



# **UNICORN MINERAL RESOURCES LIMITED**

## **IRISH MIDLANDS OREFIELD COPPER / LEAD / ZINC and SILVER EXPLORATION PROJECTS**

**[WWW.UNICORNMINERALRESOURCES.COM](http://WWW.UNICORNMINERALRESOURCES.COM)**



# Forward Looking Statements

## Disclaimer

Certain information presented, including discussions of future plans and operations, contains forward-looking statements involving substantial known and unknown risks and uncertainties. These forward-looking statements are subject to risk and uncertainty, many of which are beyond control of company management. These may include, but are not limited to the influence of general economic conditions, industry conditions, fluctuations of commodity prices and foreign exchange rate conditions, prices, rates, environmental risk, industry competition, availability of qualified staff and management, stock market volatility, timely and cost effective access to sufficient working capital or financing from internal and external sources. Actual results, performance, or achievements may differ materially from those expressed or implied by these forward looking statements.



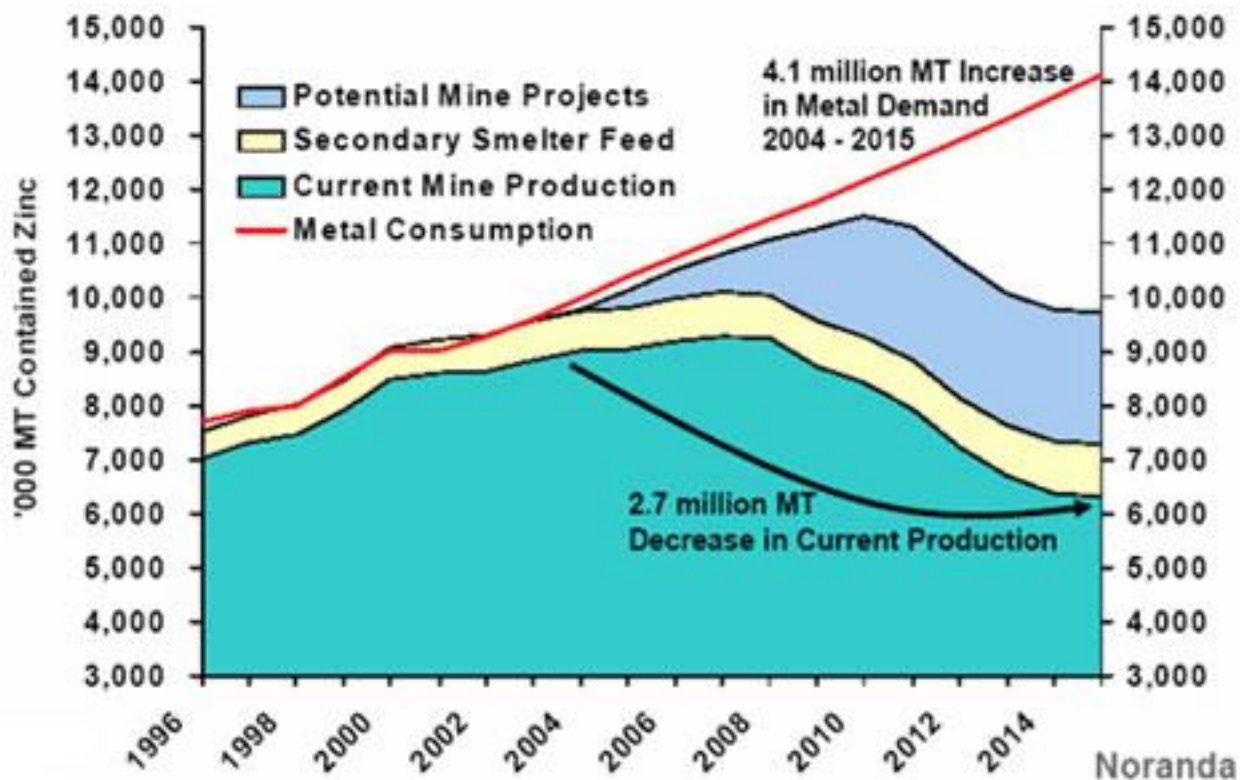
# Why Ireland / Why “Irish Type” Deposits?

- Ireland is a politically stable country with a well established mining law.
- In 2008 Irish mines produced 36% of Europe's Zinc and 15% of Europe's Lead (3.4% and 1.2% respectively of world production).
- The Irish Midlands Orefield is rated as the most successful part of the world for zinc discoveries/ km<sup>2</sup> (ref. EMD 2009).
- They are relatively large – economic deposits range in size from 10 - >100 Mt.
- They are relatively high grade – zinc grades range from 8 -14.8% and Lead grades range from 2 – 5%.
- They have a very simple mineralogy – dominated by sphalerite, galena and pyrite.
- The mineralisation is metallurgically straightforward and can be processed by simple milling and floatation techniques
- Concentrates from “Irish Type” deposits contain few smelter penalty elements.



