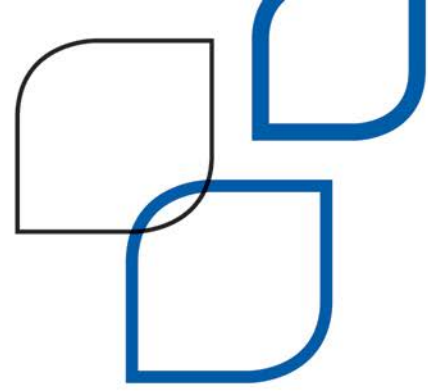




MUNICIPAL  
PROPERTY  
ASSESSMENT  
CORPORATION



# **Analysis of Economic Obsolescence**

Major Mineral Operations in Ontario

2016 BASE YEAR

**June 30, 2015**

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# INTRODUCTION

## PURPOSE OF THE REPORT

The purpose of the report is to demonstrate how MPAC intends to account for any loss in value resulting from external obsolescence to the special purpose industrial properties associated with manufacturing and/or processing the following commodities:

- Nepheline Syenite
- Salt
- Gypsum
- Garnet Abrasive
- Talc
- Wollastonite
- Calcium Carbonate
- Cement
- Uranium

## SUBJECT PROPERTIES

The subject properties associated with manufacturing and/or processing the above-mentioned minerals are:

- Smelters
- Refineries
- Mills
- Plants

Each of the property types listed is highly specialized and has been designed to perform a sole use. They are useful, and as a result have value, for as long as the intended use is profitable.

The subject properties are only profitable if the associated revenue exceeds the cost of goods sold over the investment horizon linked to the property.

## THE MARKET FOR INDUSTRIAL PROPERTIES

There are two markets to be analyzed when studying industrial real property.

- i. "The real estate market, in which industrial properties trade and space in those properties is leased and occupied"<sup>1</sup>
- ii. "The market for the goods produced in industrial facilities"<sup>2</sup>

There is not an active real estate market for the subject properties as when they trade it is part of a vast transaction that includes the entire business enterprise (i.e. inclusive of intangible property, personal property and real property).

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<sup>1</sup> Appraising Industrial Properties, Appraisal Institute, 2005, Page 51

<sup>2</sup> Ibid, Page 52

In the absence of real estate market data the markets for the goods produced at the subject properties were analyzed when estimating their current values.

The analysis of these markets is the primary subject of this report.

## EXTERNAL OBSOLESCENCE

External Obsolescence (“EO”) is present when external influences occurring in the market diminish the value of a business and, therefore, its assets. Examples of such types of external influences include (but are not limited to):

- Changing industry economics, such as reduced demand or excess supply;
- Increased cost of raw materials and labour without a corresponding increase in product price;
- Interrupted supply of materials and/or labour;
- Increased competition and price pressures;
- Government legislation and/or changes in regulations;
- Economic factors over which an industry has no control, including changes in inflation, interest rates, foreign current rates and the potential effect of such factors on revenues, expenses and profitability;
- Adverse global economic conditions;
- Technological advances

## COMMODITY

A commodity is “a basic good used in commerce that is interchangeable with other commodities of the same type. Commodities are most often used as inputs in the production of other goods or services. The quality of a given commodity may differ slightly, but it is essentially uniform across producers. When they are traded on an exchange, commodities must also meet specified minimum standards, also known as a basis grade”.<sup>3</sup>

## ONTARIO MINING

According to data provided by the Ontario Mining Association, Ontario was the leading province with \$11.0 billion of mineral production or 24.6% of all Canadian production. This value represents a 7.8% growth from 10.2 billion in 2013 and an 18.3% increase from the 10 year average.

Ontario’s Top 10 minerals by value in 2014:

	<b>Mineral</b>	<b>CAD (millions)</b>	<b>% of Ontario Mining Value</b>
<b>1</b>	Gold	3414	33
<b>2</b>	Nickel	1935	18.7
<b>3</b>	Copper	1563	15.1
<b>4</b>	PGM	776	7.5
<b>5</b>	Stone	601	5.8
<b>6</b>	Cement	600	5.8
<b>7</b>	Sand and Gravel	469	4.5
<b>8</b>	Diamonds	432	4.2
<b>9</b>	Salt	427	4.1
<b>10</b>	Zinc	132	1.3

<sup>3</sup> <http://www.investopedia.com/terms/c/commodity.asp>

## SCOPE OF REVIEW

In preparing our comments and calculations, we have reviewed, considered and relied upon, inter alia, the following:

- Various financial and statistical data published by Statistics Canada;
- Various information published on the Industry Canada website;

The scope of review is very limited due to the broad scope of commodities covered in this report and the writer's inability to locate publicly available information that was useful.

## FINANCIAL RATIOS

Statistics Canada publishes a large array of financial data in tables.

Table 187-0002 shows the quarterly statement of changes in financial position, by North American Industry Classification System (NAICS) on selected financial ratios and selected seasonally adjusted components.

The data selected in the table includes mining and quarrying (except oil and gas) and reflects the entire country.

The three financial ratios that were selected are return on capital employed (ROCE), return on equity (ROE) and profit margins.

