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No. DE 93TC-S153

1. Airco Gases is a Division of The BOC Group, Inc., of Murray Hill, New Jersey which is the legal owner of the property located at 4715 Northeast 78th Street, Vancouver, Washington. Airco Gases is the operator of the facility at this location and has operated same since 1964.
2. Airco Gases manufactures compressed gas products, including liquid nitrogen, liquid oxygen, and liquid argon. Airco Gases also stores and distributes other specialty gases, such as freon, hydrogen, acetylene, and helium.
3. Investigations conducted at the Site by EA Engineering, Science, and Technology, for Airco Gases have detected the presence of volatile organic compounds (VOCs) in the ground water and/or near-surface soils. To date, the VOCs found in the soils are different from VOCs found in

ground water. Trichloroethene (TCE), 1,1,1-trichloroethane (TCA), carbon tetrachloride, tetrachloroethene (PCE), and trichlorofluoromethane (Freon 11) have been detected in on-site ground water monitoring wells. Some of the VOCs detected have been used in the past or are currently being used/stored at the Airco Gases site. A TCE parts washer was located in the production building. TCA has been used on-site to clean piping and during the construction of new equipment in the production building and was stored on-site. Several types of Freon (Freon 11, Freon 113 or TF) have been used at Airco Gases. Freon 11 is used in a closed-system refrigeration process at two locations on-site and was used to clean oily residue out of the plant's distillation columns. Airco Gases also repackages Freon for redistribution and resale (Phase II Investigation, EA Engineering, Science, and Technology, October 1992).

4. A Remedial Investigation/Feasibility Study has not been completed for the site; however, two investigations and reports have been completed and submitted to Ecology titled Phase I and Phase II Investigation Airco, completed in April 1992, and October 1992, respectively, by EA Engineering, Science, and Technology. Ecology believes these investigations and reports provide justification for conducting the following remedial action. This remedial action is necessary to reduce a potential threat to human health and the environment.

### III.

#### Ecology Determinations

1. Airco Gases is an "owner" and an "operator" as defined in RCW 70.105D.020(6) of a "facility" as defined in RCW 70.105D.020(3).
2. The facility is known as Airco Gases and is located at 4715 Northeast 78th Street, Vancouver, Washington as shown in Exhibit A.
3. The substances found at the facility as described above are "hazardous substances" as defined in RCW 70.105D.020(5).

4. Based on the presence of these hazardous substances at the facility and all factors known to the Department, there is a release or threatened release of hazardous substances from the facility, as defined in RCW 70.105D.020(10).

5. By letter dated January 28, 1992, Ecology notified Airco Gases of its status as a "potentially liable person" under RCW 70.105D.040 after notice and opportunity for comment.

6. Pursuant to RCW 70.105D.030(1) and 70.105D.050, the Department may require potentially liable persons to investigate or conduct other remedial actions with respect to the release or threatened release of hazardous substances, whenever it believes such action to be in the public interest.

7. Based on the foregoing facts, Ecology believes the remedial action required by this Order is in the public interest.

#### IV.

##### Work to be Performed

Based on the foregoing Facts and Determinations, it is hereby ordered that Airco Gases take the following remedial actions and that these actions be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein. Airco Gases is required to conduct additional preliminary remedial investigation work to better define the extent and magnitude of contamination. This work is specified below:

1. Prepare a detailed work plan which addresses Tasks 2 - 10 below, and submit it to Ecology within two weeks of the effective date of this Order for review and approval. The approved plan shall be implemented in accordance with the schedule specified below. This plan shall include a Safety and Health Plan prepared in accordance with WAC 173-340-810 and a Sampling and Analysis Plan prepared in accordance with WAC 173-340-820. Airco Gases may incorporate into this work plan its Work Plan for Phase III Investigation, dated December 1992, prepared by EA Engineering,

Science, and Technology.

2. Measure ground water elevation and sample ground water in existing monitoring wells MW1-A through MW8-A on the Airco Gases property, as shown on Exhibit B. Analyze ground water for VOCs using EPA Method 8240 on samples from MW1-A, MW 2-A, MW3-A, and MW8-A; and EPA Method 8010 on samples from MW4-A, MW5-A, MW6-A, and MW7-A. Collect ground water samples from Airco Gases production wells GWSW-1 and GWSW-2 and analyze for VOCs using EPA Method 8240. Submit any previous production wells sampling data.

3. In addition to specific VOC sampling requirements, all ground water samples shall include but not be limited to the following parameters to be measured in the field: temperature, pH, and specific conductance (conductivity).