# Zinc Demand Trends

## *Falls Short of Trend Demand Growth*

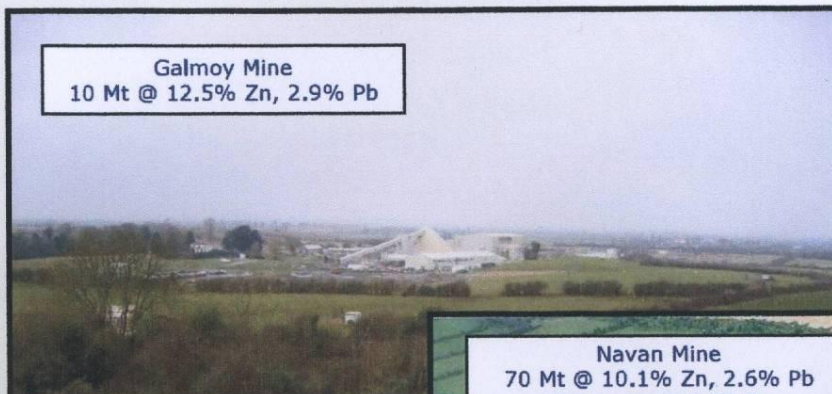






# Ireland's Recent Lead / Zinc Mines

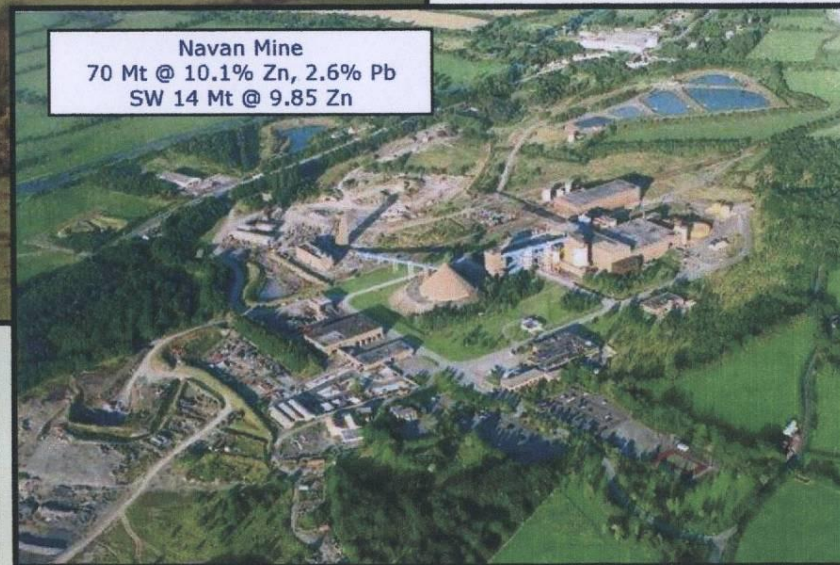
Galmoy Mine  
10 Mt @ 12.5% Zn, 2.9% Pb



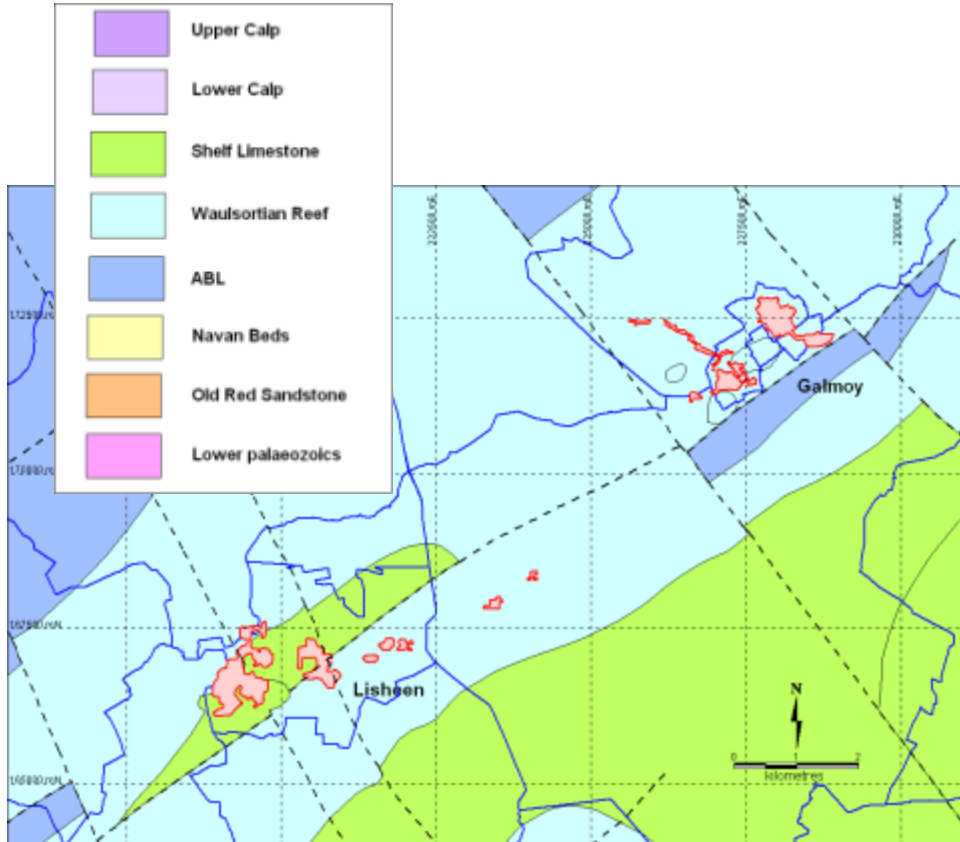
Lisheen Mine  
23 Mt @ 13.1% Zn, 2.2% Pb



Navan Mine  
70 Mt @ 10.1% Zn, 2.6% Pb  
SW 14 Mt @ 9.85 Zn



# Lisheen (Vedanta) and Galmoy (Lundin) Licence Area Geology



## Galmoy

The Galmoy zinc-lead deposit was discovered in 1986. Production commenced in early 1997 with total production to date being 9.7 Mt at 16.2% Zn/Pb

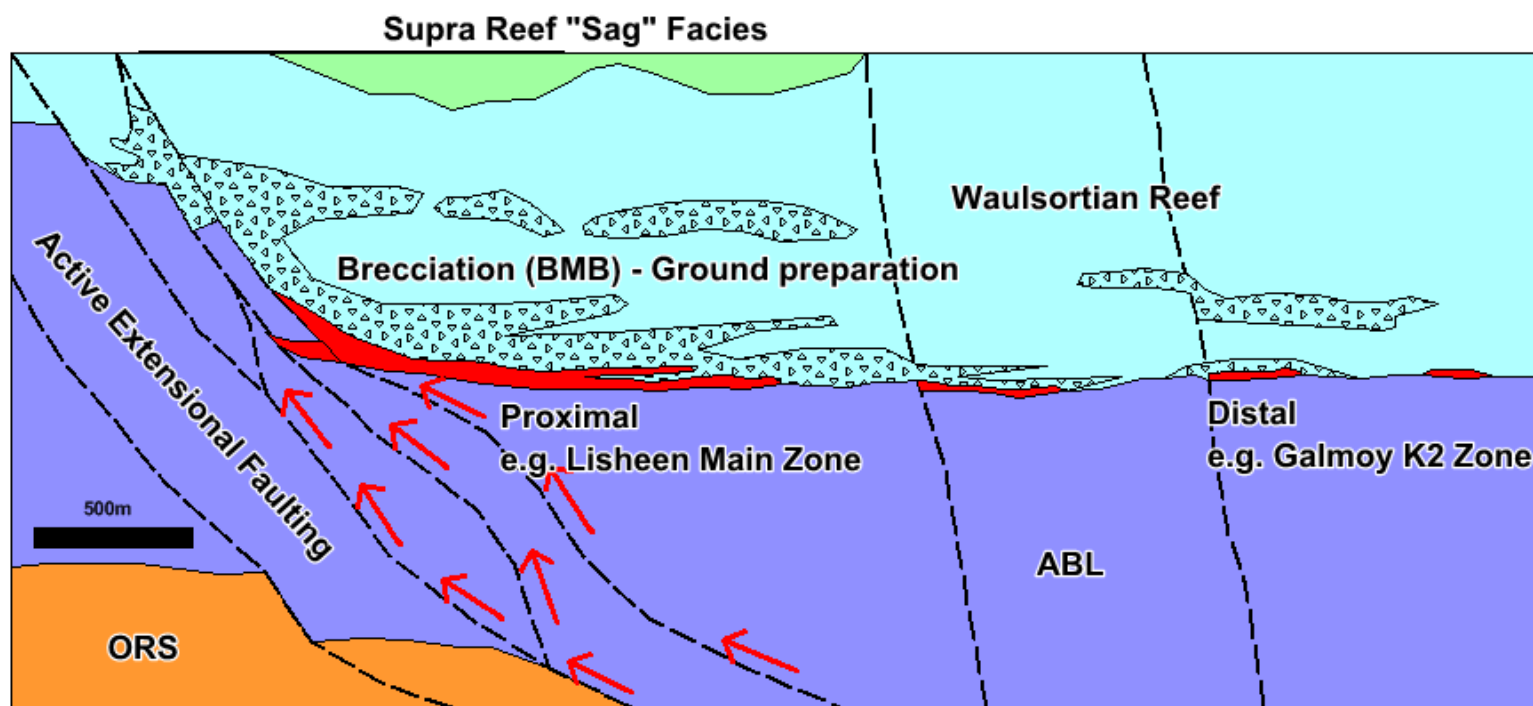
Two separate sulphide ore bodies occur approximately 70 m below surface and are hosted in basal Waulsortian (Lower Carboniferous) “Reef” mud bank limestone's. The host rock has been extensively dolomitized and brecciated. The mineralization is regarded as being replacement/stratabound. There are four ore bodies with the G ore body being a classic “Irish type” deposit occurring in the hanging wall of a major northeast trending fault.

