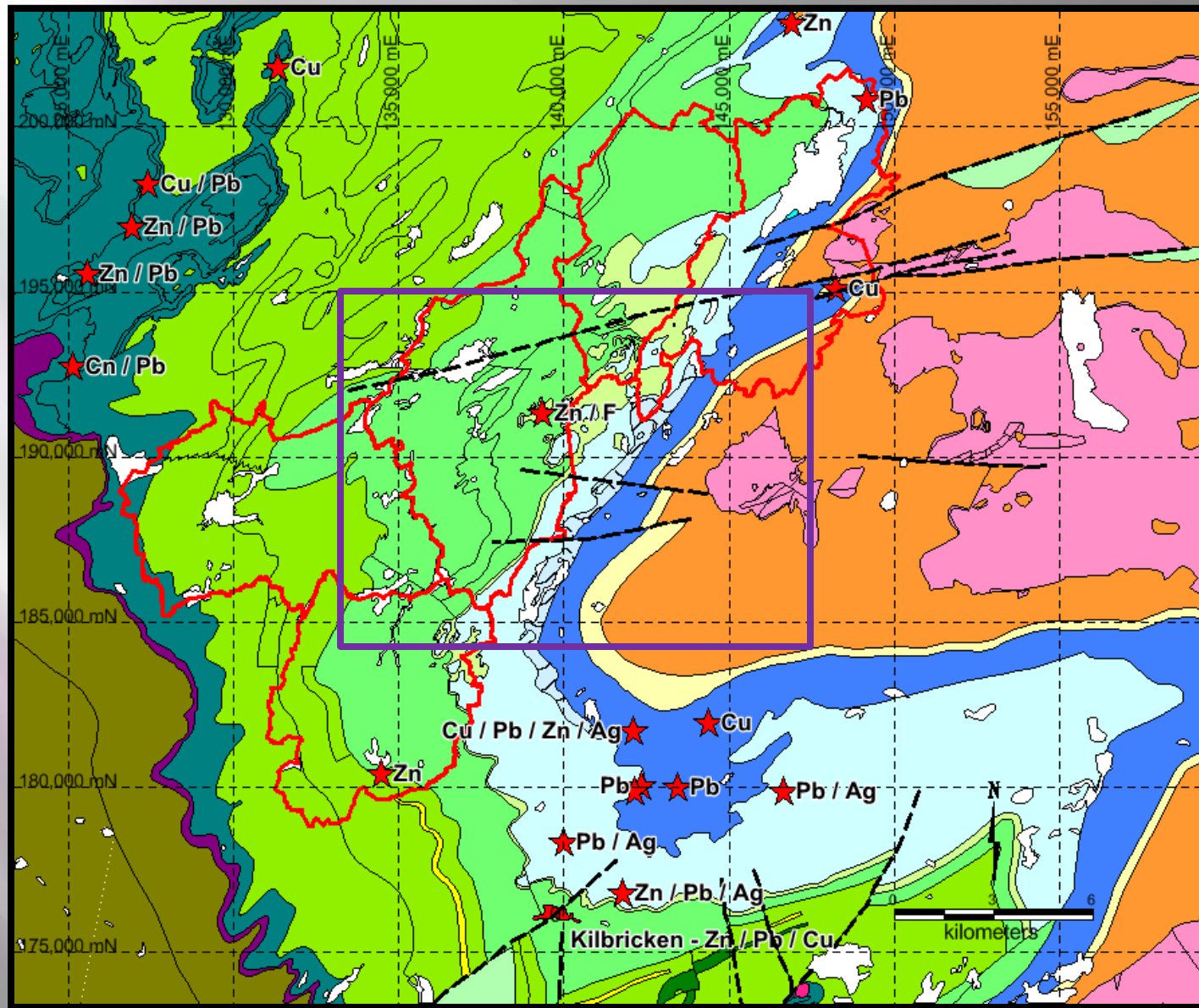


# Unicorn Mineral Resources

## Gort Block – Regional Setting

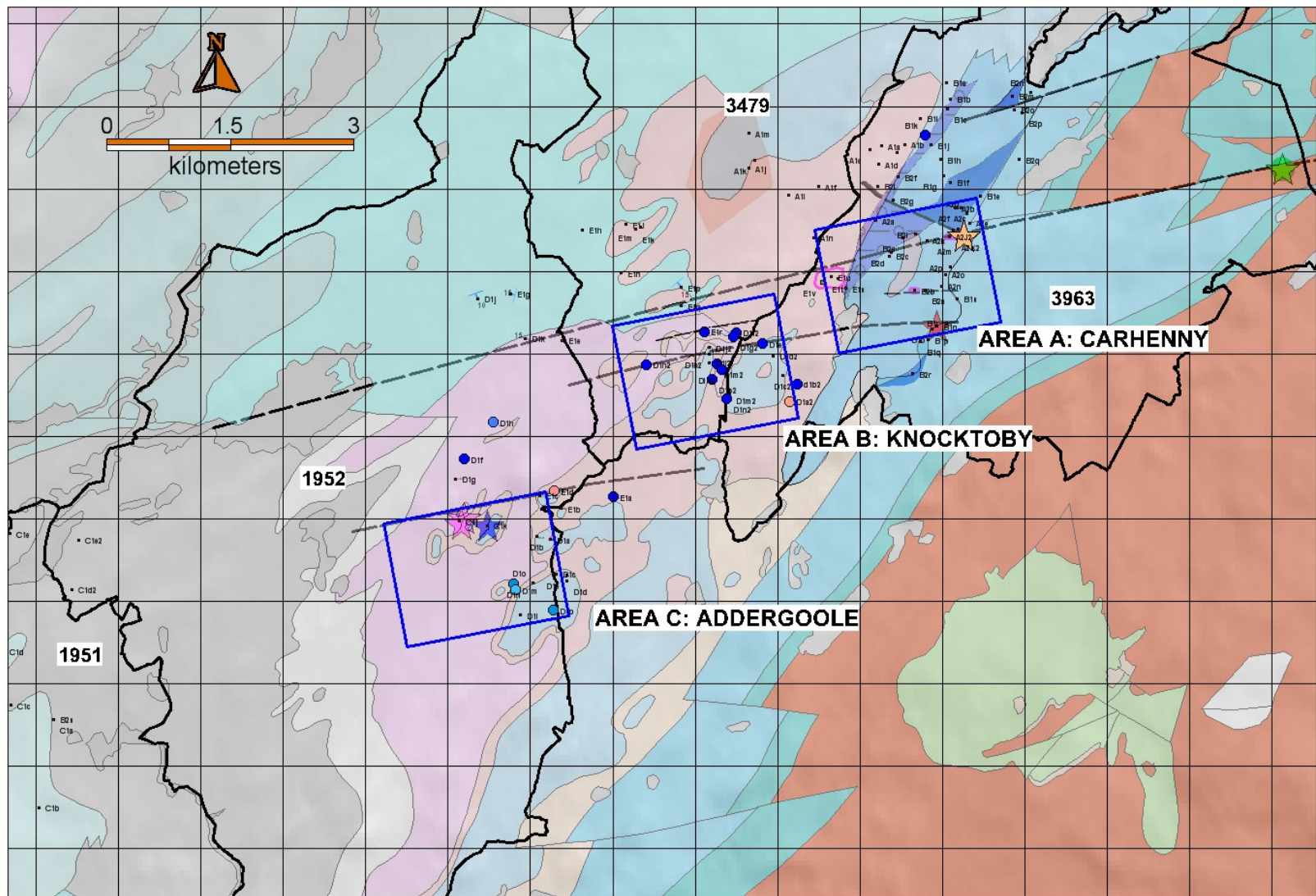


# Unicorn Mineral Resources





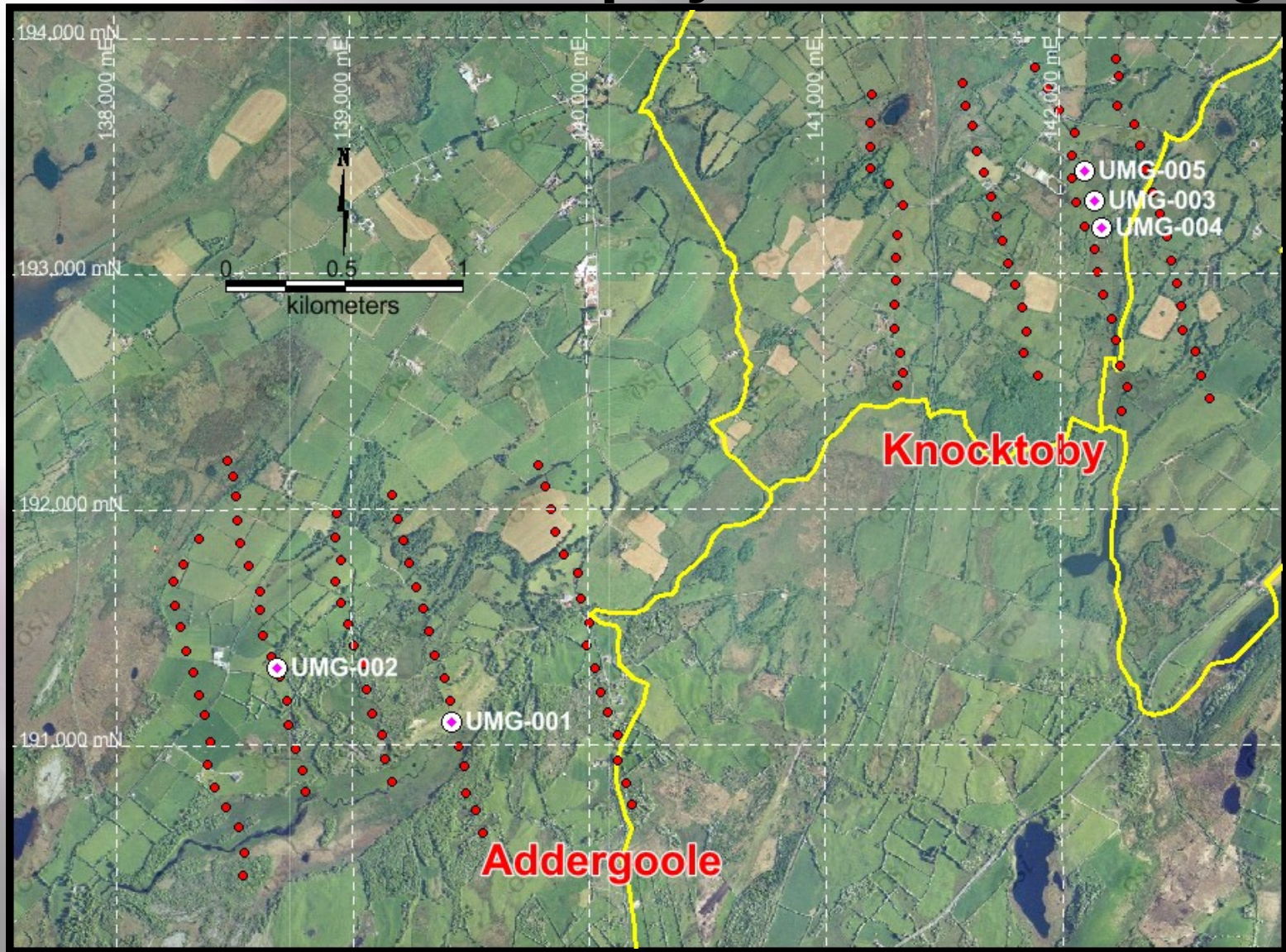
# Unicorn Mineral Resources





# Unicorn Mineral Resources

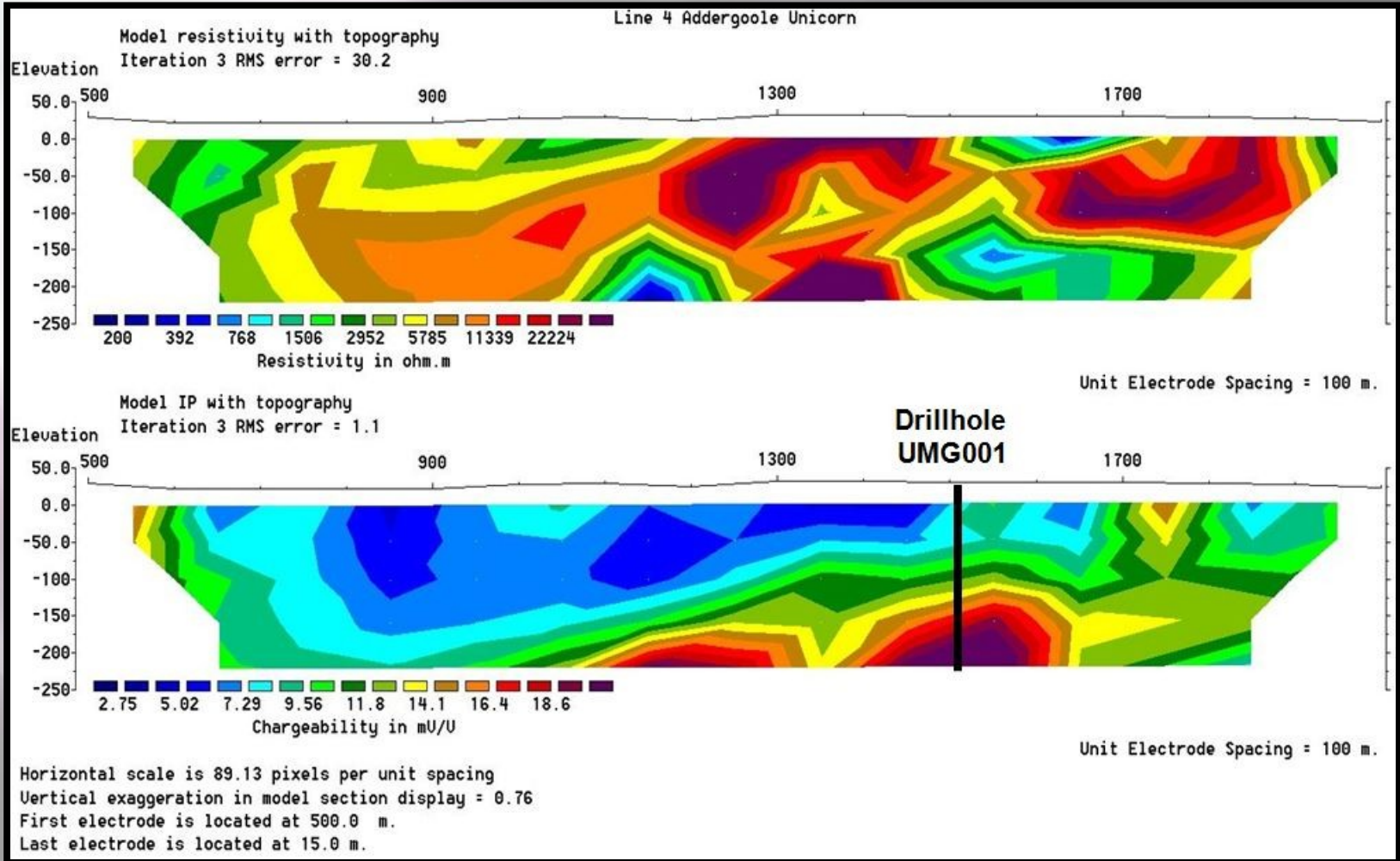