ROCE is a “financial ratio that measures a company's profitability and the efficiency with which its capital is employed. Return on Capital Employed (ROCE) is calculated as:  $ROCE = \text{Earnings Before Interest and Tax (EBIT)} / \text{Capital Employed}$ .”<sup>4</sup>

ROE is “the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. ROE is expressed as a percentage and calculated as:  $\text{Return on Equity} = \text{Net Income} / \text{Shareholder's Equity}$ .”<sup>5</sup>

Profit margin is “a ratio of profitability calculated as net income divided by revenues, or net profits divided by sales. It measures how much out of every dollar of sales a company actually keeps in earnings”.<sup>6</sup>

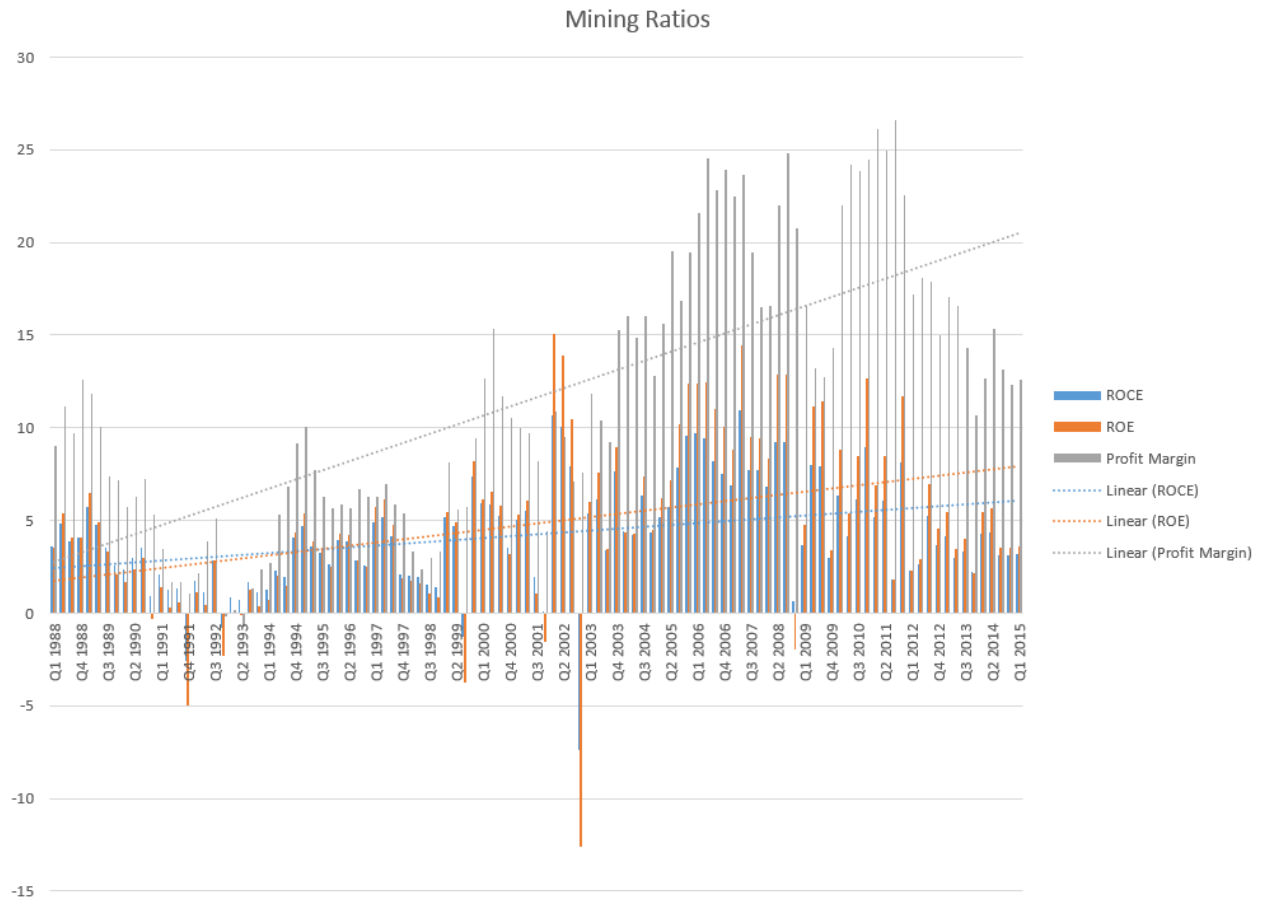
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<sup>4</sup> <http://www.investopedia.com/terms/r/roce.asp>

<sup>5</sup> <http://www.investopedia.com/terms/r/returnonequity.asp>

<sup>6</sup> <http://www.investopedia.com/terms/p/profitmargin.asp>

The following chart illustrates the above-mentioned financial ratios from Q1 1998 to Q1 2015.