## Lisheen

Lisheen was discovered in 1990 and production commenced in September 1999. Total production to date has been 22.8 Mt at 14.1% Zn+Pb. Mineralization occurs as massive stratiform sulphide lenses at the base of dolomitized Waulsortian (Lower Carboniferous) “Reef” micrites in the northern hanging wall of an ENE trending fault zone

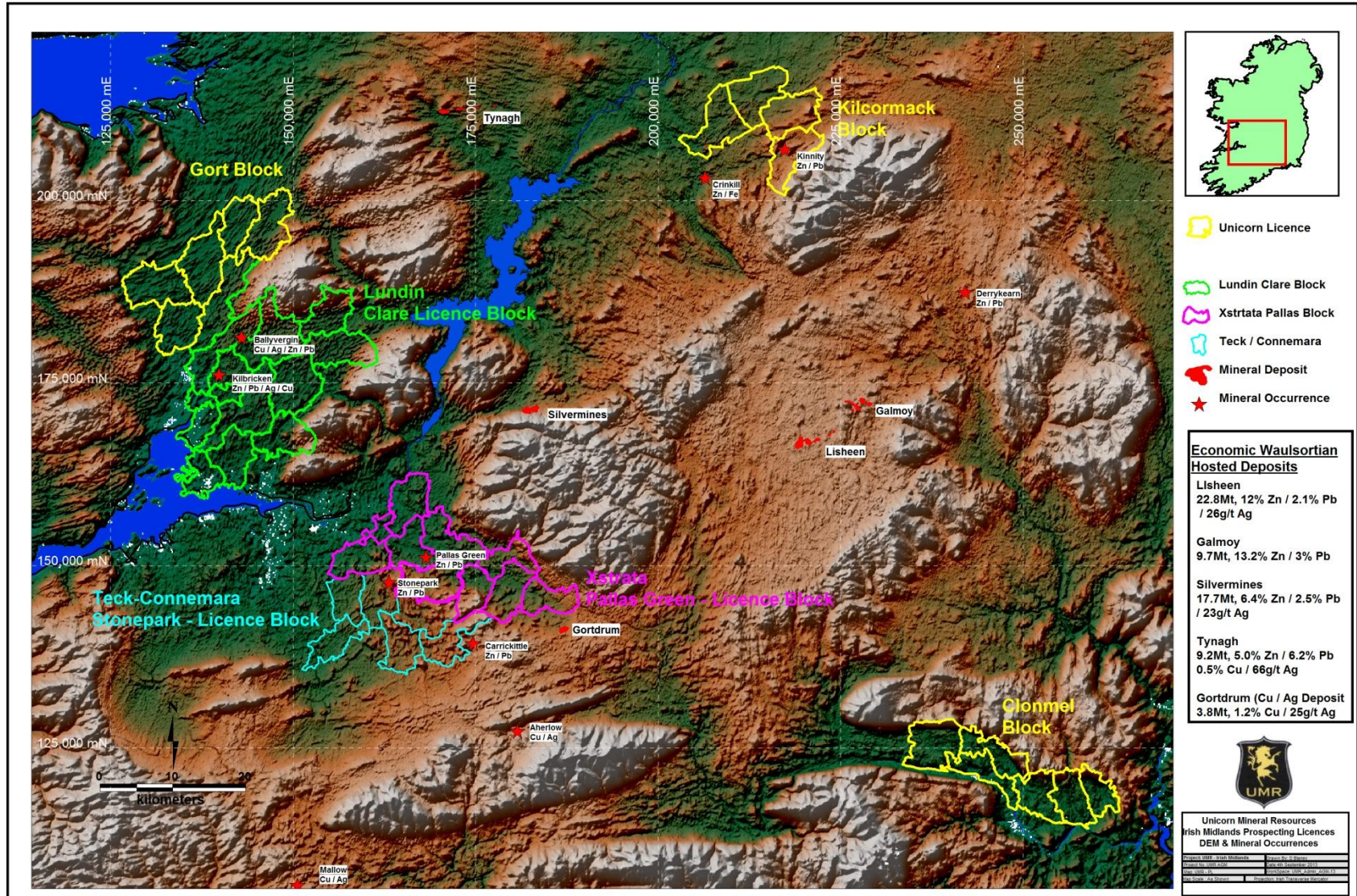


## Irish Type – Waulsortian Reef Hosted Deposit Target Model





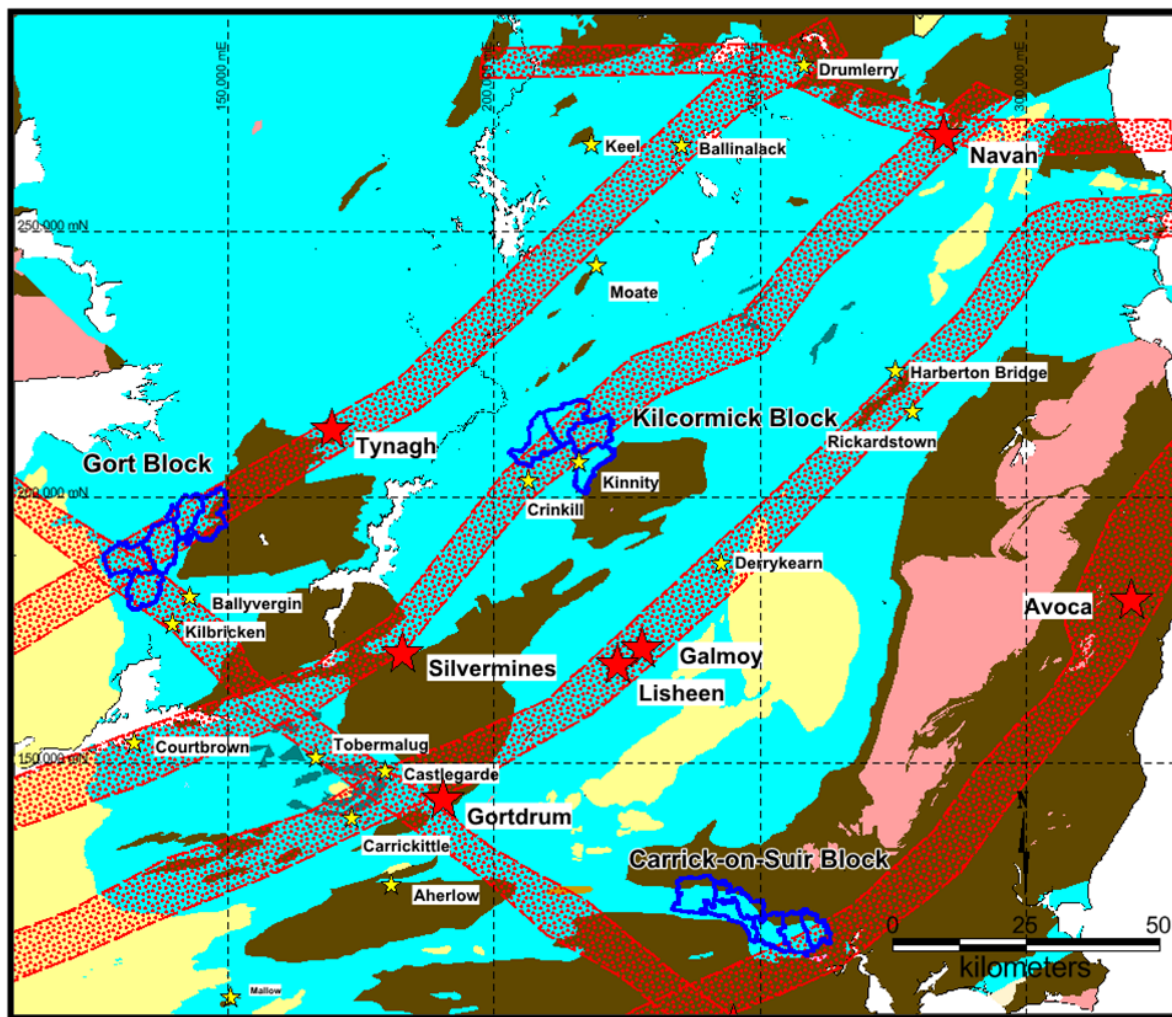
# Mineral Map of Ireland with Unicorn Mineral Resources Licences Highlighted







