



Greater Vancouver Regional District

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General

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Located At: 17th Floor, Metrotower II, Eaton Centre, Burnaby, B.C.

PERMIT

(Under the provisions of the GVRD Air Quality Management Bylaw No. 725)

METALEX PRODUCTS LTD.

IS AUTHORIZED TO DISCHARGE AIR CONTAMINANTS

FROM A SECONDARY LEAD SMELTER

LOCATED AT 2511 NO. 5 ROAD, RICHMOND, B.C. V6X 2S8

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 July 21, 1995

ASSISTANT AIR QUALITY DIRECTOR

PERMIT NUMBER GVA0142

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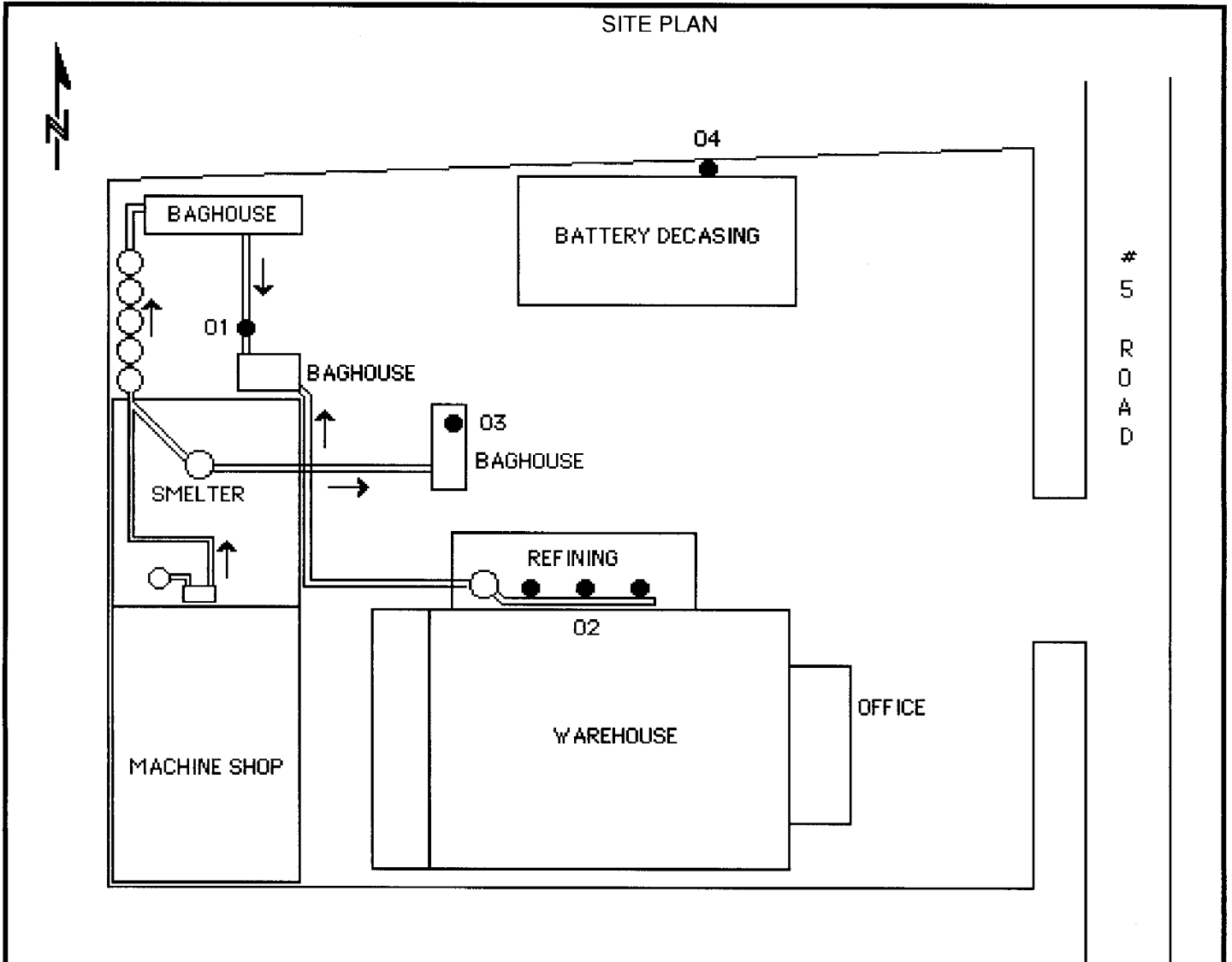


