

# Hannanmetals

TSX.V : HAN

*...turning zinc  
experience  
into success at the  
district scale, high  
grade, Kilbricken  
discovery in  
Ireland....*



@hannanmetals

[www.hannanmetals.com](http://www.hannanmetals.com)



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**Qualified Person:** The qualified person for Hannan's projects, Michael Hudson, CEO for Hannan, and a Fellow of the Australasian Institute of Mining and Metallurgy, has reviewed and verified the contents of this presentation.

24 Feb 2017

*A new restructured and financed Toronto Venture Exchange company, focused on one of the worlds best zinc terranes, led by a team with deep experience in zinc exploration and mining.*

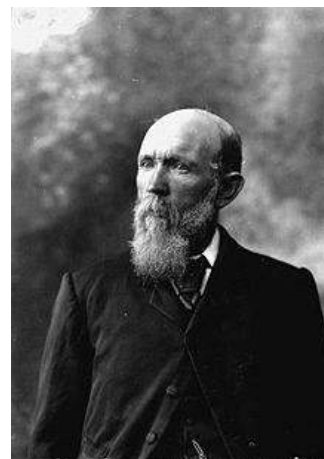
- **100% ownership** of the flagship high-grade **Kilbricken** Zn-Pb-Ag-Cu discovery in Ireland;
  - Intersections include **DH46: 20.5m @ 7.5% Zn, 9.9% Pb, 0.07% Cu, 74.6g/t Ag,**
  - New Fort Zone discovery at end of last drill program, includes drill hole **DH167: 4.5m @ 0.8% Zn, 2.6% Pb, 18.91% Cu, 867.6g/t Ag**
- Zinc has **tight supply fundamentals**, due to falling production, subdued discovery and increasing demand. Zinc price doubled in 2016;
- Ireland is a **leading global jurisdiction** for zinc mining and exploration
  - Ranked first in the world in terms of zinc discovered per square kilometre, and second in the world with respect to lead.
  - In 2015, Ireland was the world's 10<sup>th</sup> largest zinc producing nation with 230,000 tonnes produced.
- Exploration and management team with **decades of zinc exploration experience** for a zinc major (Pasminco), including for "Irish-type" deposits;
- New story, with **a major project in the hands of a tightly held, well structured junior company.**
- Drilling from April 2017, maiden resource calculation, metallurgical studies

<b>TSX.V:</b>	HAN
<b>INSIDERS:</b>	33%
<b>SHARES ON ISSUE:</b>	27.4 M
<b>FULLY DILUTED:</b>	33.0 M
<b>RECENT PRICE:</b>	\$0.35
<b>52 WK HIGH/LOW:</b>	\$0.04/0.51
<b>MARKET CAP:</b>	C\$ 9.6 M
<b>CASH:</b>	C\$ 1.2 M
<b>ENTERPRISE VALUE:</b>	C\$ 8.4 M
<b>WARRANTS:</b>	

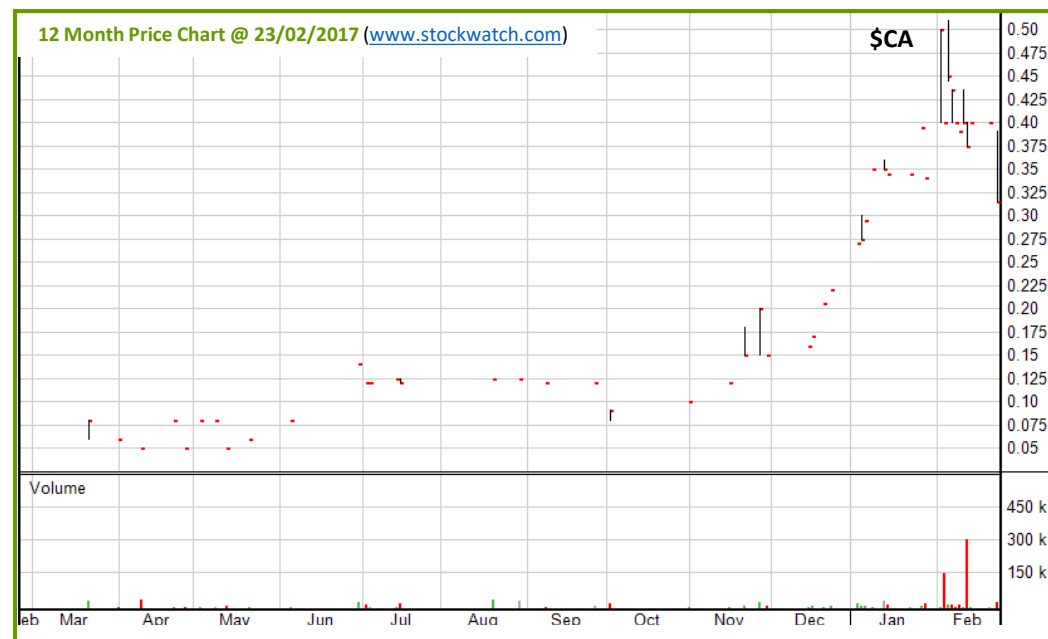
3,038,000 @ \$0.40 exp. Feb 2018  
 389,750 @ \$0.40 exp. Aug 2018  
 112,500 @ \$0.40 exp. Aug 2018  
 118,950 @ \$0.20 exp. Nov 2018  
 775,000 @ \$0.10 exp. Mar 2020

## OPTIONS:

30,000 @ \$0.10 exp. Dec 2018  
 75,000 @ \$0.40 exp. Feb 2020  
 1,071,000 @ \$0.10 exp. Nov 2021  
 50,000 @ \$0.10 exp. Feb 2022



*Hannan takes its name from Paddy Hannan, the discoverer of the famous Kalgoorlie goldfield in Western Australia. Hannan was born in 1840 and raised in Quin, County Clare, which is now located in Hannan current PL's.*



## DIRECTORS

**Michael Hudson (Chairman & CEO):** *B.Sc. (Hons), MBA, FAusIMM, MAIG*

During a career spanning 26 years Mr Hudson has developed/ financed exploration properties worldwide. Following ten years exploring and developing zinc-lead projects with Pasminco Ltd, the largest global integrated zinc producer at the time, he progressed to the junior mining sector. As Founder and Director of companies including Mawson Resources Ltd (TSX:MAW) and Leading Edge Materials Corp (TSXv:LEM), Mr Hudson has delivered both exploration and commercial success.

**Nick DeMare (President):** *CPA, CA*

**David Henstridge:** *B.Sc. (Hons), FAusIMM, MAIG, MGSAust*

**Harvey Lim:** *B.Com, CPA, CA*

**Michael Iannacone:** *B.Com, CPA, CA*

## MANAGEMENT TEAM

**Lars Dahlenborg (VP Exploration):** *M.Sc, MAIG, MAusIMM*

Exploration geologist with 10 years experience in Sweden, Finland, Peru and Australia. He has been critical to advancement on recent discoveries including the Rompas-Rajapalot gold project in northern Finland and the Norra Kärr HREE deposit in Southern Sweden.

