# Hannanmetals







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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.

- High grade mineralization, expandable at all scales, 35,000 hectare land package;
- 100% ownership of the flagship high-grade Kilbricken Zn-Pb-Ag discovery, maiden resource of 2.7 million tonnes at 8.8% ZnEq, indicated and 1.7 million tonnes at 8.2% ZnEq inferred.
- A 40.6 line km 2D seismic survey defined multiple new high priority targets over a combined 12 kilometres trend immediately along strike and up dip from the Kilbricken resource;
- Over the regional scale, multiple drill targets identified across much of the Clare project, including major north dipping faults that are well documented to preferentially host economic zinc deposits in Ireland;
- Zinc has tight supply fundamentals, Ireland is a leading global jurisdiction for zinc;
- Work program ongoing: resource expansion drill program 20,000 metres planned, metallurgical studies (Wardell Armstrong Q2 2018).

## **2017 Project Highlights**

Clare project summary

- ✓ Raised CDN\$4.8m, listed Feb 2017
- √ Maiden resource
- ✓ Successful resource expansion program – 7,000 metres

DH 217 8m @ 37.8% Zn+Pb and 174 g/t Ag

- ✓ Soil >200 km² regional soil survey.
  - √ 1,200 pts covering unsampled areas.
- √ Seismic
  - √ 41.7km 2D seismic survey
  - ✓ Re-processed 27 km2D data (Lundin)
  - √ 5km² 3D seismic data

## 2018: Where we are going? Drill Drill Drill

20,000m drilling focusing on:



 Leveraging on \$30M sunk capital at Kilbricken. Resource expansion Initial exploration target:

10Mt >10%Pb+Zn



2. First order control to system targeting structures from seismic data and geochemical anomalies

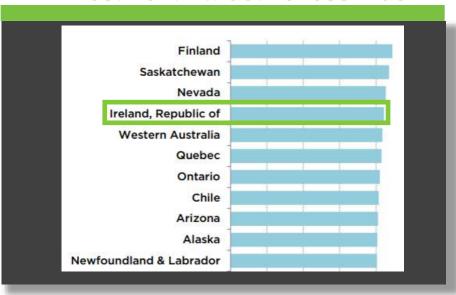
C\$4M combined program

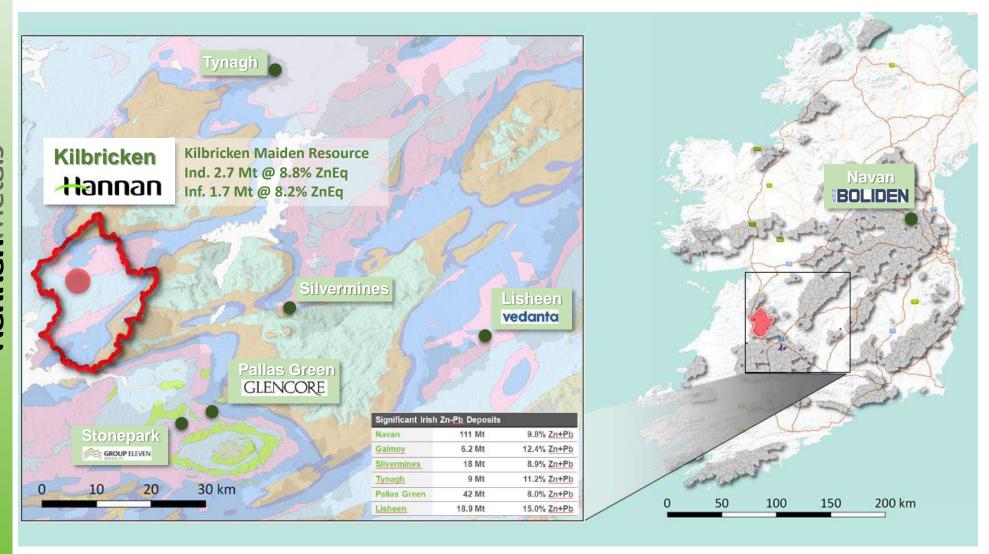
- Ireland is a leading global jurisdiction for zinc mining and exploration;
  - Ranked first in the world in terms of zinc discovered per sq. km;
  - One of largest zinc producing nations;
- "Irish Type" carbonate hosted deposits tend to be large and high grade;
- Ireland is an attractive jurisdiction for mining investment;
- The country is poised for the next round of major discoveries
   >200m deep via technology shift.



