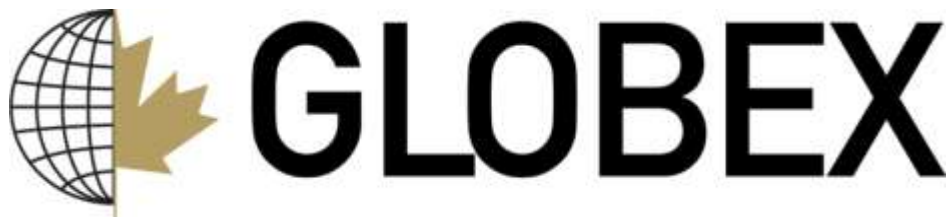


# 2012 MagMin CONFERENCE



## **A new North American Talc-Magnesia Producer Development of the Timmins Talc-Magnesite Deposit Ontario, Canada**

**Peter Godbehere, Globex Mining Enterprises Inc.**



## Timmins Talc-Magnesite Project



### Plan of Presentation

- Introducing Globex Mining Enterprises Inc.
- Location, History of TTM Deposit
- Geology, Mining
- Mineral Processing
- Magnesia Production/Marketing
- Preliminary Economic Assessment - PEA
- Development Plan – Going Forward

## Globex Mining Enterprises Inc.- At Home in North America

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



## TTM - Location



- Located in Deloro Township, 11 km south of the city of Timmins, a major mining community in N.E. Ontario, Canada with a plentiful, experienced labour pool, suppliers, and service providers.
- Deposit is ideally located:
  - ✓ Near large consumers and industrial markets of Southern Ontario, Quebec, Great Lakes and N.E. United States regions,
  - ✓ Site sits conveniently close to rail, power and natural gas lines,
  - ✓ Distant from significant water body, reducing environmental risk,
  - ✓ No nearby habitations



## TTM – History of Project Development



### Milestones

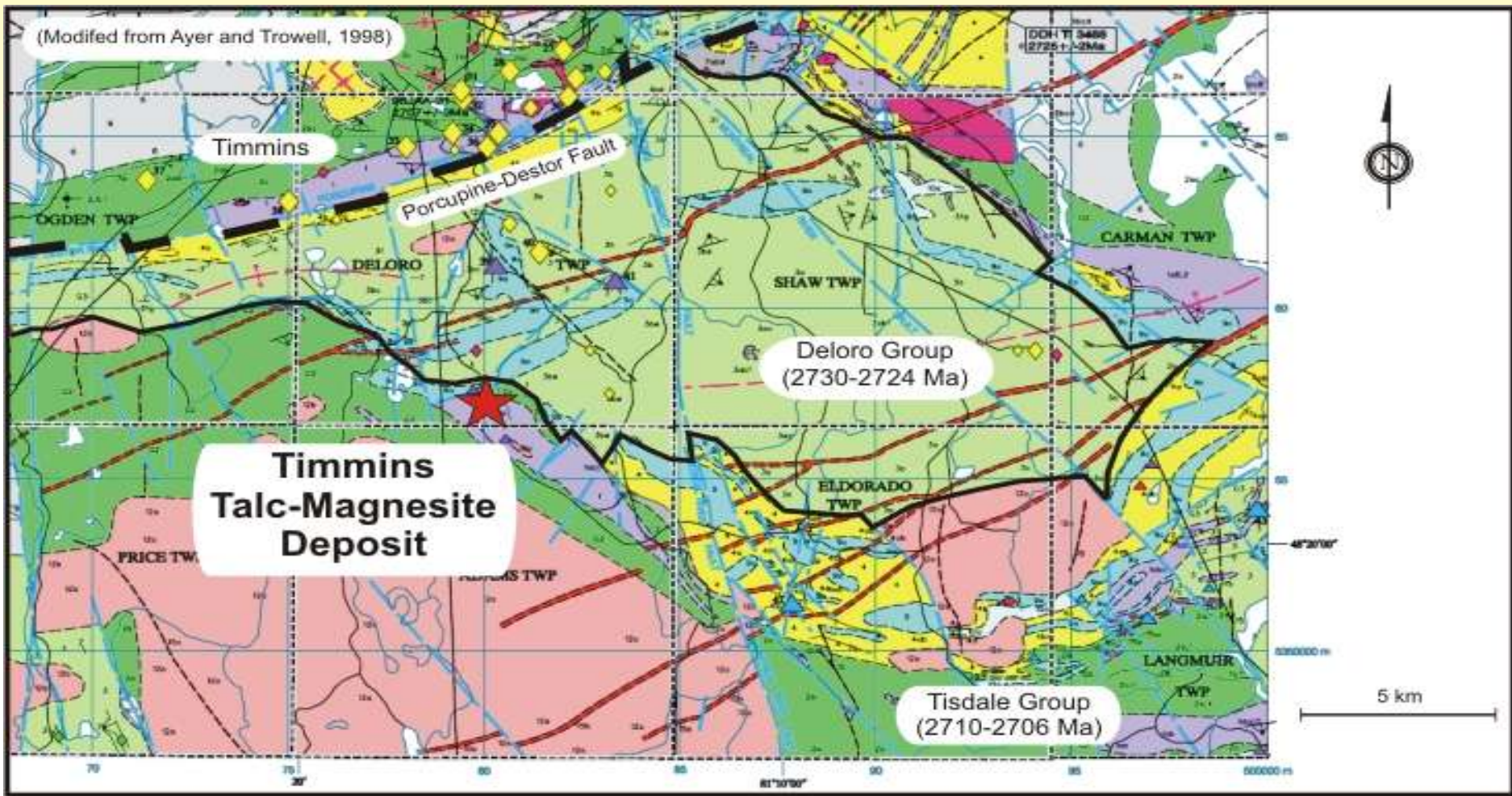
- Deposit was originally staked for its gold potential in 1940's, but it was not until 1959 that interest was shown in talc and magnesia potential.
- Worked by various companies in the 1960's- 1980's to evaluate potential for talc production, refractory grade magnesia and magnesium metal production.
- Acquired by Globex in 2001.
- 2007: DMI technology was introduced and research programs launched to investigate talc and magnesia production.
- 2008: 21 drill holes completed on A and B Zones, metallurgical and other studies initiated.

