New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
Bureau of Hazardous Site Control

ADDITIONS/CHANGES TO REGISTRY: SUMMARY OF APPROVALS

SITE NAME: CARBORUNDUM SPECIALTY PRODUCTS DEC I.D. NUMBER 932102

Current Classification 2

Activity: ☐ Add as Class ___ ☑ Reclassify to 4 ☐ Delist Category ___ ☐ Modify ___

Approvals:

Regional Hazardous Waste Engineer	Yes	☐	No	☐	
NYSDOH	Yes	☐	No	☐	
DEE	Yes	☐	No	☐	
Construction Services	Yes	☐	No	☐	
BHSC: a. Investigation Section	Yes	☐	No	☐	
b. Site Control Section	Robert Marino		Date	3/6/95	
c. Director	[signature]		Date	3/7/95	
DHWR Assistant Director	Charles V Sadlad		Date	3/8/95	

ROD RECLASSIFICATION

Completion Checklist		Completed By: Initials	Date
OWNER NOTIFICATION LETTER?	☑		4/27/95
ADJACENT PROPERTY OWNER NOTIFICATION LETTER?	☑		5/12/95
ENB/LEGAL NOTICE SENT? (For Deletion Only)	☐		
COMMENTS SUMMARIZED/PLACE IN REPOSITORY	☐		
FINAL NOTIFICATION SENT TO OWNER? (For Deletion Only)			

(For proposed Class 2a sites only) Planned investigative activities & dates: ___

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

8/23/94

SITE INVESTIGATION INFORMATION

1. SITE NAME	2. SITE NUMBER	3. TOWN/CITY/VILLAGE	4. COUNTY
Carborundum Specialty Products	#932102	Wheatfield (T)	Niagara

5. REGION	6. CLASSIFICATION
9	CURRENT 2 PROPOSED 4 MODIFY

7. LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location)

a. Quadrangle Ransomville, NY

b. Site Latitude _43___° 07___' 07___" Site Longitude 78___° 56___' 24___"

c. Tax Map Numbers 132.00-1-16

d. Site Street Address 2050 Cory Rd. Town of Wheatfield

8. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

Trichlorethene (TCE) was used at the Carborundum facility from 1963 - 1983. During this period TCE was introduced into the overburden primarily from four areas surrounding the manufacturing site. The problem was discovered during a routine NYSDEC sampling of the groundwater from a production well, P-2. Presently TCE and its primary degradents Cis-1-2, Dichlorethene, and Vinyl Chloride are present in the shallow groundwater and overburden soils. In 1990 an RIFS was completed leading to a PRAP in 1991. A Record of Decision was signed by the Commissioner of NYSDEC in Aug. 1991. An Order on Consent was entered into by the Carborundum Company and NYSDEC on Dec. 23, 1991. The selected remedy includes a Groundwater Recovery System (GRS) and a Soil Remediation Groundwater Treatment System (SRGwTS).

a. Area __40___ acres b. EPA ID Number _____

c. Completed (x)Phase I (x)Phase II (x) PSA (x)RI/FS ( )PA/SI ( )Other

9. Hazardous Waste Disposed (Include EPA Hazardous Waste Numbers)

Trichlorethene, (RCRA F001 waste)

10. ANALYTICAL DATA AVAILABLE

a. (x)Air (x)Groundwater (x)Surface Water (x)Sediment (x)Soil ( )Waste ( )Leachate ( )EPTox ( )TCLP

b. Contravention of Standards or Guidance Values

Chemical :	Fed. (MCL's)
Trichlorethene	5 ppb
Cis-1-2, Dichlorethene	70 ppb
Vinyl Chloride	2 ppb

11. CONCLUSION

The RI/FS found subsurface soil and groundwater were impacted by the past handling practices of Trichlorethene at the Carborundum Specialty Products site, site #932102. A Groundwater Recovery System (GRS) has been constructed and has been operational since January 1993. A Soil Remediation Groundwater Treatment System (SRGwTS) has been operational since mid- June 1994. Groundwater elevation suppression has been accomplished and a reduction in soil vapor concentration has been indicated. A continued operational and monitoring program is in place at this site.

12. SITE IMPACT DATA

a. Nearest Surface Water: Distance __1200_____ft. Direction E Classification _C_____

b. Nearest Groundwater: Depth _11.5_____ft. Flow Direction NE/SW (x)Sole Source ( )Primary ( )Principal

c. Nearest Water Supply: Distance __1500____ft. Direction ___SW_____ Active (x)Yes ( )No

d. Nearest Building: Distance _on site_____ft. Direction _____N/A_____ Use _Manufacturing_____

e. In State Economic Development Zone?	( )Y	(x)N	i. Controlled Site Access?	(x)Y	( )N
f. Crops or livestock on site?	( )Y	(x)N	j. Exposed hazardous waste?	( )Y	(x)N
g. Documented fish or wildlife mortality?	( )Y	(x)N	k. HRS Score _____		
h. Impact on special status fish or wildlife resource?	( )Y	(x)N	l. For Class 2: Priority Category _____		

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE
BP America	200 Public Square 7-4606-B, Cleveland, OH 44114-2375	(216) 586-6526

16. PREPARER

Signature Date

Maurice F. Moore , L.C. Trt. Fac. Opr. NYSDEC

Name, Title, Organization

17. APPROVED

Signature Date

Charles N. Goddard, Asst. Director, DHWR

Name, Title, Organization

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Office of Public Health II University Place Albany, New York 12203-3399

Barbara A. DeBuono, M.D., M.P.H.
Commissioner

Karen Schimke
Executive Deputy Commissioner

Bob Tony

March 21, 1995

Mr. Earl Barcomb, P.E., Director
Bureau of Hazardous Site Control
NYS Dept. of Environmental Conservation
50 Wolf Road, Room 218
Albany, NY 12233

RE: **Site Investigation Information**
Carborundum Specialty Products
(T) Wheatfield, Niagara County
Site ID #932102

Dear Mr. Barcomb:

My staff reviewed the Site Investigation Information package for the Carborundum Specialty Products site in the Town of Wheatfield, Niagara County. Based on that review, I understand that groundwater pumping and soil remediation systems were installed at the site, but that the systems have not been fully implemented and have not yet controlled the groundwater plume that flows to the west and southwest of the site. Until groundwater is controlled, the seeps at the Redland Quarry will remain contaminated and workers at the quarry are potentially exposed to the contamination. While the limited operation of the systems are partially effective, there are insufficient data to demonstrate its full effectiveness.

With this information I can not concur with the reclassification of this site from Class 2 to Class 4 at this time. All remedial systems must be fully operational and their effectiveness documented before site reclassification be reconsidered.

If you have any questions, please contact me or Allison C. Wakeman at 458-6310.

Sincerely,

G. Anders Carlson

G. Anders Carlson, Ph.D.
Director
Bureau of Environmental Exposure
Investigation

sms/pdk/95076PRO0052

sms/pdk/95076PRO0052

cc: Dr. N. Kim
Mr. A. Wakeman
Dr. O. Smith-Blackwell/Mr. C. O'Connor/Mr. M. Forcucci
Mr. M. Doster/Mr. M. Moore - DEC Reg. 9
Mr. J. Devald - NCHD

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York 14203-2999

Langdon Marsh
Commissioner

M E M O R A N D U M

TO: Robert Marino - Site Control Section
FROM: Martin Doster - Region 9, Buffalo
SUBJECT: Carborundum Specialty Products Site #932102
Wheatfield (T), Niagara County

DATE: February 24, 1995

Attached please find a reclassification package for the above-noted site. Region 9 staff are recommending a change in classification from Class 2 to Class 4.

This recommendation is based upon completion of a Groundwater Recovery System and a Soil Remediation Groundwater Treatment System. Please refer to the attached package for details.

If there are any questions, please contact Mr. Maurice Moore at 716-851-7220.

ad

cc: Mr. Peter Buechi/Mr. Martin Doster/Mr. Maurice Moore
Mr. Matthew Forcucci, NYSDOH w/attach
Mr. Al Wakeman, NYSDOH w/attach

To: Martin Doster
From: Maurice Moore
Subject: Carborundum Specialty Products, Site #932102
Reclassification Package, Class 2 to Class 4

Date: February 22, 1995

Attached find a reclassification package for the Carborundum Specialty Products site.

Trichlorethene was used on this site from 1963 - 1983. During this period TCE was introduced into the overburden soils primarily from 4 areas which surround the manufacturing areas. Knowlege that a problem existed was discovered during a routine NYSDEC inspection of groundwater from production well P-2. The primary chemicals of concern are Trichlorethene and its primary degradation by-products, Cis-1-2, Dichlorethene, and Vinyl Chloride.

Preliminary site investigations occurred in 1984, 1986, and 1988-89. A Phase II field investigation was performed in 1989-90. Results from this investigation indicated that the chemicals of concern were above the New York State guidelines for class GA, groundwater standards, (see att. 1). A Record of Decision (ROD) was issued in August of 1991, to which the company entered into a Order on Consent on December 23, 1991, (see att. 2).

The development of a Remedial Design/Remedial Action Work Plan (RD/RA WP) was completed as directed. A Groundwater Recovery System (GRS) was installed and operational in January, 1993, (att. 3). This system was subsequently upgraded with the retrofitting of wells P-3 and P-4 and the addition of wells PW-1 and PW-2 completed in late 1993. In addition to the above groundwater recovery system, a Soil Remediation/Groundwater Treatment System (SRGwTS) was operational by July, 1994. Since that period the system has been in the operation, maintenance and monitoring phase of the remedy, (see att. 4).

RECOMMENDATION:

Because of the advancement of the remedy to this point, a recommendation to reclassify is being made. It should be noted that this site has been fully investigated as per NYSDEC regulations pertaining to hazardous waste site. Also of note is the sucessful start and operation of the remedy with substantiated reductions in the total mass of chemicals of concern.

It is recommended this site be reclassified from Class 2 to Class 4.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 4 REGION: 9 SITE CODE: #932102
EPA ID:

NAME OF SITE: Carborundum Specialty Products
STREET ADDRESS: 2050 Cory Rd.
TOWN/CITY: Wheatfield (T) COUNTY: Niagara ZIP: 14132

SITE TYPE: Open Dump-x Structure- Lagoon- Landfill- Treatment Pond-

ESTIMATED SIZE: 40 Acres

SITE OWNER/OPERATOR INFORMATION: British Petroleum America
CURRENT OWNER NAME....: B. P. America
CURRENT OWNER ADDRESS.: 200 Public Square 7-4606-B, Cleveland, OH 44114-2375
OWNER(S) DURING USE...: Carborundum Specialty Products
OPERATOR DURING USE...: Carborundum Co. Inc.
OPERATOR ADDRESS.....: 2050 Cory Rd. Sanborn, NY 14132

PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1963 To 1983

SITE DESCRIPTION:

Trichlorethene (TCE) was in use at the Carborundum Co. as a degreaser in the manufacture of specialty abrasive cloths from 1963 to 1983. During this period TCE was introduced into the overburden primarily in four areas surrounding the manufacturing site. The problem was discovered during a routine NYSDEC inspection of the groundwater in production well P-2. Presently TCE and its primary degradents, Cis -1-2 Dichlorethene, and Vinyl Chloride are present in the shallow groundwater. All preliminary investigations were completed as required by NYSDEC with the signing of an Order on Consent, Dec. 23, 1991. Construction of a Groundwater Recovery System (GRS) and a Soil Remediation Groundwater Treatment System (SRGwTS) has been completed. The system has been operational since July 1994 with noted reduction in the total mass of chemicals of concern.

HAZARDOUS WASTE DISPOSED: Confirmed - X Suspected -
TYPE: Liquid QUANTITY: approx. 11,000lbs.

Trichloethene (TCE),(RCRA, F001 waste)

SITE CODE: #932102

ANALYTICAL DATA AVAILABLE:

Air - x Surface Water - x Groundwater - x Soil - x Sediment - x

CONTRAVENTION OF STANDARDS:

Groundwater - x Drinking Water - Surface Water - Air -

LEGAL ACTION:

TYPE..: Consent Order x State - x Federal -
STATUS: Negotiations in Progress - Order Signed - x

REMEDIAL ACTION:

Proposed - Under design - In progress - x Completed -
NATURE OF ACTION:

The construction of a Groundwater Recovery and Treatment System with an Air Sparging/Soil Vapor Extraction System. A long term operation and monitoring plan is in place.

GEOTECHNICAL INFORMATION:

SOIL TYPE:

Unconsolidated lake sediments and glacial till, underlain with Lockport Dolomite.

GROUNDWATER DEPTH: 7-20 ft.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Degradation of surrounding groundwater resources. Soil contamination is defined as being on-site. Operation and maintenance of Soil Vapor Extraction is expected to remove the contamination from the soil and eliminating the soil as a contributor to groundwater contamination. Operation and maintenance of the Groundwater Treatment System will provide for longterm remediation of the affected groundwater.

ASSESSMENT OF HEALTH PROBLEMS:

Groundwater in the immediate vicinity of the site where chlorinated hydrocarbons have been found would pose a health risk if it were to be used for domestic supply purposes such as drinking, showering or bathing over an extended period. However, groundwater in the effect area is not presently used for domestic purposes, as there are no homes with residential wells or basements in the effected area. Consequently, the estimated risks associated with groundwater usage are not applicable to any resident around the site.

ATTACHMENT (1)

I. SITE LOCATION AND DESCRIPTION

The Carborundum facility is located in a rural area in the Town of Wheatfield, Niagara County, New York [please refer to Figure 1]. The facility property is approximately 40 acres in size and lies to the north of the New York Central railroad easement. The majority of land immediately adjacent to the facility is used for agricultural purposes. Department of Defense (DoD) military housing borders the facility along its western side [please refer to Figure 2]. Numerous other private residences are within a 0.75-mile radius of the facility. In addition, the Niagara Falls Air Force Base is located about 0.5 mile south of the facility.