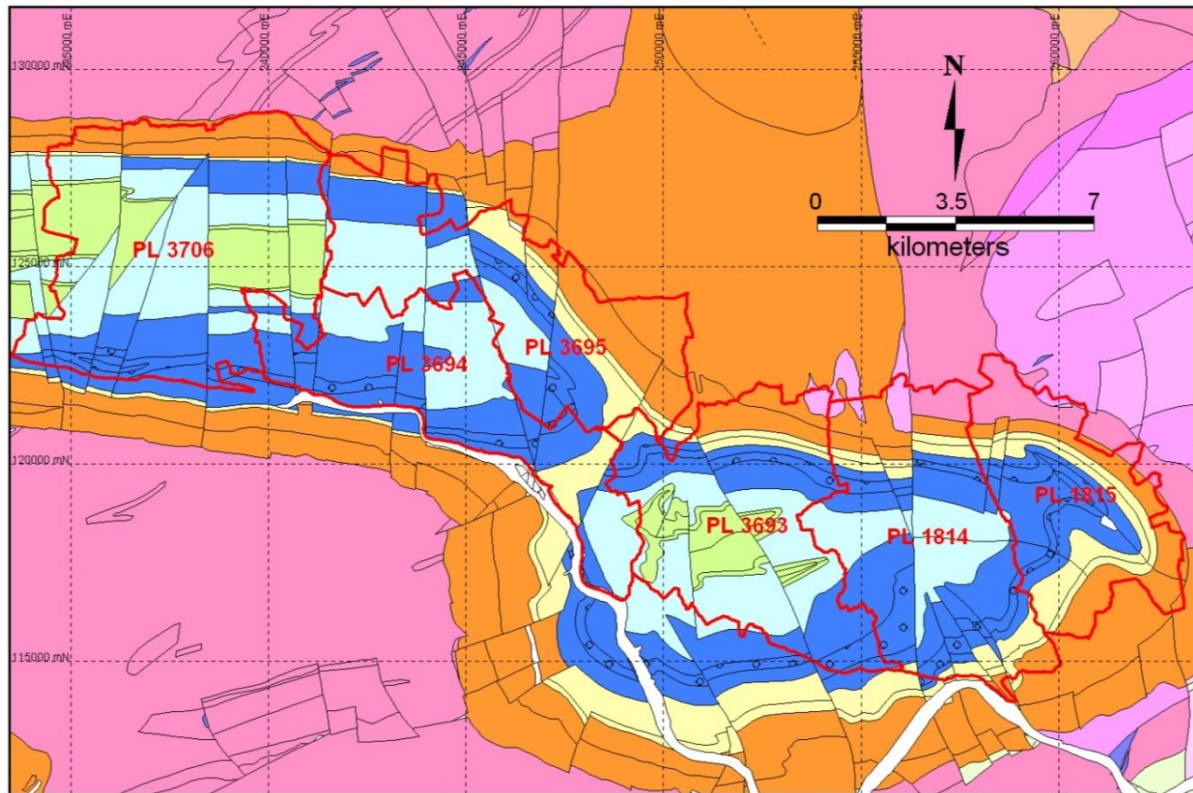
# Main Mineral Trends in Irish Midlands Orefield with Unicorn Mineral Resources Licences Highlighted



*Unicorn Licences highlighted in Blue and showing their position relative to known mineral trends*



# Unicorn Clonmel Licence Block Geology



## Stratigraphic Legend

	Coal Measures
	Namurian
<hr/>	
<u>Basinal Limestones</u>	
	Calp / Lucan Fm.
	Tobercolleen Fm.
<hr/>	
<u>Shelf Limestones</u>	
	Cloghgrennan Fm.
	Ballyadams / Burrren
	Oakport / Aghmacart
	Lough Gur / Crosspatrick
<hr/>	
Chadian - Asbian	Waulsortian Reef
	ABL
	Navan Beds / LLS
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Courceyan	Old Red Sandstone
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Devonian	Lower palaeozoics

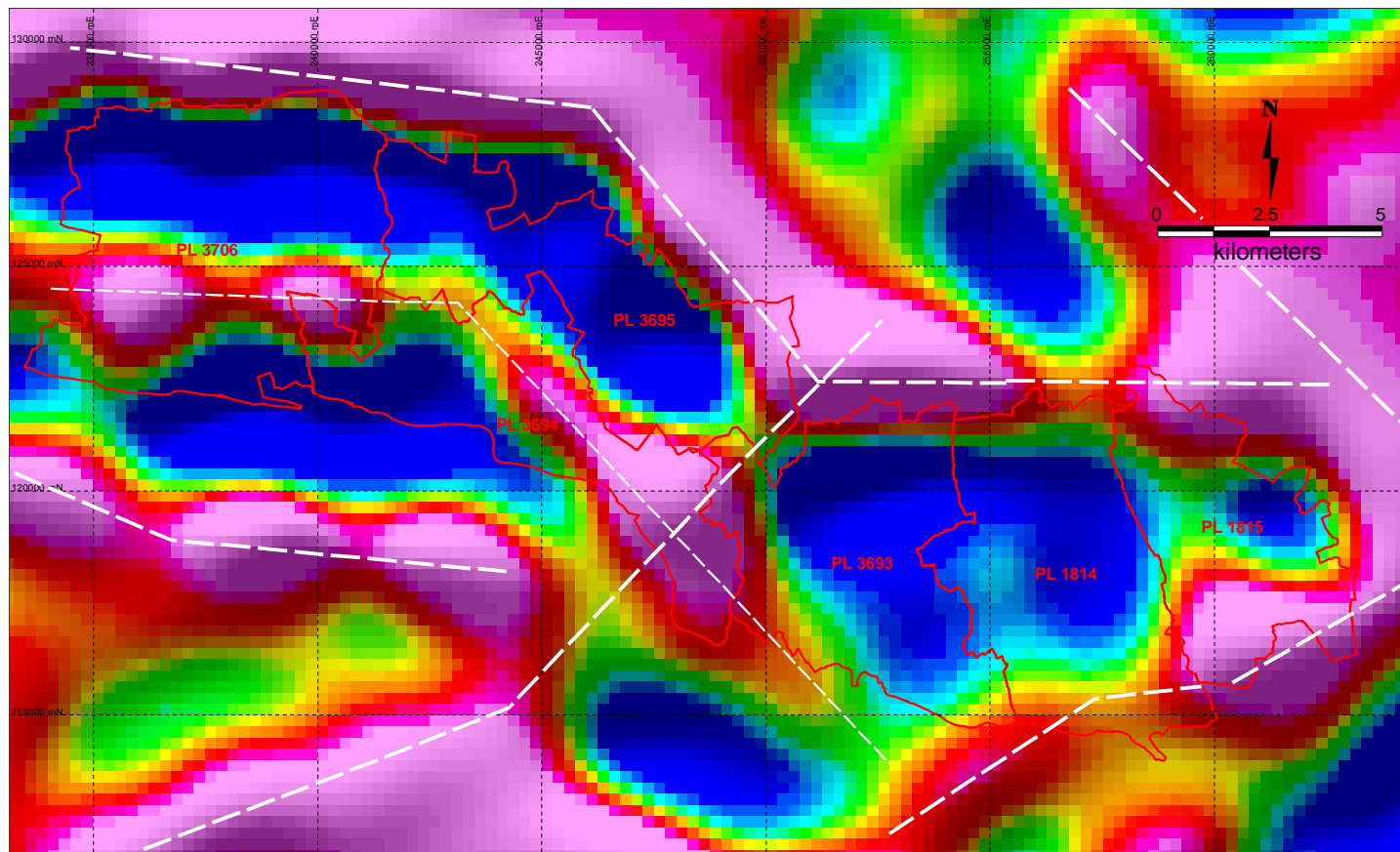
**Target – Lisheen / Pallas Green Style basal Waulsortian Reef hosted massive sulphide mineralisation.**

**Geology – Extensive sub-cropping Waulsortian Reef, poorly explored.**

**Structure - dominated by a set of NNW striking faults with indirect evidence for E-W and NE-SW striking faults.**



# Unicorn Clonmel Licence Block Gravity Survey



**2<sup>nd</sup> Vertical Derivative Gravity Image with interpreted lineaments**

Underlying basement trends as seen on the vertical derivative regional gravity map shows the license block straddling a confluence of pronounced lineaments trending NNW, NW and NE-SW.





