



Port Colborne Community-based Action Plan (PCCAP)

Port Colborne Council Meeting Presentation
June 10, 2019



About Vale's Port Colborne Refinery

- Vale is a global mining company and the world's largest producer of nickel and iron ore.
- Vale's Port Colborne Refinery has been operating since 1918, and celebrated 100 years of operations last year. Over the years the plant has produced a variety of nickel, cobalt and precious metals products.
- Today the plant no longer refines nickel but receives nickel product for packaging and shipping. The plant continues to produce cobalt rounds and platinum group metals (PGMs) including gold and silver sand, precious metals, selenium and bismuth cakes and tellurium dioxide.
- Over the years, Vale has employed thousands in the community and today employs 190 people. We are a proud member and supporter of the Port Colborne community.



We are what we do

Mission

To transform natural resources into prosperity and sustainable development.

Vision

To be the number one global natural resource company in creating long term value, through excellence and passion for people and the planet.

Values

Life matters most
Value our people
Prize our planet
Do what is right
Improve together
Make it happen



Why we're here

Port Colborne Community-based Action Plan

Today, Vale is proud to launch its Community-Based Action Plan for Port Colborne that addresses the findings of a multi-year Community-Based Risk Assessment (CBRA) examining the impact of 100 years of operations, and specifically historical metal deposition in soil.


The comprehensive Action Plan was developed with the input of the City of Port Colborne, the Ontario Ministry of the Environment, Conservation and Parks (MECP), and Niagara Region Public Health.


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CBRA History

Community-based Risk Assessment

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- Process took nearly 20 years (CBRA and Action Planning)
 - One of the most comprehensive studies of its kind ever done in Canada

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- Three CBRA studies: Human Health Risk Assessment, Environmental Risk Assessment, Agricultural Risk Assessment
 - Process included a Community Health Assessment Project

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- Conducted with significant, scientific rigour
 - Third-party expert scientists, peer review and input from MECP, Public Health, City of Port Colborne and community members

CBRA Timeline

Pioneering Process

Community-Based Risk Assessment Timeline —
A look into Vale's soil study in Port Colborne

MECP: Ministry of Environment, Conservation and Parks
HHRA: Human Health Risk Assessment
CBRA: Community-Based Risk Assessment
PLC: Public Liaison Committee
CCME: Canadian Council of Ministers of the Environment
TRV: Toxicity Reference Value
PCCAP: Port Colborne Community-Based Action Plan
COG: Contaminant of Concern



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CBRA Findings

Key CBRA Findings

Human Health Risk Assessment:

- Metals in the soil from historical refinery activities do not result in unacceptable risks to health. Further, the CHAP study provides evidence that health outcomes in Port Colborne are no different than other Ontario communities.

Ecological Risk Assessment (ERA) of the Natural Environment:

- Port Colborne's ecosystem is largely like any other community in Ontario, with the exception of some unused woodlots beside the refinery. Metals in the soil of these unused woodlots may have an effect on some plants and invertebrates (i.e. earthworms).

Ecological Risk Assessment (ERA) of Agricultural Crops:

- Nickel in soil may result in increased risk of lower crop yields. There is no impact on human health from these crops, it is strictly related to crop yield. This can be remedied with certain agricultural practices and will be implemented on a one-on-one basis with farmers.

Community Health Assessment Project (CHAP)

Supplementary to the three reports, Vale commissioned a Community Health Assessment Project (CHAP) to address community concerns regarding potential human health effects from exposure to metals.

The CHAP study consisted of a community-based survey of health conditions and symptoms, as well as a comparison of hospital discharge patterns that compared Port Colborne to 35 other Ontario communities.

Like the CBRA, the CHAP study provided evidence that health outcomes in Port Colborne are no different than other Ontario communities.



CBRA Action Plan

Action Planning Principles



Action Plan

Vale is committed to addressing the results of the CBRA through implementation of our Action Plan.

Key actions include:

- Remediation activities at a handful of residential properties, such as sodding/ground cover and/or soil replacement. There are no unacceptable health risks to these residents and these actions are being taken on a precautionary basis. All residents are being contacted by Vale.
- Scoping studies to be conducted on the woodlot and municipal drains just east of the Refinery to assess potential remediation activities. Results will be shared with the community when the studies are complete.
- Agricultural remediation offered to a small number of local farmers to address crop yields.
- Creation of a **Community Improvement Fund** to deliver both environmental and social benefit to Port Colborne and to recognize 100 years of operations in the community. The fund, still in development, is envisioned to be in place for the next four years providing support for priority improvement or development projects in the community. Vale will work collaboratively with the City of Port Colborne to prioritize and select projects and initiatives.