## Gort Block – Geophysics and Drilling





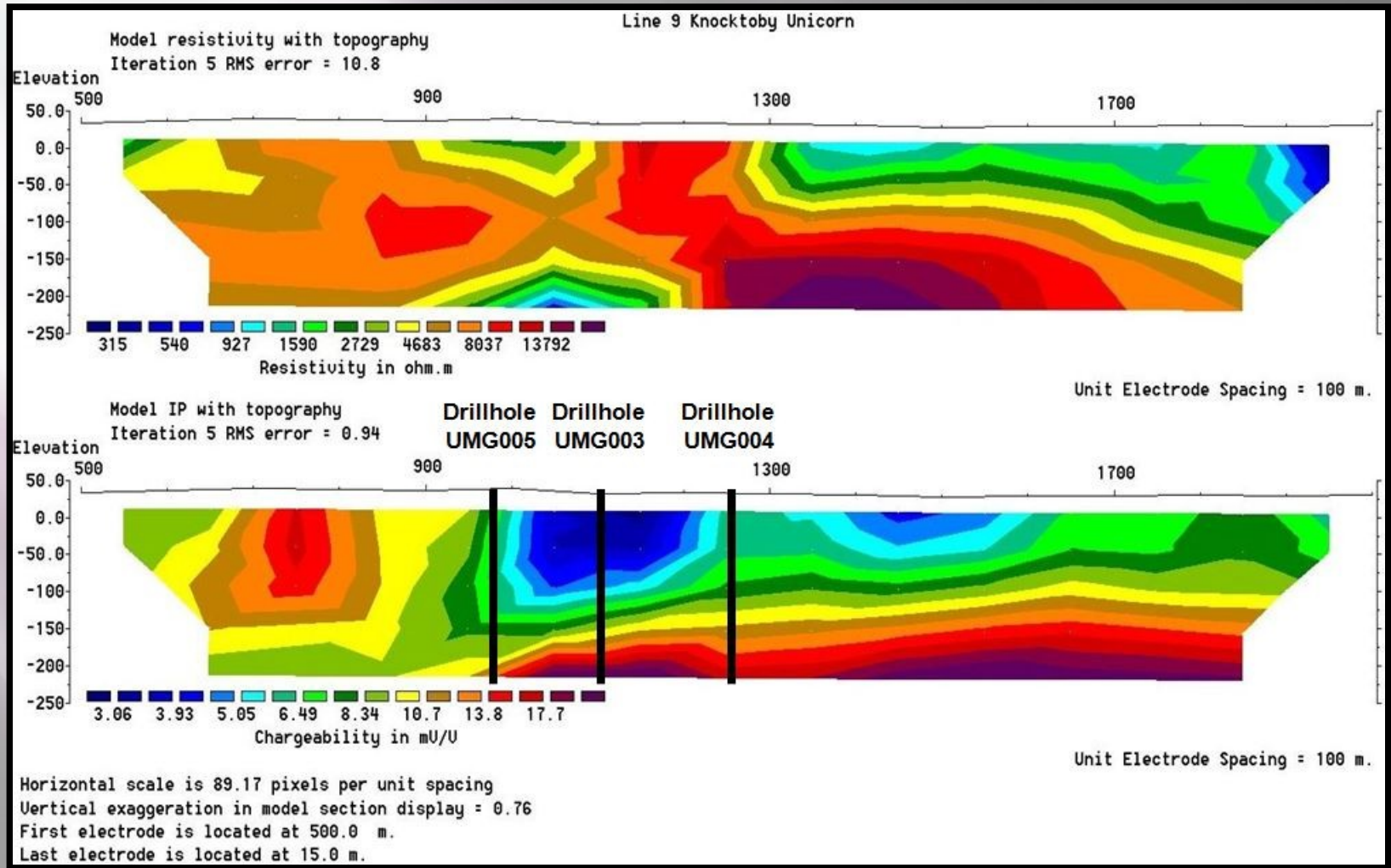
# Unicorn Mineral Resources

## Gort Block – IP Inversion (line 4)



# Unicorn Mineral Resources

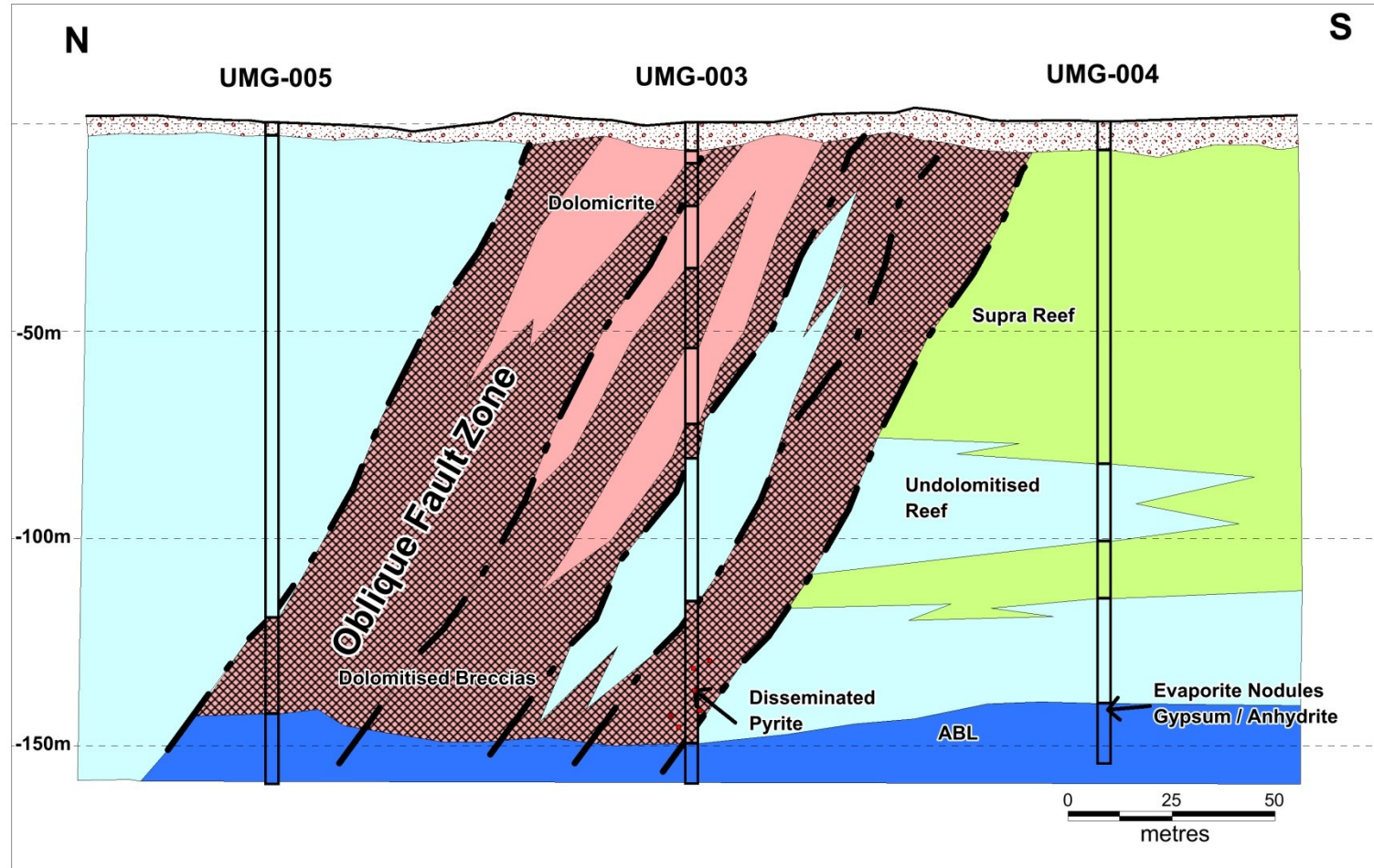
## Gort Block – IP Inversion (line 9)