**Mariana Bermudez (Corporate Secretary)**

**Mikael Ranggård (Legal Advisor):** *LLB*

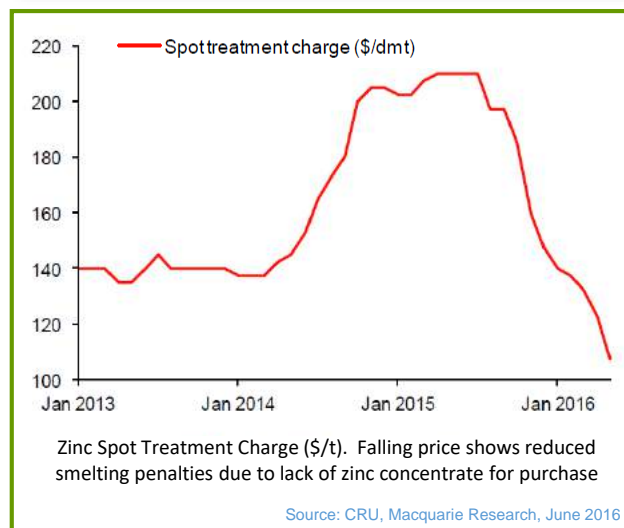
*Hannan is managed by a group with careers built in the zinc industry. In recent years, the group has raised more than US\$100M for European exploration and development. With a track record of success, and significant experience in gaining social licence to operate, Hannan is well placed for continued growth.*



*The old Kilbricken Mine, a Victorian era Pb-Zn mine worked 1834-1854. A Cornish Engine House is still visible today.*

- Zinc has **tight supply fundamentals**, due to falling production, subdued discovery and increasing demand;
- **Zinc price doubled in 2016** to over US\$2,700/t, while smelter treatment charges halved due to greater competition for concentrate;
- Global demand for zinc is expected to continue to grow at 5% per annum, as demand for higher performance alloys and steel increases;
- **Closure of the major zinc mines** Century (Aus) and Lisheen (Ire) has seen global zinc mine output drop up to 10%;
- Zinc exploration has been limited over the past 30 years, **with few high quality, large, or well located deposits** to replace this lost production;
- Recent zinc discoveries (Arizona Mining; Nevada Zinc; Trevali Mining; Ivanhoe Mines) have been **well received by market**;

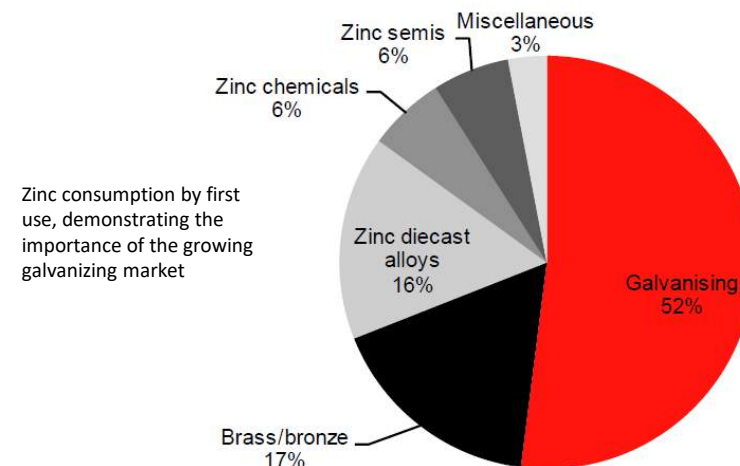
*Zinc is a key industrial metal, relied upon since its discovery around 200 B.C. when it was alloyed with copper to form brass. Today, zinc is essential as a galvanizing material to protect steels, but is also widely used in die casting, brass, batteries and even as an additive to fertilizers to improve crop growth and human health.*



# The Facts on Zinc

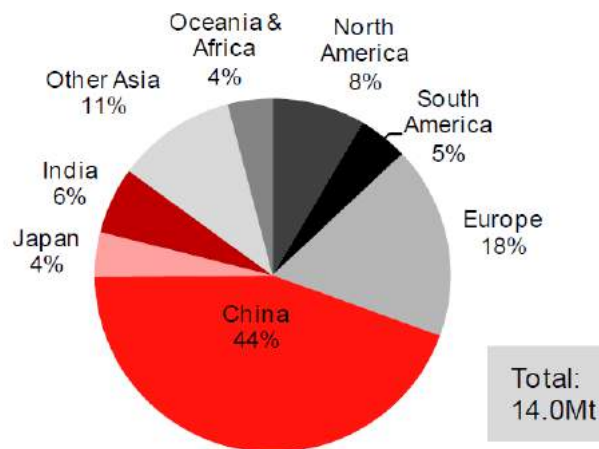
**Zinc is a metal for the majors, with large discoveries as targeted by Hannan Metals, prone for takeover. Annual zinc production totals approximately 14 million tonnes. Major mines operating are:**

Name	Country	Owner	T Zn Mined 2015
Red Dog	USA	Teck	567,000
Rampura Ag.	India	Vedanta	510,000
Mount Isa	Australia	Glencore	478,000
McArthur Riv.	Australia	Glencore	272,000
Antamina	Peru	Glencore/BHP	191,000
Cerro Lindo	Peru	Votorantim	177,000
Penasquito	Mexico	Goldcorp	176,000
Tara	Ireland	Boliden	133,000

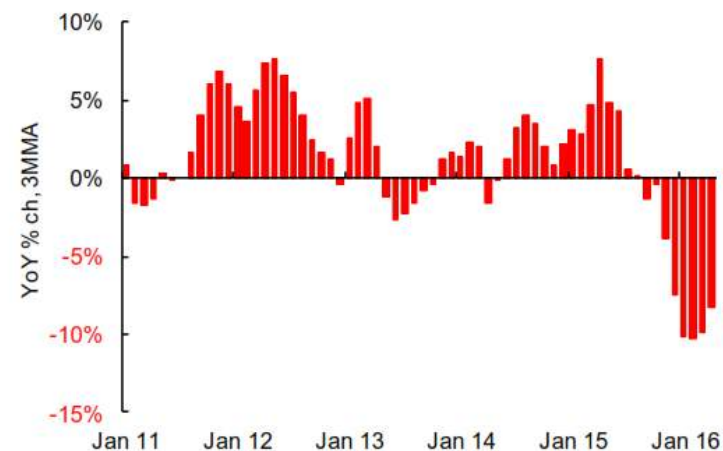


Source: CRU, Macquarie Research, June 2016

2015 Zinc Production shows widespread distribution, and highlights the prominent role played by European producers



Month on Month Zinc Production has fallen significantly from 2015. Two major mines have closed due to depleted resources





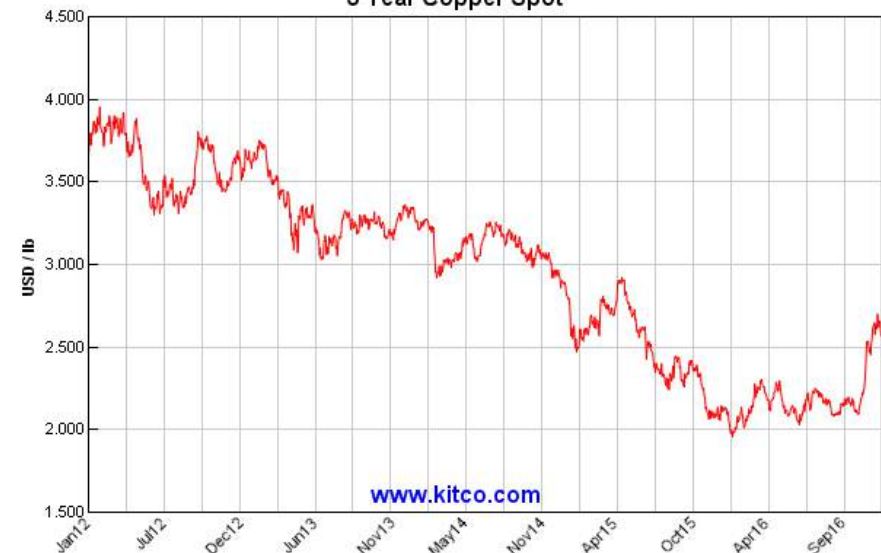
# Recent Trend in Zinc and Copper Price/Stocks