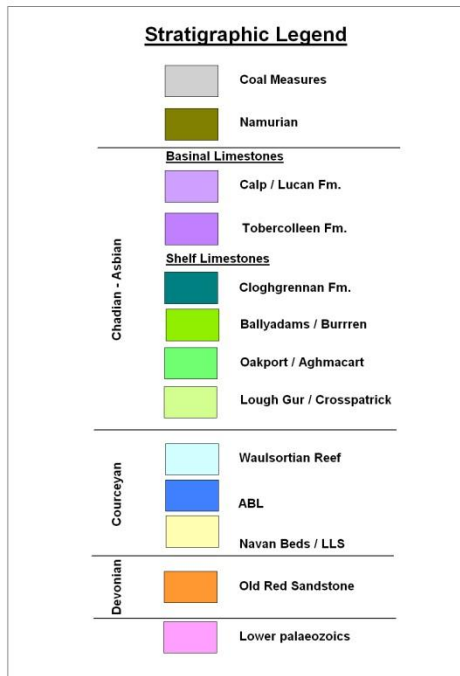
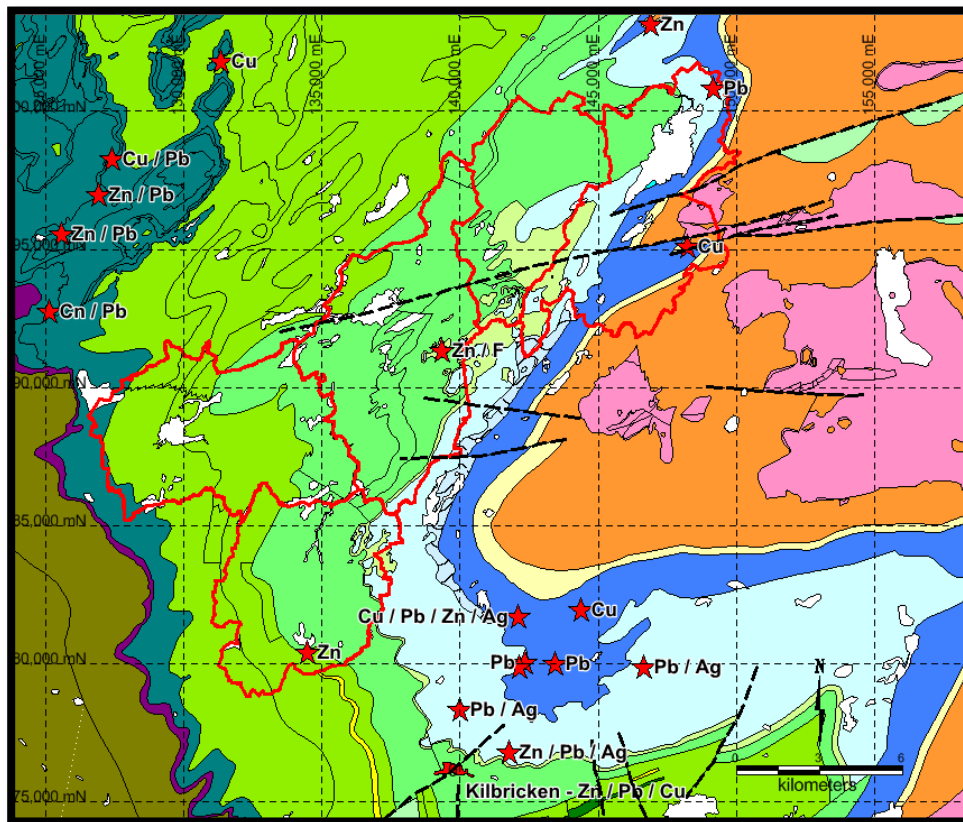
# Conclusions/Recommendations

## Unicorn Clonmel Licence Area

- On Licence Areas 3694/3695 Geochemical results show a strong anomaly mainly for zinc. The anomaly is over 30m wide with zinc values frequently greater than 10,000 ppm to a maximum of 16,000 ppm.
- Copper values, also anomalous, are commonly in excess of 100 ppm, with a maximum of 2,280 ppm.
- This zinc anomaly is controlled by a NNW trending fault. The fault offsets the ABL against the Waulsortian Reef and is represented by a significant topographic feature.
- Significant geochemical signatures have also been discovered by soil and deep overburden sampling at Dunkitt on PL 1814. This area is underlain by the Middle ABL Oolite Fm., which is be considered to be a second order target horizon on the block after the Waulsortian Reef.
- Best results included highly anomalous deep overburden / soil anomalies of up to 4600ppm Zn / 400ppm Pb / 200ppm Cu, and trace sphalerite and Barite in the ABL in borehole W5 on PL 1814.
- Reconnaissance geological mapping and prospecting will be quickly carried out to ascertain the veracity of the current geological / structural models.



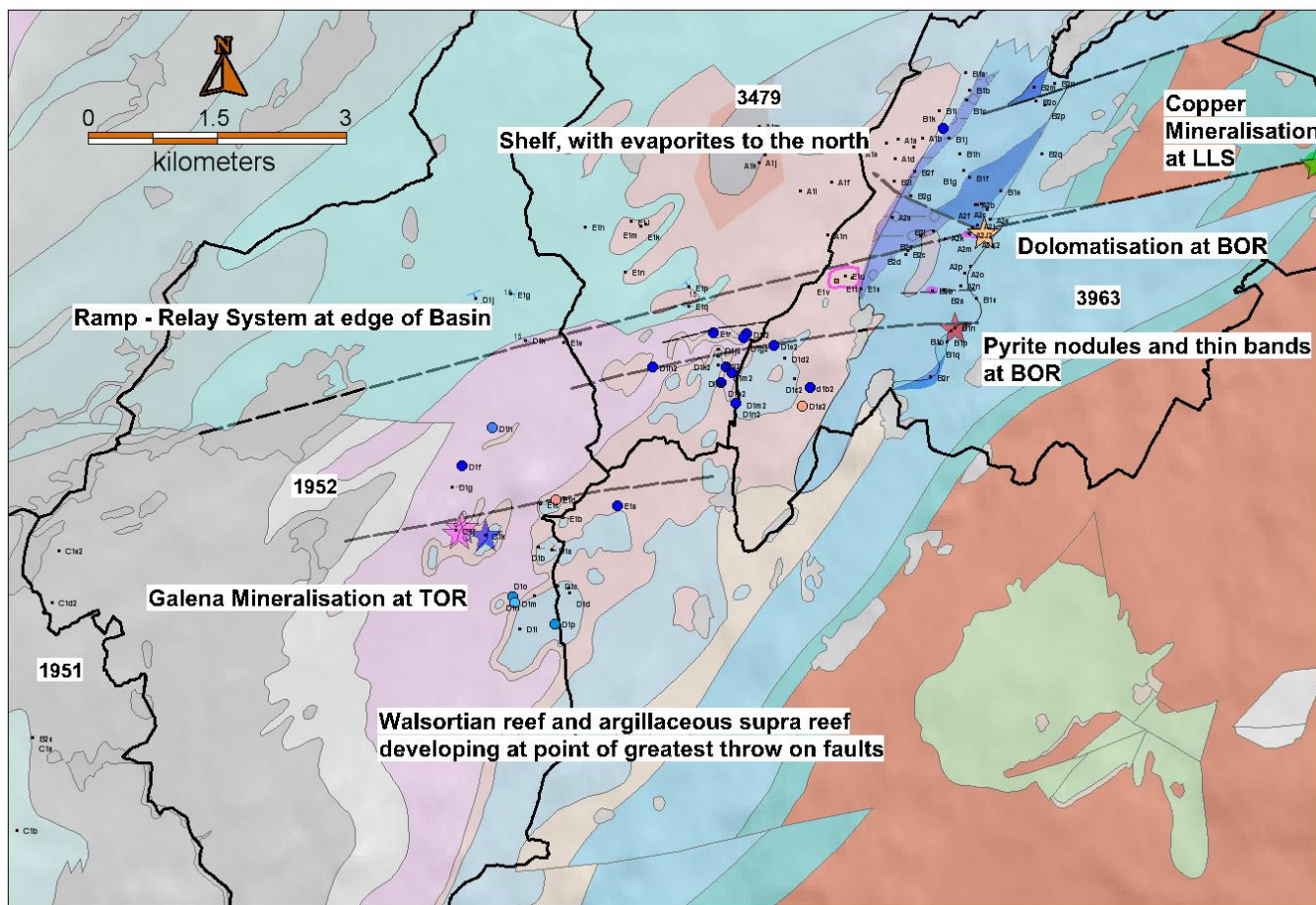
# Unicorn Gort Licence Block Geology Map



Numerous mineral occurrences developed across this region, dominated by breccia and vein hosted lead and fluorite mineralisation in the Supra Reef shelf limestone's and copper in the Lower Palaeozoics / ORS. This pattern is strongly analogous to the Lundin Kilbricken area only a few km to the south east.



