ENVIRONMENTAL STRATEGIES CORPORATION
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PHASE I ENVIRONMENTAL ASSESSMENT
OF
~~PROJECT BUTTERFLY~~ ⇒ Monarch Facility
GENEVA, NEW YORK

FINAL

PREPARED

BY

ENVIRONMENTAL STRATEGIES CORPORATION

MAY 29, 1996

Contents

Acronym List

ACM	asbestos-containing material
AST	aboveground storage tank
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Act Information System
EH&S	environmental health and safety
EPA	U.S. Environmental Protection Agency
ESC	Environmental Strategies Corporation
MSDS	material safety data sheet
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
NYSEG	New York State Electric and Gas Company
PCBs	polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Act Information System
SARA	Superfund Amendments and Reauthorization Act
SPL	state priorities list
SWLF	solid waste landfill
UST	underground storage tank

Executive Summary

Environmental Strategies Corporation (ESC) was retained by Ecolab, Inc., to conduct a Phase I environmental review of the Project Butterfly facility in Geneva, New York. Butterfly produces cleaners and sanitizers for the dairy and food processing industries. The 1.74-acre site is occupied by a 33,700-square-foot building. The building was constructed around the 1910s and subsequently expanded in the 1930s and 1950s. The site was previously occupied by another company making similar products, by a circuit board manufacturer, and by a boiler manufacturer. Butterfly has occupied the site since 1979. Sanborn maps indicate industrial activity at the site and surrounding area since at least 1903. Aerial photographs indicate that materials have been stored in containers north of the building, and aboveground storage tanks may have been present on the south side of the site.

The site is located in an industrial area near downtown Geneva. Neighbors include residences, a furniture plant, vacant industrial buildings, and active and inactive railroads. No releases are known to have occurred on neighboring sites.

A review of federal and state databases indicates no environmental issues for the site, except that Butterfly is a hazardous waste generator and has aboveground tanks. Eight nearby sites, including one potentially upgradient site, are reported to have leaking underground storage tanks.

The facility manager oversees environmental management in the plant. Corporate environmental staff conduct periodic audits and provide expertise on specific environmental issues.

The raw materials used in greatest quantity are sodium hypochlorite, acids, caustics, polyacrylate, sodium sulfate, and surfactants. Liquids are delivered in bulk and pumped to aboveground storage tanks or are delivered in containers and transported to the warehouse area. Powders are blown to bins on the roof or delivered in containers. Liquids and powders are mixed and loaded in bulk or in containers.

Butterfly is subject to the Superfund Amendments and Reauthorization Act (SARA) Title III. The company submits the required Tier II and Form R inventories.

There are 23 aboveground storage and mixing tanks inside the plants and 3 powder storage bins on the roof. The aboveground storage tanks are registered with the New York State Department of Environmental Conservation and have dikes. The mixing tanks do not have secondary containment. The

company plans to replace concrete block dikes with poured concrete dikes by 1999 due to new state regulations.

One underground fuel oil storage tank was removed in 1984. Evidence of a fuel oil release was observed and the company excavated 20 to 25 cubic yards of petroleum-contaminated soil. The excavated soil was spread on an unpaved area of the Butterfly site and the neighboring inactive railroad property. There are no other known underground storage tanks.

Butterfly is registered as a generator of hazardous waste. There is, however, no record of any hazardous waste generation. The facility also does not generate waste oil. Solid wastes, including fluorescent bulbs, are disposed of in a landfill. The bulbs contain mercury and should be recycled.

The plant receives water from the city, which draws from Seneca Lake. Wastewater from washing tanks and floors flows into a sump and is pumped into a neutralization tank. The pH is adjusted before the wastewater is discharged to the municipal treatment works. The company monitors the wastewater and keeps a log of the results. No problems with effluent quality are apparent. The city reportedly does not require a permit.

Storm water flows into two catch basins leading to storm sewers. Butterfly is covered by a general permit and performs semiannual monitoring. Monitoring results indicate acceptable storm water quality. However, because of the absence of secondary containment at loading and unloading stations, there is a risk of accidental spills to storm sewers.

Potential air emissions include dust associated with handling and mixing powders. The powder bins and the mixer are each controlled with baghouses. The powder bin has a permit and the company is currently applying for a permit for the mixer. Small quantities of fugitive acid fumes and organic compound vapors (e.g., glycol ethers) may also be emitted. These emissions are unlikely to require permits, but Butterfly should request a determination from the NYSDEC regarding the need for permits.

There are three pole-mounted, utility-owned transformers outside the building. According to information obtained from the utility in 1983, one of the transformers might contain polychlorinated biphenyls (PCBs). No other PCB-containing equipment is known to be present.

The building was surveyed for asbestos-containing materials (ACM) in 1992. All pipe, boiler, and fitting insulation containing asbestos was removed in 1992. Remaining ACM consists of non-friable floor tile and mastic.

