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EPA Superfund
Explanation of Significant Differences:

CLAREMONT POLYCHEMICAL
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OU 02
OLD BETHPAGE, NY
04/14/2003

Explanation of Significant Differences

CLAREMONT POLYCHEMICAL CORPORATION SUPERFUND SITE

Town of Oyster Bay, Nassau County, New York

EPA Region 2 April 2003

INTRODUCTION

In accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan, if after the Environmental Protection Agency (EPA) selects a remedial action, there are significant changes with respect to that action, an explanation of the significant differences and the reasons for such changes must be published.

This Explanation of Significant Differences (ESD) describes changes to the remedies described in the September 1990 Record of Decision (ROD) for the Claremont Polychemical Corporation (CPC) Superfund Site (the Site).

EPA is planning to address contaminated soil under the former CPC process building (Process Building) by using an existing soil vapor extraction (SVE) system to remove volatile organic compounds (VOCs), limit exposure to soil contaminated with cadmium and require that the integrity of the Process Building floor be maintained over time.

In addition, approximately 20,000 cubic yards (yd^3) of industrial/commercial demolition and construction debris located on the northern portion of the property will be removed. Lastly, five concrete-lined pits, which served as former wastewater treatment basins, will be decommissioned.

This ESD was developed by EPA, as lead agency, with support from the New York State Department of Environmental Conservation (NYSDEC).

This ESD will become part of the Administrative Record file for the Site. The entire Administrative Record for the Site, which includes, among other things, the RODs, and other relevant documents are available for public review at the following location:

Plainview-Old Bethpage Public Library
999 Old Country Road
Plainview, NY 11803
Telephone Number: (516) 938-0077

Hours: Monday - Friday
9:00 a.m. - 9:00 p. m.
Saturday, 9:30 a.m. - 5:30 p.m.
Sunday, 1:00 p.m. - 9:00 p.m.

The Administrative Record file arid other relevant reports and documents also are available for public review at the EPA Region II office at the following location:

U.S. Environmental Protection Agency
290 Broadway, 18th floor
New York, New York 10007
Hours: Monday - Friday 9:00 am - 5:00 pm

The modifications to the remedies presented by this ESD are not considered by EPA or NYSDEC to be fundamental alterations of the remedies selected in the 1990 ROD.

SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDIES

The Site includes the Claremont Polychemical Property ("CPC Property") which is approximately 10 acres of land located in an industrial section of Old Bethpage in Nassau County, New York (see Figure 1). The former CPC Process Building, a vacant 40,000 square-foot one-story building, is located in the center of the CPC Property. Another one-story building east of the Process Building was constructed by EPA in February 2000, to house the Claremont on-property groundwater extraction and treatment system.

In addition, there are five concrete-lined pits that comprised the wastewater treatment management system for the former facility, west of the former Process Building. A 20,000 yd^3 debris pile also exists on the northeast comer of the property. The debris pile consists primarily of construction/demolition material, with a lesser volume of woodchips.

CPC produced pigments for the coloring of plastics and inks, coated metallic flakes, and vinyl stabilizers from August 1966 through October 1980. The principal wastes generated were organic solvents (primarily volatile organic compounds such as tetrachloroethene, resins, and wash wastes (mineral spirits). Operations at the Site resulted in the contamination of soil and groundwater, as well as contamination of the interior of the Process Building. In 1979, an inspection by the Nassau County Health Department revealed numerous tanks and approximately 3,000 drums, many of which contained hazardous substances and were leaking. Contaminated soils also were observed.

The Site was proposed for inclusion on the National Priorities List (NPL) in October 1984 and was added to the NPL in June 1986.

EPA conducted a Remedial Investigation at the Site which resulted in the selection of several distinct remedial actions. These remedial actions have been documented in two RODs. The first ROD, signed on September 22, 1989. called for compatibility testing, bulking/consolidation and

treatment/disposal of deteriorated containers, treatment basins, and aboveground tanks. This remedial action was completed in 1990. The second ROD was signed in September 1990. The remedies in this ROD included: removal of underground storage tanks; treatment of tetrachloroethene-contaminated soils by using low-temperature enhanced volatilization; extraction and treatment of the CPC on-property contaminated groundwater via an on-site air stripping/carbon adsorption system; extraction and treatment of the contaminated groundwater migrating beyond the CPC Property via an on-Site air stripping/carbon adsorption system; and decontamination of the metals-contaminated Process Building.