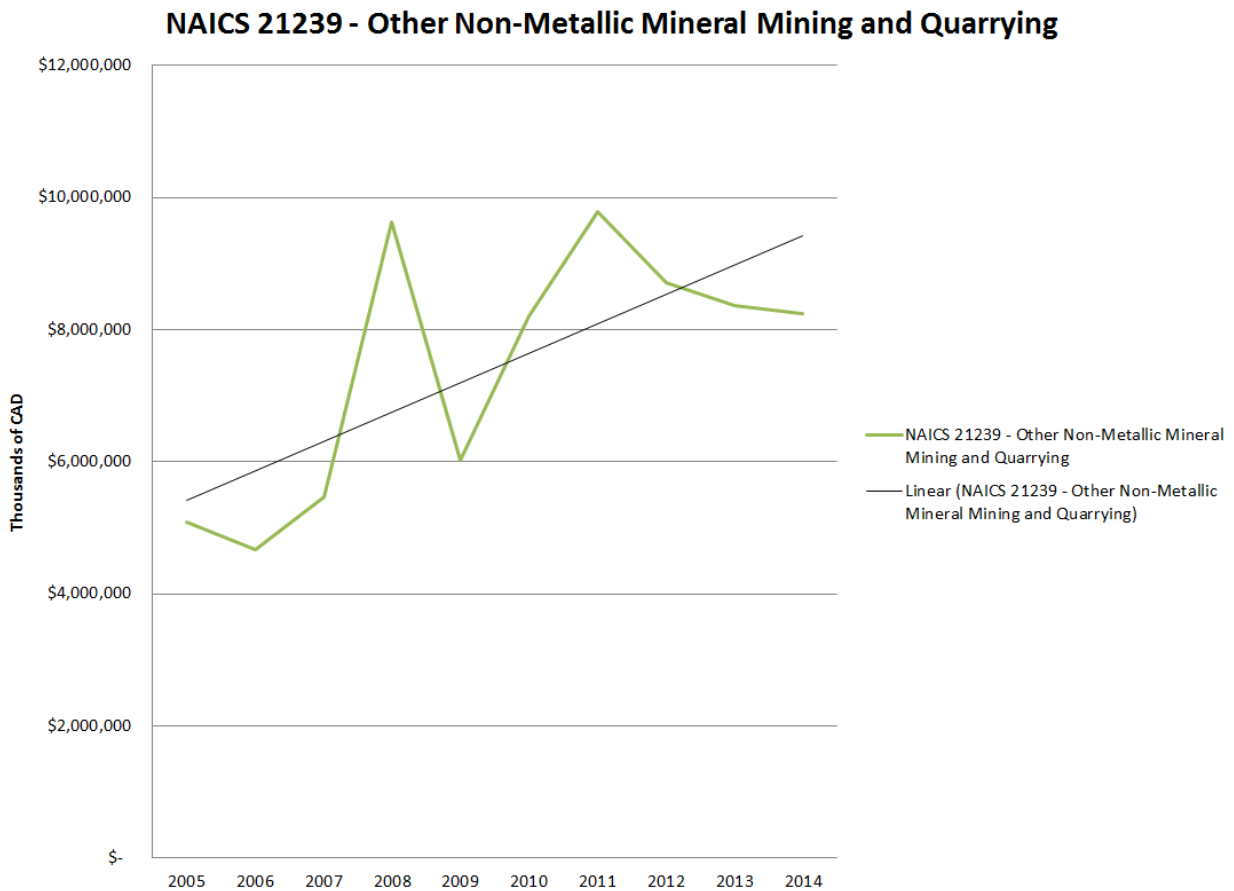
As can be observed, each of the financial ratios is trending up over the 27 year period.

## CANADIAN TOTAL EXPORTS

Industry Canada publishes custom-based statistics on international trade in goods on a web site called Trade Data Online.<sup>7</sup>

Much like the information from Statistics Canada, the data selected in the table includes more than just mining in Ontario.

The following table illustrates the total Canadian exports of Other Non-Metallic Minerals to all countries over the past ten years.