# Unicorn Mineral Resources

## Knocktoby – Drill Section



# **Unicorn Mineral Resources**

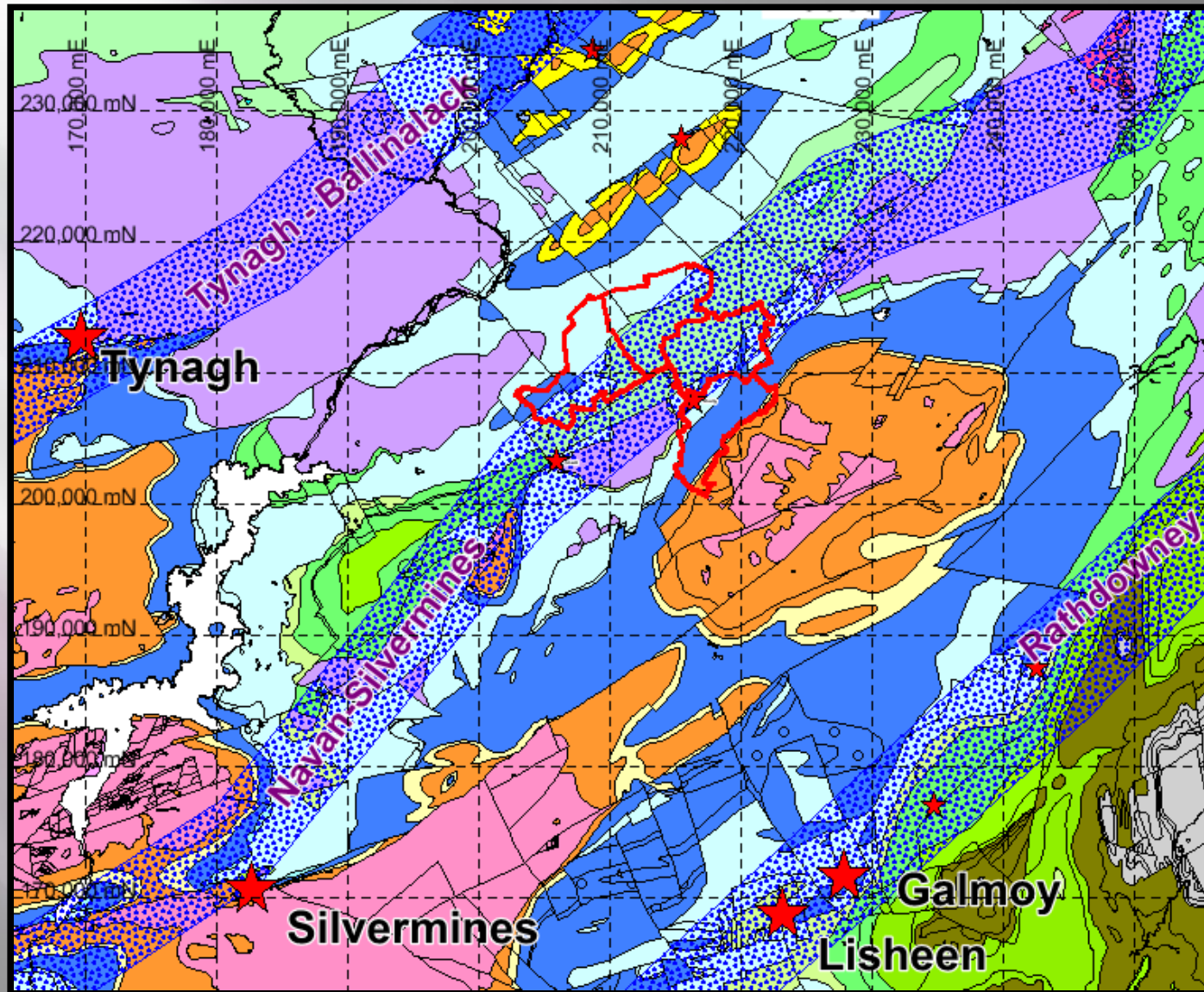
## **Kilcormick Block – Targeting Rational**

- 1. Located along the Navan – Silvermines Mineralising Trend**
- 2. Extensive development of well developed Waulsortian Reef**
- 3. The Kinnity Zn / Pb deposit is located on this licence block. High grade breccia hosted massive sulphide mineralisation discovered in the 1990's by Arcon & Noranda.**
- 4. Located just 5km along strike from the significant Iron Formation discovered by Billiton at Crinkill. (Strong analogies to Tynagh / Silvermines)**
- 5. Clear evidence of large scale active faulting controlling regional subsidence and basin development.**
- 6. Mineral occurrences of Zn / Pb and Massive Pyrite hosted by the Waulsortian Reef.**