The removed underground storage tank is a potential source of soil or groundwater contamination. Because no verification samples were collected during the tank removal, the extent of residual petroleum constituents is not known. Spreading the excavated soil might also have resulted in a release. A spill of an acid product occurred at the loading station in 1982, and additional spills could potentially occur due to the lack of secondary containment. Untreated wastewater leaked through the concrete sump in 1992; the sump was subsequently repaired and lined. The concrete floor near some storage tanks is corroded. Because of the types of materials used at the plant, releases of raw materials and products used by Butterfly are unlikely to adversely affect the site, except that the pH of the groundwater might be altered. However, it is uncertain whether there were any releases from the facility under previous owners. A Phase II investigation is recommended to address these concerns.

Introduction

General

Environmental Strategies Corporation (ESC) was retained by Ecolab Inc. to conduct a Phase I environmental review of the Project Butterfly facility in Geneva, New York. This report details the findings of that assessment. It is based on a visit to the facility by Michael Brown, Ph.D., senior project director of ESC. Dr. Brown was accompanied on the site visit by Robert A. Brown, facility manager, and Kathleen C. Fichtner, manager of environmental health and safety of Project Butterfly. The following work was performed:

- A Phase I inspection of the Project Butterfly facility was conducted on May 7, 1996.
- ESC's confidential site visit form was completed by ESC, Mr. Brown, and Ms. Fichtner. In addition, copies of relevant documents were provided to ESC for review.
- Photographs of the site were taken to document conditions during the site visit. The photographs are presented in Appendix A.
- A database search of the site and properties within ASTM-specified search radii was ordered to help assess the likelihood of problems from migrating hazardous substances or petroleum products. This search (including the approximate minimum search distances) was conducted in accordance with the standards established by ASTM E 1527. The following databases were reviewed:

  NPL - The National Priorities List (NPL) identifies uncontrolled or abandoned hazardous waste sites listed for remedial actions under the Superfund program.

  CERCLIS - The Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) identifies possible Superfund hazardous waste sites.

  SPL - The state priority list (SPL) is the state-equivalent of CERCLIS, and identifies sites in the state where hazardous waste has been found or there are any known, suspected, or likely releases of hazardous wastes from a facility.

RCRIS - The Resource Conservation and Recovery Act Information System (RCRIS) provides information on the status of hazardous waste generation and enforcement at a facility.

ERNS - The Emergency Response Notification System (ERNS) contains records on reports of oil and hazardous substance releases.

UST - The Underground Storage Tank (UST) database lists underground storage tanks registered in the state.

LUST - The Leaking Underground Storage Tank (LUST) database identifies leaking underground storage tanks that have been reported in the state.

SWLF - The Operating Solid Waste Facilities (SWLF) database identifies facilities permitted as solid waste landfills, incinerators, or transfer stations.

AST - The Storage Tank Data System - Aboveground Tanks (AST) identifies registered aboveground storage tanks in the state.

- ESC reviewed aerial photographs and Sanborn maps of the site and surrounding area.

Disclaimer

Portions of this report are based on documents and oral information supplied by Project Butterfly. While this report is accurate to the best of ESC's knowledge and belief, ESC cannot guarantee the completeness or accuracy of any description or conclusions based on the supplied information.

Environmental Review of Project Butterfly in Geneva, New York

General Activities and Operations

Project Butterfly produces cleaners and sanitizers for the dairy and food processing industries at its facility in Geneva, New York (Figure 1). The facility consists of a 33,700-square-foot building on a 1.74-acre site. Butterfly has owned the facility since 1979. The oldest northern portion of the building was constructed around the 1910s or 1920s, the middle section in the 1930s, and the southern section in the 1950s. Before Butterfly, the site was occupied by Anticel Chemicals which manufactured cleaning products; Electronic Components, a circuit board manufacturer; and a boiler manufacturer. Anticel manufactured products similar to those currently manufactured by Butterfly. Butterfly acquired the facility from Anticel in 1979.

The facility stores, mixes, and packages powdered and liquid cleaners and sanitizers for the dairy and food processing industries. The main raw materials are acids, caustics, sodium hypochlorite, and surfactants. These materials are received at the facility and mixed in batches to make the products.

The site is located in an industrial area near downtown Geneva, adjacent to a residential area. North of the site is CCN Manufacturing, a furniture manufacturer. To the south is Gates Avenue; across Gates Avenue is a vacant plant building formerly owned by American Can Company and currently owned by the City of Geneva. To the east are the New York Central Railroad, a vacant lot, and residences. To the west is a vacant parcel formerly occupied by a railroad, followed by a city-owned industrial building that was formerly a warehouse for the Market Basket supermarket chain. There are no known releases on neighboring sites that might affect the Butterfly site.