# Unicorn Gort Licence Block Initial Geology Draft Model

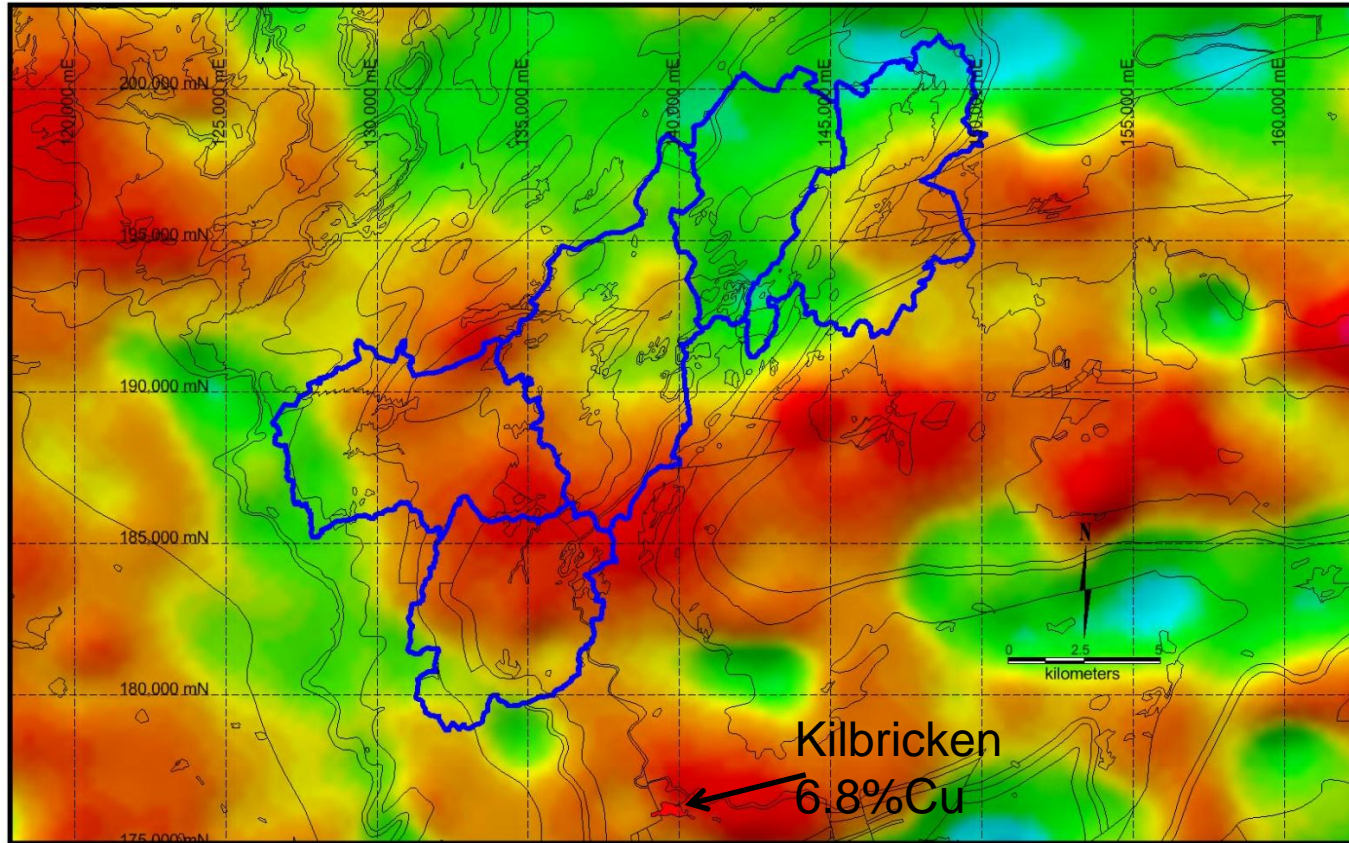


*Unicorn Target Area for Drilling on Gort Licence Area*





# Unicorn Gort Licence Block Residual Gravity



Residual gravity showing the strong NW – SE & NE - SW striking conjugate structural grain that runs across this region. This is a reflect of the interference between the Limerick and Tynagh / Ballinalack mineralising trends



# Lundin Kilbricken Licence Adjacent to Unicorn's Gort Licences

LUDIN MINING (lun.to) has successfully identified a high-grade zinc-lead-silver-copper deposit at Kilbricken 5 km south east of Unicorn's licences.

Some of the higher grade drill intercepts at Kilbricken

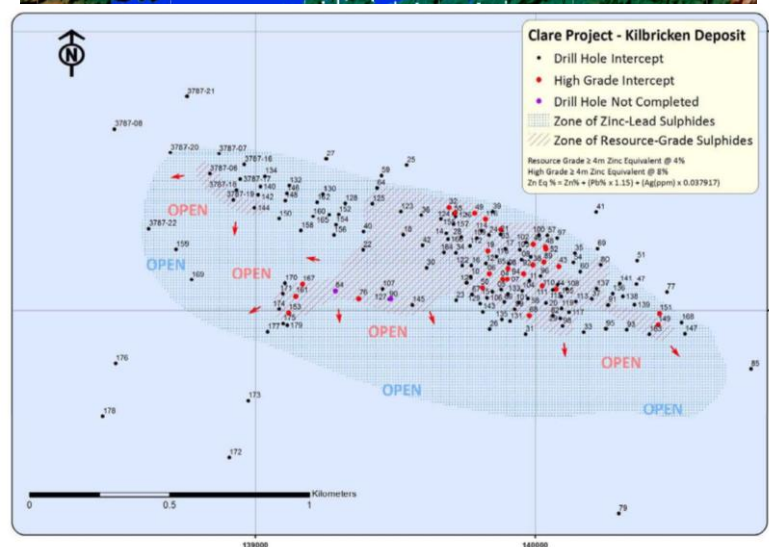
21.2 metres at 11.0% zinc, 4.8% lead, 94.4 g/t silver in hole 09-3679-06

25.8 metres at 2.6% zinc, 6.7% lead, 114.8 g/t silver including 9.3 metres at 4.1% zinc, 12.0% lead, 242.8 g/t silver in hole 10-3679-43

20.5 metres at 7.5% zinc, 9.9% lead, 74.6 g/t silver in hole 10-3679-46

Recent drilling has also shown 6.8% copper over a 3 metre intercept in hole 11-3679-153. Lundin are now calling this new area the "Copper Zone".

Hole 11-3679-167, intercepted two separate high-grade zinc-lead sulphide intervals of 6.6 and 5.8 metres true thickness, composed of massive and semi-massive sphalerite, galena and pyrite, in addition to a 12.0metre thick interval of high-grade copper sulphide mineralization that is rich in both chalcopyrite and bornite.