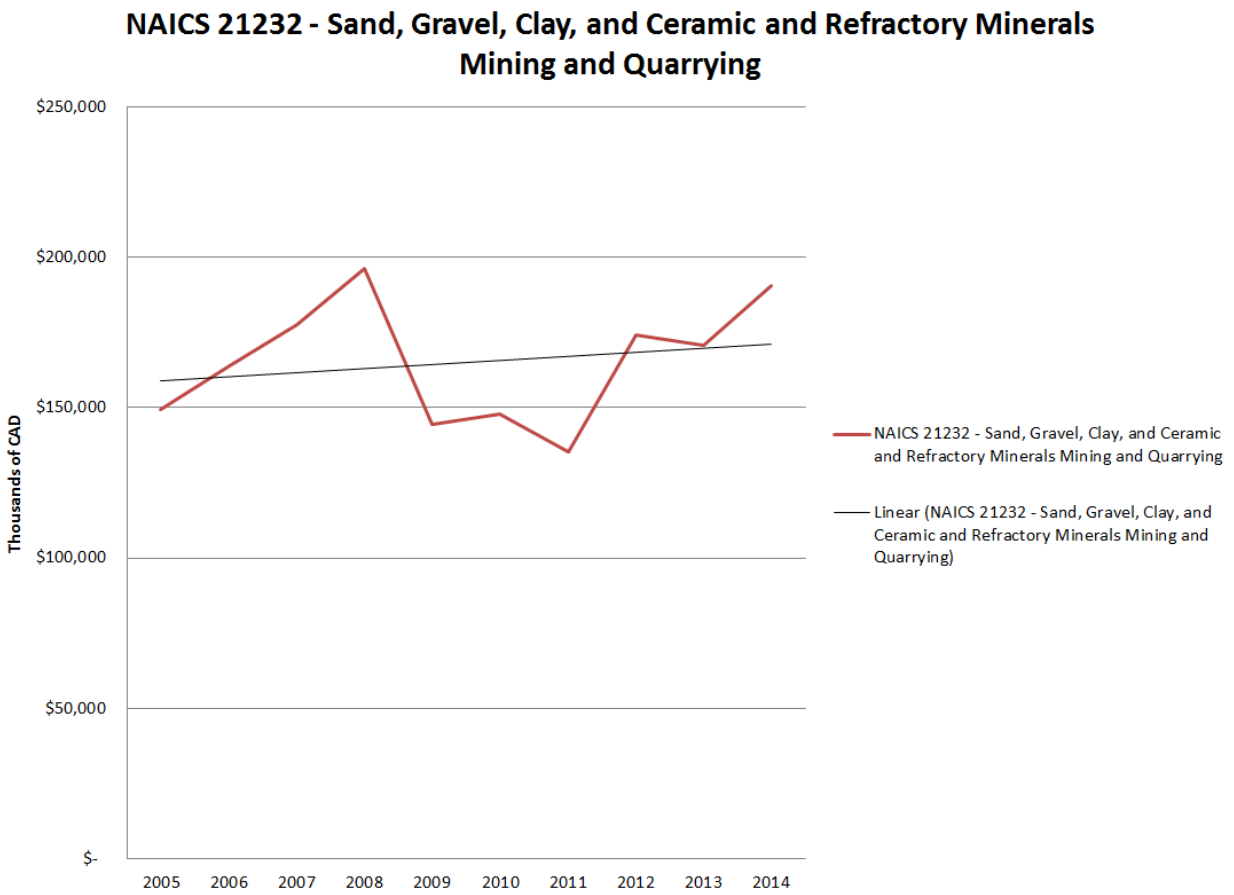


As can be observed, exports are trending up over the 10 year period.

<sup>7</sup> <http://www.ic.gc.ca/eic/site/tdo-dcd.nsf/eng/Home>

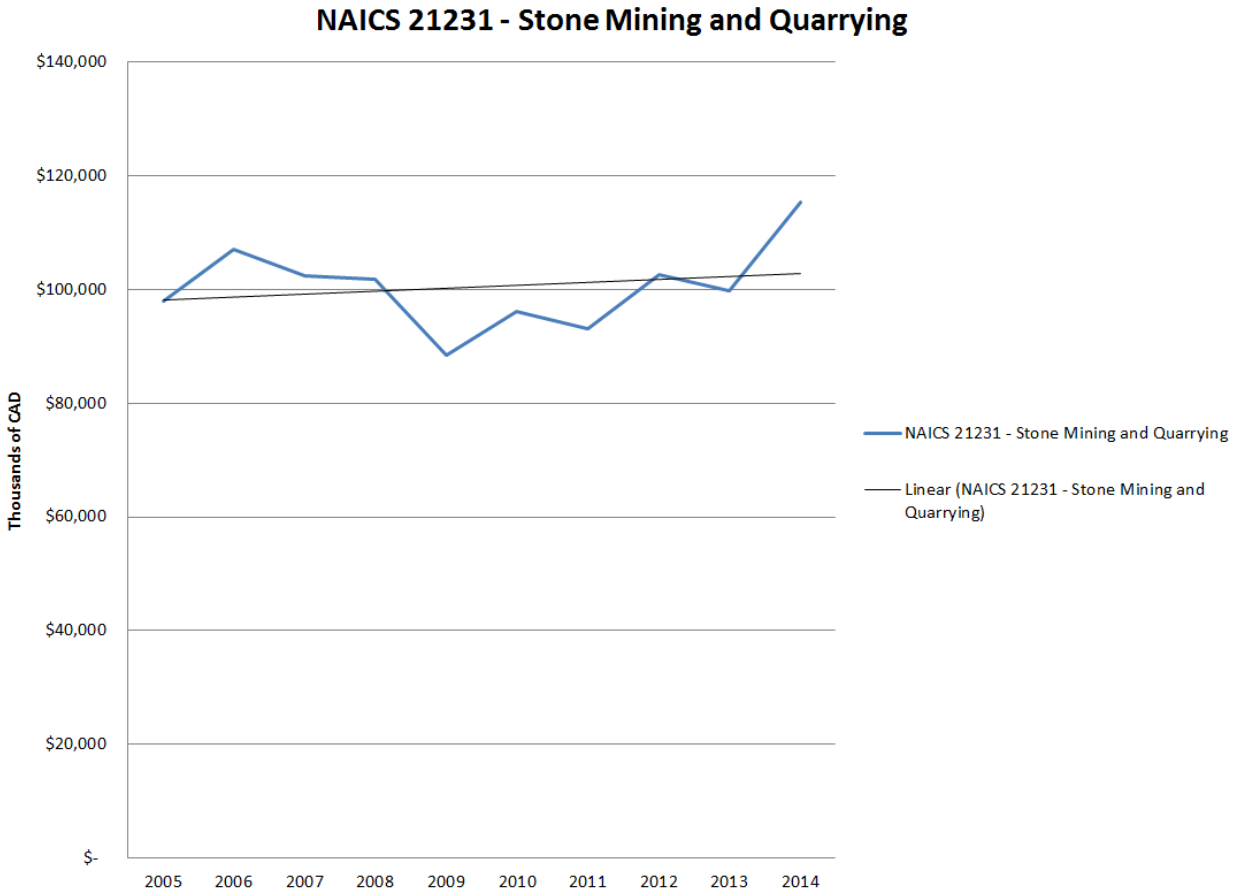


The following table illustrates the total Canadian exports of Sand, Gravel, Clay, and Ceramic and Refractory Minerals to all countries over the past ten years.