## TTM – History of Project Development



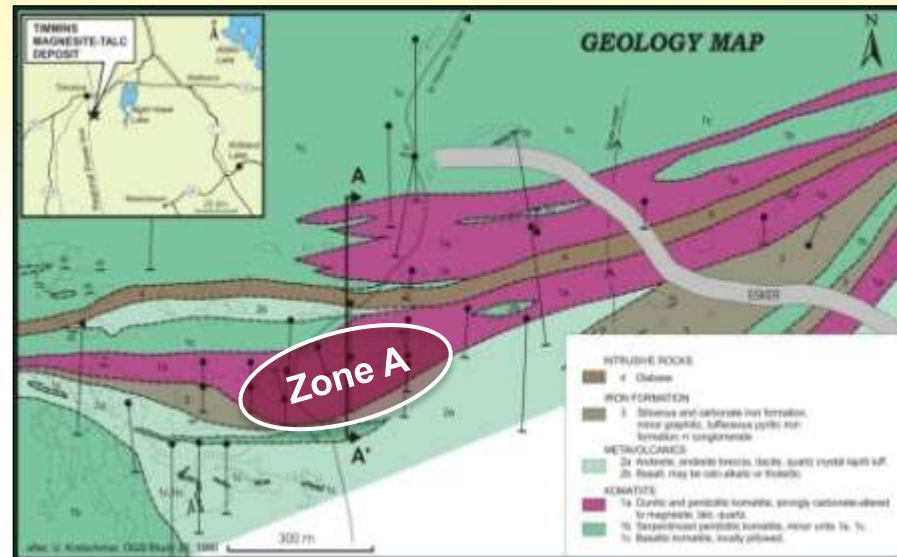
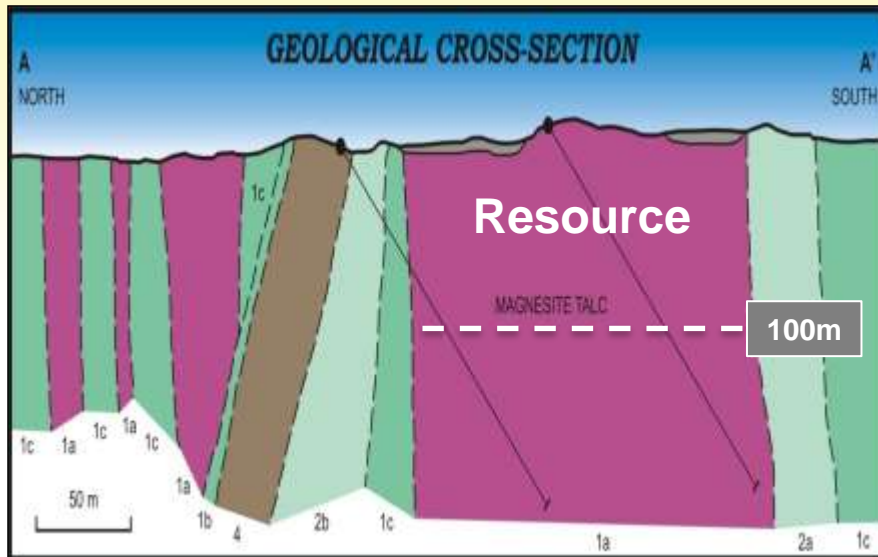
- 2009:
  - JV agreement between Globex (90%) and DMI (10%)
- 2010:
  - Released a NI 43-101 Technical Report on the TTM deposit
  - Produced high grade MgO from large scale batch leaching
    - Completed talc pilot plant and micro-pilot plant MgO trials
    - Market Study completed
    - Contacts with First Nation groups initiated
- 2011:
  - Commenced a Pre-Feasibility study
- 2012:
  - Released a Preliminary Economic Assessment