### **Investment Attractiveness Index**



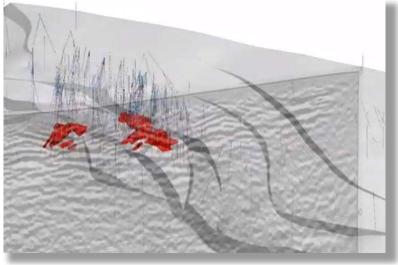




Within 80km diameter SW Ireland contains >100Mt >10% Zn+Pb

## Kilbricken: Victorian to Modern Era





Game changer!

Kilbricken was discovered in 2007 by Belmore Resources, 166 years after and 400m below a 1834 Victorian era mine.

Subsequently bought by Lundin Mining Ltd for an implied price of £16m (or €20m).

Since then, 290 holes for 140,000m of diamond drilling have been completed on the project, which is ready to explore and expand.

#### **Acquisition**

Lundin retains a 2% net smelter royalty, subject to a 0.5-per-cent buyback right for US\$5M and a one-time bonus payment of US\$5M decision to mine.

## **Maiden Resource a Strong Start**

#### www.hannanmotals.com

### **Indicated**

Zone	Cutoff ZnEq%	Tonnes	Zn%	Pb%	Ag g/t	Cu%	ZnEq%	SG
Chimney	5	1,369,000	5.6	4.2	66	0.1	10.8	3.5
Fort	5	1,287,000	3.7	1.4	34	0.5	6.7	3.0
Total	5	2,656,000	4.7	2.9	50	0.3	8.8	3.2

### **Inferred**

Zone	Cutoff ZnEg%	Tonnes	Zn%	Pb%	Ag g/t	Cu%	ZnEq%	SG
Chimney	5	635,000	5.9	3.6	61	0.1	10.4	3.4
Fort	5	1,046,000	3.4	2.5	30	0.3	6.8	3.0
Total	5	1,681,000	4.4	2.9	41	0.2	8.2	3.1

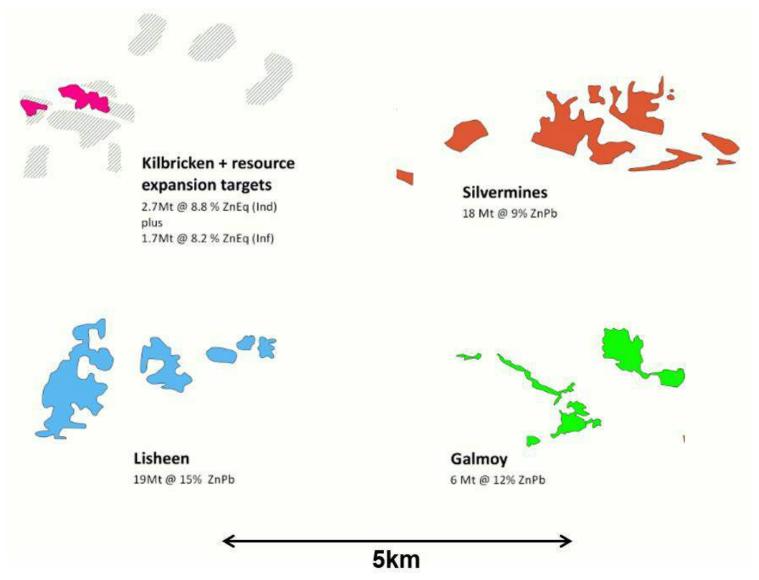
- Immediately ranks Kilbricken as one of the top ten base metal deposits discovered in Ireland by tonnes and grade;
- 2. Two styles of mineralization. The upper Chimney Zone is classic high-grade (>10% Zneq) Irish stratabound mineralization targeted by Hannan. Averages 12m thickness. The lower Fort Zone was found later and has been tested with fewer drill holes. Averages 40m thickness;
- 3. Importantly, the initial resource is expandable at all scales;

## **Irish Style Systems Form Multiple Bodies**





Kilbricken is no different



## Mining in Ireland

- Galmoy pre-mine resource was 6.2Mt @ 12.4% Zn+Pb or 1,691Mlbs
- Kilbricken current resource is 514Mlbs ZnEq Indicated plus 302Mlbs ZnEq Inferred, a strong start
- Medium term target for Hannan is 2.2Blbs contained @ 10% ZnEq