Greater Vancouver Regional District

4330 KINGSWAY, BURNABY, BRITISH COLUMBIA, V5H 4G8 TELEPHONE 436-6777

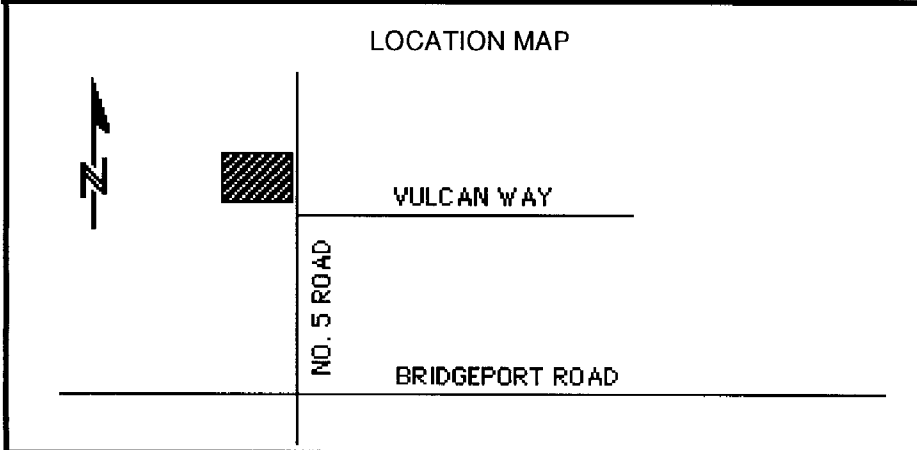
GVRD Air Quality Management Bylaw No. 725

SITE PLAN



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

LOCATION MAP



July 21, 1995

Robert S. Smith
 ASSISTANT AIR QUALITY DIRECTOR

Schedule A to Permit No. GVA0142

SCHEDULE B - PAGE 1
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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 Air Quality 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 Air Quality 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.

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ASSISTANT AIR QUALITY DIRECTOR

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

where

| | | | | | |
|----------------|---|-------------|-------|---|------------------------------|
| m ³ | = | 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 |

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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. 725 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 years 1994 - 1995.
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 Richmond, Parcel Identifier 004-223-977, Lot "F" Section 24 Block 5 North Range 6 West Plan 22839, New Westminster District".

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This Schedule describes emission monitoring, sampling and reporting requirements.

The Permittee shall conduct the following monitoring and sampling program on the discharges and submit the results to the Air Quality Director. The need for increased or decreased monitoring may be reviewed periodically by the Air Quality Director.

| EMISSION NUMBER | DUE DATE(S) | REQUIREMENT(S) |
|-----------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01, 03 | October 31, 1995 and annually thereafter | The measured discharge rate and concentration of particulate matter, lead and sulphur oxides (expressed as SO ₂) in the emission(s). |
| General | | Copies of all air emission testing reports required by the Canadian Environmental Protection Service shall also be submitted to the Greater Vancouver Regional District, Air Quality Department at the earliest possible opportunity. |
| General | March 31, 1996 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, 1996 and annually thereafter | Written report detailing the types and amounts of fuel burned in the preceding calendar year. |
| 01, 02, 03 & 04 | See requirement | The operating period referred to in Schedule E of this Permit shall be continuously monitored and recorded using methods that have received prior approval by the Air Quality Director. This continuous record is to be maintained and made available for inspection by Air Quality staff for a minimum period of three years. |
| 01, 02, 03 & 04 | March 31, 1996 and annually thereafter | Written report detailing the total number of hours and days operated during the preceding calendar year. |

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Unless otherwise approved by the Air Quality Director prior to any sampling or analysis, all emission measurements shall be performed by an independent agency in accordance with those procedures described in the most recent amendment of the "GVRD Stationary Emission Testing Requirements" manual issued on November 1994.