## TTM - Geology





## TTM - Resources



Resource Category - Zone A	Tonnage (mt)	Magnesite (%)	Talc (%)
Indicated	12,728,000	52.1	35.4
Inferred	18,778,000	53.1	31.7

- Resource indicated is within the limited area shown and to a depth of 100m
- Resource is open along strike and to depth

Source: Micon International Limited



## TTM – Mineralogy



Pink magnesite-talc ore

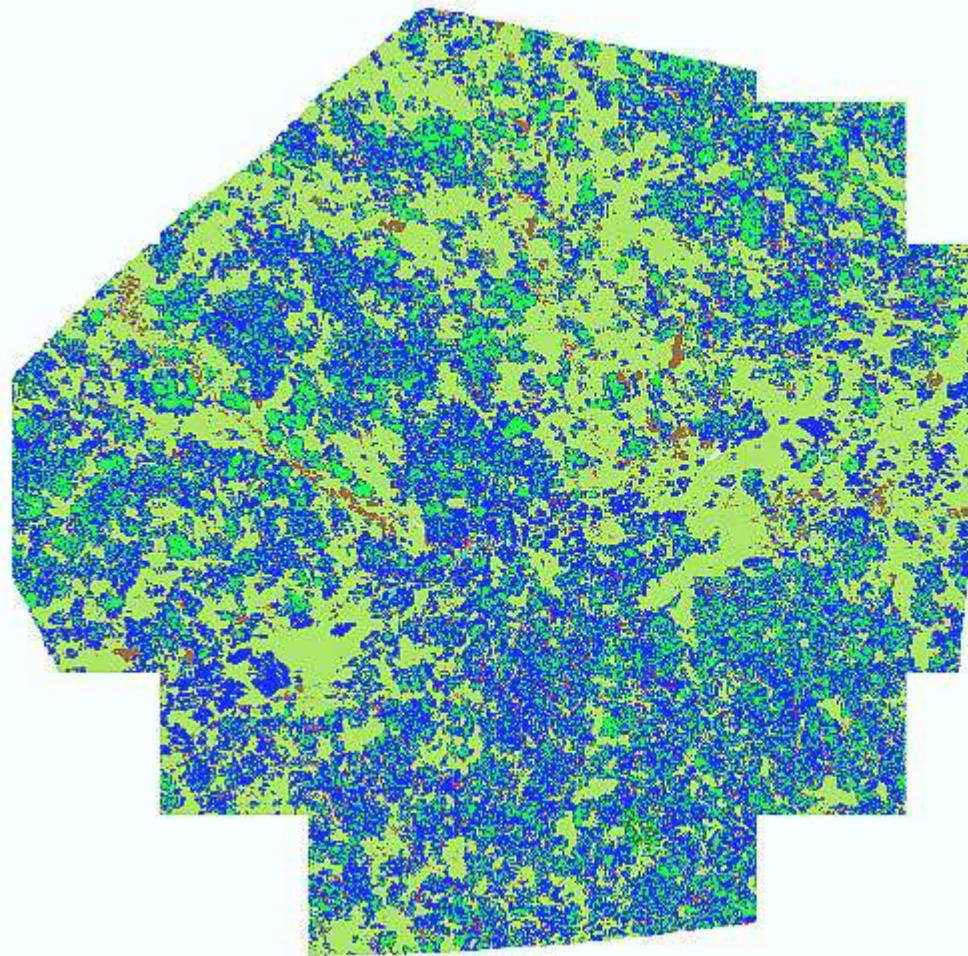


Typical gray magnesite-talc ore





## TTM – Mineralogy, Qemscan pseudo image

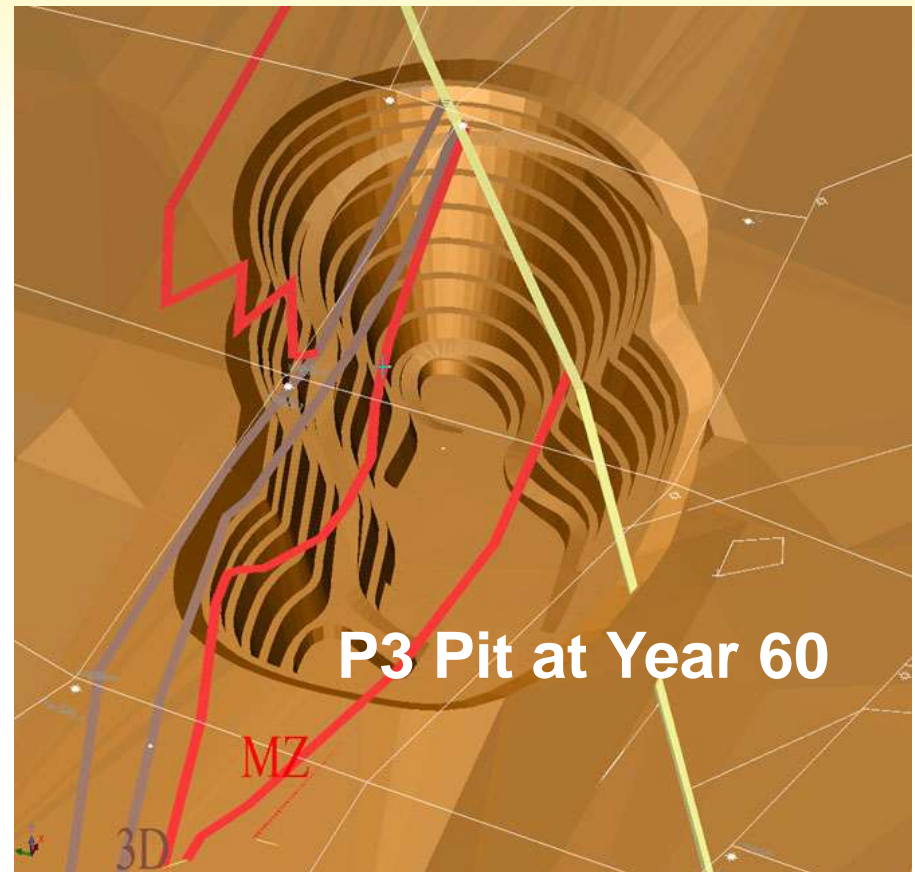
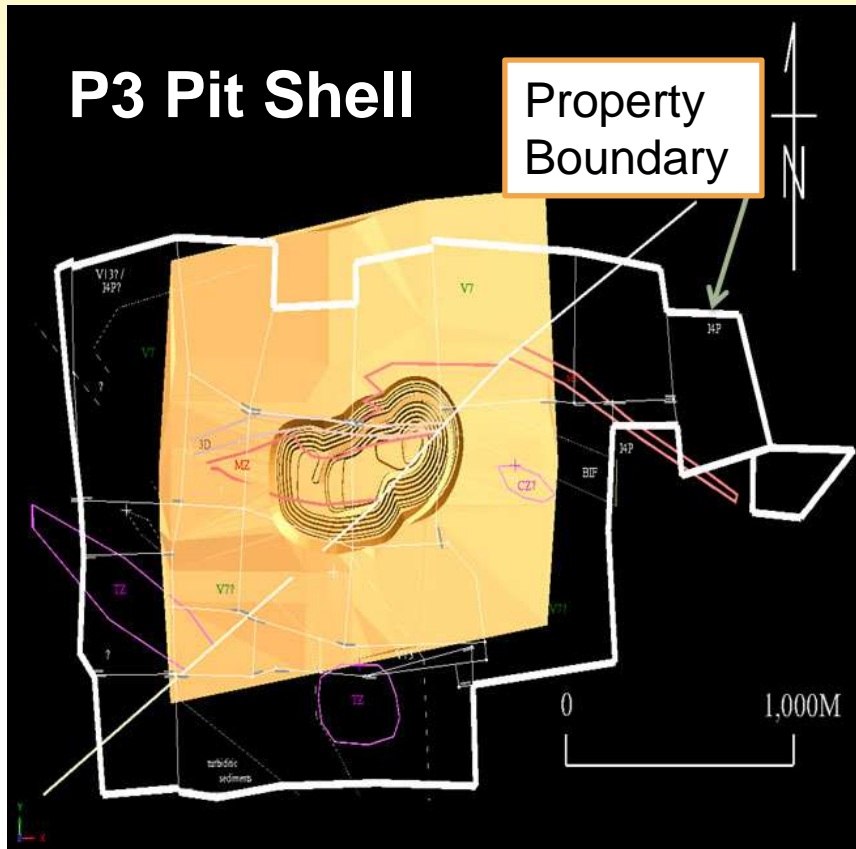