Source: http://www.siteforce.com.au/projects.htm

- Discovered in 1984, UG mining commenced in 1997 (Arcon). Employed 200 local people and a further 25 contractors (650,000t/y to 750,000t/y). Lundin Mining merged with Arcon (valuation of €93.4m) in 2005. Mining ceased in 2009 (12 year mine life).
- Lisheen 2010, 5.8Mt @ 12.8% Zn+Pb sold to Vedanta US\$308M

## Seismic survey rocking Quin

Carol Byrne

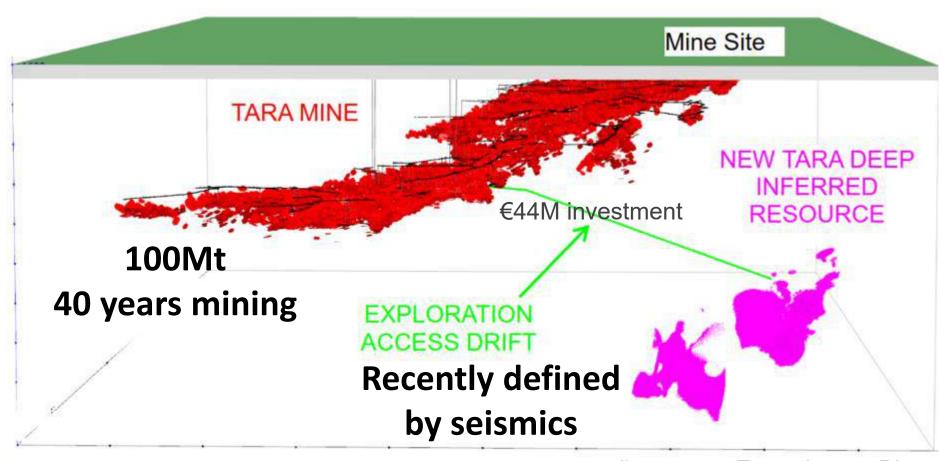
A SEISMIC survey is currently taking place in Quin and Doora and locals are being advised that a seismic contractor will be in the area, in order to map the underground geology.

Hannan Mining recently acquired the rights to the old zinc and ore mine in Kilbreckan, Doora, and the operations have been permitted by the road management office and comply with all relevant central and local government regulations.

It is expected that the works will take approximately a week.

Councillor Clare Colleran Molloy has advised locals that the survey is to take place almost entirely on public roads and has been planned to minimise any