The major features of the site include the following (Figure 2):

- a 33,700-square-foot plant building including raw material storage tanks, product mixing tanks, a powder blending room, and a product container warehouse
- powder storage bins on the roof
- bulk liquid and powder loading and unloading stations outside the building
- a product container warehouse

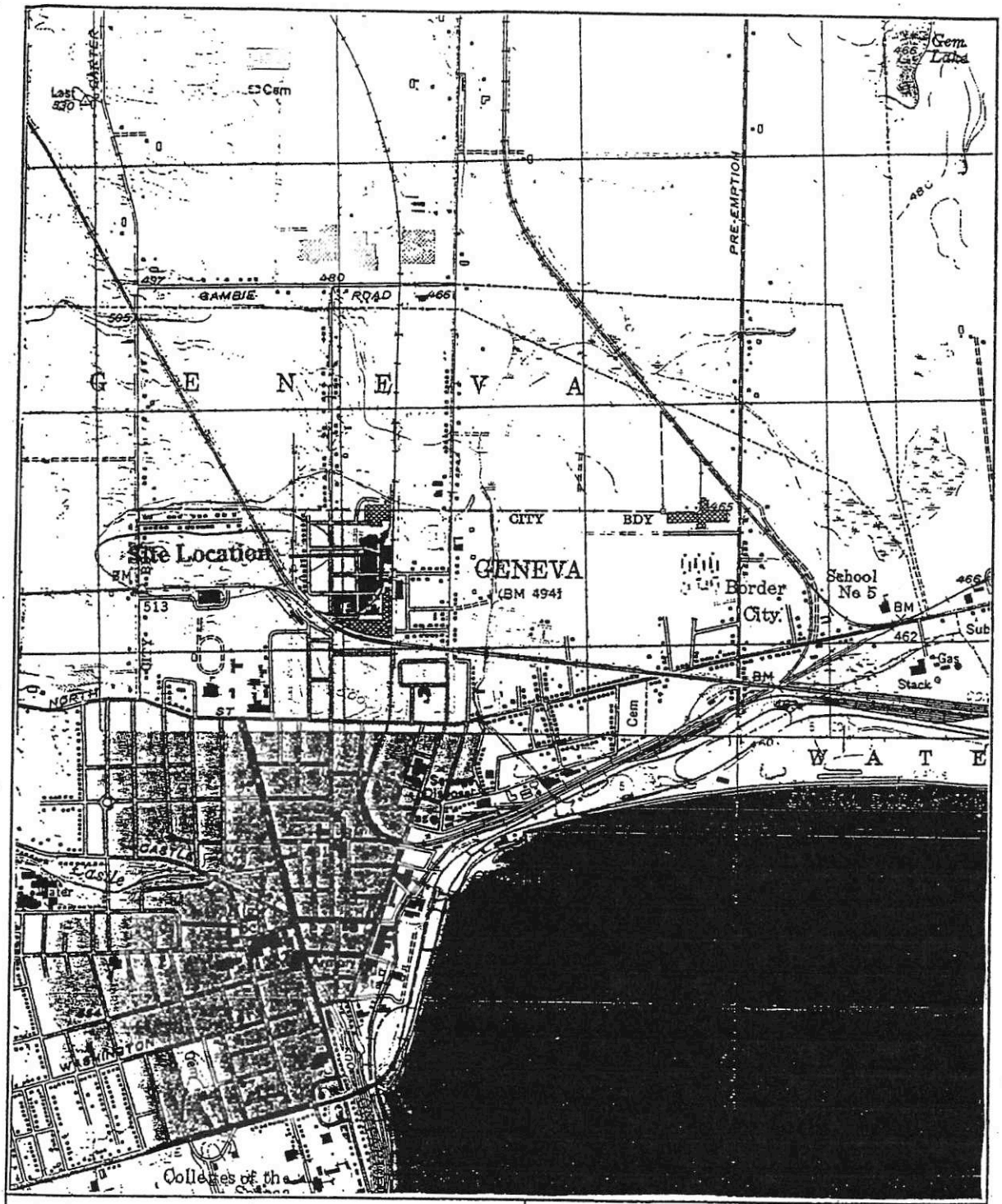

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Figure 1
Site Location
Project Butterfly
Geneva, New York