### Mineral Name

- Background
- Magnesite
- Magnesite(Ferror)
- Dolomite
- Calcite
- Other Carbonates
- Talc
- Serpentine
- Quartz
- Plagioclase
- K-Feldspar
- Biotite
- Muscovite
- Clays
- Epidote
- Chlorites
- Chlorite(HighMg)
- Chlorite(Cr,Ni)
- Amphibole
- Other Silicates
- Pyrite
- Other Sulphides
- Fe Oxides/Oxyhy
- Other Oxides
- Apatite
- Other

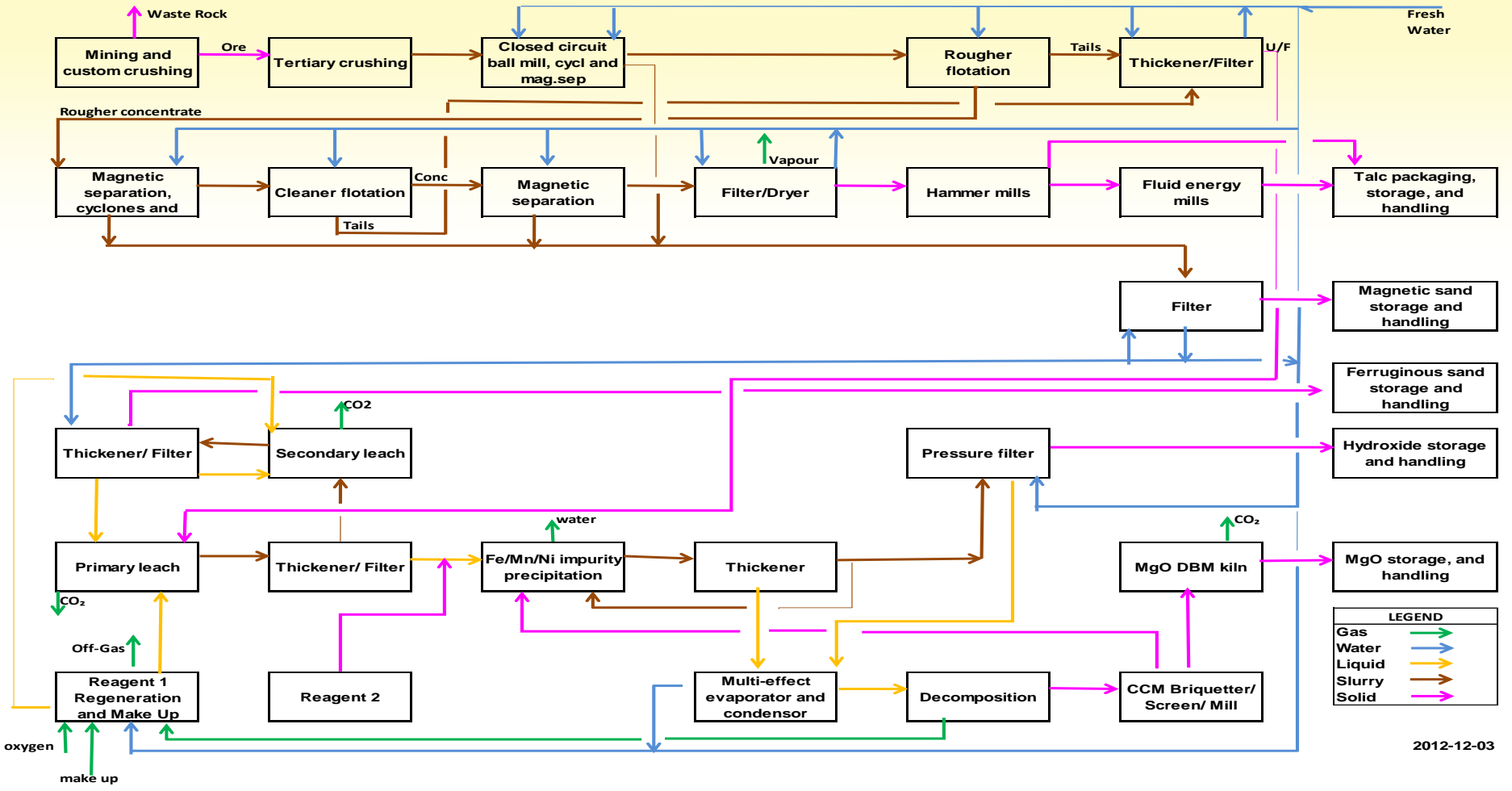
20.0  $\mu\text{m}$   
3.0  $\mu\text{m}$   
600.0  $\mu\text{m}$