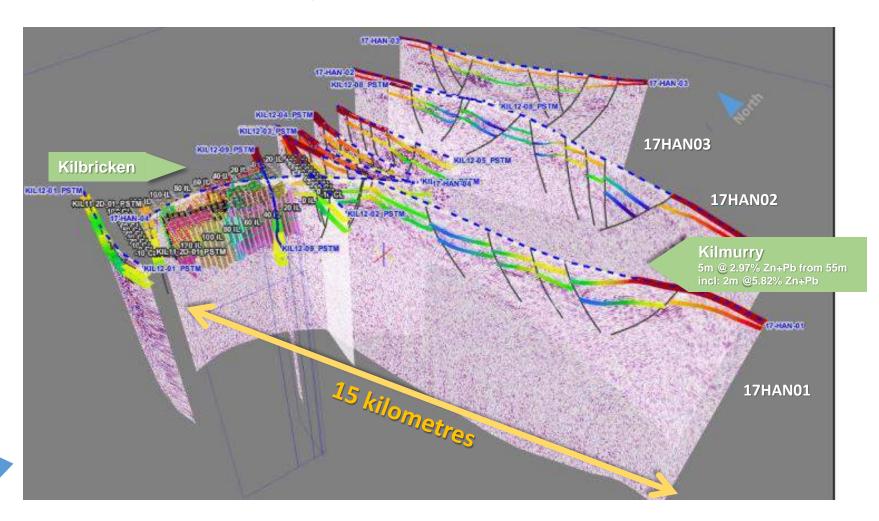


32m grading 11.0% Zn and 3.0% Pb

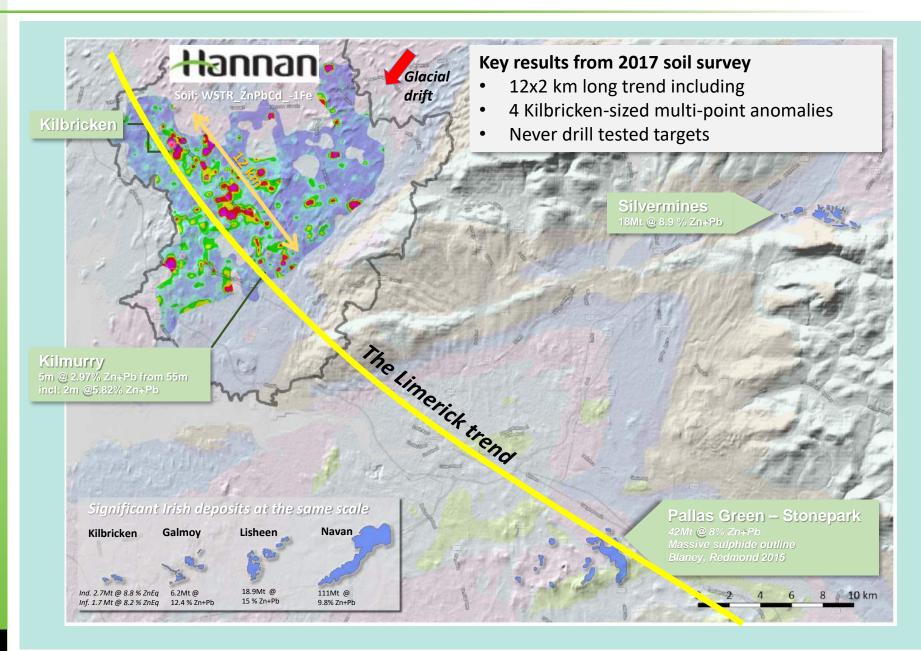
https://www.boliden.com/globalassets/investor-relations/reports-and-presentations/capital-markets-day/2017/tara/tara-deep-mineral-resource.pdf