The removal of the underground storage tanks was completed in August 1991. The design work and remedial actions involving the tetrachloroethene-contaminated soils and the Process Building decontamination, and the construction of the groundwater treatment facility for the contaminated groundwater on the Claremont property were completed by the U.S. Army Corps of Engineers, pursuant to an interagency agreement with EPA. Currently, the groundwater extraction and treatment system on the CPC Property is treating 420 gallons per minute of contaminated groundwater. The contaminated groundwater beyond the CPC Property boundary is being captured and treated by the Old Bethpage Landfill (OBL) Superfund Site treatment facility. [1]

To date, EPA has spent approximately $28 million in response costs at the CPC Site.

SOIL INVESTIGATION SUMMARY FOR CONTAMINATION BENEATH THE FORMER PROCESS BUILDING

In October 2000, after removing debris and decontaminating the interior of the former Process Building, EPA and the U.S. Army Corps of Engineers discovered a pit, approximately 20 inches in diameter and two feet deep in the floor. The pit was sampled and found to be contaminated with volatile organic compounds and cadmium. Three sampling events were conducted to characterize the soil contamination around the pit and under the Process Building. The results of this investigation are summarized in the Claremont Polychemical Corp., Investigation Summary Report: Delineation of Subsurface Contamination of Former Process Building, dated January 2003.

Soil samples were collected from 46 soil borings at depths ranging from 0 to 20 feet below ground surface. The approximate locations of the soil borings are depicted in Figure 2. Soil borings taken under the Process Building revealed that the soils under the building are a mixture of sand and gravel with some silt.

[1]On September 29, 2000, EPA issued an Explanation of Significant Differences (ESD), which modified the selected remedy for the CPC off-property groundwater to use the OBL Site treatment facility in lieu of constructing a new treatment system to remediate the CPC off-property groundwater. The OBL Superfund Site groundwater treatment system is operated by the Town of Oyster Bay.

Analysis of soil samples taken at various depths through the floor around the pit revealed the presence of VOC and cadmium contamination across an area of approximately 100 feet by 80 feet to a depth of 20 feet, and a smaller area located to the south. The VOCs include tetrachloroethene, trichloroethene, toluene and xylene. The highest contaminant concentrations were generally found just below the base of the pit in the concrete floor. For example, at soil boring location SB-11, in the 0-4 foot interval, tetrachloroethene was detected at 300 parts per million (ppm), toluene at 16 ppm, trichloroethene at 150 ppm, xylene at 190 ppm, and cadmium at 2,500 ppm. In the 4-8 foot interval, tetrachloroethene was detected at 160 ppm, toluene at 57 ppm, trichloroethene at 8.9 ppm, xylene at 40 ppm, and cadmium at 224 ppm.

In addition, in May 2002, EPA conducted a soil gas investigation beneath the building. Ten soil gas samples were collected from the shallow subsurface, at depths of less than 5 feet. The highest concentrations detected were tetrachloroethene at 550,000 micrograms per cubic meter ($\mu g/m^3$), trichloroethene at 620,000 $\mu g/m^3$, toluene at 22,000 $\mu g/m^3$, and xylene at 5,300 $\mu g/m^3$. Prior to conducting the soil gas sampling, EPA screened the soil vapors below the concrete slab for VOCs with a calibrated photo-ionization detector, equipped with a combustible gas indicator. The readings in the combustible gas indicator revealed levels as high as 16% of the lower explosive limit, approaching a potential explosive hazard. Currently, the rooms within the former process building are open to the outside environment with access doors, roof vents, holes in portions of the roof, and missing windows. The current condition of the building has prevented gas buildup within the building, as well as prevented EPA from collecting meaningful indoor air samples.