## TTM – Mining: Whittle Pit Shells





## TTM – Process Flowsheet



## TTM – Operating & Production Forecast



### FACT SHEET

Run-of-Mine Feed Rate	500,000 tpy
Feed Talc Grade	35.6%
Feed Magnesite Grade	52.1%
Operating Availability	85%
Leach Conditions	105°C at Atmospheric Pressure
Overall Talc Recovery	73.6%
Overall Magnesium Oxide Recovery	95%
Talc Production	137,000 tpy
Magnesium Oxide Production	118,000 tpy
Talc Product Purity	>97%, Brightness 94
Magnesium Oxide Purity	>98%

## TTM – Magnesia CCM Product

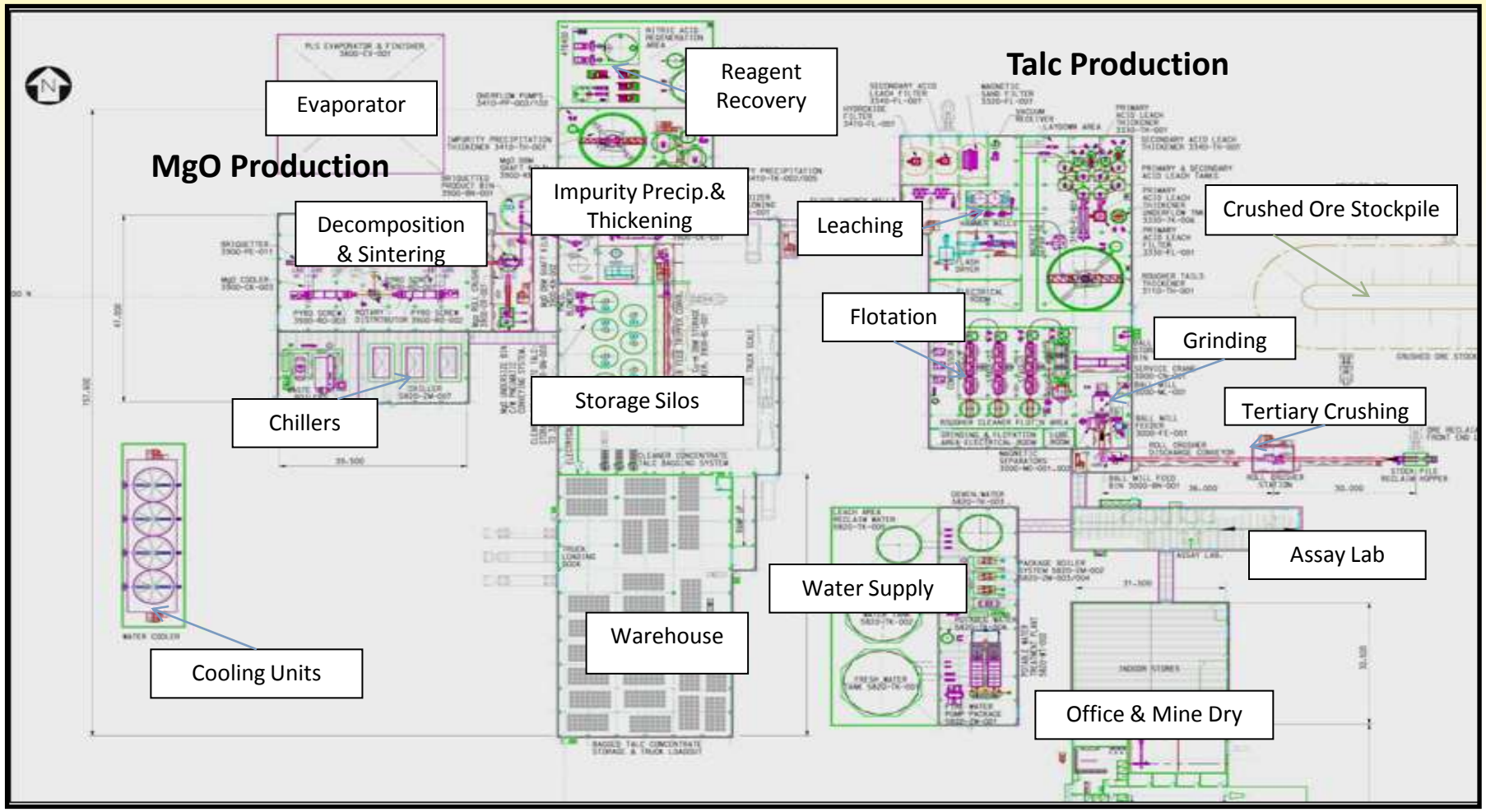


### TTM MgO Analysis (%)

<b>MgO</b>	<b>98.4</b>
<b>CaO</b>	<b>0.85</b>
<b>Al<sub>2</sub>O<sub>3</sub></b>	<b>0.009</b>
<b>Na<sub>2</sub>O</b>	<b>0.013</b>
<b>Cr<sub>2</sub>O<sub>3</sub></b>	<b>0.05</b>
<b>Fe<sub>2</sub>O<sub>3</sub></b>	<b>0.016</b>
<b>Mn</b>	<b>0.014</b>
<b>Ni</b>	<b>0.003</b>
<b>LOI</b>	<b>0.96</b>



## TTM – Process Plant Footprint



## TTM – Magnesia Demand Forecast 2013



	Refractories		Industrial	Agriculture	Others		Total
	DBM	FM	CCM	CCM	CCM	Total CCM	
Asia	5,675	1,000	3,925	90	175	4,190	10,865
Europe	2,250	350	650	200	150	1,000	3,600
N. America	450	100	250	105	30	385	935
S. America	350	20	75	12	15	102	472
Middle East	75	10	50	6	10	66	151
Oceania	25	10	25	6	10	41	76
Africa	50	10	25	6	10	41	101
<b>Total</b>	<b>8,875</b>	<b>1,500</b>	<b>5,000</b>	<b>425</b>	<b>400</b>	<b>5,825</b>	<b>16,200</b>

Roskill Information Services Ltd.  
 Magnesium Compounds and Chemicals:  
 Global Industry Markets and Outlook Eleventh Edition, 2010

## TTM – Refractory Magnesia Pricing



Industrial Minerals  
(Prices April 2012)