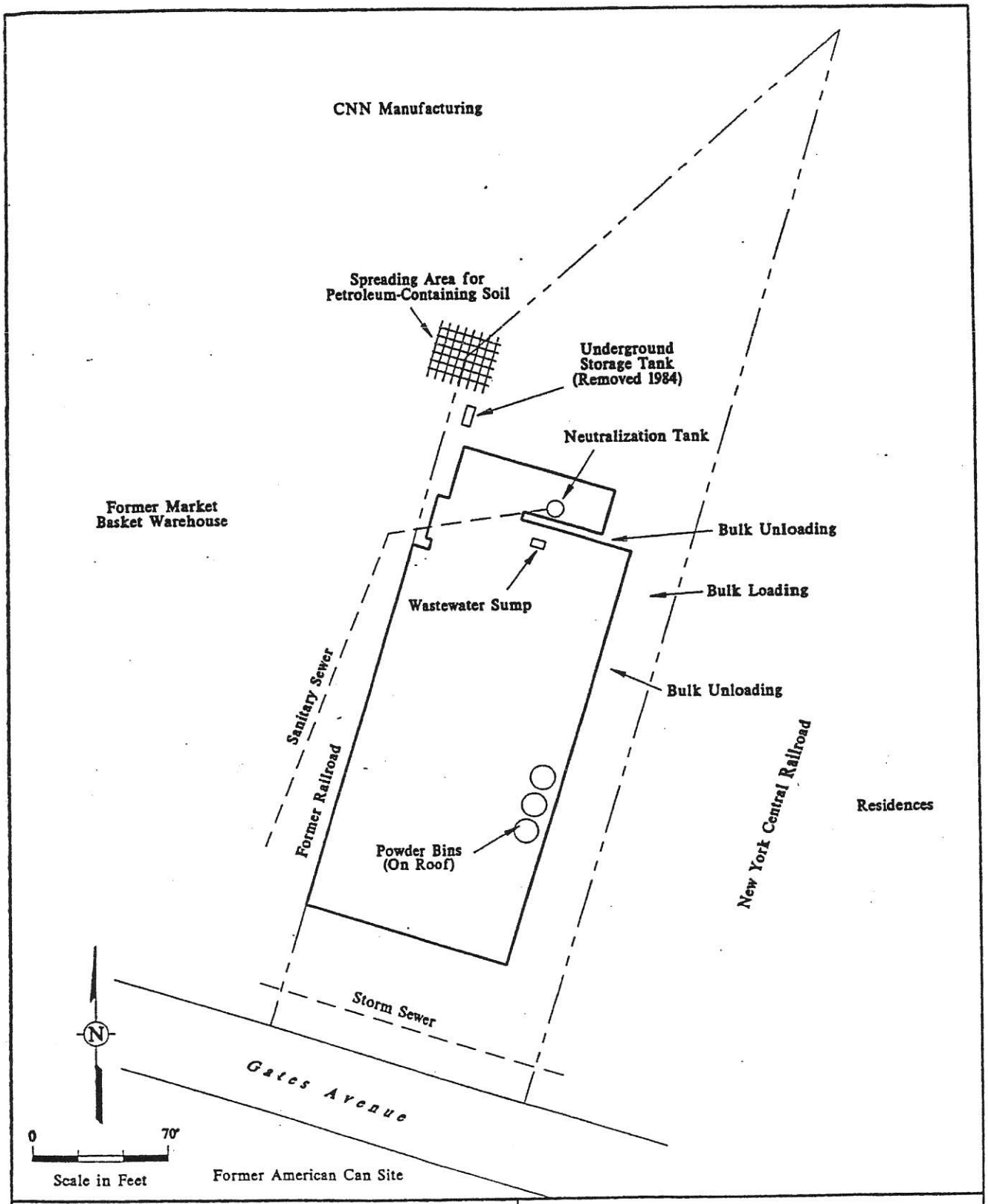

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Figure 2
Site Layout
Project Butterfly
Geneva, New York

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ESC reviewed federal and state databases to determine if any environmental issues have been reported for the site. Butterfly is listed under RCRIS as a small quantity generator of hazardous waste. The database indicates that the facility has 12 aboveground storage tanks registered with the New York State Department of Environmental Conservation (NYSDEC). There is no information indicating that releases have occurred on the site.

ESC also reviewed federal and state databases to determine the potential for the site to be affected by releases from neighboring properties (Appendix B). There are no sites in the vicinity of Butterfly listed on the NPL, CERCLIS, or the New York list of inactive hazardous waste sites.

There are 8 LUST sites within 0.5 mile, the nearest of which is the Richard Principio property 0.2 mile to the west. Twenty-five gallons of an unspecified material were released and cleaned up, and the case was closed in 1991. The local topography generally slopes to the east or southeast. The Principio site could be upgradient of the Butterfly site, although there is no indication that significant degradation of groundwater occurred. Seven other LUST sites are located 0.25 to 0.5 mile away in a likely downgradient or cross-gradient direction from the Butterfly site. Therefore, these sites are unlikely to affect the Butterfly site.

There is one large quantity generator listed on RCRIS within 0.25 mile, the neighboring CCN Manufacturing facility. There are also two small quantity generators (Elston Electronics Corporation and Geneva High School). No releases were reported for these sites. If a release were to occur at CCN, it might affect the Butterfly site.

The addresses of many facilities are entered into federal and state databases as post office boxes or simply as a street name without an exact number. Thus, these sites cannot be mapped and their exact locations cannot be determined. Twenty-two sites with this type of address were identified in the general vicinity of the property. Based on the facilities observed by ESC in the area, it is unlikely that any of the unmapped sites identified in the database search are near the site.

ESC reviewed Sanborn maps and aerial photographs to obtain additional information on the history of the site and surrounding area. Sanborn maps covering the period 1903 to 1967 and aerial photographs for 1971, 1985, and 1990 were reviewed.

The 1903 Sanborn map indicates that the site was occupied by Vance Boiler Works. The south side of the building consisted of a boiler shop, and the north was a store house. Neighboring sites to the south and west were occupied by cutlery manufacturing, can manufacturing, and food storage facilities.