# Unicorn Gort Liscence Area

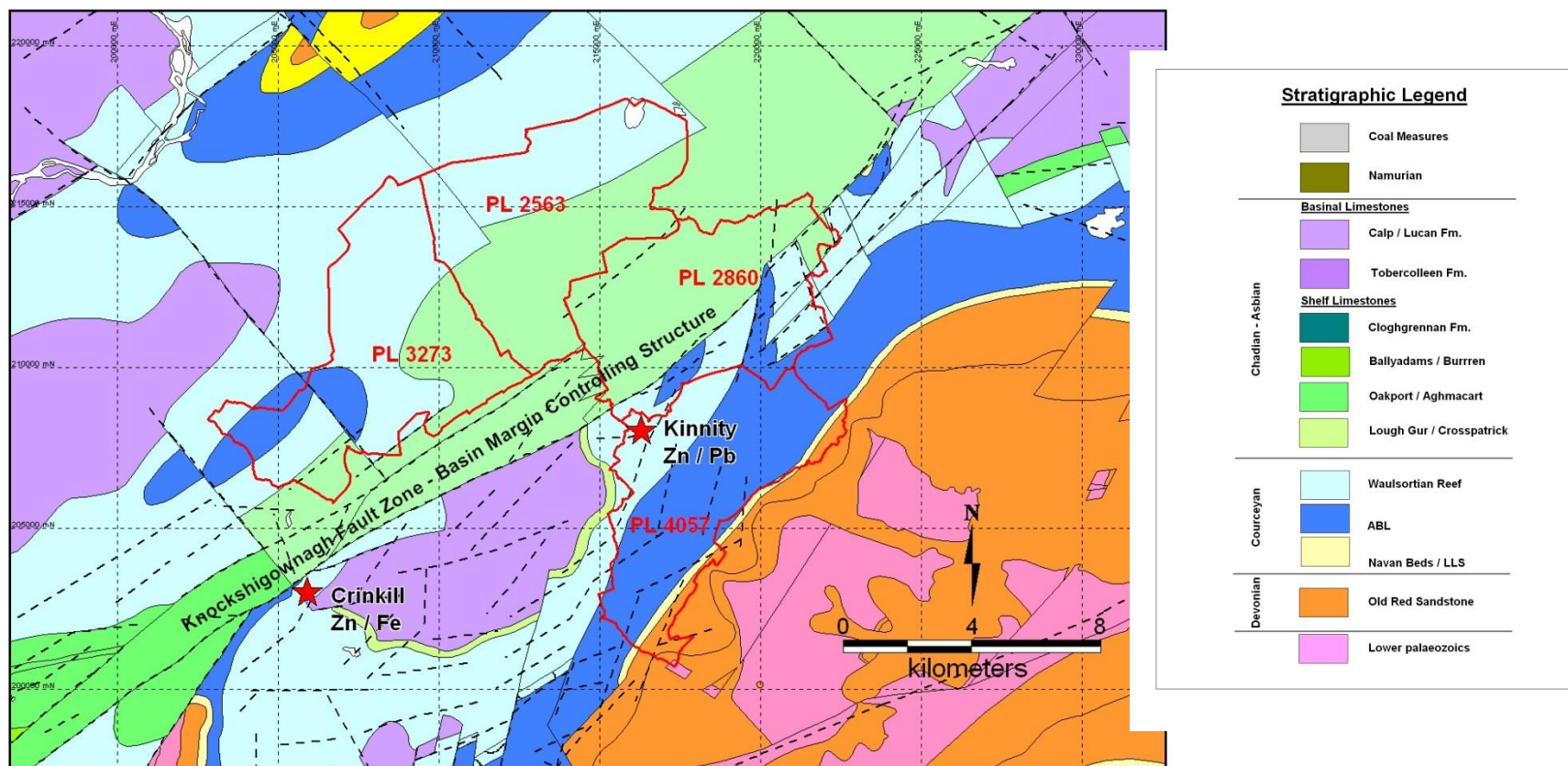
## Conclusions/Recommendations

- The block is located along two major Caledonian mineralising basement trends, the Tynagh – Ballinalack and the northern edge of the Limerick Trend, which controls the mineralisation at Gortdrum, Pallas Green and Kilbricken
- There are numerous working and occurrences of zinc, lead and fluorite mineralisation. Primarily occurring in veins hosted by the Supra-Reef limestones. This is analogous to the situation at the recent Belmore / Lundin discovery at Kilbricken just 5km to the south east where the high grade, stratiform massive sulphide lens is found directly beneath a zone of vein controlled calcite / lead mineralisation . Kilbricken has now also encountered 6.8% Copper in a new “Copper Zone” 750 metres west from the original find.
- Production records for the old Ballyvergin Mine 5km east of Unicorn’s licences are incomplete but Andrew (1986) states that 360 tons of 8% Cu ore and 119t of galena concentrates were raised between 1856 and 1861.
- Unicorn’s geologist and COO Dave Blaney and his team have recently carried out a reconnaissance programme of mapping, sampling, geochemical and geophysical exploration on this licence area to identify suitable areas for drilling. Following on from this Dave has developed a new geological model for the area and has narrowed down three areas of interest which we hope to drill over the coming months.





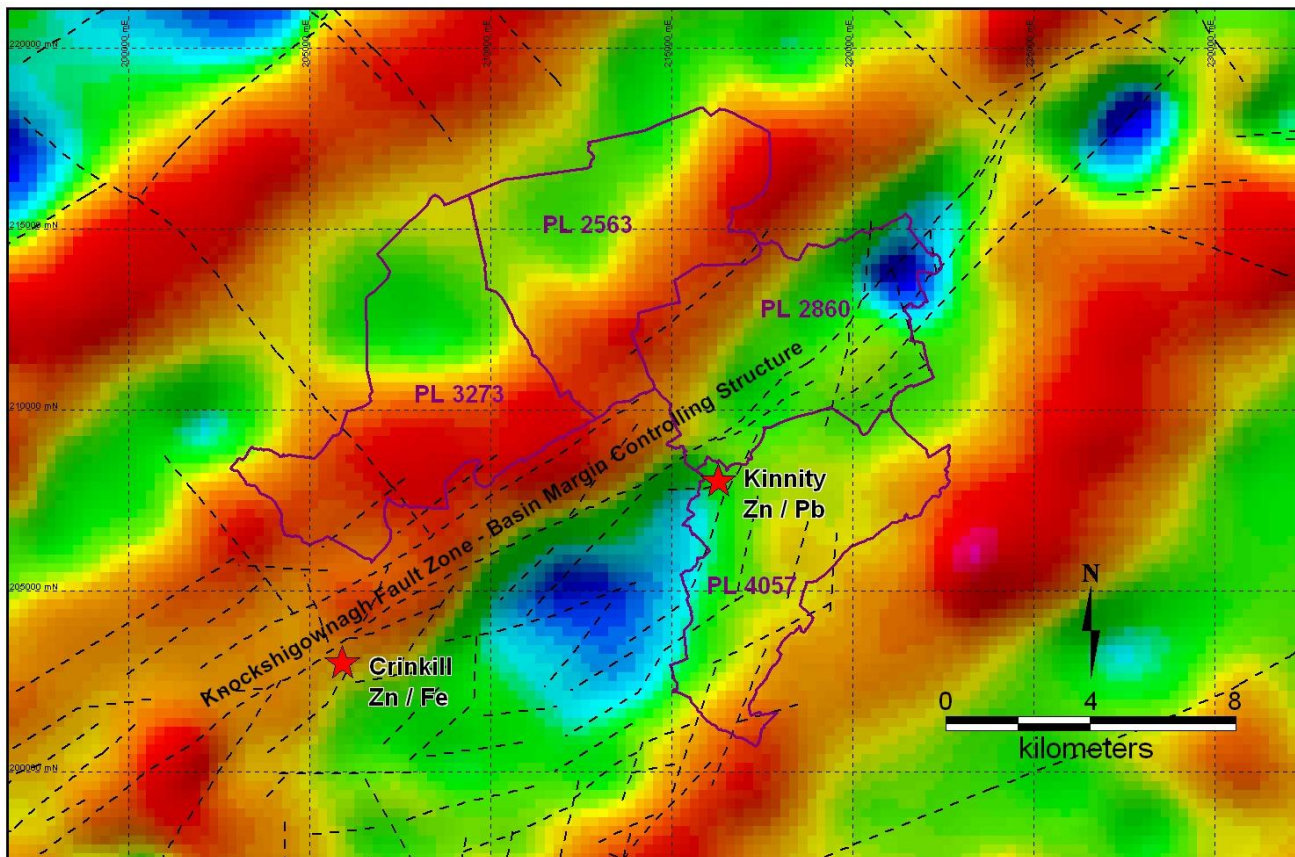
# Unicorn Kilcormick Licence Block Geological Setting