### CCM, Lump, FOB China

■ 90-92% MgO \$370 – 480

### DBM, Lump, FOB China

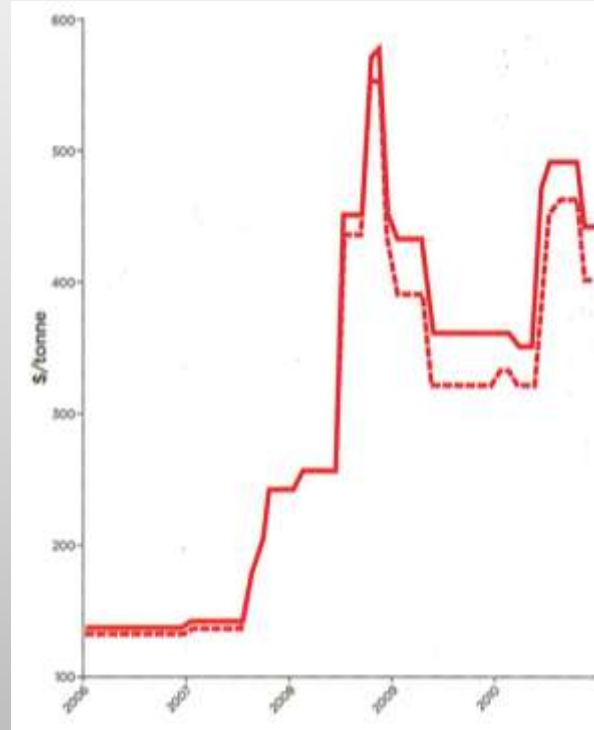
■ 90% MgO \$400 - 440

■ 92% MgO \$430 - 460

■ 94-95% MgO \$460 - 520

■ 97.5% MgO \$560 - 600

Dead-burned magnesia,  
90% MgO, FOB China\*



\*bulk, lump



## TTM – Magnesia and Talc Potential



- “We consider that there is potentially a very good opportunity for Globex to become a major player in the North American refractory magnesia market.”
  - “...U.S. refractory producers, we interviewed are all very interested in the possibility of a new North American supplier, to provide an alternative to Chinese supply...”
- 
- “Concern over the supply of bright talc from China has been mounting for some years and the degree of concern is growing. One reason for this is that China’s reserves of bright talc are declining; many mines no longer have reserves of high-quality talc. The price of Chinese talc is also on an upward trend” .....
  - “ TTM deposit, which contains talc comparable in brightness to the Chinese material, is ideally located to supply the key North American markets for bright talc and is very large” .....

## TTM Project – 2012 Micon PEA Summary



After Tax IRR-19.5%		CAD \$,000	LOM TOTAL (Undisc'd)	NPV Discounted at 8,0%
<b>Revenue</b>	Gross Sales (Talc & Magnesia)		2 578 530	1 164 507
	<i>less</i> Royalties & Selling Expenses		40 928	18 491
	<b>Net Sales Revenue</b>		<b>2 537 602</b>	<b>1 146 016</b>
<b>Cash op. costs</b>	Mining Costs		152 879	66 799
	Processing Costs		690 230	314 365
	G&A costs		143 374	65 170
	<b>Total cash operating costs</b>		<b>986 483</b>	<b>446 334</b>
<b>Net Cash Operating Margin (EBITDA)</b>			<b>1 551 119</b>	<b>699 683</b>
<b>Capital Expenditure</b>	Initial/expansion capital		266 361	255 015
	Sustaining capital		64 879	35 892
	Closure Provision		2 000	1 852
	Changes in Working Capital		-	10 532
<b>Net cash flow before tax</b>		<b>23,3%</b>	<b>1 217 879</b>	<b>403 792</b>
Taxation payable			377 338	145 839
<b>Net cash flow after tax</b>		<b>19,5%</b>	<b>840 541</b>	<b>257 953</b>