As can be observed, exports are trending up over the 10 year period.

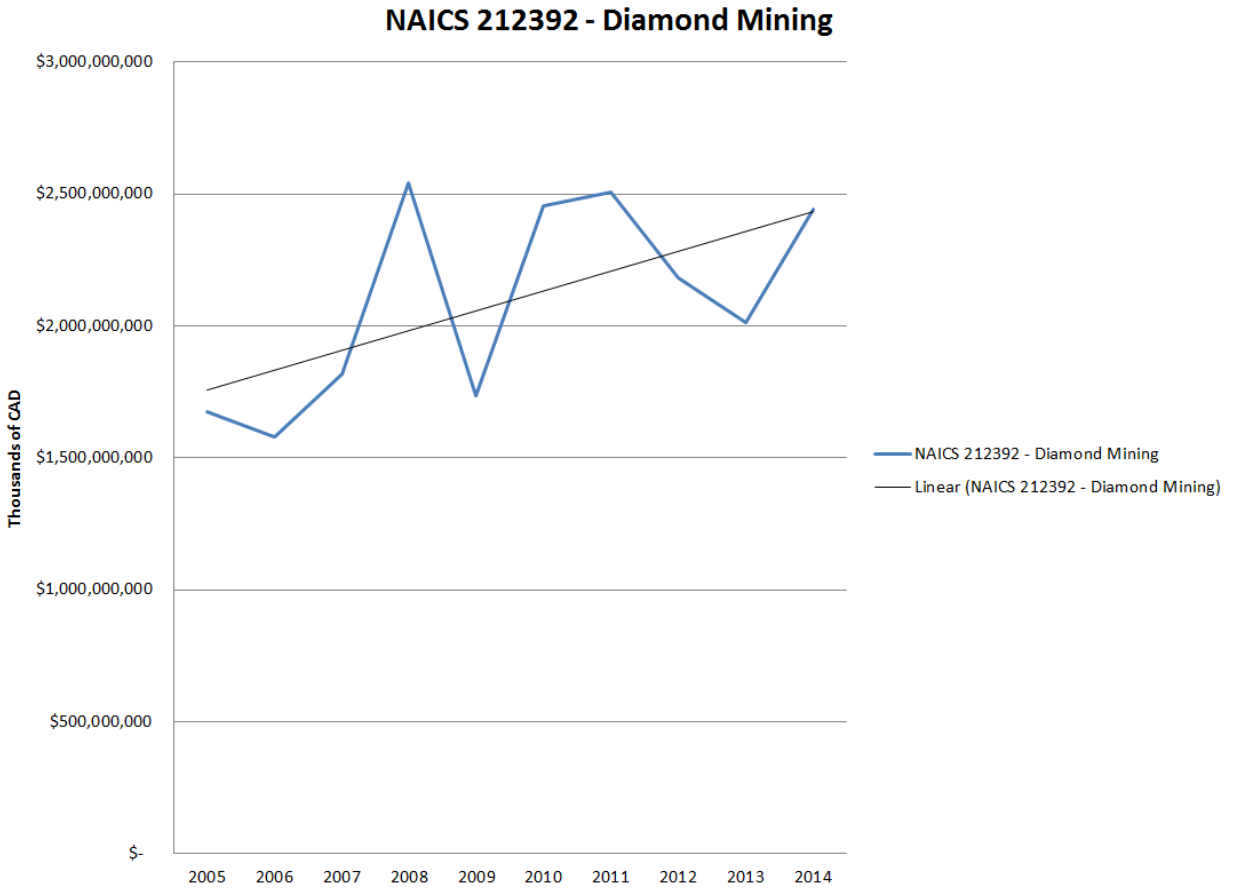
The following table illustrates the total Canadian exports of Stone to all countries over the past ten years.



As can be observed, exports are trending up over the 10 year period.