The 1909 Sanborn map shows a new coal storage area on the west side of the facility. The southern portion of the building is labelled as a machine shop. A lumber company was present on the site to the south.

In 1915, the name of the facility changed to Geneva Boiler Works. The building was expanded. A coal bin was present at the northwest corner of the building. A separate storage house was added east of the building. A glass bottle manufacturing plant was constructed on the neighboring site to the northwest.

In 1925, a transformer house was present at the southeast corner of the building. New facilities on neighboring properties consist of a junkyard to the south and a grocery warehouse to the west.

In 1947, the name of the facility was Burnham Boiler Corporation. The site to the south was occupied by a coke and coal facility.

In 1967, the site was occupied by Magnetic Components, Inc. The building was expanded to its current size and was occupied by a warehouse (south side), manufacturing area (most of the north side), and impregnating room (extreme north end). New neighboring facilities included a machine shop to the south, a nursery to the southwest, and a beer warehouse to the northwest.

The aerial photograph from 1971 (1 inch = 2,000 feet) shows the plant building surrounded on all sides by unpaved areas. Cars are parked on the north and east sides of the building. Three unidentified structures are visible on the extreme south side of the site, along Gates Avenue. The structures could be raised aboveground storage tanks. Material storage may have been occurring in an area approximately 50 feet north of the building. The site was surrounded by commercial or industrial buildings to the north, west, and south and vacant land and residences to the east.

The 1985 photograph (1 inch = 1,000 feet) shows material storage immediately north of the building. The structures (possible tanks) on the south side of the site visible in 1971 photograph are not present in the 1985 photograph. Two new commercial buildings are visible northeast of the site.

In the 1990 photograph (1 inch = 1,000 feet), the area south of the building is paved as parking lot. Material storage containers continued to be present just north of the building.

The Sanborn maps and aerial photographs indicate a long history of industrial activities at the site and surrounding sites. The photographs indicate that materials have been stored outside the building (especially on the north side) and that tanks or other structures were present south of the building.

Environmental Management Systems

The facility manager oversees the management of hazardous materials and wastes and ensures compliance with environmental regulations. The company has several corporate environmental health and safety (EH&S) managers, each with responsibility for setting up and implementing environmental management programs at several facilities. The EH&S managers perform environmental compliance audits of each facility approximately every two years. The corporate EH&S staff also includes employees specialized in specific environmental issues such as air or wastewater. The entire facility staff meets monthly to discuss EH&S issues. Facility employees take turns conducting a monthly housekeeping inspection of the plant. Butterfly personnel appeared adequately trained in environmental compliance issues.

Materials Handling and Storage Practices

The facility blends numerous raw materials, mostly consisting of acids, bases, surfactants, and bleach. The materials used in greatest quantity include sodium hypochlorite (1,100,000 lbs/year), nitric acid (900,000 lbs/year), phosphoric acid (650,000 lbs/year), dry sodium hydroxide (270,000 lbs/year), dry sodium carbonate (237,000 lbs/year), polyacrylate (210,000 lbs/year), sodium tripolyphosphate (200,000 lbs/year), dry sodium sulfate (145,000 lbs/year), and potassium hydroxide (138,000 lbs/year). Various surfactants and other materials are used in quantities below 100,000 lbs/year.

Bulk liquids, including nitric and phosphoric acids and sodium hypochlorite, are delivered by tanker truck. The tankers are connected by hose to pipes outside the east side of the building, which lead to aboveground storage tanks inside the building. The bulk unloading area is unpaved and does not have secondary containment. Secondary containment is recommended to reduce the risk of releases to the soil or storm sewers. Other liquid raw materials are delivered by truck in drums and unloaded at the dock at the southeast corner of the building. This loading dock is located in a paved area with no secondary

containment. The potential for releases in this area is relatively small, because only drums and smaller containers are transferred. The drums are stored inside the building.

Materials are transferred in batches from storage tanks or drums to mixing tanks. The mixing tanks are connected by pipe to the bulk loading area east of the building, where the products are transferred to tanker trucks. The tanker trucks are filled from the bottom to prevent foaming. When the hose is disconnected, product remaining in the hose is emptied into a drum. Liquid products are also transferred into 300-gallon totes, drums, and smaller containers. Drums and smaller containers are stored in a warehouse area in the southern portion of the building, on racks with three tiers. They are loaded on trucks at the loading dock. Totes are washed inside the plant to remove product residues and then stored on an asphalt pad north of the plant building.

Sodium carbonate, sodium sulfate, and sodium tripolyphosphate are delivered in powder form by hopper truck. These materials are blown pneumatically to storage bins on the plant roof. They then drop from the bins into ribbon blenders in the powder mixing room. Solid raw materials used in smaller quantities are received in fiber drums or bags.