4. Install water meter for production wells to determine monthly water withdrawals. Report monthly ground water usage for the time period from initiation of field work until just before final report.

5. Collect dry-well water and soil (if present) from bottoms of the two dry-wells west of the Production Building. Analyze dry-well samples for VOCs using EPA Method 8240.

6. Drill soil borings to the water table approximately 30 feet below ground surface (bgs), at the 10 locations shown in Exhibit B. Seven additional soil borings shall be drilled as shown in Exhibit C and described below:

- a) west of the storage shed and east of the former office;
- b) west of the truck garage;
- c) at the eastern property perimeter;
- d) southeast of the office;
- e) west of the Specialty Gases Fill Area;
- f) west of the storage shed at the western property boundary;

g) and between existing MW4-A and MW1-A.

7. Collect soil samples at maximum five-foot intervals during drilling for lithologic description and field screening with a flame ionization detector (FID). Analyze a minimum of one soil sample from each boring for VOCs using EPA Method 8240. The sample to be analyzed shall be taken directly above the water table. Analyze a soil sample from the location of the previous highest FID soil reading (if any) obtained in the field.

8. Collect one ground water sample from each boring location (ten as shown in Exhibit B and the two locations described in 6c and 6d) by driving the HydroPunch sampler five feet into the aquifer. Analyze the ground water samples for VOCs using EPA Method 8240. Grout the abandoned boreholes with hydrated bentonite or a cement/bentonite mixture per Chapter 173-160 WAC, Minimum Standards for Construction and Maintenance of Wells. Decontaminate all drilling and sampling equipment prior to initiating work and between boreholes.

9. Complete five monitoring wells (MW9-A, MW10-A, MW11-A, MW12-A, and MW13-A) screened in the upper (Alluvial) aquifer (Exhibit C). Monitoring well screens (ten feet unless otherwise approved by Ecology) should be installed such that there is five feet of screen above the water table and five feet of screen below at the time of well construction. Convert existing monitoring wells MW1-A and MW2-A to well clusters by adding well completions in the "B" and "C" Zones (Approximately 45-60 feet bgs and 65-85 feet bgs, respectively). These wells shall be designated as MW1-B, MW1-C, <sup>MW2-B</sup> and MW2-C. <sup>SG MW</sup>

10. Develop and survey all new monitoring wells. Measure ground water elevation and sample the ground water for VOCs in MW1-B, MW1-C, MW2-B, MW2-C, MW9-A, MW10-A, MW11-A, MW12-A, and MW13-A using EPA Method 8240.

11. Based on the outcome of the investigation, prepare and submit a report within six weeks of completion of field work in accordance with WAC 173-340-840. The report shall include

the results and conclusions of field investigations and laboratory results including QA/QC documentation.

12. The above-stated tasks shall be conducted in accordance with the following schedule:

<u>Description</u>	<u>Weeks After Effective Date of Agreed Order</u>
1. Submit to Ecology a detailed work plan including Safety and Health Plan, and Sampling and Analysis Plan	2
2. Ecology review/approval/or modification of detailed work plan	3
3. Initiate field effort	5
4. Complete field effort	9
5. Receive analytical results	11
6. Complete report and submit it to Ecology	15

## V.

### Terms and Conditions of Order

#### 1. Definitions.

Unless otherwise specified, the definitions set forth in Ch. 70.105D RCW and Ch. 173-340 WAC shall control the meanings of the terms used in this Order.

#### 2. Public Notices.

RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that the Order is inadequate or improper in any respect.

3. Remedial Action Costs. Airco Gases shall pay to Ecology costs incurred by Ecology pursuant Agreed Order No. DE 93TC-S153

to this Order. These costs shall include work performed by Ecology or its contractors for remedial action and Order preparation, oversight and administration. Ecology costs shall include costs of direct activities; e.g., employee salary, laboratory costs, travel costs, contractor fees, and employee benefit packages; and agency indirect costs of direct activities. Airco Gases shall pay the required amount within 90 days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general description of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Failure to pay Ecology's costs within 90 days of receipt of an itemized statement of costs will result in interest charges.

4. Designated Project Coordinators. The project coordinator for Ecology is:

Tina Masterson  
P.O. Box 47775  
Olympia, Washington 98504-7775  
(206) 586-7310

The project coordinator for Airco Gases is:

James N. Merriam  
575 Mountain Avenue  
Murray Hill, New Jersey 07974  
(908) 464-9015

The project coordinator(s) shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communications between Ecology and Airco Gases, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the project coordinator(s). Should Ecology or Airco Gases change project coordinator(s), written notification shall be provided to Ecology or Airco Gases at least ten (10) calendar days prior to the change.

