

metrovancover

Greater Vancouver Regional District • Greater Vancouver Water District

Greater Vancouver Sewerage and Drainage District • Metro Vancouver Housing Corporation

4330 Kingsway, Burnaby, BC, Canada V5H 4G8 604-432-6200 www.metrovancover.org

*Metropolitan Planning, Environment and Parks Department
Tel. 604-432-6200 Fax 604-436-6707*

PERMIT GVA0086

Pursuant to
Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008
and BC Environmental Management Act

Kinder Morgan Canada Terminals Limited Partnership

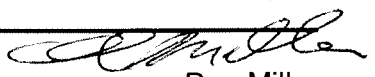
located at
1995 W 1st Street, North Vancouver, BC V7P 1A8

is authorized to discharge air contaminants to the air from
a Bulk Commodities Receiving, Storage and Shipping Terminal

subject to the requirements in this Permit for the emission sources and works existing or planned on
October 26, 2012.

Contravention of any of these requirements is a violation of the bylaw
and may result in enforcement action.

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

SECTION 1 – AUTHORIZED EMISSION SOURCES

Authorization to discharge air contaminants from the authorized Emission Sources and Works listed below are subject to the specified terms and conditions.

Approximate locations of the emission sources are shown on the Site Plan in section 4.

EMISSION SOURCE 01: Loading of marine vessels with sulphur, potash, fertilizers, agricultural and wood products discharging through vessel holds and Berths 4 and 5 ship loading equipment.

MAXIMUM EMISSION FLOW RATE: The authorized maximum rate of discharge is that resulting from the loading operations as well as displacement air from the ships' holds

MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. 20% Opacity.
2. Particulate: None past the plant boundary such that the District Director determines that pollution has occurred.

WORKS AND PROCEDURES:

Vessel holds and Berths No. 4 and 5 ship loading equipment.

Water sprays and surfactant chemical spray dust suppression system (applies to sulphur only), covered conveying systems, product flooded transfer surge bin, Berth No. 5 loader cascade chute and related appurtenances together with good operating practices. Appropriate control procedures must be used for each product handled. Sulphur, potash and fertilizers to be handled at Berth 4 and agricultural and wood products at Berth 5 only.

EMISSION SOURCE 02: The enclosed rotary dumper building handling sulphur, potash and fertilizers discharging through rail car entrance and exit.

MAXIMUM EMISSION FLOW RATE: The authorized rate of discharge is that resulting during rail car dumping

MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. 20% Opacity.
2. Particulate: None past the plant boundary such that the District Director determines that pollution has occurred.

WORKS AND PROCEDURES:

Rail car entrance and exit.

Water curtain sprays together with the enclosure of the entrance and exit of the dumper

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

complex with plastic curtains, water sprays or surfactant chemical spray dust suppression system (sulphur only) to the feeders and related appurtenances together with good operating practices.

EMISSION SOURCE 03: The enclosed segregated dumper building and conveying equipment handling agricultural and wood products discharging through rail car entrance and exit, 5 baghouses and byproducts bin truck load out hopper.

MAXIMUM EMISSION FLOW RATE: **3825** m³/min

MAXIMUM ANNUAL OPERATING HOURS: **0** hrs/yr (See Works & Procedures)

MAXIMUM EMISSION QUALITY:

1. 20 mg/m³ Particulate Matter
2. 10% Opacity. Applies to baghouse emission points only.

WORKS AND PROCEDURES:

Intermittent usage. The authorized rate of discharge is that resulting during rail car dumping, conveying and transfer operation, byproducts truck loading together with 5 baghouses.

Rail car entrance and exit, byproduct load out hopper and 5 baghouses.

Rail car bottom unloading facilities, hopper, conveying and transfer points to be maintained under negative pressure to baghouses together with good operating practices. Water misting spray nozzles to be applied during byproduct bin unloading.

EMISSION SOURCE 04: Rail car and truck loading and unloading, conveying and storage of zinc, lead, copper concentrates and ferrous granules (slag) discharging through Berth 1 and baghouse at rail car loading and unloading building.

MAXIMUM EMISSION FLOW RATE: **963** m³/min

MAXIMUM ANNUAL OPERATING HOURS: **0** hrs/yr (See Works & Procedures)

MAXIMUM EMISSION QUALITY:

1. 20 mg/m³ Particulate Matter
2. 10% Opacity. Applies to baghouse emission points only.


WORKS AND PROCEDURES:

Intermittent usage. The authorized rate of discharge is that resulting during rail car and truck unloading, loading, conveying and transfer operations together with one baghouse.

