CONESTOGA-ROVERS & ASSOCIATES

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Toxic Reduction Plan

PM2.5
PM10
TOTAL PM

Prepared for: Sifto Canada Corporation - Goderich Salt Mine

Conestoga-Rovers & Associates
651 Colby Drive
Waterloo, Ontario N2V 1C2

December 2013 • 070756 (5)

Partners in Sustainability

Section 1.0 Introduction

1.1 Basic Facility Information

Name & CAS # of Substance	Total PM PM_{10} $PM_{2.5}$	NA NA NA
Facility Identification and Site Address		
Company Name	Sifto Canada Corporation	
Facility Name	Goderich Salt Mine	
Facility Address	**Physical Address:**	**Mailing Address: (if different)**
	300 North Harbour Road Goderich, ON N7A 3Y9	
Spatial Coordination of Facility	441485 m E 4844024 m N	
Number of Employees	475	
NPRI ID	7686	
Ontario MOE ID Number	N/A	
Parent Company (PC) Information		
PC Name & Address **Percent Ownership for each PC**	Compass Minerals 9900 West 109th Street, Suite 100 Overland Park, KS USA, 66210 100%	
Business Number for PC		
Primary North American Industrial Classification System Code (NAICS)		
2 Digit NAICS Code	21 Mining, quarrying, and oil and gas extraction	
4 Digit NAICS Code	2123 – Non-metallic mineral mining and quarrying	
6 Digit NAICS Code	212393 – Salt mining	
Company Contact Information		
Facility Public Contact	Rowland Howe, Director of Corporate Engineering	
	Phone: (519)-524-3219	Same address as facility

TABLE 10

SUMMARY OF REASONS FOR CHANGE - TRA
COMPASS MINERALS - MINE
GODERICH, ONTARIO

Compounds	*CAS No.*	*2013 Created (tonnes)*	*2014 Created (tonnes)*	*Percent Change*	*Owners Code*	*Description*
TRA						
Total Particulate	NA	678.034	486.004	-28%	B	- Change in Estimation levels
10 µm Particulate Matter	NA-M09	320.732	229.917	-28%	B	- Change in Estimation levels
2.5 µm Particulate Matter	NA-M10	100.829	34.869	-65%	B	- Change in Estimation levels

Compounds	*CAS No.*	*2013 Contained in Product (tonnes)*	*2014 Contained in Product (tonnes)*	*Percent Change*	*OWNERS CODE*	*Description*
TRA						
Total Particulate	NA	0.000	0.000	-	H	No Change
10 µm Particulate Matter	NA-M09	0.000	0.000	-	H	No Change
2.5 µm Particulate Matter	NA-M10	0.000	0.000	-	H	No Change

Compounds	*CAS No.*	*2013 Used (tonnes)*	*2014 Used (tonnes)*	*Percent Change*	*OWNERS CODE*	*Description*
TRA						
Total Particulate	NA	0.000	0.000	-	H	No Change
10 µm Particulate Matter	NA-M09	0.000	0.000	-	H	No Change
2.5 µm Particulate Matter	NA-M10	0.000	0.000	-	H	No Change

Notes:

NA - Not Applicable.
NPRI Software Reasons for Change must be selected from the following list for each reportable substance:
A - Changes in Production Levels
B - Changes in Estimation Methods
C - Pollution Prevention Activities
D - Changes in On-Site Treatment
E - Changes in Disposal
F - Changes in Off-Site Transfers for Recycling
G - Other (specify in comments)
H - No Significant Change (< 10%) or No Change
I - Not Applicable (First year reporting this substance)

Section 6.0 Plan Certifications

6.1 Certification by Highest Ranking Employee

As of December 18, 2013, I, Gerry Rogers, certify that I have read the toxic substance reduction plan for the toxic substance referred to below and am familiar with its contents, and to my knowledge the plan is factually accurate and complies with the *Toxics Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under that Act.