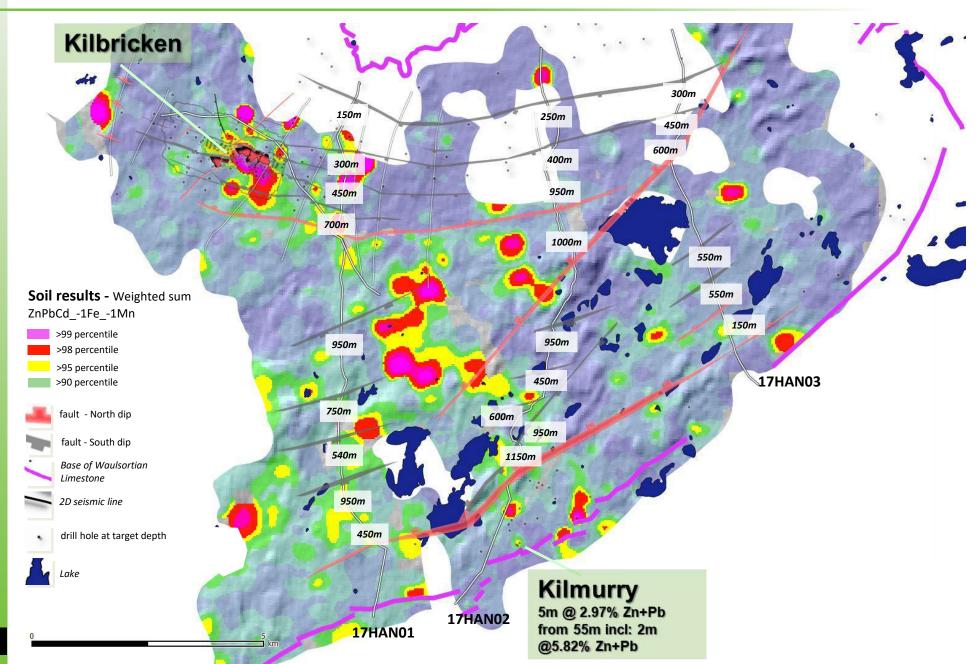
Total of 68 km of 2D seismic

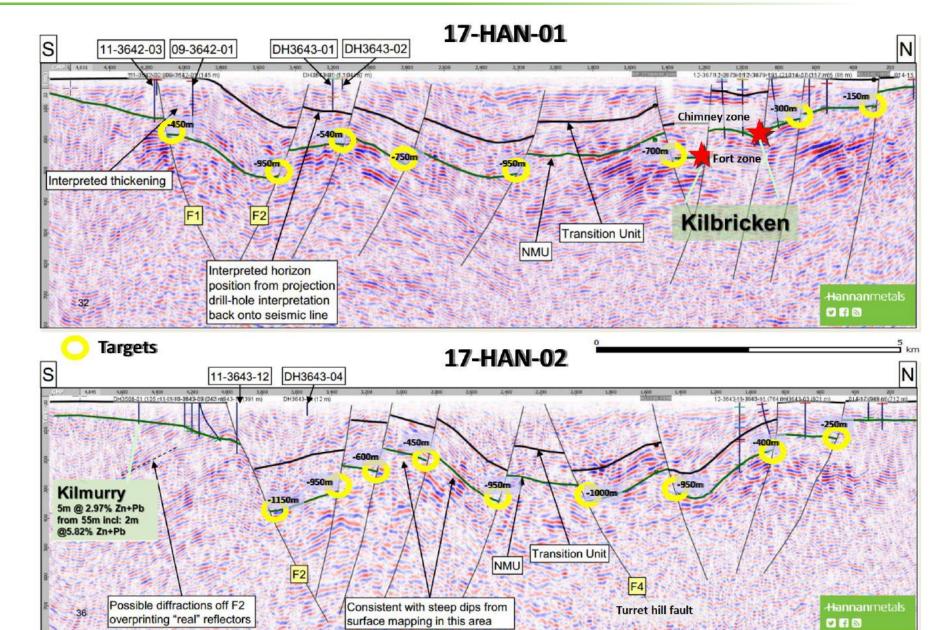
- ➤ Hannan's 2017 survey , 41 km processing ongoing results due in April.
- ➤ Lundin 2011-2012 survey, 27 km reprocessed 2017