EPA's approach to evaluating the potential for health risks from vapor intrusion to indoor air is a tiered process that begins with identifying if potential pathways exist for possible migration to indoor environments, and if any chemicals exist That are both volatile and toxic when inhaled.

Based on the high levels of contaminated gas in the shallow soil, EPA conducted an evaluation of the potential for vapor intrusion to indoor air, and the likelihood that these vapors could be present in indoor air at unacceptable concentrations, once repairs to the Process Building were made and the Process Building was reused. The characteristics of the soil (a mixture of sand and gravel with some silt) and the presence of preferential pathways for vapor migration such as utility lines, indicate that the potential for vapor migration from the shallow soil gas to indoor air exists.

Of all the chemicals detected in the soil gas, EPA's evaluation focused on tetrachloroethene, due to the fact that this chemical was detected at the highest average concentration in the soil gas, is volatile, and therefore, has the potential to migrate from the shallow subsurface to indoor air This contaminant also is classified by EPA as a likely human carcinogen through inhalation exposure.

Since the condition of the Process Building is such that indoor air samples could not be collected, EPA's evaluation continued with a risk-based screening assessment based on the concentration of tetrachloroethene found in the soil gas at the Site. The maximum detected concentration of tetrachloroethene in the soil gas at the CPC site was 550,000 $\mu g/m^3$. Based on a statistical analysis, the high-end estimate of the average concentration of the soil gas data collected from the CPC site is 330,000 $\mu g/m^3$.

To determine whether a health risk was present, the levels found at the Site were compared to the level that is associated with an excess lifetime cancer risk at the upper end of the acceptable cancer risk range. This is 820 µg/m^3 for tetrachloroethene, and is associated with one additional incidence of cancer in ten thousand people exposed ($1x10^{-4}$) under a residential scenario. The tetrachloroethene soil gas concentrations found at the Site exceed the screening level of 820 µg/m^3.

The evaluation indicates that vapors from VOC contaminants in the soil beneath the former Process Building are highly likely to migrate from the shallow subsurface to indoor air. Although the future use of the CPC Site is expected to remain commercial or light industrial, and the risk to future workers would be less than to future residents, both the maximum detected soil gas concentration of tetrachloroethene and the high-end estimate of the average concentration of tetrachloroethene , are significantly higher than the screening level, so the potential cancer risks from direct exposure to these indoor air vapors are likely to significantly exceed EPA's acceptable levels of risk.

Cadmium was detected in the shallow soils at concentrations ranging from 530 ppm to 6,500 ppm. Based on a statistical analysis, the average concentration is estimated at 2,500 ppm. If the Process Building's floor was not present, direct exposure of a commercial worker to this soil with these concentrations of cadmium would result in a hazard quotient which exceeds EPA's acceptable level of 1, which is the level at which adverse non-cancer health effects may occur. However, maintaining an intact floor would prevent exposure to the cadmium-contaminated soil.

In order to evaluate cleanup alternatives to address the risks described above posed by the VOC contamination beneath the Process Building's floor, a soil vapor extraction system (SVE) pilot study was begun in May 2002. During this treatment process, air is forced through a series of wells to volatilize the organic solvents contaminating soil in the unsaturated zone (above the water table). A portable SVE system was brought to the Site. Vertical air extraction wells were installed to draw contaminant vapors through the unsaturated soils towards the wells. The contaminant vapors withdrawn from the wells are sent through an off-gas treatment system using granular activated carbon to remove the VOCs. The spent granular activated carbon is drummed and transported to a permitted off-site treatment and disposal facility.

The results of the pilot study supported the conclusion that SVE is effective in removing the VOCs present in the soil under the former Process Building, so we plan to continue this treatment to reduce VOC concentrations to protective health-based levels.

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE REASONS FOR THOSE DIFFERENCES

EPA, in consultation with NYSDEC, by this notice is documenting modifications to the September 1990 ROD by incorporating the following actions to protect public health.

- Operate the existing SVE system to remove VOC contamination from beneath the former Process Building's floor. Table 1, below lists the soil cleanup goals for the contaminants in the soil under the Process Building.