SARA Title III

Butterfly stores and processes nitric and sulfuric acid, which are extremely hazardous substances. These materials as well as phosphoric acid, sodium and potassium hydroxides, sodium hypochlorite, and sodium sulfate are stored in quantities triggering reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA). Facility personnel prepare the required Tier II inventory form and submit it with material safety data sheets (MSDS) to the New York Emergency Response Commission, the Geneva Fire Department, and the Ontario County Local Emergency Planning Committee. The Form R toxic chemical release inventory is prepared for nitric, phosphoric, and sulfuric acids and glycol ethers. These materials are released to the air, and glycol ethers are also released to a publicly owned treatment works (POTW).

Underground and Aboveground Tanks

Butterfly has 23 aboveground storage and mixing tanks inside the building (Table 1). Twelve of the tanks provide bulk storage of hazardous substances (acids, sodium hydroxide, sodium hypochlorite, and products) and are registered with the NYSDEC. Four product tanks on the west side of the liquid production area are located on a raised platform. They are contained with a curb that directs any spilled

Table 1
List of Aboveground Tanks
Project Butterfly, Geneva, New York (a)

Tank Number	Contents	Capacity (Gallons)
Storage Tanks:		
1	Product	1,900
2	Product	1,900
4	Product	1,900
7	Product	4,000
8	Phosphoric acid	5,000
13	Sodium hydroxide	4,000
16	Nitric acid	5,235
17	Polyacrylate	4,000
18	Sodium hypochlorite	1,500
19	Product	1,900
20	Sodium hydroxide	4,000
22	Sodium tripolyphosphate powder	7,000
23	Sodium sulfate powder	7,000
24	Sodium carbonate powder	7,000
26	Sodium hypochlorite	6,200
Mixing Tanks:		
5	Product	769
6	Product	3,384
9	Product	3,384
10	Product	1,000
11	Product	1,530
12	Product	860
14	Wastewater (neutralization tank)	1,900
15	Product	2,300
25	Water from deionizing system	1,133

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a/ Storage tanks have secondary containment. Mixing tanks do not have secondary containment. All tanks are inside the building, except the powder bins (tanks 22, 23, and 24) are on the roof.

liquid into a concrete enclosure on the main plant floor. The acid and sodium hydroxide tanks have individual concrete block dikes and the sodium hypochlorite tank has a poured concrete dike. The mixing tanks do not have secondary containment. Installation of secondary containment would reduce the risk of releases. All piping associated with the tanks is aboveground.

According to Butterfly personnel, the tanks with concrete block dikes do not meet secondary containment requirements under New York Code of Rules and Regulations, Title 6, Part 598 (6 NYCRR 598). The company plans to upgrade the dikes before the December 22, 1999, deadline. Butterfly has a spill response plan. A spill control pallet holding absorbent material and personal protective equipment is available.

A 3,000-gallon underground tank for fuel oil was removed in 1984. According to company records, evidence of a fuel oil release was observed and reported to the NYSDEC. An estimated 20 to 25 cubic yards of soil were affected. An internal company memo states that the NYSDEC verbally recommended that the soil be spread onsite in a thin layer. The soil was spread in the unpaved area northwest of the plant building, on the Butterfly property and on the neighboring abandoned railroad property. There is no indication that Butterfly had the neighboring site owner's approval. The tank removal is discussed further below.

According to facility personnel, no other underground storage tanks have been owned or operated by Butterfly at the site. No evidence of underground storage tanks, such as fill ports or vent pipes, was observed during the site visit.

Hazardous and Nonhazardous Waste

Butterfly is registered as a hazardous waste generator with EPA identification number NYD098123706. The company reportedly registered as a precaution; however, Butterfly has no record of ever having generated hazardous waste. One drum of solid urea formaldehyde resin (an adhesive used by a previous owner) encountered during a plant cleaning several years ago was determined to be nonhazardous based on a review of the MSDS.

The facility reportedly generates no waste oil, because all machine motors are sealed and do not require oil changes. The company does not own trucks or other vehicles requiring oil changes; the lift trucks are battery-powered.

Ordinary trash, including empty bags and packaging materials, are collected in a dumpster outside the building. Fluorescent bulbs are included with the trash. The bulbs contain mercury and should instead be recycled. The trash is transported to the Flint Landfill in Flint, New York. Solid waste may have been disposed of at the Seneca Meadows Landfill in Waterloo, New York in the past. The Flint and Seneca Meadows landfills are not listed on CERCLIS, indicating that they are not likely to pose a Superfund liability. The nonhazardous urea formaldehyde resin was reportedly disposed of at one of the two landfills.

Water, Wastewater, and Storm Water

Butterfly obtains water from the City of Geneva, which draws from Seneca Lake. A well just west of the building (on the neighboring railroad property) has no known current use. Water is used to dilute raw materials in production and to wash mixing tanks and the plant floor.

Wastewater is generated from washing tanks and the floor. According to Butterfly personnel, no off-specification product is generated, because batches can always be "reworked." Wastewater flows through a floor trench or piping into a 2-foot deep concrete sump. The wastewater is pumped from the sump into an aboveground neutralization tank. Wastewater is neutralized manually in batches by adding nitric acid or sodium hydroxide from raw material tanks.