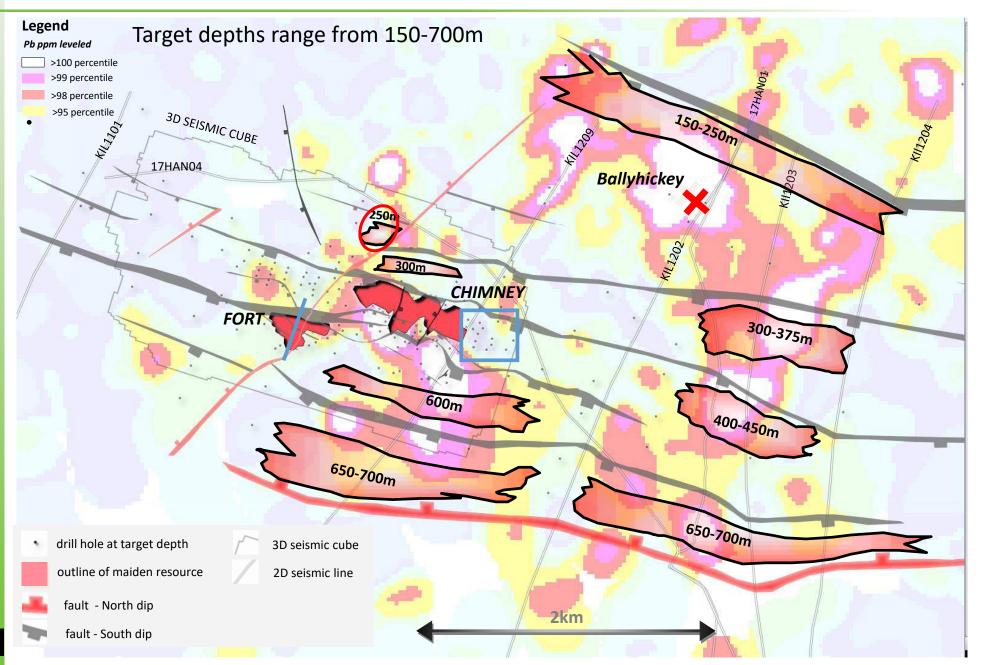


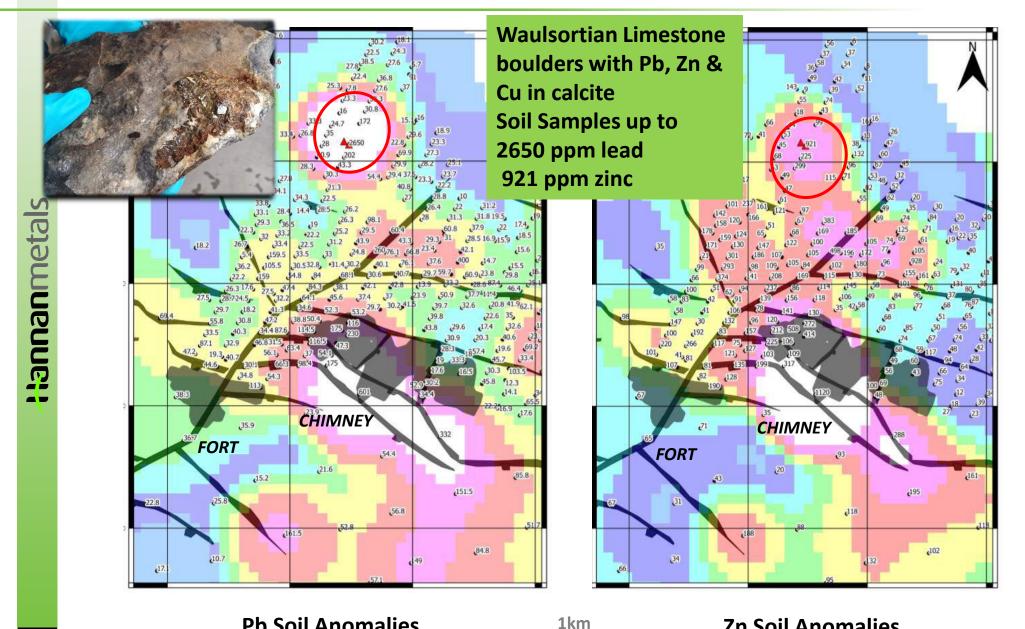
## **Expanding the search space**

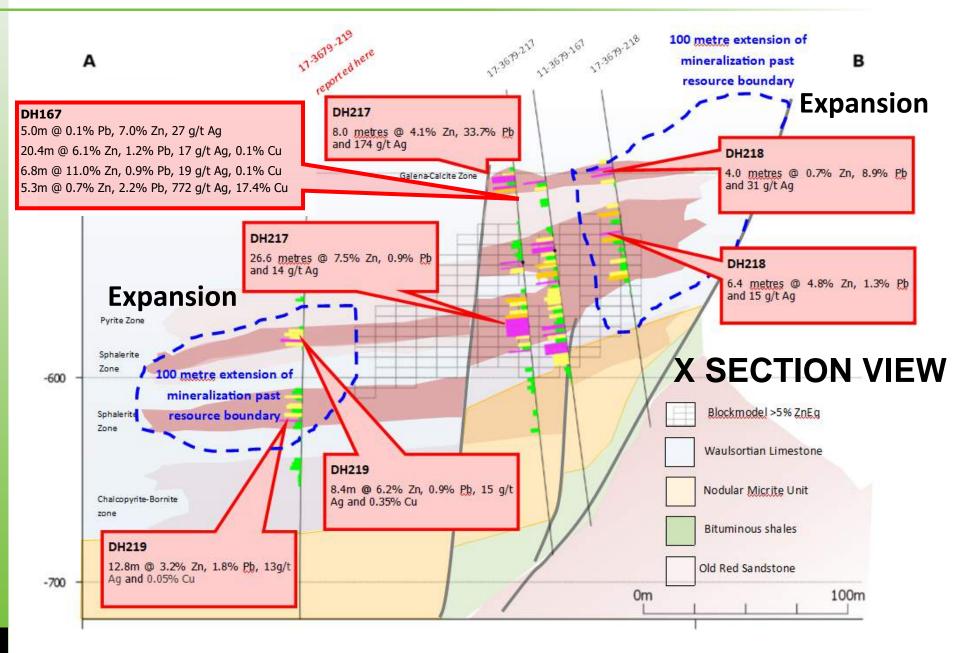






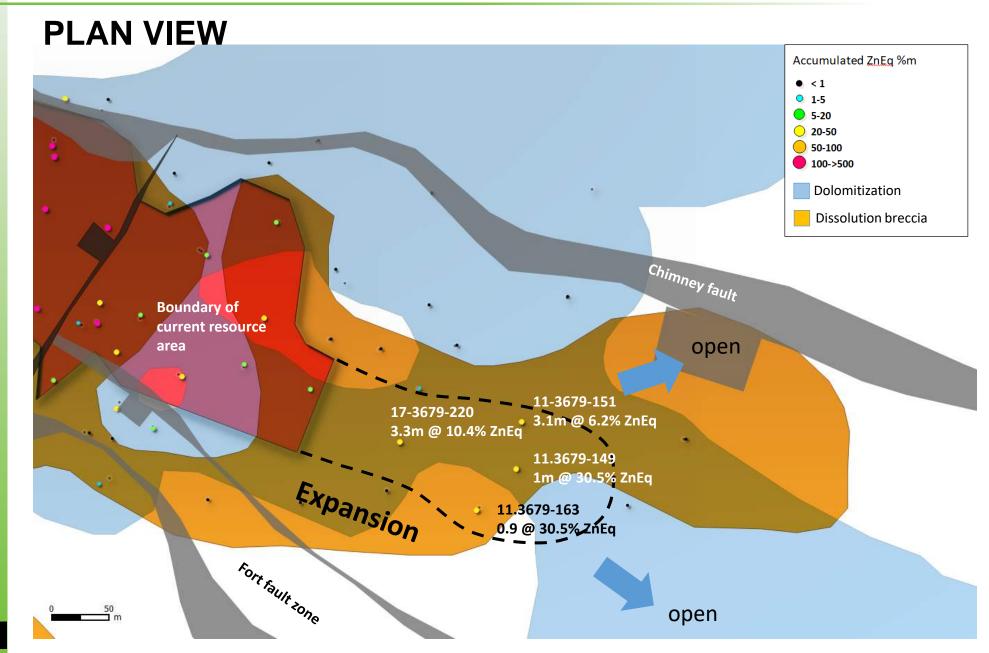






## 2017 Chimney Zone Extension Drilling

#### **TSXV:HAN OTCPINK:HANNF**



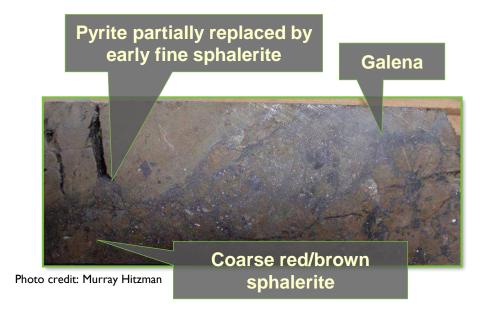
## Kilbricken Mineralogy: No Red Flags

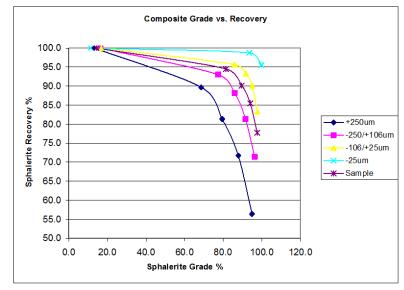
www.hannanmetals.com

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;
- Wardell Armstrong International Ltd, Truro, UK bench top metallurgical studies underway now, results April 18.





TMX TSX Venture Exchange	HAN
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OTCPink HANNF

INSIDERS: 33%

SHARES ON ISSUE: 40.3 M

FULLY DILUTED: 49.2 M

RECENT PRICE (Apr 23: C\$0.21

**52 WK HIGH/LOW:** \$0.20/0.50

MARKET CAP: C\$8.5 M

**CASH:** C\$0.6 M

**ENTERPRISE VALUE:** C\$7.9 M



#### **WARRANTS:**

389,750 @ \$0.40 exp. Aug '18 112,500 @ \$0.40 exp. Aug '18 118,950 @ \$0.20 exp. Nov '18 5,442,486 @ \$0.40 exp. Aug '19 737,500 @ \$0.10 exp. Mar '20

#### **OPTIONS:**

30,000 @ \$0.10 exp. Dec '18 75,000 @ \$0.40 exp. Feb '20 65,000 @ \$0.45 exp. May '20 75,000 @ \$0.40 exp. Jul '20 100,000 @ \$0.30 exp. Jul '20 1,071,000 @ \$0.10 exp. Nov '21 50,000 @ \$0.20 exp. Feb '22



#### **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 a 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

Georgina Carnegie: B.Com, AM Harvard

Ciara Talbot: BSc. (Honours)

#### **MANAGEMENT TEAM**

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

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)** 

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 place for continued growth.