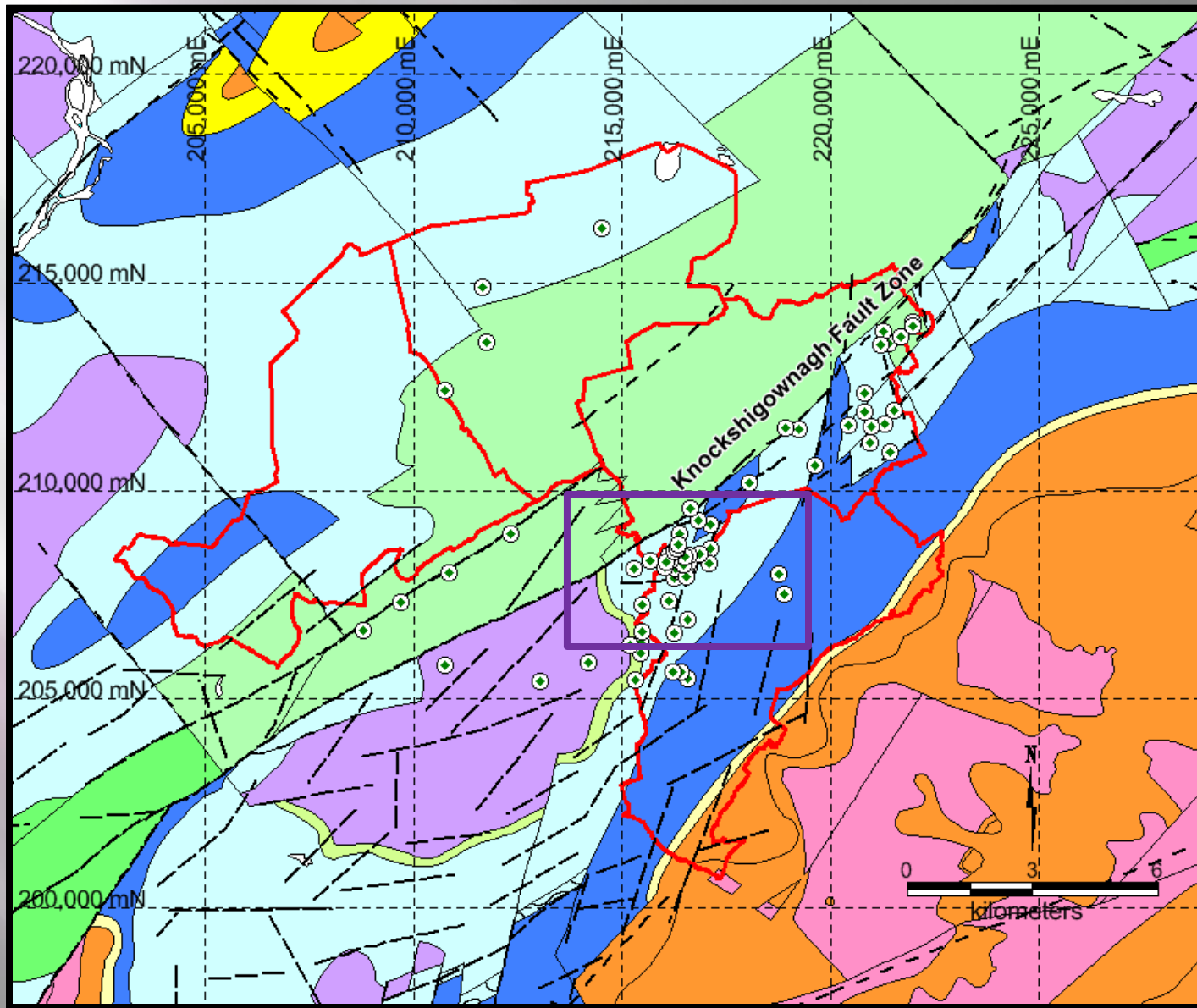
# Unicorn Mineral Resources

## Kilcormick Block – Regional Setting



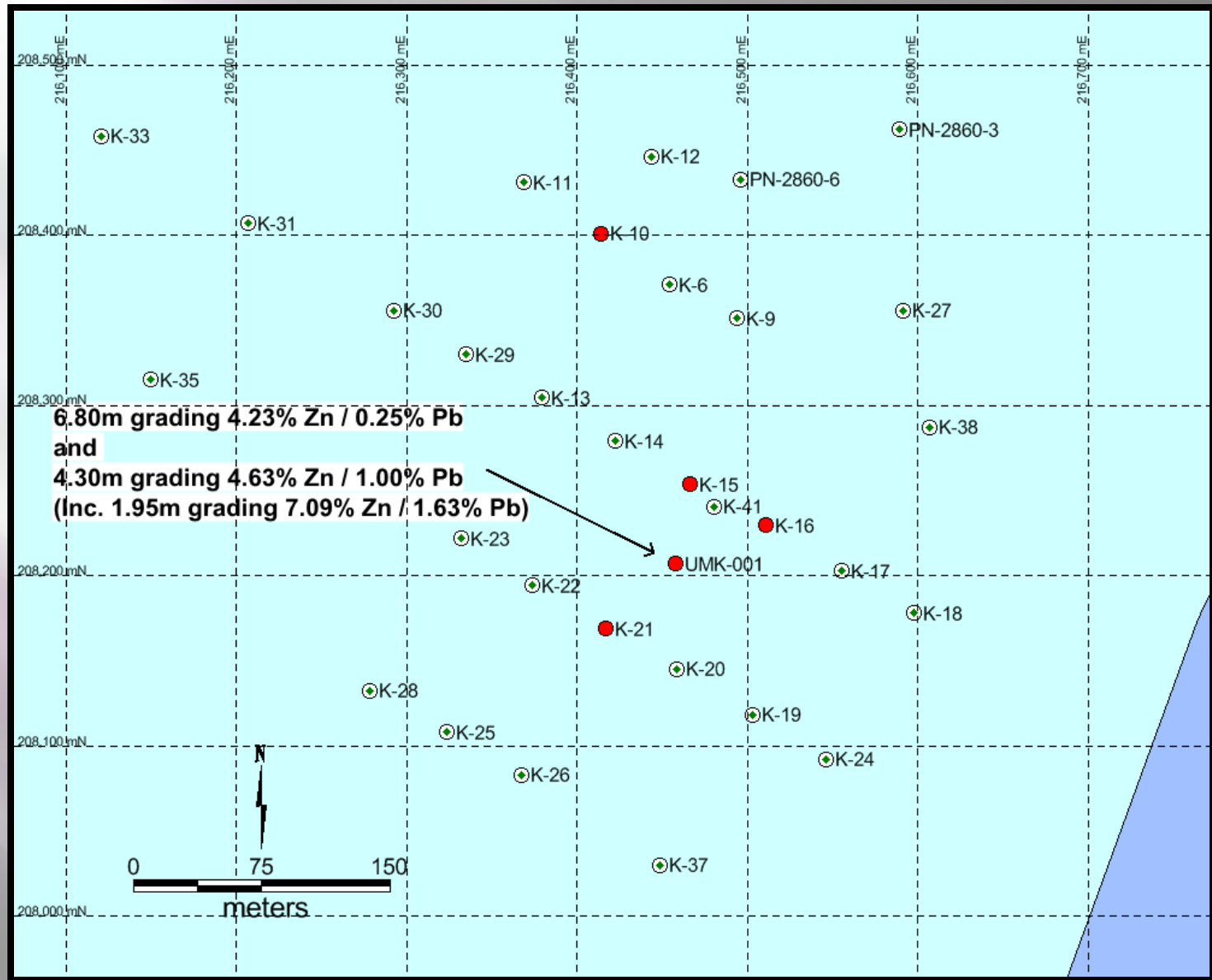


# Unicorn Mineral Resources



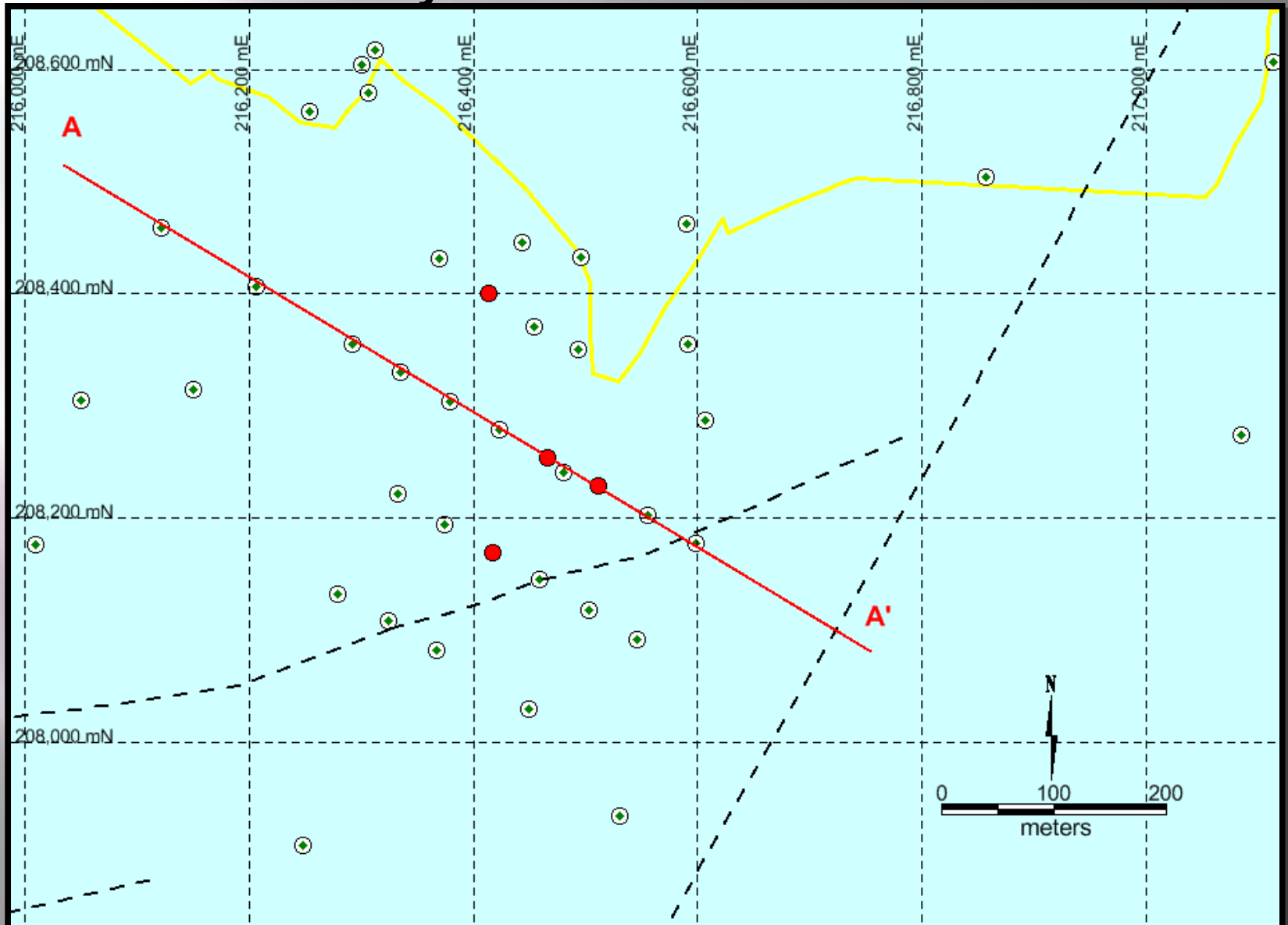
# Unicorn Mineral Resources

## Kinnity Diamond Drilling

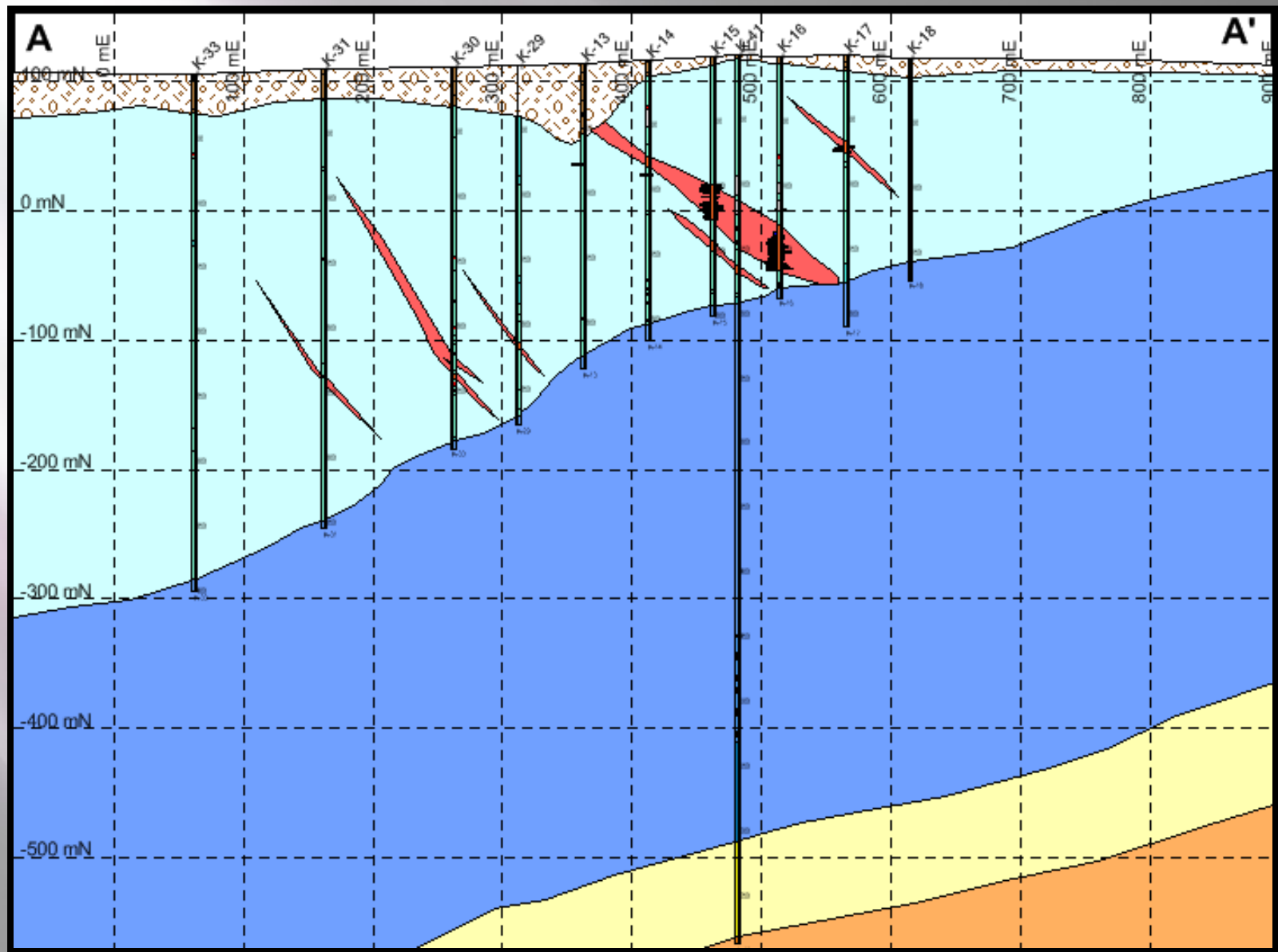


# Unicorn Mineral Resources

## Kinnity – Drill Section Location



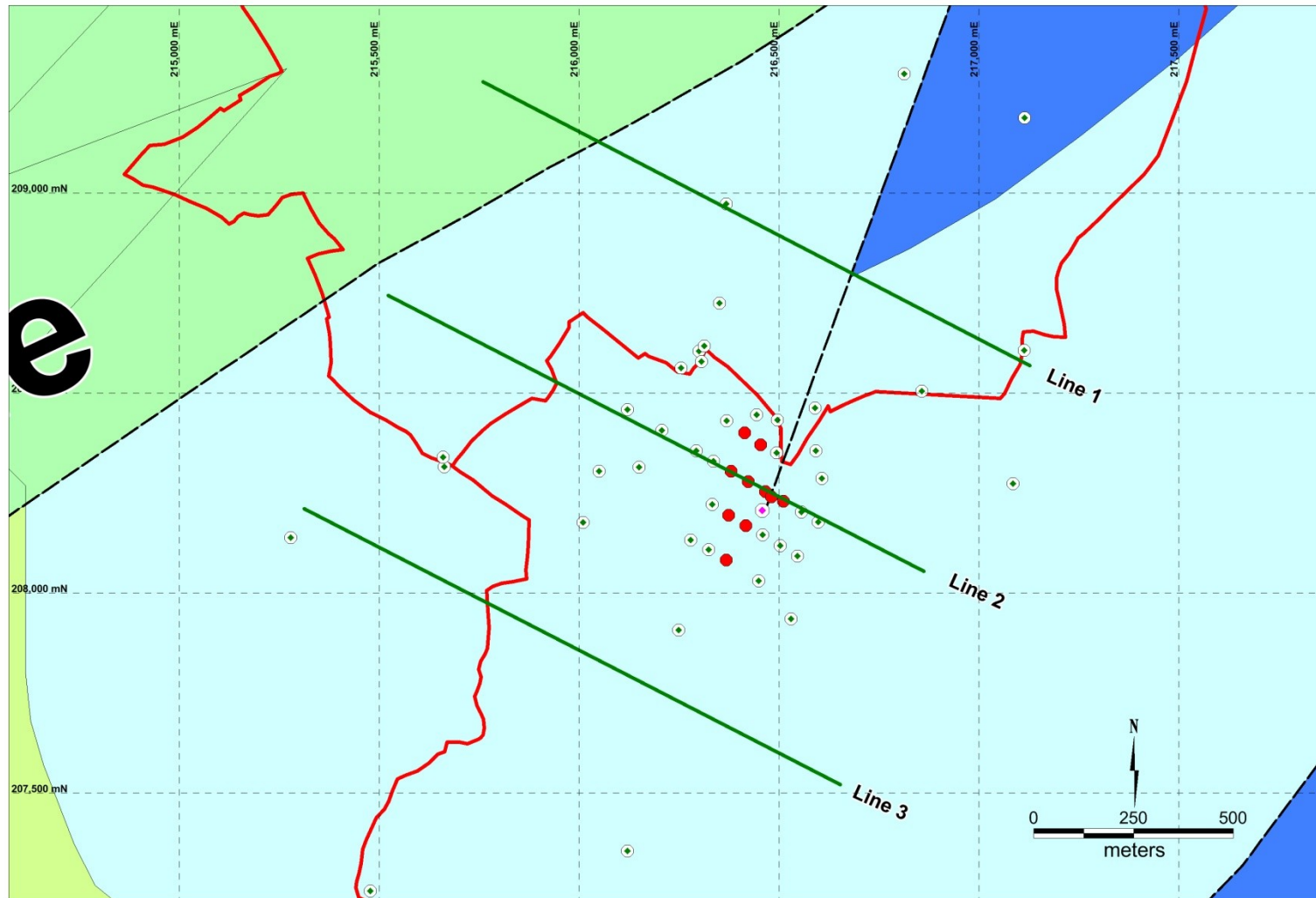
# Unicorn Mineral Resources





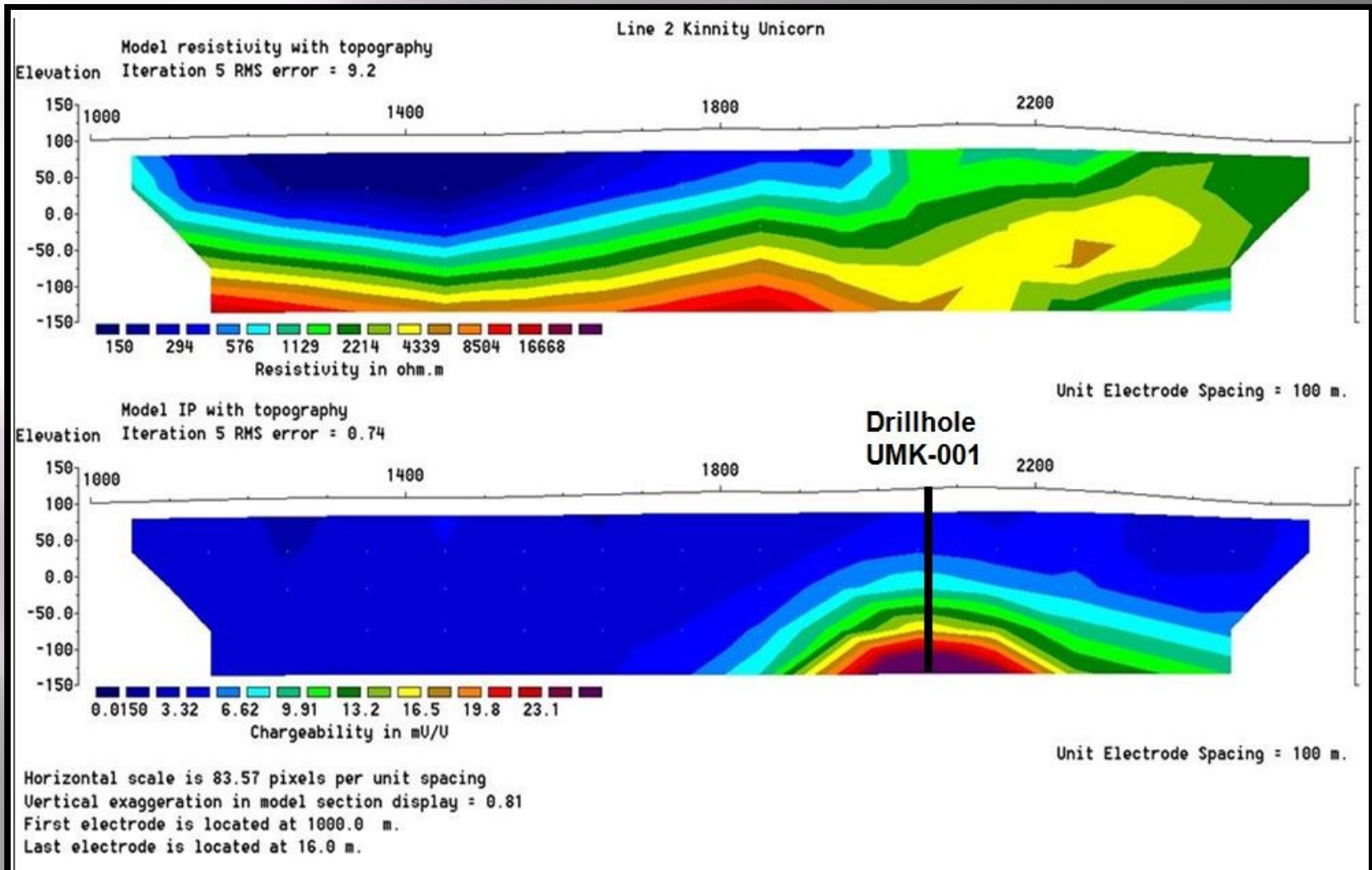