Berth No. 1 and baghouse at rail car loading and unloading building.

Enclosed loading and unloading of rail cars and trucks, baghouse for enclosed railcar loading and unloading building, enclosed tubular and covered conveyors, enclosed transfer points and covered storage together with good operating practices.

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

EMISSION SOURCE 05: Four bulk liquid tanks for storage of petroleum products, two bio-diesel tanks, two inter-mix tanks and miscellaneous additive storage totes and tanks, sample tanks, slop tanks and underground oil water separators discharging through a Vent(s).

MAXIMUM EMISSION FLOW RATE: The authorized maximum rate of discharge is that resulting from vapour venting during tank filling, withdrawing and breathing

MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. Odour: None past the plant boundary such that the District Director determines that pollution has occurred.

WORKS AND PROCEDURES:

Tank conservation vents on cone roof steel storage tanks in good repair, together with good operating practices. The vapour pressure of materials stored in these tanks shall not exceed 10 kPa at 21.1° Celsius. Product transfer to and from storage tanks and rail and truck loading/unloading racks to be conducted using bottom or top loading/unloading methods utilizing reduced flow rates at start and finish combined with submerged loading for top 1/3 of tank car to minimize vapour loss.

EMISSION SOURCE 06: Sulphur and contaminated sulphur stockpiling, reclaiming and storage discharging from three sulphur storage areas.

MAXIMUM EMISSION FLOW RATE: The authorized rate of discharge is that resulting from the stacking and reclaiming operations as well as stockpile wind erosion effects

MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. 20% Opacity.
2. Particulate: None past the plant boundary such that the District Director determines that pollution has occurred.

WORKS AND PROCEDURES:

Three sulphur storage areas.

The handling of sulphur through the combined methods of enclosed conveying, stockpiling via hollow, perforated towers and water sprays, or a surfactant chemical spray dust suppression system together with good operating practices.

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

EMISSION SOURCE 09: Conveying, transferring and handling of sulphur, potash, fertilizers and agricultural and wood products on Berths 4 and 5 discharging through associated conveyors and transfer areas.

MAXIMUM EMISSION FLOW RATE: The authorized maximum rate of discharge is that resulting from conveying and transfer operations

MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. 20% Opacity.
2. Particulate: None past the plant boundary such that the District Director determines that pollution has occurred.

WORKS AND PROCEDURES:

Conveyors and transfer areas associated with Berths No. 4 and 5.

Water sprays and surfactant chemical spray dust suppression system (applies to sulphur only), covered conveyors, product flooded transfer surge bin, together with good operating practices. Appropriate control procedures must be used for each product handled. Sulphur, potash and fertilizers to be handled at Berth 4 and agricultural and wood products at Berth 5 only.

EMISSION SOURCE 10: Loading and offloading of marine vessels with zinc, lead, copper ore concentrates and ferrous granules (slag) at Berth No. 1 discharging through vessel holds and Berth 1 shiploading, offloading equipment.

MAXIMUM EMISSION FLOW RATE: The authorized maximum rate of discharge is that resulting from the loading and offloading operations as well as displacement air from the ships' holds

MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. 20% Opacity.
2. Particulate: None past the plant boundary such that the District Director determines that pollution has occurred.

WORKS AND PROCEDURES:


Vessel holds and Berth No. 1 ship loading and offloading equipment.

Enclosed tubular conveying system and related appurtenances together with good operating practices.

EMISSION SOURCE 13: Grab bucket clam discharging through conveying system feed hopper.

MAXIMUM EMISSION FLOW RATE: The authorized maximum rate of discharge is that resulting from the offloading operations of the grab bucket clam dropping contents into the shore hopper

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr

MAXIMUM EMISSION QUALITY:

1. 20% Opacity. May be exceeded during start-up operations.
2. Particulate: None past the plant boundary such that the District Director determines that pollution has occurred.

WORKS AND PROCEDURES:

Conveying system feed hopper.
Concentrate grab bucket clam and conveyor feed hopper, together with good operating practices. Appropriate control procedures must be used including minimizing drop heights and maintaining water sprays.

EMISSION SOURCE 14: Clean-up of marine vessel holds discharging from vessel holds.

MAXIMUM EMISSION FLOW RATE: **The authorized maximum rate of discharge is that resulting in the clean-up procedures of the vessel holds**

MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr

MAXIMUM EMISSION QUALITY:

1. 20% Opacity. May be exceeded during start-up operations.
2. Particulate: None past the plant boundary such that the District Director determines that pollution has occurred.