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

## News Flow, Project Growth in Right Market

- www.hannanmetals.com
- New zinc discovery made during last downturn US\$30M sunk capital;
- High grade mineralization, expandable at all scales, from near resource to prospect scale. 35,000 hectare land package with 40 km trend to test;
- Executing active work programs:
  - Drill Drill Drill
  - 65km 2D seismic completed playing the big game;
  - 20km drilling planned for 2018
- Right Project, Right Time and Right Place.





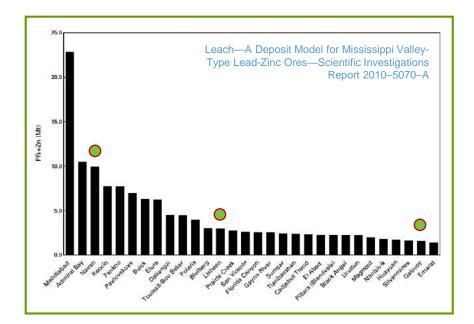
## "Irish Style" Deposits - An Attractive Target

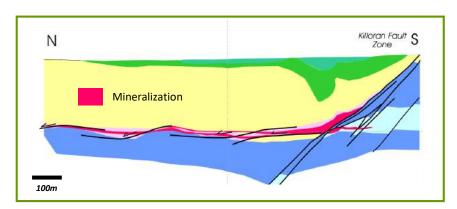
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"Irish Style" deposits are a sub-set of the carbonate hosted MVT-deposits that are well known and studied globally. Three of the 30 largest MVT deposits are in Ireland;



- 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;
- sulphides occur as replacement of carbonate rocks and to a lesser extent, open-space fill;
- alteration consists mainly of dolomitization, host-rock dissolution, and brecciation.





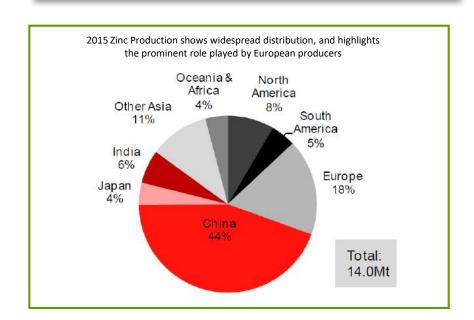
Example cross section of a typical "Irish Style" deposit (Lisheen) showing the close association of ore (in pink) to large scale, often synsedimentary basin faults. Mineralizing fluids were interpreted as moving from the sedimentary basin, along faults to be concentrated in flat-lying carbonate horizons.

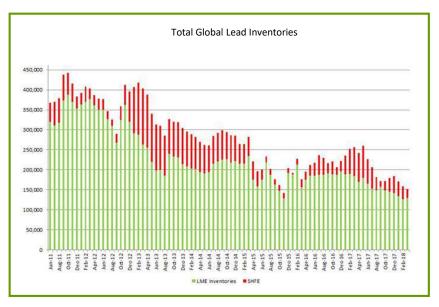
## Tight supply fundamentals

- LME inventories are down 35% to 6-year lows, with zinc prices approaching 5year highs, while smelter treatment charges halved
- Closure of major zinc mines
- Zinc exploration has been limited over the past 30 years

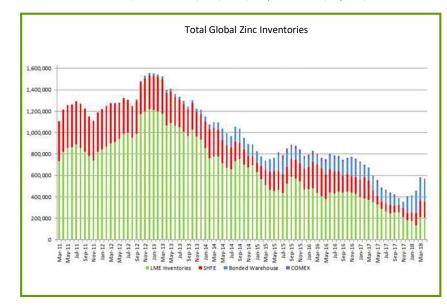


Zinc is a metal for the majors, with large discoveries as targeted by Hannan Metals, prone for takeover. Annual zinc production totals approximately 14 million tonnes. Major mines operating are: T Zn Mined 2015 Country Owner Red Dog USA Teck 567,000 India Vedanta 510,000 Rampura Ag. Mount Isa Australia Glencore 478,000 McArthur Riv. Australia Glencore 272,000 Glencore/BHP 191,000 Antamina Peru Votorantim 177,000 Cerro Lindo Peru Penasquito Goldcorp 176,000 Mexico Ireland 133,000 Tara Boliden





Source: Source: LME, Wood Mackenzie, CRU, ILZSG, Macquarie Research, May 2017, Scotia Bank



- Kilbricken/Irish advantages:
  - High grade
  - Globally competitive drill rates (€74/m)
  - Predictable ore systems with aid from seismic data
  - US\$25M exploration database