[PM2.5]
[PM10]
[Total PM]

Gerry Rogers
VP Operations

24/12/13.
Date

As of December 18, 2013, I, Dana Lauder certify that I am familiar with the processes at Sifto that use or create the toxic substance referred to below, that I agree with the estimates referred to in subparagraphs 7 iii, iv and v of subsection 4 (1) of the Toxics Reduction Act, 2009 that are set out in the plan dated December 18, 2012 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

[PM2.5]
[PM10]
[Total PM]

Dana Lauder
Toxic Substance Reduction Planner
License No. TSRP0014

December 24, 2013
Date

Appendix A

TRA Plan Summary – PM2.5

TRA Plan Summary – PM2.5

Basic Facility Information

Name & CAS # of Substance	$PM_{2.5}$	NA
Facility Identification and Site Address		
Company Name	Sifto Canada Corporation	
Facility Name	Goderich Salt Mine	
Facility Address	**Physical Address:**	**Mailing Address: (if different)**
	300 North Harbour Road Goderich, ON N7A 3Y9	
Spatial Coordination of Facility	441485 m E 4844024 m N	
Number of Employees	475	
NPRI ID	7686	
Ontario MOE ID Number	N/A	
Parent Company (PC) Information		
PC Name & Address **Percent Ownership for each PC**	Compass Minerals 9900 West 109th Street, Suite 100 Overland Park, KS USA, 66210 100%	
Business Number for PC		
Primary North American Industrial Classification System Code (NAICS)		
2 Digit NAICS Code	21 Mining, quarrying, and oil and gas extraction	
4 Digit NAICS Code	2123 – Non-metallic mineral mining and quarrying	
6 Digit NAICS Code	212393 – Salt mining	

Company Contact Information		
Facility Public Contact	Rowland Howe, Director of Corporate Engineering	
	Phone: (519)-524-3219	Same address as facility
Facility Technical Contact	Chris Grande, Technical Supervisor	Same as facility address
	grande@compassminerals.com	
	Phone: (519) 524-8351	
	Fax: (519) 524-2261	
Company Coordinator Contact	Same as Technical Contact	
Person who Prepared the Plan: (if different from the Coordinator)	Same as Technical Contact	
Highest Ranking Employee	Gerry Rogers, VP Operations	
Planner Information:		
Planner Responsible for Making Recommendations	Dana Lauder	651 Colby Drive Waterloo, Ontario N2V 1C2
	Planner License No.	TSRP0014
	dlauder@craworld.com	
	Phone: (519) 884-0510 ext. 2299	
Planner Responsible for Certification	(same as planner responsible for making recommendations)	

Toxic Reduction Policy Statement of Intent

Sifto Canada Corporation (Sifto) is committed to playing a leadership role in protecting the environment. Sifto does not intend to reduce the creation of PM2.5. Sifto only creates PM2.5, therefore, this plan does not address reducing its use.

Reduction Objectives

Sifto prides itself on technological innovation in order to process, store, and ship salt in an environmentally responsible manner. Sifto will strive to eliminate the creation of PM2.5 at the facility. Further, this plan will determine the technical and economic feasibility of each option to determine which, if any, are viable for implementation at this time.

Description of Facility

Sifto owns and operates the world's largest salt mine. The salt (mineral name: Halite) is found at the 1760 foot level below surface in the Michigan Basin salt bed. The salt is drilled, blasted, and conveyed to the Underground Processing Mill, where the salt products are produced. All product is hoisted to surface via two production hoists. Salt is conveyed to designated storage buildings via covered conveyor galleries prior to shipment. Product is dispatched and shipped via vessel, railcar, and truck, depending on the product, tonnage, and customer expectation.

The Facility operates 24 hours a day, 7 days per week.

Toxic Substance Reduction Options

After looking into the seven categories of toxic substance reduction options, a few options were identified. Explanations are provided in the table below to detail why an option could or could not be identified in each category.