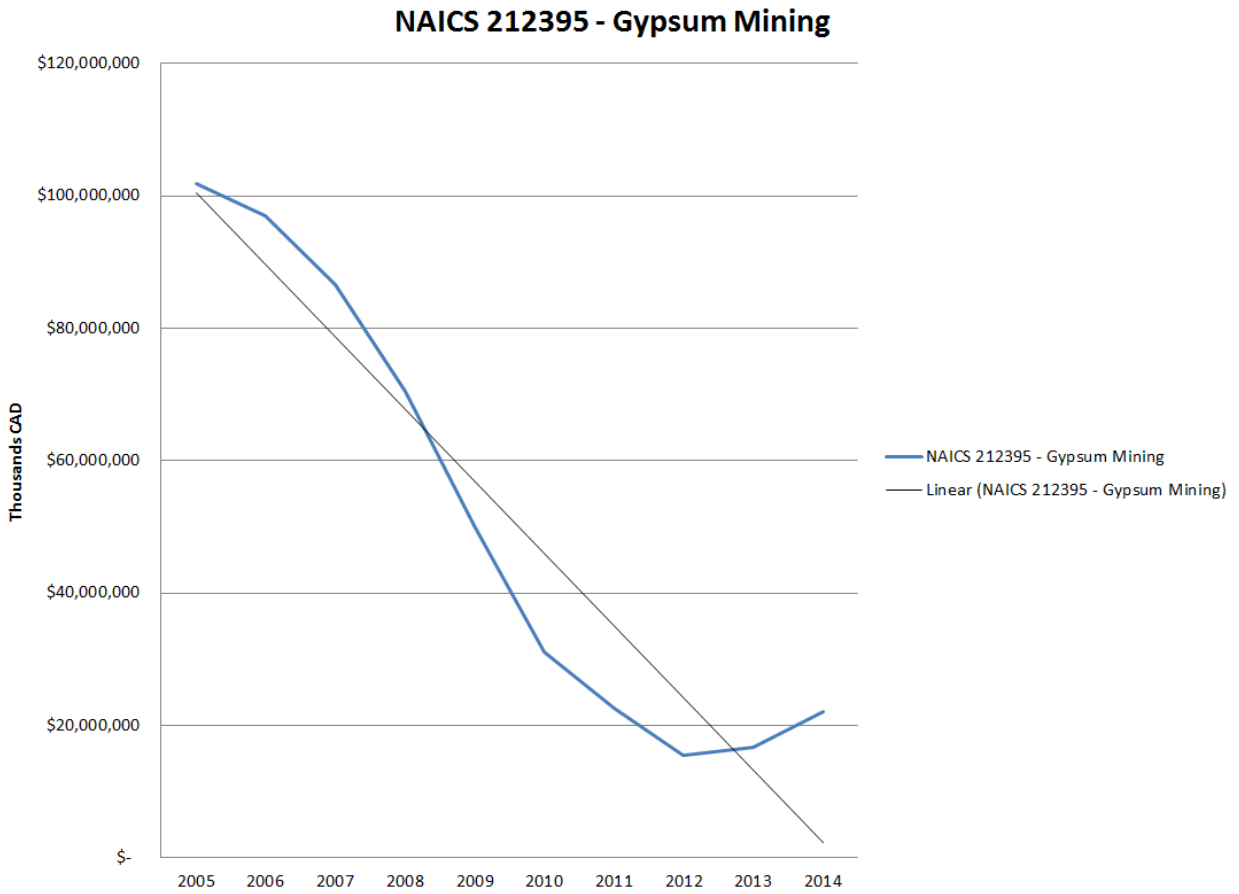
The preceding three charts that illustrate total Canadian exports include a large variety of products and may not accurately reflect the market conditions facing particular commodities. Although there is not specific available for each of the categories the following three charts will illustrate the very different circumstances facing diamond and gypsum mining and cement manufacturing.

The following table illustrates the total Canadian exports of Diamonds to all countries over the past ten years.



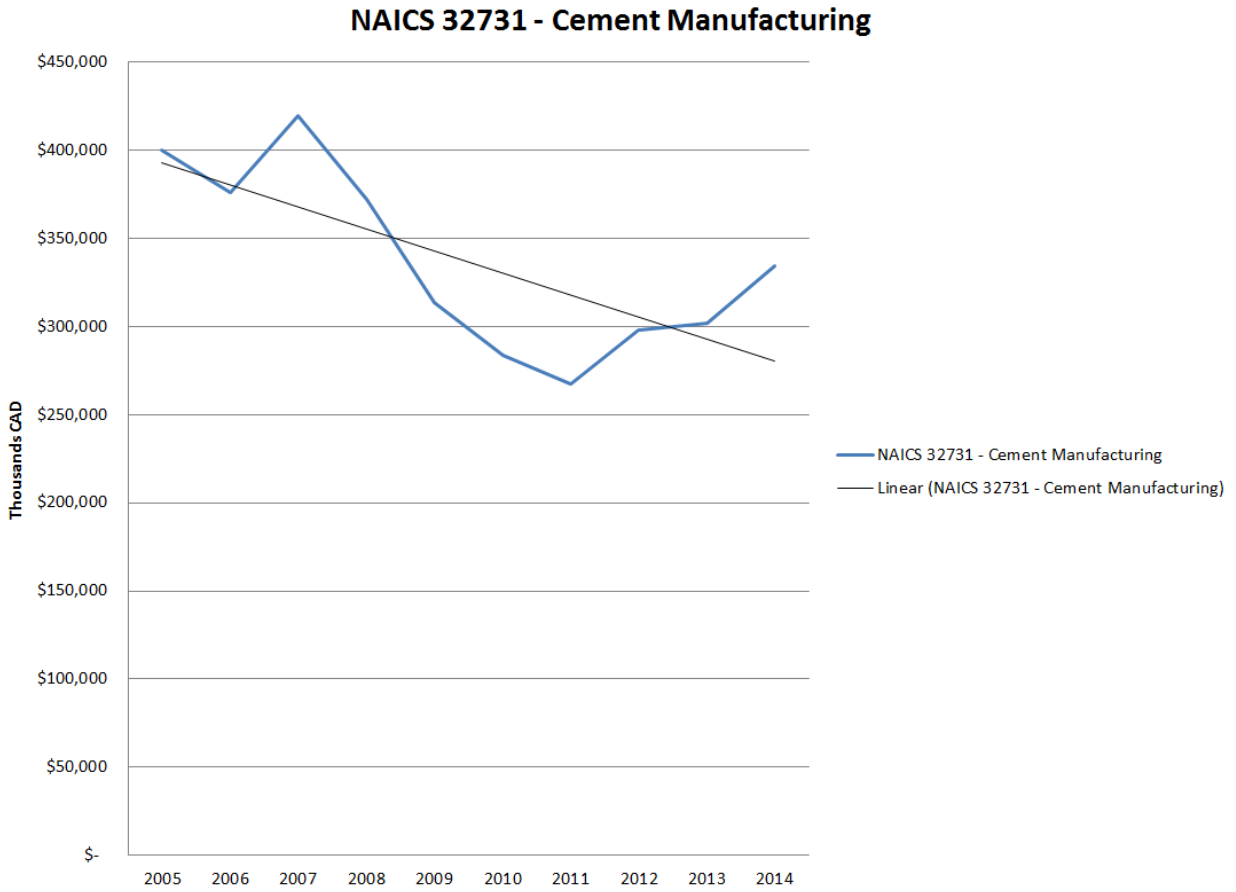
As can be observed, exports are trending up over the 10 year period.