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### 5 Year Zinc Spot



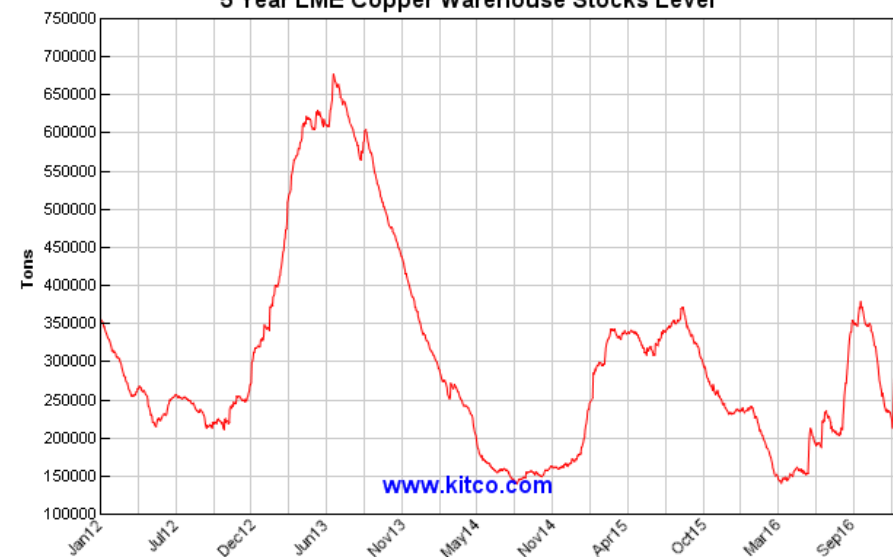
### 5 Year Copper Spot



### 5 Year LME Zinc Warehouse Stocks Level



### 5 Year LME Copper Warehouse Stocks Level





# Why Ireland?

- Ireland is the largest producer of zinc in Europe, and **the tenth largest producer of zinc in the world**. 230,000 tonnes of zinc were mined in 2015;
- Deposits are of a style **attractive to underground mining by major companies**. The world's largest zinc producing companies are all claim holders;
- “Irish Type” carbonate hosted deposits tend to be large and high grade **often >10% Zn+Pb**;
- Ireland is a stable jurisdiction, with low tax corporate rates (25%), extensive infrastructure, and skilled people. **The country is poised for the next round of major discoveries** below 200m using modern exploration techniques;

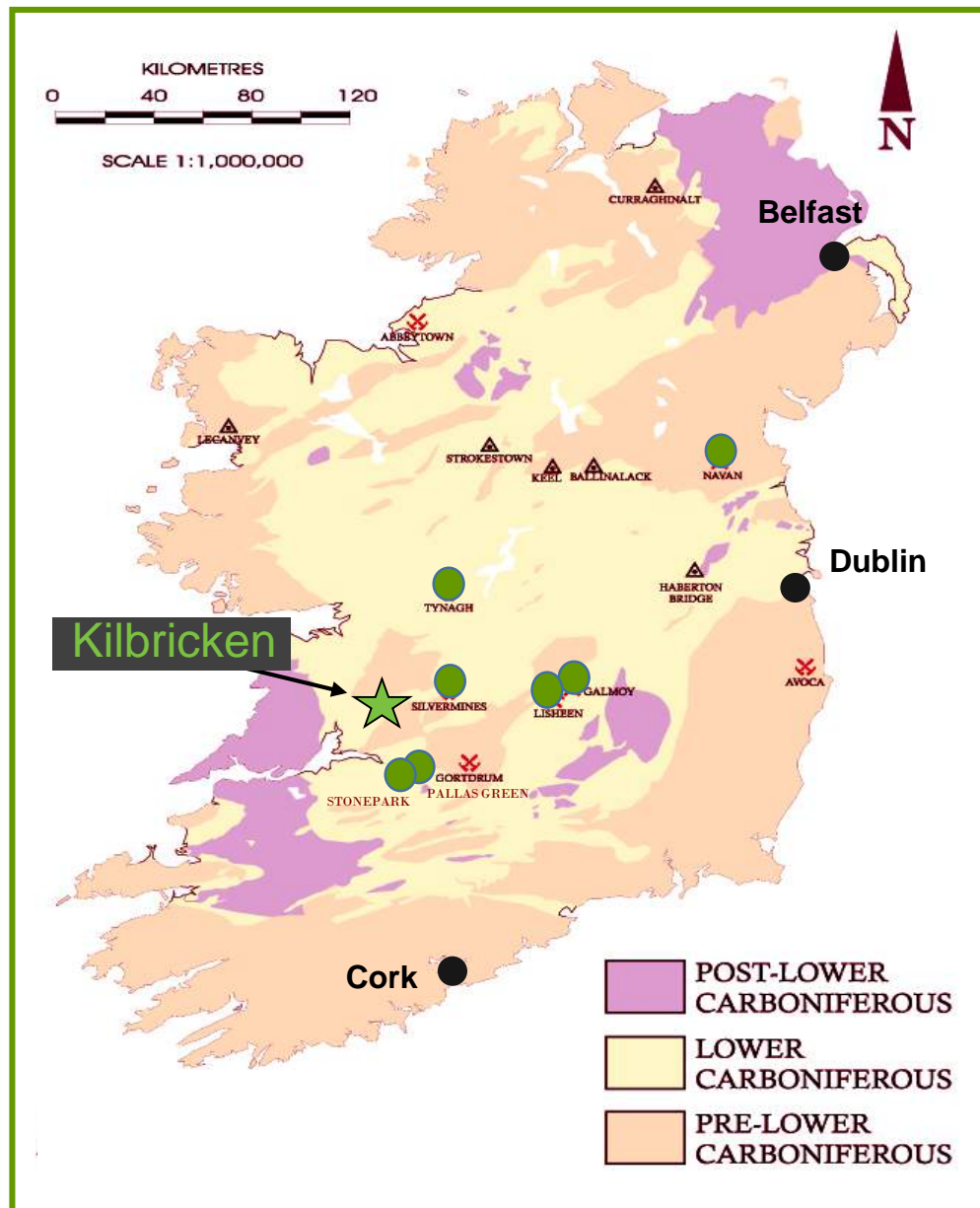
*In 2015, Ireland was ranked 4th most attractive exploration location by the Fraser Institute “Survey of Mining Companies”;*