Surface topography in the facility area generally slopes southward at a rate of about 5 feet per mile toward the Niagara River. Surface water from the active areas of the facility discharges into the plant's sewer system which discharges to the Niagara County Sewer District 1 Sewage Treatment Plant (NCSD). Cayuga Creek is located about 0.25 mile east of the facility and flows southward for about 4.5 miles until it discharges into the Niagara River in the City of Niagara Falls. Prior to this investigation, the SPDES (State Pollutant Discharge Elimination System) outfall, which is presently inactive, carried surface runoff and non-contact cooling waters from the facility into Cayuga Creek.

Site geology consists of 7 to 20 feet of unconsolidated glacial lake sediments and till which is underlaid by the Lockport Dolomite. Shallow horizontal and vertical fractures in the weathered uppermost section of the Lockport Dolomite comprise the primary aquifer beneath the facility. This weathered zone ranges in thickness from about 10 to 20 feet and appears to be the predominant route for migration within and off the site.

II. SITE HISTORY AND PREVIOUS INVESTIGATIONS

Operations at the Carborundum facility commenced in 1963. Trichloroethene (TCE), the principal chlorinated organic found in the groundwater, was used from 1963 to 1983 as a degreasing solvent in the manufacture of carbon and graphite cloth. Other chlorinated organics used during this period included 1,1,1-trichloroethane (TCA) and carbon tetrachloride. TCA was used on a trial basis as a degreasing solvent in the cloth manufacturing process and as a source of chlorine in the purification of graphite. Carbon tetrachloride was used also as a source of chlorine in the purification process and is no longer in use. TCA is still used as a purifying agent. Methylene chloride (MC) is currently used (beginning in June 1988) as a solvent in the filter manufacturing process.

Concern that chlorinated organics in the overburden and groundwater might pose a problem at the Carborundum facility was first raised in 1983 when TCE was found in the facility's SPDES outfall from samples collected during a NYSDEC inspection and in groundwater samples collected from production well P-2. In coordination with NYSDEC's Division of Water, an initial phase of investigation was

conducted, involving soil borings, well installation, groundwater sampling, a soil gas survey, private well and sump sampling, and seismic and resistivity geophysical surveys, were implemented since TCE was first found in the SPDES outfall. Groundwater samples were first collected in August 1984 during the first field investigation. Since March 1985, groundwater samples have been collected on a quarterly basis. The chlorinated organics that have been found include TCE, TCA, MC, trans-1,2-dichloroethene (trans-1,2-DCE), cis-1,2-dichloroethene (cis-1-2-DCE), 1,1-dichloroethane (1,1-DCA), vinyl chloride (VC), carbon tetrachloride, chloroform, 1,1-dichloroethene (1,1-DCE), and tetrachloroethene (PCE).

There are two areas of very high levels of chlorinated organics on the Carborundum plant: along the southwest corner of the manufacturing building, and in the grassy area northeast of the manufacturing building. Other source areas include the courtyard within the manufacturing building and the area south and southeast of the manufacturing building. Past chemical handling practices at the Carborundum facility, which were commonplace in industry during that period, suggest these areas are likely source locations of chlorinated organics which have been documented by soil gas and soil sampling studies. Figure 9 schematically outlines all the suspected source areas identified on the Carborundum plant to date [please refer to Exhibit A for additional information describing source areas].

Six monitoring wells (B-3M through B-8M) were drilled and installed at the facility during the first phase of work in 1984 [please refer to Figure 2]. Each well was installed into approximately the top 5 feet of the weathered section of the Lockport Dolomite. The highest TCE concentration encountered during the first phase of work was 98,000 parts per billion (ppb) from groundwater in well B-8M. Other confirmed high concentrations encountered included total 1,2-DCE (110,000 ppb) and VC (1,300 ppb) from well B-3M; total-1,2-DCE (14,000 ppb) from well B-8. During this same period, groundwater data from the other wells yielded comparatively low concentrations of chlorinated organics.

The second phase of work began in March 1986 and continued through 1987. The tasks that yielded significant information during the second phase of work were a soil gas survey, the installation of six additional monitoring wells, a seismic refraction survey, residential well sampling, nearby quarry seep sampling, and the completion of a 24-hour pumping test.

The soil gas survey demonstrated four areas of high concentrations (ranging from 10 to 3,500 micrograms per liter [ug/L]) of TCE in shallow soil gas in areas around the manufacturing building. In addition, data from groundwater monitoring resulted in a second phase of monitoring well installation which included six additional shallow bedrock monitoring wells (B-9M through B-14M) installed on the site during November and December 1986.

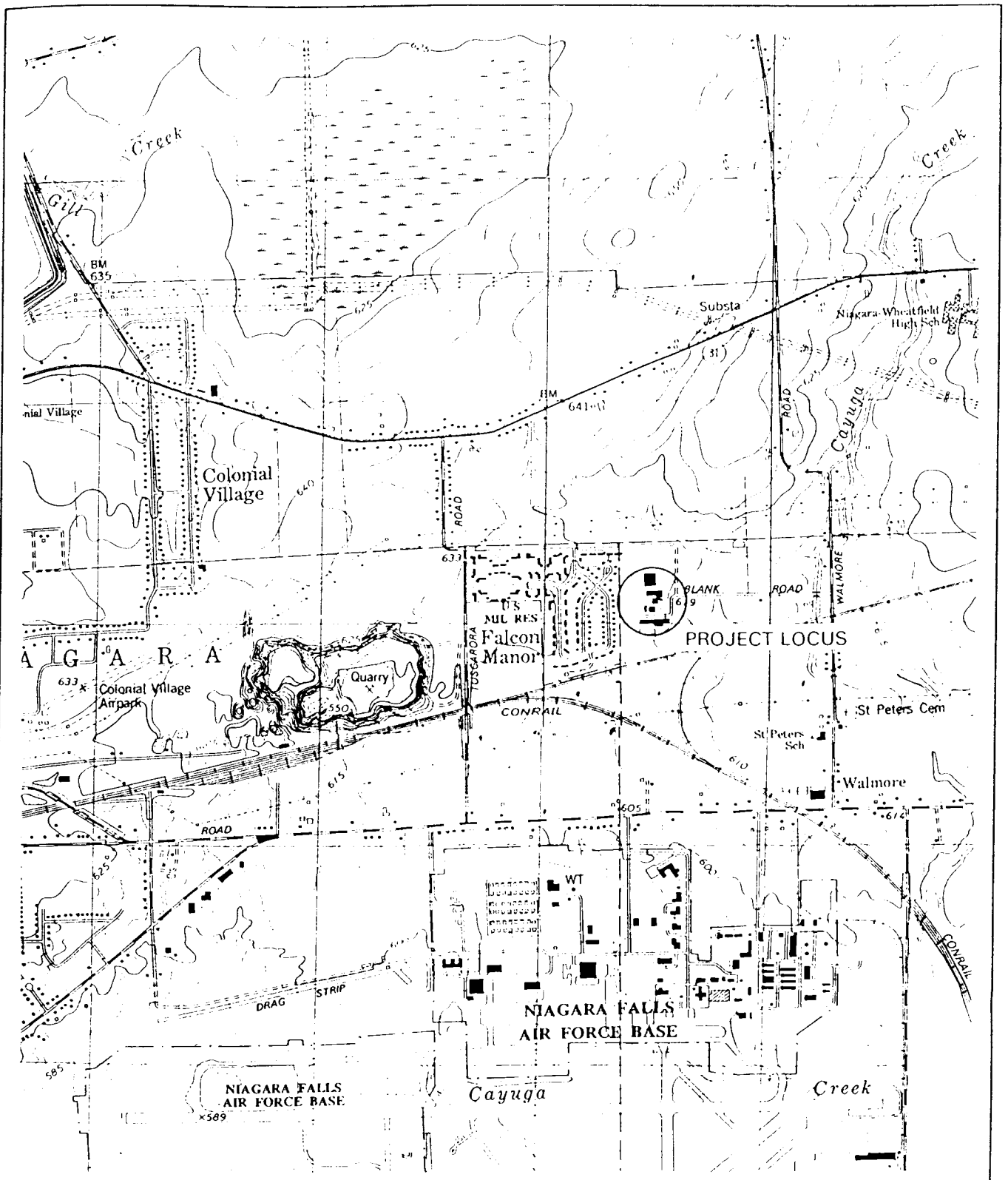
A 24-hour pumping test, which utilized production well No. 2 (P-2) as the pumping well, was also completed in December 1986. The

pumping test indicated that groundwater over much of the site could be captured and treated by pumping production well No. 2 (P-2) [please refer to Figure 7]. However, it was also noted that an additional pumping well would be necessary to capture the groundwater plume at the western edge of the site, at and around well B-3M. Groundwater concentrations of VC, total-1,2-DCE, and TCE measured in the parts per million (ppm) range in well B-3M.

Groundwater from 22 private residential wells was sampled by the Niagara County Department of Health in 1985 and 1988. One well, which was 5,000 feet upgradient of the facility, contained a low level of TCE (4.6 ppb). Since the well was so far upgradient, its contamination is not considered to be attributable to the facility. Two other wells yielded low concentrations of chloroform (2.0 to 11 ppb) and one well showed MC (5.1 ppb). None of these chlorinated organics were derived from the Carborundum facility. This conclusion is supported by the fact that two of the locations are upgradient and none of the wells contained the expected chemicals of the downgradient chlorinated organics plume, 1,2-DCE and VC. No other well sampled contained chlorinated organics.

The third phase of work, which was completed in 1988 and 1989, was designed to further define the extent of chlorinated organics in the groundwater and to investigate potential aspects of the site that would affect remedial design. Tasks performed in the third phase of the study included the installation of 10 shallow bedrock monitoring wells and three deep bedrock monitoring wells; the performance of residential well and sump sampling within a 0.75-mile radius of the site; the installation and testing of a secondary recovery well at the western boundary of the site adjacent to B-3M; sediment and surface water sampling in the inactive SPDES outfall in Cayuga Creek; the sampling for the potential presence of Dense Non-Aqueous Phase Liquids (DNAPL) in the two monitoring wells (B-8M and B-17M) with the highest levels of chlorinated organics; an investigation of the sewer trench on Cory Road and the conceptual development of an Interim Remedial Measure (IRM) for septic tank closure on the plant site.

In February 1989, the company entered into an Order on Consent to combine all the studies and conduct further work under the auspices of Article 27 of the New York State Environmental Conservation Law (ECL), i.e. State Superfund. The Phase II Remedial Investigation (RI), completed in the last quarter of 1989 and the first half of 1990 constituted the fourth phase of field investigation, and included the installation of four additional shallow bedrock monitoring wells to the southwest and east of the facility; the performance of a soil gas survey at the DoD housing facility to the west of facility boundary; the completion of shallow subsurface soil sampling in the SPDES outfall; the completion of an IRM for septic tank closure; and the preparation of a vacuum extraction treatability study in a source area.



QUADRANGLE LOCATION

USGS QUADRANGLES: RANSOMVILLE & TONAWANDA WEST, NEW YORK

HALEY & ALDRICH INC.

Geotechnical Engineers & Environmental Consultants

BP OIL COMPANY
CARBORUNDUM FACILITY
WHEATFIELD, NEW YORK

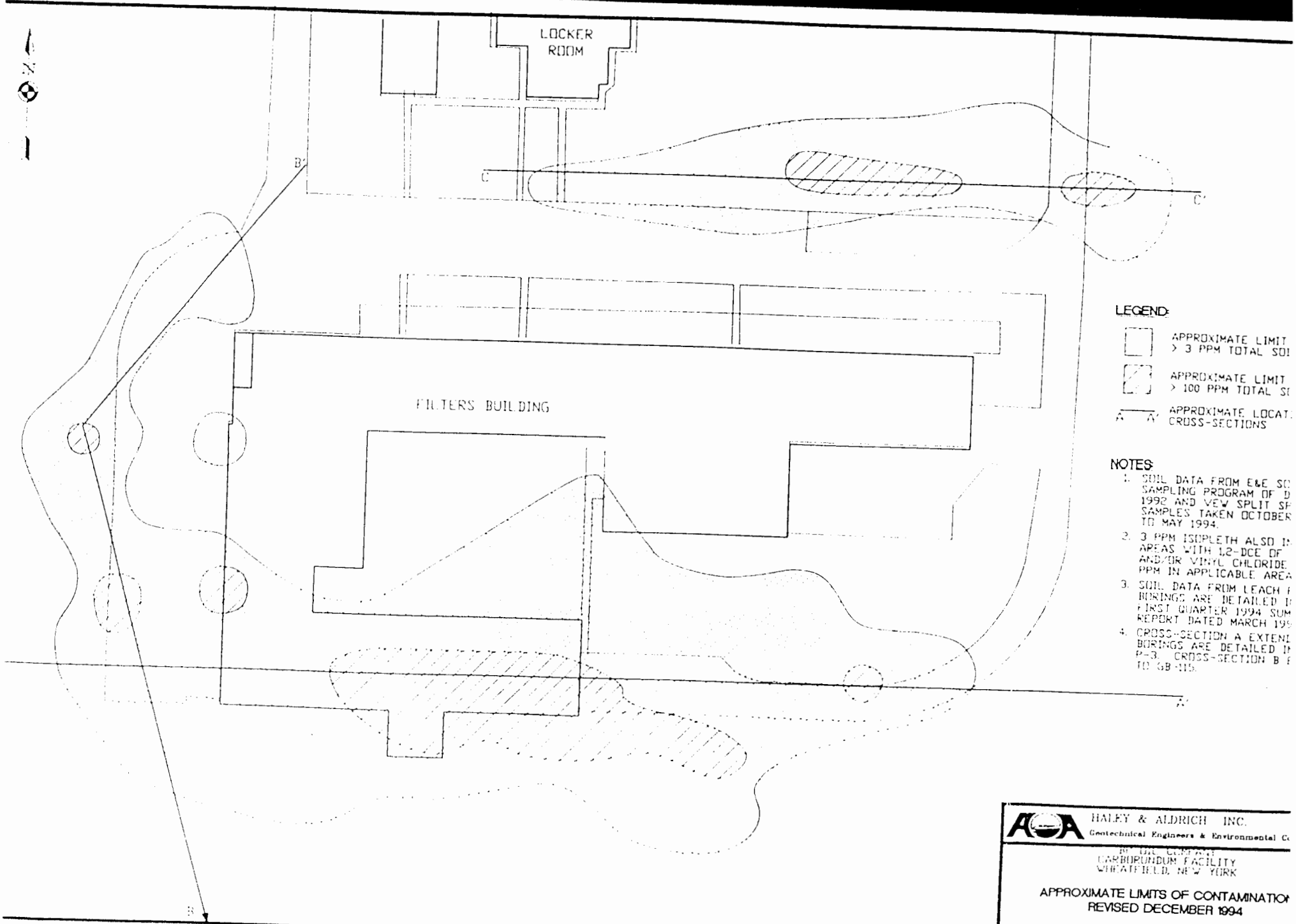
PROJECT LOCUS

SCALE: 1 IN. = 2000 FT.

