



**AMENDING DOCUMENT**

Under the provisions of the  
Greater Vancouver Regional District Air Quality Management Bylaw No. 937, 1999,

**AIR QUALITY MANAGEMENT PERMIT NUMBER GVA0554**  
(last amended December 10, 1999)

in the name of **Vulcan Performance Chemicals Ltd.**  
located at 1035 Derwent Way, Delta

is amended, subject to the terms and conditions listed below:

**Effective Date(s):** August 7, 2003

**Face Page:** The company name is changed from Vulcan Performance Chemicals Ltd. to **Kemira Chemicals Canada Inc.**

**Schedule H, Record of Permit Issuance:**

<b>Date</b>	<b>Action</b>	<b>Sections Affected</b>
August 7, 2003	Amended	Face

All other terms and conditions prescribed in Permit GVA0554 remain unchanged.



Greater Vancouver Regional District  
4330 Kingsway, Burnaby, British Columbia, Canada V5H 4G8

General  
Telephone (604) 432-6200  
Fax (604) 432-6251

Air Quality Department Phone: (604) 436-6700 Fax: (604) 436-6707

# PERMIT

(Under the provisions of the GVRD Air Quality Management Bylaw No. 937, 1999)

CALLAWAY CHEMICAL LIMITED

IS AUTHORIZED TO DISCHARGE AIR CONTAMINANTS

FROM A CHEMICAL MANUFACTURING AND BLENDING PLANT

LOCATED AT 1035 DERWENT WAY, ANNACIS ISLAND, DELTA, B.C. V3M 5R4

This Permit has been issued under the terms and conditions  
prescribed in the attached Schedules A, B, C, D, E, F, G & H  
for emission sources and works existing or planned on December 10, 1999

  
ASSISTANT DISTRICT DIRECTOR

PERMIT NUMBER GVA0554

**INDEX OF SCHEDULES**

Schedule A..... Site Plan

Schedule B..... General Requirements

Schedule C..... Emission Monitoring, Sampling and Reporting Requirements

Schedule D..... Emission Sources and Discharge Points

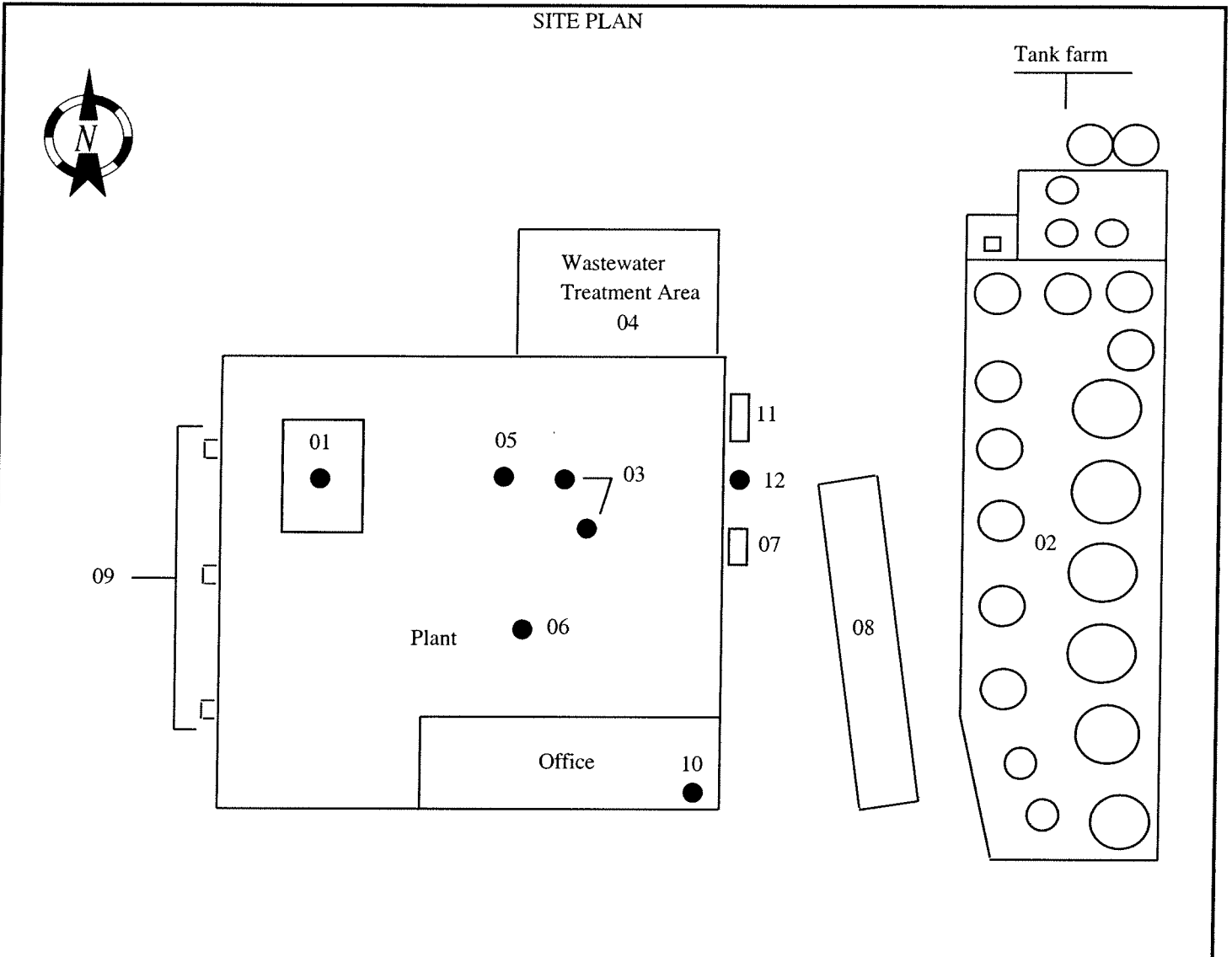
Schedule E..... Authorized Rates of Discharge