FRASER INSTITUTE ANNUAL

Survey of Mining Companies  
**2015**



# Why Ireland?



## Significant Irish Zn-Pb Deposits

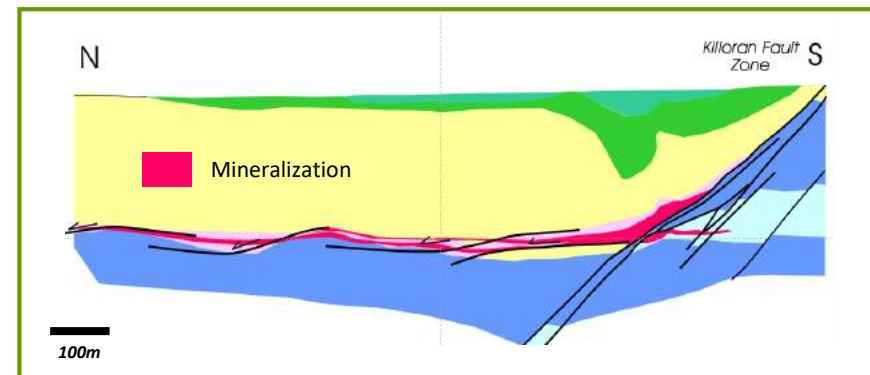
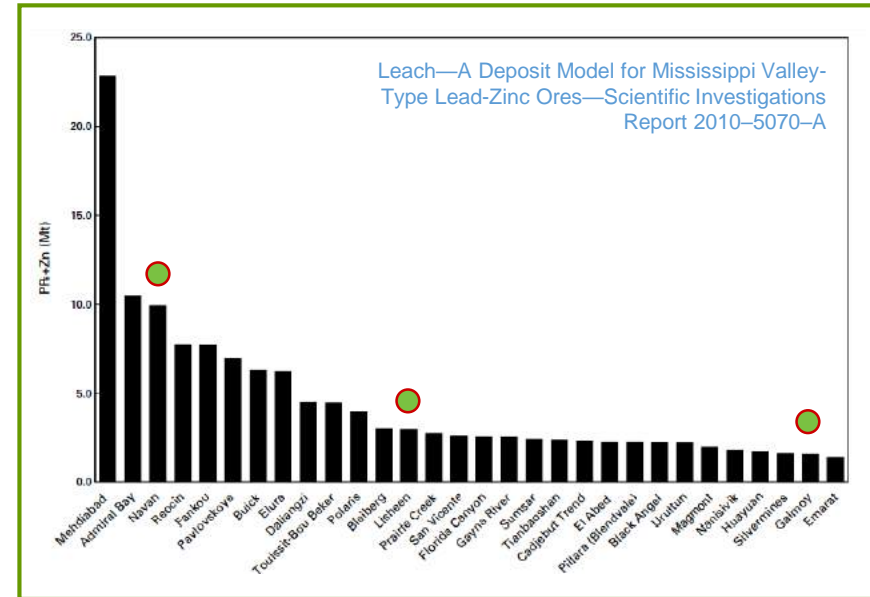
Navan	111 Mt	9.8% Zn+Pb
Galmoy	6.2 Mt	12.4% Zn+Pb
Silvermines	18 Mt	8.9% Zn+Pb
Tynagh	9 Mt	11.2% Zn+Pb
Pallas Green	42 Mt	8.0% Zn+Pb
Lisheen	18.9 Mt	15.0% Zn+Pb

*Ireland is ranked first in the world for zinc discovered per square km, and second for lead;*

*Since 1960, 15 "Irish-type" deposits with >1 Mt zinc/lead ore have been discovered, including the world class Navan/Tara (>100 Mt). The high grade, shallow occurrence and clean metallurgy of the orebodies, allow for a relatively low cost of mining.*

# “Irish Style” Deposits – An Attractive Target

- “Irish Style” deposits are a sub-set of the carbonate hosted MVT-deposits that are well known and studied globally. Three of the 30 largest MVT deposits are in Ireland;
- Deposits controls and characteristics include:
  - they are epigenetic;
  - they are not associated with igneous activity;
  - they are hosted mainly by dolostone and limestone;
  - dominant minerals are sphalerite, galena, pyrite, marcasite, dolomite, and calcite, whereas barite is typically minor to absent and fluorite is rare;
  - they occur in platform carbonate sequences commonly at flanks of basins or foreland thrust belts;
  - commonly stratabound, may be locally stratiform;
  - they typically occur in large districts;
  - the ore fluids were basinal brines with ~10 to 30 wt. percent salts;
  - the most important ore controls are faults and fractures, dissolution collapse breccias, and lithological transitions;
  - sulfides occur as replacement of carbonate rocks and to a lesser extent, open-space fill;
  - alteration consists mainly of dolomitization, host-rock dissolution, and brecciation.



## Lisheen (Vedanta Resources)

- Major underground base metal mine which operated for 2 decades as one of the largest producers of zinc in Europe; closed Jan 2016.
- A pre-mining resource of **18.9 Mt @ 15.0% Zn+Pb** is quoted, however alternative resources at a lower cut-off of 21.0 Mt @ 12% Zn, 2% Pb are also published. Average depth of mineralization 170m below surface.

## Galmoy (Lundin Mining)

- Major underground mine, that operated for 12 years, with closure in 2009. Discovery was made in the 1960's with soil sampling and geophysics both crucial.
- Pre-mining resource of **6.2 Mt @ 12.4% Zn+Pb**. Two main orebodies were mined, being the 700x450x6m CW-Orebody, and 450x300x8m G-Orebody.

## Kilbricken (100% Hannan Metals)

- Drill results indicate a zinc mineralized zone measuring 590m by 250m with drill hole intercepts including grades between 3% and 10% Zn; plus 50g/t and 80g/t Ag. This is based on 222 drill holes for 118,000m. Mineralization discovered to date averages 400m below surface, and is open in all directions.





# Kilbricken History and Milestones

1850's-99

Small scale 19th century mining. Modern exploration begun in 1960's due to success elsewhere in Ireland. Irish Base Metals, Rio-Finex, Central Mining Finance, Billiton and Belmore Resources Ltd.

1992-99

Central Mining Finance completed advanced exploration including drilling, focussed on the Milltown prospect, results including 13.3m at 5.8% Pb and 10.5% Zn.

99-2001

CMF-Billiton

2001-08

'01-'08 CMF-Belmore

2008

Belmore drilled beneath the historic Kilbricken mine, where discovery hole DH04 intersected 10m @ 13.8% Zn, 0.08% Cu and 62.8 g/t Ag

2009-10

Belmore-Lundin: Following exciting discovery, Lundin Mining JV'ed into Kilbricken and the regional claim package. Detailed drilling began immediately.

2010-13

In 2011, Lundin Mining purchased 100% of the JV from Belmore. 278 drillholes for 134,000m of diamond drilling

2016-

Clare PLs were transferred to Hannan Metals Ltd on Sept 21, 2016

***Kilbricken was discovered in 2008, 166 years after and 400m below a 1834 Victorian era mine. Since 2008, 278 holes for 134,000m of diamond drilling have been completed on the project, which is ready to explore and expand.***