MARCH 1994

MAKEPEACE

FIGURE 1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HALEY & ALDRICH INC.
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CARBORUNDUM FACILITY
WHEATFIELD, NEW YORK
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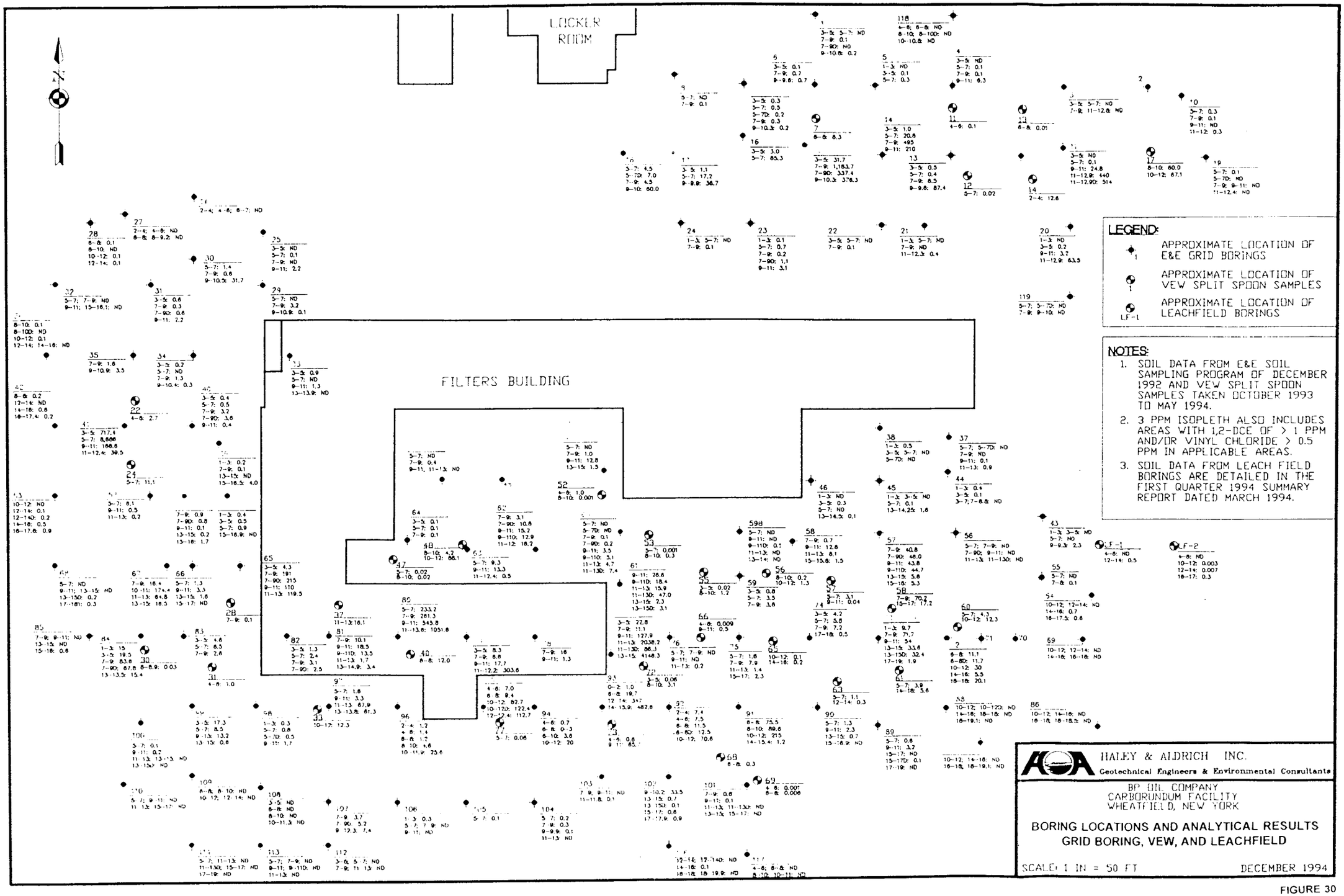
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APPROXIMATE LOCATION OF E&E GRID BORINGS
APPROXIMATE LOCATION OF VEW SPLIT SPOON SAMPLES
APPROXIMATE LOCATION OF LEACHFIELD BORINGS
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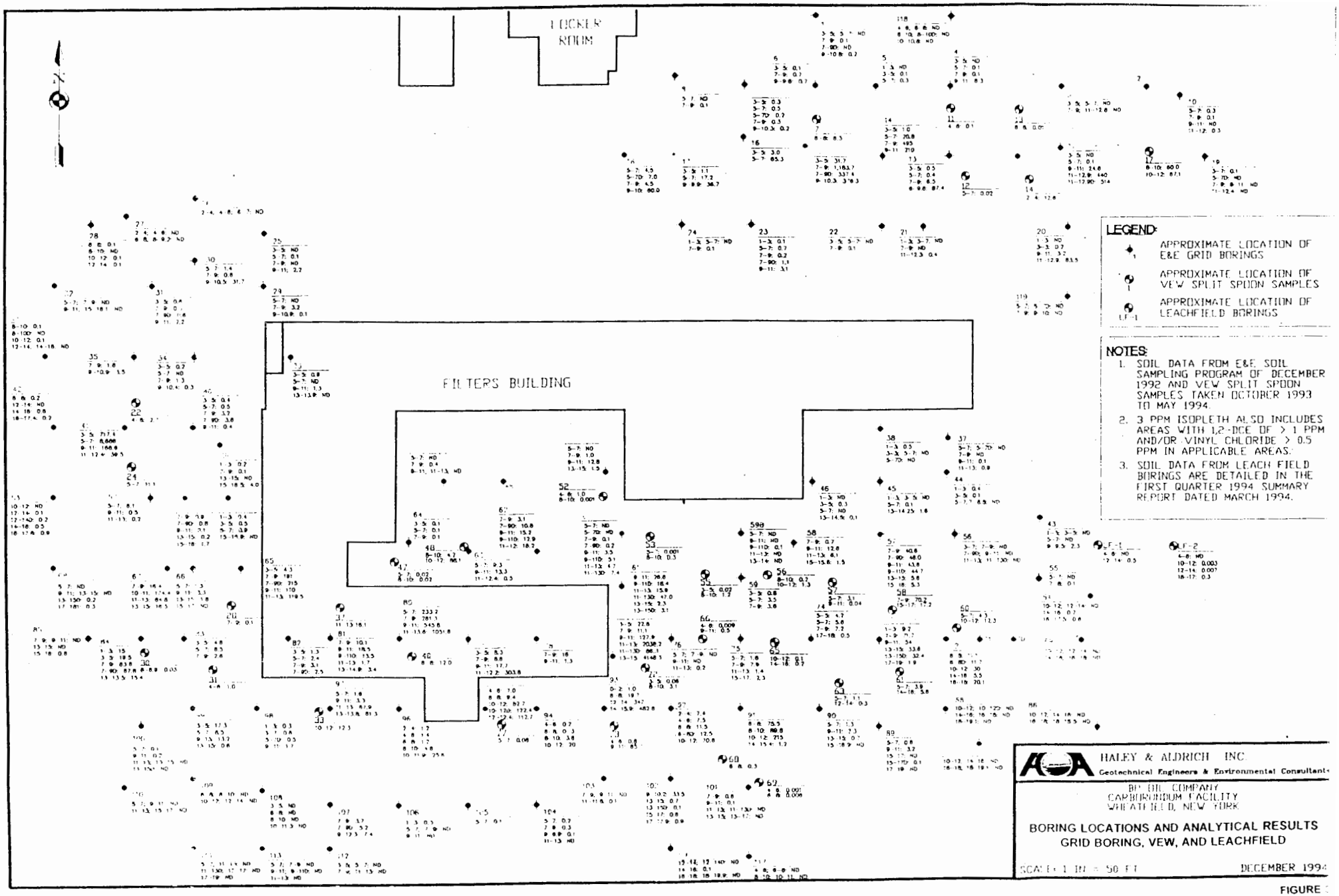
2. 3 PPM ISOPLETH ALSO INCLUDES AREAS WITH 1,2-DCE OF > 1 PPM AND/OR VINYL CHLORIDE > 0.5 PPM IN APPLICABLE AREAS.
3. SOIL DATA FROM LEACH FIELD BORINGS ARE DETAILED IN THE FIRST QUARTER 1994 SUMMARY REPORT DATED MARCH 1994.
HALEY & ALDRICH INC.
Geotechnical Engineers & Environmental Consultants
BP OIL COMPANY
CARBORUNDUM FACILITY
WHEATFIELD, NEW YORK
BORING LOCATIONS AND ANALYTICAL RESULTS
GRID BORING, VEW, AND LEACHFIELD
SCALE: 1 IN = 50 FT
DECEMBER 1994

FIGURE 30


LOCKER ROOM
FILTERS BUILDING
LEGEND:
APPROXIMATE LOCATION OF E&E GRID BORINGS
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HALEY & ALDRICH INC
Geotechnical Engineers & Environmental Consultants
BP OIL COMPANY
CARBORUNDUM FACILITY
WHEATFIELD, NEW YORK
BORING LOCATIONS AND ANALYTICAL RESULTS
GRID BORING, VEW, AND LEACHFIELD
SCALE: 1 IN = 50 FT
DECEMBER 1994

FIGURE

ATTACHMENT (2)

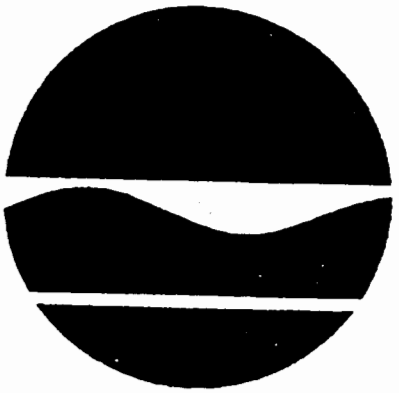
Carborundum Company

Site No. 9-32-102

Record of Decision

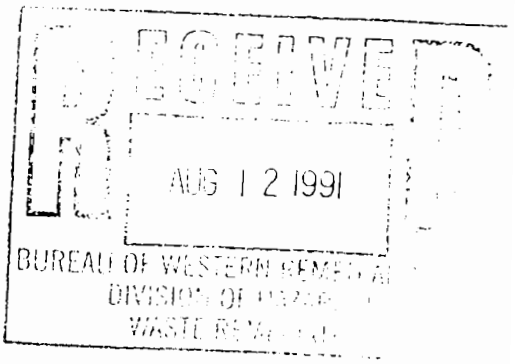
Prepared by:

New York State
Department of Environmental Conservation



August 1991

DECLARATION STATEMENT - RECORD OF DECISION



Site Name and Location:

Carborundum Company
Town of Wheatfield, Niagara County, New York
Site Registry No. 932102
Classification Code: 2

Statement of Purpose:

This Record of Decision (ROD) sets forth the selected remedial action plan for the Carborundum Company Site. This remedial action plan was developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the New York State Environmental Conservation Law (ECL). The selected remedial plan complies to the maximum extent practicable with Applicable or Relevant and Appropriate Requirements (ARARs) of Federal and State environmental statutes and would be protective of human health and the environment.

State of Basis:

This decision is based upon the Administrative Record for the Carborundum Company Site and upon public input to the Proposed Remedial Action Plan (PRAP). A copy of the Administrative Record is available at the New York State Department of Environmental Conservation, 600 Delaware Avenue, Buffalo, New York and copies of the Feasibility Study Report and PRAP are available at the Niagara County Community College, 3111 Saunders Settlement Road, Sanborn, New York. A bibliography of those documents included as part of the Administrative Record is contained in the ROD. A Responsiveness Summary that documents the public's expressed concerns has been included.

Description of the Selected Remedy:

Soil will be remediated to achieve a clean-up goal of 3 parts per million trichloroethylene using in-situ vapor extraction. Results from a pilot study are expected shortly which initially indicates the technology will achieve the clean-up goals. Other soil treatment techniques (i.e. thermal/desorption) may be used if the study, or the actual implementation of vapor extraction, does not achieve the remedial goals.

Groundwater will be extracted and initially discharged to the local municipal wastewater treatment facility. After six months of groundwater remediation, the data on contaminant concentrations and optimum pump rates will be evaluated and the feasibility of installing permanent on-site treatment and subsequent discharge to Cayuga Creek will be explored. Long-term monitoring of groundwater and surface water is required.