# Unicorn Mineral Resources

## Kilcormick Block – IP Survey Lines



# Unicorn Mineral Resources

## Kilcormick Block – IP Inversion (Line 2)





# Unicorn Mineral Resources

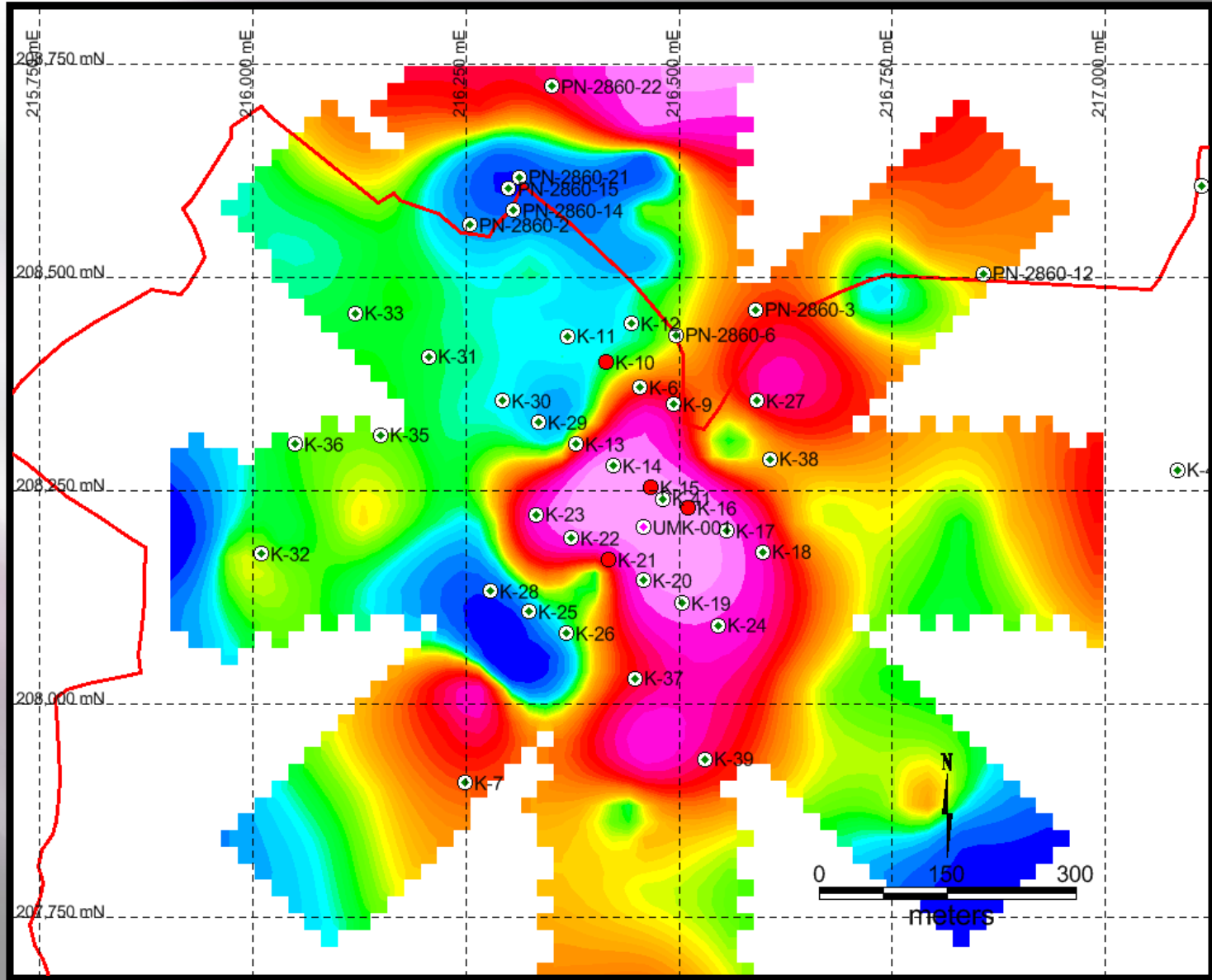
## Kilcormick Block – UMK-001 Mineralisation





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## Kilcormick Block – Mise A La Masse Survey



# **Unicorn Mineral Resources**

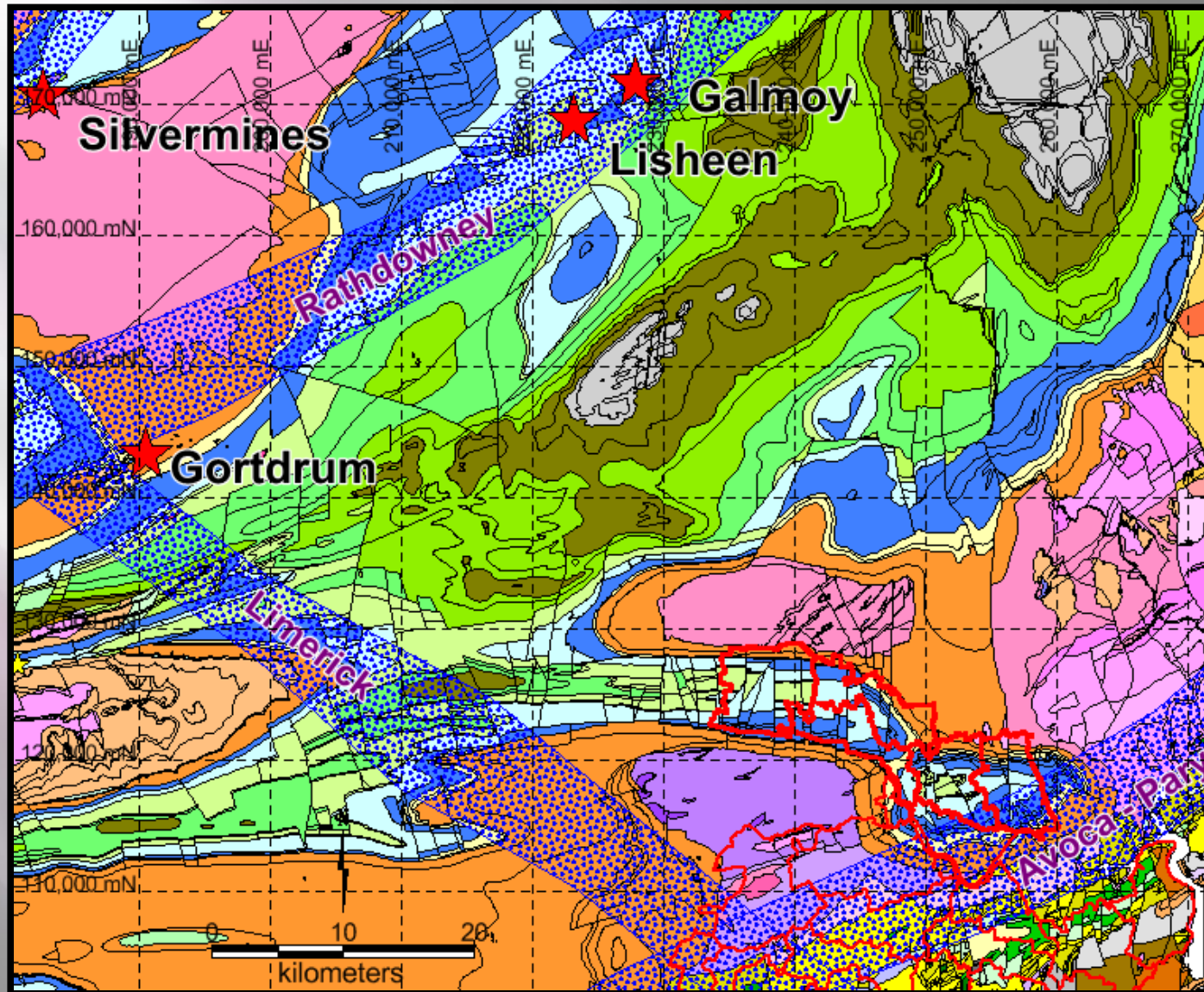
## **Clonmel Block – Targeting Rational**