The following table illustrates the total Canadian exports of Gypsum to all countries over the past ten years.



As can be observed, exports are trending down significantly over the 10 year period.

The following table illustrates the total Canadian exports of Cement to all countries over the past ten years.



As can be observed, exports are trending down over the 10 year period.

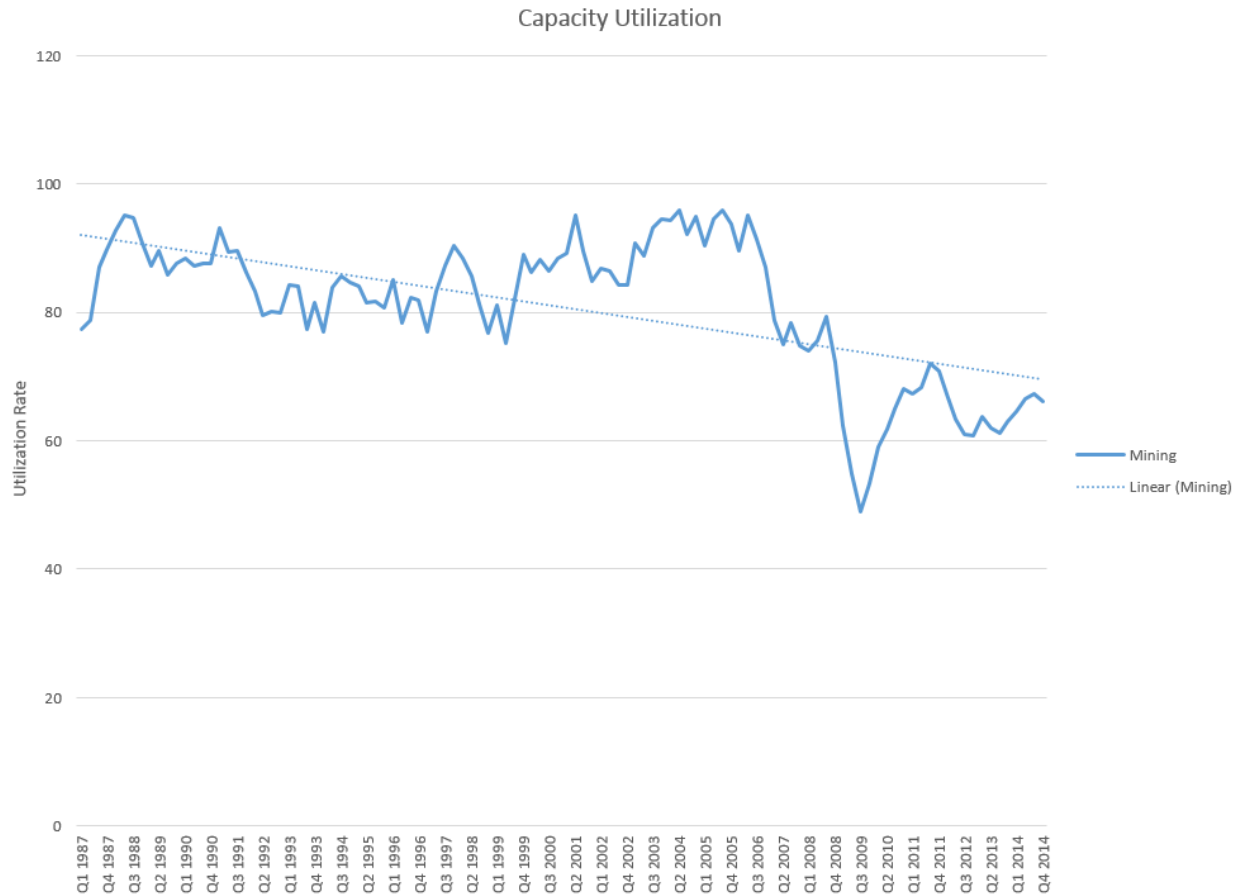
## CAPACITY UTILIZATION

Statistics Canada publishes capacity utilization rates in tables.

Table 028-0002 shows the industrial capacity utilization rates, by North American Industry Classification System (NAICS), quarterly as a percentage.