The wastewater is monitored before and after each batch treatment to ensure that the final pH is within the required range (6 to 9). The company also monitors the wastewater for chlorine and, if necessary, adds sodium thiosulfate. The wastewater is then discharged to the Marsh Creek Sewage Treatment Plant. The facility discharges approximately 700 gallons/day of process wastewater.

The City of Geneva reportedly does not issue a formal discharge permit. Butterfly maintains a log of the monitoring data, which is periodically inspected by the city. The log indicates that the discharges are within the pH limits (6 to 9) and that no detectable chlorine is released. The company also submits an annual industrial discharge questionnaire to the city.

Storm water from the parking lot south of the building, from the southern portion of the gravel drive east of the building, and from a portion of the building roof flows into two catch basins on the south side of the site. The storm water then enters a city storm sewer. Facility personnel were uncertain as to where the storm sewer leads. It may discharge into Seneca Lake. The northern portion of the site

is relatively flat and is bounded on the east by a railroad berm. Storm water in this area seeps into the ground and appears not to flow offsite.

Butterfly submitted a notice of intent for a general storm water permit to the NYSDEC in 1993. The company is now covered by a general permit. Butterfly has prepared a storm water pollution prevention plan. The company collects storm water samples semiannually. In the most recent samples (January 1996), no fecal coliform, biochemical oxygen demand, oil and grease, or Kjeldahl nitrogen were detected. The pH ranged from 6.3 to 6.7, and the maximum levels of other indicators were 31 mg/l for chemical oxygen demand (COD), 0.21 mg/l for phosphorus, 0.01 mg/l for cyanide, and 64 mg/l for total suspended solids (TSS). The facility is not subject to specific discharge limits. The COD, pH, phosphorous and TSS levels are typical for urban storm water runoff. There is no known source of cyanide on the site but the detected concentration.

A pipe was observed to be protruding from the west side of the building. According to Butterfly personnel, the pipe is associated with a backflow prevention system. A second pipe exits the west side of the building and extends into the ground. Butterfly personnel had no information on the purpose of this pipe. Any available information on the use of the pipe should be obtained.

Air Emissions

Sodium carbonate, sodium sulfate, and sodium tripolyphosphate are delivered as bulk powder and are transferred pneumatically to bins on the roof. The resulting dust is collected in a baghouse. Dust is also generated by the powder mixing process inside the plant building and is collected in a second baghouse.

Butterfly has a certificate to operate from the NYSDEC for the roof bins. The powder mixing system does not have a permit, but the company is currently preparing a permit application.

Storage and mixing of acids potentially results in fugitive emissions of acid fumes to the air. Vapors may also be generated from organic compounds such as glycol ethers. According to the Form R inventories prepared by the company, the estimated emissions are 72 lbs/year for phosphoric acid, 70 lbs/year for nitric acid, 4 lbs/year for sulfuric acid, and 2 lbs/year for glycol ethers. Based on the estimated quantities of contaminants released, it appears unlikely that the facility will need permits under

Title V of the Clean Air Act Amendments or additional permits under New York regulations, but Butterfly should request a determination from the NYSDEC on whether a permit is required.

Polychlorinated Biphenyls

Three pole-mounted transformers east of the plant building are owned by the New York State Electric and Gas Company (NYSEG). In 1983, Butterfly requested information from NYSEG on the polychlorinated biphenyl (PCB) content of the transformers. NYSEG stated that two transformers did not contain PCBs and that the status of the third transformer was unknown. Butterfly personnel are uncertain whether the transformers have been changed since 1983.

Besides the transformer, there are no known capacitors, hydraulic machinery, or other equipment potentially containing PCBs.

Asbestos

The building was surveyed for asbestos-containing materials (ACM) in 1992. ACM identified in the survey consisted of approximately 100 feet of pipe insulation, 75 square feet of boiler insulation, 21 locations with cementitious pipe-fitting insulation, and approximately 2,300 square feet of floor tile and adhesive. The pipe, boiler, and fitting insulation was removed in 1992. The removed ACM was disposed of at the High Acres Landfill in Fairport, New York. This landfill is listed on CERCLIS, but no further remedial action is planned. The floor tiles and adhesive were left in place. These materials are nonfriable and pose no hazard if not disturbed.

Risk of Onsite Contamination

In 1984 when the underground fuel oil tank was removed, the soil was observed to be affected by a fuel oil release. The visibly contaminated soil was excavated and spread on the ground surface on the Butterfly site and the neighboring inactive railroad property. No verification samples were collected in the tank excavation, so the levels of any residual contaminants near the tank are unknown. Residues of fuel oil might also remain in the area where the soil was spread, although some of the petroleum would have evaporated and biodegraded. The NYSDEC verbally recommended the soil spreading, but did not provide written approval.

According to Butterfly personnel, two other reportable releases have occurred at the facility. In 1982, an estimated 347 gallons of an acid product were spilled outside the building when a hose became disconnected from a pipe fitting during transfer of the product to a tanker. According to an internal company memo, Butterfly personnel neutralized the spilled liquid with sodium carbonate, shoveled the neutralized product and soil into drums, and disposed of the material at the sanitary landfill. The NYSDEC inspected the spill area and reportedly took no further action.