- 1. Located along the Duncannon – Ribband VMS Mineralising Trend**
- 2. Extensive, well developed, Waulsortian Reef**
- 3. Clear evidence of large scale active faulting controlling regional subsidence and basin development.**
- 4. Mineral occurrences of Zn / Pb and Massive Pyrite hosted by the Sub Waulsortian Reef ABL and controlled by NW – SE faulting.**
- 5. Very poorly explored because it is located along the perceived Orefield margin. Recent developments suggest that NW-SE faulting is more prospective than previously thought.**



# Unicorn Mineral Resources

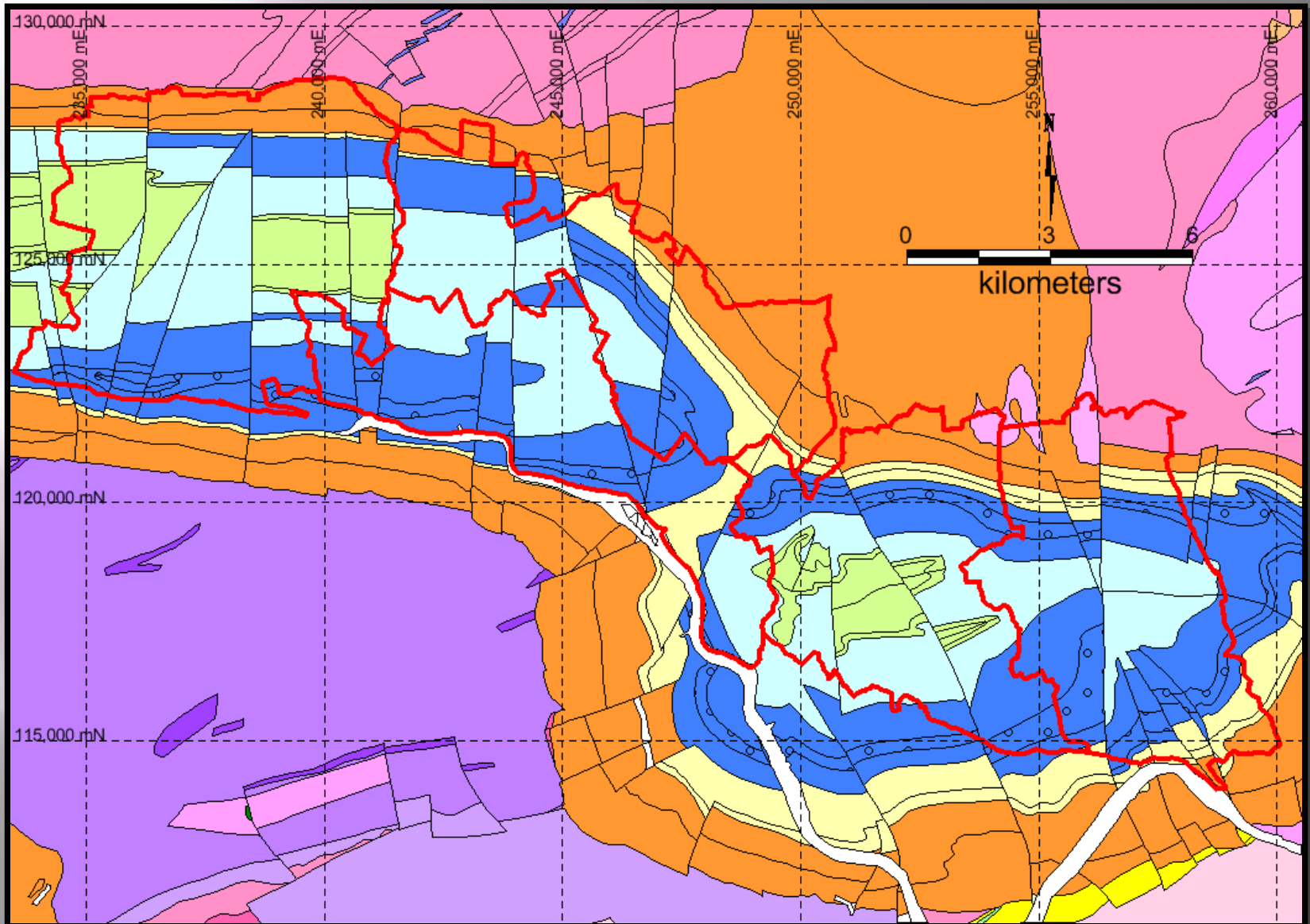
## Kilcormick Block – Licence Status





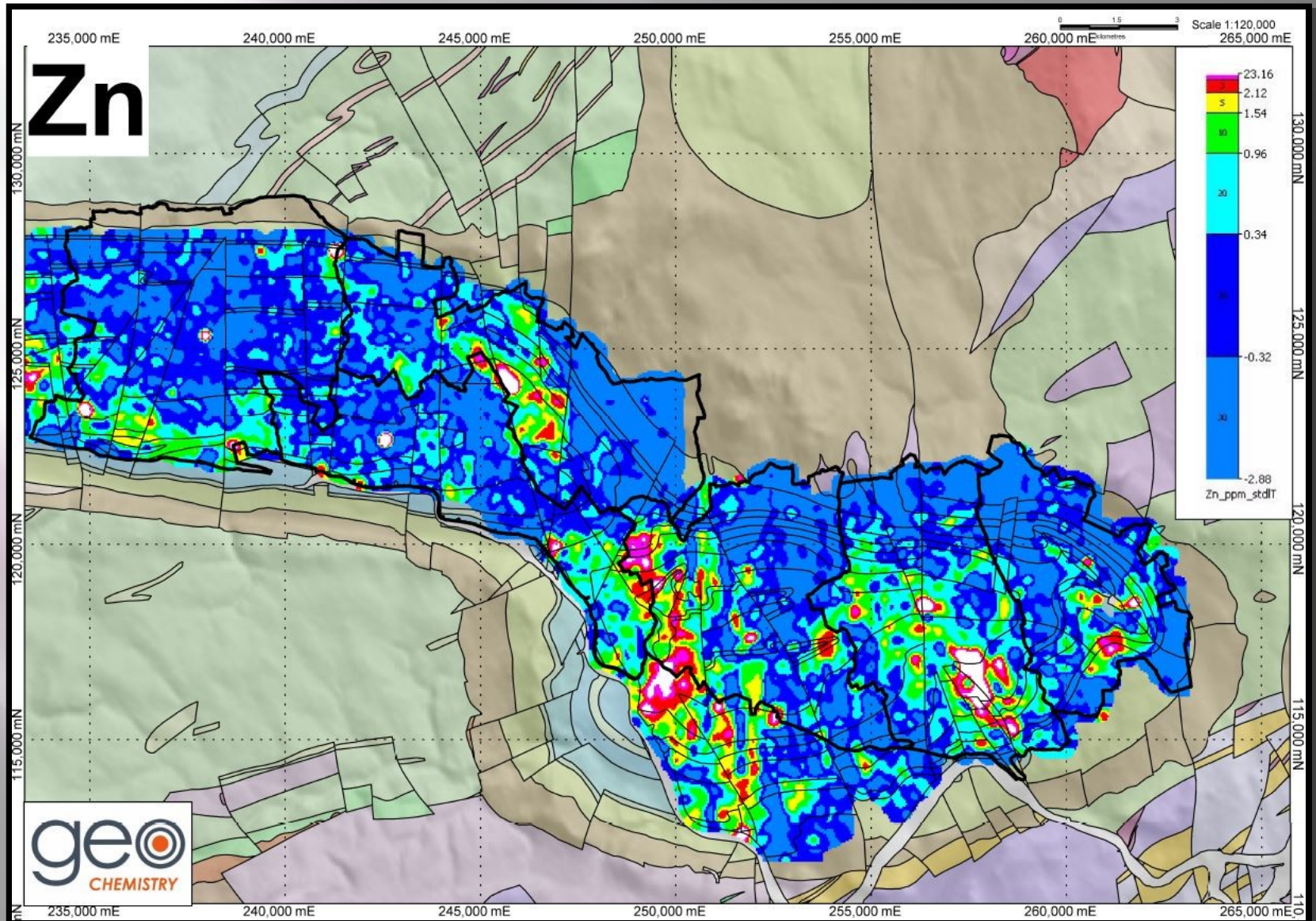
# Unicorn Mineral Resources

## Clonmel Block Geology



# Unicorn Mineral Resources

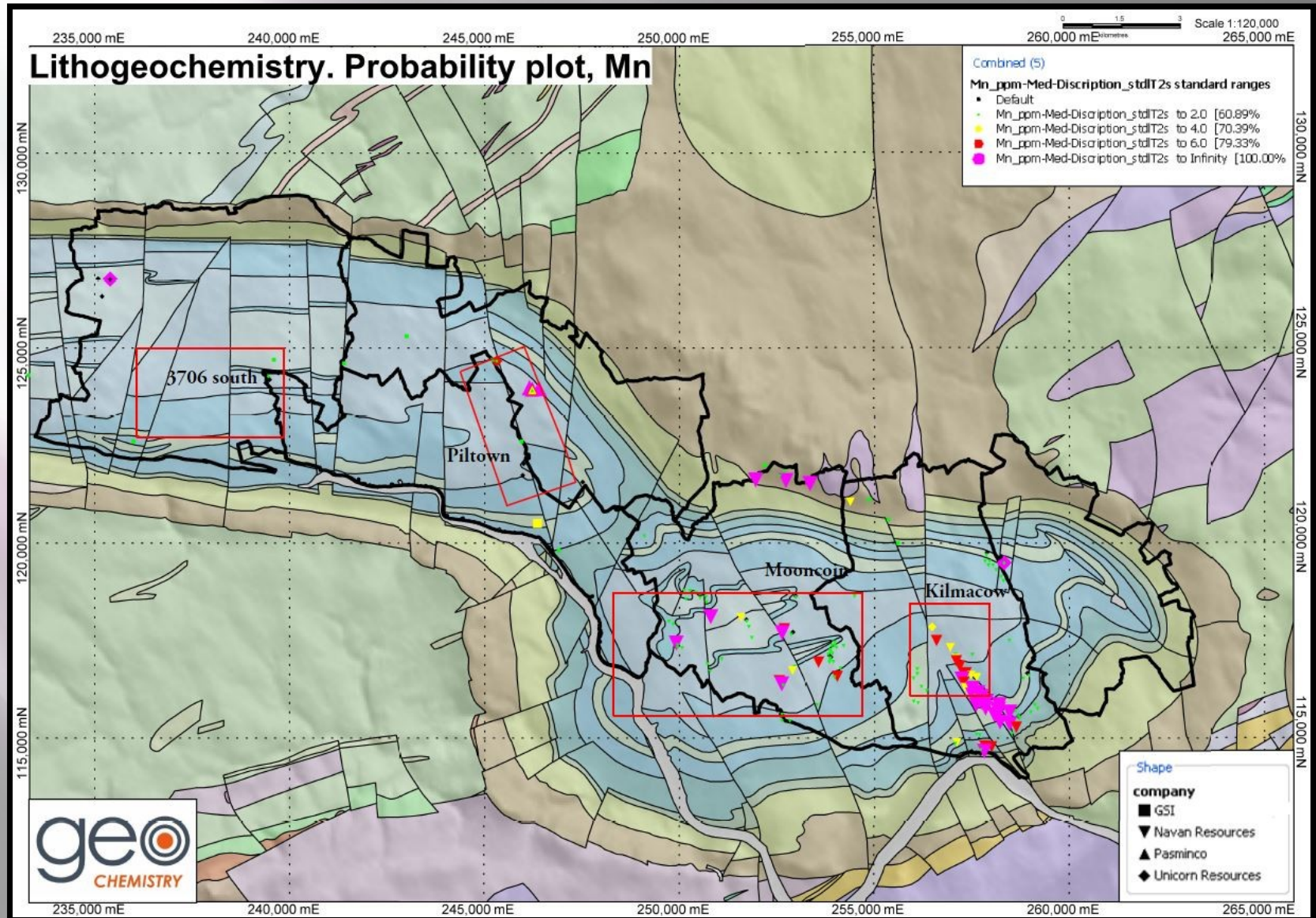
## Clonmel Block - Geochemistry





# Unicorn Mineral Resources

## Clonmel Block - Geochemistry





# **Unicorn Mineral Resources**

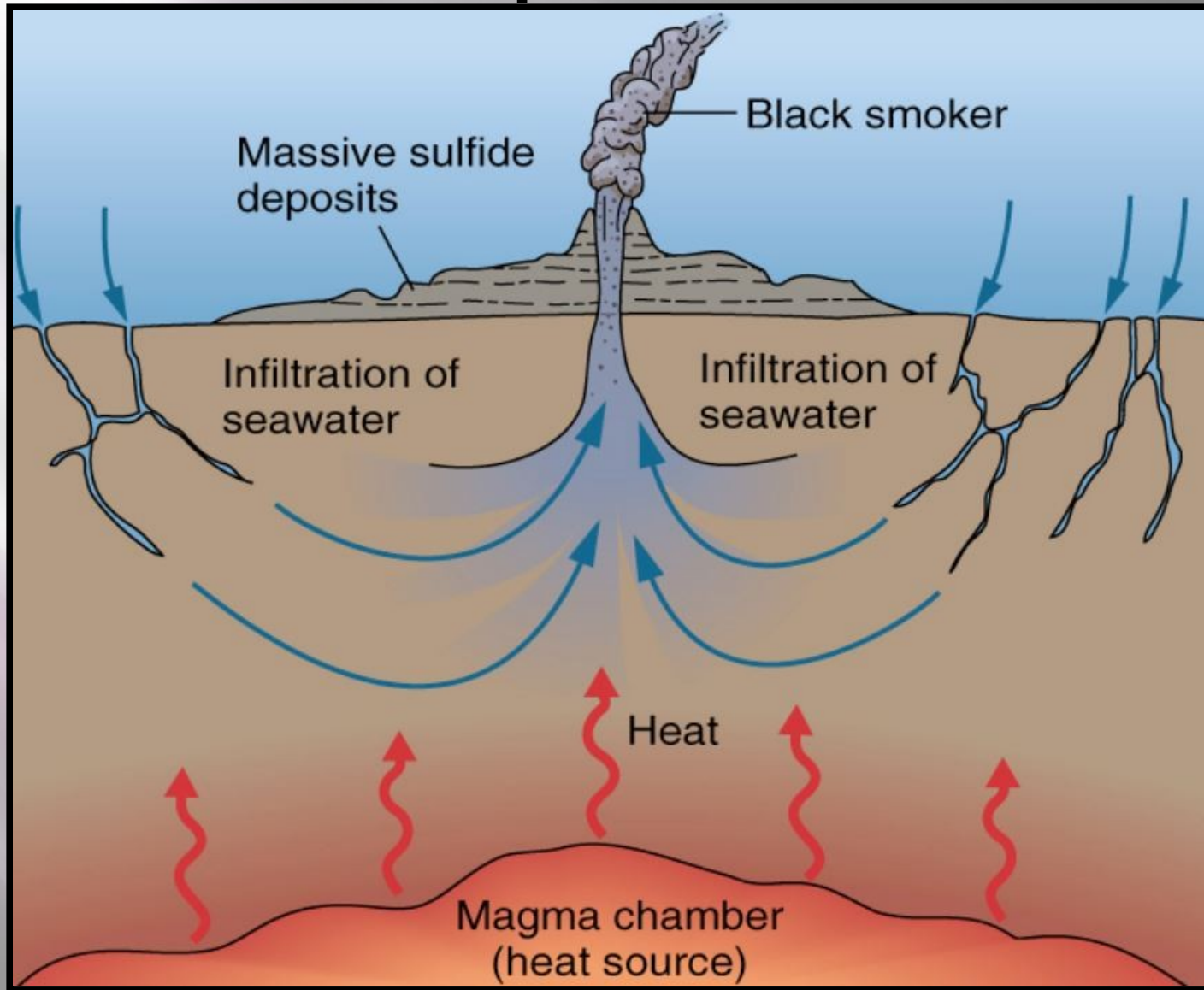