The Permittee shall provide the Greater Vancouver Regional District, Air Quality Department with a minimum of three days advance notification before emission measurements are conducted for the purpose of complying with Permit requirements. All field data and calculations collected for all testing conducted in accordance with such compliance determination must be submitted to the Air Quality Director. Monitoring results shall be reported in the metric units which are used in this Permit to specify the authorized discharge criteria. These submissions shall include the production rate at the time of the test, and all field data and calculations.

Any variance from these procedures must receive prior approval from the Air Quality Director.

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SCHEDULE C - PAGE 2

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The authorized emission sources and discharge points located approximately as shown on Schedule A are:

| EMISSION NUMBER | EMISSION SOURCE | DISCHARGE POINT |
|-----------------|------------------------------------------------------------------------------|-----------------|
| 01 | Three refining kettles, rotary furnace combustion chamber and a lead reactor | Stack |
| 02 | Three refining kettle heaters | Three stacks |
| 03 | Rotary furnace charging and tapping area | Stack |
| 04 | Battery de-casing shaker table | Wall vent |

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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 ³ /min | DURATION hours/day | FREQUENCY days/week | |
| 01 | 300 | 24 | 5 | Maximum 40 weeks/year. |
| 02 | 6 | 24 | 5 | Maximum 40 weeks/year. |
| 03 | 250 | 24 | 5 | Maximum 40 weeks/year. |
| 04 | 85 | 8 | 5 | Maximum 40 weeks/year. |

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

| EMISSION NUMBER | PARAMETER | RESTRICTION | NOTES |
|-----------------|---------------------|-----------------------|------------------------------------------------------------------------------------------------------|
| 01 & 03 | Lead | 1.5 mg/m ³ | Includes lead & lead compounds, expressed as lead. |
| 01 & 03 | Opacity | 10 percent | May be exceeded for a total of 3 min/hour. |
| 01 & 03 | Particulate matter | 20 mg/m ³ | |
| 01 | Sulphur oxides | 250 mg/m ³ | Expressed as sulphur dioxide. |
| 04 | Sulphuric acid | 10 mg/m ³ | Includes fumes and mists. |
| 03 | Sulphur oxides | 150 mg/m ³ | Expressed as sulphur dioxide. |
| 01 & 03 | Combustion Products | See notes | Typical products of natural gas combustion at a maximum firing rate of 7.39 GJ/hr. (7.0 MM Btu/hr.). |
| 02 | Combustion Products | See notes | Typical products of natural gas combustion at a maximum firing rate of 2.1 GJ/hr. (1.95 MM Btu/hr.). |

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The authorized works and procedures to control the discharge of air contaminants from the emission sources described in Schedule D are indicated below. The Air Quality 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 Air Quality Director.

Where the Air Quality 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.

| EMISSION NUMBER | COMPLETION DATE | DESCRIPTION OF WORKS/PROCEDURES |
|-----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | Completed | Two baghouses and related appurtenances using good operating practices together with the maintenance of the conveying ducting and handling systems such that all contaminants from these sources are conveyed under partial vacuum to the control equipment. |
| 02 | Completed | The firing of the lead refining heaters with natural gas using good combustion practices and operating procedures. |
| 03 | Completed | Baghouse and related appurtenances using good operating practices together with the maintenance of the conveying ducting and handling systems such that all contaminants from these sources are conveyed under partial vacuum to the control equipment. |
| 04 | Completed | Good operating practices. |

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RECORD OF PERMIT ISSUANCE

| DATE              | ACTION   | SECTIONS AFFECTED                       |
|-------------------|----------|-----------------------------------------|
| December 15, 1992 | Issuance | Face, Schedules A, B, C, D, E, F, G & H |
| July 21, 1995     | Amended  | Face, Schedules A, B, C, D, E, F, G & H |

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