<b>Payback Period (yrs)</b>			<b>4,1</b>	<b>5,8</b>

## TTM Development Plan – Path Forward



(Cost Summary \$335M over 6 years)

*\*Subject to positive PFS, FS*

Costs as Cdn (\$000'000)	2012	2013	2014*	2015*	2016-17*
<b>TOTAL</b>	<b>21</b>	<b>29</b>	<b>47</b>	<b>55</b>	<b>183</b>
<b>Pre-Feasibility Study</b>					
• DD, talc variability, met. tests, envir, arch, etc	3	-	-	-	-
<b>Feasibility Studies</b>					
• Geotechnical Studies	2	-	-	-	-
• Mine Permitting & Development, First Nation Consultations	5	-	-	-	-
• Talc Plant & Process Feasibility Study	2	7	-	-	-
<b>Talc Demonstration Plant/Magnesia Pilot Plt</b>	<b>9</b>	<b>16</b>	<b>5</b>	<b>-</b>	<b>-</b>
<b>Main Talc Production Plt . Eng &amp; Construction</b>	<b>-</b>	<b>6</b>	<b>40</b>	<b>50</b>	<b>-</b>
<b>Magnesia Plant Feasibility Study</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>-</b>
<b>Main Magnesia Plant Eng &amp; Construction</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>175</b>
<b>Working Capital</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>8</b>



## TTM - Team Members



### **GLOBEX MINING ENTERPRISES INC.**

- Ray Zalnieriunas Project leader, geology
- David Hall Talc, plant & product development
- Peter Godbehere Metallurgy

### **DRINKARD METALOX INC.**

- Bill Drinkard President
- Fred Gallagher Executive Vice-President
- Hans Woerner Director of Research - Hydrometallurgy

### **Supporting Consultants**

- Micon International Independent geologic QP, resources/reserves
- Peimeng Ling Consulting process engineer
- Pat Raleigh Independent process & plant engineer
- Pocock Industrial Inc. Solid liquid separation testing
- Swenson Tech. / Veolia Water Evaporation
- Roskill Consulting Group Ltd. International marketing consultants
- Jacobs Minerals Canada Lead Engineering firm
- Blue Heron / Golder Environmental baseline study and project permitting

## Diversified Explorer



**GLOBEX**  
MINING ENTERPRISE INC

**Thank you for your attention  
Vielen Dank für Ihre Aufmerksamkeit**



Industrial metals



Rare earth elements



Precious metals



Others

2012