Toxic Substance Reduction Category	*Option: Identification and Description*
1) Materials or feedstock substitution	**No option identified:** Sifto's salt (mineral name: Halite) is found at the 1760 foot level below surface in the Michigan Basin salt bed. The salt is drilled, blasted, and conveyed to the Underground Processing Mill, where the salt products are produced. All toxic substances are created and released from various processes such as the storage and transfer of salt, loading, welding, and combustion equipment. No PM2.5 is present in any of the raw materials. Therefore, no potential reduction options were identified in this category.
2) Product design or reformulation	**No option identified:** Sifto's formulation for the production of salt is based on past research, training, and analysis used to create salt products which appeal to their customers. A change to the product design or reformulation is not possible under the current conditions at the Facility.
3) Equipment or Process Modification	**No option identified**: Sifto conducts regular preventative maintenance on all equipment to ensure it is operating efficiently. The process is specialized and therefore process modifications are not possible. While Sifto has developed options for reducing particulate emissions in certain areas of their operation, these identified areas are not significant contributors compared to the Facility-wide emissions.

Toxic Substance Reduction Category	*Option: Identification and Description*
4) Spill and Leak prevention	**No option identified:** All of the PM2.5 at Sifto is created and released to the atmosphere. The nature of the contaminant does not allow for spills or leaks. The Facility is already doing everything possible to reduce the creation and release of PM2.5.
5) On-site reuse or recycling	**No option identified:** The PM2.5 created in the processes are released to air and cannot be reused or recycled in the manufacturing process. Therefore, no options can be identified.
6) Improve inventory management or purchasing techniques	**No option identified:** Sifto's inventory and hours of operation is controlled by customer demand. The Facility's creation of PM2.5 is based on hours of operation and therefore is not dependent on inventory management.
7) Training or improved operating practices	Sifto has continued work on a six sigma project to reduce salt "fines" generation. This process takes all processes into account that would generate "fines", which in our case starts at the point of where the salt is blasted underground through all material handling processes up to and including final load-out to vessel, rail and truck customers. The effect on PM emissions has not been confirmed to date. *Estimated Reductions:* The effect of this option on PM emissions has not been confirmed to date. *Technical Feasibility:* Sifto is currently undertaking research to determine if this reduction option is technically feasible for the potential reduction of toxic substances, therefore this is not technically feasible at this time. *Economic Feasibility:* Not Applicable.

Plan Summary Statement

This plan summary accurately reflects the content of the toxic substance reduction plan for PM2.5.

Certification by Highest Ranking Employee

Attached.

Certification by Licensed Planner

Attached.

Appendix B

TRA Plan Summary – PM10

TRA Plan Summary – PM10

Basic Facility Information

Name & CAS # of Substance	PM10	NA
Facility Identification and Site Address		
Company Name	Sifto Canada Corporation	
Facility Name	Goderich Salt Mine	
Facility Address	**Physical Address:**	**Mailing Address: (if different)**
	300 North Harbour Road Goderich, ON N7A 3Y9	
Spatial Coordination of Facility	441485 m E 4844024 m N	
Number of Employees	475	
NPRI ID	7686	
Ontario MOE ID Number	N/A	
Parent Company (PC) Information		
PC Name & Address **Percent Ownership for each PC**	Compass Minerals 9900 West 109th Street, Suite 100 Overland Park, KS USA, 66210 100%	
Business Number for PC		
Primary North American Industrial Classification System Code (NAICS)		
2 Digit NAICS Code	21 Mining, quarrying, and oil and gas extraction	
4 Digit NAICS Code	2123 – Non-metallic mineral mining and quarrying	
6 Digit NAICS Code	212393 – Salt mining	
Company Contact Information		
Facility Public Contact	Rowland Howe, Director of Corporate Engineering	
	Phone: (519)-524-3219	Same address as facility