Schedule F..... Authorized Discharge Criteria

Schedule G..... Authorized Works and Procedures

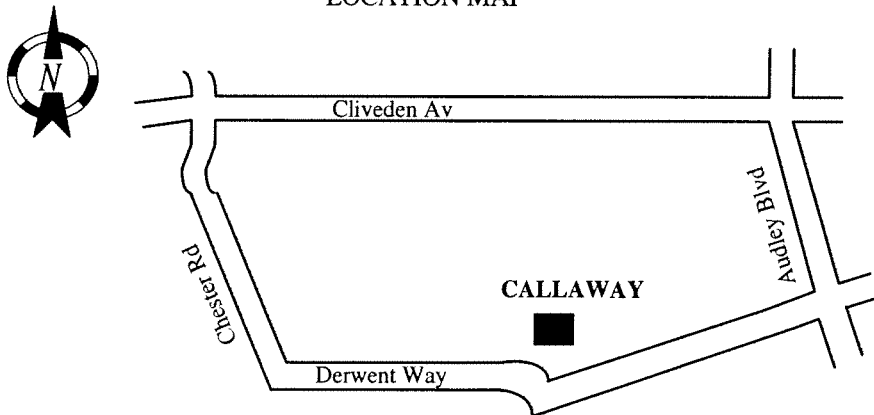
Schedule H..... Record of Permit Issuance Dates

SCHEDULE A - PAGE 1  
to PERMIT GVA0554



THE NUMBERED LOCATIONS OF THE DISCHARGE POINTS ARE APPROXIMATE N.T.S.

LOCATION MAP



December 10, 1999

*Robert S. Smith*  
ASSISTANT DISTRICT DIRECTOR

Schedule A to Permit No. GVA0554

SCHEDULE B - PAGE 1  
PERMIT No. GVA0554

**A. OBJECTIVES AND AMENDMENTS**

Ambient air quality guidelines and objectives are prescribed under provisions of applicable legislation. If the level of air quality as prescribed by these criteria is exceeded, the conditions of this Permit may be revised, in order that the desired air quality can be maintained. This Permit may also be amended for other reasons, as authorized by applicable legislation.

**B. MAINTENANCE AND OPERATION OF WORKS**

Works and procedures, which this Permit authorizes to control the discharge of air contaminants, shall be employed during all operating periods of the related facilities. The Permittee shall regularly inspect and maintain all such works in good repair.

**C. EMERGENCY PROCEDURES**

An emergency or other condition may prevent the continuous utilization of the above authorized works and procedures, or may result in a discharge of air contaminants which is not authorized by this Permit. If such a situation occurs, the Permittee shall report the circumstances of this event to the Greater Vancouver Regional District, Air Quality Department at 436-6777 (24 hours), at the first available opportunity.

No discharge that has bypassed control works is authorized unless the District Director's approval has been obtained. In the event of an emergency, bypassing facilities may be used for such periods as are necessary to effect a shutdown of the related processes.

**D. AIR CONDITIONING, HEATING AND VENTILATION SYSTEMS**

Air contaminants discharged from any natural gas-fired air conditioning, heating or ventilation systems for buildings located at the discharge site are not specified in this Permit. These works shall be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel with minimum discharge of air contaminants. Notwithstanding the above, the District Director may at his discretion stipulate limits for emission of contaminants from these sources in the Permit at a future date under provisions of the Bylaw.

December 10, 1999

  
ASSISTANT DISTRICT DIRECTOR

SCHEDULE B - PAGE 2  
 PERMIT No. GVA0554

**E. GENERAL SITE RESTRICTIONS**

No air contaminant(s) from any single source, or combination of sources shall pass the boundary of the property, described in Section I of this Schedule B, such that the District Director determines that air pollution has occurred.