5. Performance. All work performed pursuant to this Order shall be under the direction and supervision, as necessary, of a professional engineer or hydrogeologist, or similar expert, with

appropriate training, experience, and expertise in hazardous waste site investigation and cleanup. Airco Gases shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors to be used in carrying out the terms of this Order, in advance of their involvement at the Site. Airco Gases shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order and shall ensure that all work undertaken by such agents, contractors, and subcontractors will be in compliance with this Order.

Except where necessary to abate an emergency situation, Airco Gases shall not perform any remedial actions at Airco Gases outside that required by this Order unless Ecology concurs, in writing, with such additional remedial actions.

6 Access. Ecology or any Ecology-authorized representative shall have the authority to enter and freely move about the Site at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting samples as Ecology or the project coordinator may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by Airco Gases. By signing this Agreed Order, Airco Gases agrees that this Order constitutes reasonable notice of access, and agrees to allow access to the Site at all reasonable times for purposes of overseeing work performed under this Order. Ecology shall allow split or replicate samples to be taken by Airco Gases during an inspection unless doing so interferes with Ecology's sampling. Airco Gases shall allow split or replicate samples to be taken by Ecology and shall provide seven (7) days notice before any sampling activity.

7 Public Participation.

Airco Gases shall prepare and/or update a public participation plan for the site. Ecology shall



maintain the responsibility for public participation at the Site. Airco Gases shall help coordinate and implement public participation for the Site.

8. Retention of Records. Airco Gases shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the date of completion of the work performed pursuant to this Order, all records, reports, documents, and underlying data in its possession relevant to this Order. Should any portion of the work performed hereunder be undertaken through contractors or agents of Airco Gases, then Airco Gases agrees to include in their contract with such contractors or agents a record retention requirement meeting the terms of this paragraph.

9. Dispute Resolution. Airco Gases may request Ecology to resolve disputes which may arise during the implementation of this Order. Such requests shall be in writing and directed to the signatory, or his/her successor(s), to this Order. Ecology resolution of the dispute shall be binding and final. Airco Gases is not relieved of any requirement of this Order during the pendency of the dispute and remains responsible for timely compliance with the terms of the Order unless otherwise provided by Ecology in writing.

10. Reservation of Rights/No Settlement. This Agreed Order is not a settlement under Ch. 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any Ecology rights or authority. Ecology will not, however, bring an action against Airco Gases to recover remedial action costs paid to and received by Ecology under this Agreed Order. In addition, Ecology will not take additional enforcement actions against Airco Gases to require those remedial actions required by this Agreed Order, provided Airco Gases complies with this Agreed Order.

Ecology reserves the right, however, to require additional remedial actions at the Site should it deem such actions necessary.

Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural

resources resulting from the releases or threatened releases of hazardous substances from Airco Gases.

In the event Ecology determines that conditions at the Site are creating or have the potential to create a danger to the health or welfare of the people on the Site or in the surrounding area or to the environment, Ecology may order Airco Gases to stop further implementation of this Order for such period of time as needed to abate the danger.

11. Transference of Property

No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by Airco Gases without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to transfer of any legal or equitable interest Airco Gases may have in the Site or any portions thereof, Airco Gases shall serve a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in such interest. At least thirty (30) days prior to finalization of any transfer, Airco Gases shall notify Ecology of the contemplated transfer.

12. Compliance with Other Applicable Laws. All actions carried out by Airco Gases pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements.

13. Modification. Notwithstanding any other provisions herein, this Order may only be modified by written mutual agreement executed by Ecology and Airco Gases.

VI.

Satisfaction of this Order

The provisions of this Order shall be deemed satisfied upon Airco Gases' receipt of written notification from Ecology that Airco Gases has completed the remedial activity required by this

Order, as amended by any modifications, and that all other provisions of this Agreed Order have been complied with.

VII.

Enforcement

1. Pursuant to RCW 70.105D.050, this Order may be enforced as follows:
  - A. The Attorney General may bring an action to enforce this Order in a state or federal court.
  - B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.
  - C. In the event Airco Gases refuses, without sufficient cause, to comply with any term of this Order, Airco Gases will be liable for:
    - (1) up to three times the amount of any costs incurred by the state of Washington as a result of its refusal to comply; and
    - (2) civil penalties of up to \$25,000 per day for each day it refuses to comply.
  - D. This Order is not appealable to the Washington Pollution Control Hearings Board.