Facility Technical Contact	Chris Grande, Technical Supervisor	Same as facility address
	grande@compassminerals.com	
	Phone: (519) 524-8351	
	Fax: (519) 524-2261	
Company Coordinator Contact	Same as Technical Contact	
Person who Prepared the Plan: (if different from the Coordinator)	Same as Technical Contact	
Highest Ranking Employee	Gerry Rogers, VP Operations	
Planner Information:		
Planner Responsible for Making Recommendations	Dana Lauder	651 Colby Drive Waterloo, Ontario N2V 1C2
	Planner License No.	TSRP0014
	dlauder@craworld.com	
	Phone: (519) 884-0510 ext. 2299	
Planner Responsible for Certification	(same as planner responsible for making recommendations)	

Toxic Reduction Policy Statement of Intent

Sifto Canada Corporation (Sifto) is committed to playing a leadership role in protecting the environment. Sifto does not intend to reduce the creation of PM10. Sifto only creates PM10, therefore, this plan does not address reducing its use.

Reduction Objectives

Sifto prides itself on technological innovation in order to process, store, and ship salt in an environmentally responsible manner. Sifto will strive to eliminate the creation of PM10 at the facility. Further, this plan will determine the technical and economic feasibility of each option to determine which, if any, are viable for implementation at this time.

Description of facility

Sifto owns and operates the world's largest salt mine. The salt (mineral name: Halite) is found at the 1760 foot level below surface in the Michigan Basin salt bed. The salt is drilled, blasted, and conveyed

to the Underground Processing Mill, where the salt products are produced. All product is hoisted to surface via two production hoists. Salt is conveyed to designated storage buildings via covered conveyor galleries prior to shipment. Product is dispatched and shipped via vessel, railcar, and truck, depending on the product, tonnage, and customer expectation.

The Facility operates 24 hours a day, 7 days per week.

Toxic Substance Reduction Options

After looking into the seven categories of toxic substance reduction options, a few options were identified. Explanations are provided in the table below to detail why an option could or could not be identified in each category.

Toxic Substance Reduction Category	*Option: Identification and Description*
1) Materials or feedstock substitution	**No option identified:** Sifto's salt (mineral name: Halite) is found at the 1760 foot level below surface in the Michigan Basin salt bed. The salt is drilled, blasted, and conveyed to the Underground Processing Mill, where the salt products are produced. All toxic substances are created and released from various processes such as the storage and transfer of salt, loading, welding, and combustion equipment. No PM10 is present in any of the raw materials. Therefore, no potential reduction options were identified in this category.
2) Product design or reformulation	**No option identified:** Sifto's formulation for the production of salt is based on past research, training, and analysis used to create salt products which appeal to their customers. A change to the product design or reformulation is not possible under the current conditions at the Facility.
3) Equipment or Process Modification	**No option identified**: Sifto conducts regular preventative maintenance on all equipment to ensure it is operating efficiently. The process is specialized and therefore process modifications are not possible. While Sifto has developed options for reducing particulate emissions in certain areas of their operation, these identified areas are not significant contributors compared to the Facility-wide emissions.

Toxic Substance Reduction Category	*Option: Identification and Description*
4) Spill and Leak prevention	**No option identified:** All of the PM10 at Sifto is created and released to the atmosphere. The nature of the contaminant does not allow for spills or leaks. The Facility is already doing everything possible to reduce the creation and release of PM10.
5) On-site reuse or recycling	**No option identified:** The PM10 created in the processes are released to air and cannot be reused or recycled in the manufacturing process. Therefore, no options can be identified.
6) Improve inventory management or purchasing techniques	**No option identified:** Sifto's inventory and hours of operation is controlled by customer demand. The Facility's creation of PM10 is based on hours of operation and therefore is not dependent on inventory management.
7) Training or improved operating practices	Sifto has continued work on a six sigma project to reduce salt "fines" generation. This process takes all processes into account that would generate "fines", which in our case starts at the point of where the salt is blasted underground through all material handling processes up to and including final load-out to vessel, rail and truck customers. The effect on PM emissions has not been confirmed to date. *Estimated Reductions:* The effect of this option on PM emissions has not been confirmed to date. *Technical Feasibility:* Sifto is currently undertaking research to determine if this reduction option is technically feasible for the potential reduction of toxic substances, therefore this is not technically feasible at this time. *Economic Feasibility:* Not Applicable.