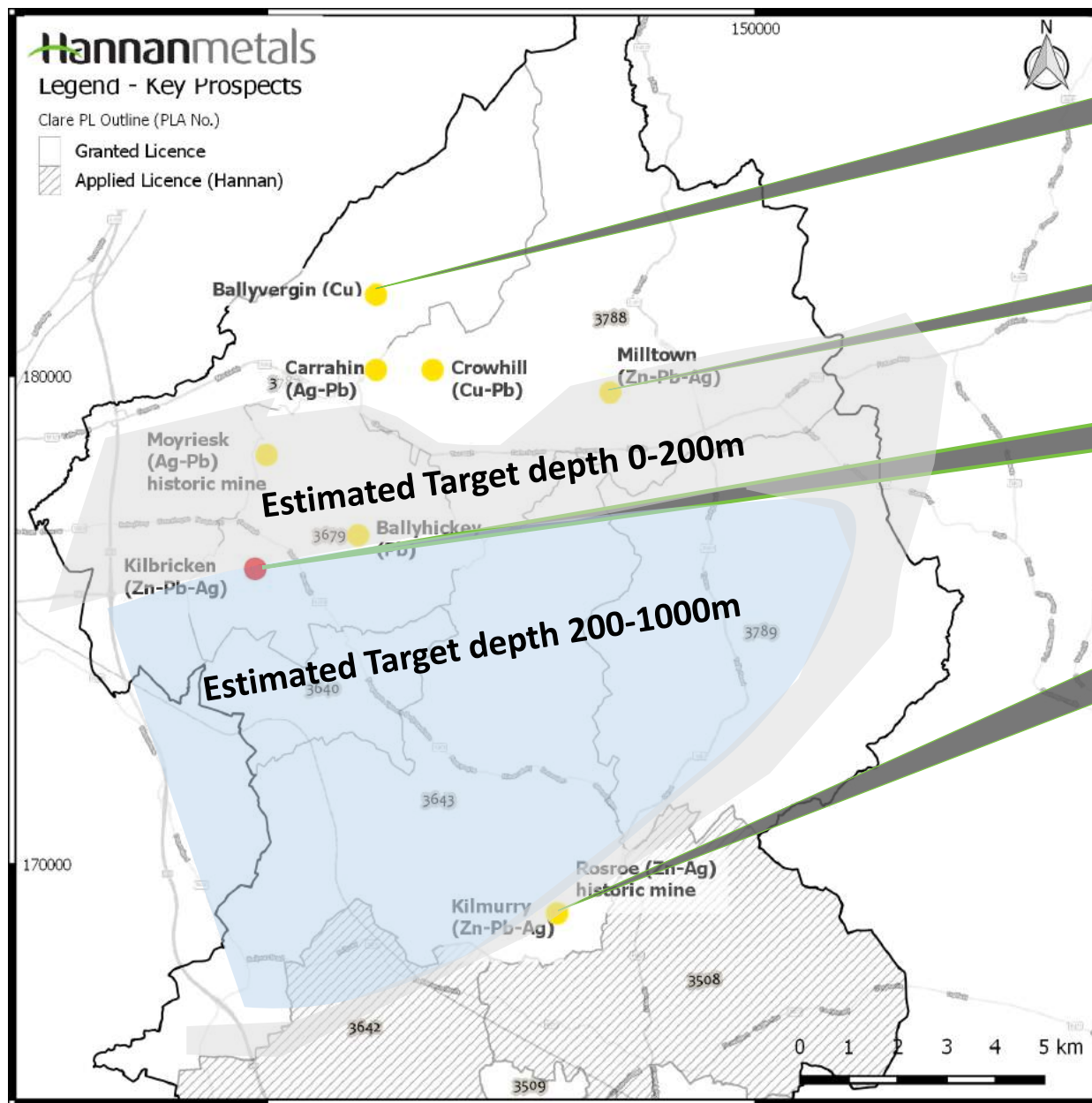
## Acquisition of Kilbricken by Hannan

Acquisition of the Clare Prospecting Licences ("PLs") which include Kilbricken, was executed Sept 21, 2016 via purchase of all historic data from the project. Consideration consists of payments to Lundin Mining of US\$150,000 (made in Sept 16) and two further payments US\$425,000 each in Sept 2017 & March 2018 (total US\$1M cash).

Lundin retains a 2% net smelter royalty, subject to a 0.5-per-cent buyback right of Hannan Ireland for \$5-million (U.S.), which must be exercised within one year from the date of commercial production. Hannan Ireland is required to pay Lundin a one-time bonus payment of \$5-million (U.S.) within the earlier of Hannan Ireland's decision to proceed with mine construction; or within 90 days of the establishment of a commercial financing to finance capital costs for mine construction.

# Clare – Large Scale Endowed Block 32,223 hectares

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**Ballyvergin Cu Deposit**  
Inc. 31.5m @ 1.0% Cu

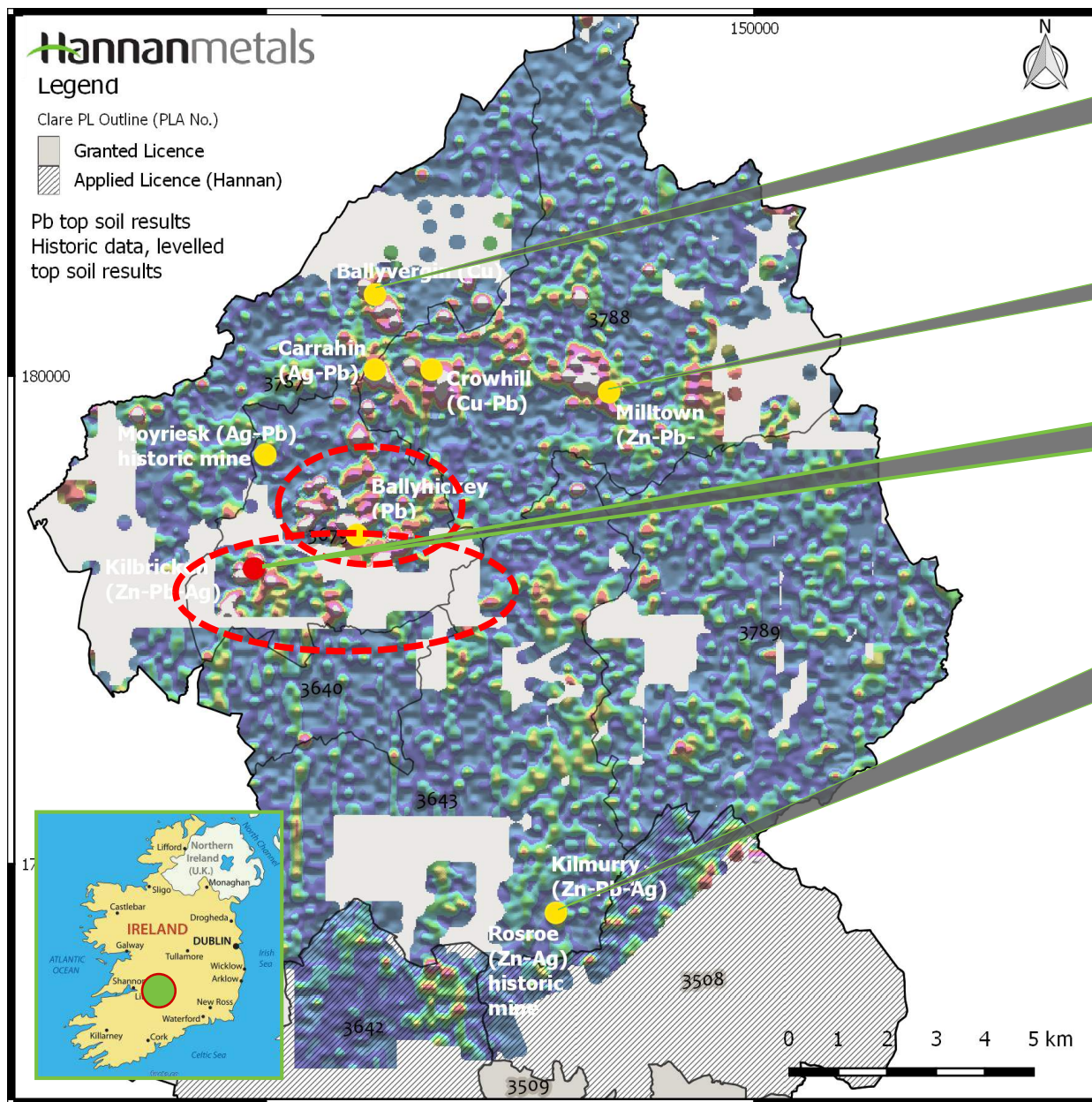
**Milltown Zn/Pb Deposit**  
Inc. 13.3m @ 5.8% Pb and 10.5% Zn

**Kilbricken Deposit**  
Zn Pb Ag Cu

**Kilmurry Prospect**  
2 mineralised holes – 8.5m @ 2.1% Zn+Pb and 4.3m @ 2.8% Zn+Pb

*In Ireland, claims holders include: Teck, Boliden, Vedanta, Glencore, Aventus, Group Eleven, Erris, Unicorn, Connemara.*  
*PLs issued for 6 years. If work and expenditure satisfactory, normal practice licence re-issued*