**Significant Mineral Occurrences – Kinnity Waulsortian Reef MVT style breccia hosted high grade Zn / Pb mineralisation. Crinkill Base of Waulsortian Reef hosted stratiform Iron Formation analogous to the Tynagh Deposit. Two significant occurrences of Reef breccia hosted massive pyrite.**



# Unicorn Kilcormick Licence Block Residual Gravity

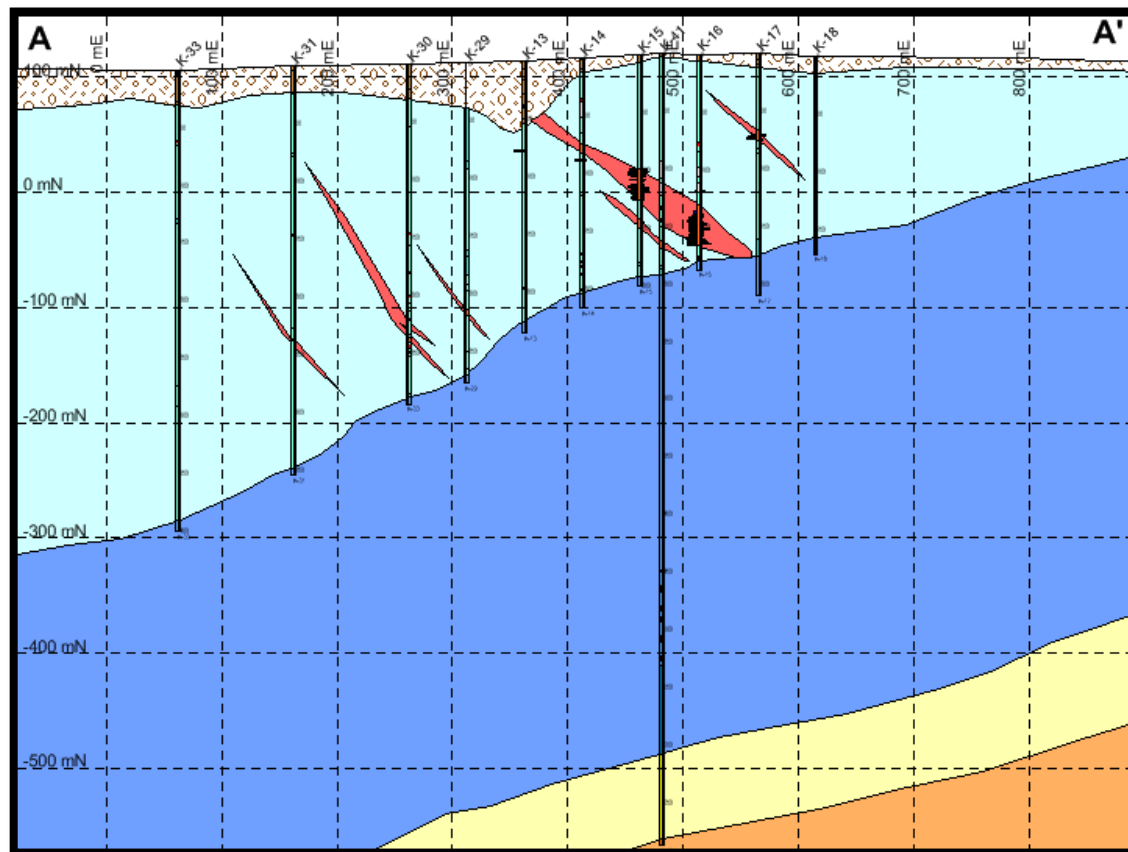


Residual gravity demonstrating the strong NE – SW striking, Caledonian grain running through the block. This feature is part of the basement derived structural architecture that controls the Navan and Silvermines deposits.



# Unicorn Kilcormick Licence Block

## Kinnity- Drill Section



NW-SE geological section through the Kinnity deposit. Strata dip to the NW at c. 30°. Breccia hosted mineralised bodies of massive pyrite, marcasite, sphalerite and galena dip to the SE at c. 45°. Best intersection to date in drillhole K21 gave a composite of 10.12m grading 9.45% Zn / 1.12% Pb.





# Unicorn Kilcormick Licence Area

## Conclusions/Recommendations

- The Kilcormick Block is a series of contiguous licences with extensive well developed Waulsortian Reef.
- The block is located along the prospective major Caledonian mineralising basement trend, the Navan – Silvermines Trend, which controls the mineralisation at Navan, Kinnity, Crinkill and Silvermines
- The area is structurally complex with a series of active faults that are proven to control facies development and gross scale basinal tectonics, in particular the Knockshigownagh Fault Zone.
- There are a number of significant sulphide occurrences. The most important to date is the Kinnity occurrence that consists of a steeply dipping lens of brecciated, massive pyrite / marcasite ( $\text{FeS}_2$ ), sphalerite ( $\text{ZnS}$ ) and galena ( $\text{PbS}$ ) located on the hangingwall side of the Knockshigownagh Fault. Mineralisation is also found in the Kilcormack area where intensely dolomitised basal Reef hosts massive / semi-massive pyrite. At Crinkill, immediately south of the block a basal Waulsortian Reef Iron Formation is strongly analogous to the extensive Iron Formation that occurs as a widespread alteration halo immediately north of the Tynagh deposit
- Primary stage exploration will focus upon the region along the hangingwall side of the Knockshigownagh Fault, particularly the area along strike from the high grade massive sulphide mineralisation at Kinnity.



# Summary

1. **Irish Carbonate Hosted Zn-Pb Deposits are a recognised “World Class” exploration play**
2. **Unicorn Mineral Resources has attained an enviable ground position with highly prospective licences, using the latest geological modelling and interpretation.**
3. **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, significant alteration and evidence of sulphide mineralisation**
4. **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 some significant high grade sulphide mineralisation already discovered at Kinnity.**
5. **The Clonmel Block is located along a basement trend, has prospective geology and strong evidence of structurally controlled mineralisation**



# Strategy

- Target is for economic deposits of “Irish Type” carbonate hosted Zn / Pb mineralisation in the Irish Midlands Orefield.
- Acquire a high class land package using the latest geological, structural and mineralogical models to drive the target generation programme
- Use in house experience and expertise to run exploration programmes and aggressively explore sole venture licences
- Use industry contacts to liaise with potential joint venture partners and assess exploration and / or development opportunities
- Management have experience in resource sector having held similar positions of Chairman,CEO and CFO of AIM quoted Ovoca Gold ([OVG.L](#)) for many years before a merger of that company with a Russian exploration company.
- Dave Blaney our COO and Geologist has many years of experience on Irish Deposits and his company BRG ([www.brgeo.com](http://www.brgeo.com)) is currently managing exploration for Xstrata on the new Pallasgreen find in Limerick, Ireland.





# MANAGEMENT

- **Chairman** Paul Smithwick
- **CEO** Richard O Shea
- **CFO** John O Connor
- **COO and Geologist** Dave Blaney

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