**F. INTERNAL COMBUSTION ENGINES**

Air contaminants discharged from any natural gas, propane, gasoline, diesel, or other fossil fuel fired internal combustion engines operated at the discharge site may not be specifically authorized in this Permit. These works shall be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel and to minimize emissions such that the requirements of Section E of this Schedule B are not exceeded. The District Director may at his discretion stipulate further limits for emission of contaminants from these sources in the Permit at a future date under provisions of the Bylaw.

**G. ENGINEERING UNITS**

The engineering units specified in this Permit are in accordance with the Metric System of measure. Approximate equivalent values for the British System can be calculated using the following conversion factors.

mg/m <sup>3</sup> x 0.000437	=	gr/cf
m <sup>3</sup> /min x 35.3	=	cf/min
kg/m <sup>3</sup> x 0.0624	=	lbs/cf
kg/L x 10.0	=	lbs/gal
mg/m <sup>3</sup> x 24.0/M	=	ppm (by volume)
GJ/h x 0.9478	=	MMBTU/h

where

m <sup>3</sup>	=	cubic metre	min	=	minute
mg	=	milligram	cf	=	cubic feet
s	=	second	lb	=	pound
kg	=	kilogram	gal	=	gallon
L	=	litre	M	=	molecular weight
gr	=	grain	ppm	=	parts per million
GJ	=	GigaJoule	MMBTU	=	Million British Thermal Unit
			h	=	hour

December 10, 1999

  
 ASSISTANT DISTRICT DIRECTOR

SCHEDULE B - PAGE 3  
PERMIT No. GVA0554**H. STANDARD CONDITIONS AND DEFINITIONS**

Except where otherwise indicated, the following standard conditions and definitions apply to this Permit.

1. The Restrictions in the attached Schedules are maximum limits.
2. Gaseous volumes are corrected to dry conditions of 20° Celsius & 760mm Hg.
3. Particulate matter from combustion sources is corrected to 12% Carbon Dioxide.
4. Opacity is measured at the point of maximum density, nearest the discharge point.
5. Opacity measurements exclude the effect of condensed, uncombined water droplets.
6. Definitions in the Waste Management Act and GVRD Air Quality Management Bylaw No. 937, 1999 apply to terminology used in this Permit.
7. Threshold Limit Values (TLV) refer to the Time Weighted Average (TWA) exposure limits for substances specified in the American Conference of Governmental Industrial Hygienists Threshold Limit Values handbook for the year 1999.
8. Any production, storage, transportation, handling, treatment, processing or ownership of a special waste must comply with the requirements of the Waste Management Act, Special Waste Regulation.

**I. DESCRIPTION OF DISCHARGE SITE**

The land from which the air contaminants are discharged is described as "Municipality of Delta PID #005-964-989, Lot 90, DL 351, Group 1, New Westminster District Plan 45744".

December 10, 1999

  
ASSISTANT DISTRICT DIRECTOR

SCHEDULE C - PAGE 1  
PERMIT No. GVA0554

This Schedule describes emission monitoring, sampling and reporting requirements.

EMISSION NUMBER	DUE DATE(S)	REQUIREMENT(S)
General	March 31, 2000 and annually thereafter	Written report detailing the types and amounts of principal products produced and principal raw materials used in the preceding calendar year.
General	March 31, 2000 and annually thereafter	Written report detailing the types and amounts of fuel burned in the preceding calendar year.
General	March 31, 2000 and annually thereafter	Written report detailing the organic storage tank capacity, the material stored and the annual throughput for each tank for the preceding calendar year.
12	March 31, 2000 and annually thereafter	Written report indicating inspection frequency, bag condition and action taken or proposed to solve any problems detected for the baghouses described in Schedule G of this Permit.

Emission testing and ambient air sampling and monitoring, shall be undertaken by the Permittee when required by the District Director.

December 10, 1999

  
ASSISTANT DISTRICT DIRECTOR



Note:

Reference to 200 bhp

The authorized emission should be removed in cated approximately as shown on Schedule A are:

EMISSION NUMBER	EM	DISCHARGE POINT
01	200 bhp natural gas fired boiler	Stack
02	Ventilation of raw and final products storage tanks	Tank vents
03	Ventilation of 2 agitated, heated, atmospheric process vessels	Tank vents
04	Ventilation of the wastewater treatment bioreactor and associated storage tanks	Tank vents
05	Ventilation of the hot melt tank (R-04 EBS)	Tank Vent
06	Ventilation of the hot melt tank (R-05 EBS)	Tank Vent
07	Pressurized reactor vessel (R-01)	Scrubber stack
08	Ventilation of the bulk loading/unloading area	
09	General plant ventilation	3 wall vents
10	Laboratory fume hood exhaust	Stack
11	Steam room	Vent
12	Bag dump station and bag compactor	Baghouse

Future Permit amendment, as reference to 3.5343/4 under Schedule G.