Soil gas surveys will be required twice per year at the adjacent military housing facility to ensure protection of human health.

Declaration:

The selected remedial action will meet State Standards, Criteria and Guidelines (SCGs) and Federal ARARs by: 1). removing the volatile organic contaminants from the soil on-site (source control) and 2). extracting groundwater to prevent further migration of contaminants and to enhance groundwater quality in an effort to meet NYS groundwater quality standards. The remedy will satisfy, to the maximum extent practicable, the statutory preference for remedies that employ treatment that reduces toxicity, mobility or volume as a principle element.

The proximity of the Department of Navy's Housing Facility has resulted in a number of Navy concerns regarding potential health risks to its residents. Primarily, the Navy is demanding a role in the review of Remedial Design Work Plans. The responsiveness summary contains the Department's responses to the Navy's concerns. In general, the Responsible Party has agreed to keep the Navy informed of all planned work that could affect the housing facility, such as soil gas surveys, air emissions, etc. The Navy's concerns as well as the community's concerns will be addressed in the Remedial Design, and the remedial action plan will be implemented as proposed.

The selected remedial action has been used successfully at other hazardous waste sites, however, it is recognized that groundwater may never achieve NYS groundwater standards. To ensure the remedy provides adequate protection of human health and the environment, a review of the effectiveness of the remedy will be conducted at a minimum of every five years.

3-21-91
Date

Edward O. Sullivan
Deputy Commissioner

ATTACHMENT (3)

SOIL REMEDIATION
GROUNDWATER TREATMENT PROJECT
OPERATION AND MAINTENANCE MANUAL

Prepared For:

BP OIL COMPANY
SITE
SANBORN, NEW YORK

Prepared By:

McLaren/Hart Environmental Engineering Corporation
Penn Center West
Building 3, Suite 106
Pittsburgh, Pennsylvania 15276

APRIL 22, 1994

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OPERATION AND MAINTENANCE PLAN

Version Summary Table

Section	Description	Prepared By	Version	Date of Issue
1.0	Introduction	McLaren/Hart	0.2	4/22/94
2.0	Remedial System Design	McLaren/Hart	0.2	4/22/94
3.0	Groundwater Remediation System Operation & Maintenance	Haley & Aldrich	0.2	To be submitted
4.0	Soil Remediation System Operation	McLaren/Hart	0.2	4/22/94
5.0	Soil Remediation System Maintenance	McLaren/Hart	0.2	4/22/94
6.0	Monitoring Requirements	McLaren/Hart	0.2	4/22/94
7.0	SPDES Outfall Modification and Permit Information	Haley & Aldrich	0.2	To be submitted
8.0	Record Keeping & Data Management	McLaren/Hart	0.2	4/22/94
9.0	Personnel	McLaren/Hart	0.2	4/22/94
10.0	Notifications	McLaren/Hart	0.2	4/22/94
11.0	Safety	McLaren/Hart	0.2	4/22/94

ATTACHMENT (4)

II. GROUNDWATER RECOVERY SYSTEM

To address groundwater quality issues at the Carborundum Facility, a Groundwater Recovery System (GRS) (Figure 2) was initiated in January 1993. The goals of the GRS, in descending importance, are:

- To provide on-site migration control to limit further impacts of groundwater contaminations to off-site areas.
- To capture the dissolved phase contaminant plume beneath the Department of Defense (DOD) housing complex.
- To extract dissolved phase contaminant mass to reduce on-site concentrations of volatile organic compounds.
- To de-water overburden soils during periods of high water level to enhance soil vapor extraction remediation of contaminated on-site soils.

The following sections summarize GRS upgrades and new construction, operations and maintenance, performance, and planned future activities.

2-01. System Upgrades and New Construction

The original GRS, consisting of pumping wells P-2, P-3, and P-4 with single pumps, prior to the 1994 Annual period was found to lack sufficient capacity and control to meet the GRS goals identified above. Low site water levels and in-effective pumps/controls limited the operations and pumping range of wells P-3 and P-4 during much of the year. To address the operational problems, a GRS upgrade was implemented in late 1993. The upgrade is detailed in reports "Groundwater Recovery System Conceptual Design and Design Modifications" (H&A October 1993), "First Quarter 1994 Summary Report" (H&A, March 1994), and "Construction Closeout Report - GRS Upgrade" (H&A, April 1994). The upgrade consisted of installing dual pumps and pump controls in wells P-3 and P-4 to accommodate seasonally high and low water levels experienced at the site (Table I). The dual pumps allow continuous pumping at flow rates matching the well recharge rates during the different water level periods. Well P-2 operations have not been adversely impacted by site water level fluctuations and was not included in the upgrade.

In addition to the GRS upgrade, two new wells (PW-1 and PW-2) were installed in late 1993, to enhance migration control and dissolved phase mass removal, and to provide overburden dewatering for soil remediation efforts. The details of the well installations are included in "Groundwater Recovery System Conceptual Design and Design Modifications" (H&A October 1993), "First Quarter 1994 Summary Report" (H&A, March 1994), and "Soil Remediation/Groundwater Treatment Project Construction Closeout Report" (M/H, October 1994). The new wells also employ a dual pump setup to accommodate seasonal water level fluctuations and their impact on well yields (Table I).

As part of the soil remediation program, a Groundwater Treatment System (GwTS) was constructed. The system was designed to treat groundwater extracted from the GRS for volatile organic compounds (VOC's) for discharge to a permitted SPDES outfall. The GwTS and SPDES outfall accommodate higher effluent flows than the POTW. Details of the system design and construction can be found in "Soil Remediation/Groundwater Treatment System Work Plan" (M/H October 1993), "First Quarter 1994 Summary Report" (H&A, March 1994), "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994), "Quarterly Summary Report - 3rd Quarter 1994" (H&A September 1994), and "Soil Remediation/Groundwater Treatment Project Construction Closeout Report" (M/H, October 1994). The system was completed and has been operational since mid-June 1994. However, due to difficulties with the SPDES permit, treated groundwater continues to be discharged to the POTW. A summary of treatment system operation, maintenance, and performance are summarized in Section 3.

Between February and May 1994, the SPDES discharge was upgraded to accommodate the treated groundwater and runoff. The upgrade was designed to accommodate average GRS flows of 225 gpm with a 600 gpm maximum total discharge. Flow will be monitored by an ISCO ultrasonic flow meter complete with totalizer, digital readout and chart recorder. Automatic flow-weighted sampling of the SPDES discharge will be performed in accordance with the final SPDES Discharge Permit pending agreement between BP and the NYSDEC on discharge limits (ie. zinc, etc.). The design of the SPDES system outfall was developed based on factors including existing site drainage, the drainage configuration proposed in M/H's SRGwTP, estimates of the discharge to be handled by the system, the limit of site contamination, areas reported to be susceptible to seasonal flooding (Mesch, 1993), and site-specific SPDES discharge permit information. The upgrade construction was completed in April 1994. Details of the conceptual design and construction are included in "First Quarter 1994 Summary Report" (H&A, March 1994), "SPDES Outfall Modification Engineering Report" (H&A, April 1994), "Quarterly Summary Report - 2nd Quarter 1994" (H&A, June 1994), "SPDES Outfall System Construction Closeout Report" (H&A, July 1994). Due to delays in SPDES permitting (see Section 5), discharges did not begin in the 1994 Annual Period.

2-02. System Operation and Maintenance

H&A assumed responsibility for O&M on GRS extraction wells P-2, P-3, and P-4 on 15 October 1993. M/H, under contract to BP, is responsible for the O&M of extraction wells PW-1 and PW-2. The goal of the O&M program for the GRS for the 1994 Annual period was to keep GRS pumping at rates to achieve the GRS goals identified above, while maintaining system operations within operational and permitted levels. O&M activities included weekly system inspections, routine maintenance, minor equipment repairs, adjustment of pumping controls, as well as significant equipment/system repairs. Recent significant O&M activities are identified below.

GRS O&M Activities

- PW-2 was manually disabled by M/H due to low water levels during the period of 30 June to 15 December 1994. PW-2 was restarted on 2 January 1994 to extract groundwater during seasonally rising water levels. During the down-time period, the totalizing flow meter was sent to the manufacturer for repairs.

- Upgrade of the restart switch for P-2 began on 8 December 1994, to allow automatic restart of pumps after brief GwTS downtimes. The automatic restart will allow an 8 hour pumping interruption prior to alarm condition. The switch upgrade is scheduled to be completed in

the beginning of the 1995 period. Minimal downtime was associated with this upgrade.

- Repair of the level transmitters for P-4 were completed on 27 September 1994. Repairs were necessary due to lightening damage which occurred on 26 July 1994. During the repair period P-4 was operated manually while H&A personnel were on site, to avoid damage to the pumps.

- The repaired site substation transformer was powered up on 10/29/94. The system was down for approximately 8 hours total.

Past GRS O&M activities are summarized in "First Quarter 1994 Summary Report" (H&A, March 1994), "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994), and "Quarterly Summary Report - 3rd Quarter 1994" (H&A September 1994).

Table II summarizes GRS performance and system uptime. As a result of limited well and system down times and routine maintenance, the combined average system uptime, based on operational hours versus total hours was approximately 85% (Note PW-2 was not used in this estimate from July to December 1994, due to manual disabling). The individual well performance for the 1994 Annual Period, from highest to lowest, is P-3 95%, PW-1 89%, P-2 86%, P-4 78%, and PW-2 32%. Well PW-2 was manually disabled for approximately 5 months of the 12 month period due to low water levels and well yields (less than 1 gpm during low water level periods) and the low uptime rating is misleading. System performance, as summarized below, can be maximized in the 1995 Annual Period by maximizing treatment system and well uptime. Proactive O&M of the GRS will continue through the 1995 Annual Period to continue optimal GRS performance.

2-03. System Performance

Performance of the GRS is gauged by the ability of the system to meet the four goals identified in the beginning of this section. The performance of the system in meeting each of the four goals, as well as recommendations to increase future performance are identified below.

2.3.1. Migration Control

The primary goal of the GRS is to provide on-site migration control to limit further impacts of groundwater contamination to off-site areas. Figures 3 through 15 present the interpreted groundwater potentiometric surface from monthly water levels. Based on the interpreted groundwater capture zones and low site water levels, migration control was maintained throughout the 1994 Annual Period. Although the groundwater capture zone changed size during the period, water level data indicate water from the contaminated source areas was contained within the GRS capture zone. The addition of the two source control wells PW-1 and PW-2, plus the additional pumping capacity of P-3 and P-4 aided the GRS in meeting this goal. Continued operations at current levels should allow the GRS to continue to meet this goal during the 1995 period.

2.3.2. Capture Zone Development

The second goal of the GRS is to capture the dissolved phase contaminant plume beneath the Department of Defense (DOD) housing complex. Figures 3 through 15 indicate the interpreted groundwater potentiometric surface and capture zone based on monthly water level measurements. The approximate extent of capture defines the zone in which groundwater will flow to the pumping wells.

As the figures indicate, the capture zone has increased significantly during the 1994 Annual Period, due to increased groundwater extraction by the GRS. A decrease in the capture zone occurred during April and May 1994 was associated with the limitation of GRS pumping rates by the POTW capacity. A blockage of the POTW measuring flume resulted in erroneously high POTW flows, limiting discharge capacity. Based on the water level information, interpreted groundwater potentiometric surface, and the interpreted capture zone at the end of the reporting period, the GRS has captured on-site groundwater contamination and capture appears to extend as far to the east-southeast as monitoring well B-31M. However, capture of the groundwater plume beneath the entire DOD housing has not been attained to date.

Although pumping rates at P-3 and P-4 (wells closest to the western property boundary) have been maximized to the extent possible, capture has not extended beyond the extraction wells to the west and southwest. The reduction in permeability west and southwest of the site identified during the remedial investigation phase of the project apparently limit the development of a capture zone to the west and southwest of wells P-3 and P-4.

Effect of the GRS pumping are indicated in water levels and water quality from wells on the DoD property. Water levels in monitoring wells B-21M and B-22M have dropped over 3 feet on average from pre-pumping levels. Groundwater quality in B-22M, the only well on the DoD property that has detectable contamination, has trended lower than historic levels, although changes are unable to be quantified. Natural attenuation processes including degradation and dilution require relatively long time periods to observe quantitative trends. Both groundwater level and water quality changes on the DoD property can be attributed to the migration control maintained on site by the GRS. Conditions in the DoD area, as well as all areas beyond the capture zone, will continue to be monitored to evaluate GRS effectiveness and decreases of contaminant concentration with time. Groundwater levels and water quality in the monitoring wells to the west-southwest appears to have indicated similar trends to that observed on the DoD property.

GRS operating conditions in 1994 were limited by the 480 gpm discharge limit of the POTW. When SPDES discharge becomes operational, discharges up to 600 gpm will likely be attainable and will enable the GRS to operate at full capacity during high water level periods. Although the capture zone is not currently extending significantly past the property boundary to the west, capture zone development may continue with anticipated GRS operations at full capacity through the 1995 Annual Period. Conditions will continue to be monitored in 1995.

2.3.3. Groundwater Extraction and Mass Recovery

The third goal of the GRS is to extract dissolved phase contaminant mass to reduce on-site

concentrations of volatile organic compounds. Figure 16 and Table II summarize the extraction performance of the GRS. The data indicate over 100 million gallons of groundwater were extracted by the GRS, yielding approximately 480 pounds of contaminant extracted for the 1994 Annual Period. The average total GRS pumping rate for the 1994 Annual Period was approximately 200 gpm. Source control wells P-2, PW-1, and PW-2 yielded the highest ratio of mass extracted per gallon pumped. Boundary capture wells P-3 and P-4 yielded reduced mass per gallon extracted and was influenced by lower contaminant concentrations in the vicinity of the wells. Recent trends in on site and near site wells, as shown on the time series plots of Appendix A, indicate the mass removal may be reducing dissolved phase contaminant mass. Continued GRS operations at near full capacity, in conjunction with soil remediation through the 1995 Annual period will continue remediate source area groundwater.