This Order may be reviewed only as provided under Section 6 of Ch. 70.105D RCW.

Effective date of this Order: March 31, 1993

AIRCO GASES

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

By S. Ghaseemi *gma*  
S - GHASEMI  
Sr. V.P.

By Megan White  
Megan White, P.E.  
Southwest Region Supervisor  
Toxics Cleanup Program

Agreed Order No. DE 93TC-S153

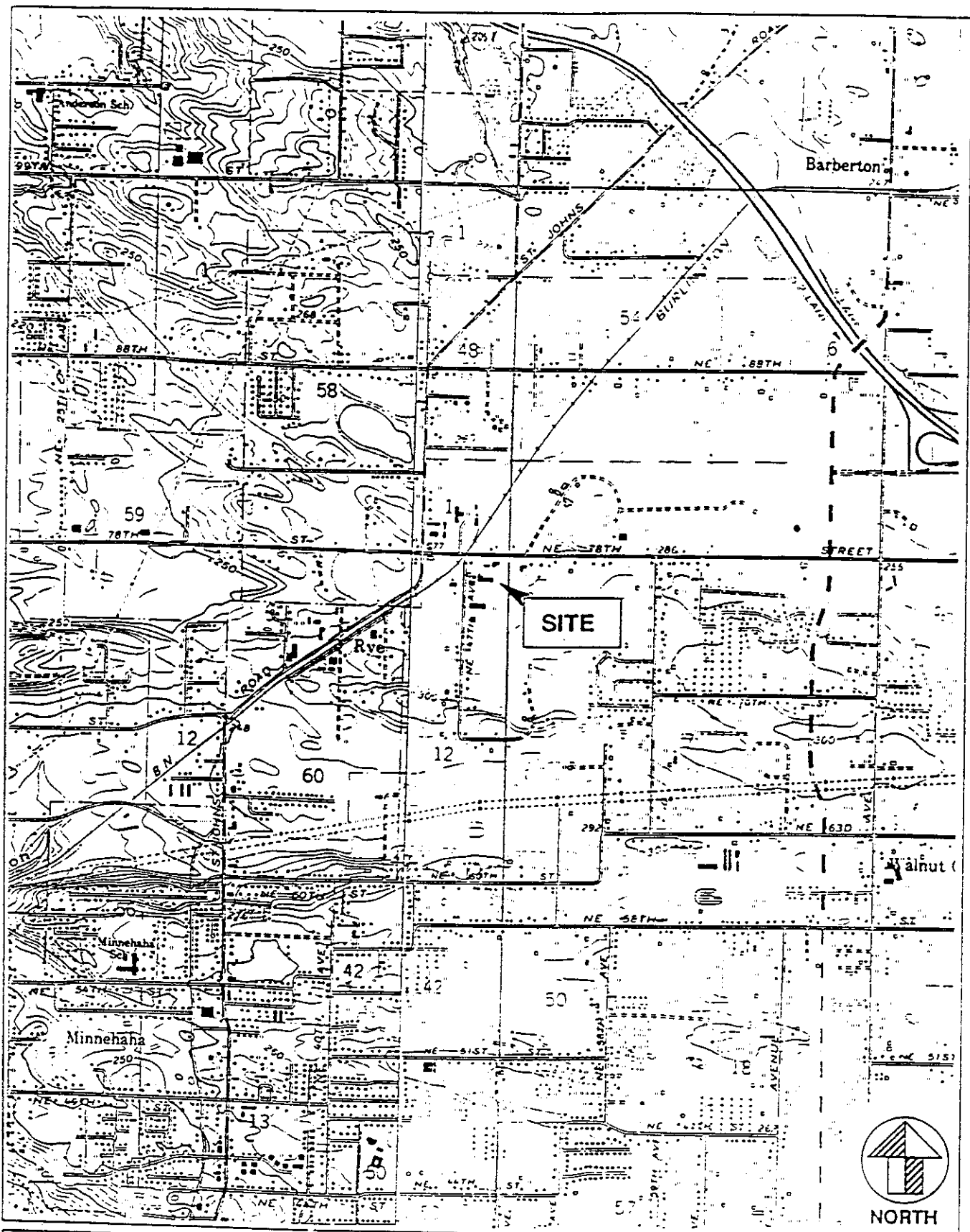


Exhibit A Location map showing Airco site and surrounding topography, Vancouver Washington. (Reference: Vancouver 7.5 Minute USGS Quadrangle; Orchards 7.5 Minute USGS Quadrangle.)