WORKS AND PROCEDURES:

Vessel holds.
Good operating practices during clean-up procedures which may require use of potable water sprays. Operation of equipment to minimize dust.

EMISSION SOURCE 15: The enclosed storage building handling lead and zinc ore concentrates discharging through a Baghouse Exhaust(s).

MAXIMUM EMISSION FLOW RATE: **850** m³/min

MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr


MAXIMUM EMISSION QUALITY:

1. 20 mg/m³ Particulate Matter
2. 10% Opacity. On baghouse emissions only.

WORKS AND PROCEDURES:

Baghouse and related appurtenances, together with good operating practices.

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

EMISSION SOURCE 16: Copper ore concentrate shed ventilation discharging through a Fan Exhaust(s).

MAXIMUM EMISSION FLOW RATE: **510** m³/min

MAXIMUM ANNUAL OPERATING HOURS: **0** hrs/yr (See Works & Procedures)

MAXIMUM EMISSION QUALITY:

1. 20 mg/m³ Particulate Matter
2. 10% Opacity. 10% Opacity applies to fan exhaust(s) and 20% opacity applies to shed entry/exit points.

WORKS AND PROCEDURES:

The authorized rate of discharge is that resulting during the movement of copper ore concentrates by truck and front end-loaders within the copper ore concentrate shed. This includes the intermittent usage of 7 ventilation fans equipped with filters.

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

SECTION 2 – GENERAL REQUIREMENTS AND CONDITIONS

A. AMENDMENTS

The terms and conditions of this permit may be amended, as authorized by applicable legislation. New and modified sources must receive authorization prior to start-up.

B. POLLUTION

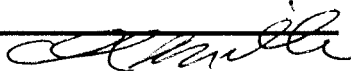
Notwithstanding any conditions in this permit, no person shall discharge or allow or cause the discharge of any air contaminant so as to cause pollution as defined in the Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008 and the Environmental Management Act.

C. STANDARD CONDITIONS AND DEFINITIONS

Unless otherwise specified, the following applies to this permit:

1. Gaseous volumes are corrected to standard conditions of 20° Celsius & 101.325 kPa with zero percent moisture.
2. Contaminant concentrations from the combustion of specific fuel types are corrected to the following Oxygen content, unless specified otherwise:
 - 3% O₂ for natural gas and fuel oil;
 - 8% O₂ for wood fuel.
 - 15% O₂ for turbines
3. Where compliance testing is required, each contaminant concentration limit in this permit will be assessed for compliance based on a valid test using test methods approved by the District Director.
4. Visual opacity measurements are made at the point of maximum density, nearest the discharge point and exclude the effect of condensed, uncombined water droplets. Compliance determinations are based on a 6 minute average in accordance with the provincial "Source Testing Code for the Visual Measurement of The Opacity of Emissions from Stationary Sources". Continuous Emission Monitor System (CEMS) opacity compliance determinations are based on a one hour average (taken from the top of each hour).
5. If authorized in section 1 of this permit, standby fuel use is restricted to a maximum of 350 hrs/yr and to those periods during which the primary authorized fuel is not available. Fuel oil sulphur content shall not exceed 15 mg/kg and emissions during fuel oil firing shall not exceed 10% Opacity.
6. Definitions in the Environmental Management Act and Air Quality Management Bylaw 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, current on the latest date that this permit issuance or amendment came into effect.
8. Sulphur Oxides (SOx) are expressed as Sulphur Dioxide.
9. Nitrogen Oxides (NOx) are expressed as Nitrogen Dioxide.
10. The Canadian Council of Ministers of the Environment (CCME) "Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks (June

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

1995, CCME-EPC-87E)" shall be adhered to for all applicable tanks unless otherwise stated in this permit.

11. Authorized 'Maximum Annual Operating Hours' of 8760 hrs/yr for an emission source is equivalent to authorization for continuous operation of the emission source for an entire calendar year, including leap years.

D. HEATING, VENTILATION, AIR CONDITIONING AND INTERNAL COMBUSTION ENGINES

Air contaminants discharged from any natural gas-fired heating, ventilation or air conditioning systems for buildings and any internal combustion engines located at the discharge site 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.

E. AUTHORIZED WORKS AND PROCEDURES

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 permit holder shall regularly inspect and maintain all such works in good repair.

The discharge criteria described in this permit are applicable on the issued or amended date of this permit unless specified otherwise. If a date different to the issued or amended date is specified, the existing control works and procedures must be maintained in good operating condition and operated in a manner to minimize emissions.