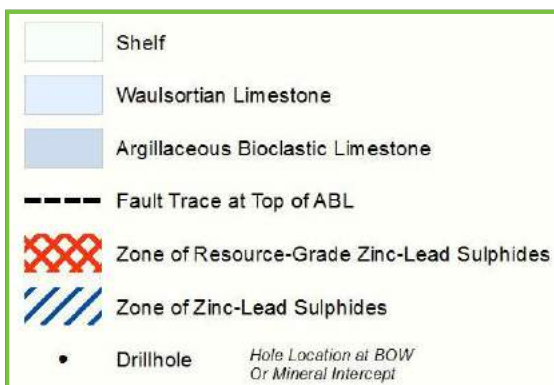
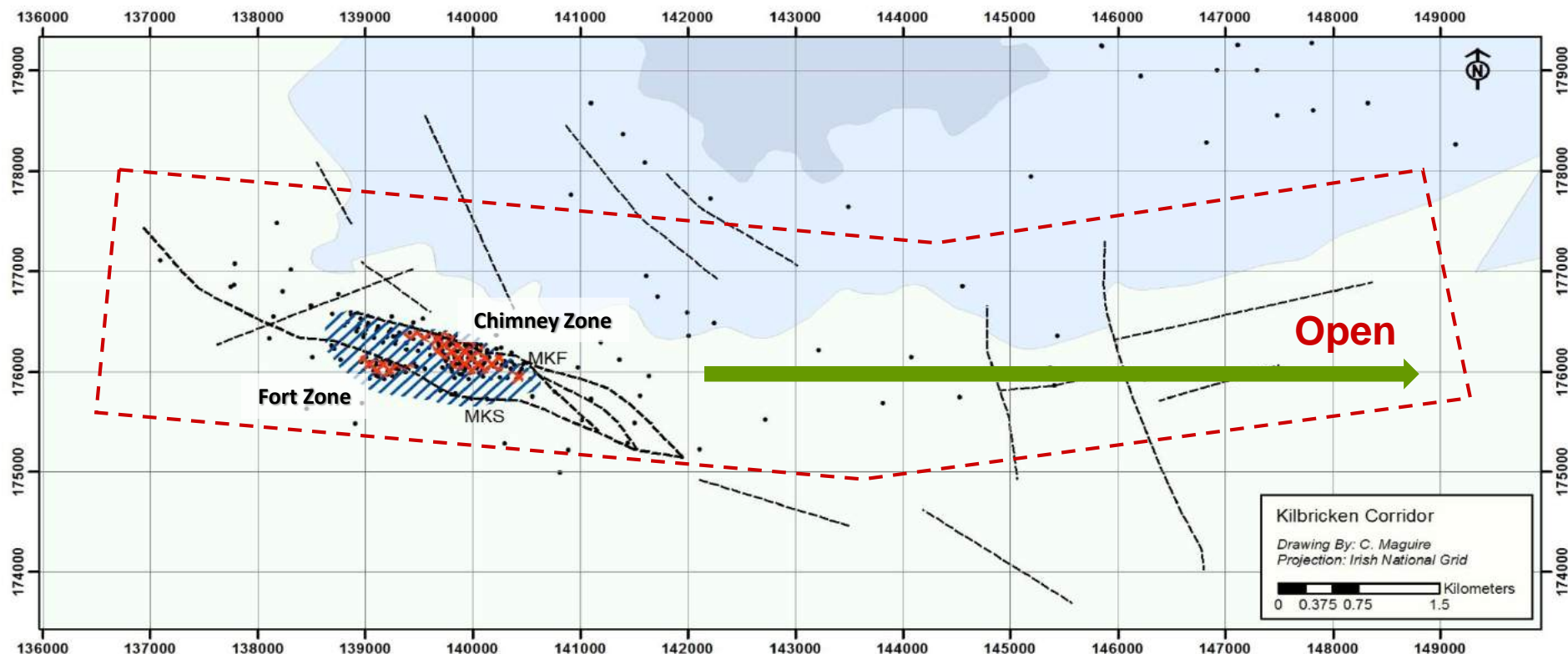
# Clare – Lead Surface Geochemistry



- Soil geochemistry has been very effective for mapping and discovery of Zn/Pb metal systems in Ireland. Large anomalies remain to be tested on Hannan's Clare PLs



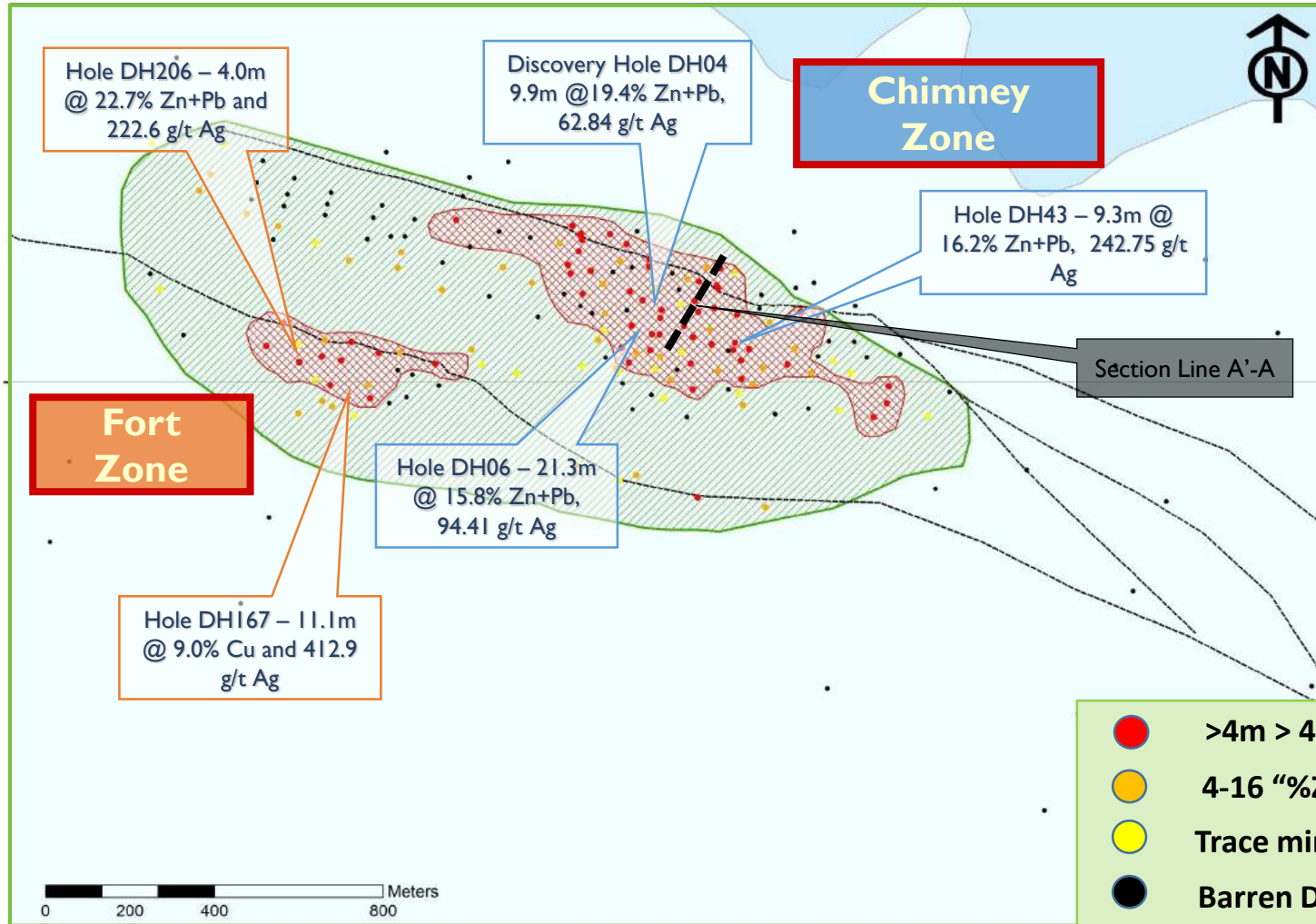
# Kilbricken Discovery – 8 km Extension Open to Test