- Require that the integrity of the Process Building's Floor be maintained over time to prevent direct human exposure to the cadmium-contaminated soil. Periodic inspections and repairs of the floor, as necessary, will be required.

- Require deed restrictions and establish institutional controls to ensure that the Process Building's concrete floor remains undisturbed and an acceptable barrier to the cadmium-contaminated soil beneath. The institutional controls also will restrict the use of the CPC Property to commercial/light industrial uses. Periodic review of the institutional controls will be required.

EPA expects that the SVE treatment system will need to be operated for one year to reduce VOC concentrations to protective health-based levels. The estimated costs are $500,000. Lastly, EPA will decommission five concrete-lined pits and remove and dispose of approximately 20,000 yd^3 of demolition and construction debris located on the northern portion of the property. The estimated costs of those actions are approximately $35,000 for the pits and $800,000 to $1,075,000 for the construction and demolition debris.

Removing the construction and demolition debris piles and decommissioning the pits will eliminate potential safety concerns for trespassers and will increase the amount of land that can be put back into productive use at the CPC Property.

SUPPORT AGENCY COMMENTS

NYSDEC supports the changes to the September 1990 ROD remedies.

AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the new information that has been developed, EPA and NYSDEC believe that the above described remedial activities are protective of human health and the environment, are cost-effective, and comply with applicable or relevant and appropriate Federal and State requirements. In addition, these measures continue to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable for this Site.

PUBLIC PARTICIPATION ACTIVITIES

EPA and NYSDEC are making this ESD available to the public to update them on the progress made at the Site, as well as to inform them of the changes made to the remedies selected by the September 1990 ROD. Additional information regarding the Site is available to the public at the Plainview-Old Bethpage Public Library (address listed on page 1), and at EPA (address listed below).

EPA and NYSDEC invite comments or questions related to this ESD. Comments should be transmitted to:

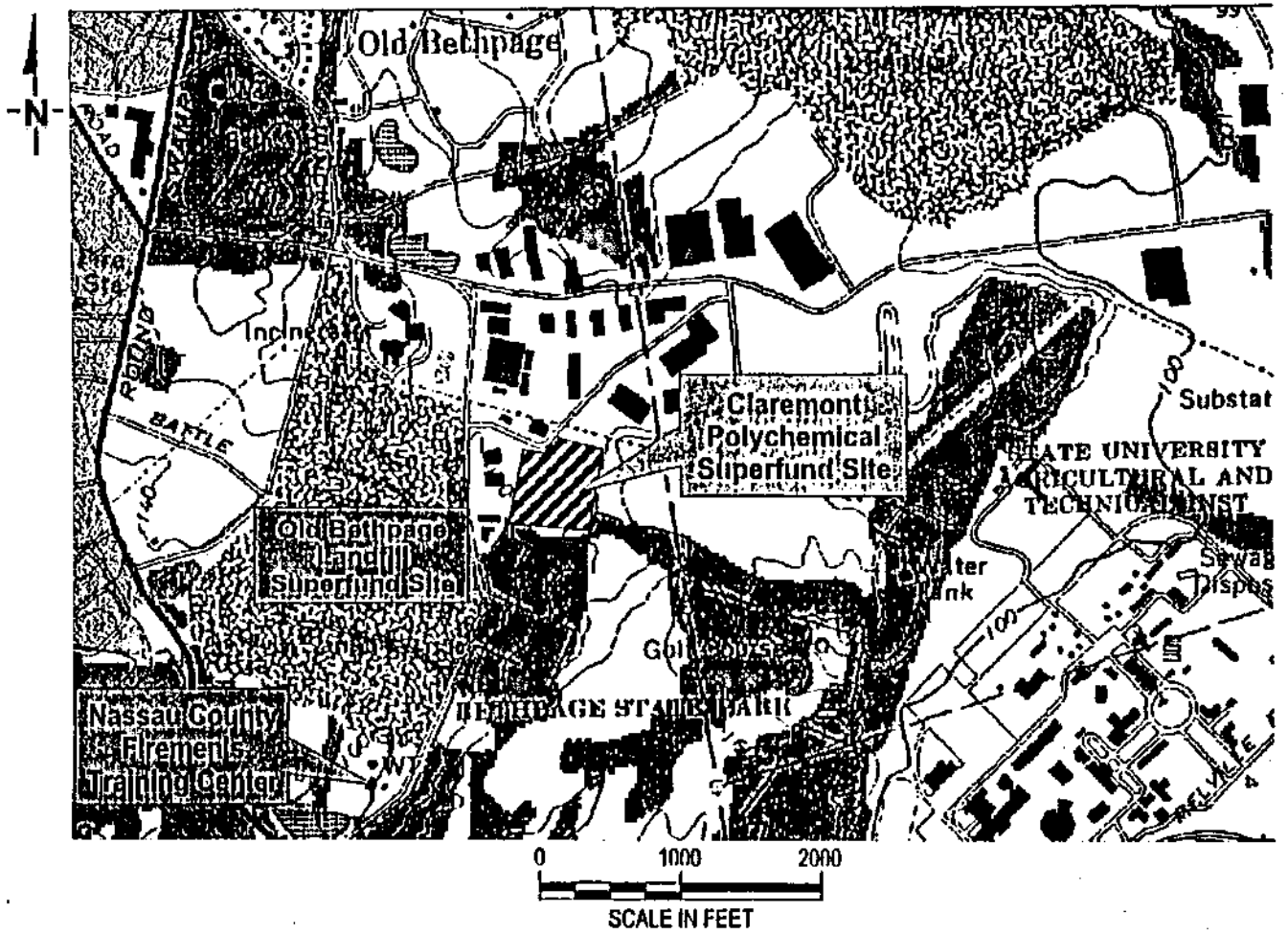
Maria Jon
Remedial Project Manager
Eastern New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
Telephone: (212) 637-3967
Facsimile: (212) 637-3966