## **Waterford Block – Targeting Rational**

- 1. Located along the Duncannon – Ribband VMS Mineralising Trend.**
- 2. Prospective geology, Ordovician aged bimodal volcanism deposited in an Island Arc / Back Arc setting.**
- 3. Located along strike from major mine camps. Avoca and Parys Mountain deposits to the northeast and Buchans (Newfoundland), Bathurst (New Brunswick) to the west on the other side of the Atlantic.**
- 4. Clear evidence of large scale active faulting controlling regional subsidence and basin development.**
- 5. Mineral occurrences of Zn / Pb / Cu and Massive Pyrite hosted within Felsic volcanics.**
- 6. Relatively poorly explored because it is not a carbonate hosted Zn / Pb target area.**



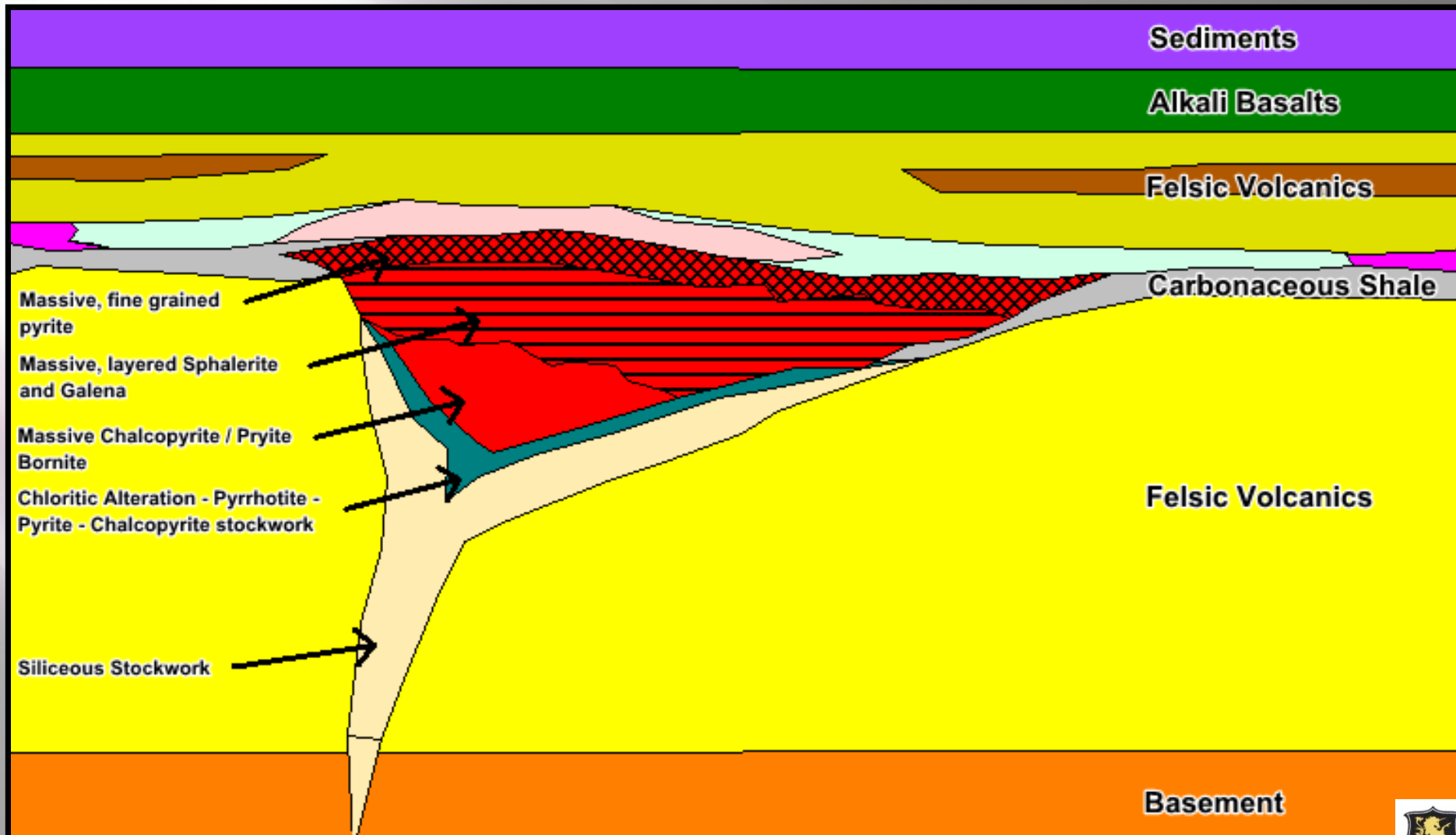
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## VMS Deposit – Model



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## “VMS” Style - Geological Model