Exposure Point Concentrations and Actions

Conc. Band	Exposure Point Concentrations (ppm)			Proposed Actions	Residential Properties Affected
	Clay	Fill Material	Organic Soil		
1	≤ 2,500	≤ 1,800	≤ 1,200	No Action Required but residents in these locations will receive the same communications materials described below.	N/A
2	> 2,500 ≤ 6,500	> 1,800 ≤ 4,600	> 1,200 ≤ 3,000	1.) Communication Plan – Provides residents with simple tips and techniques to reduce potential exposures.	N/A
3	> 6,500 < 8,000 (> 6,500 ≤ 9,600)	> 4,600 ≤ 6,900	> 3,000 ≤ 4,500	1.) Communication Plan and; 2.) A re-greening effort to cover bare or exposed soil and reduce re-suspended wind blown dust. Efforts may range from the addition of topsoil and sod to use of engineered surfaces in high traffic areas used by children (e.g. around play structures, swings, etc.).	30
4	NA (> 9,600 ≤ 12,600)	>6,900 <8,000 (>6,900 <9,000)	>4,500 <5,900	1.) Communication Plan and; 2.) A limited soil removal program for properties who have concentrations within Concentration Band (4); and 3.) Possible removal and cleaning of in-house dust.	6
5	≥8,000	≥8,000	≥5,900	1.) Communication Plan; and 2.) Soil removal and replacement program; and 3.) Possible removal and cleaning of in-house dust.	1

NA - Not applicable. Calculated RBSC in clay exceeds the 8,000 ppm limit. As such, this concentration band is not applicable to clay material.

Natural Environment and Agricultural Action Plan

Aspect	Proposed Actions
<p>Natural Environment</p> <p>(these studies do not preclude the finalization of this phase of the CBRA)</p>	<p><u>Aquatic Environment Assessment</u></p> <p>A survey to better assess nickel's role in any identified risks to aquatic species in municipal drains east of the refinery. Slightly elevated total Ni concentrations have been documented in the Wignell and Beaverdam Drains.</p>
	<p><u>Reuter Road Woodlot Scoping Study</u></p> <p>Further study is needed to ascertain whether to leave the woodlots alone or take a more substantive approach to managing them. The study will also look at human interactions with the woodlot to determine future fencing needs and registration on title.</p>
<p>Agricultural Remediation</p>	<p>Vale's current recommended approach for remediation of agricultural lands is deep tilling of agricultural soils (to a depth of 30 cm) to mitigate potential agricultural impacts. This approach could potentially bring additional impacted lands that have been sitting idle for decades back into production in the Port Colborne area. Since the contamination is largely present in the upper 15 cm of soil, the effect of this deep tilling is to reduce the soil CoC concentrations by half.</p>

Launch Week Activities

- Launch of the Port Colborne Community-based Action Plan
 - Media Release
 - Launch website: www.vale.com/cbra
 - Activate e-mail address: PortColborne.Questions@vale.com
- Contact relevant property owners
 - Remediation properties – by phone and by mail
- Face-to-face home visits with relevant properties to plan and schedule remediation and answer questions
- Meeting with Public Liaison Committee
- Meeting with business community stakeholders

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For more information

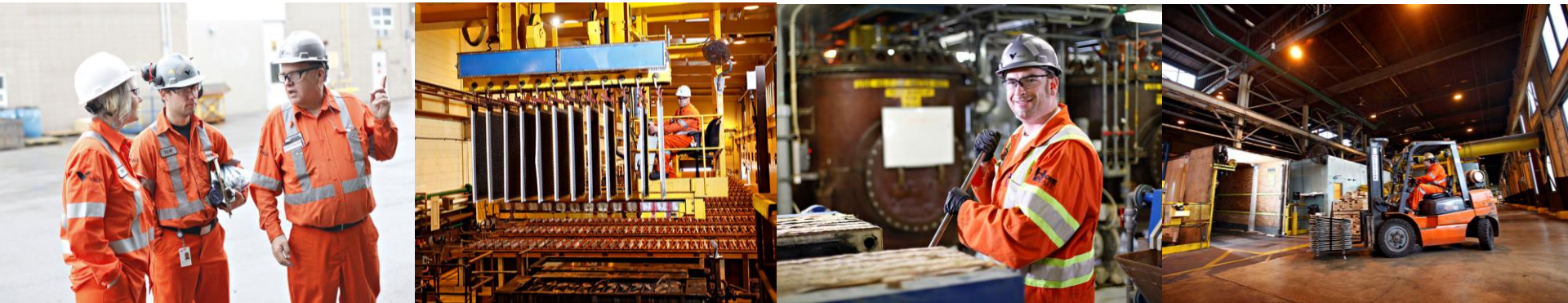
For More Information

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[Dedicated Website: www.vale.com/cbra](http://www.vale.com/cbra)

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