2.3.4. Overburden Dewatering

The last goal of the GRS is to de-water overburden soils during periods of high water level to enhance soil vapor extraction remediation of contaminated on-site soils. Water levels in on site wells in relation to the top of rock are depicted in the time series plots of Appendix A and cross-sections shown in Figures 17, 18, and 19. These figures indicate water level in the bedrock was maintained below the top of rock since June 1994, which corresponds to the start of SRGwTS operations. Continued GRS operations at current levels through the 1995 Annual Period should maintain water levels below the top of rock.

2-04. Recommendations and Planned Future GRS Activities

Based on the overall performance of the GRS and the positive results in relation to the four goals of the program, no significant changes in system will be undertaken in the 1995 period. A minor increase in GRS capacity will be available once discharge is switched to the SPDES outfall. This would allow increased extraction rates and a corresponding increase in remedial effectiveness (ie. capture zone, mass extraction, and bedrock groundwater control with respect to source area remediation).

Future activities relative to the Carborundum Facility GRS include the following:

- Continue to operate and maintain the GRS, including any adjustments to the system required to maintain desired water levels.
- Monitor water levels on a monthly basis.
- Obtain groundwater quality samples from the extraction and monitoring wells as detailed in Table III.
- Continue to evaluate the effectiveness of the level-controlled system throughout the next reporting period.
- Start-up of the SPDES discharge is scheduled to begin in April, with the finalization of the SPDES permit. The treated groundwater will be re-routed from the POTW to SPDES outfall. See Section 5-02. for details.

III. SOIL REMEDIATION PROGRAM

The Soil Remediation Program (SRP) was initiated in mid-1993 to address soil contamination, which is contributing to groundwater contamination. The goal of the program is to remove volatile organic contaminants from the site soils to clean-up levels (3ppm TCE, 1ppm DCE, and 0.5ppm VC) or to the limit of the remedial technology. The program will provide source control to minimize potential future impact on groundwater quality. The following sections summarize the implementation of the program including system construction, operation, maintenance, performance, and planned future activities.

3-01. System Construction

Under a design-build-operate contract with BP, M/H designed a Soil Remediation/Groundwater Treatment System (SRGwTS) to remediate site soils as well as treat groundwater extracted by the GRS for discharge to the SPDES outfall. The SRGwTS design was developed based upon the extent of contamination determined from the Grid Boring Program described in the "RD/RA Work Plan Addendum", H&A December 1993, and a VES pilot test performed at the site. The detailed design and work plan is presented in "Soil Remediation Program/Groundwater Treatment System Work Plan" (M/H, October 1993) and "Soil Remediation Program/Groundwater Treatment Project Design Drawings" (M/H, August 1993).

Construction of the SRGwTS by M/H and selected subcontractors began in October 1993 and was substantially completed by the end of June 1994. Construction activities included the following:

- Installation of two pumping wells (PW-1 and PW-2) for source control and overburden dewatering;
- Construction of a 4,800 ft^2 treatment building to house vapor extraction, vapor treatment, and groundwater treatment equipment;
- Installation of 80 Vacuum Extraction Wells (VEW's), 162 Air Injection Wells (AIW's), and 155 Pneumatic Piezometers (PZ's);
- Grubbing and grading of the ground surface for placement of impermeable cap and control of site drainage;
- Construction of an approximately 90,000 ft^2 impermeable Bentomat geocomposite cap and protective stone cover;
- Placement of approximately 400 yd^3 potentially contaminated soils in a cell constructed for ex-situ vapor extraction treatment;
- Installation of vapor extraction and air injection piping, including piping below grade in the Filters Building and western loading dock area;
- Installation of heat tracing and insulation on most of the above ground piping;
- Installation of electrical power, control, and associated equipment;
- Switch-over of the GRS to the Groundwater Treatment System;
- Replacement of property fencing;
- Start-up and testing of equipment and systems.

The "Soil Remediation/Groundwater Treatment Project Construction Closeout Report" (M/H, October 1994) details as-built construction of the SRGwTP including field modifications, design changes, as-built locations, and testing results. The "Quality Assurance Team Report - Soil Remediation/Groundwater Treatment Program" (H&A, October 1994) summarizes the Independent Quality Assurance Team's observations, monitoring, documentation, and activities for the construction, as well as identifies discrepancies and errors in M/H's construction closeout report.

3-02. System Operations and Maintenance

The SRGwTS began start-up operations in June 1994 following completion of construction. System start-up included equipment and system checks and testing. Full time operations of the Groundwater Treatment System began on 17 June 1994 with the switch-over of the GRS (ie. P-2, P-3, and P-4) discharge piping. Operations of the Soil Remediation System were limited to testing and water removal from wells, until completion of the Baseline Soil Vapor Survey in August 1994. Table IV, Figures 20 and 21, and Appendix B summarize the SRGwTS operations for the 1994 Annual Period.

The Groundwater Treatment System (GwTS) has had an operational uptime average of 96% since start-up. System downtime has been associated with Soil Remediation System operations, such as vapor phase carbon change-out, and silt entrainment from water in VEW's, and routine maintenance. Significant operation and maintenance activities for the GwTS include or addressed the following: GRS equalization tank (T-801) off-gas piping, siltation of water filters from VEW's, air/water siltation and clean-out, VOC analyzer calibration, electrical control problems, siltation of liquid phase carbon units and required back-flushing of the units. Operations and maintenance activities are detailed in M/H's monthly progress reports issued in conjunction with the site monthly reports. GwTS operations will continue to be optimized in 1995.

The Soil Remediation System (SRS) uptime has averaged above 90% since start of full time operations. The capacity of the system has been limited due to several operational problems including the following:

- Below optimal relative humidity and temperature of the vapor carbon influent stream during early stages of operation, resulting in premature vapor phase carbon unit change-out. The relative humidity and temperature appears to have been corrected since early September 1994, as indicated in Appendix B, and are not currently noted as problematic.

- Probable short-circuiting from underground utilities and surface leaks near VEW's has diluted vapors with clean air and reduced overall remedial effectiveness.

- Water and silt removed from VEW's has resulted in air/water separator siltation and water-phase filter clogging.

- The VOC analyzer required approximately one-month start-up to be properly calibrated. The current system is not able to be used for air permitting due to detection limit restrictions.

Initial operations in late August, September, and early October 1994, targeted the entire vacuum extraction well field (nearly all eighty wells). The system was able to operate at flows exceeding

1500 scfm. However, M/H reduced system operations to target remediation on highly contaminated areas to optimize mass removal, minimize water and silt entrainment, and increase carbon treatment efficiency. Operations during the focused period have dropped to approximately one-quarter of the VEW's at flows of less than 1000 scfm. Operation and maintenance activities, and problems encountered during the reporting period are detailed in M/H's monthly progress reports issued in conjunction with the site monthly reports. The 1994 system operations are anticipated to be addressed in the 1995 Annual Period, such that the SRS can operate at design capacities.

3-03. System Performance

The performance of the SRGwTS is gauged by its ability to effectively remove contamination from site soils and treat extracted groundwater, while remaining in compliance with the air permit and water discharge. Table IV, Figures 20 and 21, and Appendix B summarize the performance of the system. The performance in meeting remedial goals, as well as recommendations to increase future performance, are identified below.

3.3.1. Groundwater Treatment Performance

The goal of the GwTS is to treat extracted groundwater to meet SPDES discharge requirements. Although the system currently is not discharging to the SPDES outfall, discharges from the treatment system have been below limits for VOC's identified in the draft SPDES permit and have been significantly below levels previously detected based upon compliance sampling for the POTW (Appendix C). Based upon the VOC analyzer readings of air stripper discharges, total mass removal from the groundwater is estimated to be approximately 110 pounds, which corresponds approximately to the GRS estimates indicated in Section 2 for the period. It is anticipated the GwTS will continue to operate at design capacity to meet permit requirements and remediation goals.

3.3.2. Soil Remediation Performance

The goal of the SRS is to remediate soils within the AOC to established clean-up levels. One measure of effectiveness is mass removal compared to estimates of in-place mass. Table IV and Figure 21 indicates mass removal for system operations, based on VOC analyzer readings of vapor concentrations and system operating parameters. The mass is calculated using air flow rates and VOC levels on a daily basis. Tables in Appendix B summarize daily operational conditions and mass removal rates. Based on the VOC data, approximately 1500 lbs. of contamination (or approximately 15% of the total estimated mass) were removed during the 1994 Annual Period. During operational periods, the average daily removal rate was approximately 11 lbs/day, with a maximum of 23 lbs/day.

In addition to mass removal, remedial effectiveness can be indicated by the reduction in soil vapor concentrations measured in the piezometers. A baseline of vapor concentrations was taken prior to full scale SRS operations in August 1994, which is shown in Figures 22, 23, 24, and 25. The baseline results correspond spatially with the limits of contamination defined from the Grid Boring Program. This indicates that the vapor readings will potentially provide a qualitative

assessment of the remedial effectiveness. A second sampling of selected piezometers was taken in November 1994 and is shown in Figures 26, 27, 28, and 29. Although operations of the SRS were still in the initial stage, changes in the vapor concentrations indicate decreasing contamination in the targeted areas under the Filters Building, west of the Filters Building, and in the Northeast area. Determination of actual remediation is premature until soil vapor trends are established over several monitoring events. Soil vapor will continue to be monitored and correlated to measure remedial effectiveness during the 1995 Annual Period. Based on mass removal and soil vapor indications, initial soil remediation efforts have been positive, although less than anticipated. Operations for the 1995 Annual Period will need to increased to meet scheduled deadlines.

3-04. Future SRGwTS Activities

Based on the overall performance of the SRGwTS and the results indicated to date, an increase in system operations and zones of remediation will be required to meet remedial goals and scheduled completion dates.

Future activities relative to the SRGwTP include the following:

- Continue to operate and maintain the GwTS.
- Address current SRS limitations and operational problems.
- Expand operations, areas of remediation, and effectiveness of the SRS.
- Monitor mass removal rate, subsurface vapor concentrations, and air and water discharge concentrations.

IV. GRID BORING PROGRAM UPDATE

During the 1994 Annual period additional data was obtained on contamination concentrations in the site soils. The data was obtained from samples taken from multiple VEW installations for the SRGwTS, as well as two borings drilled in the former leach field area southeast of the Filters Building (Figure 30). The new information adds to the understanding of the contaminant distribution and further defines the AOC. A summary of the sampling protocols, analytical results, and refinement of the AOC is given below.

4-01. Sampling

As part of the waste handling and soil screening program, split spoon samples taken from a portion of VEW's were sent to HAS for EPA Method 8010 analysis for comparison to headspace analyses. Approximately 48 samples from 32 VEW's were sampled and analyzed. The sampling protocol for the VEW's generally followed those established for the Grid Boring Program. Split spoon samples were taken and headspace screened from all of the VEW's installed for the SRGwTS, with only a random portion of the split VEW samples analyzed. Standard laboratory protocols were followed by HAS for Method 8010 analysis. The VEW sampling occurred over the period of October 1993 through March 1994.

In addition to the VEW samples, two borings were drilled in the former leach field area located east of the Filters Building. Soil samples were obtained from the borings and samples (six total) with high vapor screening were submitted for laboratory analysis. The borings were performed as a supplement to the Grid Boring Program, to determine soil concentrations in and under the leach field in relation to site clean-up goals. The soil borings were drilled by ESI under the observation of H&A field representatives. The sampling protocol the borings followed those established for the Grid Boring Program. Samples were analyzed by HAS using EPA Method 8010 analysis.

4-02. Analytical Results

The soil sample results from the 32 VEW's and 2 leach field borings are summarized in Appendix D and presented in Figures 30, 31, 32, and 33, showing location and total VOC concentration. The analytical results were presented in "First Quarter 1994 Summary Report" (H&A, March 1994), "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994), and "Quarterly Summary Report - 3rd Quarter 1994" (H&A September 1994). The soil sample results were generally consistent with the Grid Boring Program. The VEW samples indicated that the primary compound of interest was TCE, with minor detections of DCE, and VC.

The six samples from the leach field borings indicated levels of the target compounds for the site are below clean-up goals. Accordingly this area does not require additional characterization or remediation.

4-03. Refined Limit of Contamination and Updated In-Situ Mass Estimate

The analytical results from the VEW and leach field samples was combined with the Grid Boring Program data, as shown on Figure 34. The new results were compared with the Grid data on the two foot depth intervals used to develop the initial areal distribution given in the RD/RA Work Plan Addendum. The contouring on the depth interval was adjusted, where necessary, to incorporate the new information. All of the depth intervals and contours were combined and mapped to develop the limits of contamination (Figure 34) and is the basis for delineation of the Area of Contamination (AOC). Based on the information obtained from the samples, the limits of the 3-ppm isopleth did not change.

The limits of the 100-ppm isopleth was revised based on the information gained from the VEW's. In particular, the limit of the 100-ppm in the northeast area increased to the west-northwest slightly to incorporate a zone of higher contamination. The "hot-spot" area identified west of the Filters Building was reduced slightly, based on nearby VEW's indicating lower levels and more localized area of contamination for this "hot-spot". Other areas of the 100-ppm isopleth changed only slightly. Based on the minor changes indicated by the new information, the assessment of the extent and distribution of contamination is considered an accurate representation of subsurface conditions.

The in-situ mass estimate was updated based on the revised of the 100 ppm isopleth. The updated mass is summarized in Table V and indicates that approximately 10,000 pounds are present in the AOC, which is approximately 1,000 pounds less than the original estimate. The mass estimate difference results from the change of the 1000+ ppm concentration contours from the 2 foot intervals. Approximately 62% of the total estimated mass lies in the 1000+ ppm zone, which accounts for only approximately 4% of the AOC. Accordingly, even small changes in the 1000+ ppm contours results in significant changes of in-situ mass estimate.