Table 1
Soil Cleanup Goals for Contaminants in the Soil Under the Process Building

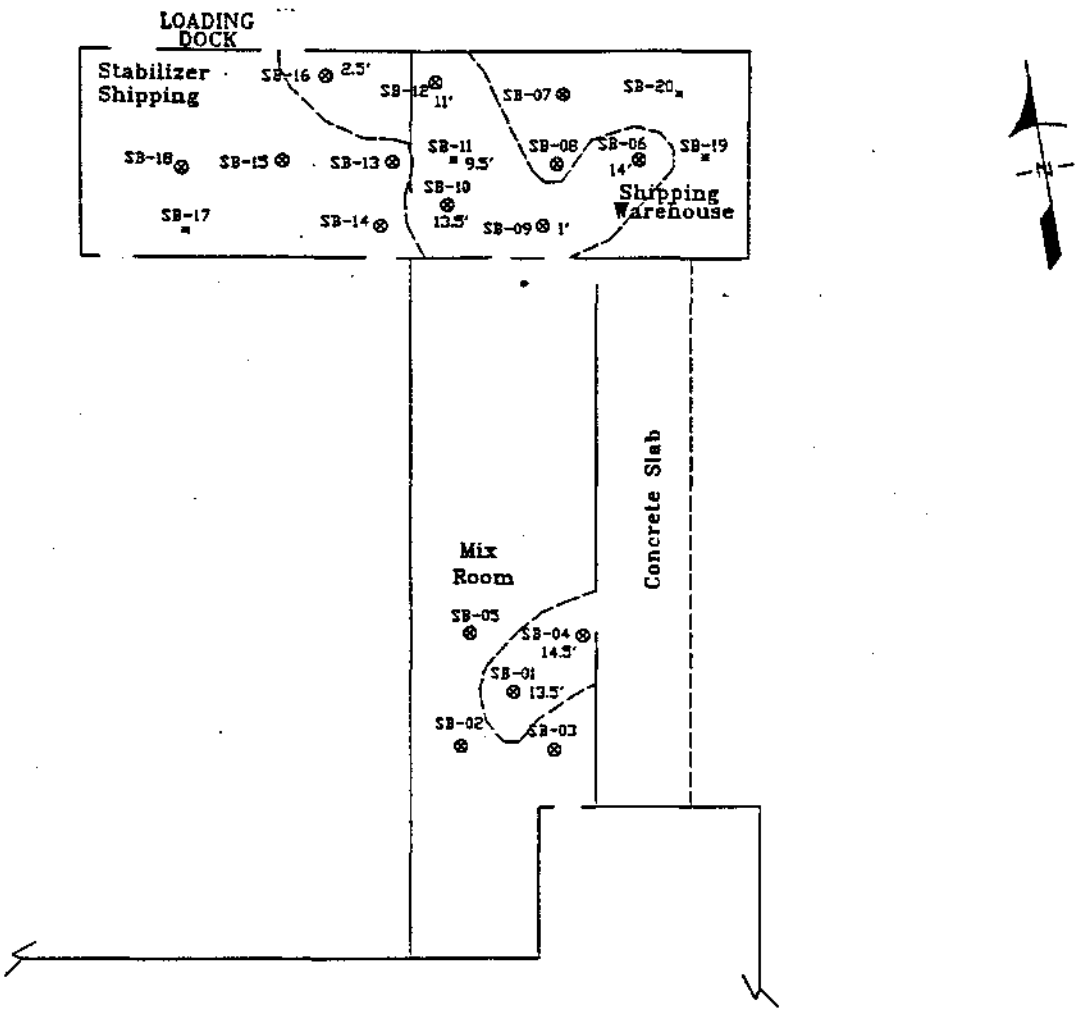
Contaminants	Cleanup Goals (mg/kg)	TAGM Values (mg/kg)
Acetonitrile	42.0	0.1
Methylene Chloride	9.1	0.1
t-1,2-Dichloroethene	6.9	0.3
c-1,2-Dichloroethene	4.3	0.3
Trichloroethene (TCE)	0.053	0.7
Tetrachloroethene (PCE)	1.5	1.4