Capacity utilization reflects “the rates of capacity use are measures of the intensity with which industries use their production capacity. Capacity use is the percentage of actual to potential output”.<sup>8</sup>

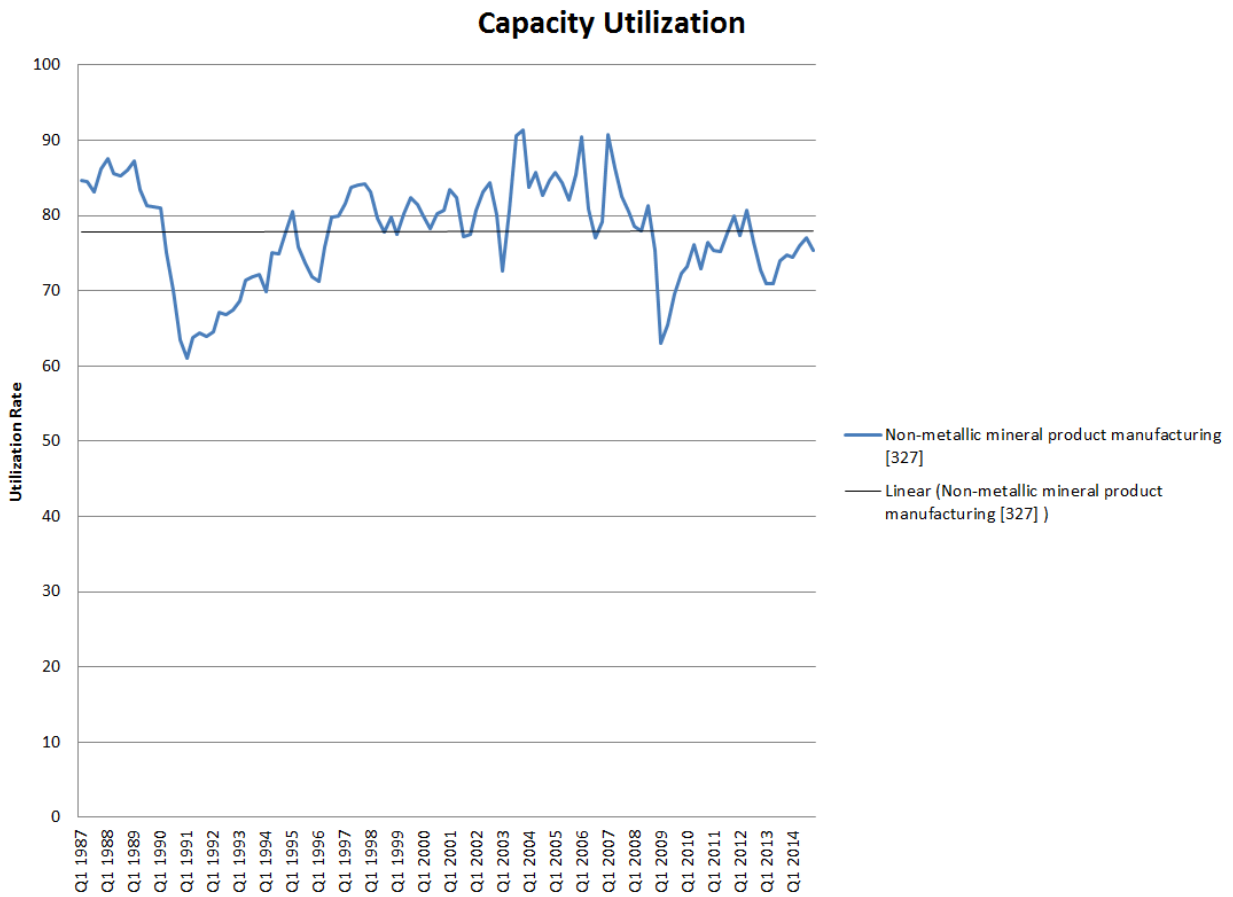
The following chart illustrates the capacity utilization for all of mining across Canada from Q1 1987 to Q4 2014.



As can be observed, capacity utilization is trending down over the 27 year period.

<sup>8</sup> <http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&lang=en&db=imdb&adm=8&dis=2&SDDS=2821>

The following chart illustrates the capacity utilization for all of non-metallic mineral product manufacturing across Canada from Q1 1987 to Q4 2014.



As can be observed, capacity utilization is trend line is flat over the 27 year period.

## SUMMARY OF FINDINGS

The analysis involved the review of seven economic indices. The following table illustrates how each of the indices is trending as of the date of the report.

Economic Indicator	Trend
<b>Financial Ratios</b>	
Mining	Upward
<b>Canadian Total Exports</b>	
Other Non-Metallic Minerals	Upward
Sand, Gravel and Ceramic and Refractory Minerals	Upward
Stone	Upward
Diamonds	Upward
Gypsum	Downward
Cement	Downward
<b>Capacity Utilization</b>	
Mining	Downward
Non-Metallic Mineral Product Manufacturing	Flat

As can be observed, the nine indices are trending in various directions.

Very little, beyond the health of the markets for diamonds, gypsum and cement can be gleaned from the data contained in this report.

## CONCLUSION

Based upon the information reviewed there is evidence to suggest that at least two of the sectors in Ontario are facing adverse external influences that are occurring in the market that diminish the value of their businesses and, therefore, their assets.

It is likely that the one diamond mine in Ontario does not suffer from external obsolescence.

MPAC cannot presently offer an informed position relating to external obsolescence for the remaining sectors.

It is anticipated that stakeholders will share fulsome information that will allow MPAC to account for external obsolescence; however, prior to any iterative discussions with stakeholders **MPAC is unable to credibly opine on the appropriate allotments for external obsolescence relevant to each of the sectors.**