F. BYPASSES

The discharge of contaminants which have bypassed authorized control works during non-emergency conditions are prohibited unless approval has been obtained in writing from the District Director.

G. EMERGENCY PROCEDURES

In the event of an emergency that prevents compliance with a requirement(s) of this permit, that requirement(s) shall be suspended for such time as the emergency continues or until otherwise directed by the District Director, provided that:

1. Due diligence was exercised in relation to the process, operation or event that caused the emergency and that the emergency occurred notwithstanding this exercise of due diligence; and,
2. The District Director is notified at the first available opportunity of the emergency and of contingency actions invoked or planned to mitigate adverse impacts and restore compliance. Notification shall be made to Metro Vancouver's 24-hour number: 604-436-6777; and,
3. Due diligence is exercised in shutting down related processes and/or taking action to restore compliance in the shortest possible time frame, unless specified otherwise in this permit or by written notice from the District Director.

Notwithstanding 1, 2 and 3 above, the District Director may specify contingency actions to be implemented to protect human health and the environment while authorized works and/or standard operating procedures are being restored.

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

If an emergency situation results in a "spill" as defined in the Environmental Management Act Spill Reporting Regulation, the spill shall also be reported immediately to the Provincial Emergency Program by telephoning 1-800-663-3456.

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

SECTION 3 – REPORTING REQUIREMENTS

A. MONITORING REQUIREMENTS AND REPORTING

Unless otherwise approved by the District Director prior to any sampling or analysis, all measurements shall be performed by an independent agency in accordance with Metro Vancouver Air Emissions Sampling Program Manual of Methods and Standard Operating Procedures and the BC Ministry of Environment Field Sampling Manual, as they may be amended from time to time. Any variance from these procedures must receive prior approval from the District Director.


A minimum of 3 days advance notice must be given prior to taking measurements required by this Monitoring and Sampling Program. Notification must be given to the Metro Vancouver Environmental Regulation & Enforcement Division (phone 604-436-6777, Fax 604-436-6707, email regulationenforcement@metrovancover.org).

Unless otherwise specified, sampling shall be performed under operating conditions representative of the previous 90 calendar days of operation. All field data and calculations must be submitted with monitoring results and they shall be reported in the metric units which are used in this permit. These submissions shall include process data relevant to the operation of the source of the emissions and the performance of the emission control works.

The permit holder shall conduct the following monitoring and sampling and submit electronic reports of the results to the District Director by the dates specified below using a password enabled web based application provided by Metro Vancouver.

SOURCE	DUE DATE	FREQUENCY	REQUIREMENT	PARAMETER(S)	TEST METHOD	REPORT TYPE
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Issued: November 30, 1992
Amended: October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT


B. INFORMATION REPORTING REQUIREMENTS

The permit holder shall submit electronic reports containing the required information to the District Director by the dates specified below using a password enabled web based application provided by Metro Vancouver.

EMISSION SOURCE	DUE DATE	FREQUENCY	REQUIREMENT	REPORT TYPE
03, 04, 15	March 31, 2013	Yearly	Written report indicating inspection frequency, bag condition and action taken or proposed to solve any problems detected for the baghouse(s) described in Section 1 of this Permit.	Baghouse
05	March 31, 2013	Yearly	Written report detailing hydrocarbon losses, based on the previous calendar year, from 4 bulk storage tanks. Calculations shall be based on emission factors using the most recent US EPA emission factors and emission methodologies, including the US EPA storage tank emission calculations in the 'Tanks' software or equivalent. All data inputs to the equations shall be reported including storage tank capacity, material stored and the annual throughput for each tank and loading operations.	Information - Other
Facility	March 31, 2013	Yearly	Written report providing details of the types and amounts of principal products produced and principal raw materials used in the preceding calendar year.	Materials and Products

C. AMENDED OR ADDITIONAL REQUIREMENTS

Issued: November 30, 1992
 Amended: October 26, 2012


 Don Miller
 Assistant District Director

Permit GVA0086

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

Based on the results of the monitoring program, including the stack sampling results or any other information, the District Director may:

1. Amend the monitoring and reporting requirement of any of the information required by this Permit including plans, programs and studies.
2. Require additional investigations, tests, surveys or studies.