Plan Summary Statement

This plan summary accurately reflects the content of the toxic substance reduction plan for PM10.

Certification by Highest Ranking Employee

Attached.

Certification by Licensed Planner

Attached.

Appendix C

TRA Plan Summary – TOTAL PM

TRA Plan Summary – TOTAL PM

Basic Facility Information

Name & CAS # of Substance	Total PM	NA
Facility Identification and Site Address		
Company Name	Sifto Canada Corporation	
Facility Name	Goderich Salt Mine	
Facility Address	**Physical Address:**	**Mailing Address: (if different)**
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Highest Ranking Employee	Gerry Rogers, VP Operations	
Planner Information:		
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	Planner License No.	TSRP0014
	dlauder@craworld.com	
	Phone: (519) 884-0510 ext. 2299	
Planner Responsible for Certification	(same as planner responsible for making recommendations)	

Toxic Reduction Policy Statement of Intent

Sifto Canada Corporation (Sifto) is committed to playing a leadership role in protecting the environment. Sifto does not intend to reduce the creation of Total PM. Sifto only creates Total PM, therefore, this plan does not address reducing its use.

Reduction Objectives

Sifto prides itself on technological innovation in order to process, store, and ship salt in an environmentally responsible manner. Sifto will strive to eliminate the creation of TOTAL PM at the facility. Further, this plan will determine the technical and economic feasibility of each option to determine which, if any, are viable for implementation at this time.

Description of Facility

Sifto owns and operates the world's largest salt mine. The salt (mineral name: Halite) is found at the 1760 foot level below surface in the Michigan Basin salt bed. The salt is drilled, blasted, and conveyed to the Underground Processing Mill, where the salt products are produced. All product is hoisted to surface via two production hoists. Salt is conveyed to designated storage buildings via covered conveyor galleries prior to shipment. Product is dispatched and shipped via vessel, railcar, and truck, depending on the product, tonnage, and customer expectation.

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2) Product design or reformulation	**No option identified:** Sifto's formulation for the production of salt is based on past research, training, and analysis used to create salt products which appeal to their customers. A change to the product design or reformulation is not possible under the current conditions at the Facility.
3) Equipment or Process Modification	**No option identified**: Sifto conducts regular preventative maintenance on all equipment to ensure it is operating efficiently. The process is specialized and therefore process modifications are not possible. While Sifto has developed options for reducing particulate emissions in certain areas of their operation, these identified areas are not significant contributors compared to the Facility-wide emissions.

Toxic Substance Reduction Category	*Option: Identification and Description*
4) Spill and Leak prevention	**No option identified:** All of the Total PM at Sifto is created and released to the atmosphere. The nature of the contaminant does not allow for spills or leaks. The Facility is already doing everything possible to reduce the creation and release of Total PM.
5) On-site reuse or recycling	**No option identified:** The Total PM created in the processes are released to air and cannot be reused or recycled in the manufacturing process. Therefore, no options can be identified.
6) Improve inventory management or purchasing techniques	**No option identified:** Sifto's inventory and hours of operation is controlled by customer demand. The Facility's creation of Total PM is based on hours of operation and therefore is not dependent on inventory management.
7) Training or improved operating practices	Sifto has continued work on a six sigma project to reduce salt "fines" generation. This process takes all processes into account that would generate "fines", which in our case starts at the point of where the salt is blasted underground through all material handling processes up to and including final load-out to vessel, rail and truck customers. The effect on PM emissions has not been confirmed to date. *Estimated Reductions:* The effect of this option on PM emissions has not been confirmed to date. *Technical Feasibility:* Sifto is currently undertaking research to determine if this reduction option is technically feasible for the potential reduction of toxic substances, therefore this is not technically feasible at this time. *Economic Feasibility:* Not Applicable.

Plan Summary Statement

This plan summary accurately reflects the content of the toxic substance reduction plan for Total PM.

Certification by Highest Ranking Employee

Attached.

Certification by Licensed Planner

Attached.