In 1992, the wastewater sump inside the building was found to be leaking. An unknown quantity of untreated wastewater was released to the underlying soil. The wastewater consists of a dilute solution of acids, bases, and surfactants. The pit was repaired and fitted with a polyvinyl chloride liner.

Leaks of untreated wastewater might potentially occur from the trench leading to the wastewater sump. The sump is unlikely to leak, because of the liner installed after the 1992 release. The concrete was observed to be corroded in the vicinity of the aboveground sodium hydroxide and phosphoric acid tanks, indicating a potential for releases through the floor. In addition, accidental spills could occur in the bulk loading and unloading area east of the plant building, which is unpaved and has no secondary containment.

The previous and potential releases of raw materials and products at the Butterfly facility are unlikely to have significantly impaired soil or groundwater because of the nature of the materials. Most materials used at the facility, including those materials handled in bulk, are corrosive but do not pose significant risks in trace concentrations. Therefore, soil and groundwater are unlikely to contain materials at levels of concern after spills are cleaned up. However, it is possible that releases of corrosive materials (such as the 1982 and 1992 spills) could affect the pH of the groundwater. Releases could also have adverse effects on storm water quality.

Releases at the facility might have occurred during the operation by its previous owners. The long industrial history of the site introduces uncertainty regarding past releases that can only be resolved by sampling and analysis.

Conclusions and Recommendations

Conclusions

Project Butterfly manufactures cleaners and sanitizers at a facility in Geneva, New York. The process consists of blending liquid and powder raw materials, including acids, caustics, bleach, and surfactants. The site is located in an industrial and residential area. No releases are known to have occurred at the neighboring sites. There are eight sites in the area listed as having leaking underground storage tanks. One of these sites might potentially be upgradient, although no release to groundwater is known to have occurred there.

The facility is subject to SARA Title III and submits the required inventory forms. There are 23 aboveground storage and mixing tanks inside the building and 3 powder bins on the roof. The storage tanks have secondary containment, while the mixing tanks do not. Butterfly plans to improve the dikes around the storage tanks to comply with new state requirements.

In 1984, a underground fuel oil tank was removed and evidence of a release was observed. About 20 to 25 cubic yards of soil were removed. No verification samples were collected so it is not known if all the contaminants were removed. The soil was spread in an unpaved area of the site and a neighboring property, which could have released petroleum constituents to the soil.

Butterfly does not generate hazardous waste or waste oil. Solid waste is disposed of in a landfill. Fluorescent bulbs, which contain mercury, are included with the trash. There is no significant potential liability related to disposal of solid wastes from the facility, but the fluorescent bulbs should be recycled.

Wastewater is treated and discharged to the POTW. Monitoring logs for the discharge indicate that the effluent complies with POTW limits. The city has stated verbally that no permit is required. Storm water flows to a storm sewer and the facility is covered by a general permit. Monitoring results indicate acceptable storm water quality. An accidental spill from the bulk loading and unloading areas could potentially affect storm water.

The plant has potential air emissions consisting of fugitive acid fumes and dust from powders. The company has two baghouses to control dust emissions. Butterfly has a permit for one of the baghouses and is currently applying for a second permit.

There is no known equipment containing PCBs, except that there is uncertainty regarding one utility-owned transformer. Pipe, boiler, and fitting insulation containing asbestos was removed and properly disposed of in 1992. Remaining ACM consists of nonfriable floor tile and adhesive.

Two reportable spills have occurred at the site: a spill of an acid product during loading and a leak of untreated wastewater through a concrete sump. Additional releases could potentially occur in the bulk loading and unloading area, which is unpaved and has no secondary containment, and in the vicinity of aboveground storage tanks, where the concrete floor is corroded. Because of the nature of the materials currently used at the facility, releases are unlikely to have long term adverse effects on the site, except for potential changes in groundwater pH. The potential for environmental issues related to past occupants of the site is uncertain.

Recommendations

These recommendations, if implemented, would help minimize the potential environmental liabilities associated with operations conducted by Project Butterfly at its facility in Geneva, New York:

Regulatory Issues

- The facility should proceed with plans to upgrade aboveground storage tank dikes to comply with new state regulations.
- The facility should complete the air permit application process for the powder mixer, and obtain a determination from the NYSDEC regarding permit requirements for fugitive emissions from raw material fumes and vapors.
- Fluorescent bulbs should be recycled rather than placed in the trash dumpster.

Best Management Practices

- A Phase II investigation should be considered to determine whether activities of Project Butterfly or previous site owners have affected soil and groundwater. This should include determining the purpose of the unidentified pipe on the west side of the building and, if necessary, collecting samples near the pipe.
- Secondary containment should be provided for mixing tanks and for the bulk loading and unloading area.

Therefore, based on ESC's site visit and document review, evidence exists that past activities at the Butterfly site could have created a threat to the environment within or surrounding the plant.