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**SIVACO ONTARIO PROCESSING INC.
ESDM REPORT UPDATE
INGERSOLL FACILITY
330 THOMAS ST., INGERSOLL, ONTARIO**

PRODUCED FOR:

SIVACO ONTARIO PROCESSING INC.

PRODUCED BY:

CONCENTRIC ASSOCIATES INTERNATIONAL INCORPORATED

CONCENTRIC REFERENCE NUMBER:

13-4796-E

DATE:

MARCH 2013



EXECUTIVE SUMMARY

This updated Emission Summary and Dispersion Modelling (ESDM) report is being prepared by Sivaco Ontario Processing Inc. (Sivaco) – a division of Heico 2004 Member Inc. to support their Environmental Compliance Approval (ECA) under Section 9 of the Environmental Protection Act for their metal product manufacturing plant (the Facility) located in Ingersoll, Ontario. The ESDM Report has been prepared in accordance with Section 26 of Ontario Regulation 419/05; the Ministry of the Environment’s (MOE) *Procedure for Preparing an Emission Summary and Dispersion Modelling Report (March 2009)*, and the MOE’s *Air Dispersion Modelling Guideline for Ontario (March 2009)*.

The Facility is located at 330 Thomas Street in Ingersoll, Ontario, operating 24 hours per day, 7 days per week, and 12 months per year. The purpose of the Facility is to produce manufacture steel coils.

The primary emissions from the facility are: (i) nitrogen oxides from the combustion of natural gas; ii) propylene from the operation of annealing furnaces; iii) sulphuric acid from the metal pickling process; iv) hydrochloride and sodium hydroxide from wastewater pH adjustment; and (v) particulate from cooling towers. Emissions were estimated using stack testing data, U.S. Environmental Protection Agency (EPA) emission factors, engineering calculations, mass balance assumptions and manufacturer’s performance specifications.

Maximum emissions were modelled using the MOE approved U.S. EPA AERMOD dispersion model. The resulting Point-of-Impingement (POI) concentrations were compared to the Schedule 3 Standards and POI Guidelines in the MOE *Summary of Standards and Guidelines to Support Ontario Regulation 419/05 Air Pollution – Local Air Quality (April 2012)*.

As shown in Table ES-1, the maximum POI concentrations for all contaminants are below their respective limits.

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Table ES-1: Emission Summary Table

Contaminant	CAS No	Total Facility Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration ($\mu\text{g}/\text{m}^3$)	Averaging Period (hr)	MOE POI Limit ($\mu\text{g}/\text{m}^3$)	Limiting Effect	Regulation Schedule #	Percentage of MOE POI Limit (%)
Hydrochloric Acid (as Hydrogen Chloride)	7647-01-0	3.29E-02	AERMOD	8.77E-01	24	20	Health	3	4.4%
Nitrogen Oxides	10102-44-0	9.15E-01	AERMOD	9.48E+01	24	200	Health	3	47.4%
Nitrogen Oxides	10102-44-0	9.15E-01	AERMOD	3.17E+02	1	400	Health	3	79.3%
Propylene	115-07-1	6.70E+00	AERMOD	8.28E+02	24	4000	Health	3	20.7%
Sodium Hydroxide	1310-73-2	9.47E-04	AERMOD	2.53E-02	24	10	Corrosion	G	0.3%
Sulphuric Acid	7664-93-9	4.49E-02	AERMOD	4.39E+00	24	5	Health	3	87.9%
Total Suspended Particulate	-	1.82E-02	AERMOD	3.50E+00	24	120	Visibility	3	2.9%

Notes:

(1) G = Guideline - Taken from the "Summary of Standards and Guidelines to support Ontario Regulation 419: Air Pollution - Local Air Quality" (April 2012).