Issued: November 30, 1992
Amended: October 26, 2012

Permit GVA0086



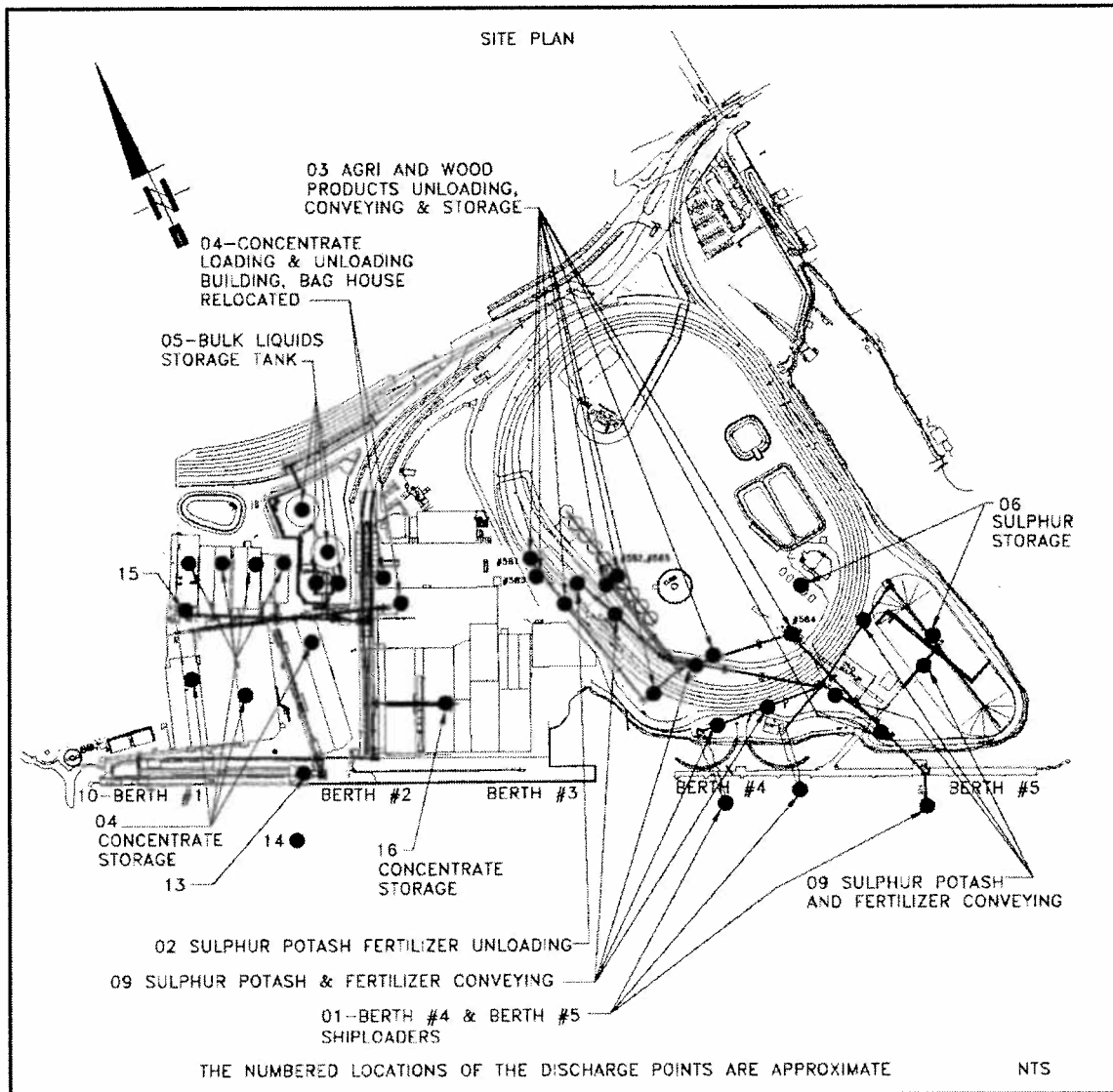
Don Miller
Assistant District Director

GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

SECTION 4 – SITE PLAN


LEGAL DESCRIPTION OF DISCHARGE SITE: Municipality of North Vancouver, Parcel Identifier: 008-006-148 Lot 5 of Parcel "C", District Lot 264 and of the Bed and Foreshore of Burrard Inlet, Plan 13846" leased from B.C.R. Properties Ltd. and adjacent lands and water lots leased from the Vancouver Port Corporation.

The following site plan is not to scale and the locations of the discharge points are approximate.



Issued:
Amended:

November 30, 1992
October 26, 2012


Don Miller
Assistant District Director

Permit GVA0086