Due to the likelihood of vapor migration from the shallow soils to indoor air and the resultant potential adverse health effects, cleanup goals were developed for the soils. These soil cleanup goals take into account the fact that inhalation of the vapors within the building from soils contaminants is a major route of exposure. These soil cleanup goals are based on EPA Region 9 Preliminary Remediation Goals (2002). The chemicals for which soil cleanup goals were developed were those chemicals detected most frequently in the soil gas samples and which were detected at the highest concentrations. EPA and NYSDEC expect that in pursuit of achieving the cleanup goal of 0.053 mg/kg of trichloroethene, all of the NYSDEC's Technical and. Administrative Guidance Memorandum No. 94-HWR-4046 soil cleanup objectives to protect groundwater quality will be achieved.

FIGURE 1 .: THE CLAREMONT POLYCHEMICAL SUPERFUND SITE AND THE SURROUNDING AREA.



(Note: This figure is adapted from the USGS topographic map, Huntington Quadrangle, 7.5 minute series.)



■ - SB-11 - SOIL BORING ONLY

⊗ - SB-01 - SOIL BORING AND SOIL VAPOR EXTRACTION WELL

BASED ON AUGUST 2002 SAMPLING RESULTS
XYLENE/TOLUENE EXCEEDS
REMEDIAL ACTION OBJECTIVES
(XYLENE - 1,200 ppb TOLUENE - 1,500 ppb)

13.5' MAXIMUM DEPTH OF KNOWN CONTAMINATION

- DRAWING NOT TO SCALE -

FIGURE 2
EXTENT OF XYLENE/TOLUENE CONTAMINATION
IN SUBSURFACE SOIL BELOW BUILDING SLAB
CLAREMONT POLYCHEMICAL SITE
OLD BETHPAGE, NY

US ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM
CONTRACT # 68-W-00-113

Weston Solutions Inc.
FEDERAL PROGRAMS DIVISION

IN ASSOCIATION WITH SCIENTIFIC ENVIRONMENTAL ASSOCIATES, INC.
AND RESOURCE APPLICATIONS, INC.

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