This section supplements Section 1.2 of the RD/RA Work Plan and Section 2.01 of the RD/RA Work Plan Addendum.

4-04. Future Activities

Due to the extent and number of borings performed as part of the Grid Boring Program, the new borings identified above, and the identified nature and extent of contamination, no future activities are planned to define the AOC. Once soil remediation reaches completion, the statistical soil sampling program will be implemented to confirm clean-up levels.

V. WASTE HANDLING PROGRAM

The waste handling program for the GRS and SRGwTS consists of tracking generation and the proper disposition of soils, personal protective equipment, construction debris, and O&M materials. The program is intended to provide compliance with applicable local, state and federal regulations related to hazardous waste. In addition, the program is designed to provide proper waste handling while minimizing handling and costs. During the 1994 Annual period H&A, in conjunction wit The Carborundum Company, assumed a primary role in characterizing and arranging for waste disposal of materials generated by GRS upgrade and SRGwTS construction. M/H, in conjunction with H&A and The Carborundum Company, handled wastes generated from SRGwTS O&M. Summarized below are significant waste handling activities for the site.

5-01. Soils and Ex-Situ Treatment Cell

Excavated soils from piping, drilling, and trenching operations were segregated "clean" and "dirty" based on field screening/headspace testing results. The criteria for segregation was summarized in the H&A letter dated 17 November 1993, which indicates soils with headspace concentrations greater than 20 ppm total volatiles as measured with an Hnu/OVA are screened as "dirty" (i.e. above the site clean-up goals for soils). These soils were placed in the ex-situ cell for on-site treatment. Soils with headspace results less than 20 ppm total volatiles were screened "clean" (i.e. below site cleanup goals) and sampled for analytical testing.

During this program, samples have been obtained for lab analysis to compare with the headspace results to evaluate the applicability of the 20 ppm as the clean/dirty cut-off. The 20 ppm cut-off was based on the comparing field and lab results of previous investigations. Figure 35 shows the relationship between the headspace and the lab results. The figure illustrate the four quadrants of false positive (soil headspace dirty when actually clean), true positive (soil headspace dirty and lab results dirty), false negative (soil headspace clean when actually dirty), and true negative (soil headspace clean and lab results clean). The field screening method using a cut-off criteria of 20 ppm has provided a conservative approach to determining soil deposition. All samples tested from the soils screened "clean" indicated below clean-up levels, and were utilized as on site fill within the AOC.

Soil screened "dirty" were placed in the ex-situ cell located in the Metaullics courtyard area for vacuum treatment. The total soil volume placed in the cell during remedial construction was approximately 400 cubic yards of soil for treatment. Vacuum extraction operations began on the cell on 29 July 1994, and are scheduled to continue until soils meet site clean-up goals. Waste soils generated during the O&M phase of the SRGwTS operation will be transferred to the cell for remediation as appropriate.

Preliminary sampling of soil vapor and soils from the ex-situ cell to determine remedial effectiveness is scheduled for late Spring 1995. The statistical soil sampling program for the site will be adapted for determination of clean-up levels in the cell. If preliminary sampling indicates near clean-up levels, the statistical sampling program will be implemented in the cell. If the program indicates the

soils have reached clean-up levels, the soils will be removed from the cell for use on site as fill. The cell may be made available for excavated soils from hot spot remediation.

5-02. Personal Protective Equipment

Personal protective equipment (PPE) accumulated during remedial activities were placed in two lined rolloffs. The PPE was tested and characterized as a F001 hazardous waste. The waste was disposed at the Model City landfill operated by Chemical Waste Management. The first rolloff of PPE was sent on 26 April 1994 and the second on 20 July 1994. A total of approximately 35 cubic yard of PPE was generated during construction. The shipments to the disposal facility were accompanied by the appropriate manifest and landban paperwork for the F001 waste. Waste PPE generated during operations and maintenance of the SRGwTS is being temporarily stored with other material generated during O&M activities for the system. The waste will be disposed with these materials.

5-03. Construction Debris

Debris (i.e. concrete), generated SRGwTS construction was placed in three lined rolloffs. The material sampled and characterized as a F001 waste, since it was found to contain low levels of a F-listed waste. The waste was transported to Chemical Waste Management's Model City Landfill. Approximately 60 cubic yards of material was transported, manifested and disposed in accordance with hazardous waste regulations. The rolloffs were shipped to Model City Landfill during the period of 25 May to 1 June 1994.

5-04. SRGwTS Operations and Maintenance Materials

Operations and maintenance of the SRGwTS generates used filter bags, PPE, waste lubricating oil, sediment from filtering, and spent carbon absorption units. M/H, in conjunction with H&A and The Carborundum Company, will characterize and dispose of these materials once sufficient quantities (full 55 gallon drums) have been accumulated and prior to the 90 day temporary storage limit.

Following the first vapor carbon change-out, two spent vapor carbon units were sent to Calgon Carbon's Big Sandy facility in Catlettsburg, Kentucky for regeneration and reuse on 31 October 1994. Following submission of a liquid phase carbon sample container, Calgon approved regeneration of the liquid phase carbon units. The liquid phase carbon units are not scheduled to be changed out until mid 1995.

Three 55 gallon drums of used filter bags were transported to Chemical Waste Management's Model City Landfill as a F001 listed waste on 1 December 1994. Approximately nine gallons of spent lubricating oil have been collected in a 55 gallon drum and stored in the Treatment Plant containment area. The material will be properly disposed once the drum is nearly full.

VI. PERMIT ISSUES

Activities relating to the GRS and SRGwTS have proceeded and continue to proceed under several permits including a building permit, water discharge permit to the POTW, air discharge Permit to Construct, and a revised SPDES discharge permit. Key activities associated with the permits are summarized below.

6-01. Building Permit

A building permit was obtained by M/H on 9 October 1993 from the Town of Wheatfield in Niagara County, for construction of the Treatment Building associated with the SRGwTS. Upon completion of the Treatment Building and inspection by the Building/Fire Inspector for the Town of Wheatfield, a certificate of Occupancy/Use was granted on 14 June 1994.

6-02. POTW Waste Water Discharge Permit

Groundwater extracted from GRS operations during the 1994 Annual period was discharged to the POTW. The discharges proceeded under an existing permit with the Niagara County Sewer District for the Carborundum Facility. Based on analytical results obtained from monthly, quarterly, and annual sampling events discharges were within POTW limits. The discharge permit has a limitation of 480 gpm on total water discharges. Several rainfall/runoff events resulted in elevated discharges, requiring temporary turn-down of GRS pumping activities. In addition, a blockage of the monitoring flume resulted in spurious elevated discharge readings. The blockage was cleared by H&A, as detailed in "Quarterly Summary Report - 3rd Quarter 1994" (H&A September 1994). Although the groundwater treatment system was on-line in late June 1994 and treats extracted groundwater, discharges continue through the POTW until approval of the SPDES permit.

6-03. Air Permit

The Permit to Construct an air emission source was obtained by M/H in October 1993. This permit covers the installation of the vapor discharge point at the Treatment Building for emissions from the VES and airstrippers. The permit allows for temporary discharge of emissions through the permitted stack, associated with start-up and limited operations. The Permit to Construct was scheduled to expire on 1 October 1994. However, due to system start-up issues and higher than anticipated stack discharges, the permit was extended by the NYSDEC Division of Air Resources for six months until 1 April 1995. The extension will allow time for the NYSDEC, Carborundum, and M/H to address discharge limits, system start-up debugging, stack testing, and air discharge modelling. A four week stack sampling program was initiated on 2 December 1994 by M/H to obtain emission levels for air modelling. M/H will issue the results of the stack testing in mid January 1995. Following review of stack testing information, a modified application for the Certificate to Operate will be submitted by M/H. The NYSDEC is scheduled to inspect the SRGwTS prior to issuance of the final Certificate to Operate.

6-04. SPDES Permit

An application for a modified discharge under the existing site SPDES permit was submitted to the NYSDEC in December 1993. The SPDES discharge will be to Cayuga Creek. The permit modifications included the addition of treated groundwater and site stormwater. The orientation and the location of the established outfall was modified as part of the SPDES Upgrade detailed in "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994) and "SPDES Outfall Modification Engineering Report" (H&A April 1994).

The NYSDEC issued a draft SPDES permit for public notice in March 1994. The comment period for the draft permit expired on 11 April 1994. BP/Carborundum were the only respondents filing comments during the period. Due to concerns raised by BP/Carborundum over abnormally low metals discharge limits and the naturally occurring high metals in local bedrock aquifer, the NYSDEC issued a revised SPDES permit on 9 June 1994. The public comment period extended from 15 June to 15 July 1994. BP/Carborundum were the only respondents filing during the period. Again, due to concerns over the low metals limits, sampling and analysis of the treated groundwater was conducted to be better determine the characteristics of the effluent.

The NYSDEC and BP/Carborundum are currently reviewing the permitted discharge and a final SPDES permit is anticipated to be issued in April 1995 after the sampling results are evaluated and appropriate metal limits are established. Treated groundwater from the GwTS will continue to be discharged to the POTW until the issue is resolved.

In the draft permit the NYSDEC has established two defined outfalls; 01A will be located at the Treatment Building discharge, and 001 will be located at the meter house constructed during the SPDES outfall modification construction. The draft discharge limits include requirements for weekly metals and organic compound monitoring.

VII. SAMPLING AND ANALYSIS

Monitoring for the remediation program being implemented at the Carborundum Facility includes both routine surveillance of groundwater conditions and discharges, as well as task-specific sampling and analysis events. The sampling and analyses that have taken place during the 1994 Annual period are summarized below.

7-01. Groundwater Surveillance

Monitoring of groundwater conditions in the vicinity of the Carborundum Facility has included both groundwater level measurements and groundwater quality sampling and analysis. The groundwater level and sampling events were performed in accordance with the schedule outlined in Table III. Groundwater levels were taken from all of the wells in the monitoring network on:

1993
3 December

1994

14 & 26 January	3 February	3 March
8 April	1 May	7 June
5 & 7 July	1 August	8 September
5 & 7 October	3 November	1 December

Groundwater samples were taken from selected monitoring wells (see Table III) on: 26 January, 8 April, and 7 October 1994. The yearly groundwater sampling event of all 36 monitoring wells and 5 monitoring wells was performed during the period of 6 July to 8 July 1994. Huntingdon Analytical Services (HAS) provided the laboratory analysis (EPA Method 8010) and DataCert has reviewed the data reports during the 1994 Annual period. The results of the level and sampling events are included in the tables and time series plots of Appendix A. Laboratory analytical reports and level monitoring records are on file at H&A and available upon request. Analytical results for wells located on private property were transmitted to the property owner through individual correspondence.

In addition to the routine level and sampling events, supplemental level monitoring and analytical samples were taken by H&A as part of the GRS Upgrade start-up procedures. The results are included in the time series plots and tables of Appendix A, and are detailed in "First Quarter 1994 Summary Report" (H&A, March 1994).

As part of the groundwater monitoring program, a yearly monitoring well maintenance program was conducted by ESI during the period of 11 July to 13 July 1994. The well maintenance is detailed in the report "Annual Monitoring Well Maintenance Program" issued by H&A on 25 July 1995. During the maintenance program, monitoring wells B-32M and B-35M were observed to be severely damaged. Monitoring well B-32M will be repaired if possible in the Spring of 1995. Monitoring well B-35M was sampled with a peristaltic pump during the latest round of water quality sampling. Due to the extensive damage, B-35M will not be repaired.

7-02. POTW Discharge Compliance Monitoring

In compliance with the discharge permit for the POTW, monthly, quarterly, and semi-annual sampling of the discharge water quality was performed by ESI. The monthly analyses are performed using EPA Method 8010; the quarterly using EPA Method 8010 and 8240; and the semi-annual using EPA Method 8010, 8240, and 8270. The samples are composed of four samples collected over a 24 hour period and composited. The sampling events for the 1994 Annual period were:

1993
16-17 December (semi-annual)

1994

13-14 January (quarterly)	3-4 February (semi-annual)
3-4 March	7-8 April
5-6 May (quarterly)	9-10 June
11-12 July	4-5 August (semi-annual)
8-9 September	6-7 October
3-4 November (quarterly)	8-9 December

A summary of the monthly analytical results calculated to yield mass loading is included in the tables in Appendix C. Summaries of the monthly analytical results are also published in the monthly reports issues for the site. The analytical results from the quarterly and semi-annual sampling events are included in Appendix C. The monthly, quarterly, and semi-annual analytical results indicate continued POTW permit compliance.

7-03. Redland-Niagara Quarry Seep and Pond Sampling

In conjunction with the groundwater surveillance described in Section 7-01., groundwater seeps on the quarry wall and ponded water was sampled at the Redland-Niagara Quarry on 7 April and 18 November 1994 by ESI. Huntingdon Analytical Services (HAS) provided the laboratory analysis (EPA Method 8010). The analytical reports along with a narrative of sampling procedures is provided in Appendix E.

The 7 April 1994 event sampled the east wall seep and east pond in the Redland Quarry. The analytical results indicated that the 8010 compounds were below detection limits. The 18 November 1994 event sampled the east wall seep and the south pond in the Redland Quarry. The analytical results for the east wall seeps indicated that the 8010 compounds were below detection limits, as was indicated for the 7 April 1994 event. The south pond analytical results indicated 17 ppb (ug/l) cis-1,2-Dichloroethene (DCE) and 2.8 ppb (ug/l) vinyl chloride (VC). Other 8010 compounds were below detection limits. The DCE and VC levels are below levels detected in monitoring well B-38M, immediately south of the quarry, and below levels detected in south wall seeps from a 6 July 1993 Ecology & Environment (E&E) sampling event of the quarry. In communications with the landowner, the NYSDEC has indicated that there appears to be no health risk associated with the quarry seeps. Monitoring of the compound levels in the quarry will continue through the 1995 period.