December 10, 1999

  
 ASSISTANT DISTRICT DIRECTOR

SCHEDULE E - PAGE 1  
 PERMIT No. GVA0554

The authorized rates of discharge for the emission sources described in Schedule D are:

EMISSION NUMBER	MAXIMUM AUTHORIZED RATE OF DISCHARGE			NOTES & ADDITIONAL REQUIREMENTS
	FLOW m <sup>3</sup> /min	DURATION hours/day	FREQUENCY days/week	
01	38 m <sup>3</sup> /min	24	7	
02	See notes	24	7	The rate of discharge is that resulting from vapour venting during tank filling and breathing.
03	See notes	24	7	The rate of discharge is that resulting from vapour venting during tank filling and breathing and manufacturing of defoaming agents.
04	See notes	24	7	The rate of discharge is that resulting from vapour venting during tank filling and breathing.
05	See notes	24	7	The rate of discharge is that resulting from vapour venting during tank filling and breathing.
06	See notes	24	7	The rate of discharge is that resulting from vapour venting during tank filling and breathing.
07	See notes	24	7	The rate of discharge is that resulting from the depressurizing of the reactor vessel.
08	See notes	24	7	The rate of discharge is that resulting from vapour venting during tank filling and breathing.
09	340	24	7	

December 10, 1999

  
 ASSISTANT DISTRICT DIRECTOR

SCHEDULE E - PAGE 2  
PERMIT No. GVA0554

EMISSION NUMBER	MAXIMUM AUTHORIZED RATE OF DISCHARGE			NOTES & ADDITIONAL REQUIREMENTS
	FLOW m <sup>3</sup> /min	DURATION hours/day	FREQUENCY days/week	
10	28	24	7	
11	See notes	24	7	Natural draft ventilation
12	62	Intermittent	5	

December 10, 1999

  
ASSISTANT DISTRICT DIRECTOR

**SCHEDULE F - PAGE 1**  
**PERMIT No. GVA0554**

The authorized maximum discharge criteria for emission sources described in Schedule D are:

<b>EMISSION NUMBER</b>	<b>PARAMETER</b>	<b>RESTRICTION</b>	<b>NOTES</b>
01	Combustion Products	See notes	Typical products of natural gas combustion at the maximum firing rate of 8.83 GJ/h.
02 -11	Chemical Contaminants	See notes	The maximum allowable emission concentration (EC) for each emitted chemical contaminant with a Threshold Limit Value (TLV) is such that the sum of the individual EC/TLV ratios for all such contaminants in any single emission source is less than 10.
02 - 11	Odour	See notes	None past the plant boundary such that the District Director determines that air pollution has occurred.
03, 05, 06, 07 and 11	Total Hydrocarbons	102 mg/m <sup>3</sup>	Expressed as methane.
12	Opacity	10%	May be exceeded for a total of 3 min/hour.
12	Particulate matter	20 mg/m <sup>3</sup>	

December 10, 1999

  
 ASSISTANT DISTRICT DIRECTOR

**SCHEDULE G - PAGE 1**  
**PERMIT No. GVA0554**

The authorized works and procedures to control the discharge of air contaminants from the emission sources described in Schedule D are indicated below. The District Director may require that further works be installed, if the existing works, in his opinion, do not provide an acceptable level of emission control. New works or alterations to existing works must be approved, in principle, by the District Director.

Where the District Director has specified that additional works are required, the maximum discharge criteria described in Schedule F of this Permit are applicable as specified by the Completion Date(s) listed below. Prior to the specified date(s) the existing control works and procedures must be maintained in good operating condition and operated in a manner to minimize emissions.

<b>EMISSION NUMBER</b>	<b>COMPLETION DATE</b>	<b>DESCRIPTION OF WORKS/PROCEDURES</b>
01	Completed	Firing of boiler with natural gas using good combustion practices and operating procedures.
02 - 06, 08, 09, 10	Completed	Good operating practices.
07	Completed	Wet scrubber together with good operating practices.
11	Completed	Good operating practices.
12	Completed	Baghouse and related appurtenances, together with good operating practices.

December 10, 1999

  
 ASSISTANT DISTRICT DIRECTOR

SCHEDULE H - PAGE 1  
PERMIT No. GVA0554

RECORD OF PERMIT ISSUANCE

DATE	ACTION	SECTIONS AFFECTED
February 27, 1995	Issuance	Face, Schedules A, B, C, D, E, F, G & H
December 10, 1999	Amended	Face, Schedules A, B, C, D, E, F, G & H

December 10, 1999

  
ASSISTANT DISTRICT DIRECTOR