Scale: 1 : 24000

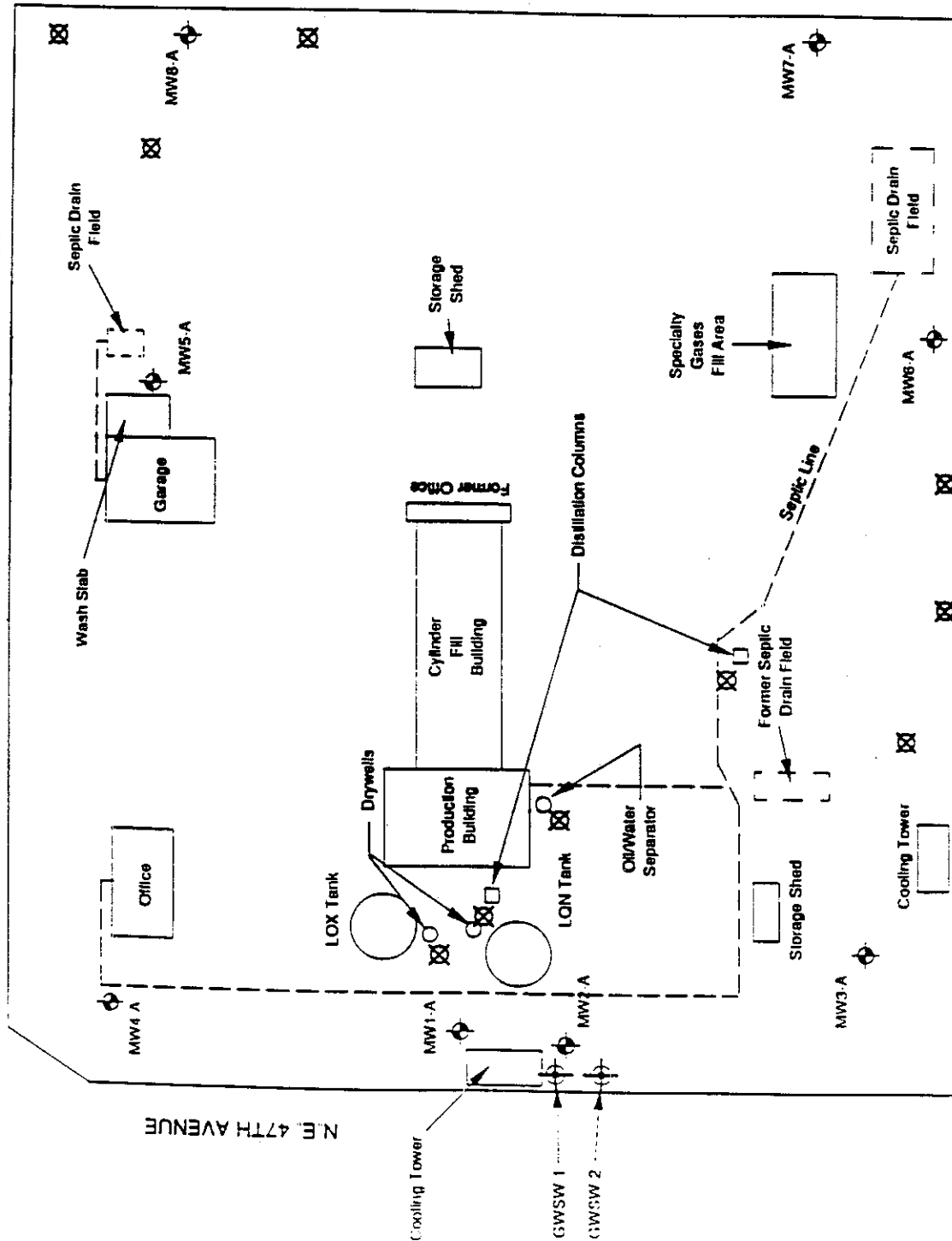


N.E. 78TH STREET

N.E. 47TH AVENUE

LEGEND:

- ⊕ Groundwater Supply Well
- ⊕ Groundwater Monitoring Well
- ⊗ Proposed Soil Boring/  
HydroPunch Sampling  
Location



NORTH

Scale: 0 60 120 Ft.

Exhibit

B

Representative locations of proposed soil borings and HydroPunch (groundwater) samples,  
Airco Industrial Gases, Vancouver, Washington.



ENVIRONMENTAL SERVICES  
Eastern Division

Drawn	MAW	Date	2/13/93
Reviewed		Date	
Rev. 1		Date	
Final		Date	

MD1W/ARCO/EB90SITE