- Kilbricken is a flat lying zinc-lead-silver copper system that lies in the hanging wall of the main Kilbricken Fault. Mineralization sits at the base of the Waulsortian Limestone, the principal ore host sequence in Ireland.
- An 8 km long structural corridor contains the Kilbricken Chimney Zone and Fort Zone



# Kilbricken Deposit – Plan View



- High grade massive sulphide mineralization has been drilled over a 1,500m strike, and remains open

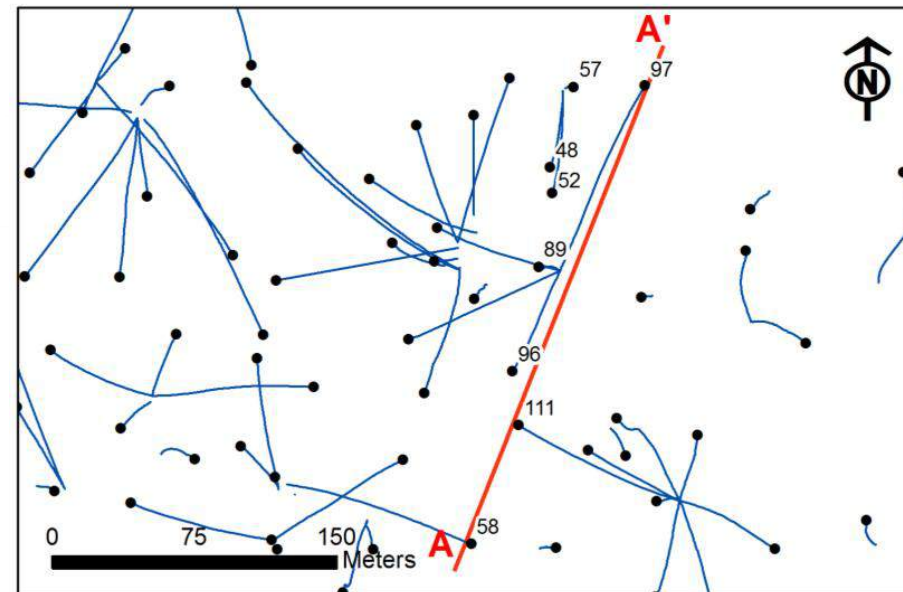
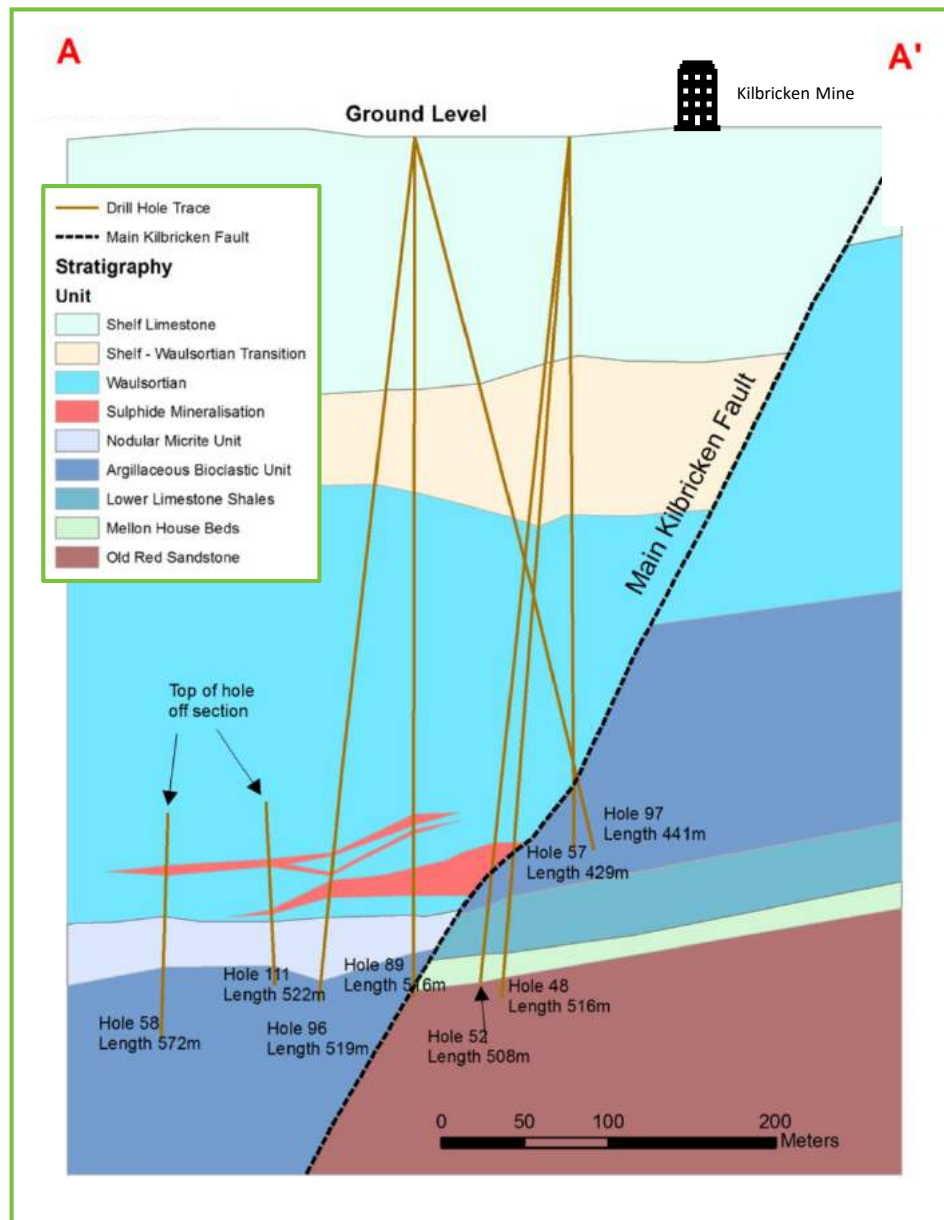
- >4m > 4%Zneq
- 4-16 “%Zneq x metre”
- Trace mineral intercept
- Barren Drillhole
- Higher grade mineralized area
- Sulphidic mineralized area

$$\text{Zn Eq} = \text{Zn\%} + (\text{Pb\%} \times 1.15) + (\text{Ag ppm} \times 0.037917)$$

- Kilbricken is characterised by silver grades that are higher than typical Irish base metal deposits. High grade copper mineralization has also been discovered in drilling.