7-04. Annual Cayuga Creek Sampling

In association with the groundwater surveillance program, sediment in the Cayuga Creek is sampled approximately 100 feet downstream of the SPDES outfall to the creek. The sampling event was completed by ESI on 7 April 1994. Huntingdon Analytical Services (HAS) provided the laboratory analysis (EPA Method 8010) and DataCert has reviewed the data reports. The analytical reports along with a narrative of sampling procedures was provided in "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994). The analytical results indicated that the Method 8010 compounds were below the detection limits. The sampling event is scheduled to continue for the 1995 period.

7-05. Piezometer Vapor Sampling

Soil vapor from the pneumatic piezometers, installed as part of the SRGwTS, is currently being sampled on a semi-annual basis to qualitatively monitor the progress of the soil remediation efforts. The baseline piezometer vapor concentration sampling event was conducted during the period of 2 August to 25 August 1994, prior to the full operation of the VES, by M/H. All piezometers and piezometer sampling ports were included in the event. The baseline is intended to establish subsurface conditions prior to the operation of the VES, which will allow evaluation of vapor extraction remediation progress, and assessment of the potential of success for final confirmatory soil sampling. The first quarterly sampling event of selected piezometers and piezometer ports was conducted by H&A on 7 and 11 November 1994. The results of events are presented in Figures 22 through 29 and in Appendix F. The results of the quarterly event indicate remediation is likely impacting subsurface soil vapor concentrations, however the areas requiring remediation remains consistent between the baseline sampling and the quarterly event. No areas of the site indicated confirmatory sampling should be performed at this time. Semi-annual sampling of selected piezometers is scheduled to continue through completion of remediation, with the first 1995 sampling event anticipated to begin in mid to late Spring 1995.

7-06. Task Specific Sampling

In addition to the routine sampling for the facility, several task specific sampling events were conducted. These events include sampling of soils in the former Leachfield area, sampling of off-site borrow for SPDES upgrade and SRGwTS construction, sampling of potentially petroleum contaminated Bentomat cover material, sampling of suspected oil seeps, sampling of clean excavation spoils, sampling of groundwater treatment system influent and effluent, and sampling of SRGwTS stack discharges.

To investigate potential contamination in the former Leachfield area east of the Filters Building, two borings were drilled and abandoned in the former leachfield area by H&A and ESI on 16 December 1993. A summary of the leachfield data is presented in Section 4 and in "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994).

Material obtained from off-site borrow sources used for construction was sampled prior to use and during use on site. Analytical results were presented in "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994). The analytical results indicated no contaminants were present in off-site fill material.

During the placement of the initial soil cover material, there was an incidental release of petroleum hydrocarbons by heavy equipment operating at the site. H&A sampled the affected soils on 21 and 25 March 1994. Details of the results of these analyses were included in "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994). The data from analyses indicate that the affected soils do not exceed the NYSDEC STARS criteria. The NYSDEC issued a letter on 27 April 1994 indicating that the affected soils are not an environmental concern and require no further action. The material was not used further during the remedial construction.

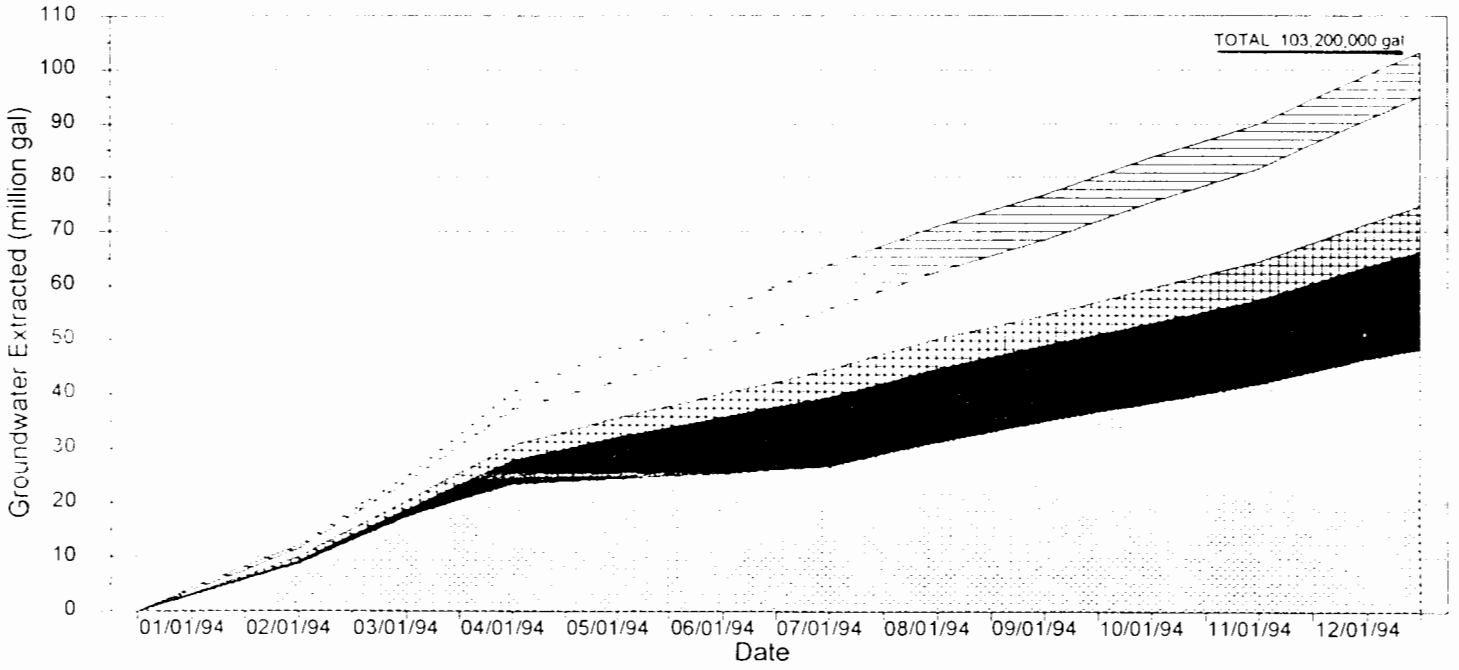
Excavated material from SRGwTS and SPDES Upgrade construction that was screened to meet site clean-up levels was sampled prior to being used as AOC fill material. Three rolloffs of stockpiled excavation material were sampled on 22 December 1993, 18 January 1994, and 22 April 1994. The analytical results indicated that the soils meet clean-up goals. Following NYSDEC approval, the soils were utilized on site. Details of the analytical results and the waste handling program are included in "First Quarter 1994 Summary Report" (H&A, March 1994) and "Quarterly Summary Report - 2nd Quarter 1994" (H&A June 1994).

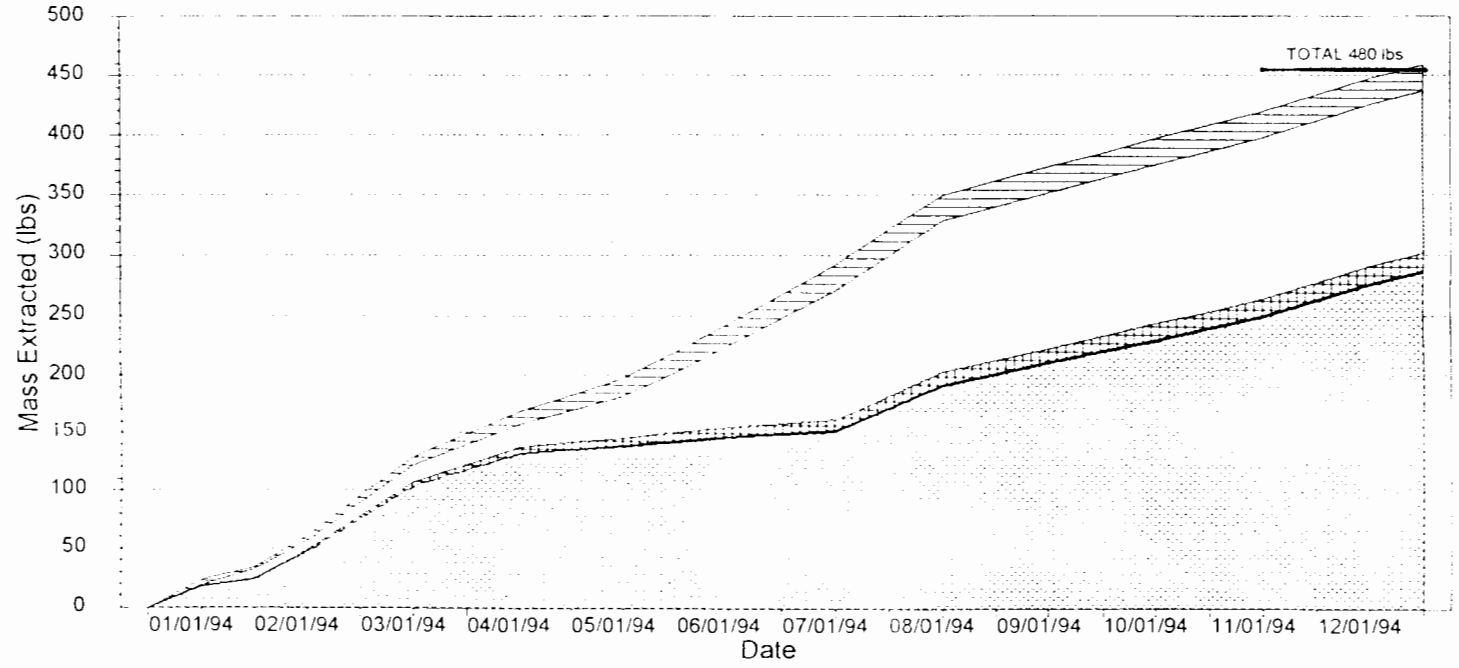
In conjunction with the application of the Air Permit to Operate for the NYSDEC Division of Air, a stack sampling program was begun on 2 December 1994 by M/H. Analytical data from the sampling program will be utilized by the NYSDEC to evaluate system performance and typical levels of influent and effluent compounds. The sampling is scheduled to be conducted once a week over a four week period. Results of the sampling will be published by M/H in January 1995.

7-07. Future Sampling and Analysis Activities

Scheduled activities for the 1995 Annual period include the following:

- Monthly water level monitoring of all monitoring wells and pumping wells;
- Quarterly sampling of selected monitoring wells and the pumping wells as identified in Table III;
- Annual sampling of all monitoring and pumping wells as identified in Table III;
- Semi-annual sampling of Redland-Niagara Quarry wall seeps and ponded water;
- Monthly POTW discharge compliance sampling and monitoring until SPDES discharge startup;
- SPDES discharge compliance sampling and monitoring upon start-up;
- Semi-annual vapor sampling of selected pneumatic piezometers.





Legend

P-2
PW-1
P-3
PW-2
P-4

Notes:

1. Totals represent a running cumulative of all pumping wells.
2. Totals are for current period (12/15/93 to 12/15/94) only.

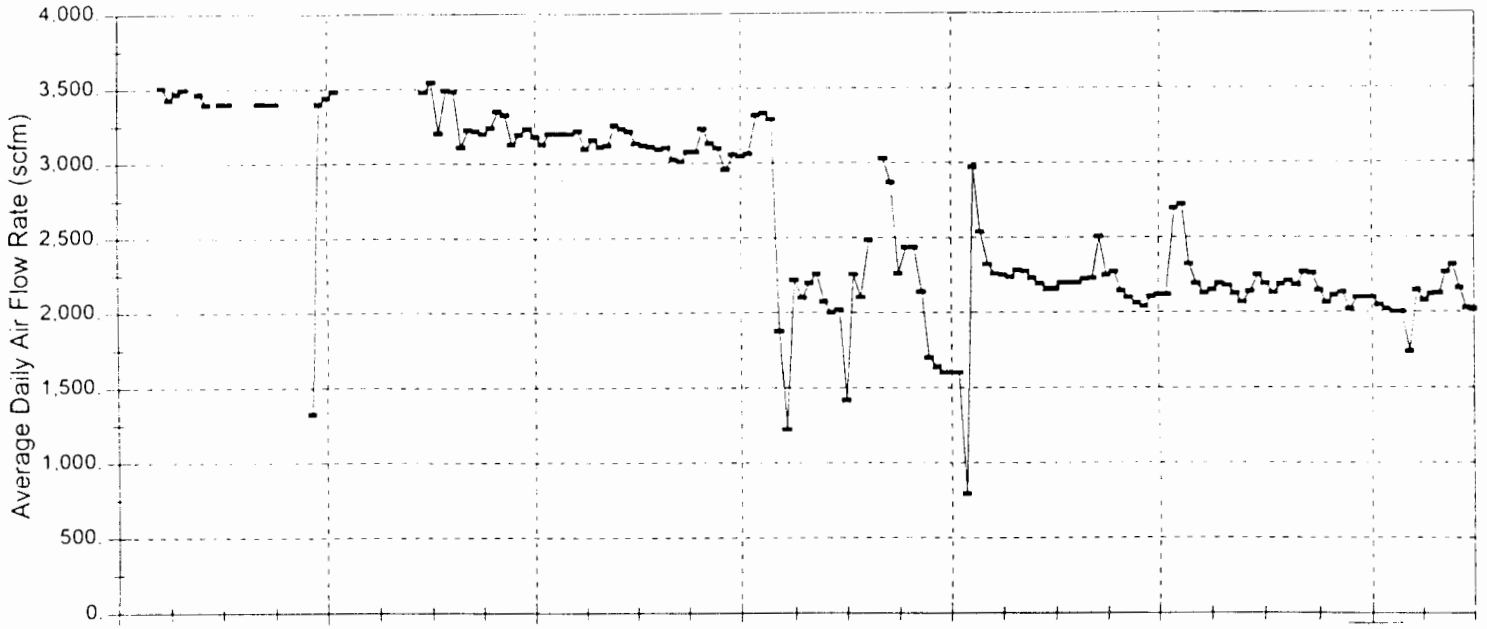
HALEY & ALDRICH INC.
Geotechnical Engineers & Environmental Consultants