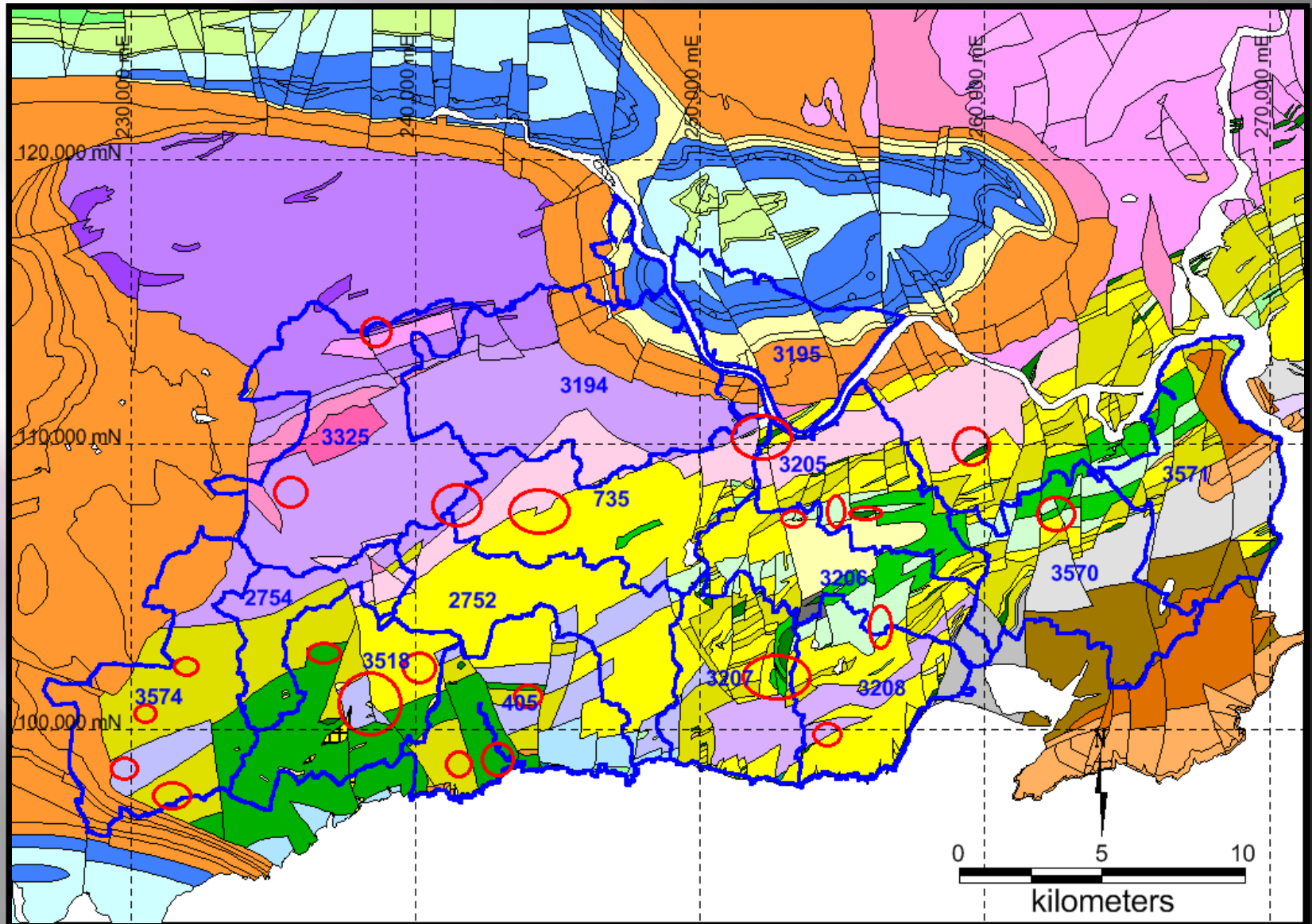
# Unicorn Mineral Resources

## VMS Deposit – Forming on Seafloor



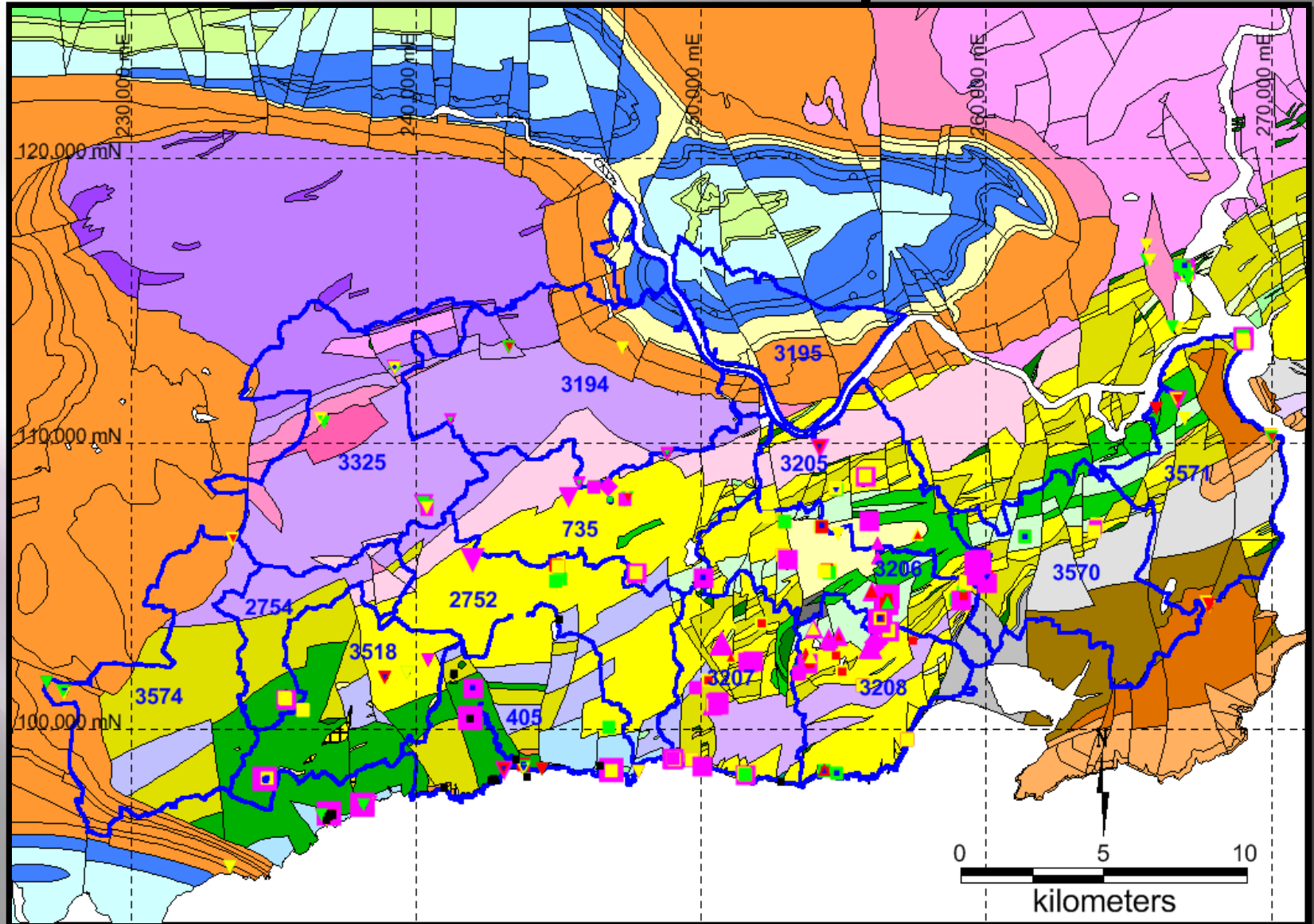
# Unicorn Mineral Resources

## Waterford Geology / PL's / Target Zones



# Unicorn Mineral Resources

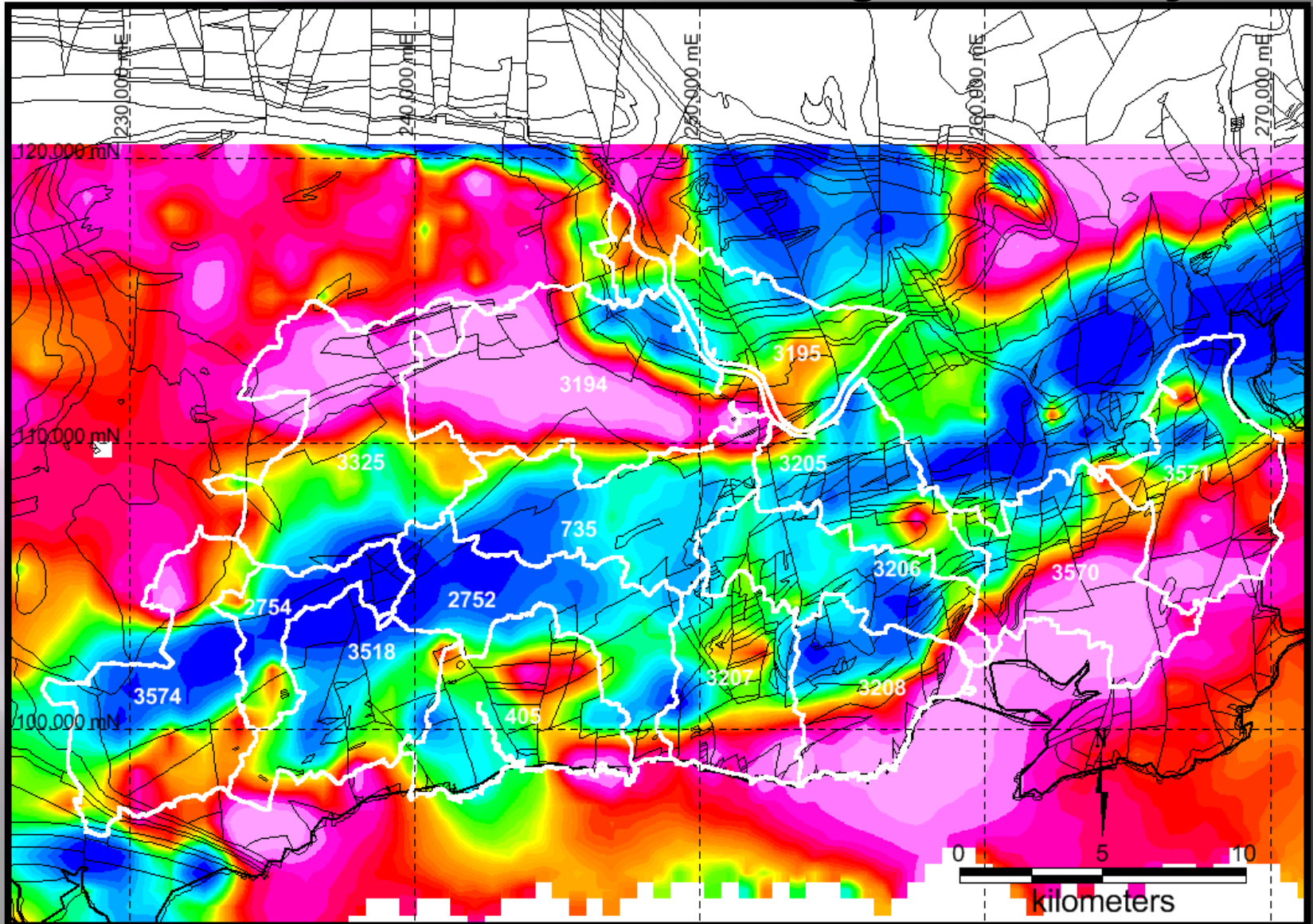
## Waterford Block – Litho-geochemical





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## Waterford Block – Bouguer Gravity



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## Summary

- 1. Irish Carbonate Hosted Zn-Pb Deposits are a recognised “World Class” exploration play**
- 2. The VMS potential of the Waterford Region is significant and has not been fully tested by a systematic modern exploration programme.**
- 3. Unicorn Mineral Resources has attained an enviable a ground position with highly prospective licences, using the latest geological modelling and interpretation.**
- 4. The Gort Block is located just a few kilometres along strike from one the most recent discoveries in an area with well developed host lithologies, early stage structural activity, intersections of massive pyrite and fault controlled disseminated pyrite.**
- 5. The Kilcormick Block is located along a major Caledonian mineralising trend (Navan-Silvermines), it is underlain by prospective geology, major basin controlling structures and has significant high grade sulphide mineralisation that remains open along strike and down dip at Kinnity.**
- 6. The Clonmel Block is located along a basement trend, has prospective geology and strong evidence of structurally controlled mineralisation.**



# **Unicorn Mineral Resources**

## **Proposed Work Programme**

- 1. Gort Licence Block** – Geophysical surveying at the Carhenny Target zone (IP Dipole – Dipole) to refine the structural model and test for potentially “shallow” Reef hosted targets. Follow up diamond drilling to test the remaining targets at Knocktoby and Addergoole
- 2. Kilcormick Licence Block** – Diamond drilling to test the anomalies detected by the MALM survey. Infill IP surveying, supported by diamond drilling, to test the Pole-Dipole IP anomalies to the northeast and southwest. MALM surveying of any drillholes with sulphide mineralisation.
- 3. Clonmel Block** – Deep overburden geochemistry followed up by VLF surveying across the selected target areas. Diamond drill testing of any significant anomalies.
- 4. Waterford Block** – After the licences are officially awarded, then field check the highlighted target areas, with geological mapping and prospecting, supported by lithogeochemistry. Commence work focused on target zones with some check sampling and extensions to detailed grids. Geophysical surveying with ground magnetics, EM and gravity. Diamond drilling to test for mineralisation along strike and down dip.





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**Any Questions?**