DH 46	20.5m @ 7.5% Zn, 9.9% Pb, 0.07% Cu, 74.6g/t Ag	from 415.3m
DH06	21.3m @ 11% Zn, 4.8% Pb, 0.06% Cu, 94.4g/t Ag	from 441.9m
DH50	11.8m @ 9.8% Zn, 5.7% Pb, 0.07% Cu, 178.2g/t Ag	from 484.6m
DH43	9.4m @ 4.1% Zn, 12% Pb, 0.52% Cu, 242.8g/t Ag	from 442.1m
DH04	10.0m @ 13.8% Zn, 5.5% Pb, 0.08% Cu, 62.8g/t Ag	from 448.1m
DH52	19.3m @ 7.2% Zn, 1.2% Pb, 0.18% Cu, 64.6g/t Ag	from 425.7m
DH44	17.2m @ 2.9% Zn, 4.4% Pb, 0.11% Cu, 83.5g/t Ag	from 447.9m
DH167	4.5m @ 0.8% Zn, 2.6% Pb, 18.91% Cu, 867.6g/t Ag	from 616.5m
DH161	10.4m @ 8.4% Zn, 3.9% Pb, 0.09% Cu, 26.5g/t Ag	from 607.0m
DH206	10.0m @ 0.9% Zn, 8.7% Pb, 0.16% Cu, 90.7g/t Ag	from 619.0m
DH111	4.1m @ 21.5% Zn, 5.7% Pb, 0.1% Cu, 95.4g/t Ag	from 447.6m

# Kilbricken Deposit – Cross Section



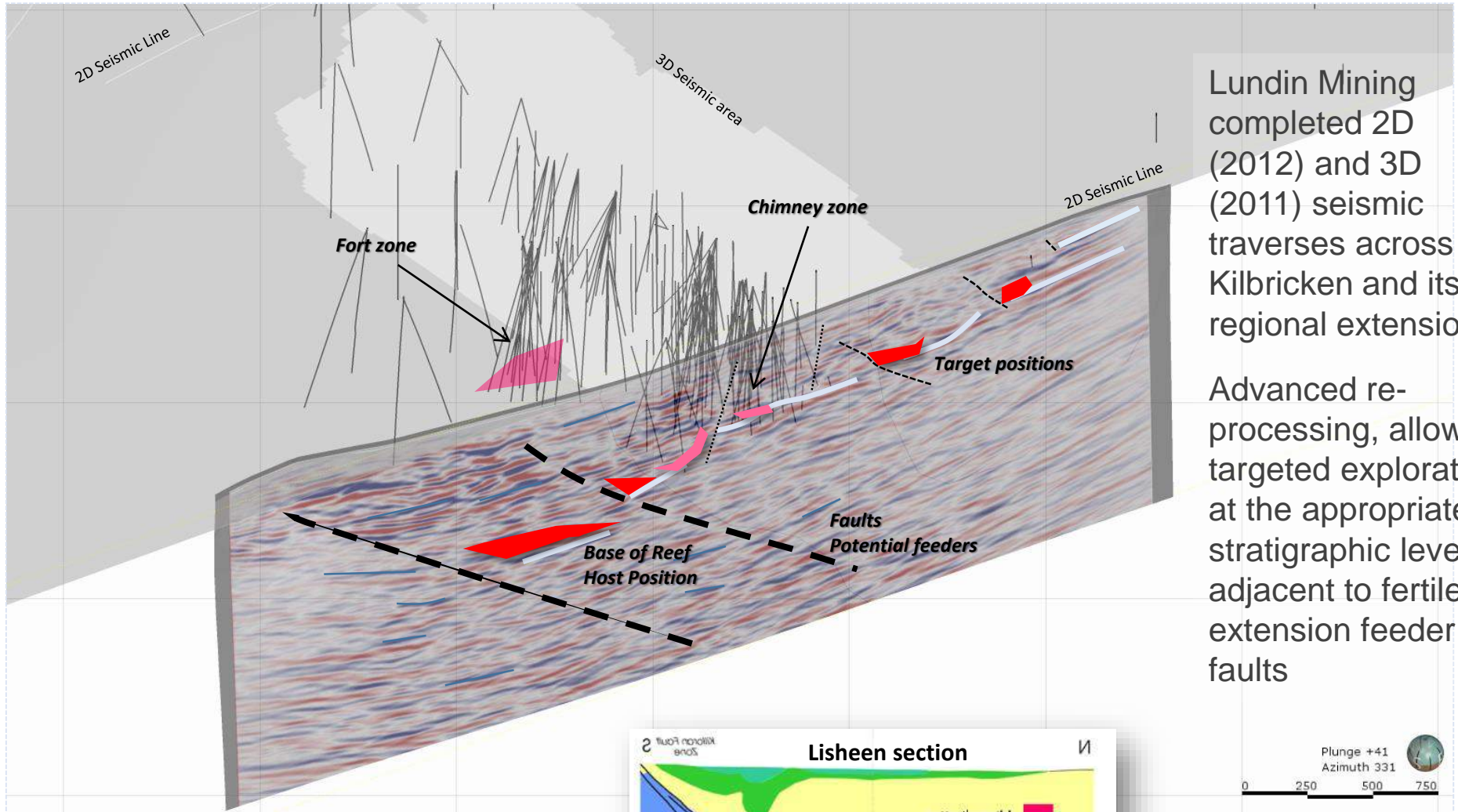
Surface projection of drilling from Kilbricken project.

The old Kilbricken Mine, a Victorian era Pb-Zn mine worked 1834-1854. A Cornish Engine House is still visible today.





# Kilbricken Deposit – New Seismic Data



Lundin Mining completed 2D (2012) and 3D (2011) seismic traverses across Kilbricken and its regional extensions

Advanced re-processing, allows targeted exploration at the appropriate stratigraphic levels, adjacent to fertile extension feeder faults



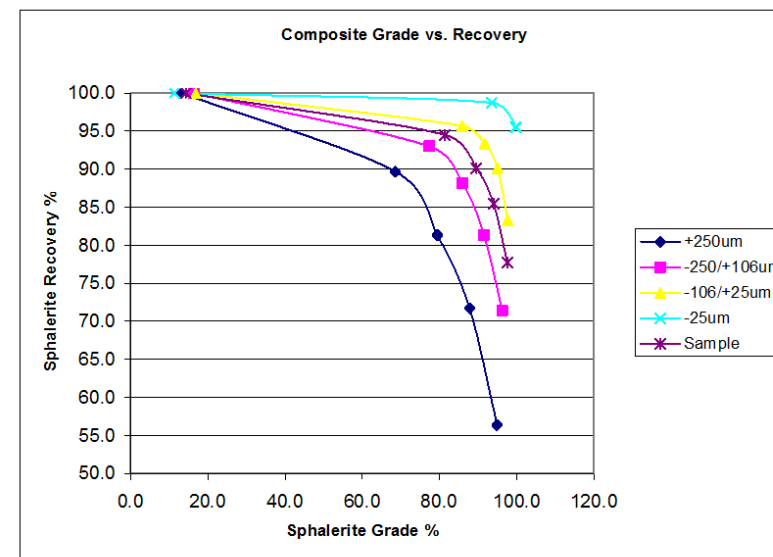
Mineralogical test work by SGS on 14 samples. Findings based on what is mineralogically possible, under ideal separation conditions

For composite sample results:

- Sphalerite grades between 98% and 81% for recoveries of 78% to 95%, respectively.
- Galena grades between 98% and 84% for recoveries of 88% to 96%, respectively;
- No red flags for deleterious metals;
- Conventional Pb-Zn flotation circuit envisaged;
- Hannan Metals will undertake bench top metallurgical studies during its **Phase 1** work program.



Photo credit: Murray Hitzman



- Diamond drilling permitting commenced with a start date planned for April 2017;
  - First stage of the program will focus on gaining metallurgical samples and expanding the footprint of the known mineralization at Kilbricken;
  - Second stage will look to test semi-regional targets within 1 to 2 kms from known mineralization;
- Resource evaluation geologists working on maiden resource for Kilbricken;
- Metallurgical gap analysis of earlier studies commenced;
- Later in 2017, 25 km regional 2D seismic line and infill 2D seismic lines along the Kilbricken structural trend;
- Strong geological advancement made over the last three months with a team of experts forming a solid base for future drill targeting.





For more information : [info@hannanmetals.com](mailto:info@hannanmetals.com)

The logo for Hannanmetals features a stylized green swoosh above the letter 'H'.

# Hannanmetals

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**Right Project - Right Time - Right Place**