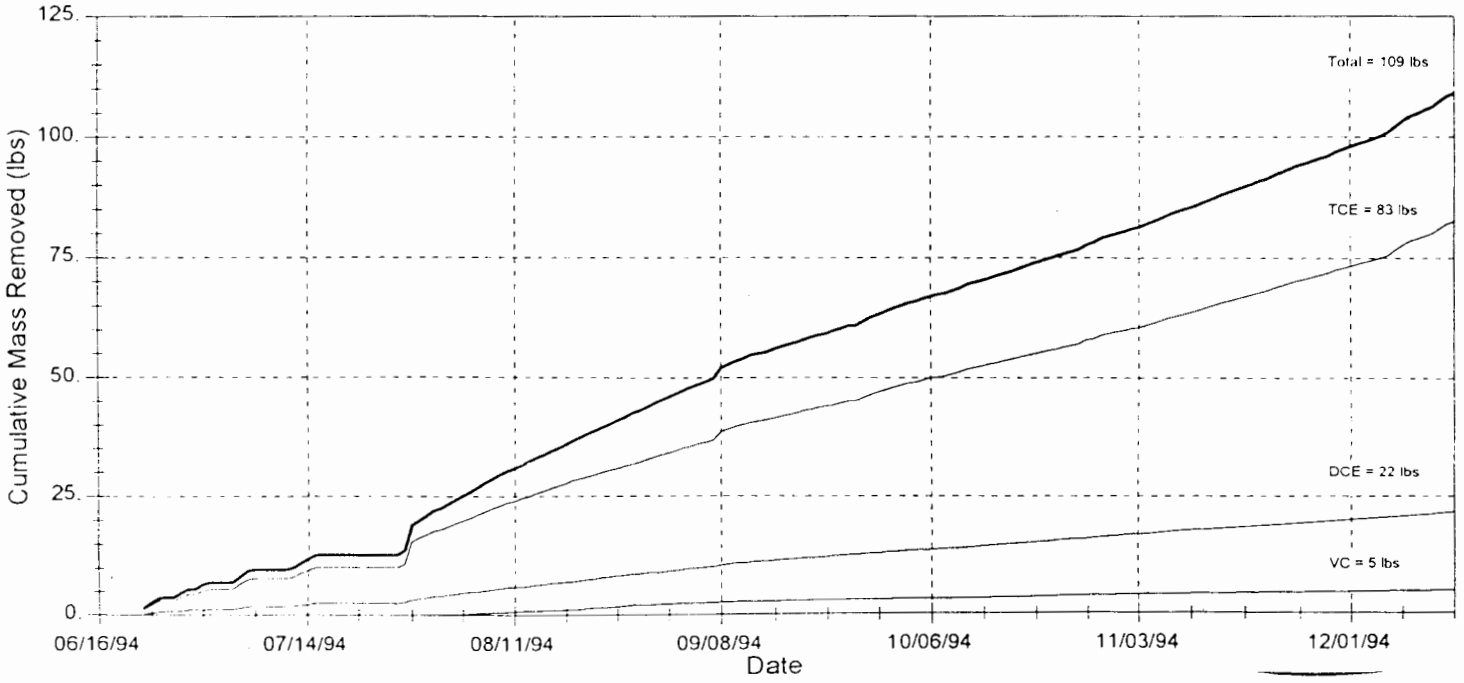
BP OIL COMPANY
CARBORUNDUM FACILITY
WHEATFIELD, NEW YORK

GRS PERFORMANCE SUMMARY

DECEMBER 1994

FIGURE 16





NOTES:

1. Average airstripper concentrations are based on daily flow weighted average concentrations from the VOC analyzer - Port 2
2. Concentrations reported as zero (below VOC analyzer detection limits) have been replaced by one-half the detection limit
3. Average Daily Air Flow Rate is calculated from operational flows over a 24-hr period. System down time may reflect in low flow rates.
4. Contaminant mass is calculated from VOC analyzer concentrations and system flow rates.

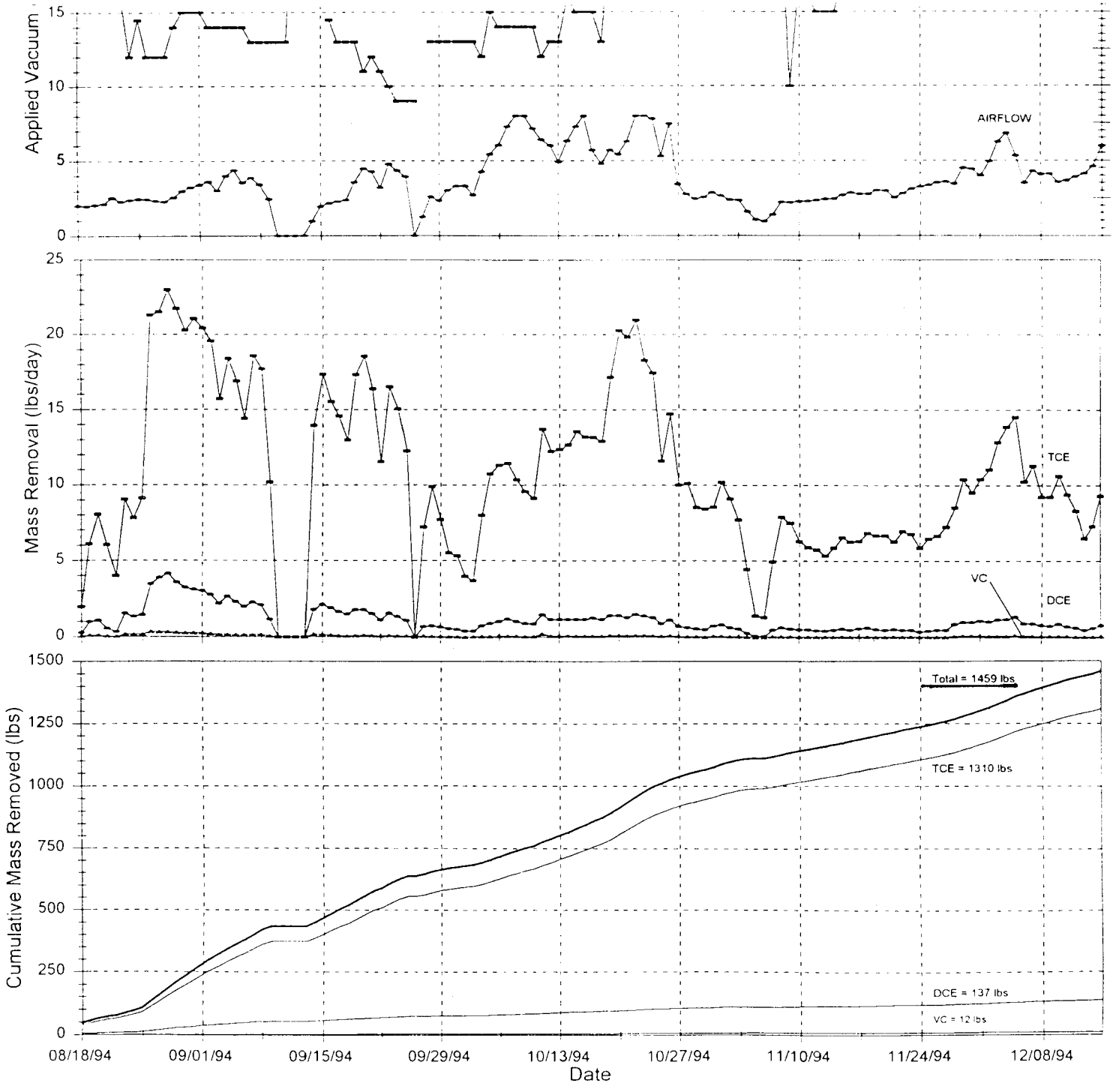
HALEY & ALDRICH INC.
Geotechnical Engineers & Environmental Consulta

BP OIL COMPANY
CARBORUNDUM FACILITY
WHEATFIELD, NEW YORK

GROUNDWATER TREATMENT SYSTEM PERFORMANCE SUMMARY

DECEMBER 199

FIGURE



NOTES:

1. Average influent concentrations are based on daily flow weighted average concentrations from the VOC analyzer - Port 1.
2. Concentrations reported as zero (below VOC analyzer detection limits) have been replaced by one-half the detection limit.
3. Vacuum levels obtained from daily O&M checks. Vacuum levels represent applied vacuum, and well head vacuum may differ.
4. Average daily air flow rates are calculated from operational flows over a 24-hr. period. System down time may reflect in low flow rates.
5. Contaminant mass is calculated from VOC analyzer concentrations and system flow rates.

HALEY & ALDRICH INC.
Geotechnical Engineers & Environmental Consul

BP OIL COMPANY
CARBORUNDUM FACILITY
WHEATFIELD, NEW YORK

SOIL REMEDIATION SYSTEM PERFORMANCE SUMMARY

DECEMBER

FIGU

A. Sylvester

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-7010

Michael Zagata
Commissioner

APR 27 1995

BP America
200 Public Square
7-4606-B
Cleveland, Ohio 44114-2375

Dear Sir/Madam:

As mandated by Section 27-1305 of the Environmental Conservation Law (ECL), the New York State Department of Environmental Conservation (NYSDEC) must maintain a Registry of all inactive disposal sites suspected or known to contain hazardous waste. The ECL also mandates that this Department notify the owner of all or any part of each site or area included in the Registry of Inactive Hazardous Waste Disposal Sites as to changes in site classification.

Our records indicate that you are the owner or part owner of the site listed below. Therefore, this letter constitutes notification of change in the classification of such site in the Registry of Inactive Hazardous Waste Disposal Sites in New York State.

DEC Site No.: 932102
Site Name: Carborundum Specialty Products
Site Address: 2050 Cory Road, Wheatfield, New York 14132

Classification Change from 2 to 4

The reason for the change is as follows:

- The Remedial Investigation/Feasibility Study (RI/FS) found that subsurface soil and groundwater were impacted by Trichloroethene from past handling practices at the Carborundum Facility. A Groundwater Recovery System (GRS) has been in operation removing Trichloroethene since January 1993. A Soil Remediation Groundwater Treatment System (SRGwTS) has been operational since mid- June 1994 and is continuing to remove contaminants from soils and groundwater as well as prevent migration of contaminants form the site. A continued operational and monitoring program is in place at this site.

Enclosed is a copy of the New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation, Inactive Hazardous Waste Disposal Site Report form as it appears in the Registry and Annual Report, and an explanation of the site classifications. The Law allows the owner and/or operator of a site listed in the Registry to petition the Commissioner of the New York State Department of Environmental Conservation for deletion of such site, modification of site classification, or modification of any information regarding such site, by submitting a written statement setting forth the grounds of the petition. Such petition may be addressed to:

Michael Zagata
Commissioner
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-0001

For additional information, please contact me at (518) 457-0747.

Sincerely,

Robert L. Marino
Chief
Site Control Section
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation

Enclosures

bcc: w/o Enc.
E. Barcomb
R. Marino
T. Reamon
A. Sylvester

w/Enc. (Copy of Site Report form only)
R. Dana
G. Anders Carlson, NYSDOH
L. Concra
A. Snyder, R/9
P. Buechi, R/9
E. Belmore
G. Rider

AS/srh

A Sylvester

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-7010

EARTH DAY 25 1995 ENVIRONMENTAL PARTNERS

Michael Zagata
Commissioner

MAY 12 1995

This letter was sent to the people on the attached list.

Dear :

The Department of Environmental Conservation (DEC) maintains a Registry of sites where hazardous waste disposal has occurred. Property located at 2050 Cory Road in the Town of Wheatfield and County of Niagara and designated as Tax Map Number 132.00-1-16 was recently reclassified as a Class 4 in the Registry. The name and site I.D. number of this property as listed in the Registry is Carborundum Specialty Products, Site #932102.

The Classification Code 4 means that the site is properly closed -- requires continued management.

We are sending this letter to you and others who own property near the site listed above, as well as the county and town clerks. We are notifying you about these activities at this site because we believe it is important to keep you informed.

If you currently are renting or leasing your property to someone else, please share this information with them. If you no longer own the property to which this letter was sent, please provide this information to the new owner and provide this office with the name and address of the new owner so that we can correct our records.

The reason for this recent classification decision is as follows:

- The Remedial Investigation/Feasibility Study (RI/FS) found subsurface soil and groundwater were impacted by the past handling practices of Trichloroethene at the Carborundum Specialty Products Site, Site #932102. A Groundwater Recovery System (GRS) has been constructed and has been operational since January 1993. A Soil Remediation Groundwater Treatment System (SRGwTS) has been operational since mid-June 1994. Groundwater elevation suppression has been accomplished and a reduction in soil vapor concentration has been indicated. A continued operational and monitoring program is in place at this site.

If you would like additional information about this site or the inactive hazardous waste site remedial program, call:

DEC's Inactive Hazardous Waste Site Toll-Free Information Number **1-800-342-9296** or New York State Health Department's Health Liaison Program (HeLP) **1-800-458-1158, ext. 402.**

Sincerely,

Robert L. Marino
Chief
Site Control Section
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation

bcc: R. Marino
T. Reamon
M. Podd, R/9
A. Sylvester
A. Carlson
L. Ennist

AS/srh